



State of Wyoming
Solid Fuels to Hydrogen Initiative

REQUEST FOR PROPOSALS

Issued by:

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Additional copies of this solicitation are available from
the Wyoming Energy Authority website at
<https://www.wyoenergy.org/financing/>

This program is subject to the Civil Rights Act of 1964, the Wyoming Fair Employment Practices Act (Wyo. Stat. Ann. §§ 27-9-101 - 106), the Americans with Disabilities Act, 42 U.S.C. § 12101 - 12213, and the Age Discrimination Act of 1975, 42 U.S.C. § 6101 - 6107, and any rules or regulations promulgated under these state and federal anti-discrimination statutes. Funding recipients shall not discriminate against any individual on the grounds of age, sex, sexual orientation, creed, color, race, religion, national origin, ancestry, pregnancy, or disability in connection with funding under this Request for Proposals.

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1. INTRODUCTION

The mission of the Wyoming Energy Authority (WEA) is to advance Wyoming's energy strategy by driving data, technology, and infrastructure investments. On behalf of the Governor of Wyoming, the WEA is issuing a request for proposals (RFP) from research and technology providers and other interested entities seeking resources for the design and/or construction of a pilot project demonstrating hydrogen production and/or use from solid feedstock, such as coal, municipal waste, plastics or biomass, within the boundaries of Wyoming.

Successful proposals will specifically address the proposed direct and indirect actual and potential public benefits of the project, which will accrue to the State of Wyoming, its residents and communities, including, but not limited to: infrastructure development, business creation or retention, job creation or retention, technological advancement, intellectual property rights, commercialization, and additional state taxes, such as sales and use and/or property tax.

2. TOPICS AND PROJECT GUIDELINES

This program aims to make progress toward the construction of a project demonstrating viability of hydrogen as a component of the Wyoming energy economy, when sourced using solid feedstock. Hydrogen production using methods such as reformation, gasification, pyrolysis or other conversion processes will be considered. Feedstocks including, but not limited to, coal, municipal waste, plastics and biomass will be considered. The project must leverage existing resources and infrastructure within Wyoming, test configurations of these resources and infrastructure to establish technical feasibility, and establish the economic viability of the project. The project must align with the Wyoming Energy Strategy and contribute to an all-of-the-above net-zero aspiration. As such the proposed deployment model must produce hydrogen with a low, net-zero or negative carbon intensity. Furthermore, it is critical that the proposal demonstrates that the project is at a scale sufficient to demonstrate commercial viability. All projects should use a project management structure appropriate for the proposed work and include a robust risk assessment, and detailed budget. The project should demonstrate a sustainable plan for continuation on completion of the proposed scope of work as well as a clear path to commercialization.

3. FUNDING AND PROJECT PERIOD

A. Funding

This initiative is supported by an appropriation by the Wyoming State Legislature during the 2020 budget session for purposes of a statewide energy commercialization plan. Of this appropriation, \$1,000,000 has been set aside for funding this initiative. The appropriation is not conditioned upon a match of funds though significant match is expected from the successful applicant(s). There are no requirements regarding how many awards will be made and could be one award or several.

Matching funds should be verifiable as available to and/or secured by the requesting organization through documentation verifying that matching funds have been committed. Verification can be in the form of financial statements or a signed letter from a non-State of Wyoming funding organization.

In-kind support may be used for a portion of the outside funding match with program funds, but the amount must be verifiable and may not constitute greater than 40% of the total match (cash + in-kind). Any in-kind match may include non-cash contributions of time, equipment, space (least preferred), and other items committed to the goals of the project. In-kind matching may include the use of items already owned by the Applicant. In-kind matches must be itemized in the project budget.

Collaboration – including with international entities – is encouraged, but not necessary. Any foreign-derived funds¹ may be counted as match, but no funds provided by the State of Wyoming can be expended to support work performed outside of the United States.

B. Project Period

The project period will be negotiated with the awardee(s) based on the project requirements.

4. APPLICANT ELIGIBILITY

Participation in this program is open to private industry, to public and private universities, to government agencies, to research institutions, and to individuals that can undertake a demonstration project of this magnitude.

5. PROPOSAL PREPARATION

A. Minimum Requirements

To be eligible for funding, proposals must describe how the project leverages existing resources and infrastructure within Wyoming, the critical technical challenges governing the success of the project in Wyoming, and the primary economic drivers for viable deployment of the process at scale in Wyoming as well as the likelihood that the funded work will make progress toward a commercial-scale deployment in Wyoming.

All proposals submitted must contain each of the following, and items 5-14 must not exceed 25 pages of no less than 11 pt. font text and single line spacing with 1 inch margins. Proposals that do not meet these requirements may be rejected.

Requirements:

1. **Application Form**, signed (Exhibit 1)
2. **Confidential Disclosure Agreement**, signed (Exhibit 2)
3. **Table of Contents**
4. **Abstract** (300 words or less)
5. **Introduction**
6. **Project Plan**. Detailed project plan that specifically addresses the project's proposed impact on the development of a hydrogen energy sector utilizing Wyoming solid feedstock resources and infrastructure. The plan should clarify what feedstock will be used and how it will be sourced. The plan should also clarify how the produced hydrogen will be defined as having a low-, net-zero or negative carbon intensity. The plan should also specifically address the proposed direct and indirect actual and potential public benefits of the project, which will accrue to the State of Wyoming, its residents and communities, including, but not limited to: infrastructure development, business creation or retention, job creation or retention, technological advancement, intellectual property rights, commercialization, and additional state taxes, such as sales and use and/or property tax.
7. **Project Discussion** (including schematic designs)

¹ The value of match derived from foreign funds will be determined by the exchange rate published by the *Wall Street Journal* for the close of business in New York on June 1, 2022. The rate can be found at http://online.wsj.com/mdc/public/page/2_3021-forex.html. That rate will stay in effect for the duration of the project to avoid complications that might be caused by exchange rate fluctuations.

8. **Risk Assessment** including a risk mitigation plan covering technical, commercial, intellectual property and operational risks.
9. **Statement of Work** (including schedule as Gantt Chart plus Work Breakdown Structure and methods)
10. **Milestones.** Full description of how the project will be managed and structured to judge the successful achievement of critical milestones. The proposed milestones must be measurable and must reflect progress towards the achievement of the objectives of the project in fulfillment of the overarching aim of this RFP.
11. **Proprietary and Confidential Information** (separate attachment). Identification through an asterisk at the beginning of each line, and disclosure of all information that the Applicant deems proprietary and confidential, including notation at the top of each page of the attachment. This attachment counts towards the 25 page limit. The entire proposal is considered a public record, however, financial and commercial information provided by the business is exempt from disclosure to the extent permitted by Wyoming Statute 16-4-203(d)(v).
12. **Market Comparison.** A comparison with existing commercially available platforms is required to evaluate how the proposed project will induce value creation and incremental progress to the status of the technology. The analysis shall explain how the proposed project will successfully compete in Wyoming and beyond.
13. **Collaboration Explanation** (if applicable). If collaboration between different entities is proposed, a clear statement designating the lead organization and the contributions to the project by all the cited organizations participating in the project.
14. **Project Management Organizational Chart.** A project management organizational chart should be included that clearly shows the relationships between all project entities, the names of the contributors to the project, a brief description of the roles and responsibilities of each project team member/entity, and how the project will report to the WEA to assure fulfillment of project deliverables.
15. **Wyoming Host** (if applicable). A letter from the Wyoming entity that will host the project, confirming their participation. Any applications proposing technology deployment on a third party facility or location must demonstrate third party agreement of participation in the application.
16. **Site Information** (if applicable). If the proposal pertains to a specific piece of property, indicate who owns the site, how it is currently used, and if the proposed use is consistent with the zoning designation. Are there any known environmental concerns at the site, especially wetlands, floodplains, or sage grouse areas? What infrastructure is necessary to serve the proposed site (i.e., water, sewer, electricity, natural gas, transportation facilities, and telecommunications). If there are deficiencies within any of the infrastructure systems, explain how the deficiencies will be improved. Indicate the status of all environmental and other permits pertaining to activities at the site.
17. **Match Verification.** Letters verifying match, which identify the source and amount.
18. **Appendix**, to include:
 - a. Short vitae (total maximum 3 pages) for principal investigators
 - b. Description of facilities and equipment to be used
 - c. Other pertinent information bearing on qualifications to conduct the project (total maximum 3 pages)
 - d. Declaration of any real or perceived conflicts of interest (for each conflict describe the nature of the conflict including all relevant parties and the relationship between parties.)
19. **Budget** (see below).

Failure to adhere to any of these requirements will result in the application being deemed non-compliant.

B. Budget Format

A detailed budget is required. The project budget needs to show how all eligible costs will be covered by both cash and in-kind contributions.

For equipment or infrastructure, the following minimum information must be included.

1. Supplies – including a breakdown by major category.
2. Equipment generally considered to be valued at greater than \$10,000 – including a breakdown by item. Only pro-rated costs for new non-consumable equipment (i.e., analytical instruments, computers, etc.) will be allowed unless the equipment is an integral part of the technology, plant, or implement to be developed. Existing non-consumable equipment costs will not be an allowable cost, but depreciation on existing equipment or rental of equipment may be considered as a match if justified, as described below in 8 “In-kind Match Amount.”
3. Consultant costs – including descriptive job titles, rates of pay, and man-hours/months/days. Fringe benefits should be shown as a separate item, with a brief explanation of the formula used.
4. Subcontracted work – funds that will be dedicated to outsourced work through a subcontract require full details as described in B.3 above.
5. Total Grant Request - A clear statement of the total amount requested under the terms of the RFP.
6. Total Budget - A clear statement of the total budget for the project described by the proposal including in-kind contributions.
7. Match Amount – a clear statement of the portion of the total project budget supplied or matched from other sources. Full information on the sources of the funds, including the same level of detail found in categories B.1 – 4 above, must be included. No more than 40% of the match can be in-kind. We recommend a budget format that includes a separate column for each funding source.
8. In-Kind Match Amount (if applicable) - This is the least preferred form of match, and must be itemized. If proposing in-kind match, provide a clear statement of the portion of the in-kind project budget supplied or matched from other sources. For equipment, acceptable in-kind match is 1) the value of the depreciation for the equipment for the period of time that the equipment is used for the project, or 2) the fair market value of the equipment if rented for the period of the project. For time, the acceptable in-kind match is the man-hours/months/days for labor performed on the project. For space, the least preferred form of in-kind match, the acceptable in-kind match is the fair market value of the space used for the period of time that space is used for the project.

Note: No indirect costs will be considered as part of the match. Costs incurred prior to an executed Funding Agreement will not be reimbursed. However, indirect costs and intangible contributions that are aligned with the project may be identified separately along with a narrative describing how they contribute to the overall viability of the proposed project.

C. Open Call and RFP Questions and Answers

The WEA will host and record an open call to discuss this RFP and take questions from the public. All are welcome to participate, however due to logistical constraints, participants will be required to register at www.wyoenergy.org/request-for-proposals/. Additionally, if you have questions regarding this RFP or if you need more information, please email: Glen Murrell, Wyoming Energy Authority Executive Director glen.murrell@wyo.gov with “Solid Fuels to Hydrogen query” in the subject line.

Answers to all questions emailed and posed in the open call will be posted on the website. The dates for the open call as well as the deadline for when questions can be emailed are listed in Section 9, "Dates."

6. SCREENING AND EVALUATION PROCESS

A. Screening

The WEA will screen all submitted proposals prior to official review to ensure completeness and compliance with the requirements of this RFP. Those proposals that do not comply, or are otherwise deemed to be non-responsive, will be returned to the Applicant with an explanation of the proposal's deficiencies. Applicants whose proposals are returned may be provided with a short deadline by which to resubmit a corrected proposal. All accepted proposals will be forwarded for official review to a review committee consisting of WEA staff and outside experts. The WEA will execute the Confidential Disclosure Agreement (Exhibit 2) and all members of the review committee will execute a non-disclosure and confidentiality agreement prior to receiving individual proposals. Applicants may be contacted directly if the WEA or review committee requires clarification or more information.

B. Evaluation Criteria

Proposals will be evaluated according to the criteria described below:

Integrated Project Viability and Impact (40%)

The degree to which the proposal:

- adequately describes precursor efforts and progress that demonstrate the technical feasibility and economic viability of the proposed activities.
- addresses the vision, objectives and intent of the RFP.
- describes direct and indirect actual and potential public benefits and advancement of the proposed activities.
- addresses that existing Wyoming resources and infrastructure are utilized both in context of the proposed activities and future commercial deployment.
- defines roles and responsibilities of participants and their skills, capabilities and resources and synergies in a way that demonstrates overall feasibility and viability.
- describes system and subsystem feasibility, and viability.
- demonstrates the applicant's competence in each system and subsystem.

Commercial Merit (20%)

The degree to which the proposal:

- describes current commercial status,
- describes current market dynamics
- describes a pathway to deployment at scale.

Organizational Description, Capabilities and Resources (20%)

The degree to which the proposal:

- describes the applicant and the applicant's organizational knowledge, experience and capabilities.
- demonstrates partner and stakeholder commitment and contributions (i.e. cost share and in-kind contributions) clearly stated in the budget.
- demonstrates interest and support from partners and other stakeholders (i.e. support letters).
- demonstrates applicant's ability to execute on proposed activities and future commercial scale developments. This will include discussion of organizational structure, history, culture, human resources and financial means to achieve said objective.

Technical Approach (20%)

The degree to which the proposal:

- describes in sufficient detail how project tasks interact and contribute to an overall objective and ultimately to a successful project.
- identifies and quantifies risks and assumptions and how the proposed activities will mitigate these risks or test assumptions.
- demonstrates access to prerequisite data, facilities, tools, and methodology.
- demonstrates a plan to secure and disseminate data, interpretations and findings, including development of final deliverables.
- describes a robust project management plan, establishes an initial scope/schedule/budget and a plan for managing change.

Members of the review committee will rank the proposals, selecting those that demonstrate the highest merit within the program guidelines and that are judged to deliver the highest benefits and impacts to the State of Wyoming. In addition to the merit review criteria, the review committee may consider factors that demonstrate a balanced programmatic effort. These factors may include projects that represent a diversity of technical approaches, projects that, when taken together, are complimentary, projects that represent a broad geographic distribution, and projects that optimize the use of funds. The review committee will make (a) funding recommendation(s) to the University of Wyoming energy resources council (ERC) and the governor for final approval. The ERC and the governor reserve the right, without limitation or qualification, to consider any other criteria or factors that either party deems relevant to provide a balanced programmatic effort and ultimately return value to Wyoming. Decisions of the WEA, ERC and the governor are final and are not subject to appeal.

C. Applicant Notification

All Applicants will be notified by email regarding the outcome of the evaluation process and final project selections by the dates indicated in Section 9 “Dates.”

D. Public Hearing

It is required to inform and educate the public and business community to the greatest extent possible about the proposed project utilizing a variety of techniques and media. The application and associated materials, exclusive of business plans or business financial information which are not subject to public information statutes as described in Wyoming Statute 16-4-203(d)(v), will be made readily available for public access as the entire proposal is considered a public record. (Please follow guidelines under Section 5 “Proposal Preparation” for identifying confidential and proprietary information.)

A public hearing will be held by the WEA or the ERC after the evaluation process and before the final project selection. Citizen input will be actively solicited which can be submitted via writing, electronically, or in person at the public hearing.

Public notice will be published in a newspaper of general circulation within the boundaries of Wyoming with circulation in the proposed project area. The notice shall contain a concise description of the proposed project and state that time will be set aside at the public hearing to take testimony from citizens about the project. To inform the public and to gather information, the public hearing will, at a minimum: identify the economic development opportunity(ies); explore all possible funding sources and alternative solutions to the opportunity(ies); contain a comprehensive description of the proposed project; and solicit testimony from citizens who may feel that the proposed use of the project might compete with an existing business.

7. PROJECT CONTRACT REQUIREMENTS

The following project contract requirements are set out by the WEA. Applicants whose proposals are funded are required to:

A. Execute a Funding Agreement

The Funding Agreement shall specify terms and conditions under which funds shall be disbursed, including but not limited to:

1. A methodology, including the ability for the State of Wyoming to audit records as necessary, to ensure matching funds committed under the proposal are available and expended for the project as described.
2. A means for the executive summary and final technical report to be submitted to the WEA to verify that the proposed project, as funded, was completed as represented in the proposal.

A fully executed Funding Agreement, based on the template provided in Exhibit 3, between the WEA and every contributing entity to the pilot project (those receiving program funds and providing cash and/or in-kind match, if any) must be in place prior to disbursement of funds from the program. The Funding Agreement shall also contain provisions regarding the ownership, licensing, and use of data, information, studies, analysis, and intellectual property, of any kind, produced utilizing funds from this program. As part of the funding agreement between Recipient and WEA, the Recipient will require all Project contractors to provide appropriate and sufficient payment and performance bonds. The WEA will work closely with awardees to negotiate and finalize the Funding Agreement after notification of award.

>>**NOTE:** Costs incurred prior to an executed Funding Agreement will not be reimbursed. <<

B. Submit Quarterly Progress Reports

These reports shall be submitted no later than January 31, April 30, July 31, and October 31 of each year of active grant status to the WEA. Progress reports should not exceed 12 pages and should report the status of work, achievements, variance in timing, and activity versus project plan and expenditures against the assigned project budget.

C. Submit a Final Executive Summary Report

This report should be a concise, non-technical summary of project results and recommendations including statements regarding the relevance and impact of the project to the aims and goals of this RFP. The report audience will include user groups, the general public, and non-specialists in the field. This report should be less than 30 double spaced pages in length and no less than a font size of 11 and one inch margins. The Final Executive Summary Report will be placed on the WEA website. Submission of the report will include presentations to the WEA Board of Directors, the ERC and the Joint Mineral and Economic Development Committee of the Wyoming State Legislature and the Office of the Governor.

D. Submit a Final Technical Report

The Final Technical Report is intended for use by professionals in the general area of interest. It should contain a complete and thorough report of project activities conducted. The minimum content of the technical report should be as follows:

1. Abstract (less than 300 words)
2. Introduction
3. Objectives
4. Methods
5. Results
6. Technical Information (not to exceed 40 double spaced pages and no less than a font size of 11 and one inch margins)
7. Relevance and impact to the project goals and aims of this RFP
8. Conclusions and recommendations
9. Development Plan for commercialization of successful outcomes from the project
10. Lessons learned from the project

Confidential information, including business secrets and intellectual property, that forms part of the Final Technical Report must be attached as a separate appendix marked “Confidential.” Any such confidential information will remain confidential to the WEA and will neither be published, posted, summarized, nor abstracted by the WEA or the program funding partner, the ERC.

The Final Executive Summary Report and the Final Technical Report are due no later than 90 days after the completion of the project. **The Final Technical Report will be placed on the WEA website** without any confidential information from an included “Confidential” appendix.

8. SUBMITTAL INFORMATION

Proposals need to be uploaded to the website address below before the date and time indicated in Section 9 “Dates.” No exceptions will be made for late arrival of proposals, for any reason. A confirmation email acknowledging receipt of the proposal will be sent within 24 hours of submission. If you do not receive a confirmation, please email glen.murrell@wyo.gov.

The entire proposal is considered a public record; however, financial and commercial information provided by the business is exempt from disclosure to the extent permitted by Wyoming Statute 16-4-203(d)(v). Please follow guidelines under Section 5 “Proposal Preparation” for identifying confidential and proprietary information.

Website: www.wyoenergy.org/request-for-proposals/

Please use the following format for naming files:

SFtoH 2022_[Company Name]_[Principal Investigator Last Name]_[File Description]

Example 1: “SFtoH 2022_ABC Energy_Smith_Proposal.pdf”

Example 2: “SFtoH 2022_ABC Energy_Smith_Confidential Attachment.pdf”

9. DATES

All times are Mountain Time. All dates are subject to change at the sole discretion of the WEA.

>>NOTE: In the event that other complementary external activities such as commercial projects, federal programs and/or RFPs are released, the open period may be extended, or the RFP re-opened, with all consequent dates delayed, in order to provide applicants the opportunity to adjust their proposals to leverage additional cost-share, or pursue complementary or synergistic collaborations or other developments.<<

Issue Date:	May 5, 2021
Open Call:	10:00 a.m. June 30, 2022. Please register for the call on the website. Early submission of questions via email is encouraged. A recording of the call will be made available on the website.
Closing for email questions:	5:00 p.m. July 14, 2022. Early submission of questions is encouraged.
Questions and Answers posted:	5:00 p.m. July 21, 2021
Closing Date:	5:00 p.m. August 5, 2021. Please upload the proposal on the website shown in Section 8 "Submittal Information."
Evaluation Process Notification:	No later than September 16, 2021
Public Hearing:	Between October 3 and October 14, 2021
Final Project Selection:	No later than October 28, 2022

10. RIGHTS AND DISCLAIMERS

The Wyoming Energy Authority (WEA) reserves the right, without limitation or qualification and at its sole discretion, to terminate this RFP process at any time. The WEA, the review committee, and the Energy Resource Council (ERC), all reserve the right, without limitation or qualification, to reject any proposal at any part of this RFP process. All decisions made by the review committee and the ERC are at the discretion of the committees and not subject to appeal.

APPENDIX 1: APPROPRIATION LANGUAGE

Economic Development Funds: Innovation Subaccount FY21-22 SF001

There is appropriated four million dollars (\$4,000,000.00) from the Wyoming research and innovation subaccount to be deposited into an account and available for expenditure by only the Wyoming energy authority subject to approval by the University of Wyoming energy resources council and the governor for purposes of a statewide energy commercialization plan.