

# Agenda Item A

## Dec 3<sup>rd</sup> ~~Draft-Revised~~ Meeting Notes

### Oregon Low Carbon Fuel Advisory Committee

Advisory Committee 2<sup>nd</sup> Meeting

December 3, 2009



#### 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  
Abe Fouhy – American Hydrogen  
Robert Grott - Northwest Environmental Business Council  
Sam Hartsfield - Port of Portland  
Marion Haynes - Oregon Business Association  
Ian Hill - SeQuential 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  
Harrison Pettit – Pacific Ethanol  
Andrew Plambeck - Citizen  
Joshua Proudfoot - Good Company  
Marcy Putman - Labor Union – IBEW  
John Rakowitz - Associated General Contractors  
Danelle Romain - Oregon Petroleum Association  
Bob Russell - Oregon Trucking Association

##### Others in attendance

Alan Branscomb - CES  
Lana Butterfield – NW Propane Gas Association  
David Collier - ODEQ  
Clark Cooney - Oregon Dept. of Agriculture  
John Curtis – California Air Resources Board  
Brian Doherty – Miller Nash/WSPA  
Bill Drumheller - Oregon Department of Energy  
Brian Eagle - ODEQ  
Nick Economides - Chevron  
Andy Ginsburg - ODEQ  
Grant Kendall – Kendall Energy Consulting  
Sue Langston – ODEQ  
Ralph Moran - BP  
Dave Nordberg - ODEQ  
Tom O’Connor – Oregon Municipal Electric Utilities Association  
Vijay Satyal – Oregon Department of Energy  
Sallie Schullinger-Krause – Oregon Environmental Council  
Wendy Simons - ODEQ  
Dwight Stevenson – Tesoro Corporation  
Aaron Toney – Good Company  
Kumar Venkat - Cleanmetrics  
Rick Wallace – Oregon Department of Energy

**Note:** Where responses to questions or comments came from persons other than DEQ staff, the source is noted in parentheses, for example, **Response (CARB)**.

Chair Mark Reeve welcomed attendees and called the second meeting of the Low Carbon Fuel Standard advisory committee to order at 9:00 am.

### **Agenda Item A - Review of November 3<sup>rd</sup> Draft Meeting Notes**

Chair Reeve asked if attendees had any corrections to the November 3 Draft Meeting Notes.

The following corrections were suggested:

- Clarify first bullet at bottom of page 2, to say that under the phase-in schedule for the LCFS, the carbon intensity will be reduced to 10 percent below 2010 levels by 2020.
- Page 3, next to last paragraph describes DEQ's plans to collaborate with Washington Department of Ecology in designing the LCFS program, but does not mention three areas where House Bill 2186 specifically directs the Environmental Quality Commission to collaborate with Washington and other states. Commenter suggested that the meeting notes be changed to be consistent with the bill language.
- Commenter recalled Dean Simeroth of the California Air Resources Board saying that California would implement the LCFS in December 2011, even though they will adopt their rules prior to that time. Meeting notes did not mention California's starting date. **Response** (*John Courtis of the California Air Resources Board*): *The first year for California's program will be 2010, when reporting only will be required, while standards will be in place beginning in January, 2011.*
- Meeting notes incorrectly attributed the failure to anticipate consequences of ethanol use in aircraft engines to the Oregon Petroleum Association, rather than the Legislature.
- A few important points from committee discussions were not reflected adequately in the meeting notes:
  - Oregon need to go slowly and consider all of the possible effects before adopting a program that could have such major consequences;
  - Oregon should look to Washington state rather than California in considering a LCFS, since most of Oregon's fuel comes from Washington refineries and the effects of a Washington state LCFS on refinery operations in that state will have effects here.
  - California is spending hundreds of millions supporting its LCFS program, compared to a few staff positions in Oregon.
  - California performed a life cycle analysis of fuels such as ethanol, a position which commenter recalls some Oregon staff seeming to disagree with.

Additional points raised in discussion:

- While Andy Ginsburg's overview presentation at the November 3<sup>rd</sup> meeting listed several greenhouse gas emissions (GHG) reduction efforts already adopted in Oregon, it did not include information about what these programs will contribute toward meeting the state's emissions reductions goals. A request was made that the committee receive an analysis at the next meeting showing the emissions reductions from all of the other GHG reduction programs already in place and what the state's success is toward reaching the state's greenhouse gas reduction goals, so that the committee can decide whether the LCFS program is really necessary in order for the state to meet its goals. Information was also requested about the GHG emissions reductions that will happen in Oregon from the

federal Renewable Fuel Standard II. A short discussion ensued about whether it falls within the advisory committee's charge to consider the necessity of a LCFS in the context of the state's entire GHG reduction effort and progress toward meeting the state's emissions reduction goals.

**Response:** Andy Ginsburg of DEQ agreed to provide the advisory committee with information on other efforts by state agencies to reduce GHG emissions, but cautioned that DEQ doesn't have information about the effectiveness of all programs by other state agencies. The question of whether LCFS is necessary given all of the other programs is outside the charge of this committee. However, he promised to provide a big-picture look give the committee some context on how the LCFS fits in.

- Question was asked about whether (and by whom) analysis is being done of the effectiveness of all state GHG reduction programs. It is troubling if this analysis is not being done. Even though this analysis is not within the committee's charge, the committee should advocate that it be undertaken by the state in some form. Commenter wants to know what the incremental benefit of the LCFS program is, and is concerned that several state agencies are all moving in different directions without someone looking at the cumulative effect.

### **Agenda Item B - Oregon's Approach to Life Cycle Analysis**

Wendy Simons and Svetlana Lazarev of DEQ presented an overview of the general approach DEQ proposes to follow for calculating carbon intensity values for various fuels. The presentation included PowerPoint slides and a handout showing California's carbon intensity values as an illustration. Ms. Simons began by reviewing the concepts behind life cycle analysis, and outlined the components of California's carbon intensity values which DEQ proposes to use as a starting point for discussion of Oregon's options. California's carbon intensity values take into account the life cycle of the fuel (production, transportation, distribution and use), with adjustments for: co-products that are produced along with the fuel; indirect land use change; and the drive train efficiency of alternative fuel vehicles compared to conventional fuel vehicles (energy economy ratios, or EERs). DEQ plans to hold one or more workshops to go over the details of the carbon intensity calculations and to take stakeholder input.

Ms. Lazarev told the committee that DEQ plans to use the GREET model (Greenhouse Gases, Regulated Emissions and Energy Use in Transportation) to calculate life cycle emissions for fuels. She presented detailed information on two fuel pathways, ultra low sulfur diesel and corn ethanol, showing the lifecycle steps of each fuel and listing the key GREET inputs and assumptions. DEQ will be using information from fuel lifecycle analyses performed by Washington and California, where appropriate, but will make adjustments for transportation distances and electricity mix in fuel production.

Ms. Simons concluded the presentation by discussing the adjustments for co-products, indirect land use change and drive train efficiency. The committee will have a discussion item focusing on indirect land use change at a future meeting.

Points raised during and after the presentation included:

- Is the carbon intensity value for petroleum extraction a weighted average for California crudes, or do they run the model separately for different crude stocks? **Response (CARB):** *California used a weighted average of different crudes.*
- Will there be a process for adding new pathways when a company comes up with a new fuel or new process? **Response:** *Yes.*
- DEQ may not want to include a hard number in the carbon intensity table for electricity, because the number is definitely going to decrease over time due to the Renewable Portfolio Standard. Instead, perhaps the rules could provide a process for the electricity carbon intensity value to be updated annually. DEQ will get information annually on electric utility emissions through the greenhouse gas reporting rule.
- Electricity carbon intensity could also go up – it fluctuates due to weather and other causes, and fuel providers should not be surprised by such factors beyond their control. A rolling three-year or five-year average may work best.
- Post-consumer biomass sources, such as consumer waste and plastic waste, are not on DEQ’s list so far, and since they will not have indirect land use effects associated with them, they will have an advantage. This technology may be coming sooner than we realize. **Response (CARB):** *CARB has investigated waste oil as a feedstock so far, and plans to analyze other waste sources, all of which will not have indirect land use effects.*
- Does the lifecycle analysis DEQ is planning capture GHGs besides CO<sub>2</sub>? **Response:** *Yes, GREET model also includes nitrous oxide and methane, as well as VOCs and carbon monoxide which are converted to CO<sub>2</sub> in the atmosphere.*
- Is the method for allocating energy use and emissions between biofuels and their co-products embedded within the GREET model? **Response:** *DEQ plans to discuss the details of calculating co-product credits at a workshop on carbon intensity values.* **Response (CARB):** *There are debates among stakeholders about the best way to allocate emissions between biofuels and co-products; each method yields different results. CARB made a number of choices in the course of this part of the analysis, using actual data rather than projections.*
- Is there a plan for how often DEQ will update these numbers? **Response:** *The committee will discuss how often to update these values at a later meeting.*
- What would be included in “other indirect effects?” **Response:** *One example could be the impacts associated with mining or extracting a metal used in batteries or systems of an alternative vehicle.*
- Commenter is troubled at idea of including indirect effects for vehicle components. This goes beyond fuels, which is the committee’s charge. **Response:** *Example comes from California’s analysis. CARB ultimately decided to include only indirect land use change effects. Chair asked DEQ to flag this topic for later discussion.*
- Will land use for non-biofuels be considered? **Response:** *Yes.*

- Commenter interpreted reference to drive train efficiencies in HB 2186 to mean the committee would be looking at vehicle improvements such as CBT transmissions for heavy duty trucks, rather than the efficiency of all vehicles which use a certain fuel.
- For each fuel, there will be newer efficient vehicles and older, less efficient vehicles on the road. Did California look at just what is on the road now, or did they also project future vehicles? **Response (CARB):** *The fuel economy of alternatives to gasoline was compared to gasoline vehicles, while alternatives to diesel were compared to diesel vehicles, using existing data from existing vehicles.*
- California's analysis did not compare gasoline vehicles to diesel vehicles, so it doesn't take into account that diesel vehicles are more efficient. Request to pick this issue up in more detail, especially with reference to whether we want to encourage a switch from gasoline to diesel in the passenger vehicle market to get GHG reductions. **Response (CARB):** *California separated gasoline and diesel in order to provide incentives for improvements in both fuels.*
- Commenter wants to use California format and update it over time (i.e., gasoline and diesel are always normalized to one, and the EERs for other vehicles are considered relative to gasoline and diesel, and expressed as multiples of gasoline and diesel).
- Is extraction process included in the life cycle analysis? Commenter's specific concern is ensuring that higher emissions from Alberta oil sands crudes are reflected in Oregon's carbon intensity analysis. Information on carbon intensities of Alberta oil sands was provided by Western States Petroleum Association for committee members. **Response:** *Yes, the extraction process is included in the life cycle analysis.*
- Commenter requests that group address issue of revising carbon intensity values as more efficient processes come into use, specifically what kind of track record will be necessary to prove that improvements are real. **Response:** *Committee will discuss this issue.*
- Will DEQ take differences between California's diesel fuel and Oregon's diesel fuel into account? **Response:** *Yes.*
- Will the analysis account for urea injection technology in diesel engines? This technology will be here for heavy diesel next year. **Response:** *This issue will be addressed in future discussion about how often DEQ will revise the EERs.*

### **Agenda Item C - Proposal: Economic Analysis Methodology**

Sue Langston of DEQ and Vijay Satyal of Oregon Department of Energy presented a proposal for performing an economic analysis of the proposed Low Carbon Fuel Standard. Their presentation included several PowerPoint slides. Ms. Langston outlined the three steps for producing compliance scenarios that will be used to estimate the economic impact of the LCFS. The first step is a fuels assessment for each potential low carbon fuel, including:

- An estimate of the amount of fuel that is currently and could potentially be produced in Oregon;
- An estimate of the amount that could be available from outside of Oregon;

- An assessment of the commercialization status of the fuel; and
- Any effect on supply of the fuel from federal, state and local renewable fuel standards.

The second step is an analysis of carbon intensities for each fuel, as described in the previous presentation by Ms. Simons and Ms. Lazarev. The third step is the construction of compliance scenarios composed of combinations of types and volumes of low carbon fuels that will meet the LCFS. The presentation included examples of compliance scenarios from the Northeastern states. Ms. Langston presented the committee with a proposed timeline for completing each step, including opportunities for advisory committee input and review.

Mr. Satyal gave the committee some background on economic impact analysis, including what this analysis aims to achieve and situations where it is typically used. In the case of an Oregon LCFS, the economic analysis will estimate the difference between costs to affected parties under “business as usual” and the costs to affected parties of complying with the LCFS under the various scenarios created in step three. Affected parties include producers and providers of transportation fuel, the general public, businesses (particularly small businesses) and governments.

Mr. Satyal told the committee that there are two modeling tools primarily used for this type of analysis, REMI and IMPLAN. DEQ recommends REMI because of its dynamic nature and ability to capture geographical relationships. After outlining the steps for the analysis, Mr. Satyal presented the desired outcomes: net cost of complying with the LCFS; possible economic benefits of increased alternative fuel production; and net costs for Oregon consumers. He told the committee that their input on the general approach, data inputs and the modeling assumptions will be especially valuable.

Points raised during and after the presentation included:

- How many sensitivity runs does DEQ plan to do when compiling compliance scenarios? From utility experience with integrated resource planning, it’s easier to try to put brackets around upper and lower bounds for most optimistic and most pessimistic scenarios, as opposed to specifying a single number. **Response:** *We plan to generate ranges, not specific values.*
- California looked at a range of possibilities, including mixes of low and medium carbon intensity ethanols.
- Carbon intensity analysis should not overlook the possibility of improvements in conventional petroleum fuels.
- Indirect impacts analysis should not focus only on alternative fuels, but should also consider indirect impacts of petroleum fuels.
- The upcoming change in fuel economy as required under federal GHG regulations will affect the cost of complying with the LCFS. Will this be reflected in the GREET model or in the economic analysis? Also, federal fuel economy regulations will affect EERs which compare the energy efficiency of alternative vehicles to comparable petroleum fuel vehicles. **Response:** *Oregon has already adopted low emission vehicle standards, which will be reflected in the baseline for the economic analysis. Mr. Satyal noted the point (about accounting for federal fuel economy regulations) and will ensure the baseline for the economic analysis reflects applicable standards.*

- Oregon is required under HB 2186 to take into account changes in drive train efficiencies, which may be different than California's requirements. If we are partly achieving the GHG reduction goals of the LCFS by reducing the volume of fuels consumed due to power train efficiency improvements, then this must be considered in the economic analysis. **Response:** *The economic analysis will reflect Oregon regulatory requirements. The purpose of this presentation is to get input on writing a request for proposals in order to hire a contractor to perform the economic analysis. DEQ will add references to drive train efficiencies and federal fuel economy regulations into the RFP. Drive train efficiency was mentioned in the bill to ensure that the carbon intensities calculated under LCFS program take into account differences between the relative efficiencies of electric, hydrogen and natural gas vehicles. The intention was not that Oregon would comply with the LCFS by changing vehicles. DEQ and commenter agree to pursue discussion about the significance of the statutory language on drive train efficiencies outside the meeting.*
- Impression was that LCFS aims to get a reduction of 10 percent below forecasted "business as usual," not 10 percent below whatever carbon intensity was when the legislation was passed. Is this correct? **Response:** *This point gets into the issue of how often Oregon will reset the baseline for the program. This will be a future committee discussion topic.*
- Railroads plan to make major changes to their engines over the next several years, which will result in 15 percent reductions in emissions without using biodiesel. They want to make sure these improvements are taken into account.
- Will our state program cause any problems with NAFTA, which will result in more Canadian trucks on our roads?
- There is a need to understand the contributions of other climate change programs already adopted in order to understand the economic impacts of a LCFS program.
- What consumers and businesses care about are changes in fuel prices, not changes in the costs to produce fuels. It's difficult to forecast how changes in cost will translate into changes in fuel prices - how will the analysis deal with fuel prices? **Response:** *CARB found a small reduction in costs, but allowed that all or none of the reduction in costs could be passed on to consumers. Response (CARB): In their economic analysis, CARB avoided looking at changes in prices because prices are affected by all kinds of additional factors, not just changes in production costs. Response (Mr. Satyal): Oregon is much smaller than California, and hence is a price-taker in the fuel market. Taking this into account, together with price-driven changes in driving behavior and innovation by industries, the factors can essentially cancel each other out with respect to impact on prices. The RFP will include consideration of how changes in costs will affect fuel prices. If time and resources allow, the contractor could perform sensitivity analyses that would look at price effects.*
- Isn't local supply of alternative fuels a function of prices? **Response (Mr. Satyal):** *Yes, and the economic analysis will take this into account.*
- Economic analysis needs to account for benefits, not just costs, such as avoidance of CO<sub>2</sub> cost risk under future national or international programs which would impose costs on GHG emissions and public health impacts of reductions in air toxics from changing fuels.

- Will analysis include costs to railroad companies of fuel additives necessitated by use of biodiesel? Even if the fuel is the same price, biofuels may bring additional expenses. **Response** (Mr. Satyal): *Yes, additional costs should be taken into account. He would encourage fuel users to bring this kind of information forward for inclusion in the analysis.*
- Public benefits, including environmental improvements, should be taken into account. **Response** (Mr. Satyal): *REMI as a tool is somewhat limited in this respect, but can incorporate information on related economic impacts. The literature review which will accompany the economic analysis can look at factors which are not easily quantified.*
- Will the contractor be getting information solely from the advisory committee? **Response** (Mr. Satyal): *The contractor will look at existing published information sources, as well as analyses already performed by other states.*
- Will the economic analysis be able to account for supply shortages of biofuels to meet the LCFS, which will influence prices? **Response:** *The compliance scenarios will be based upon reasonable projections of how much low carbon fuel will be available. The economic analysis will be based upon the compliance scenarios, so it is important to come up with reasonable scenarios. Also, the statute requires DEQ to build deferrals into the regulations in case expected sources of low carbon fuels do not materialize.*
- The analysis of federal diesel rules attempted to look at externalized costs and benefits (such as health effects), and could be a good starting point for DEQ's analysis of the LCFS.
- Request that DEQ and Mr. Satyal put together a list or matrix of key REMI assumptions that will affect the economic analysis results, perhaps soliciting input on what values to consider for business-as-usual, best case, and worst case. **Response:** *We plan to talk about the assumptions in February.*
- Process assumes there will be credits that will be bought and sold by fuel producers. Will cost of credits and the trading mechanism be included in the analysis? Don't we need to know the design of the trading system before we estimate the compliance costs of the program? **Response:** *The ability to trade lowers the cost of compliance, so leaving credit trading out of the analysis provides a conservative look at costs. On the other hand, transaction costs would not be accounted for.* **Response** (CARB): *This is a cost analysis. Since the costs of a trading mechanism depend on the design and are not yet known, CARB left the cost of credits out of their analysis.*
- California is spending \$ 250 million per year over the next seven years in incentives to help meet the LCFS. Oregon also has incentives, such as the BETC (Business Energy Tax Credit) that will help toward meeting the LCFS. These incentives show up in the accompanying handout (page 10) as cost savings under the LCFS, but they should in fact be considered as costs of meeting the LCFS. **Response:** *The analysis will identify costs to different sectors, such as business and government. Savings to one sector may be a cost to another.*
- Calculating the costs of tax credits must take into account long-term public benefits, as well as short-term costs. Analysis of this kind has been done in Oregon on the BETC.
- How much money has DEQ allocated for this analysis, and is it a reasonable amount for a quality product? **Response:** *The budget is something over \$100,000. Oregon and Washington have received a grant from EPA to cover the economic analysis in Oregon and some related*

analysis in Washington. **Response (CARB):** CARB has already done much analysis which will be similar for Oregon, and can share their results for use and modification by Oregon's contractor. **Response (Mr. Satyal):** Oregon's RFP includes a literature review that will identify analyses and data from other states that will be useful.

- As far as credit trading, it would be wise to consider different assumptions. The worst case is an illiquid market with few credits to trade, e.g. few electric cars entering the market. If there are no credits to trade, then trading will not help ease compliance costs.
- There are historical data and many studies on costs of credits and transaction costs, providing a range of outcomes. **Response (Mr. Satyal):** EPA has analyzed credit trading, and several studies are available from the National Center for Environmental Economics.
- How will sectors be chosen for the analysis? **Response (Mr. Satyal):** The contractor will choose a list of sectors to be included, and then run the list by the advisory committee.
- California exempted certain fuels that are subject to interstate and international commerce, while Oregon's statute calls for fuels used by agricultural vehicles and logging trucks to be exempt. At which stage in the economic analysis will exemptions be accounted for? **Response (Mr. Satyal):** Probably in the fuels assessment or compliance scenarios, but the contractor may suggest another way to account for it.
- Even though current statute allows certain users to be exempt from the renewable fuel standard (RFS), they are not always able to buy clear gas, so there are other factors at work.
- Observation that the consensus of the group seems to be that the overall structure makes sense, although committee members may differ on what should go into each step.
- Comments about the RFP should be directed to Sue Langston by December 17.

#### **Agenda Item D – Covered Fuels and Regulated/Opt-In Parties**

Sue Langston gave a presentation focusing on the questions of which fuels should be covered by the LCFS program, and which of the covered fuels should be required to participate and which could choose whether to opt-in to the program. Providers of opt-in fuels would not be required to fulfill reporting requirements for the LCFS unless they decided to opt-in.

DEQ proposes that the following transportation fuels be covered: gasoline, diesel, ethanol, biomass-based diesel, liquefied and compressed natural gas (from fossil sources or biogas), electricity, hydrogen and other transportation fuels which may be developed in the future. Propane would not be covered.

DEQ provided three options for which fuels should be mandatory participants and which could opt-in. Under Option A, biomass-based fuels and fuels which would not meet the 2020 standard would be mandatory, while producers of other fuels could opt-in if they wanted to sell credits. Ms. Langston provided examples (using California and draft Washington carbon intensity values) to illustrate which fuels would meet the 2020 standard. Under Option B, all fuels would be mandatory with no opt-in fuels. Under Option C, the same fuels would be mandatory as under

Option A, except that producers of biomass-based fuels could opt-out if they could prove that the carbon intensity under their production process was less than the 2020 standard. Ms. Langston requested feedback from committee members on reducing compliance burdens and whether there are unintended consequences for any of these three options.

Points raised during and after the presentation included:

- Best option depends on how the program deals with credits. If the program does not have credits, Options A and C would be fine. If the program uses credits, then Option B looks best in order to ensure that credits are available to buy under the program. **Response:** *An advantage of Option B is that information would be available about the supply of low carbon fuels because producers of low carbon fuels would be required to report. However, they would not be required to sell credits.*
- If producers of low carbon fuels are not required to report, how will we know that the program's goals are being met? **Response:** *The intent of the program is to reduce the carbon intensity of gasoline and diesel, producers of which would be required to report. Low carbon fuels (i.e., opt-in fuels) by definition already meet the standard.*
- Whether opt-in parties decide to actually opt-in to the program depends on whether the trading mechanism is user-friendly, especially in the case of individuals owning electric vehicles. **Response:** *It seems unlikely that low carbon fuel providers will choose not participate, because reporting costs will be outweighed by gains from selling credits. It is important to give incentives for participation, both to ensure credits are available and to lay the groundwork for low carbon fuel availability after 2020.*
- What entities will actually do the reporting? **Response:** *The reporting entity will be different for each fuel. The committee will discuss this issue at a future meeting.*
- Even if entities decide to opt-out, they will be subject to the LCFS as consumers of fuel.
- Can producers reduce the carbon intensity of their fuel by purchasing carbon offsets? **Response (CARB):** *California's LCFS program is self-contained. Credits from other programs cannot be imported, because the goal of the LCFS program is to promote innovations in fuels. In some cases, credits may be exported from the LCFS program.*
- What happens if a low carbon fuel producer sells too many credits, and ends up with a deficit at the end of the year? Discussion ensued comparing the situation of a fuel producer under the LCFS to the situation of an electricity generator under the Renewable Portfolio Standard. **Response (CARB):** *Compliance under the program is not based upon actually producing fuel at the standard, but upon meeting the requirements for credit accounting. Producers with enough credits to meet their obligations can sell any surplus.*
- Once you opt-in, can you opt-out? **Response (CARB):** *They have not clarified that point yet in California.*
- PacifiCorp prefers the opt-in approach. Their service area is largely rural, meaning that the costs of installing separate meters and gathering the data will initially outweigh the benefits of selling credits.

- Does it make more sense to calculate credits at the point of sale for an electric car, because there would be only a few car dealers that would be regulated, rather than at the point of car ownership? **Response** (*PacifiCorps representative*): *LCFS credits should be allocated according to fuel use. As electric vehicle use grows, there will be incentives for utilities to install separate meters and charge lower rates for charging during off-peak hours in order to lessen the impacts of load growth.* **Response** (*CARB*): *The LCFS should reward entities that pay for fueling infrastructure by allowing them to claim credits.*
- If Oregon does not have a system outside the LCFS for selling credits generated within the LCFS (as California has under AB 32), then there is not as strong a reason for keeping the credit revenue with the electricity providers. **Response** (*PacifiCorps representative*): *If LCFS credits become substantial sources of revenue for the utilities, it will become an issue for the Public Utilities Commission.*
- Will the credits be dissociated with ownership of the fuel itself? Can they be sold separately? **Response** (*CARB*): *They can be sold separately. Electricity providers can sell credits to petroleum fuel providers, without selling the fuels.*
- Publicly owned utilities find it difficult to take a position at this time without knowing more details, but have concerns about lack of resources for investments and load growth.
- Oregon may generate business opportunities by incorporating the ability to connect to voluntary credit markets. Trading credits should reduce costs of the programs, since it will give regulated parties options for how to comply.
- Market for credits under LCFS will not be a “free market,” though, since it will be required by a government regulation, so assumptions about transactions only happening because they are economically beneficial to both parties would not apply.
- Perhaps charging stations could split credits with owners of vehicles, using a something similar to the cardlock system. **Response** (*PacifiCorps representative*): *In the short-term, it would be more efficient for the utilities to perform the function of accounting for and trading credits on electric vehicle owners’ behalf, but in the long-term a liquid market may be develop that will make it easy for individuals owning charging stations to trade credits on their own. If utilities are forgoing an opportunity to generate revenues, people will bring it to the attention of the PUC.*
- The gradual phase-in schedule for LCFS argues for an opt-in approach.
- Biomass-based diesel has such low carbon intensities that it should be an opt-in fuel. **Response** (*CARB*): *They included it among regulated fuels because credits from biomass-based diesel are needed for compliance with the LCFS.*
- Is there potential for secondary markets (i.e., investment firms) to evolve to pool individual charging station owners to sell credits? **Response** (*CARB*): *Not under California’s rules, although groups or companies providing electricity charging stations could provide a similar function.*

~~The consensus~~ Many advisory committee members felt that ~~of the group was~~ Option A would work, with some reservations about whether biomass-based diesel should be included in the “Regulated” group or the “Opt-in” group. Ms. Langston answered that this determination will partly depend upon the ultimate carbon intensity numbers for biomass-based diesels. A discussion ensued about whether participation of biomass-based fuels should be mandatory, with concerns raised that small producers could face reporting costs without a countervailing opportunity to sell credits. **Response (CARB):** *California allows an exemption for low volume fuel producers, because the reporting costs could outweigh the opportunities for some of them. However, they did not find most biomass-based diesels to fit into this category because they are not small volume.*

### **Public comment**

Ralph Moran, BP America: BP continues to think it’s important for the advisory committee to discuss the purpose of the LCFS and what the alternatives are, which would be consistent with the process going on in Washington and he thinks also consistent with HB 2186. He thinks the committee needs to discuss whether the objective is GHG reductions or fuel innovations. If a national carbon reduction program is enacted, the incremental GHG reduction impact of the LCFS will be zero. BP worked with CARB in putting together the California LCFS, and believes the advisory committee has heard only one side of the story from CARB, but needs to hear other sides to the story. BP has big concerns with California’s LCFS design – some of those design flaws could be fixed, and others are inherent to the LCFS. They think it’s important that the committee hear a presentation from BP, with opportunity for back-and-forth between the presenter and the committee.

Dwight Stevenson, Tesoro: He thinks it would be helpful to draw a diagram of what the committee is envisioning, for instance where in the process a credit is generated, to make it easier to understand. Other indirect emissions that haven’t been considered by CARB thus far are those due to increased farming intensity, using more water and fertilizer, which could occur due to increased demand for biofuel crops. CARB’s expert workgroup will look at this issue. The committee should consider whether to set separate baselines for gasoline and diesel, since diesel has lower carbon intensity and increased use of diesel could contribute to GHG reductions. The economic analysis needs to consider the technological feasibility of producing the fuels that will be necessary – he didn’t see plans for an adequate technological analysis in the presentation this morning. If alternative fuels aren’t currently being produced, perhaps they are not economically competitive, contrary to CARB’s economic analysis. CARB assumed a cost for ethanol in their economic analysis, but this was not based upon an engineering analysis, and the assumptions are overly optimistic.

A question for Mr. Satyal: The marginal producer sets the price, so it doesn’t make sense to look at the average producer’s cost. **Response (Mr. Satyal):** CARB did attempt to look at marginal costs, and DEQ plans to look at the marginal change in cost.

Mr. Stevenson would like to participate in the committee discussions, so as not to have to make all of his comments at the end of the discussion.

### **Agenda Item E – Exemptions**

Dave Nordberg gave an overview of exemptions being considered for an Oregon LCFS. These include Liquid Petroleum Gas (propane), heating oil, and fuel used in farm vehicles, log trucks, ocean-going vessels and interstate locomotives. Certain fuels with specialized performance requirements would also be exempted including fuels for aircraft, racing vehicles and military tactical equipment. Finally, HB 2186 allows exemptions for alternative fuels used below thresholds established by the EQC. DEQ suggested appropriate levels for this exemption could be any alternative fuel that is produced in Oregon in a total amount less than 360,000 gasoline gallon equivalent and less than 10,000 gallons of alternative fuel made by the a single producer.

Fuel uses that would not be exempt include non-oceangoing vessels (harborcraft), and *intrastate* locomotives. Because they stay mostly within Oregon, they are more suitable for regulation. Recreational watercraft, snowmobiles, ATVs, antique vehicles and “lawn and garden” equipment would also not be exempt. That is because a LCFS will limit the availability of gasoline without ethanol (which is permitted for premium gasoline in Oregon after January 1, 2010).

Points raised during and after the presentation included:

- If producers less than 10,000 gge equivalent are proposed to be exempted, and that is the volume of the smallest producer, then no one would be exempted. **Response:** *That is a suggested starting point – the idea is to give the smallest producers time get up to production volume before being regulated. DEQ is open to other suggestions.*
- Need to consider barge system, towboats, etc.
- With regard to intrastate locomotives, the definition of “intrastate” has to do with where the shipment is going, not where the locomotive is going. So a truck could be transporting wheat to a silo, which then gets put on a train out of state. That truck movement, although never leaving Oregon, is interstate commerce because the wheat is destined for out of the state. Some trucks are captive and will fuel in Oregon, but 90 percent of trucks registered in Oregon are engaged in interstate commerce and could probably fuel elsewhere. **Response:** *What DEQ is concerned about is the fuel, not the goods that are being shipped. An interstate locomotive is likely to fuel outside of Oregon, as could the oceangoing vessels. DEQ will look into the definition of intrastate railroads. Farm and log trucks are exempt, but the truck owners themselves would not be subject to the LCFS. What is important is that the fuel they use is exempted. So we’re not talking about exempting the interstate locomotives, but the fuel they use. The question is about the fuel and the fueling system and can the fuel be supplied separately.*
- If you are regulating at the blender level, how will you separate that out?
- What about fishing vessels? The entire fleet is legacy. Should we consider granting them the same considerations as logging trucks?
- Commercial construction equipment, off-road equipment fuel is supplied in two ways. Some companies own their own equipment, others rent. So when you’re talking about this in

relation to the construction industry, it is very complex – some are small businesses.

**Response:** *This regulation is for the fuels, not the equipment.*

- But all of the construction equipment doesn't get capitalized very often, and what kind of retrofit or new equipment would need to be purchased to use the fuel? Some portions of construction equipment fleets have specialized uses. Even though it doesn't use different fuel, it needs to operate well. **Response:** *The statute requires that any biomass-based diesel or ethanol meets fuel specifications enforced by the Oregon Department of Agriculture. On-spec biodiesel should be able to function in any engine.*
- Part of the statute says the rule has to be feasible. Truck manufacturers will only honor warranties with ~~10~~five percent biodiesel or less.
- Of the fuels for which exemptions are proposed, some are outside DEQ's jurisdiction and some are specialized fuels that have their own specifications.
- Currently, we have an Oregon Renewable Fuel Standard requiring B2 (diesel blended with two percent biodiesel) is being distributed. We have an avenue for off-road fuel to be clear, and we have clear aircraft fuel already. For people concerned about the effect of a LCFS, what are you doing now? You're either using a clear off-road product, or you're using B2. Hence, potentially low carbon fuels are already on the market and people are using them.
- Why didn't DEQ propose to exempt all off-road? Airport and ground support or port equipment is not exempted. All of those fuels will need to use fuels that meet a LCFS spec. If that is the case, then those technologies become candidates for electrification or natural gas. In California, there are existing regulations that address this equipment, and they are working on sorting out the relation to the LCFS. In Oregon, we do not have regulations that address this type of equipment.
- Recreational boats are exempt from the Oregon Renewable Fuel Standard for a good reason. It's not a large amount in terms of quantity, but you might want to be consistent with the Oregon Renewable Fuel Standard.
- The regulated entity is the fuel provider, and not the fuel consumer, so these fuels should still be provided. It's the provider's obligation to balance the fuel mix, so there is a potential to provide for some of these consumers while making reductions in other areas. So the LCFS is not a wholesale change in the fuel mix.
- Right now farm operations use the same fuel as truckers and the construction industry. This exemption was given to the farm industry, and it seems not to mean anything because fuel providers might not maintain a separate fuel supply for the agricultural community. Maybe in some areas it might be available because out-of-state suppliers will still be bringing in fuel.
- Exempting all non-road fuel would be appropriate to ensure that fuel distributed to farm vehicles is functionally exempted from a LCFS. It is widely held that fuel distributors minimize the number of fuels they provide to reduce cost and simplify operations. Therefore, relatively small volume uses (such as farm vehicles) may get low carbon fuels regardless of exemptions. Furthermore, a LCFS has the potential to increase use of biodiesel making fuel more expensive or causing performance problems. **Response:** *Because exemptions dilute the overall effectiveness of a LCFS program, they should be used only as actually needed. LCFS fuels still need to comply with established fuel standards.*

- Throughout the passage of this bill (HB 2186) and in hearings the agricultural community heard that this would have no impact because of the exemptions. It's frustrating that this does not appear to be the case because the fuel suppliers will not be supplying clear fuel.
- Are agricultural users today getting clear, off-road diesel fuel? Yes, either dyed or clear, depending on the amount of fuel they buy. To buy clear fuel, they have to purchase a whole truckload, and there is only a small segment that can do that. The concern is the cost and availability and what the LCFS means to their business.
- If the agricultural community is getting clear fuel now, the LCFS should not affect that.
- Is it the price or perceived performance issue? During the session, the concerns were raised because of the price.
- When ULSD first became available, the Port of Portland wanted to require ULSD as a pilot project for one construction project, and there were major concerns that it would cost more, etc. It turns out that it did not cost more, because of the large supply. The more these low carbon fuels have to become a specialty fuel due to more and more exemptions, the more they will cost. There might be economies of scale if there are fewer exemptions.
- What is the nature of the burden to agriculture? If agriculture is already using fuel that is highway grade, that means they have made the fuel filter switches and the commenter doesn't understand what the cost risk would be given that the fuel would be available ubiquitously, and the cost would not be more.
- The concern is what happened with the move to 10 percent ethanol – there were significant impacts to not just the agricultural sector. We need to look at the exemptions from the Oregon Renewable Fuel Standard, because there were significant costs, not just to agriculture. Costs of engine failures, new carburetors and retrofitting because engines can't run with ethanol. The agricultural industry runs on older equipment and vehicles. B2 (diesel blended with two percent biodiesel) is a low percentage blend, but as we move to a higher percentage – current warranties allow for ~~10~~five percent % biodiesel, but older vehicles do not have that consideration.
- But haven't they already borne that cost in the switch to ULSD? ULSD, with its higher solvency, has already cleaned out all of the tubes, so what is the additional cost?
- I think the ULSD is only on clear and not red at this time. Is there going to be with LCFS, a new change, such as a higher blend or something else that would have an impact on older engines.
- So that is question for DEQ – is the fuel more problematic as it gets purer? This is a discussion not just for the agricultural community, but for all users.
- So far, there has been nothing but anecdotal evidence presented on the cost of increased biofuels use. Do any advisory committee members have any actual evidence or studies of greater cost or problems due to increased biofuels use?
- One member stated that federal rules require locomotives to be retrofitted in future years to reduce emissions of Volatile Organic Compounds, Nitrogen Oxides and Particulate Matter. He indicated the use of biodiesel in upgraded locomotives would nullify the equipment warranty. **Response:** *DEQ will investigate this issue.*

- One potential solution regarding agricultural fuel use (it wouldn't solve the whole issue with the exemptions) is that the farm coops are a large fuel buyer and they they already keep track of agricultural use of fuel for tax purposes. Some also have fuel sales to cars, but can separate out that documentation. Although, off-road fuel is not tracked for tax purposes. Could the rule be written around this existing documentation? **Response:** *Yes, the criteria are that the exemptions would need to be verifiable and traceable. DEQ suggested one way to achieve that end would be for final users of exempt fuels to provide simple statements of exempt use. Such statements would be aggregated by regulated parties and their total volume would be subtracted from compliance calculations.*
- For bridge construction projects that required fuel tracking, it was easy to get fuel information from a fuel supplier. It's just an accounting protocol for the fuel supplier, and is easily traceable.
- Other members also expressed concern that a LCFS would cause problems with legacy vehicles or niche uses such as sailboats (in which fuel for auxiliary engines can remain unused for years). On the other hand, one member pointed out it is likely such vehicles are already getting biodiesel; another thought any problems would be temporary and limited to clogged fuel filters.
- The committee also discussed whether exempt fuels should be allowed to earn low carbon fuel credits. Allowing such credits could provide an incentive for low carbon fuels when they are not mandated and provide flexibility in meeting a LCFS standard. Not allowing such credits could discourage the use of biofuels beyond what is already required by renewable fuel standards (in response to concerns that greater use of biofuels in exempt categories would cause problems).
- What percentage of biofuels is likely to be required? The advisory committee would like DEQ to provide information.
- Some agricultural users have been using higher blends of biodiesel, and love it.
- LCFS does not require biofuels to be blended.
- The advisory committee will be asked for its opinion on exemption issues at a future meeting.

## **Agenda Item F – Consumer Cost Safety Net**

Sue Langston of DEQ presented a proposal for a Consumer Cost Safety Net. The presentation included several PowerPoint slides. Ms. Langston discussed Section 6(2)(d) of HB 2186 and the conditions under which DEQ proposes the Environmental Quality Commission would use exemptions and deferrals to mitigate a non-competitive 12-month rolling weighted average price of gasoline or diesel in Oregon, as compared with other states specified in statute.

Ms. Langston reviewed available data, discussed the potential processes and criteria for using exemptions and deferrals, presented ideas for exemptions and deferrals, and presented several issues for advisory committee discussion including:

1. How do we determine the 12-month rolling weighted average price of gasoline or diesel
2. How do we define “not competitive”?

3. What process will be used for implementing exemptions and deferrals?
  - a) How will the issue be brought before the EQC?
  - b) What criteria will be used?
4. What types of exemptions and deferrals will be the most useful?
5. Impact of potential Washington State LCFS
6. What are the unintended consequences that could result from this?

Points raised during and after the presentation included:

- The timeframe for an EQC finding on whether exemptions and deferrals are necessary is too long. Could the EQC could set up criteria in administrative rule, and then delegate the finding to staff? **Response:** *The commission can delegate some things to the DEQ, but when the statute specifies an EQC finding (as HB 2186 does on this issue), it is unlikely that finding would be delegated to staff. But we could set up criteria so the process could be streamlined. There are other deferrals and exemptions to deal with adequate fuel supply that would be more immediate. The 12 month average is not just a price spike – it is a problem that has been building for months – it’s a building problem, and would need analysis.*
- For a temporary spike in prices, it would be unlikely that getting rid of the LCFS in the short-term would have a substantial effect on price because you would not have changed the fuel stock over.
- Washington gasoline prices tend to be a few cents higher than Oregon’s.
- Has DEQ done econometric analysis to see what inputs have driven up the price of gasoline? Wouldn’t we do that to see what caused the Oregon price increases? **Response:** *No – the thought was that we would investigate the causes of an elevated Oregon price of gasoline once the 12 month rolling weighted average price in Oregon is more than five percent (proposed) above the statutory PADD-5(WA, OR, NV, AZ) price.*
- Right now Oregon’s 12 month rolling weighted average price of gasoline is at 3.2 percent above the statutory PADD-5 average, so it wouldn’t take much of a bump to put Oregon over the proposed 5 percent threshold. **Response:** *If the price went over 5 percent, exemptions and deferrals wouldn’t automatically go into effect – there would need to be an investigation as to why the 12 month rolling weighted average in Oregon is 5 percent more than the statutory PADD-5. If it was from other factors, nothing would need to be done, but if it was due to the LCFS, then we would need to implement the exemptions or deferrals.*
- Is there any way to back out the effect of Oregon not allowing self service? **Response:** *Even with the differences in self-serve between OR and WA, WA’s price is still higher. The 12 month rolling weighted averages included in the discussion paper show the normal variation in the system without a LCFS, and with self-serve in WA but not OR.*
- The public needs to be aware of the cost of this policy and the commenter wants to ensure that the public knows the real cost of this policy. The commenter felt that this safety net is a fancy way of masking the real cost of the policy. The commenter suggests that the trigger for an investigation into whether exemptions or deferrals are necessary should be when the 12 month rolling weighted average price of gasoline or diesel in Oregon is ten percent, not five percent higher than the price in the statutory PADD-5. The public would then have to absorb more of the cost of the policy before something was done.

- For diesel, the 12-month rolling weighted averages need to be calculated without state tax because Oregon does not have a tax for on-road diesel, and the other states do. CA also has a sales tax. A discussion ensued on the availability of Energy Information Administration diesel data. **Response:**
  - *The Energy Information Administration does not have diesel price information for NV or AZ. DEQ will bring a proposal to the committee on how to handle this issue. DEQ needs to do more research on diesel price information.*
  - *We understand it is important to exclude tax on diesel in other states from the calculation of the 12-month rolling weighted average price.*
  - *CA is not included in the statutory PADD-5.*
  - *For gasoline information, no tax information will be included in the calculation of the 12-month rolling weighted average price.*
- Is the task to model the factors causing an elevated Oregon 12-month rolling weighted average price of gasoline or diesel to understand how to identify when these happen? If you don't do that, then you won't know beforehand if it will be causal. The statute seems to ask for an econometric causation. **Response:** *The proposed approach is to investigate the cause of a price increase once the 12-month rolling weighted average price of gasoline has gone above five percent.*
- Some factors listed in the discussion paper would rule out that the LCFS was involved. They would be one-time occurrences that effect fuel supply or elevated crude prices with a resulting spike, and you could see clearly that they were the cause. Econometric analysis would be needed for more long-term trend analysis and to know which variable was trending upwards the most. Econometric analysis would not be needed in all cases.
- If a spike happens, you don't have a concept what caused it if you don't have a pre-determined theory of causation. Bounds on the criteria would be helpful. **Response:** *DEQ cannot predict all possible events that could cause a price spike. However, at points in the program where the required reduction has stepped up a notch, it may be more likely that any observed price increase is due to a shortage of low carbon fuels. In situations where the standard has not changed and there are no interruptions to the low carbon fuel supply, whether relative price increases are due to the LCFS may not be obvious and an econometric analysis may be necessary.*
- As shown on the graph, there is not a tremendous amount of variation between Oregon prices and the PADD5. This would mean Oregon's price is different than the 20-30 year history. You don't need to go through a huge econometric analysis to know that the LCFS is at fault. **Response:** *If Oregon's fuel was more expensive, the state would want to do what it could to decrease that difference. But if the price difference wasn't caused by the rule, we'd want to know what the cause was –if the LCFS was not the cause of the price increase, then deferring/exempting the LCFS could make the price situation worse. We would want to do an investigation to determine if the LCFS was causing a price difference and instigate exemptions and deferrals to address this. Also, there have been several times where Oregon's 12-month rolling weighted average price went over the same in the statutory PADD-5. Oregon's 12 month rolling weighted average price of gasoline has been over 5*

*percent of the statutory PADD-5's eight months since 1983 (3 percent of the time). For diesel, we only have the actual PADD-5 price information, and diesel has not gone 5 percent over the actual PADD-5 since 1983, although it has been close several times.*

- What happens if the Oregon 12-month rolling average stays over 5 percent and it is determined the cause is not the LCFS? What triggers the next investigation? There needs to be some flexibility in the rule to address this. If Oregon's fuel is considerably more expensive than our neighboring state, the legislature will want to look at that. **Response:** *DEQ needs to address this situation in the rule. For example, we could say that if the difference stays above 5 percent and the conditions haven't changed, we don't need to do another review.*
- Exempting a certain company or companies is fraught with problems, while exempting a certain fuel would be valid.
- There is concern if this is the only mechanism for dealing with price. **Response:** *The other deferral provisions address fuel supply, but they only indirectly address price. If you have an emergency supply disruption, that would translate into a price problem.*
- New companies producing biofuels could be negatively impacted by exemptions and deferrals. Also, there could be gaming with fuel prices that would cause an increase, resulting in the antithesis of what the rule is trying to accomplish. **Response:** *We'd need to be careful with using exemptions and deferrals. The exemptions and deferrals would not eliminate the entire LCFS requirement – you would roll back the standard to the previous year or delay the implementation of the next increase.*
- One unintended consequence of the proposed 5 percent non-competitive threshold is that such a low threshold for price variability doesn't encourage substitution. A higher range of allowed price impact would encourage substitution at a higher rate, potentially resulting in stabilization at a lower price later on. A 10 percent difference might be more appropriate for a trigger than 5 percent.
- We need to consider the consumer. Five percent is 15 cents per gallon, which means that truckers will buy fuel somewhere else other than Oregon, affecting Oregon fuel providers. This policy will affect a lot of different people. It's critical that we get this right or we will hurt someone. **Response:** *the most likely reason that the LCFS could cause the 12-month rolling average price to increase above the statutory PADD-5 price is the standard has stepped to the next reduction level, and there was not adequate low carbon fuel supply for that, or in anticipation of that next step in the LCFS reduction, there was hoarding of low carbon fuels. These are situations DEQ could anticipate before actually seeing a price change. The 12-month rolling average is a safety net element that was put into place as a backstop. There are other provisions that look at supply specifically. If we are three months out from a reduction in the LCFS, and we see the supply isn't there, the EQC can implement a deferral. That is a more direct way to deal with supply issues. The 12 month rolling average safety net is for when something has gone wrong with the other deferrals.*
- Another variable is that because CA and possibly WA also will have LCFS programs, the preferred market for a low carbon fuel produced in Oregon might be elsewhere. Timing is important – DEQ should consider mirroring WA's timeline (in HB 2186). If we are the first, then we could have problems.

- There has to be a third party that could deal with this implementation issue of exemptions and deferrals for fuel price. DEQ should find a third party to use, as opposed to creating some sort of system. **Response:** *We can certainly consider this, but keep in mind that a 12-month rolling average price is not an emergency scenario – this is the backstop where something went wrong, and we’re seeing it in the price. Our goal is to avoid this ever happening by setting a phase-in schedule which can be met with reasonable compliance scenarios, and having a process by which we’re looking ahead, and we’re sure regulated parties will be contacting us if they won’t be able to meet the low carbon fuel demand in the next step down. Then we can change the compliance date beforehand to avoid price and fuel supply issues.*
- That discussion has to come together with the whole package of exemptions and deferrals. We’ll be discussing this in February. Some advisory committee members would like to look at all of the exemptions and deferrals together. **Response:** *We will revisit this when we discuss the deferrals for adequate fuel supply.*
- The advisory committee discussed what to do when there is a gap when EIA data. EIA price data comes out weekly – but there is a 3-4 month lag in volume data. Volume data is necessary to calculate the 12-month weighted rolling average. It was suggested that the most recent volume month could be used, but because there is seasonal variation in gasoline and diesel use, the previous year’s data might be better. The best option might be to take the most recent 12 months data that you have as a first cut.

**Other discussion:**

Committee members discussed the request during the public comment period by petroleum company representatives to present their perspectives directly to the committee. **Response:** *Petroleum company representatives made the same request directly to DEQ. DEQ proposes that the companies have an opportunity to present information related to issues where they have specific expertise or perspectives to offer. We asked that if they have a particular policy issue they would like to address, that they let us know so that we can schedule an advisory committee presentation.*

The committee wants to know the companies’ specific objections to California’s LCFS. A bullet list of issues the companies would like to discuss with the committee would be helpful. Chair Reeve promised to work with DEQ to make arrangements.

The meeting adjourned at approximately 4:25 pm.