



Request for Information | Pacific Northwest Hydrogen Association

Start of Block: Intro Questions

Q1.1 Pacific Northwest Hydrogen Association (PNWH2) is a 501(c)3 non-profit corporation established by the State of Washington to coordinate regional efforts aimed at clean hydrogen deployment.

PNWH2 is requesting information on potential projects aimed at the U.S. Department of Energy's (DOE) Hydrogen Hub (H2Hubs) opportunity. The H2Hubs opportunity is aimed at building several regional network[s] of clean hydrogen producers, potential clean hydrogen consumers, and connective infrastructure. This request for information aims to collect information about all potential projects in the Northwest that should be considered in the development of the initial proposal. PNWH2 will evaluate candidate projects based on their fit with the DOE's guidance on the H2Hubs Notice of Intent, potential contribution to a larger network aimed clean hydrogen deployment, and other program objectives.

DOE is expected to publish the Funding Opportunity Announcement (FOA) in September or October 2022. Concept papers are likely to be due 6-8 weeks later, with invitations to submit a full proposal coming approximately 4 weeks after that. PNWH2 then expects to have about 4 months from the receipt of the invitation to prepare a full proposal. If successful, PNWH2 would receive up to \$1 billion to fund hydrogen hub development.

PNWH2 seeks to gather information through this survey to support upcoming concept paper & proposal development for the DOE H2Hubs opportunity. This is the first step of an interactive process; PNWH2 will review submissions and ask follow-up questions to respondents as needed.



Submission Guidelines:

Feel free to download the full RFI to prepare your answers ahead of starting the Qualtrics survey.

Follow all word and page count limits. Responses that do not adhere to these limits may be cut off.

For the purposes of this RFI the word “project” is used as a placeholder for any project, product, plan, or asset related to the production, movement, and/or storage, and utilization of hydrogen.

Please denote any proprietary information in your submission so that it may be redacted appropriately in the event of a Freedom of Information Act request.

Submissions must be received by **July 26, 2022** to be considered.

Questions? Email Jaci Perez at Jaclyn.Perez@commerce.wa.gov

For more information on the H2Hubs Program, please reference the Bipartisan Infrastructure Law provisions in 42 U.S.C. § 16161a(a) and DE-FOA-0002768 found on <https://eere-exchange.energy.gov/>

Page Break



Q1.2 Project Title

Q1.3 Primary Contact Information

First Name _____

Last Name _____

Email Address _____

Organization Name _____



Q1.4 Organization Type

- For-Profit Entity
 - Public Non-Profit
 - Private Non-Profit
 - Government Entity
 - Tribal Government or Tribal-Led Organization
 - Higher Education
 - Individual/Sole Proprietor
 - Labor Union
 - Other (Please Describe) _____
-

Q1.5 Please enter the zip code of the primary project location.

- Zip Code _____
-

Q1.6 Will the project take place primarily in the Pacific Northwest?

- Yes
 - No (Please Explain) _____
-





Q1.7 Please include an executive summary/abstract of the project. Identify the project title, objectives & description of the project, and the expected impact of the project. If including proprietary or sensitive business information, please denote it *Proprietary* so that it may be appropriately redacted in the case of a freedom of information act request. Limit responses to 2000 characters or less.

End of Block: Intro Questions

Start of Block: Program Objectives

Q2.1 Which of the Bipartisan Infrastructure Law objectives does the proposed project work to address? Check all that apply.

- Investing in American manufacturing and workers, including supporting high-paying jobs with the free and fair choice to join a union, and effective workforce development to upskill incumbent, underrepresented, and dislocated workers
 - Expanding access to energy efficiency and clean energy for families, communities, and businesses.
 - Delivering reliable, clean, and affordable power to more Americans.
 - Building the technologies of tomorrow through clean energy demonstrations.
-



Q2.2 Which of the H2Hubs program objectives does the proposed project work to address?
Check all that apply.

- Demonstrably aid achievement of the clean hydrogen production standard developed under section 822(a) of Energy Policy Act of 2005 (EPAct 2005, 42 U.S.C. § 16166)
 - Demonstrate the production, processing, delivery, storage, and end use (Make, Move, Store, Use) of clean hydrogen
 - Contribute to development into a national clean hydrogen network to facilitate a clean hydrogen economy
 - Use of US-made materials and domestic supply chains and minimizing the use of critical materials
-

Q2.3 Which of the following additional objectives does the proposed project work to address?
Check all that apply.

Reference: [2021 Washington State Energy Strategy](#)

- Demonstrates progress toward greenhouse gas (GHG) reduction recommendations in the 2021 State Energy Strategy
- Developing research and/or education programs to support the hydrogen value chain
- Workforce training to meet the needs of the growing hydrogen economy
- Advancing equity and environmental justice through investments that directly benefit one or more overburdened or disadvantaged communities
- Long-term strategic planning or implementation projects related to supply chain and economic resilience in the Pacific Northwest region

End of Block: Program Objectives



Start of Block: Objective Descriptions

Carry Forward Selected Choices from "Q2.1"



Q3.1 Please briefly describe how your project meets the BIL Objectives indicated above. Limit responses to 500 characters per objective.

Investing in American manufacturing and workers, including supporting high-paying jobs with the free and fair choice to join a union, and effective workforce development to upskill incumbent, underrepresented, and dislocated workers

Expanding access to energy efficiency and clean energy for families, communities, and businesses. _____

Delivering reliable, clean, and affordable power to more Americans.

Building the technologies of tomorrow through clean energy demonstrations.

Carry Forward Selected Choices from "Q2.2"





Q3.2 Please briefly describe how your project meets the H2Hubs Objectives indicated above. Limit responses to 500 characters per objective.

- Demonstrably aid achievement of the clean hydrogen production standard developed under section 822(a) of Energy Policy Act of 2005 (EPAct 2005, 42 U.S.C. § 16166)

- Demonstrate the production, processing, delivery, storage, and end use (Make, Move, Store, Use) of clean hydrogen _____
- Contribute to development into a national clean hydrogen network to facilitate a clean hydrogen economy _____
- Use of US-made materials and domestic supply chains and minimizing the use of critical materials _____

Carry Forward Selected Choices from "Q2.3"



Q3.3 Please briefly describe how your project meets the additional objectives indicated above. Limit responses to 500 characters per objective.

- Demonstrates progress toward greenhouse gas (GHG) reduction recommendations in the 2021 State Energy Strategy

- Developing research and/or education programs to support the hydrogen value chain

- Workforce training to meet the needs of the growing hydrogen economy

- Advancing equity and environmental justice through investments that directly benefit one or more overburdened or disadvantaged communities

- Long-term strategic planning or implementation projects related to supply chain and economic resilience in the Pacific Northwest region



End of Block: Objective Descriptions

Start of Block: State



Q4.1 Please explain the project's contributions to reducing emissions in hard-to-decarbonize sectors, if applicable. Limit responses to 800 characters.



Q4.2 Please explain how the project supports PNWH2's focus on clean, electrolytic green hydrogen. Limit responses to 800 characters.

End of Block: State

Start of Block: DOE



Q5.1 End-use diversity: Which hydrogen end-use best fits the project? Check all that apply.

- Electric power generation
 - Grid-scale energy storage or backup power
 - Industrial heat/power
 - Industrial feedstocks
 - Transportation
 - Residential and commercial heating
 - Agriculture
 - Other (please explain)
-



Q5.2 Where does the proposed project fit within the DOE's Make, Move, Store, Use framework for clean hydrogen?

- Make (Accelerate Commercialization)
- Make (Demonstrate Production)
- Make (Demonstrate Processing)
- Move
- Store
- Use

End of Block: DOE

Start of Block: Make Follow-Up

Display This Question:

If Q5.2 = Make (Accelerate Commercialization)

Or Q5.2 = Make (Demonstrate Production)

Or Q5.2 = Make (Demonstrate Processing)



Q6.1 What is the projected level of production and cost of hydrogen will the project meet in the following years?

	\$ cost / kg H2	kg / day production
2023		
2024		
2025		
2026		
2028		
2030		
2035		



Display This Question:
If Q5.2 = Make (Accelerate Commercialization)
Or Q5.2 = Make (Demonstrate Production)
Or Q5.2 = Make (Demonstrate Processing)

Q6.2 What is the project's CO2 intensity for production in CO2e/kg H2?

End of Block: Make Follow-Up

Start of Block: Move Follow-Up

Display This Question:
If Q5.2 = Move

Q7.1 What is the method of transport for the H2?

Display This Question:
If Q5.2 = Move

Q7.2 What is the proposed distance of transport in miles?

Display This Question:
If Q5.2 = Move

Q7.3 What is the CO2 intensity in kg CO2e/kg H2 for transport?

End of Block: Move Follow-Up

Start of Block: Store Follow-Up



Display This Question:
If Q5.2 = Store

Q8.1 What is the method of storage?

Display This Question:
If Q5.2 = Store

Q8.2 What is the proposed storage capacity?

Display This Question:
If Q5.2 = Store

Q8.3 What is the proposed duration of storage?

Display This Question:
If Q5.2 = Store

Q8.4 What is the CO2 intensity in kg CO2e/kg H2 for storage?

End of Block: Store Follow-Up

Start of Block: Use Follow-Up

Display This Question:
If Q5.2 = Use



Q9.1 What is the demand in kg/day?

Display This Question:

If Q5.2 = Use

Q9.2 What is the industry sector?

Display This Question:

If Q5.2 = Use

Q9.3 What is the viable range of H2 cost/kg?

Display This Question:

If Q5.2 = Use

Q9.4 What is the CO2 intensity in kg CO2e/kg H2 for consumption?

End of Block: Use Follow-Up

Start of Block: Readiness



Q10.1 Please check all project development activities that have been fully or partially completed?

Reference: [NEPA Information](#)

	Not Started	Partially Completed	Completed
Feasibility Studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preliminary Engineering Reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National Environmental Policy Act (NEPA) Reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Permitting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q10.2 Please explain any other project development activities that have been started. Limit responses to 800 characters.




Q10.3 When will the project be operational? (mm/dd/yyyy)



Q10.4 What is the Technology Readiness Level (TRL) of the project? Please reference the [DOE's TRL scale](#).

Not Applicable

0 1 2 3 4 5 5 6 7 8 9

TRL	
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End of Block: Readiness

Start of Block: Financing

Q11.1 What is the total estimated cost of the project?

Q11.2 What dollar amount of federal share will you seek from the federal government?

Q11.3 Will you be able to provide the minimum 50% cost share

- Yes
 - No
-



Q11.4 Can you exceed the minimum 50% cost share?

- No
- Maybe
- Yes (by how much?) _____

Q11.5 What dollar amount of non-federal match will you contribute?



Q11.6 Please describe how this project will be financially sustained after the period of DOE funding has ended? Please limit response to 1,000 characters.

End of Block: Financing

Start of Block: Org Resources



Q12.1 What corporate resources have been put toward the project? Please convert to a dollar amount if possible.

- Personnel _____
- Funds _____
- Equipment _____
- Other (please explain) _____



Q12.2 What is the approximate number of staff that will directly contribute to the project from your organization or contractors? Please report in Full Time Employee (FTE) equivalent.

Q12.3 Does your organization have experience managing DOE or other federal contracts?

- Yes
- No

Q12.4 Does your organization have the ability to meet and report in accordance with Federal Cost Accounting Standards?

- Yes
- Maybe
- No



Q12.5 Does your organization have capacity and capability to manage and perform on a large federal project without additional support?

- Yes
- No

Q12.6 Does your organization have the expertise and capacity to support the application process to capture the DOE Hydrogen Hub award?

- Yes
- No

End of Block: Org Resources

Start of Block: Public Engagement

Q13.1 Was this project developed by or in partnership with a Tribe or Tribal organization?

- Yes
- No



Q13.2 What consultation with Tribes or Tribal members has occurred? Limit response to 1,000 characters.





Q13.3 To what extent is this project expected to benefit disadvantaged communities (DACs) [as defined by DOE](#)? Limit response to 1,500 characters.

Reference:

EO 13985, Advancing Racial Equity and Support for Underserved Communities;
EO 14020, Establishment of the White House Gender Policy Council;
and EO 14008, Tackling the Climate Crisis at Home and Abroad The Justice40 initiative, established by E.O. 14008, states that 40% of the overall benefits of certain federal investments should flow to disadvantaged communities (DACs).

Q13.4 Have unions or workforce-related organizations contributed to the development of the project?

Yes (Please describe) _____

No





Q13.5 Please describe any community engagement that has occurred to date. Limit response to 1,000 characters.

End of Block: Public Engagement

Start of Block: Job Creation



Q14.1 How many construction and/or initialization jobs will the project create?



Q14.2 How many permanent jobs will the project create?



Q14.3 Please explain how project-related jobs will be accessible to a local workforce, and describe the tools and techniques that will be used to ensure employment benefits to the local economy. Limit response to 1,500 characters.





Q14.4 What percentage of jobs created will use union labor or otherwise meet prevailing wage standards?

End of Block: Job Creation

Start of Block: Environmental Impacts

Q15.1 As a rough estimate, how much will the project reduce greenhouse gas emissions per year?

Q15.2 As a rough estimate, how much will the project reduce CO2 emissions per year?



Q15.3 What non-GHG air quality impacts do you anticipate from this project? Limit response to 800 characters.





Q15.4 What type and quantity of water resources will be necessary for this project? Limit response to 800 characters.



Q15.5 What are the expected impacts on the local and/or regional environment and natural resources, positive and negative? Limit response to 1,500 characters.

End of Block: Environmental Impacts

Start of Block: Safety





Q16.1 What safety considerations will be most important in relation to this project? How are they being addressed? Limit response to 1,500 characters.

Q16.2 Are additional safety studies needed or planned? If yes, please explain.

- Yes (please explain) _____
- No

End of Block: Safety

Start of Block: Documentation



Q17.1 Please briefly tell us anything else you'd like us to know about your project. Limit response to 1,000 characters.



Q17.2 Attach additional figures or appendices here. Feel free to use this space to attach your abstract with figures.

End of Block: Documentation
