

# Climate Pollution Reduction Grants – Implementation Grants

## NAME OF PROJECT: ROCKY MOUNTAIN HYDROGEN COALITION

### 1. Overall Project Summary and Approach

This application is for a coalition partnership, the Rocky Mountain Hydrogen Coalition (Coalition), for the development of clean hydrogen projects which have cross-border benefits. The Coalition partners are Colorado Department of Natural Resources (DNR) and the Wyoming Department of Environmental Quality (WDEQ). Colorado DNR will be the Coalition lead. WDEQ will partner as a collaborator to support any project activities that may be constructed in Wyoming and will not be seeking funds as a subrecipient. Since WDEQ will not be a subrecipient, there will be no pass-through EPA requirements for work at WDEQ or within other Wyoming state agencies and Colorado DNR will be responsible for all reporting requirements for all funding. This application builds on the work previously coordinated through the Wyoming Energy Authority for the Western Inter-State Hydrogen Hub (WISHH) application to the DOE Regional Clean Hydrogen Hubs program and details the roles and responsibilities which will ensure the implementation of project activities will be effective and successful.

### 2. Description of GHG Reduction Measures

#### I. GHG Reduction Measures: Reduce Emissions From Hard to Decarbonize Sectors by Developing a Clean Hydrogen Economy

Colorado and Coalition member Wyoming propose to work together to support the development of a clean hydrogen economy in their states which will reduce GHG emissions and co-pollutants from the hardest-to-decarbonize sectors. These two states are well positioned to collaborate on the development of a clean hydrogen economy in the region because of prior partnership as part of the Western Interstate Hydrogen Hub (WISHH), a larger four western state collaboration created to support an application to DOE's Clean Hydrogen Hub offering. Colorado and Wyoming's portion of that project resulted in the identification of clean hydrogen projects with opportunity for significant GHG reductions, job development and economic growth. The two states together will run an open, competitive grant (also known as "subaward") procurement process to fund cost-effective clean hydrogen projects that reduce greenhouse gas emissions, provide co-benefits, particularly in disadvantaged communities, and create local jobs.

The Colorado Department of Natural Resources (DNR), the lead agency, will run a competitive procurement process to select third party consultants to help with the technical aspects of the program, including verifying emission reductions and cost effectiveness. DNR will also hire term-limited staff to administer the program and ensure that it meets federal requirements and achieves the intended project outcomes. The Coalition partners will then collaborate to develop a competitive grant program that supports the most effective hydrogen projects in the Coalition states.

This application aligns with the prioritized action "Statewide Industry 3 Measure to Enable and Invest in the Clean Hydrogen Economy" on page 22 of the [Colorado PCAP](#). The PCAP states Colorado will continue to seek federal funding to support the development of the clean hydrogen economy in the region.

Should it secure additional funding, Colorado will support clean hydrogen economic development activities for the technology's use in hard-to-decarbonize industrial operations, as well as aviation, heavy duty transportation, long duration energy storage, load-following services in the power sector, clean firm generation, and replacing existing gray hydrogen applications with clean hydrogen.

A. Proposals to the Rocky Mountain H2 Coalition grant program must meet and will be ranked according to how they meet the following criteria:

1. Private and/or private/public partnerships which develop supply chains from production to end use, interrelated systems which match supply to demand to create certainty in the market, and produce and use large volumes of clean hydrogen.
2. Cost effective emissions reductions through projects in hard-to-decarbonize sectors such as industrial operations, as well as aviation, heavy duty transportation, long duration energy storage, load-following services in the power sector, clean firm generation, and replacing existing gray hydrogen applications with clean hydrogen, especially those that support innovation. Additional information on specific application and reporting requirements related to this criteria are located in the *Technical Appendix* and the *Impact of GHG Reduction Measures and Environmental Results - Outputs, Outcomes, and Performance Measures* Sections.
3. Workforce training and development for a clean hydrogen economy that brings local jobs and resources to energy transition and LIDAC communities.
4. Eligible applicants must leverage private capital so that at least 50% of a project's total cost is covered by non-federal funds; preference will be given to projects with higher private match. During Colorado and Wyoming's participation in a regional hydrogen hub application to DOE, we found private sector partners able to provide greater than 80% match.
5. Meet the following hydrogen production and use requirements:
  - a. All production has a contracted end-use and contract with the end-user in place upon award. An agreed upon percentage of production may be allocated to market development with no end-use contract requirement upon award but this amount must be supported by letters of intent by potential end-users and a development plan with an end-date for contract
  - b. Meet the clean hydrogen production standard (CHPS) per 42 U.S.C. § 16166, developed under section 822(a) of the Energy Policy Act of 2005 (EPA 2005), as amended by Section 40315 of BIL. Applicants will be evaluated on the degree to which they reduce emissions across the full life cycle, and not only based on whether they achieve the CHPS target
  - c. Fund projects which produce at least 50 metric tons of clean H<sub>2</sub> per day by year two of the project
  - d. Meet all applicable safety and permitting standards
6. Volume of clean hydrogen produced
7. Timeline- funds will be expended within CPRG timelines

B. Projects are not required but will be ranked higher for meeting any of the following:

1. Support the clean energy transition in the electric sector through deployment of electrolyzers and hydrogen-compatible combustion turbines to provide clean firm generation
2. Provide emission reductions in low income, disadvantaged communities (LIDAC), as identified through the [Wyoming DEQ Non-Discrimination and Inclusion policy Special Focus Map](#), [Colorado's EnviroScreen](#), and EPA's EJScreen, particularly those which have been burdened by emissions from industry and heavy duty transportation (See Community Benefits section for additional detail)
3. Building new or leveraging existing or repurposed infrastructure including, with an emphasis on repurposing:
  - a. Hydrogen pipelines- development of new pipelines or use, repurpose, or upgrade of existing networks
  - b. Hydrogen compression and/or liquefaction technologies at scales relevant to the end-uses of interest
  - c. Aboveground and belowground storage-including bulk liquid, gaseous, material-based technologies, or subsurface options (e.g. salt caverns, depleted oil and gas fields, engineered formations)
  - d. Monitoring and minimization of hydrogen leak rates
  - e. Hydrogen transportation fueling stations
4. Provide plans to scale up

#### C. Grant Program Rounds and Funding

1. The Coalition lead (Colorado DNR) will plan to hold at most two open procurement rounds to invite proposals for funding. These rounds will be held in the first two years of the program to allow project completion within the CPRG deadlines. Staff from agencies within Colorado and Wyoming, potentially along with the third party technical consultants, will provide technical review of the applications prior to the Coalition's selection of the winning awards. It is expected that between 2 and 6 grants will be awarded.

#### D. Technical Verification, Reporting

1. As the Coalition lead, Colorado will be responsible to ensure appropriate use of funds, verification of compliance with applicable requirements, and reporting. Colorado will work closely with Wyoming, third party consultants (see more detail below), and awardees to ensure verification of greenhouse gas emissions reductions, compliance with all applicable requirements, and reporting.

#### E. Risks and Mitigation Strategies

This project faces several important risks. These risks and potential mitigation strategies are detailed below.

1. Coalition partner drops out - it is possible that Coalition partner Wyoming would not be able to come to agreement with the State of Colorado, or that at some point during the program

implementation phase feels that it no longer can participate in the program. Should Wyoming drop out of the program, it would still be possible to allocate the rest of the funding to support hydrogen development within the State of Colorado. In addition, because of the structure in which Colorado DNR will disburse funds to all projects in the Coalition region, it will be possible to satisfactorily complete any already awarded projects within the boundaries of Wyoming along with oversight and reporting. To mitigate the risk, Colorado and Wyoming are working on a MOA which carefully outlines the roles and responsibilities of each state, as well as how the costs and benefits of the program are equitably distributed.

2. Grant funding rounds undersubscribed - it is possible that the planned open funding rounds do not have enough qualified, eligible applicants to fully allocate the planned budget amount. This risk is mitigated by the pre-work that both Wyoming and Colorado have done to investigate what interest there is in funding for the hydrogen economy, particularly through the extensive process to develop the application for funding from the Department of Energy Hydrogen Hub program. This prework has shown that there is substantial interest and promising project potential for clean hydrogen development production, storage, transportation and use in the Coalition states. In addition, a mitigating factor is the program design which allows for additional open funding rounds to be added in the third year of the program, if needed, with two additional years still remaining to focus on project completion, verification and reporting.
3. Community Opposition - it is possible that there would be significant community opposition to an awarded project after it has been selected for funding. This is mitigated by the plan to require a community benefits plan for each project, and to give greater weight to projects that have done significant community outreach in advance of the application submission.
4. Project Delays - it is possible that there would be significant delays to projects after they have been awarded and that they would not be able to complete, including the need to secure permits from local, state and federal agencies. Projects will be selected based on the clear evidence that they can be completed during the program timeline. This is also mitigated by the work that will be done by State staff and the third party consultants to closely monitor project progress, and by the program design which makes awards early in the five-year program with the plan to focus on project completion during the final years of the program.

For more information, see Expenditure of Awarded Funds.

### **3. Demonstration of Funding Need**

#### **I. Demonstrated need for EPA CPRG Implementation Funding**

While the federal government has provided significant funding to support the clean hydrogen economy through the US Department of Energy's (DOE) Hydrogen Hub program, only seven hubs around the country were funded. No projects were funded in the intermountain West. This left well-vetted projects, such as the WISHH projects, with significant environmental benefits and state support unable to move forward without funding. This is a clear opportunity for the EPA to leverage these planning efforts and associated environmental benefits that have already been identified.

Clean hydrogen offers a pathway to reducing emissions in some of the most hard-to-decarbonize sectors, including industrial, heavy duty transportation, aviation, long duration energy storage, clean firm power generation, and load following services to complement significant levels of variable renewables.

CPRG funding can minimize the price gap between clean hydrogen and gray hydrogen and other fossil energy sources and provide low carbon hydrogen production at a competitive price point. This would complement federal production tax credits of up to \$3.00/kg, and for projects in Colorado, the clean hydrogen use tax credit of up to \$1.00/kg that was adopted by the Colorado General Assembly in 2023. This will minimize the price gap for the customer, expand production over time, and drive down the cost of low-carbon hydrogen. It will also provide resources to expand community and workforce development through labor, training, education, and outreach. This is critical to develop the clean hydrogen market.

## II. How other funding streams have been explored, and why those sources are not sufficient

Colorado and Wyoming were part of the WISHH collaboration for a DOE Hydrogen Hub application in 2023. That collaboration was ultimately not chosen as one of the seven hubs selected by DOE. The WISHH projects located in Colorado and Wyoming had a funding request in the hub for over \$500 million. This was in addition to significant cost share in excess of this amount from industrial and utility partners.

Building a reliable, clean hydrogen economy on a scale necessary to displace GHG emissions from the hardest-to-decarbonize sectors is a transformative task requiring significant investment. This is illustrated, as mentioned earlier, by the funding proposal for Colorado and Wyoming's share of the WISHH proposal, of more than \$500 million.

Federal incentives, such as a clean hydrogen production tax credit, have the potential to provide a significant boost to the cost effective production of clean hydrogen. However, as noted in the U.S. DOE's *Pathways to Commercial Liftoff: Clean Hydrogen*<sup>1</sup>, investment in the development of midstream infrastructure and supply chains are still very much needed, and public sector dollars will de-risk projects and catalyze private sector investment. DOE identifies this type of investment as a priority solution and this proposal seeks, in part, to address this gap.

## III. Federal and non-federal funding sources the applicant has applied for, has secured, and/or will secure to implement the GHG reduction measures, if applicable.

Colorado has created a variety of state funding sources that can support use and production of clean hydrogen. These include:

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<sup>1</sup> U.S. Department of Energy, 'Pathways to Commercial Liftoff: Clean Hydrogen', <https://liftoff.energy.gov/wp-content/uploads/2023/05/20230523-Pathways-to-Commercial-Liftoff-Clean-Hydrogen.pdf>, March 2023, pgs 63-68.

- Hydrogen use tax credit: HB 23-1281 created a tax credit for the use of clean hydrogen in hard-to-decarbonize industrial operations, heavy duty transportation, and aviation. The tax credit is \$1/kg for hydrogen with life cycle emissions aligned with the highest tier of the federal 45V production tax credit, and \$0.33/kg for the second highest tier.
- Industrial clean air grants and competitive tax credits: CEO administers two competitive industrial funding programs - the \$25 million clean air grant program created by SB 22-193 and the decarbonization tax credit created by HB 23-1272 (\$168 million over 10 years). Clean hydrogen is one of the allowed measures that industrial operations can propose in their applications.
- Utility investments: HB 23-1281 created a pathway for Public Utility Commission review and approval of utility investments in both production of clean hydrogen and use of clean hydrogen for electric generation.
- Heavy duty transportation: SB 21-260 created three transportation electrification enterprises funded by fees on residential deliveries and transportation network company trips. These enterprises may fund fleet vehicles, including electric or hydrogen trucks and buses, and may provide funding for both electric vehicle charging and hydrogen fueling stations.

Wyoming is spurring innovation through several funding opportunities including Wyoming's GBeta Gener8tor, Wyoming Energy Matching Funds (up to \$200 million), Jackson Hole Center for Global Affairs' Jackson Hole Investor Group along with a matched an EDA grant totaling \$342,000 and Wyoming Venture Capital will support the growth of Wyoming entrepreneurs up to \$5 million. The [Energy Matching Funds](#) focus on supporting innovation in Wyoming's energy industry and energy needs and are very flexible: the funds are "for purposes of providing matching funds for private or federal funding for research, demonstration, pilot projects or commercial deployment projects related to Wyoming energy needs, including, but not limited to, carbon capture utilization and storage, carbon dioxide transportation, industrial carbon capture, coal refinery, **and hydrogen production, transportation, storage, hydrogen hub development**, biomass, biochar, hydropower, lithium, processing and separation, battery storage or wind and solar energy."

#### **A. Transformative Impact**

While Colorado and other states are working to rapidly decarbonize primarily through investments in renewable energy and electrification, low carbon fuels such as clean hydrogen will be necessary in the hardest-to-decarbonize sectors in order for the state and the country to meet its goals. In particular, clean hydrogen can reduce emissions from fossil fuel use in industrial operations, aviation and heavy duty transportation. In addition, as the share of electricity generation from renewables grows, the potential for clean hydrogen to act as a long duration energy storage and for clean firm generation to complement renewables is very important.

Colorado recently contracted with Ascend Analytics to study pathways to 100% carbon free electrical generation within the state by 2040. [The study found](#) that the most cost effective pathway to zero emissions combines large scale deployment of wind, solar and batteries, a modest deployment of geothermal generation, and replacement of methane gas generation with hydrogen combustion

turbines. Federal funding that accelerates deployment of clean hydrogen in Colorado will make it easier to move forward with strong policy frameworks that will move the state towards carbon-free generation by 2040. Investing in clean hydrogen for power generation will also build experience that will help utilities in Colorado develop compliance strategies for implementation of EPA power sector GHG rules.

In addition, deploying clean hydrogen in power generation has important strategic value to development of a broader clean hydrogen economy. There is a “chicken or the egg” challenge in which potential end users in industry and transportation will not want to make investments to use hydrogen unless there is a developed clean hydrogen supply chain, but without a guaranteed end use market, it is difficult to develop the supply chain. Blending hydrogen into the electric generation system in Colorado provides a scalable source of demand for clean hydrogen, supporting the development of hydrogen production, transport and storage infrastructure, which will, in turn, support use of clean hydrogen in hard-to-decarbonize industrial and heavy transportation applications.

Colorado and Wyoming are also ideal locations for production of clean hydrogen. This region is unusual in having both world-class wind and solar resources. Colorado’s largest utility, Xcel energy, under its adopted electric resource plan, will hit 80% renewable generation by 2029. There will be growing levels of curtailment of both excess wind and solar generation during many hours of the day, opening up the ability to use this excess zero carbon generation for hydrogen production. The availability of hydrogen developed under this program could also provide the opportunity for energy production and industrial use in Wyoming to utilize hydrogen as a feedstock or as a supplement to existing electric generation in the state. Because wind and solar have different times of peak generation, there will be curtailed generation available during many more hours than would be the case in most other regions, allowing electrolyzers to run at higher capacity factors. In addition, both Colorado and Wyoming have favorable geology for carbon sequestration, and have strong requirements to reduce the methane intensity of gas extraction, making the region a favorable location for blue hydrogen production.

Hydrogen blending in electric generation in Colorado offers a solution to develop immediate large-scale and dependable demand for clean hydrogen, so that hard-to-decarbonize sectors that need readily available quantities before shifting to hydrogen can see use cases and supply build before adopting.

Initial funding through Rocky Mountain H<sub>2</sub> grants to projects that match supply with demand will create a robust hydrogen economy in the region to enable the decarbonization of hard-to-decarbonize sectors. Early investments will enable the growth of an initial supply of clean hydrogen and demonstration of use cases to drive innovation and bring the cost down of hydrogen for later use cases. Projects able to leverage readily available offtake will be key for long-term implementation.

Finally, CPRG implementation funds will be deployed in the near-term, hastening investment in the clean hydrogen ecosystem and rewarding first-mover projects at scale.

### 3. Impact of GHG Reduction Measures

## A, B. Magnitude of GHG Reductions from 2025 through 2030, 2050

In the absence of awarded projects, the Coalition bases its estimate of cumulative emissions reductions of the Rocky Mountain H2 grant program on the proposed reductions in the WISHH U.S. DOE application<sup>2</sup> as a benchmark. This was a joint application submitted by Colorado, Wyoming, New Mexico and Utah. The projected emissions reductions for that four state proposal was approximately 14,000 tons/day GHG reductions which equates to 5.1 MMT/yr. In that proposal, it was estimated to take several years to develop the infrastructure to full productivity, so significant emissions reductions would begin around 2030. Once there, emissions reductions in a timeline similar to 2030-2050 were estimated to be 5.1MMT/yr. During the ramp up period to that rate, a minimal amount of GHG emissions reductions would take place during a timeline similar in length to 2025 to 2030.

Continuing with the benchmark scenario, it would take several years to develop the clean hydrogen infrastructure, so the bulk of emissions reductions would occur after 2030, but would continue past 2050. Thus, from 2030-2050, the total emissions reductions would be approximately 5.1MMTCO<sub>2</sub>e/yr times 20 years equalling 100 MMT. The WISHH application requested \$1.25 billion, and leveraged \$9.1 billion in projected private sector investment. Thus the projected emissions reductions per dollar expended would be \$10.35 billion/100 MMT, or \$103.5/MTCO<sub>2</sub>e (although they reduce over time as emissions reductions accumulate). With \$400 million in federal investment, plus an additional \$400 million in private sector cost share, there is \$800 million being invested through this proposal. Cumulative emission reductions and funds spent are shown below.

### *Emissions over time*

	<b>emissions reductions (MTCO<sub>2</sub>e)</b>	<b>CPRG \$ spent</b>	<b>TOTAL \$ spend</b>	<b>CPRG \$/MtCO<sub>2</sub>e</b>
2025		\$1,382,401	\$1,382,401	n/a
2026		\$402,753,741	\$802,753,741	n/a
2027		\$404,157,581	\$804,157,581	n/a
2028		\$405,595,512	\$805,595,512	n/a
2029	3,933,029	\$407,068,533	\$807,068,533	\$104
2030	7,866,059	\$407,068,533	\$807,068,533	\$52
2040	86,526,645	\$407,068,533	\$807,068,533	\$5
2050	165,187,231	\$407,068,533	\$807,068,533	\$2

Emissions reductions achieved from the Rocky Mountain H2 Coalition projects can all be attributed to the CPRG funding investment as these projects would not have moved forward without this investment. Matching supply with demand creates a durable market that is not only guaranteed but provides certainty of supply for expansion to additional end uses and continued growth of the market.

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<sup>2</sup> The WISHH application contains confidential business information and cannot be shared. However the redacted concept paper maybe found here: <https://wyoenergy.org/wp-content/uploads/2022/12/concept-paper.pdf>



The durability of Coalition projects will be significant, as supply will grow with demand creating certainty in the market. Project applications under the Coalition grant program will be ranked according to how they meet certain criteria, including reducing GHG emission reductions and cost effectiveness. Upon award, projects will be required to track and verify emissions reductions through the project. The required method of assessing life cycle emissions will be the Greenhouse gases, Regulated Emissions, and Energy use in Technologies ([GREET](#)) models provided by DOE's Office of Energy Efficiency and Renewable Energy (EERE). Awardees will also be required to submit estimates of overall GHG reductions caused by the proposed project by comparing the GREET emissions estimates with baseline sector and technology-specific emissions forecasts supplied by the applicants and then this will be verified by third party consultants. Other methodologies may be considered, but would need to be submitted for approval during the grant application process and provide sufficient documentation and justification such that a decision could be made prior to award.

### **C. Cost Effectiveness of GHG Reductions**

As seen above, the initial few years of the program will not see significant reductions in emissions due to the need to develop and launch the program and implement projects. The \$400M in CRPG funding, doubled by a 50% cost share requirement from applicants, will result in 165,187,231 mtCO<sub>2</sub>e reduced by 2050. Up front investments become more cost effective as emissions reductions accumulate over time.

The request for Coalition projects will require applicants to submit a financial plan that shows the cost effectiveness of their proposed projects by detailing the estimated kg of CO<sub>2</sub> abatement per dollar spent of CPRG funds. This cost effectiveness of carbon abatement value will be a major ranking factor for the award. Finally, applicants must provide a plan for achieving long-term cost effectiveness and viability beyond this program funding.

Factors that could impact the cost effectiveness of a project selected through the proposed grant program might include:

- Quantity of hydrogen produced and used
- Quantity and type of energy source being displaced
- Electrolyzer costs
- Water consumption and ownership rights
- Technology readiness
- Cost of transportation, transmission, and storage
- Feedstocks
- Cost of carbon capture and storage
- Curtailment opportunities for renewables
- Three pillars accounting

- a. [Documentation of GHG Reduction Assumptions](#) - See Technical Appendix Attachment

## **4. Environmental Results – Outputs, Outcomes, and Performance Measures**

## **A. Expected Outputs and Outcomes**

Outputs from the Rocky Mountain H2 program include:

1. Increased community engagement on and understanding of hydrogen and the role it can safely play in decarbonization especially in hard-to-decarbonize sectors for which there are limited options.
2. Between 2 and 6 grants awarded to the most competitive clean hydrogen projects within Wyoming and Colorado. Due to the competitive nature of this program, the exact impact of these projects is not yet known, but potential emission reductions and benefits are significant for the dollar investment.
3. Semi-annual progress reports.
4. Detailed final report.
5. GHG emission reductions in hard-to-decarbonize sectors.
6. Reduction of other air pollutants from displacing other fuel sources such as natural gas and diesel. Those might include benzene, toluene, ethyl benzene and mixed xylenes as well as particulate matter and nitrogen, a precursor to ozone. The Denver metro area and northern front range of Colorado was classified by EPA in 2022 as a severe nonattainment area under the 2008 ozone standard.
7. Creation of jobs and economic development.
8. Community engagement and the development of community benefit plans where needed.
9. Development of a clean hydrogen economy in Colorado and Wyoming with technologies and interdependencies which could scale and/or expand to other states in the region.
10. Expanded partnership between Wyoming and Colorado.

## **B. Performance Measures and Plan**

The proposed performance measures will be tracked by how they meet or exceed:

- Net GHG emissions reduced by sector and/or measure (see technical appendix for more information)
- Reduction of other air pollutants, other environmental co-benefits - applicants and awardees will need to provide estimates and verification which will be verified by a third party technical consultant
- Benefits to LIDAC communities (as evidenced through the applicants' Community Benefits Plan and community engagement work prior to submission of application)
- Private sector match funding
- Support small, disadvantaged businesses through job training and development
- Adherence to program timelines
- Cost effectiveness - applicants and awardees will need to provide a financial plan and this element's progress will be monitored and verified by a third party technical consultant
- Quantities of clean hydrogen produced and used
- Reporting and verification requirements

Contracts for awarded projects will each contain a statement of work with milestones, emission reduction and cost targets, timelines and budgets. Projects will each have a project manager that will be responsible for oversight in each project and its deliverables. Progress reports will be required monthly, at a minimum. Required monthly reporting will track progress against milestones, deliverables, budgets and timelines in contract. Project delays and cost overruns will be required to be reported with a plan to bring the project back into compliance. Payment is subject to approval by the project manager.

GHG and co-benefit emissions reductions and cost effectiveness will be verified through the contracted services of a qualified technical vendor.

**a. Authorities, Implementation Timeline, and Milestones**

***Roles and responsibilities***

Entity	Roles and Responsibilities
Coalition Lead State: Colorado Department of Natural Resources	<ul style="list-style-type: none"> <li>● Submit to EPA a fully executed Memorandum of Agreement (MOA) signed by all Coalition members by July 1, 2024.</li> <li>● Oversee community engagement in CO, partner with WY on community engagement efforts there</li> <li>● Select a technical program consultant to support the grant program through a competitive procurement process</li> <li>● Select a federal grant compliance consultant to support the grant through a competitive procurement process</li> <li>● Select a community outreach, engagement, and communications consultant to support the grant through a competitive procurement process</li> <li>● Tracking and reporting on project progress on expenditures and purchases</li> <li>● Tracking, measuring, and reporting accomplishments on proposed timelines and milestones</li> <li>● Submitting semi-annual progress reports on grant implementation and planned activities to EPA</li> <li>● Submitting detailed final report to EPA within 120 calendar days of the completion of the period of performance</li> </ul>
Coalition Member States: <ul style="list-style-type: none"> <li>● Wyoming Department of Environmental Quality</li> </ul>	<ul style="list-style-type: none"> <li>● Enter into a MOA with CO DNR no later than July 1, 2024</li> <li>● Community and stakeholder outreach and education within WY</li> <li>● Work with CO to finalize grant program design details, including eligibility criteria; application; application process</li> <li>● Assist CO in evaluating applications from within WY and selecting awardees</li> <li>● Assist in permitting activities for any portion of the project located in Wyoming</li> </ul>

## Timeline

Party	Task	Timeline	Notes
EPA	Notification of Funding Selection	July 2024	
CO	Develop RFP to select external consultants	July-October 2024	Colorado DNR begins development of RFP for external consultants
EPA	Anticipated Award	October 2024	
CO	Release RFP to select consultants to help support grant program	November 2024	
CO, WY	Community engagement around hydrogen, input on program design	November 2024 – January 2025	Concurrent with standing up program components
CO, WY	Select third party technical consultants	January 2025	
CO, WY	Finalizing grant program design and details (program guide, application, and promotional materials and community engagement around these materials)	February 2025 – March 2025	
CO	Post initial Request for Grant funding round	April 2025	
CO, WY	Review applications, select projects, negotiate, make award	July-September 2025	
CO, WY, Projects	Work on community engagement, project implementation, internal reporting and verification	October 2025-project completion	Reimbursements for project costs begin
CO	Reporting to EPA	October 2025-project completion	
CO	Post second Request for Grant funding round	April 2026	
CO, WY	Review applications, select projects, negotiate, make award	July-September 2026	
CO, WY, Projects	Work on community engagement, project implementation, internal reporting and verification	October 2026-project completion	
CO	Reporting to EPA	October 2026-project completion	

## 5. LOW-INCOME AND DISADVANTAGED COMMUNITIES

#### **a. Community Benefits**

Benefits in LIDAC communities are expected particularly through offering an alternative to emissions from fossil fuels in medium and heavy duty transportation and heavy, hard-to-decarbonize industry. The development of the clean hydrogen economy could provide a unique opportunity to reduce air pollution, which can often disproportionately impact low income, disadvantaged populations.

Centering hydrogen projects in areas which may be challenged by closures of existing fossil fuel generating units, could help mitigate identified environmental issues for the local community and boost the clean energy economy, continuing to expand local energy jobs, maintaining local property tax payments reduced by the retirement of fossil fuel assets, and reducing environmental impact. For example, Xcel Energy's response to an RFI released by CEO to inform development of this proposal, stated that project locations can be strategically sited to support union-operated coal plants and host communities facing fossil fuel retirement. The company has received letters of support from International Brotherhood of Electrical Workers Local 111 and communities in support of the pursuit of hydrogen.

As a requirement for award selections, projects must meet and verify the Clean Hydrogen Production target, the same target DOE required in the Regional Clean Hydrogen Hub award. Awardees will be required to prove they meet this target through an approved methodology, GREET. Co-pollutant reductions must also be accounted for and verified. The Coalition will utilize the services of competitively selected, qualified vendor(s) to verify reductions from awardees. Detail on requirements to assess, quantify, and report a more thorough quantitative analysis of associated community benefits, including co pollutant (CAP and HAP) emission reductions are provided in Section: *Environmental Results- Outputs, Outcomes and Performance Measures*.

#### *Colorado*

Colorado EnviroScreen is an interactive [environmental justice](#) map. It is a tool for environmental health screening that identifies areas with disproportionate environmental health risks. Colorado EnviroScreen is intended to be a screening tool to identify areas of Colorado that are affected by environmental injustice. A complete list of Colorado LIDAC census block groups was included in Appendix C of the Colorado PCAP<sup>3</sup>.

Hydrogen projects funded by this program can help reduce emissions associated with fossil fuel combustion in heavy industry, medium and heavy duty vehicles. While they will reduce greenhouse gas emissions associated with that fossil fuel use, important other co-pollutants can also be reduced. The following maps from Colorado EnviroScreen identify communities disproportionately impacted by emissions from these two sectors. Image 1 shows communities that are most burdened by traffic, people who live close to roads with heavy traffic can be exposed to harmful air emissions, especially PM2.5 (fine particle pollution). They also can be exposed to loud noise.<sup>4</sup> Image 2 shows populations that live close to

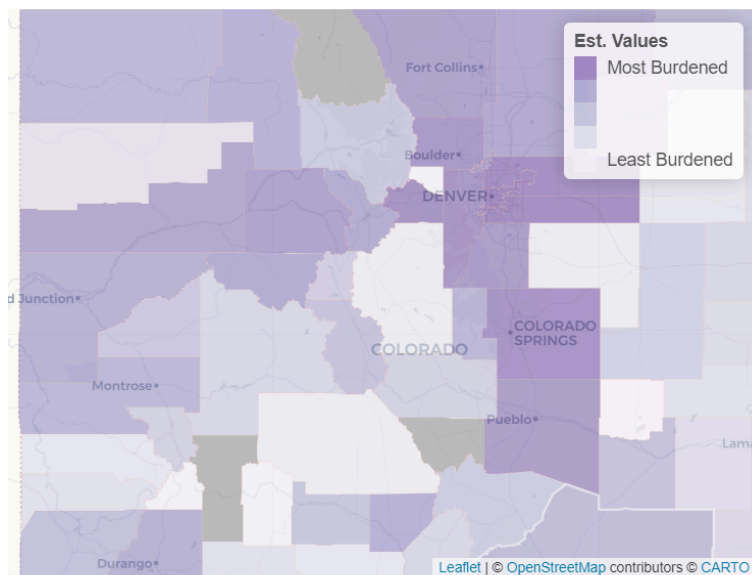
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<sup>3</sup> Colorado PCAP, Appendix C [https://drive.google.com/file/d/1V5Laack1QFSd95dH364MNI\\_f29\\_naLdQ/view](https://drive.google.com/file/d/1V5Laack1QFSd95dH364MNI_f29_naLdQ/view)

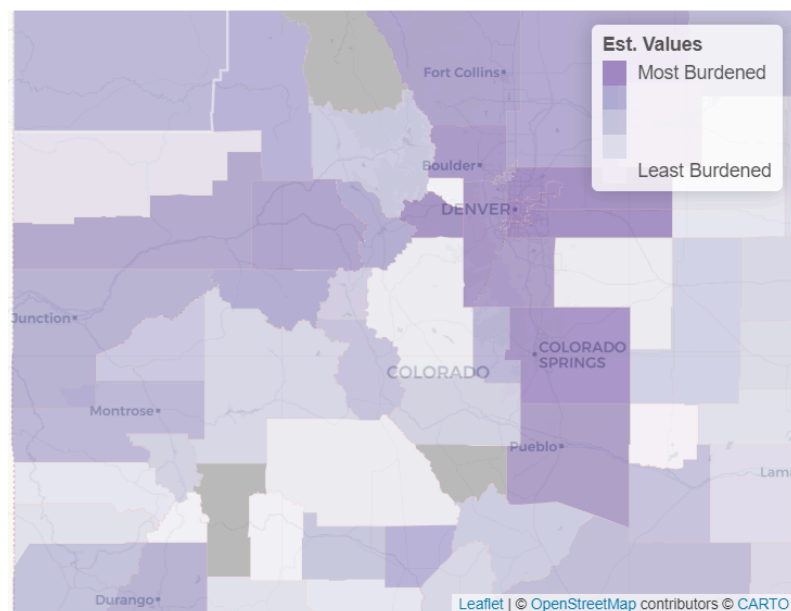
<sup>4</sup> Colorado EnviroScreen [https://teeo-cdphe.shinyapps.io/COEnviroScreen\\_English/](https://teeo-cdphe.shinyapps.io/COEnviroScreen_English/)

sites on the National Priority List, which identifies places like landfills, mines, and industrial sites that have released or could release hazardous substances into the environment. This includes Superfund sites, where federal funds are used for cleanup. This indicator shows how many National Priority List sites are nearby, weighted by how many people live nearby.

**Image 1. Traffic proximity & volume**



**Table 2: Proximity to National Priorities List sites**



Wyoming

The Wyoming Department of Environmental Quality [Non-Discrimination and Inclusion Policy and Special Focus Map](#) will be used to identify communities of particular concern for this program. [This map](#) focuses on areas of the state that have a population less than 10,000 with household income that is less than the statewide average income, a population of 3,300 or less, low income, unemployment greater than the state average, and a decrease in population from 2010 to 2020. WDEQ used Census Blocks that fall within the Census Bureau's Census Designated Places (CDP) and the Wyoming Department of Revenue's municipalities layers. The Census Bureau data are created from the 2020 Census. The map was published in 2023 and is planned to be updated in 2025.

## **b. Community Engagement**

### *Engagement to Date*

WISHH conducted robust community engagement and outreach, through a series of roundtables with a broad range of stakeholders, during development of the initial Hydrogen Hub application that preceded this coalition application. In addition, Colorado has engaged communities across the state through the development of its Greenhouse Gas Pollution Reduction Roadmap and the Priority Climate Action Plan.

### *Colorado*

Public engagement was a key part of the development of the Roadmap 2.0 which included feedback and socialization of enabling the hydrogen economy. These outreach events included the modeling of the emissions trajectory as well as:

- Providing accessible and fact-based information on the impact of climate change on Coloradans
- Educating the public on Colorado's statutory targets, and key programs and policies to reduce emissions and meet those targets
- Gathering input on the key concerns of Coloradans and their ideas for the most important actions the state can take to reduce emissions
- Getting feedback on the list of near-term actions that state agency staff shared

To ensure that a diverse set of stakeholders could participate in this process, and particularly that members of disproportionately impacted communities were included, public meetings were held across the state and virtually in early summer and late fall 2023. Meetings were held in:

- Craig | June 22, 2023 & December 6, 2023
- Durango | June 20, 2023 & December 4, 2023
- Grand Junction | June 21, 2023 & December 5, 2023
- Greeley | June 8, 2023 & December 11, 2023
- Montbello (Denver) | May 18, 2023 & December 13, 2023
- Pueblo | June 13, 2023 & November 28, 2023
- Trinidad | May 24, 2023 & November 29, 2023
- Virtually | June 27, 2023, August 7, 2023 & December 11, 2023

### *Wyoming*

#### Community Engagement Conducted:

- Hydrogen presentations to: Wyoming Economic Development Association on 2/16/22 and 9/29/22, Cheyenne Rotary Club, Wyoming legislature
- “Why Hydrogen?” Webinar by University of Wyoming, School of Energy Resources 6/2021
- The Wyoming Energy Authority published a “Hydrogen Roadmap”
- Formation of Center of Excellence Hydrogen Energy Resource Center in University of Wyoming, School of Energy Resources, focusing on all forms of clean hydrogen, as well as techno economics and policy

#### *Need for Continued Dialogue and Engagement*

Despite previous engagement, there remains significant skepticism, distrust, and confusion about the role of hydrogen in meeting decarbonization goals. Further engagement is needed to provide background on the overall decarbonization strategy of the Coalition states, the interaction between the clean energy transition and jobs, the safety and efficacy of hydrogen as a potential energy source, and the role that hydrogen can play in decarbonization.

#### *Planned Additional Engagement*

Colorado and Wyoming will allocate additional time and staff resources to continue meaningful engagement efforts with community members, including LIDACs, in the design and implementation of this program. These engagement efforts will work to:

- Provide easy to understand information about hydrogen, its production, use and safety
- Provide context for what role hydrogen is likely to play in decarbonization efforts in the region
- Provide information about plans for this program in particular
- Gather and incorporate input from LIDAC communities and other stakeholders into the program
- Lay the groundwork for additional project specific community engagement

Community engagement will include virtual and in-person meetings with community members. In work with communities, meetings will follow Coalition lead’s recommendations from the [Environmental Justice Taskforce Recommendation for Best Practices for Community Engagement](#) and in Wyoming will be compliant with WDEQ Non-Discrimination and Inclusion policy. Some of the engagement practices will include:

- Intentionally select locations and times for public meetings that allow for enhanced accessibility to community members.
- Provide differentiated methods for meetings, including in-person and virtual meeting options and extensive opportunities to provide feedback.
- Providing interpreter services as requested by meeting attendees, including interpretation and translation into Spanish and other languages as needed.
- Ensure meeting locations and materials are accessible to individuals with disabilities.
- Leverage multiple outreach methods to ensure a breadth of communities are informed about the opportunity for engagement.
- Structure public meeting formats to intentionally incorporate feedback from members of communities as valuable contributors to program design and further engagement efforts.



- Include a “plain language glossary” of hydrogen and decarbonization terms in meeting handouts to demystify hydrogen and increase accessibility/understanding.
- Work to build relationships with various organizations representing DI communities before public meetings and intentionally maintain and strengthen these relationships for the duration of the program.
- Provide financial incentives in Colorado for participation, ensuring community members in public meetings are fairly compensated for their time and efforts while also helping ensure attendees from LIDAC communities do not experience a net loss of income for their time participating.

Following the selection process, the Coalition states will work with selected grantees to engage specifically in the communities most directly surrounding or impacted by the projects. Potential activities include: annual updates in accessible formats to share progress; virtual and in-person meetings (likely also required for any major projects for permitting processes); other activities as needed to ensure meaningful engagement and participation.

In addition to these outreach efforts, the program itself is designed to maximize benefits to LIDAC communities through grant criteria that clearly prioritizes community benefits.

## 6. JOB QUALITY

Colorado Energy Office’s [Opportunities for Low-Carbon Hydrogen in Colorado: A Roadmap](#) job analysis estimates the creation of 6,000 to 12,000 jobs in 2030 for manufacturing, construction and installation, and operation and maintenance of renewable hydrogen supply.<sup>5</sup> Colorado is committed to job quality, labor diversity, maximizing its workforce potential, and efforts to invest in talent and support green jobs are key components of our workforce approach. Overall, Colorado aims to combat climate change effectively while creating high-quality jobs and fostering a diverse, skilled workforce, ensuring economic vitality and equity for all Coloradans. The state will boost current workforce pipelines and develop new ones for emerging climate technologies, while also ensuring economic development and benefits are prioritized to LIDACs. The State plans to train new workers, upskill existing ones, and recruit from diverse backgrounds. A Climate Workforce Development Plan is underway to identify crucial occupations, quantify the current climate workforce, and propose workforce initiatives to support climate action. The state aims to grow its skilled workforce through strategies like registered apprenticeship programs and partnerships, while leveraging existing State programs like [Opportunity Now Colorado](#) that support living wage jobs aligned with regional climate efforts. Colorado’s climate workforce strategies and commitments include:

- *Setting Clear Job Quality Standards:* The State is committed to upholding Davis Bacon and median wage standards that require employers to provide family-sustaining benefits and retirement contributions.

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<sup>5</sup>Opportunities for Low-Carbon Hydrogen in Colorado: A Roadmap, October 2022, p. 44.  
[https://drive.google.com/file/d/1wV2Xq1COF0BY77X\\_OSvkNSMKgPNmFcU/view](https://drive.google.com/file/d/1wV2Xq1COF0BY77X_OSvkNSMKgPNmFcU/view)

- *Supporting Unionization and Collective Bargaining:* The State is committed to exploring labor agreements and job quality standards associated with our contracting and procurement processes to ensure that workers have a free and fair choice to join a union and be represented by a collective bargaining agreement.
- *Partnerships and Community Engagement:* The State has a long history of workforce innovation and collaboration to support local communities in growing their workforces through programs such as earn-and-learn models, registered apprenticeship, upskilling strategies, and partnerships with labor organizations. We are also in the midst of implementing initiatives to hire individuals from LIDACS to support economic mobility.
- *Investing in Apprenticeship Programs:* The State is investing in apprenticeship expansion through establishing the State Apprenticeship Agency, and is committed to using Registered Apprenticeship labor to expand the pool of highly skilled workers, and state law supports labor hours on projects to qualified apprentices, second-chance hiring initiatives and commitments to providing wraparound support services for apprentices, such as child care, equipment assistance and transportation.
- [Career Advance Colorado](#) is a \$46M grow our own strategy for free community college credentials and apprenticeship in green jobs, including fire, forestry, and climate action jobs that are in-demand related to IJA and IRA federal investments. Colorado plans to grow 20,000 of our own skilled workers by the end of the decade through this program.
- The [Colorado-Wyoming Climate Resilience Engine](#) will leverage \$160M to transform the multi-state region into a leader in the development and commercialization of climate-resilient and sustainable technologies to help communities monitor, mitigate and adapt to climate impacts.
- [Opportunity Now Colorado](#) is an \$85M grant initiative that seeks innovative solutions to meet Colorado's workforce needs through regional collaboration between industry and education. The grants fund workforce models that match, place and advance Coloradans into living wage jobs, including climate jobs.

By implementing these strategies and commitments, Colorado can ensure that its GHG reduction measures not only combat climate change effectively, but also contribute to the creation of high-quality jobs, strong labor standards, and a diverse, highly skilled workforce across the state with strong evidence that Colorado is committing to growing our own workforce and have a strong track record of doing so to complete the requested project funding.

Wyoming is a right-to-work state that fully supports the principles of fair wages and good jobs. Wyoming prioritizes local hiring to ensure projects support the communities where they are located. In order to better streamline and coordinate post-secondary education and to provide for a diverse, highly skilled workforce, the [Wyoming Innovation Partnership](#) was created under Governor Gordon which coordinates job and worker training between the University of Wyoming, the community colleges and the Wyoming Department of Workforce Services. The post-secondary education institutions which have been targeting hydrogen education and training specifically are the University of Wyoming (UW), Laramie County Community College, and Western Wyoming Community College. The university also created the Hydrogen Energy Research Center in 2022 to support research, training, and education in the state. Additionally, in order to support workforce training, Wyoming has the [Workforce Development Training](#)

[Fund](#) which has grants for apprenticeships, internships, and business training. Currently the funding is roughly \$650,000 annually, but beginning in July 2025 the fund will be increased to \$2.5 million annually. Business Training Grants reimburse actual training costs and are up to \$2,000 per employee per year. Apprenticeship Grants pay for programmatic costs and are tailored for each apprenticeship program. The Internship Grants reimburse the employer up to 480 hours for up to \$18 per hour.

## **7. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE**

### **a. Past Performance**

**Project title:** DOI Orphaned Well Program Initial Grant

**Brief description:** Section 40601 of the BIL creates an orphaned wellsite plugging, remediation, and reclamation program within the Department of the Interior (DOI) to address orphaned wells and well sites on Federal lands. Subsection (d) creates a grant program for Tribes, and subsection (c) creates three types of grants for states: Initial grants (Section 40601(c)(3)); Formula grants (Section 40601(c)(4)), and; Performance grants (Section 40601(c)(5)). Colorado has so far administered the Initial Grant established in Section 40601(c)(3) to plug, remediate, and reclaim orphaned wells located on State-owned or privately-owned lands.

**Evidence of successful management/completion:** The Energy and Carbon Management Commission's (ECMC) Orphaned Well Program (OWP), within the Colorado Department of Natural Resources, is the implementing agency for DOI's Orphaned Well Program Initial Grant. The grant has been celebrated as a success by DOI, including through a visit by the Secretary of Interior to an orphaned well site in Colorado being reclaimed using grant funding. Additionally, this grant program required Colorado to submit to the Secretary of Interior a report that described the means by which the state utilized the funds 15 months after the date on which funds were received. The 15 month report identified the number of orphaned wells that had been plugged in the relevant time frame using federal funds (44), updated the state's inventory of orphaned wells, discussed methane emissions reductions as a result of grant activities, identified habitat restored using federal funds, and discussed successes and challenges of the program during the relevant time frame. This 15 month report is in addition to quarterly financial and performance reports required throughout the life of the grant. Through the collaborative efforts of program and administrative staff at the Department of Natural Resources, these quarterly financial and performance reports have consistently met the needs of DOI grant administrators.

**Project title:** OSMRE Abandoned Mine Land (AML) Reclamation Program

**Brief description:** The OSMRE Abandoned Mine Land (AML) Reclamation Program addresses the hazards and environmental degradation posed by legacy coal mines. Each year, OSMRE calculates the specific proportion of AML fee-based grant funding to be awarded to each state and tribe. Colorado has been a longtime partner to OSMRE in the administration of the AML Reclamation Program.

**Evidence of successful management/completion:** The Colorado Division of Reclamation Mining and Safety (DRMS) Inactive Mines Program (IMP), within the Colorado Department of Natural Resources, has a long track record of success managing AML funding. This long history of success has been rewarded with a large increase in the State's allocation of AML funds through the Bipartisan Infrastructure Law (BIL). Colorado's implementation of BIL funds has been celebrated as a success by DOI and OSMRE,

including through a visit by the Secretary of Interior to an abandoned coal mine in Colorado being reclaimed using grant funding. Additionally, Colorado's IMP was the recipient of the 2023 Western States Award for the West Sopris Coal Refuse AML Reclamation Project. The award, given each year by OSMRE, goes to projects that "go beyond reclamation requirements to achieve superior results in returning a site to productive use after completion of mining".

**Project Title:** U.S Fish and Wildlife Service Pittman-Robertson (PR) Wildlife Restoration Act and Dingell-Johnson (DJ) Sport Fish Restoration Act

**Brief Description:** Colorado Parks and Wildlife (CPW), within the Colorado Department of Natural Resources, is the implementing agency in Colorado, with PR-DJ funds representing the second largest source of revenue for the agency. Hunters and anglers contribute to this funding by paying federal excise taxes on hunting and fishing gear, boat fuel, archery equipment, and ammunition.

**Evidence of successful management/completion:** Since the program's inception, CPW has received over \$427 Million in PR Wildlife Restoration and Hunter Education Funds and almost \$295 Million in DJ Sport Fish Restoration Funds. Annually, Colorado Parks and Wildlife receives and manages approximately \$31 Million in grants that fund the management and conservation of Colorado's wildlife, fisheries, lands, and shooting recreational opportunities for current and future generations. Among many other examples, successful management of these federal funds has allowed Colorado to sustain the country's largest elk population, study emerging diseases to help wildlife populations thrive, and purchase Colorado Clays Shooting Park, which provides recreational shooting opportunities along the Front Range. For each grant award, CPW submits annual performance and financial reports, and final reports upon project completion.

#### **b. Reporting Requirements**

The Colorado Department of Natural Resources has significant and varied experience meeting the reporting requirements associated with federal grants. Examples of some of the federal reporting requirements met by the Department are included in the above section detailing past performance. Additionally, the Department would like to highlight the reporting requirements that it has managed through the US Treasury's State and Local Fiscal Recovery Fund (SLFRF). All recipients of SLFRF funds must complete financial, performance, and compliance reporting as required and outlined in Part 2 of [SLFRF Compliance and Reporting Guidance](#). The DNR also complies with the Federal Funding Accountability and Transparency Act of 2006 (FFATA) requirements by reporting monthly on all subrecipients receiving \$25,000 or greater in federal funding in accordance with [2 CFR Chapter 1, Part 170 Reporting Sub-Award and Executive Compensation](#). For SLFRF reporting, each month DNR is required to report financial expenditures as well as performance metrics by Expenditure Categories to the Colorado Office of the State Controller (OSC), and in turn, the OSC submits a report to the US Treasury. Throughout the life of the grant, the DNR has remained in compliance with all requirements. As necessary, the DNR can share additional examples of successful federal reporting.

#### **c. Staff Expertise**

DNR, WDEQ and other key state agencies have very experienced teams and personnel, and plan to further build out and engage with additional partners in implementing this coalition's proposed

program. The qualifications of key state of Colorado and Wyoming personnel involved in this program are noted below.

#### *Colorado Department of Natural Resources*

- Aaron Ray, Assistant Director for Energy Innovation, leads DNR's energy work, supports the transition from traditional to renewable energy sources across the Department, and represents the Department on the Energy and Carbon Management Commission.
- Nate Pearson, Recovery Office, leads all DNR issues related to stimulus and recovery funding impacting the Department and its stakeholders, including state and federal investments in water projects, forest health and wildfire mitigation, parks and recreation, and the reclamation of oil and gas sites and mined lands.
- Nancy Coppom, DNR Controller, leads DNR's accounting team and is a Controller Delegate with the State of Colorado. Since 1987, Nancy has been a CPA and owned her own CPA firm, been a Finance Director as well as a Controller. She manages the accounting for the DNR budget of over \$400 million annually.
- Ion Cotsapas, DNR Procurement Director, has served in the DNR Executive Director's Office for 3+ years and received a J.D. from the University of South Carolina Joseph F. Rice School of Law.

#### *Colorado Energy Office*

- Maria DiBiase Eisemann, Advanced Clean Energy Advisor, has served as office lead for the Western Interstate Hydrogen Hub application to DOE and the development of Colorado's Low Carbon Hydrogen Roadmap. Maria has been with CEO since 2016 representing the office in developing analysis, policy and planning on transportation electrification, clean fuels and advanced clean energy initiatives. Maria also spent 7 years in the U.S. EPA Headquarters Office of Air Quality, Planning and Standards and Office of Compliance working on air regulatory issues, rulemakings and voluntary compliance programs, primarily with stationary sources.
- Issamar Pichardo, Environmental Justice Specialist and Tribal Liaison, has served as office lead for community outreach and engagement encouraging best practices in disproportionately impacted communities and informing the development of numerous programs including grant programs. Issamar has 15+ years of community engagement experience in a variety of topics and is still considered a trusted community navigator for the communities she has worked with. She works to ensure environmental justice and equity are incorporated into the office daily work. Her goal is to make sure all people are represented as we transition into a future powered by clean energy.

#### *Wyoming Department of Environment Quality*

- Alan Edwards serves as the Deputy Director for the Agency. His duties as Deputy include providing day-to-day assistance to the Director and coordinating agency-wide activities. Alan has both bachelors and masters degrees in civil engineering. Alan's experience includes about 22 years of service with the State of Wyoming in a variety of capacities. Most of his tenure with the State has been with the Department of Environmental Quality. Most recently, he served as the

Abandoned Mine Land Administrator and then served in a dual role as Deputy Director and the Industrial Siting Division Administrator prior to assuming the singular role as Deputy Director.

#### *Wyoming Energy Authority*

- Anja Richmond serves as the Program Director and has been working in economic development in Wyoming since 2007, working for both small and large communities, and has secured grant funding for projects ranging from community enhancement to large business attraction. At the Wyoming Energy Authority she has been leading the hydrogen initiative. Additionally, she served as the Program Director for the Western Interstate Hydrogen Hub (WISHH), a four-state collaboration between Colorado, New Mexico, Utah and Wyoming, which was created to secure federal funding through the Department of Energy's Hydrogen Hub funding opportunity to develop a hydrogen economy in the region.

#### **8. BUDGET (OPTIONAL BUDGET SPREADSHEET AND UP TO 10 ADDITIONAL PAGES MAY BE ADDED IF NEEDED AS AN APPENDIX TO THE WORK PLAN)**

The Coalition will run an open, competitive grant procurement process to fund cost-effective clean hydrogen projects that reduce greenhouse gas emissions, provide co-benefits, particularly in disadvantaged communities, and create local jobs. The Colorado Department of Natural Resources (DNR), the lead agency, will run a competitive procurement process to select third party consultants to help with the technical aspects of the program, including verifying emission reductions. DNR will also hire term-limited staff to administer the program and ensure that it meets federal requirements and achieves the intended project outcomes. The Coalition partners will then collaborate to develop a competitive grant program that supports the most effective hydrogen projects in the Coalition states. This Budget Narrative outlines the planned use of CPRG funding to ensure efficient and effective administration of this program. Additional detail is included in the attached budget narrative and budget spreadsheet.

##### **a. Budget Detail**

Budget category totals for the full budget are tallied below. For a full breakout and narrative of the budget, please reference the attached budget narrative and budget spreadsheet.

- i. Personnel: \$2,580,941
- ii. Fringe Benefits: \$998,574
- iii. Travel: \$24,600
- iv. Equipment: \$0
- v. Supplies: \$63,750
- vi. Contractual: \$3,297,430
- vii. Other: \$400,000,000
- viii. Indirect Charges: \$103,238

##### **b. Expenditure of Awarded Funds**

We acknowledge that this application touches on similar elements as several states' individual applications for funding. While we have taken steps to coordinate and ensure that they are not

duplicative, it is possible an individual applicant or application could find itself eligible for more than one grant offering. Through this program, no individual project can be funded by more than one federal funding source. This restriction will be made clear in program guidelines.

DNR, as part of the state of Colorado infrastructure, has detailed procedures in place to distribute and deploy funds. A major aspect of this infrastructure is built and maintained in the state of Colorado's Office of the State Controller (OSC). Colorado Revised Statutes created the OSC. Part 2, Title 24, Article 30, C.R.S., lists the powers and duties of the State Controller and is incorporated as a reference into each of these Fiscal Rules. Section 24-30-202(13), C.R.S. provides the authority of the State Controller to issue binding Fiscal Rules and is specifically incorporated into each of these State Fiscal Rules as statutory authority. The purpose of the Fiscal Rules is to implement statutory provisions, set forth principles concerning internal controls, accounting policies, and financial reporting for the state of Colorado, and assist the State Controller in managing the finances and financial affairs of the state. This includes controller policies and procedures for general operations such as running a competitive bid process for subrecipients, travel guidance, and contract policies. DNR already has experience in operating federal funds under these guidelines and with that experience comes efficiency.

As an existing state agency, DNR has robust internal controls in place that align with §200.303. In February 2016 the Office of State Controller issued a policy entitled "Internal Control System." The policy makes it mandatory that State agencies adopt and follow the U.S. Government Accountability Office's (USGAO) Standards for Internal Control in the Federal Government (commonly referred to as the Green Book). As part of this, there is segregation of duties in the submission and approval process as well as procurement and accounting. The current structure is set up so that each expense is reviewed by multiple staff for compliance in alignment with federal statutes, regulations, and terms of the award. DNR utilizes the CGI CORE finance and accounting software system (Colorado Operations Resource Engine) for approval of purchases and accounting for its financial activity. If a staff member wants to make a purchase, an encumbrance document is submitted through contracting in CORE and reviewed for approval. After approval, and upon receipt of a valid invoice for the purchase, the purchase is processed with full backup stored in the CORE system by the accounting team. An invoice receives two unique levels of approval before being processed. When processing requests for reimbursement from federal agencies, the operations team reviews a summary of expenses, to ensure compliance and accurate chart of account elements. If an instance of noncompliance is identified, the issue is resolved promptly. DNR expects a similar level of internal controls from subrecipients. DNR requires a risk assessment form be completed during the contracting phase of the award. The risk assessment is a framework that was developed by the Colorado Office of the State Controller to assess risk based on a number of factors including: previous experience with similar subawards, previous audit findings/provide a copy of the latest audit, reporting of new personnel or systems in place at the agency and details of their accounting system to ensure they can maintain segregated accounts to manage the funds. This is documented in the OSC Guide for Monitoring Subrecipients. These procedures are consistent with §200.332(b). After award, in alignment with §200.332(d) DNR

conducts monitoring based on assessed risk level, high risk grantees receive more comprehensive frequent monitoring and lower risk level grantees receive sampling style monitoring. This process ensures that all subrecipient spending is evaluated for compliance with the terms and conditions of the award. For both DNR and any subrecipient, waste, fraud, and abuse will not be tolerated and will be identified. DNR mitigates the risk of fraud, waste, and abuse by ensuring all expenditures are allowable via federal and state statute and rules, regulations and guidance, and with all of the reconciliations and approval processes as described above. DNR accounting also has an internal auditor to monitor the accounting throughout the year, and is audited by the State annually.

**c. Reasonableness of Costs**

The proposed costs are estimated based on existing programs within the Colorado Department of Natural Resources and Colorado Energy Office and recent experience with similar projects. For a detailed explanation of the reasonableness, please refer to the attached budget narrative.

**Personnel:** Costs for personnel are based on actual salaries of existing employees where relevant, and otherwise are based on established employee salaries for similar positions. The annual three percent cost of living increase is typical for state employees in Colorado.

**Travel:** Travel costs are based on average conference costs incurred, experience with conducting regional outreach and engagement trips.

**Supplies:** Costs for supplies are based on average cost of supplies per each new employee. All supplies are non-capitalized IT, such as: docking stations, monitors, laptops, keyboards, cell phones, software licenses, and other software costs for the program such as grant management software. All budgeted supplies will only be used for this program.

**Contractual:** When establishing budget estimates for the program, Colorado DNR expanded upon task budget amounts and descriptions from existing grant programs and RFP processes, taking into account technical needs for innovative work in the hydrogen economy and the additional EPA funding reporting requirements required of each state and subrecipient.