



July 24, 2023

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

[DE-NOI-0202301](#)

RE: Bipartisan Infrastructure Law: Additional Clean Hydrogen Programs (Section 40314):
Regional Clean Hydrogen Hubs

I. INTRODUCTION

The Green Hydrogen Coalition (GHC)¹ appreciates the opportunity to provide comments to the Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED) on its Regional Clean Hydrogen Hubs and the intent to issue a Broad Agency Announcement ([DE-NOI-0202301](#)). Our response seeks to help establish the most effective demand-side mechanism to encourage the development of a robust and clean hydrogen market. Our approach offers a comprehensive strategy to maximize the potential for broad market penetration of hydrogen as a decarbonization tool for the economy.

II. GHC RESPONSE

In the following sections, we weigh in on several of the questions outlined by the DOE in its Notice of Intent to Issue.² Please note that we have arranged our responses by the category and question numbers provided by DOE.

Category A: Most Effective Demand-Side Support Measure To Support H2Hubs

1. What is the most effective way DOE could catalyze durable, bankable demand for clean hydrogen at DOE-funded H2Hubs? Which of the following potential mechanisms would be most impactful?

We recommend utilizing Advance Market Commitments (AMCs) and Pay-for-Difference contracts (PfDs) within the purview of the DOE to stimulate demand for clean hydrogen at DOE-funded H2Hubs. These mechanisms provide demand certainty and incentivize private investment, enabling the DOE to address market failures, reduce risks, and encourage private financing for clean hydrogen projects.

¹ <https://www.ghcoalition.org/>

² <https://oced-exchange.energy.gov/Default.aspx#Foald8e15135b-a033-47ca-9c7a-ebf2e5771a41>

Combining AMCs and PfDs creates a comprehensive approach to drive hydrogen demand and accelerate the adoption of hydrogen-based technologies in two critical ways:

- **Market Certainty:** AMCs and PfDs provide revenue certainty to hydrogen producers, ensuring stable income despite market fluctuations. This encourages developers to invest in hydrogen projects, as they are guaranteed a market and revenue stream. AMCs provide financial support and purchase guarantees, instilling confidence in technology providers, while PfDs offer stable income for hydrogen producers, encouraging investments in production facilities and infrastructure.
- **Stimulating Innovation:** The combination of AMCs and PfDs stimulates innovation in hydrogen technologies and applications. Companies are incentivized to improve efficiency and reduce costs, driving innovation in the hydrogen sector. AMCs jumpstart the early market for hydrogen technologies, while PfDs provide ongoing support for large-scale deployment, facilitating the market transformation for hydrogen to become a mainstream energy carrier.

The DOE can strategically use AMCs and PfDs to target sectors where hydrogen can have the most significant impact, such as heavy-duty transportation, industrial processes, or power generation. This approach aligns with multiple objectives related to hydrogen adoption, including carbon emissions reduction, energy security, and economic growth.

As the hydrogen market matures and achieves economies of scale, the need for AMCs and PfDs may decrease. In such cases, the DOE can gradually phase out these support mechanisms, ensuring a smooth transition as hydrogen becomes more cost-competitive with conventional energy sources.

To implement this policy recommendation, the DOE should develop a comprehensive framework for AMCs, including long-term commitments to purchase clean hydrogen at fixed prices. Transparent evaluation criteria should be established to assess project eligibility for AMCs and PfDs, considering factors like technological readiness, scalability potential, environmental impact, cost-effectiveness, and alignment with DOE objectives.

Collaboration with industry experts, private sector representatives, and clean hydrogen stakeholders will be vital for effective policy design and implementation. By fostering partnerships, the DOE can align demand and supply, enhance industry confidence, and facilitate private investment.

2. For eligible projects, what competitive process should be used to select projects that will receive demand-side support?

We propose the implementation of a Request for Proposal (RFP) -like process to determine the projects that receive demand-side support. An RFP-like process offers an established and effective framework for evaluating project proposals holistically, aligning with the DOE's clean hydrogen goals. This approach is familiar to project developers across the economy. Utilizing this well-established approach will ensure transparency, foster competition, and

select projects based on their overall merits and potential impact. RFPs give project developers the opportunity to present their strengths, strategies, and innovative approaches, while evaluations consider factors such as technological and project readiness (or ability to establish project readiness), scalability potential, environmental impacts, cost-effectiveness, and alignment with program objectives. These considerations will be essential in selecting robust projects that can help the market flourish.

The GHC believes that adopting this approach will significantly contribute to the development of a robust clean hydrogen industry in alignment with the DOE's objectives. This approach will catalyze private investment, accelerate the deployment of clean hydrogen technologies, reduce emissions, and create new economic opportunities across the nation.

3. *How can DOE design demand-side support to account for other kinds of support that H2Hubs projects may receive (e.g., tax credits, state and local government incentives, doe cooperative agreement funding)?*

We recommend the following actions to DOE to design demand-side support that accounts for other kinds of support received by H2Hubs projects:

First, the DOE should establish clear reporting requirements that mandate project developers provide transparent reporting and documentation on the types and amounts of support they are receiving from various sources. Standardizing this information and making it easily accessible to the DOE will enable comprehensive visibility of all support received.

Second, the eligibility criteria for demand-side support should be harmonized with those of other forms of support, such as tax credits, state and local government incentives, and DOE cooperative agreement funding. This alignment will ensure consistency and avoid duplication of efforts, streamlining the application process for project developers and enhancing project viability.

Third, the DOE should actively engage in coordination and collaboration with relevant stakeholders, including state and local governments, industry associations, and funding agencies. This collaborative approach will facilitate the exchange of information, best practices, and lessons learned, enabling the DOE to design demand-side support that effectively complements and supplements other forms of support.

To maintain the integrity and credibility of support programs, the DOE should implement mechanisms to avoid double counting of support received by H2Hub projects. This may involve establishing clear guidelines and protocols for quantifying and attributing the benefits derived from different support mechanisms.

Furthermore, establishing a robust monitoring and evaluation framework is essential. This framework will assess the effectiveness of demand-side support in conjunction with other forms of support, tracking the overall impact, identifying potential overlaps or gaps, and informing adjustments to optimize coordination and effectiveness. Regular reporting and

evaluation will enable the DOE to make informed decisions and refine policies for maximum efficiency.

By implementing these policy recommendations, the DOE can design demand-side support for H2Hub projects that effectively account for other methods of support received and maximize the potential for fuel adoption and use. This approach will ensure coordination, efficiency, and maximum impact in advancing the development and deployment of clean hydrogen technologies while avoiding double counting and optimizing resource allocation.

4. How can DOE structure demand-side support for H2Hubs to best catalyze the formation of a mature commodity market for clean hydrogen?

To foster the development of a mature commodity market for clean hydrogen, it is crucial to structure demand-side support in a way that promotes standard contract and insurance policy terms, and price transparency. Standard contract terms are essential to provide clarity, consistency, and legal certainty for market participants and contribute to de-risking projects.

We recommend that the DOE proactively develop model contracts for the sale and purchase of clean hydrogen, serving as standardized templates for the industry. In addition, stakeholder collaboration is key to ensure the model contracts reflect the needs and preferences of the market, and the DOE should actively engage with industry stakeholders to gather input and foster collaboration.

To facilitate price transparency, the DOE should collaborate with industry stakeholders to establish price reporting mechanisms. These mechanisms would enable the collection, aggregation, and dissemination of price data, providing market participants with transparent and reliable information on prevailing prices. Encouraging market participants to share anonymized transaction data voluntarily would further enhance price transparency and contribute to the compilation of comprehensive price indices and market reports. To ensure compliance with price transparency requirements, the DOE should establish mechanisms for market surveillance, including periodic audits, data verification processes, and regulatory oversight.

Furthermore, market education plays a vital role in fostering price transparency. The DOE should invest in educational initiatives to raise awareness and understanding of price transparency in the clean hydrogen market. By promoting market education, the DOE can empower participants to make informed pricing decisions, contributing to market efficiency and competitiveness.

By implementing these policy recommendations, the DOE can effectively structure demand-side support for H2Hubs to catalyze the formation of a mature commodity market for clean hydrogen. Standardizing contract terms and enhancing price transparency will attract investment, promote market efficiency, and foster the growth of the clean hydrogen industry.

Category B: Implementation Of Demand-Side Support Measures

1. If DOE were to establish a demand-side support mechanism for H2Hubs with an independent implementing entity or entities, what capabilities and qualifications should DOE prioritize when selecting an entity or entities? Should DOE seek a single entity with national scope or several entities with regional scopes?

To effectively implement a demand-side support mechanism for H2Hubs, the GHC recommends that the DOE adopts a public-private partnership approach, leveraging a diverse range of expertise and resources. This partnership model will ensure the success and efficiency of the initiative. The following sections outline the key qualities and qualifications required for this approach:

- **Financial Expertise in Fund Allocation:** As part of the public/private partnership approach, selecting an administrator for the funds is of paramount importance. The chosen entity/entities should have a proven track record in managing financial resources and successfully implementing similar demand-side energy incentive programs. This expertise, administrative capability, and operational efficiency will be critical in handling the allocation, disbursement, and monitoring of funds effectively.
- **Technical Expertise in the Clean Hydrogen Sector:** Technical knowledge and support is essential for developing expertise in clean hydrogen technologies, market analysis, and project evaluation. The selected implementing entity/entities must have access to technical experts well-versed in the clean hydrogen sector and its associated technologies. This expertise will enable the thorough assessment of project proposals, ongoing monitoring of project progress, and provision of technical guidance, thus ensuring the successful development and deployment of clean hydrogen projects.

In addition to the above qualities for the implementing agency, the GHC also proposes the **establishment of an independent advisory board**. This advisory board will provide essential guidance, expertise, and strategic oversight. To ensure a comprehensive perspective that incorporates diverse viewpoints in decision-making processes, the board should include stakeholders from various sectors, such as representatives from industry, academia, research institutions, and relevant government agencies. To maintain independence and transparency, the advisory board should be administered by a non-profit entity that is free of conflicts of interest.

An example of an independent entity that the GHC believes can effectively manage this advisory board is the Western Green Hydrogen Initiative (WGHI). Comprised of the National Association of State Energy Officials, Western Interstate Energy Board (WIEB), and the GHC, WGHI is dedicated to informing state energy officials and utility regulators about hydrogen-related topics. It operates through non-partisan lenses and employs best practices informed by real-world experience, making it a suitable candidate to serve as a advisory board for implementation of the demand-side support program. Given its proven success in the western region, there is a significant opportunity to expand the scope of WGHI to encompass a nationwide approach, benefiting all states across the country. Expanding



WGHI's reach and impact on a national level would foster greater collaboration between states, facilitating the sharing of knowledge and resources while establishing consistent standards for hydrogen initiatives. A unified approach to clean hydrogen deployment, as promoted by this expanded initiative, can play a pivotal role in accelerating the transition to a sustainable and environmentally friendly energy landscape across the entire nation.

By prioritizing these capabilities and qualifications and adopting the public-private partnership model, the DOE can establish a robust demand-side support mechanism for H2Hubs, expediting the development and deployment of clean hydrogen technologies and fostering a thriving clean hydrogen industry in alignment with the DOE's objectives.

III. CONCLUSION

The GHC is fully supportive of the creation of a demand-side support mechanism and agrees with the need “to accelerate the commercialization of clean hydrogen and facilitate a clean hydrogen economy while fostering the development of robust private sector demand for clean hydrogen products.”³ We believe the introduction of such a mechanism will be critical to providing market certainty and incentivizing market participation. We appreciate this opportunity to respond to the NOI and look forward to providing more input at further junctures.

Respectfully submitted,

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³ <https://oced-exchange.energy.gov/Default.aspx#Foald8e15135b-a033-47ca-9c7a-ebf2e5771a41>