



PROGRAM GUIDE: Advancing Hydrogen Competition 1

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Program Overview

BACKGROUND

The Hydrogen Centre of Excellence (HCOE), funded by a \$50M contribution from the Government of Alberta and operated by Alberta Innovates, is running its first competition for hydrogen proposals. The Advancing Hydrogen – Competition 1 (“Competition 1”) is directed towards developing projects that support the objectives of the Alberta Natural Gas Strategy, the Alberta Hydrogen Roadmap, and the HCOE targets:

- develop and deploy hydrogen-focused technologies,
- strengthen Alberta’s environmental, social and corporate governance credentials and spur economic growth,
- build a sustainable and self-sufficient clean hydrogen economy in Alberta, and
- increase Alberta’s technology strength in clean hydrogen technology deployment.

Program Details

Twenty million dollars (\$20M) are available over 24 months to support projects. The HCOE’s role as a funding partner will reduce innovation risk for proponents, offset internal funding competition within organizations, enable collaboration beyond individual organizations, and facilitate access to highly qualified personnel (HQP) while developing additional skills and knowledge in the hydrogen innovation ecosystem.

The proposed projects should have a clear and direct pathway to creating tangible impacts in Alberta. While the full market potential may not be reached as an outcome of the project, technologies with high near-term market potential are of great interest. Applicants may focus on one or more technology or opportunities. Development of technologies should be able to either show direct measurable benefits or to reasonably quantify enabled/indirect benefits in at least one of the following areas:

- Hydrogen production
- Transmission/distribution/transportation/dispensing
- Storage (mobile, surface and subsurface)
- End use (residential, commercial and industrial)
- Carbon capture, use and sequestration where it enables hydrogen production and use
- Codes and standards development support
- Cost reduction
- Increasing competitiveness
- Development of HQP
- GHG emission reductions
- Water, land environmental impacts; clean air, water, and soil
- Company creation and new product development
- Economic diversification
- Capacity building
- Partnership building

Figure 1 shows the ecosystem, technology and service components that are included in this challenge call.

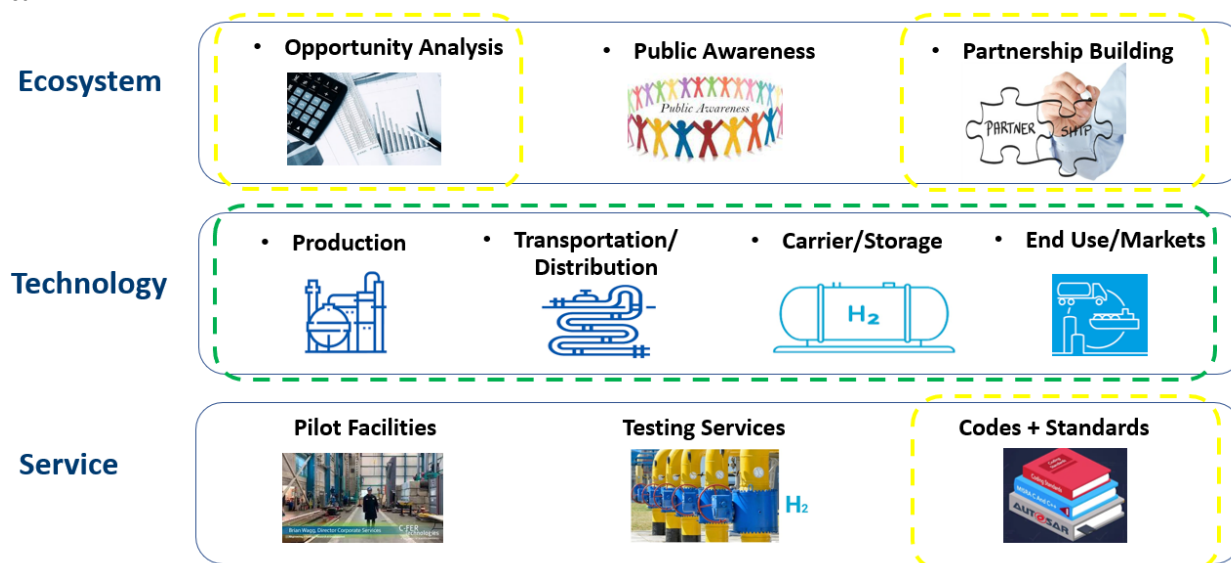


Figure 1: HCOE Advancing Hydrogen – Competition 1 Scope

Preference will be given to technologies and solutions that are currently at a [Technology Readiness Level](#) (TRL) between 3-6. This Competition will also accept later stage FEED study proposals that align with the Competition mandate. Collectively these projects are outlined in green in Figure 1, and are the focus of the \$20M Competition 1. Proposals that address opportunity analysis, partnership building, and codes/standards development (yellow outlines in Figure 1) do not directly relate to TRL ratings but will be directed towards a separate funding opportunity within the HCOE that will be available in parallel with the Advancing Hydrogen – Competition 1 call for proposals. Timelines and funding allocations for this “Service Capacity” tranche of funding will be provided in the Summer of 2022. Note that public awareness, pilot facilities and testing services are excluded from this call as they are being addressed by other activities within the HCOE.

Emissions Reduction Alberta (ERA) is Alberta’s leading funding organization for technology demonstration and first-of-a-kind implementation projects at TRL 6-9 and is a key partner in the HCOE. ERA anticipates launching funding calls later in 2022 that are open to hydrogen-related technologies at latter TRL stages. Furthermore, Alberta Innovates and ERA are exploring the possibility of a jointly launched hydrogen initiative in 2024 that would target a broader range of TRL stages for Competition 2.

HOW THE PROGRAM WORKS

Eligibility

(a) Applicant Eligibility Criteria

Competition 1 is open to technology developers, industry, industrial associations, small and medium-sized enterprises, research and development (R&D) organizations, post-secondary institutions, municipalities, not-for-profit organizations, and government research labs, providing they are legally able to execute the Investment Agreement, a draft of which is provided on the HCOE Competition 1 web page. Note that the final version of this Investment Agreement may differ slightly from the

posted draft. Applicants are not required to be based in Alberta but must demonstrate a clear value proposition for the province.

All corporate Applicants must:

- have a physical presence in Alberta, or intend to create a physical presence in Alberta;
- be a legal entity:
 - incorporated in Alberta; or
 - incorporated federally or in another jurisdiction AND extra-provincially registered in Alberta; or
 - a General Partnership, Limited Partnership or Limited Liability Partnership AND registered in Alberta.

All applicants must be in good financial standing with Alberta Innovates and its subsidiaries InnoTech Alberta and C-FER Technologies.

Proposed projects that demonstrate HQP capacity building in Alberta will receive additional consideration for funding.

Collaboration with other project partners is highly encouraged and projects that demonstrate end user engagement and formal partnerships will receive additional consideration for funding.

(b) Project Partner Eligibility Criteria

The project partner(s) is(are) required to satisfy the following criteria:

- demonstrate the relationship between the applicant and the project partner(s) does not create a conflict of interest;
- be in good financial standing with Alberta Innovates and its subsidiaries InnoTech Alberta and C-FER Technologies;
- an industry or other end-user project partner is recommended but not required for post-secondary institution applicants; and
- federal funding agencies (e.g. NSERC, NRCan, etc.) are considered eligible project partners.

(c) Project Eligibility Criteria

To qualify for funding all projects must:

- be structured with critical “go/no go” milestones;
- be completed within the 24-month term; and

- submit to other criteria that Alberta Innovates may develop from time to time.

Over the life of a project, Alberta Innovates employs an active project management philosophy, regularly monitoring performance and supporting the Applicant to reach their objectives. Funding is tied to outcomes and achievement of results. For this reason, Alberta Innovates funds on a milestone completion basis. This means the Applicant are expected to submit a Progress Report before Alberta Innovates advances the next tranche of funds.

Once projects are completed, Alberta Innovates continues to monitor performance to accurately evaluate the economic, social, and environmental benefits realized for the province.

All Investment Agreements outline performance indicators tracked over the course of the Project and the responsibilities of the Applicant to report on outcomes subsequent to the completion of the project. Alberta Innovates has a common set of performance metrics it monitors, both at the individual project level and for the aggregate program. These are highlighted on the next page.

(d) Project Evaluation Review Criteria

Proposed projects will be evaluated against criteria in three major categories: Innovation, Project Management, and Impacts and Outcomes. The considerations for each criterion are detailed in the online SmartSimple Application form.

The Innovation	Project Management	Impacts and Outcomes
Innovation Opportunity	Work Plan, Tasks, and Deliverables	Economic Impacts to Alberta
Market Opportunity and Competitive Analysis	Budget and Funding Commitment	Environmental Impacts
Proposed Commercialization Pathway	Project Team	Social Impacts
	Risk Analysis and Mitigation	

Program Objectives and Performance Measurement



PROGRAM PERFORMANCE INDICATORS

- Increase the number of hydrogen-focused technologies developed and deployed
- Demonstration of ESG and economic growth from hydrogen technologies
- Sustainable and self-sufficient hydrogen economy in Alberta
- Increased technical strength in hydrogen technology deployment
- A more informed public with increased confidence in the hydrogen economy
- Demonstrate GHG emission reductions
- Increase employment, resource revenues, economic diversification, and improved export potential
- Attract investment capital
- Increase industry sales revenue
- Increase Alberta's global market share

SHORT TERM



PROGRAM SHORT TERM OUTCOMES

- Cost reduction
- Increasing competitiveness
- Development of HQP
- GHG emissions reductions
- Water, land environmental impacts
- Health improvements
- Company creation
- New Product development



ALBERTA OBJECTIVES

- Economic Diversification
- Reduce GHG Emissions
- Improve Oil Sands Efficiency
- Grow Alberta's Green Economy
- Sustainable Water and Land Management
- Renewable Energy
- Digital Economy

LONG TERM



APPLICANT OBJECTIVES

- Technology development & scale-up
- Reduce innovation risk
- Offset internal funding competition
- Enable collaboration beyond individual organizations
- Facilitate access to Highly Qualified Personnel (HQP)
- Attracting partner funding for technology development and demonstration

How Funding Works

(a) Project Funding

A successful applicant can receive between \$200,000 and \$2,000,000 in Canadian dollars.

The program normally supports up to 50% of the total project costs, with remaining funding from the applicant and/or other project partners (including cash and in-kind support). For projects involving post-secondary institution researchers, leverage from federal funding organizations (NSERC, etc.) is highly desirable. Projects with authentic Indigenous partnership(s) are eligible for up to 75% of total project costs and will be considered for post-secondary institute-led projects. There is no stacking limit with other sources of public funding, though reviewers will consider the applicant contribution accordingly.

Funding will be dispersed to successful applicants at the end of each project milestone, based on milestone proof, up to a 24-month term. **All projects must be completed before March 31, 2025.** Those that have completed earlier than this timeframe may be eligible for subsequent later-stage calls that will be developed within the HCOE, tentatively planned for 2024.

Alberta Innovates encourages co-funding of projects with other funding agencies and does not limit the amount of stacking towards the applicant's contribution.

(b) Eligible and ineligible expenses

Alberta Innovates only funds reasonable costs incurred after the execution of a signed Investment Agreement between Alberta Innovates and the applicant. Any costs incurred prior to the signing of the Investment Agreement, or costs greater than market prices, are deemed ineligible. Please refer to our standard Investment Agreement found on our website for further information and an in-depth description of eligible and ineligible costs. The chart on the next page provides a summary of eligible and ineligible expenses.

Summary of Eligible and Ineligible Expenses

Category	Eligible Expenses	Ineligible Expenses
Labour	<ul style="list-style-type: none"> ✓ Labour costs for those individuals specifically identified as working on the Project 	<ul style="list-style-type: none"> ✗ Overhead costs ✗ Professional training & development ✗ Professional fees unless directly related to the Project
Materials	<ul style="list-style-type: none"> ✓ Reasonable material costs which can be specifically identified for use in the Project 	
Capital Assets & Software	<ul style="list-style-type: none"> ✓ Capital improvements ✓ Capital equipment ✓ Software or information databases <p><i>Note: Eligible costs will be pro-rated to the Project time frame based on the asset's expected economic life</i></p>	<ul style="list-style-type: none"> ✗ Acquisitions of land or buildings ✗ The undepreciated value of eligible capital costs which extends beyond the Project term
Travel	<ul style="list-style-type: none"> ✓ Travel, including mileage, low economy airfare, and accommodation for the purposes of executing the Project 	<ul style="list-style-type: none"> ✗ Passport or immigration fees ✗ Costs relating to meals, entertainment, hospitality and gifts ✗ Reimbursement for airfare purchased with personal frequent flyer programs ✗ Commuting costs between place of residence and place of employment
Sub-contractors	<ul style="list-style-type: none"> ✓ Services or products of another entity 	<ul style="list-style-type: none"> ✗ Costs associated with applying for government grants and Programs ✗ Provisions for contingencies, technical or professional journals ✗ Routine testing and maintenance
Other	<ul style="list-style-type: none"> ✓ Costs which Alberta Innovates pre-approves in writing as an eligible expense 	<ul style="list-style-type: none"> ✗ Collection charges, allowance for interest on debt, fines and penalties ✗ Federal and provincial income taxes, goods and services taxes ✗ Expenses for Projects or activities outside the approved Project

HOW TO APPLY



STEP 1 Engagement and Intake

This is a two-stage application process. Applications will be submitted electronically. The link can be found on the Alberta Innovates website along with the competition timelines.

Step 1: Register on the Alberta Innovates Application Portal through the competition webpage.

Step 2: Attend the Competition 1 Webinar to hear about details of the funding call and tips on how to complete the applications.

Step 3: Access, complete and submit the Clean Resources Intake form.

Step 3: Intake review and notification of outcomes.



STEP 2 Detailed Proposal Intake

This phase is by invitation only for successful applicants from the intake stage. The evaluation process is highly competitive and only the highest-quality projects will be considered.

Merit is determined against the evaluation criteria detailed on page 6 of this guide.

Funding requests are split into the following two application types - Low Dollar (projects equalling \$200k contribution) and High Dollar (projects requesting over \$200k up to \$2M)

The proposals will be a rigorous, in-depth documentation of the proposed scope of work and its merits. This will be reviewed and decisions made as to who will be approved for funding, and any conditions to be applied.



STEP 3 Project Management

Successful Applicants will execute an Investment Agreement with Alberta Innovates to proceed with the activities of the Project.

Alberta Innovates' HCOE will provide on-going grant management, receiving and evaluating Applicants' reporting of milestones and payments on each milestone based on achievement of the objectives.

Alberta Innovates continues to require information from the Applicant for five years following the completion of the project in order to measure long-term benefits.

EVALUATION PROCESS

Alberta Innovates and the HCOE leverage internal staff and external expert reviewers to evaluate Applications submitted. Alberta Innovates and the HCOE retains the sole right to determine the evaluation process and does not disclose the names of its external reviewers to ensure their objectivity and impartiality. All external parties are subject to confidentiality, non-disclosure, and conflict of interest policies set by Alberta Innovates.

The schedule for completion of the evaluation process is:

July 20: Program launch

September 6, 5:00 PM MST: Deadline for Intake proposal submission

October 4: Intake Decision Notifications

November 18, 5:00 PM MST: Deadline for Full Proposal submission

January 13, 2023: Funding Notification

February 15, 2023: Agreements signed and projects initiated

These dates are subject to change depending on the volume of proposals received.

The assessment criteria and all investment decisions are at the sole discretion of Alberta Innovates' HCOE.

TERMS AND CONDITIONS

This Program Guide is intended as a high-level overview of the Competition 1 scope. It provides interested parties with a roadmap of what to expect over the lifecycle of a Project, from the application stage, during the project and post-completion. Should you have any questions about this guide or what is expected, please contact Alberta Innovates. Please be aware Alberta Innovates may modify this guide from time to time in keeping with any changes to the program.

Alberta Innovates will only correspond in writing and provide copies of the Application to the person named in the application form as the one authorized to speak for the Applicant.

Once we have evaluated and approved an application for funding, Alberta Innovates will require the Applicant to sign our standard form Investment Agreement. A draft copy of the Investment Agreement is available on the HCOE web page. Note that the final Investment Agreement may differ slightly from the posted draft copy.

The Investment Agreement sets out the roles, responsibilities, and obligations of the various Parties to ensure a successful project. Alberta Innovates will not provide any funding until the Investment Agreement has been signed by all Parties.

Alberta Innovates will only fund Applicants who have met all eligibility criteria. Meeting the eligibility criteria does not guarantee access to funding, and all funding decisions will be made by Alberta Innovates at its sole discretion.

Equity, Diversity and Inclusion

The Alberta research and innovation (R&I) ecosystem is stronger and more sustainable when it is broadly reflective of the overall diversity of our community. Alberta Innovates strives to ensure all interested and qualified parties have an equitable opportunity to participate and contribute. Historically, there have been a number of groups/populations that have been under-represented in the Alberta R&I landscape including:

- Female entrepreneurs/researchers;
- Indigenous entrepreneurs/researchers;
- Remote/small community entrepreneurs/researchers; and
- New immigrant entrepreneurs/researchers.

We are guided by the principles of:

- **Equity** – our processes support equal access across all demographics;
- **Diversity** – both internal and external participants to our processes are comprised of a varied composition of demographics; and
- **Inclusivity** – our processes proactively work to include underrepresented segments of the R&I landscape.

As part of its commitment to Equity, Diversity and Inclusion (EDI), Alberta Innovates will:

- Collect data in the grant application on a voluntary basis to better understand diversity;
- Provide grant application navigation support to applicants from under-represented groups; and
- Integrate an EDI focus into its due diligence processes including striving to have diverse review committees to foster unbiased decision making.

CONTACT INFORMATION

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