



Department of Environmental Quality

Low Carbon Fuel Advisory Committee
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**Establishing New Fuel Pathways
and Sub-pathways**

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Establishing New Fuel Pathways

Importance of Process for New Pathways and Sub-pathways:

- Ensure that the LCFS carbon intensity lookup table accurately reflects the fuels that are actually being sold in Oregon
- Reward genuine innovations and efficiencies



Establishing New Fuel Pathways

Presentation Overview:

- Review definitions
- Situations calling for new pathways and sub-pathways
- Process for proposing new pathways and sub-pathways



Review definitions

- Pathway and Sub-pathway both refer to the whole lifecycle of producing and using a fuel
- Each pathway is a unique combination of feedstock and fuel.
 - Example: Ethanol produced from corn
- Each sub-pathway takes into account the different processes and sources of process energy for making a fuel.
 - Examples: Corn ethanol produced using the wet mill process using natural gas, or using the dry mill process with coal energy



Situations Calling for New Pathways and Sub-pathways

- New low-carbon fuels developed
- New technologies developed to produce existing fuels from new feedstocks
- New and improved processes for producing existing fuels from existing feedstocks
- Increased percentage of high carbon intensity crude oils in refinery mix
- Producers of high carbon intensity crude oils adopt CCS or other methods to lower carbon intensity of product



Establishing New Pathways

Questions for discussion:

- Under what circumstances should a new pathway or sub-pathway be added to the carbon intensity lookup table?
- What considerations should DEQ keep in mind when designing a process for adding new pathways and sub-pathways?



Significance Threshold

- **New Pathway due to new fuel or feedstock:**
 - Presumed to be significant, no threshold requirements for minimum production volume
- **New Sub-pathway due to new or improved process for existing fuel-feedstock combination:**
 - Must meet two thresholds
 1. Minimum threshold for improvements in carbon intensity
 2. Minimum fuel volume threshold



New Sub-pathway: Minimum Threshold for Improvements in Carbon Intensity

DEQ Proposal: Threshold for consideration is an improvement in “source-to-tank” carbon intensity of 5.0 g CO₂e/MJ or 10 percent, whichever is less

- **Example 1: North American LNG, 72.38 gCO₂e/MJ**
 - Lesser of 5.0 gCO₂e/MJ or 10 percent (7.24 gCO₂e/MJ)
- **Example 2: LNG from Landfill Gas, 15.56 gCO₂e/MJ**
 - Lesser of 5.0 gCO₂e/MJ or 10 percent (1.56 gCO₂e/MJ)



New Sub-pathway: Minimum Fuel Volume Threshold

DEQ Proposal: Regulated party is able and intends to provide more than one million gasoline gallon equivalents (gge) per year in Oregon

- **Exception:** Minimum volume criterion does not apply if all providers of the fuel in question supply less than one million gge in aggregate
- Purpose of exception: Preserve incentive for innovation in emerging fuels



Establishing New Pathways

Questions for discussion:

- Does the committee agree with the proposed significance thresholds for new fuels and process improvements?
- Do committee members have suggestions for thresholds with regard to increases in carbon intensity for an existing pathway?
- Do committee members foresee additional situations which call for additions to the carbon intensity lookup table?



Establishing New Pathways

Process would require regulated party to submit updated GREET spreadsheet for new fuel or process

DEQ seeks committee input on the following considerations:

- Kinds of support documentation required to demonstrate improvements are genuine
- Opportunity for public review and comment
- Protection of confidential business information