
PROGRAM GUIDE

CLEAN ENERGY DIVISION:

CONTINUOUS INTAKE PROGRAMS

ALBERTA INNOVATES OVERVIEW

Alberta Innovates is a catalyst for innovation. As a Government of Alberta corporation and consistent with Government priorities, Alberta Innovates supports research and innovation that leads to economic growth & diversification, enhanced environmental performance, and social well-being.

Alberta Innovates has four core business lines in Clean Energy, Health Innovation, the Bio Sector and Investments, as well as two wholly-owned research subsidiaries: InnoTech Alberta and C-FER Technologies.



Specifically, Alberta Innovates is pursuing a strategic direction that focuses on four emerging technologies that support multiple sectors across the province. A key innovation strategy is to embrace the digital future while leveraging Alberta's existing natural resources and human capacity, while continuing to enhance Alberta's knowledge workforce to ensure sustainable growth in an increasingly digital based economy.



- 1) **Data-Enabled Innovation** – Transforming data into actionable information enables digital transformation.
- 2) **Digital Technology for Business Transformation** – Leveraging technology to sense and measure information across an enterprise is changing the way we live and conduct business.
- 3) **Clean Technology** – Developing novel and innovative pathways to meet our energy needs in a carbon-constrained future.
- 4) **Innovative Production and Distribution** – Innovating new products and accessing new markets is critical to competitiveness and continued prosperity in a globalized economy.

CLEAN ENERGY OVERVIEW

Clean Energy helps technology developers and industry clients accelerate technology development and deployment, grow their businesses, and enhance the competitiveness of the resource sector. We provide scientific and technical insights to the Government of Alberta (GOA) on resource development, energy diversification, emission reduction, and water/land policies.

Clean Energy has three technology portfolios:

- **Advanced Hydrocarbons** supports economic, environmental, and diversification opportunities in Alberta's oil & gas sector. The Advanced Hydrocarbons portfolio consists of two programs: **Cleaner Hydrocarbon Production** and **Innovative Hydrocarbon Products**.
- **Clean Technology** supports diversification of Alberta's economy through the development of clean technology. The Clean Technology portfolio consists of three programs: **Renewable and Alternative Energy**, **Bioenergy**, and **Carbon Capture and Utilization**.
- **Environmental Innovation** supports economic development, environmental performance and healthy communities through investments in knowledge and technology gaps in two major programs: **Water Innovation Program (WIP)** and **Land and Biodiversity**.

Together, our efforts are directed to sustain and grow Alberta's \$100B oil & gas industry and add value to enhanced and new energy products, and to develop a clean technology industry, reduce greenhouse gas emissions, and to protect Alberta's water and land resources.

The Clean Energy funding programs are focused on providing support to the identified program focus areas in each portfolio shown below. Links for each program area have been provided where additional information can be found.

Advanced Hydrocarbons	Clean Technology	Environmental Innovation
<p><u>Cleaner Hydrocarbon Production</u></p> <ul style="list-style-type: none"> Recovery Technologies Methane Emission Reductions Digital Oilfield <p><u>Innovative Hydrocarbon Products</u></p> <ul style="list-style-type: none"> Partial Upgrading Bitumen Beyond Combustion (BBC) Natural Gas Value Add 	<p><u>Renewable and Alternative Energy</u></p> <ul style="list-style-type: none"> Low Carbon Electricity Grid Modernization Low Emitting Alternative Generation <p><u>Bioenergy</u></p> <ul style="list-style-type: none"> Diversion of Residues and Waste Renewable Fuels <p><u>Carbon Capture and Utilization</u></p> <ul style="list-style-type: none"> Carbon Capture Carbon Utilization Hydrogen 	<p><u>Land and Biodiversity</u></p> <ul style="list-style-type: none"> Biodiversity Environmental Monitoring Oil Sands Tailings Climate Change Adaptation Abandoned Well Remediation and Reclamation <p><u>Water Innovation</u></p> <ul style="list-style-type: none"> Water Supply and Watershed Management Healthy Aquatic Ecosystems Water Technologies Water Quality Protection

2030 INNOVATION TARGETS

In addition to specific focus areas, the Clean Energy business line supports projects that can help contribute to progress towards Alberta’s 2030 targets as identified in the [Alberta Research and Innovation Framework](#).

The 2030 Innovation Targets are intended to inspire transformational solutions in the following areas of importance for Clean Energy programs:

- emerging technologies
- energy and GHG mitigation
- environment and climate adaptation

Projects that are aligned with the program focus areas and contribute to 2030 Innovation Targets are prioritized for funding and support from Clean Energy.

The specific 2030 Innovation Targets of interest to the Clean Energy division are described in the following table:

Focus Area	2030 Innovation Target
Reduce GHG Emissions	Support Alberta’s climate change goals by accelerating solutions to reduce methane emissions by 45% by 2025 and ensure a dynamic portfolio of GHG emission reduction technologies
Increase Value and Market Access	Support the successful commercialization of new value-added products to increase the market value of Alberta's oil and gas exports by 25% and expanding access to market
Improve Oil Sands Efficiency	Oil sands production efficiency and economics improve by decreasing fresh water use by 50%, GHG emissions by 50% on a per barrel basis, and supply cost of bitumen to be globally competitive

Focus Area	2030 Innovation Target
Renewable Energy	Renewable sources, like wind and solar, will contribute up to 30% of Alberta’s electricity generation
Reduce Waste	50% reduction in organic waste to landfill through innovative technologies which produce value-added products.
Bioindustrial Investment	Industry operating in the value-added bioindustrial sector will attract an additional \$3 billion private sector investment in Alberta.
Sustainable Water Management	Safe, secure, and reliable water resources, while enhancing the health of the aquatic ecosystems and improving overall water use efficiency by 30% (2010 base)
Restoring Alberta’s Landscapes	Reduce landscape disturbance intensity by 20% and accelerate reclamation of disturbed lands to promote native habitat and species recovery
Conserving Biodiversity	Biodiversity is maintained or enhanced at levels relative to reference conditions
Grow Alberta’s Green Economy	Support the Cleantech sector to increase industry sales revenue by 25%, thereby increasing Alberta’s global market share by 20%
Advanced Manufacturing and Materials	The value of Alberta’s manufacturing sector will increase from \$18.8 billion to \$40 billion through the development of advanced materials, instrumentation and repurposing jobs (2014 basis)
Digital Economy	The ICT industry in Alberta generates more than \$20 billion in annual revenues and the province is the best in Canada for digital literacy and connectivity

HOW TO APPLY FOR FUNDING

All Clean Energy programs are available for continuous intake, which means that applications can be submitted at any time. Programs may develop Calls for Proposals for specific focus areas which would operate outside of the continuous intake process and have individual program guides.

The continuous intake application and evaluation process is delivered in three phases. Project proposals will be reviewed on their merit and the potential for impacts aligned with program focus areas and contribution towards 2030 Innovation Targets.

To start the application process, contact a Clean Energy Project Advisor to assess that the proposal falls within a Clean Energy program focus area and is aligned with the 2030 Innovation Targets. The Clean Energy Project Advisor can provide guidance on completing an Expression of Interest in the continuous intake process and/or connect applicants with additional funding programs that may be available.

At each stage of the application process and throughout the life of the grant for successful applications, Clean Energy Project Advisors employ an active project management philosophy. A Clean Energy Project Advisor will be assigned to each applicant submitting an Expression of Interest. The Advisor will be each applicant’s primary point of contact with Clean Energy over the course of the application process and is

available to answer questions during preparation of their submission. Applicants are encouraged to contact their Project Advisor as needed for assistance and response to enquiries.

SUBMISSION STANDARDS

A Clean Energy Project Advisor will supply response templates for all stages of the application and project management phases. Applicants **must** use the response templates. The Expression of Interest (EOI) application can not exceed fifteen (15) letter-sized pages, including all text, graphics and tables. The Full Proposal (FP) application can not exceed forty (40) letter-sized pages, including all text, graphics and tables. The documents must use Calibri 11-point font with a minimum of 1.0 line spacing. Margins must be no smaller than 2.54 cm (1'). All documents must be written entirely in English.

All response templates must be submitted to the Clean Energy Project Advisor in an editable format (MS Word or MS Excel) for review. Once the Clean Energy Project Advisor has confirmed the quality of the application submission, the applicant will be instructed to complete the signature page and submit the response form and signature page in PDF format.

When preparing the Non-Confidential Project Summary section of the applications, please compose it using a third-person narrative format.

Note: Attachments to the application, such as *Workplan, Budget and Metrics template, Gantt Chart, resumes, etc.*, do not count toward the forty (40) page limit of the Full Proposal.



PHASE 1 Expression of Interest

The first step in the application process is to submit an Expression of Interest (EOI). The EOI submission can follow one of two pathways.

1) EOI - Funding requests for Projects \$200K or UNDER.

This phase may take ~3 months.

Funding decision for these applications may be made based solely on the EOI submission.

2) EOI - Funding requests for Projects OVER \$200K.

This phase may take ~2 months.

Successful applicants with funding ask greater than \$200K will be invited to submit a Full Proposal (Phase 2) for evaluation.

The EOI form is available from a Clean Energy Project Advisor. The Project Advisor will have an initial discussion with applicants to ensure the project falls within the Clean Energy focus areas and is aligned with the 2030 Innovation Targets.

Clean Energy Project Advisor contact information can be found on our [website](#) under the each portfolio and program.



PHASE 2 Full Proposal

The review process at this phase is highly competitive and only the highest-quality projects will be considered for funding.

The application will be reviewed by a team with subject-matter and business expertise and may include external reviewers.

If the review is positive, a funding recommendation may be made to the Vice President of Clean Energy, the Alberta Innovates Senior Management Team or the Alberta Innovates Board of Directors. The recommendation may include adjustments to the funding from Alberta Innovates and/or conditions that must be met to obtain funding.

This Phase may take 3 – 4 months.



PHASE 3 Project Management

Successful applicants will execute an agreement with Alberta Innovates to proceed with the activities of the Project.

Agreement expectations will include:

- participation in project management activities;
- reporting on progress to milestones and budget on an agreed to timeline during the term of the Agreement; and
- reporting on progress to outcomes on an agreed to timeline during the term of the Agreement and annually for five years after that term.

Project payments are based on milestone achievement and progress reporting.

This Phase timeline is project dependent.

APPLICATION REVIEW PROCESS

During the distinct phases of the EOI and Full Proposal review process, Alberta Innovates leverages internal staff and external expert reviewers to evaluate applications submitted. Alberta Innovates 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. For a more detailed account of the evaluation criteria for the Clean Energy continuous intake programs, see Appendix A.

All decisions made by Alberta Innovates are final, non-appealable and binding on the Applicant. Any failure to inform the Applicant of the determination regarding an application, within the timelines provided above will not result in any obligation or liability of Alberta Innovates to the Applicant. Alberta Innovates may also, in its sole and absolute discretion, provide feedback to the Applicant.

Timeline for Typical Application and Review Process

The time to develop, submit and have an application reviewed by Clean Energy Project Advisors varies from project to project. This can depend on the level of support requested from Clean Energy programs due to the varying levels of approval required.

A Clean Energy Project Advisor will work with you to ensure that applications submitted are ready for review at the appropriate level and indicate key timelines to be aware of during the application process.

ELIGIBILITY CRITERIA & FUNDING

Applicant Eligibility Criteria

Clean Energy programs are open to all categories of lead applicant, including technology developers, industry, industrial associations, small and medium-sized enterprises, research and development (R&D) organizations, post-secondary institutions, municipalities, not-for-profit organizations, government research labs, and individuals. Applicants are not required to be based in Alberta but must demonstrate a clear value proposition for the province.

Partners and/or End-Users

Applicants are not required to have a project partner; however, technology development projects must have clearly demonstrated that a market exists for commercialization or implementation of the technology or knowledge solution. End-users must be identified and are preferably engaged with the project. Letters of support and/or confirmation of contributions from interested end-users are strongly encouraged to accompany the application.

Applicants with strong end-user partnerships and/or funding from other organizations are preferred. All applicants are required to provide a portion of funding to the project, either from their own funds or from partners. Collaboration between multiple organizations is encouraged in Clean Energy programs to enhance and leverage the value proposition by demonstrating opportunities for technology validation, commercialization, and sharing of results.

Applicants are encouraged to engage and include Alberta’s post-secondary and research institutions in the project consortium where appropriate. It is desirable for projects to attract and train highly qualified personnel who can increase Alberta’s innovation capacity in the Clean Energy program focus areas. When the applicant is not based in the province it is especially encouraged to have Alberta-based partners.

Project Eligibility Criteria

Clean Energy projects can be either for technology development and advancement or knowledge generation. All projects must be aligned with Government of Alberta’s and Alberta Innovates’ strategic priorities and 2030 Innovation Targets.

Funding made available through this process is provided for completion of projects with well-defined objectives, milestones, deliverables, and timelines. Applicants must clearly delineate the scope of the project for which the Clean Energy program funding is being requested and the economic, environmental, greenhouse gas emissions reduction, and innovation potential associated with that scope of work. Any related work outside the scope of the project (e.g. before the project term or in parallel with the project) may be discussed in the proposal but should be clearly indicated as such.

There are no restrictions on the number of applications that can be submitted by any applicant. However, applicants are encouraged to be selective and bring forward only the most promising and highest quality applications that best align with AI’s strategic priorities and 2030 Innovation Targets.

Projects or portions thereof that have received funding or funding approval from other programs at Alberta Innovates are not eligible for Clean Energy program funding. However, applicants may request support for a new phase of development or demonstration that builds on and sufficiently advances a previously funded project.

Eligible Stage of Development

Clean Energy programs prioritize technology or knowledge development projects that show advancement along Technology Readiness Level (TRL) and are generally accepted from TRL 3 – 7.

Research (TRL 1 – 3)	Research is primarily done in the lab and ranges from fundamental research to proof of concept in a lab setting. Theory and scientific principles are focused on knowledge and application to define the concept. Analytical tools are developed.
Development (TRL 4 – 5)	The basic technological components are integrated for testing in a simulated environment and include alpha testing of prototypes. Knowledge and operational practices (e.g., best management practices) are tested at small scales in the field. Typically, 0.1% to 5% of full-scale.
Field Pilot (TRL 5 – 7)	The prototype/knowledge is tested in the field in an operational environment and is well integrated with other systems. Typically, at 5% to 10% of commercial-scale.
Demonstration (TRL 8 – 9)	The technology/best management practice is scaled up and tested in its final form and under expected conditions. Activities include the development of handbooks, documentation and maintenance. Typically, at 10% to 25% of commercial-scale or at full scale but with minimal replication.
Commercial Deployment (TRL 10)	The first commercial application of the technology/best management practice is established, the technology is ready for licensing and widespread adoption by others.

Eligible Project Locations

All projects supported through Clean Energy programs must demonstrate a clear and justified value proposition in Alberta. Technology solutions can originate from anywhere globally but must address challenges and opportunities of importance to Alberta. Projects that will be researched, piloted, demonstrated, or implemented in Alberta will be prioritized.

Funding Considerations

Project funding can be up to but not exceeding \$2 million from Clean Energy programs per project. The program normally supports 25 – 50% of total project costs, with remaining funding from other project partners and other funding agencies (including cash and in-kind support). Alberta Innovates encourages co-funding of projects with other funding agencies and does not limit the amount of stacking towards the applicant's contribution.

All applicants are expected to provide a portion of the funding towards a project, which can come from project partners or other sources of funds.

Eligible and Ineligible Expenses

Clean Energy program funding can be applied to expenses directly attributable to the performance of agreed upon projects. All costs incurred must be critical to the performance of the project, as outlined in the application.

Alberta Innovates only funds reasonable costs incurred as defined in the investment agreement after it has been executed. A high-level summary of eligible and ineligible expenses is provided in Appendix C.

Project Type Definitions

Knowledge Generation: Projects in this area focus on the development of knowledge to address a gap or bring new insights to help advance a technical, process or policy innovation. Projects may gather new scientific data and information that enable economic, environmental and social benefits for Albertans by: informing policy and regulatory development, furthering understanding of emerging technology trends and opportunities, and exploring industry sector challenges and barriers to implementing technology. A key objective for these projects is to develop a plan to share the knowledge generated with appropriate stakeholders and end-users and ensure progress towards desired outcomes.

Technology Development: Projects in this area focus on developing or advancing technology solutions that will be used by the applicant, their partners and/or identified end-users to advance commercialization and broad deployment of the solution in Alberta. The outcomes of the projects or the commercialization pathway of the technology solution should have direct impact on economic, environmental and social benefits.

PERFORMANCE MANAGEMENT AND EVALUATION

Over the life of a project, Alberta Innovates employs an active project management philosophy, regularly monitoring performance and supporting the applicant to reach project outcomes. Funding is tied to outcomes and achievement of results and submission of progress reports. For this reason, Alberta Innovates funds on a milestone completion basis. This means that the applicant is expected to complete a task and submit a progress report before Alberta Innovates advances the next tranche of funds. Progress reports will be reviewed by the assigned Clean Energy Project Advisor.

Regular project update meetings will be held with the applicant and the assigned Clean Energy Project Advisor to assess progress towards milestones. These Steering Committee Meetings can include other funding partners and agencies as necessary.

All investment agreements outline the intended outcomes of the program and the corresponding Clean Energy and Program performance metrics that will be tracked over the course of the project. Specific performance metrics will also be developed at the level of the individual project given the uniqueness of each project. The Applicant is responsible for reporting on all required metrics to Alberta Innovates on the agreed to schedule. A sample of Clean Energy performance metrics are listed below.

Once projects are completed, Alberta Innovates continues to monitor performance for an additional five-year period to accurately review the economic, environmental and social benefits realized for Albertans.

SAMPLE OF CLEAN ENERGY PERFORMANCE METRICS

- \$ invested in Alberta Innovates' Core Strategic Priority Areas: Data-Enabled Innovation, Digital Transformation for Business Innovation, Clean Technology, Innovative Production and Distribution
- # of patents filed
- # of and \$ for increased research jobs & student/postdoctoral fellow/research associate supports
- # new policies created
- # of spin off companies
- # of jobs created during the project, # of jobs created from future deployment or implementation
- # of GHG emissions reductions during the project, # of GHG emissions reductions from future deployment or implementation

CONFIDENTIALITY, INTELLECTUAL PROPERTY AND INFORMATION DISCLOSURE

Alberta Innovates is committed to protecting the confidentiality of application details. External experts who act as reviewers must sign a confidentiality agreement.

Project details are kept confidential during the application process. Following funding announcements, Alberta Innovates will publicly share a non-confidential summary of approved projects. Clean Energy does require public reporting of the final project outcomes and learnings, but business/competitive confidentiality is maintained.

Intellectual property (“IP”) will be addressed through a Contribution Agreement between Alberta Innovates and each successful applicant and will be specific to the circumstances of each project. However, a few general principles apply:

- Under normal circumstances all IP remains with the original owner. Background IP (patents, copyright, software) and third-party technology remains with its original owner(s).
- Alberta Innovates retains rights to project results, including without limitation the technical data, reports, analysis, and discussion.
- Project outcomes, results, and learnings will normally be made publicly available at the conclusion of the project.
- Project technology developed as a part of the co-funded activities will be owned by the successful applicant and its partners, in accordance with the IP arrangement between project partners. However, **successful applicants will be expected to commercialize and/or make the technology available through reasonable commercial terms for the benefit of Alberta.**

As a provincial corporation, Alberta Innovates is subject to the protection and disclosure provisions of the Freedom of Information and Protection of Privacy (FOIP) Act. Personal information is collected pursuant to Section 33(c) of the Freedom of Information and Protection of Privacy Act as it relates to and is necessary for the sub-program.

TRUSTED PARTNERS

Clean Energy works closely with other funding organizations, usually provincially or federally funded, that share the goals and outcomes of Alberta Innovates and the Clean Energy Division. These *Trusted Partners* adhere to strict confidentiality guidelines. During the application process, you may be asked if we can share your application and our evaluation with our *Trusted Partners* for the sole purpose of determining their interest in funding the project with us. If the *Trusted Partner* is interested, they may request additional information.

Trusted Partners include Emission Reduction Alberta (ERA), Sustainable Development Technology Canada, and Natural Resources Canada. The *Trusted Partners* program is under continuous improvement and partners may change from time to time.

APPENDIX A: EVALUATION CRITERIA

PHASE 1: Expression of Interest (EOI)

At the **Expression of Interest** stage of application, your project will be evaluated on the following criteria:

1. **Knowledge or Technology Opportunity:** The description of the knowledge or technology gap, specifically the current status of the knowledge or technology, the assumptions that support the project idea and the proposed methodology and/or design of experiments will be evaluated.
2. **Knowledge or Technology Status:** The strength of the research and/or technology, including the scientific basis for the Innovation and novelty of the solution, and the extent to which the proposed project will achieve meaningful knowledge and/or technological advancement will be evaluated.
3. **Knowledge Use and Technology Market/Competition:** Proposals will be evaluated on the strength of the implementation potential and pathway that will lead to application or use of the knowledge and/or technology in Alberta. Proponents must identify the market opportunity, including the size of addressable market(s) and alignment of the technology or research with market needs.
4. **Proposed Outcomes and Benefits to Alberta:** Proposals will be evaluated on the potential for economic benefits, environmental benefits, and development of highly qualified & specialized personnel (HQSP) in Alberta.
5. **Project Implementation:** Proposals will be evaluated on the strength of the project plan, the identification of key project risks and mitigation strategies, and the applicant's financial ability to carry out the proposed project. The project team, including their expertise, capability and the level of commitment will also be evaluated.

PHASE 2: Full Proposal (FP)

At the **Full Proposal** stage of application, projects will be evaluated on the following eleven criteria. You will be required to provide information in sufficient detail to allow the evaluation team to adjudicate the project. Please follow the requirements/instructions carefully while at the same time being concise in substantiating the project's merits.

1. **Knowledge/Technology Opportunity** - The strength of the research and/or technology, including the scientific basis for the innovation and novelty of the solution, and the extent to which the proposed project will achieve meaningful knowledge or technological advancement will be evaluated.
2. **Competitive Analysis** - The competitiveness of the proposed solution, including advantages relative to existing and nascent technologies or research will be evaluated. Opportunities for collaboration must be described.
3. **Implementation/Commercialization Potential and Market** - Proposals will be evaluated on the strength of the implementation potential and pathway that will lead to application or use of the knowledge and/or technology in Alberta. Proponents must identify the market opportunity, including the size of addressable market(s) and alignment of the technology or research with market needs.
4. **Economic Benefits to Alberta** - Proposals will be evaluated on the potential for economic benefits in Alberta, including increased employment, attraction of investment capital, increased resource revenues, economic diversification, and improved export potential.

5. **GHG Emissions Reductions and Climate Change Benefits** – Technology Development proposals will be evaluated on the potential to reduce GHG emissions in Alberta in the near term and at a selected future time step - 2030. This includes reductions directly resulting from implementation of the project, from future commercial implementations (e.g. retrofits at existing sites relative to historic operation, new builds), and from broader adoption across industry.
6. **Environmental and Social Benefits** - Proposals will be evaluated on the potential to provide additional benefits to Alberta, including reduced environmental impacts and social benefits (e.g. environmental and/or social benefits of the research and/or technology relative to current practice). Consider climate adaptation, water quantity and quality, land management, contaminant reduction, health improvements, safeguarding investments.
7. **Job Creation and Building Innovation Capacity** - Proposals will be evaluated based on their potential to contribute to the training and development of Highly Qualified Skilled Personnel (HQSP). The Full Proposal must provide details of the project's expected contribution to the training of HQSP, and their potential to be retained within or recruited to Alberta. Calculations for determining person-years should be as follows: If the hours of work created by a project is 14,400 hrs, full time employment is a minimum of 30hrs/Week x ~48 Weeks/Year = 1440 hrs/Year; $14,400/1440 = 10$ person-years).
8. **Work Plan, Tasks and Deliverables** - Proposals will be evaluated on the strength of the project plan, including how well developed the work structure is, whether the core elements are present to enable meeting project objectives, and the quality of task/category breakdown in the work plan and budget. The project deliverables will be evaluated on the ability of the applicant to measure and describe project success.
9. **Budget and Funding Commitment** - Proposals will be evaluated on the applicant's financial ability to carry out the proposed project, including the financial position of the applicant organization, the level funding that is confirmed or in discussion from organizations other than Alberta Innovates and the justification for seeking Alberta Innovates funding.
10. **The Project Team** - Proposals will be evaluated on the expertise and capability of the project team to carry out the proposed project and advance toward commercialization. This includes the level of commitment from team members and partners, as well as additional capacity provided by strategic partners to support commercialization and widespread adoption of the technology.
11. **Risk Analysis and Mitigation** - Proposals will be evaluated on the identification of key project risks and the mitigation strategy and status to support the achievement of short and long-term goals of the project.

Proposals will be evaluated using a proposal evaluation process based on the well-tested ProGrid® methodology that has been extensively used to support funding and other decisions.

More detailed due diligence is carried out on a case-by-case basis and may include a confidential external evaluation, or you may be invited to make a presentation to the evaluation team.

APPENDIX B: CLEAN ENERGY PROGRAMS

<p>Cleaner Hydrocarbon Production (CHP): The CHP program is designed to enhance the economic and GHG competitiveness of Alberta's \$100 Billion oil and gas industry. It consists of three sub-programs: Recovery Technologies funds innovative techniques in hydrocarbon extraction that reduce GHGs, water usage and land footprint while improving the cost competitiveness of industry and/or unlocking new resource. Methane Emissions Reduction focuses on measurement, monitoring, and mitigation of methane emissions in alignment with provincial and federal targets. Digital Oilfield accelerates the development and adoption of a wide variety of emerging technologies in the oil & gas industry for economic and environmental benefits.</p>
<p>Innovative Hydrocarbon Products (IHP): The IHP program is designed to diversify Alberta's economy and add value to hydrocarbon resources that will enable Alberta to achieve prosperity in a low carbon global economy. It consists of 3 sub-programs: Partial Upgrading adds value to Alberta's bitumen while increasing pipeline capacity and reducing industry operating costs and lifecycle greenhouse gases. Natural Gas Value-Add supports innovative solutions to converting natural gas into higher value products such as liquid fuels and hydrogen. Bitumen Beyond Combustion funds approaches that convert bitumen into high-value non-fuel products for economic diversification, value-add, and significant GHG reductions.</p>
<p>Renewable and Alternative Energy (RAE): The RAE program supports Alberta's transition to a low-carbon economy by investing in a shift to renewable and low-carbon electricity while maintaining a reliable and affordable grid system. It includes three sub-programs: Grid Modernization includes the <i>Alberta Smart Grid Consortium</i> initiatives and energy storage opportunities. Low Carbon Electricity focuses on innovative clean technologies to support the transition to and use of renewables in Alberta. Low-Emitting Alternative Generation focuses on new types of generation and decentralized opportunities to diversify Alberta's electricity system.</p>
<p>Bioenergy: The Bioenergy program supports technology development and demonstration to produce renewable fuels from agricultural and forestry residues and waste, as well as municipal solid waste. The program is an important part of the transition to a new carbon future and circular economy and enables the participation of Alberta's innovation community, urban and rural communities and industries throughout the value chain. The Bioindustrial sector is served by the programming in Clean Energy as well as Alberta Innovates' Bio division. In Clean Energy, the focus remains on energy conversion and use. The program includes two subprograms: Diversion of Residues and Waste and Renewable Fuels.</p>
<p>Carbon Capture and Utilization (CCU): The CCU program invests in transformative carbon dioxide (CO₂) utilization technologies that will contribute to Alberta's greenhouse gas (GHG) mitigation and economic diversification efforts, through bold and focused innovation. The program prioritizes innovation to convert CO₂ into useful products with significant commercial value and market demand through cost-competitive and environmentally sound technology solutions. It includes three subprograms: Carbon Capture, Carbon Utilization and Hydrogen.</p>
<p>Land and Biodiversity (LB): The LB program aims to ensure natural resource development operations and practices are environmentally sustainable. The program is positioned to support achievement of the 2030 Innovation Targets: a) that the rate of land reclamation is equal to or better than the rate of land disturbance, and b) that biodiversity in the province is maintained or enhanced. The portfolio includes subprograms related to Environmental Monitoring, Oil Sands Tailings, Biodiversity, Climate Adaptation and the new initiative in Abandoned Well Remediation and Reclamation. The program is provincial in scope and focuses on the energy sector.</p>
<p>Water Innovation Program (WIP): The WIP program is a program under <i>Alberta's Water Research and Innovation Strategy (AWRIS) 2014: A Renewal</i> and is designed to support the goals of the Alberta's Water for Life Strategy. The program invests in four key themes: 1) Future Water Supply and Watershed Management, 2) Healthy Aquatic Ecosystems, 3) Water Technology (Water Use Conservation, Efficiency, and Productivity), and 4) Water Quality Protection. The knowledge and technologies developed in this program will help to create a cleantech industry in water treatment, support 30% improvement in water use conservation, efficiency, and productivity by 2030, and provide safe, secure, and reliable water resources for up to six million people while maintaining the health of aquatic ecosystems. The program has high impacts in agriculture and energy industries and urban and rural communities.</p>

APPENDIX C: SUMMARY OF ELIGIBLE AND INELIGIBLE EXPENSES

Category	Eligible Expenses	Ineligible Expenses
Labour	<ul style="list-style-type: none"> ✓ Salary and benefits for individuals who are specifically working on the project 	<ul style="list-style-type: none"> ✗ Overhead costs charged to employee labour rates ✗ Professional training & development ✗ Professional fees unless directly related to the project
Materials	<ul style="list-style-type: none"> ✓ Reasonable material costs 	
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 timeframe
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