

Approach to Project Assessment

Dear Respondents,

Thank you for your participation in the Request for Information process. PNWH2 is seeking more information about hydrogen-related projects, programs, studies and services in preparation for the US Department of Energy's H2Hubs Funding Opportunity Announcement. As such, the RFI is being reopened with edits to give more respondents the opportunity to participate, and to request additional and/or clarifying information.

To evaluate submissions and make the process transparent and unbiased, we have provided the table below. This table gives respondents more context on how the information from the survey will feed into projected evaluation criteria in the selection process. We have aligned crucial considerations for the projected evaluation criteria with corresponding questions in the RFI in column 3.

Please only respond to the questions relevant to your project or program. We have improved question labeling to assist with this.

Examples:

- If your project is primarily dedicated to H2 Production (Make), you may not need to answer questions about other areas of the value chain (Move, Store, Use) if those are not efforts led by your organization.
- If you are submitting a non-construction/programmatic effort, you would not need to answer questions about the Make/Move/Store/Use infrastructure. The survey experience will not direct you to answer these questions if you select "Programmatic" as your project type.

If you responded to the July 2022 release of this RFI: Updating your response is OPTIONAL, however there are some new questions in this re-release for clarification and evaluation. If you choose to update your response, you can work from your original response(s) - rather than starting over - by using a Retake Link. When using a Retake Link, your original answers will be pre-filled into the survey, and you can edit as necessary. Retake links will be sent to the email address provided in the original response. If you need the link sent to a different address due to email address changes/access, please email Maraea.Skeen@wsu.edu.

Thank you.

| Criteria | Important considerations for project selection | Relevant survey questions |
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| Engineering, Procurement, Construction, Operations | | |
| Siting | <p>Project primary address (or city and zip code)</p> <p>In terms of project readiness level and scoping permitting process, it is useful to understand if this is brownfield or greenfield project or, in case of pipeline, whether right of way is in place</p> | <p>Q1.8-1.9</p> <p>Q1.6-1.10</p> |
| Programs, Services, Studies | For projects outside of capital infrastructure (not directly involved in Make/Move/Store/Use), for example if your project is related to provision of engineering services, educational institution, etc., please talk about role of your project in Hub building | Please describe program, services, or studies and how it supports a Hub application in sections 1-4 |
| Resilient supply chain | <p>In 2020-2022, global energy chains have been disrupted due to number of environmental, economic or political issues highlighting the need to ensure resilience and capacity of American and/or sustainable manufacturing supply chains to meet future needs.</p> <p>WA state has been working to stimulate use of earth-abundant materials within transportation and clean energy. The state has R&D capacity, skilled workforce and strong industrial base to overcome supply chain bottlenecks and overreliance on a single or foreign supplier of critical minerals, parts or equipment.</p> <p>Supply chain analysis by applicants may include access to clean power, access to raw materials (water, waste, etc.), use of critical minerals (imported, acquired from third party, owned, risks of price fluctuations), established relationship with OEM.</p> <p>Important points are: supply chain issues have been identified, there is a plan to address them, and whether those plans include building manufacturing capacities locally</p> | <p>Q6.4-6.5 (for Make projects)</p> <p>Q10.10-10.11</p> <p>Q15.4 (for Make projects)</p> |
| Engineering investments, \$ | Amount of engineering investments so far and future investment plans. | <p>Q10.5</p> <p>Q12.1</p> |
| Risk assessment | Status of risk assessment and mitigation plans. | Q10.1-10.2 |
| Business Development | | |
| Project size, \$ | Accurate numbers to inform budgeting throughout application process. | Q11.1 |
| Cost share, % or \$ | Accurate numbers to inform budgeting throughout application process. | Q11.2 -11.5 |

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| H2 mass | For Make/Move/Store/Use projects: Make – H2 mass, total production, kg/day Move – H2 flow, kg/day Store – H2 mass, kg/day Use – H2 mass, kg/day | Q6.1 Q7.1a Q8.4 Q9.1-9.4 |
| H2 price, \$/kg | For Make projects: Expected price at project commencement, change overtime | Q6.1 |
| Viable H2 price, \$/kg – for “Use” component | For End-Use projects: Expected viable price at project commencement, change over time | Q9.2 |
| Connectivity | The DOE has defined a regional hydrogen hub as “a network of hydrogen producers, potential or actual hydrogen consumers, and connective infrastructure located in close proximity.” How the project is connected, or potentially connected to other projects. | Q10.8 Q10.9 (if displayed) |
| Financial plan | Readiness of a detailed financial plan | Q11.1-11.7 |
| Project schedule | Description of schedule (Feasibility, Design, Permitting, Construction, Commissioning, etc.) For Make/Move/Store/Use projects: H2 production/offtake estimates and change overtime | Q10.5-10.7 Q6.1 (for Make projects) Q7.1a (for Move projects) Q8.4 (for Store projects) Q9.1-9.2 (for Use projects) |
| DOE experience | Detail any DOE contract management experience. Plan for continued utilization of H2 assets after DOE funding expires. | Q12.3 Q11.7 |
| Permitting & Safety (Make/Move/Store/Use Only) | | |
| Safety plan | Readiness of safety plan, including consultations with local municipalities and emergency services that have occurred, most important safety considerations, etc. | Q16.1-16.3 |

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| Permitting process | Permitting progress with relevant authorities | Q10.5-10.7 Q15.4 (for Make projects) Q16.2-16.3 |
| Technology used | For Make projects: Technology - Electrolysis, liquefaction, pyrolysis, SMR, other. For Move projects: Method of transport For Make and/or Store projects: Method of storage For Use projects: Needed state of H2 as fuel | Q6.3 (Make) Q7.1 (Move) Q8.1-8.2 (Make/Store) Q9.3 (Use) |
| System pressures | Pressure information to inform assessment of safety plans | Q8.3 (Make/Store) Q9.3 (Use) |
| Community Engagement & Impact | | |
| Workforce plan | DOE emphasizes importance of social and environmental justice components for Hub application. Projects are advised to provide detailed information on workforce development plans including training for labor force, sourcing workforce locally, paying prevailing wages | Q13.4-13.5 Q14.1-14.5 |
| Union relations | Any engagements with labor unions | Q13.4-13.5 |
| Tribal relations | Any engagements with Tribes and Tribal organizations | Q13.1-13.2 |
| DAC relations | Location in/near overburdened community | Q13.3 |
| DEI considerations | The following points are important for Hub application: company has DEI strategy, company has a plan for remediation and reduction of legacy pollution, project contributes to clean transportation (access and deployment), company/team has arranged community consent or benefits agreement | Q13.5-13.7 |
| Quantity and quality of jobs created | Number of construction jobs | Q14.1 |
| | Number of permanent jobs | Q14.2 |
| | Breakdown of job structure: % of skilled labor (engineers, scientists), % of trained technicians (material handlers, operators, etc.), % of administrative staff | Q14.3 (If displayed) |
| Technical Data & Analysis (Make/Move/Store/Use Only) | | |

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| Lifecycle analysis | <p>LCA in place (or under development) including environmental and human impact of supply chain (cradle) and end-of-life or recycling ramifications (grave) in addition to operational impact</p> <p>Company has performed a lifecycle analysis with a clear basis</p> <p>Make:</p> <p>Carbon intensity is <0 kg CO2/kg H2</p> <p>Carbon intensity is <0.45 kg CO2/kg H2</p> <p>Carbon intensity is <1.2 kg CO2/kg H2</p> <p>Carbon intensity is <2 kg CO2/kg H2</p> <p>Move:</p> <p>Carbon intensity is <0 kg CO2/kg H2</p> <p>Carbon intensity is <0.45 kg CO2/kg H2</p> <p>Carbon intensity is <1.2 kg CO2/kg H2</p> <p>Carbon intensity is <2 kg CO2/kg H2</p> | <p>Q10.4</p> <p>Q6.2-6.2a (for Make projects)</p> <p>Q7.3-7.3a (for Move projects)</p> |
| Water footprint | To avoid depletion or decrease in quality of water resources | Q15.4 (for Make projects) |
| Techno-economic analysis | TEA in place (or under development) indicating feasible costs of H2 (either as an output or input), accounting for capital costs (e.g. equipment, land, construction, etc.) and operational costs (e.g. energy, water, labor, etc.) | Q10.3 |
| CO2/GHG reduction, tons per year | Estimated volume of fossil fuel displaced in a year based on carbon intensity and planned production volume | Q15.1-15.5 |