



VIA E-mail: cleanh2standard@ee.doe.gov

U.S. Department of Energy
James V. Forrestal Building
1000 Independence Avenue Southwest
Washington, D.C. 20585

Re: Howard Energy Partners Comments on Clean Hydrogen Production Standard

Howard Energy Partners (Howard Energy) appreciates the opportunity to provide feedback to the U.S. Department of Energy (DOE) on its draft guidance of the initial Clean Hydrogen Production Standard (CHPS). The importance of clean hydrogen production cannot be overstated. As the Fuel Cell and Hydrogen Energy Association has found, hydrogen's status as an essential decarbonization option is increasing "across the United States and around the world for a wide range of sectors, including transportation, goods and people movement, power generation, energy storage, natural gas blending, marine propulsion, aviation, heating, steelmaking, and other industrial applications."¹ In order to achieve this vision for the future, DOE must offer clear guidance in CHPS that is technology-neutral.

Howard Energy is a diversified, growth-oriented energy company focused on providing clean, low cost, and reliable energy to the people who need it most. Howard operates pipelines, rail terminals, gas processing, condensate stabilization, bulk liquids storage, renewable diesel handling facilities, and hydrogen production in four states and two different countries. Howard Energy prides itself on being a meaningful endeavor for its employees and on delivering positive energy wherever it operates. We have identified greenhouse gas emissions as an important area of focus, and we look for opportunities to reduce emissions through strategic program and initiatives.

To that end, Howard Energy operates the Javelina Off-Gas Recycling Facility in Corpus Christi, TX, which is currently being converted into the region's first low carbon-intensity hydrogen production facility in the region through the installation of carbon capture and utilization technology. Our facility is uniquely positioned to capture waste gas emissions from industrial and refining facilities to produce clean hydrogen, among other products.

DOE's CHPS Should Be Technology Neutral

In order to fulfill DOE's commitment to clean hydrogen from diverse fuel sources it is critical that the CHPS be technology neutral. Ensuring this technological neutrality and adopting a common sense, application-by-application approach that avoids double-counting of life cycle emissions will be critical to growing and sustaining hydrogen production in the United States. A report from the Rhodium Group supports this view, finding in part that, "[i]f the US wants to lead the world in clean hydrogen, policymakers should pursue new policies and enhancements to existing policies that address all stages

¹ Fuel Cell & Hydrogen Energy Association, Hydrogen Basics, available at <https://www.fchea.org/hydrogen>.



of technology development, from lab-scale research to commercial deployment. **This should include support tailored to all clean forms of hydrogen production [emphasis added].**²

Congress directed DOE to establish a CHPS in the Bipartisan Infrastructure Law that would support various technologies and diverse low-carbon energy sources. In finalizing a CHPS, DOE must provide certainty to stakeholders that all technological approaches will be evaluated equally; thus, maintaining the diversity of technology within the hydrogen production industry.

DOE's draft guidance for the CHPS signals that it aligns with the carbon intensity thresholds set forward by Congress in section 45V of the Inflation Reduction Act (IRA). Section 45V of the IRA makes it clear that "lifecycle greenhouse gas emissions shall only include emissions through the point of production (well-to-gate), as determined under the most recent Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (commonly referred to as the 'GREET model')."³

In aligning the credits in 45V with the carbon intensity of hydrogen, Congress has again confirmed that support for clean hydrogen should be technology neutral and based solely on the associated emissions. The relationship between the BIL hydrogen programs and 45V provides further support for DOE taking a technology and fossil fuel neutral approach in CHPS.

DOE Should Provide Additional Guidance on Allocation Procedures for the Life Cycle Assessment

Howard Energy encourages DOE to provide additional guidance on appropriate allocation procedures to accommodate multiple production pathways and feedstocks. In particular, the CHPS should provide guidance on allocation procedures for process feedstocks, including waste gases, and for co-products of the hydrogen production process. This guidance is critical to accommodating a variety of production pathways, which in turn will encourage innovation and investment.

Howard Energy's Javelina facility is one such unconventional example. Our facility produces hydrogen via a pressure swing adsorption (PSA) unit that straddles a variety of off-gas streams emanating from the region's six refineries. Our PSA unit collects this waste gas from the refineries and uses it as feedstock to produce hydrogen, among other co-products. Without the Javelina facility, this waste gas would be released to the atmosphere, flared, or otherwise not processed into a usable product. It is the amine treating unit upstream of the PSA from which we intend to capture a substantial portion of the CO₂ from this process, thus substantially reducing the CO₂ footprint of the facility.

Within the lifecycle emissions assessment, an off-gas PSA facility should not include upstream carbon emissions associated with the refinery processes or even upstream from the refineries, to include the extraction and delivery of feedstock (crude oil) to the refineries. This delineation makes sense because the refinery processes, including their purchase of crude oil and other feedstocks, would be present irrespective of whether there is an off-gas decarbonizing PSA. In essence, no emissions from the

² Galen Hiltbrand, Whitney Herndon, Eric G. O'Rear, and John Larsen, Clean Hydrogen: A Versatile Tool for Decarbonization, Rhodium Group, available at <https://rhg.com/research/clean-hydrogen-decarbonization/>.

³ Inflation Reduction Act Section 45(V)(1)(B).



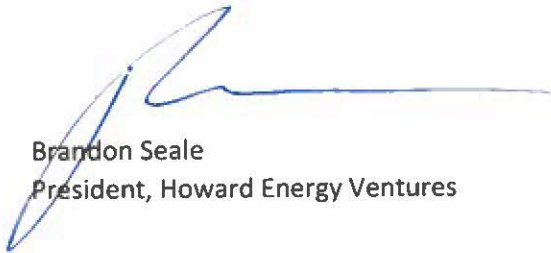
refinery process should be allocated to the off-gas because this is typically a waste product of the refinery, and the off-gas is not a functional product of that system. Additionally, the PSA Facility produces multiple other fuels and products from this off-gas. The emissions from the PSA process should be allocated across all the products. Additional guidance regarding allocation procedures would help simplify and standardize the process for determining a Clean Hydrogen Production Standard.

The Javelina PSA facility may itself be unique within the refinery services industry. However, the hydrogen industry is innovative, and new production pathways are constantly being explored. Creating a CHPS that has the flexibility to accommodate these unique situations and promotes an all-of-the-above hydrogen strategy that will contribute to further market development of hydrogen production.

We request that DOE provide certainty for facilities like the Javelina PSA facility by clearly delineating in the CHPS the flexibilities available on the allocation of lifecycle emissions assessment calculations and its application to GREET modeling.

We appreciate the opportunity to provide comments to DOE on this critical standard for the hydrogen industry. Please let us know if you have any questions or if we can provide further feedback.

Sincerely,

A handwritten signature in blue ink, appearing to read "Brandon Seale", with a long horizontal flourish extending to the right.

Brandon Seale
President, Howard Energy Ventures