DEVELOPING A POTENTIAL REGIONAL CLEAN FUEL STANDARD

Joint Board of Directors and Advisory Council Meeting
February 27, 2020
Board and Advisory Council Members leave with a high level understanding of the comments received on the draft clean fuel standard during the Agency’s public comment period.
PRESENTATION OUTLINE

• Background + History
• Clean Fuel Standard (CFS) Review
• Comments Received – “What we heard”
  • Overall support/opposition - by category/theme, from whom
  • Common themes (high level)
• Questions + Next Steps
**CLIMATE IMPACTS IN WASHINGTON**

Human-caused climate change will have significant effects on our region and economy.

### Change with 1.5°C

**More very hot days** *(above 90°F)*
- **67%**

**Reduced snowpack** *(April 1st snow water equivalent)*
- **38%**

**Increased wildfires** *(between 1984-2015)*
- **100%**

### Risks

- Heat-related illness and deaths
- Warmer streams stressing salmon
- More frequent harmful algal blooms
- Reduced water storage
- Irrigation shortages
- Winter and summer recreation losses
- Increased smoke inhalation
- Increased property damage
- Recreational losses
- Higher winter streamflow *(October-March)*
- Lower summer streamflow *(April-September)*
- Sea level rise *(at 2100)*: **1.4 feet**

### Risks

- River flooding
- Costly stormwater management and flood protection
- Negative effects on salmon populations
- Reduced summer hydropower
- Conflicts over water resources
- Negative effects on salmon populations
- Coastal flooding and inundation
- Damage to coastal infrastructure and communities
- Bluff erosion

*From Abatzoglou & Williams 2016

**From UW Climate Impacts Group
AGENCY’S CLIMATE OBJECTIVES

• Strategic plan Objective 2.1: Become the most climate-friendly region in the United States

• Our greenhouse gas (GHG) targets:
  • 50% below 1990 levels by 2030
  • 80% below 1990 levels by 2050

• Focus on transportation emissions
WHY TRANSPORTATION EMISSIONS?

- Over 40% of region’s greenhouse gas (GHG) emissions
- Not well addressed under other policies
- Co-benefits with criteria and toxic air pollutants

Puget Sound Clean Air Agency (Cascadia Consulting Group). Greenhouse Gas Inventory. June 2018
2018 ANALYSIS OF TRANSPORTATION ACTIONS

Of candidate actions analyzed, a clean fuel standard showed:

• Greatest GHG reduction
• Highest certainty of results
• Greatest flexibility for parties to comply
BACKGROUND
TRANSPORTATION MEASURES TOWARDS TARGET

CLEAN FUEL STANDARD

Puget Sound Clean Air Agency
TODAY’S CLEANER FUELS

- **Biodiesel & renewable diesel**
  - Vegetable oils, waste oils, rendered fats

- **Renewable natural gas**
  - Landfills, wastewater, manure
  - Can replace diesel

- **Electricity**
  - No tailpipe pollution
  - Inexpensive: 2-3¢ per mile
  - Cleaner in WA than U.S. avg.

- **Ethanol**
  - Made from corn, sugar, etc.
CLean fuel standard

Biodiesel pathway

Canola feedstock

Transport to refinery

Refinery with natural gas

Delivery to distributors

Diesel vehicles

Hypothetical example:

BIODIESEL-001 (60 gCO2/MJ)
RANGE OF CARBON INTENSITIES

Life-cycle emissions

Pathway carbon intensity (gCO2e/MJ)

- fossil gasoline
- fossil diesel
- electricity
- bio/renewable diesel
- renewable natural gas
- ethanol

Source: California Air Resources Board
https://www.arb.ca.gov/fuels/lcfs/fuelpathways/pathwaytable.htm

CLEAN FUEL STANDARD

Puget Sound Clean Air Agency
REVIEW – WHAT IS A CFS?

A Clean Fuel Standard:

• Reduces the carbon intensity of transportation fuel, reducing GHG emissions.

• Sets annual targets which reduce the carbon intensity of the transportation fuel pool over time.
Each year, entities meet target with combination of deficits and credits. One credit equals removal of one ton of carbon. Any pathway above the target generates a deficit. Any pathway below the target generates a credit.
DRAFT CFS RULE: KEY PRINCIPLES

Board asked staff to create a draft rule that:

1. Maximizes emissions reductions
2. Realizes emissions reductions as efficiently as possible
   • Leverages existing programs
3. Creates as much flexibility as possible
4. Identifies areas of greater impact, including equity
   • Likely to include strategies parallel to the rule
SOME COMPONENTS OF THE DRAFT RULE

- **Target**: 25% CI reduction in transportation fuels by 2030 (below 2016 levels)
- **Timeline**: 2021-2030 (2021 reporting-only)
- **Who’s in**: Regulated, opt-in, and exempt fuels
- **Equity / highly-impacted communities**
  - 35% of credit revenue from utilities + transit agencies
  - Equity credit aggregator
  - Community Advisory Groups + Equity Advisory Committee
### Fuels in the Draft Rule

<table>
<thead>
<tr>
<th>Regulated Fuel</th>
<th>Opt-In Fuel</th>
<th>Exempt Fuel</th>
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</thead>
<tbody>
<tr>
<td>Gasoline</td>
<td>Electricity</td>
<td>Interstate Locomotives</td>
</tr>
<tr>
<td>Diesel</td>
<td>Renewable Natural Gas</td>
<td>Ocean-Going Vessels</td>
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<tr>
<td>Ethanol</td>
<td>Alternative Jet Fuel</td>
<td>Aircraft</td>
</tr>
<tr>
<td>Biodiesel</td>
<td>Renewable Propane</td>
<td>Military Tactical Vehicles</td>
</tr>
<tr>
<td>Renewable Diesel</td>
<td>Hydrogen</td>
<td>Small Volume Fuel Producers</td>
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<tr>
<td>Fossil Natural Gas</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Propane</td>
<td>-</td>
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</tbody>
</table>
PRE-DRAFT RULE: HISTORY + OUTREACH

- November 2018 public forum
- 2019 outreach
- ICF contract for technical analysis
  - Assessed local fuels market feasibility
  - Developed scenarios
- 2019 draft rule development using Board’s principles
DRAFT CFS RULE: PROCESS

- Public comment period
  - October 9, 2019 – February 10, 2020
- Four public hearings
DRAFT CFS RULE: WHAT WE HEARD

Comment period statistics:
- Total #: 6,415
- Emails: 5,889
- Written comments submitted at hearings: 205
- Submitted by mail: 162
- Oral testimony: 144
- Voicemail: 15
DRAFT CFS RULE: WHAT WE HEARD

- Total
- Unique Commenters
- With Location
- In Jurisdiction

- Neither
- Oppose
- Support
DRAFT CFS RULE: WHAT WE HEARD

Support and opposition by County
(numbers on bars are total unique commenters)

- **King**: Oppose - 2,015, Support - 281
- **Kitsap**: Oppose - 281, Support - 369
- **Pierce**: Oppose - 369, Support - 456
- **Snohomish**: Oppose - 456, Support - 3,121
- **Total**: Oppose - 3,121, Support - 3,121
**DRAFT CFS RULE: WHAT WE HEARD**

Jurisdictions and associations that expressed support
(See handout for fuller list)

<table>
<thead>
<tr>
<th>Governments</th>
<th>Organizations (by industry sector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Bainbridge Island*</td>
<td>Automotive Manufacturers</td>
</tr>
<tr>
<td>City of Burien*</td>
<td>Commodities Trading Industry</td>
</tr>
<tr>
<td>City of Issaquah*</td>
<td>Electric Vehicle Charging Industry</td>
</tr>
<tr>
<td>City of Tacoma*</td>
<td>Environmental Organizations</td>
</tr>
<tr>
<td>Port of Seattle</td>
<td>Equity / Community Organizations</td>
</tr>
<tr>
<td></td>
<td>Medical/Public Health Community</td>
</tr>
<tr>
<td></td>
<td>Renewable Fuels Industry</td>
</tr>
<tr>
<td>*Passed Resolution/motion</td>
<td>Transit Agencies</td>
</tr>
</tbody>
</table>

*Passed Resolution/motion Transit Agencies
### Draft CFS Rule: What We Heard

Jurisdictions and associations that expressed opposition

(See handout for fuller list)

<table>
<thead>
<tr>
<th>Governments</th>
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<tr>
<td>City of Lakewood</td>
<td>Agricultural Industry</td>
</tr>
<tr>
<td>City of Puyallup*</td>
<td>Automotive Repair Industry</td>
</tr>
<tr>
<td>City of Sumner*</td>
<td>Building Trades</td>
</tr>
<tr>
<td>Pierce County Council*</td>
<td>Business Assns. / Chambers of Commerce</td>
</tr>
<tr>
<td>Snohomish County Council*</td>
<td>Construction Industry</td>
</tr>
<tr>
<td></td>
<td>Marine &amp; Fishing Industry</td>
</tr>
<tr>
<td></td>
<td>Petroleum Refining Industry</td>
</tr>
<tr>
<td>*Passed resolution/motion</td>
<td>Trucking Industry</td>
</tr>
</tbody>
</table>

*Passed resolution/motion Trucking Industry
DRAFT CFS RULE: WHAT WE HEARD

Most voiced themes (support):

• CFS protects people, improves air quality
• Addressing climate change is urgent
• CFS is proven to be effective*
• CFS contributes to economic development*
• Ensure that highly-impacted communities benefit (equity)

*Additional slides on these themes
DRAFT CFS RULE: WHAT WE HEARD

Most voiced themes (opposition):

- Will raise cost of fuel*
- Cost for business/economy (puts region at competitive disadvantage)*
- Cost of shipping
- Not economically efficient*
- Regressive

*Additional slides on these themes
A CLOSER LOOK AT SOME THEMES

CLEAN FUEL STANDARD

Puget Sound Clean Air Agency
CALIFORNIA’S LOW CARBON FUEL STANDARD

• **Start**: 2011
• **Target**: 20% CI reduction by 2030 (at 7.5% CI in 2020)
• **GHGs reduced**: 11 million metric tons (MMT) in 2018
  • Equivalent to 2.4 million cars per year
  • Reminder: our transportation GHG target in 2030 is ~10 MMT
CALIFORNIA’S LOW CARBON FUEL STANDARD

2011-2018 Performance of the Low Carbon Fuel Standard

Carbon intensities based on composite of gasoline and diesel fuels

Historic Compliance Targets (black solid line)
Reported % CI Reduction (green line)
Future Compliance Targets (black dotted line)

Last Updated 05/31/19
OREGON’S CLEAN FUELS PROGRAM

- **Start**: 2016
- **Target**: 10% CI reduction by 2025 (at 2.5% CI in 2020)
- **GHGs reduced**: 2.9 million metric tons (2017-2019)
COMPARING CFS PROGRAMS: ECONOMIC EFFICIENCY

Comparing CFS programs to economy-wide GHG reductions can be apples to oranges.
A CLOSER LOOK AT FUEL PRICE IMPACTS

A CFS is revenue-neutral
- Deficit generating fuels incur costs
- Credit generating fuels receive benefits

Deficit producers choose how to comply and if/how to reduce costs of compliance:
- Refinery investments, co-process fuels, etc.

Deficit producers in OR, CA do reduce cost of compliance
- BP Cherry Point (WA) refinery co-processing renewable feedstocks
A CLOSER LOOK AT FUEL PRICE IMPACTS

Numbers like 57 ¢/gal in Puget Sound, 19 ¢/gal in CA, 1 ¢/gal in OR are not predictive forecasts, but are based on an extreme upper bound formula:

\[
\text{Upper bound (\$/gal)} = \frac{\text{max credit price}}{\text{credits needed}}
\]

Assumes full local pass-through, no action, full profit margin

This is not what we see at the pump.
A CLOSER LOOK AT FUEL PRICE IMPACTS

- **Pump price** depends on crude oil price, demand, profit margin, and more...
- **Pump price data** show the impact of clean fuel standards is small

![Graph showing price per gallon and per barrel over time](image-url)
A CLOSER LOOK AT FUEL PRICE IMPACTS

Clean fuel standards provide flexibility to reduce the cost of compliance.

In addition, **cost per mile** is getting better due to average fleet economy, but even under the extreme upper bound:

- **Light duty fleet**: Cost per mile in 2030 with a 25% CI reduction stays the same.

- **Heavy duty fleet**: Cost per mile in 2030 with a 20% CI reduction stays the same.
A CLOSER LOOK AT ECONOMIC IMPACTS

• Draft rule’s main purpose is not to spur economic growth

• Our analysis showed no significant change in growth rate of gross regional product (GRP) or employment growth (< ± 0.1%).

• Additionally:
  • People will have slightly more discretionary $
  • Out of 160 job sectors analyzed, Oil Industry & Support and Construction are two impacted (slightly fewer added jobs)
  • No PSRC ‘Amazing Place’ sectors affected

• States with clean fuel standards have economies that continue to grow
Another proposal that would meaningfully reduce transportation GHG emissions
NEXT STEPS & QUESTIONS

- Staff will continue to review comments received
- Take a more detailed look at comments on specific components of the draft rule

Questions?