LOW CARBON FUEL STANDARD (LCFS): MARITIME INDUSTRY BENEFITS

Adopting a Low Carbon Fuel Standard (LCFS) in Washington state is critical for the maritime industry to meet greenhouse gas reduction targets and improve air quality in low-income areas and communities. The LCFS will also help the Ports of Seattle, Tacoma, and the Northwest Seaport Alliance in achieving the goals in the Northwest Ports Clean Air Strategy while ensuring the industry remains cost competitive. An LCFS benefits our maritime industry by:

- Ensuring that Washington is competitive with California, Oregon, and British Columbia
- Creating new revenue opportunities for the maritime industry
- Spurring innovation in clean technologies; and,
- Reducing air pollution across the maritime sector to improve air quality in near-port communities.

LEVEL THE PLAYING FIELD FOR THE MARITIME INDUSTRY AND PORTS ALONG THE WEST COAST OF THE U.S. AND CANADA

A Washington LCFS will create a market for low carbon fuels by requiring fuel suppliers to lower the carbon intensity of the fuels they produce, or purchase credits generated and sold by other low carbon fuel producers in the market. As shown in California and Oregon, an LCFS increases demand for low carbon fuels, grows in-state low carbon fuel production, and drives the cost of low carbon fuels to price parity with conventional fossil fuels.[1]

SPUR INNOVATION AND USE OF LOW OR ZERO EMISSION MARITIME TECHNOLOGY

In California and Oregon, the maritime sector may choose to opt-in to the LCFS. For example, shore power for ocean-going vessels is eligible for credits under California's program[2]. An opt-in policy for maritime fuels in a Washington LCFS could provide a new revenue source that allows the maritime industry to recover costs from investments in cleaner equipment. This can make shore power investments more cost-effective, especially when combined with transportation or technology-focused grant funding. These revenue opportunities currently exist in LCFS programs in California and Oregon and can create a competitive disadvantage for Washington companies that want to install shore power for ships.

1 Data from California's program shows the volume of alternative fuels available in California has increased since the implementation of the LCFS in 2011. In-state production of biofuels has increased steadily to keep up with total consumption. Source: California Air Resources Board. (2020, May 29). *Data Dashboard*. Retrieved from https://ww3.arb.ca.gov/fuels/lcfs/dashboard/dashboard.htm.

2 California Air Resources Board. (2020). *LCFS Electricity and Hydrogen Provisions*. Retrieved from https://ww2.arb.ca.gov/resources/documents/lcfs-electricity-and-hydrogen-provisions.

SPUR INNOVATION AND USE OF LOW OR ZERO EMISSION MARITIME TECHNOLOGY

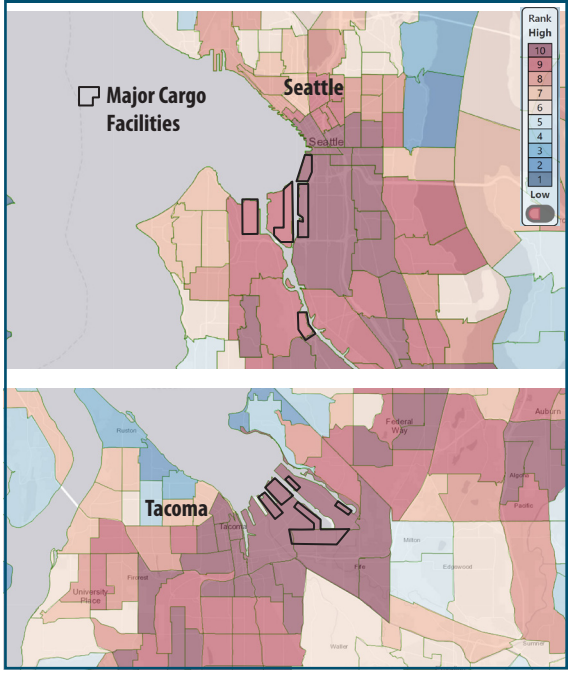
Clean fuel policies create a growing market for lower carbon intensity fuels without mandating a specific fuel type or technology. The flexibility offered by clean fuels legislation encourages development of a wide-range of new fuel types and technologies, while the credit market and new revenues ease the pathway to compliance[3]. The maritime industry is energy-intensive and will need a range of technologies to reach its carbon goals. Therefore, this flexibility and market signal is critical to drive innovation and promote the use of zero-emission technology in maritime applications. This is currently happening at an accelerated rate in California and Oregon where LCFS programs are driving the market availability of low carbon fuels electrification infrastructure[4] and creating local jobs.[5]

HELP REDUCE AIR POLLUTION AND IMPROVE AIR QUALITY IN NEAR-PORT COMMUNITIES

Communities of color and those with higher rates of poverty, unemployment, and lower levels of education, experience greater health risks from poor air quality and pollution. In the Puget Sound region, maritime engines contribute about 23 percent of diesel emissions[6] and port facilities are primarily located in census tracts that rank highly for diesel pollution and disproportionate impact on the *Washington Environmental Health Disparities Map*.[7]

Studies show that cleaner, renewable fuels, like biodiesel, renewable diesel, and electricity, reduce toxic diesel particulate pollution by 34 to 70 percent.[8] [9] Similarly, renewable fuels reduce greenhouse gas emissions by 15 to 80 percent.[10] A Washington LCFS will represent a significant step forward in equity and environmental justice efforts that benefit near-port communities by reducing diesel particulate matter, which is linked to human health impacts and even increased mortality from COVID-19.[11]

WASHINGTON ENVIRONMENTAL HEALTH DISPARITIES MAP



3 Union of Concerned Scientists. (2009) Benefits of a Low Carbon Fuel Standard. Retrieved from *https://www.ucsusa.org/resources/benefits-low-carbon-fuel-standard*.

4 Union of Concerned Scientists. (2018). *California's Clean Fuel Standard Boosts The Electric Vehicle Market*. Retrieved from *https://www.ucsusa.org/resources/californias-clean-fuel-standard-boosts-electric-vehicle-market*.

5 Oregon Environmental Council. (2019). *Oregon's Clean Fuel Successes Keep Rolling*. Retrieved from *https://oeconline.org/clean-fuels-december-2019/*.

6 Puget Sound Clean Air Agency. (n.d.). *Reducing Pollution from Maritime Engines*. Retrieved from *https://pscleanair.gov/249/Maritime.*

7 Census tracts where Terminals 5, 18, 30, and 46 are located, as well as census tracts that border the Duwamish River all received a rank of 9 or 10 on the Washington Health Disparities Map for the Diesel Pollution and Disproportionate Impact indicator, a combined indicator of diesel pollution burden and priority populations. Map retrieved 30 June 2020 from *https://fortress.wa.gov/doh/wtn/WTNIBL/*.

8 Western WA Clean Cities. *Renewable Diesel in Washington Fact Sheet*. *https://www.wwcleancities.org/DocumentCenter/View/3698/Renewable-Diesel-In-Washington--Fact-Sheet-PDF*

9 Durbin, T.D. et al. (2011). *CARB Assessment of the Emissions from the use of Biodiesel as a Motor Vehicle Fuel in California "Biodiesel Characterization and NOx Mitigation Study"*. Retrieved from *https://ww3.arb.ca.gov/fuels/diesel/altdiesel/20111013_carb%20final%20biodiesel%20report.pdf*.

10 Western WA Clean Cities.

11Harvard T. H. Chan School of Public Health. (2020, May 5). *Air pollution linked with higher COVID-19 death rates*. Retrieved from *https://www.hsph.harvard.edu/news/hsph-in-the-news/air-pollution-linked-with-higher-covid-19-death-rates/*.

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