

Comments for Chapter 173-424 WAC Clean Fuels Program Rule

We appreciated the opportunity to comment on rule changes to the Clean Fuels Standards (“CFS”) via the Department of Ecology’s Clean Fuels Program Rules.

We have several general comments for Clean Fuels Standards and then several specific recommendations on the rules changes as written.

- In general, Nel recommends coinciding with Federal regulations for helping to support low-carbon fuel industries, such as hydrogen, that meet the ultimate goals of programs such as the WAC Clean Fuels Program.
 - First, market standardization matters because realizing economies of scale are essential to drive down costs which in turn makes clean H2 projects viable. As such we urge that WA align the CFS goals of “reduce[ing] the lifecycle greenhouse gas emissions per unit energy (carbon intensity) of transportation fuels used in the state” with the standards promulgated by the US Department of Energy. Diverging definitions of clean H2 create a fragmented market that inhibits growth and hobbles clean hydrogen industry still in its infancy.
- Fuel production standards should work in tandem with the local economies that enact and abide by these standards.
 - We recommend provisions be added that preference domestic manufacturing and domestic supply chains for all new fuel production projects. For example, China has been aggressively building electrolyzer manufacturing capacity, flooding the markets with very low cost electrolyzers. These lower cost electrolyzers do not meet the reliability nor durability standards that the U.S. has come to expect from its infrastructure. Ignoring the economic relationship of these projects to their goals will concede manufacturing of electrolyzers to other countries who are likely to use less responsible supply chains and foreign labor.
 - Clean technologies should and do often intersect workforce development programs. These are important to directing the economic benefits of clean energy technologies with workforce initiative that enable broad sharing of benefits while supporting the success of the developers who implement these technologies.

We comment specifically on the utilization of the GREET model for the lifecycle assessment of methane and its relationship to the definition of “Renewable Hydrogen” (**Definition 129, Part 1: 173-424-110**) with respect to the goals of the CFS.

- On the specific use of the GREET model for assessing methane, Nel recommends requiring 3rd party verification for “actual carbon capture rates” of relevant facilities should be included in GREET models to verify compliance. For example, the GREET model utilizes an assumed value for methane leakage whereas actual methane leakage for existing pipelines should be used to determine which, if any, meet the assumptions in the GREET model for methane leakage rates. We recommend requiring 3rd party verification for “actual methane leakage” for well-to-gate which must be included in the project’s GREET models to verify compliance rather than using an assumed value. Methane GHG leakage rates can be a considerable addition to GHG emissions and should be accurately accounted for when considered life cycle emissions.
- We recommend uniformity in the requirements for renewable hydrogen production. The definition of ‘Renewable Hydrogen’ as written is:
 - “(a) Electrolysis of water or aqueous solutions using **renewable electricity**;
 - (b) Catalytic cracking or steam methane reforming of biomethane; or (c) Thermochemical conversion of biomass, including the organic portion of municipal solid waste (MSW).”
 - As thermochemical conversion, cracking, and steam methane reforming are highly energy intensive processes, we recommend that the requirement for ‘renewable electricity’ be applied equally to (b) and (c) as in (a) in order to create a common GHG standards across these types of processes as this otherwise puts a more stringent standard on electrolysis created hydrogen over these other methods. Inconsistent energy requirements in hydrogen production are inadvisable as electrolysis is the most easily scalable hydrogen production method and avoids the problems associated with methane (as mentioned above) entirely.

About Nel

Nel has a history tracing back to 1927 and is today a leading pure play hydrogen technology company with a global presence. We specialize in electrolyzer technologies for production of renewable green hydrogen. Nel's product offerings are key enablers for a green hydrogen economy, making it possible to decarbonize various industries such as transportation, refining, steel, and ammonia.