Alberta Innovates

Climate Change Innovation and Technology Framework (CCITF) Programs

Open Competition

Applicant Information Webinar

April 25, 2018



AGENDA

Time	Item Description	Speaker
9:30 - 9:40	Welcome and Introduction	John Zhou / Rollie Dykstra
9:40 - 10:00	Clean Technology Development Program Overview	Bryan Helfenbaum
10:00 - 10:15	Clean Technology Networks Program Overview	Rollie Dykstra
10:15 - 10:30	Clean Technology Commercialization Program Overview	Alistair Hazewinkel
10:30 - 10:45	Clean Technology Business Innovation Voucher Program Overview	Alistair Hazewinkel
10:45 - 10:50	Clean Technology Facilities Support Program Overview	Candice Paton
10:50 - 11:10	Emissions Reduction Alberta (ERA) Clean Technology Demonstration Program Overview	Mark Summers
11:10 - 11:40	Final Q & A	Surindar Singh
11:40 - 11:45	Wrap Up	John Zhou /Rollie Dykstra



ABOUT ALBERTA INNOVATES

PLATFORM TECHNOLOGIES



DIGITAL











ALBERTA INNOVATES PROGRAMS RELATED TO CLIMATE CHANGE AND CLEAN TECHNOLOGY

Bio Sector

Sustainable Production

Bioindustrial Innovation

Biological GHG Management

Cross Sectoral Investments

Post Secondary
Investment

Commercialization

Clean Energy

Recovery Technologies

Clean Power and Heat Bio-Energy W2VA

Partial Upgrading

Energy Storage

Tailings Management

Methane Emission Reduction

Carbon Capture & Utilization

Water Innovation



CLIMATE CHANGE INNOVATION AND TECHNOLOGY FRAMEWORK (CCITF)

Innovation across sectors: \$225 million (December 5, 2017 GoA Announcement)

The innovation stream includes funding to support research, development and investment in new technologies that <u>reduce industrial carbon emissions</u> in two program areas.

- Emissions Reductions Alberta (\$80 million): a continuation of funding for innovation grants.
- Climate Change Innovation and Technology Framework (\$145 million): this new fund, administered through the Ministry of Economic Development and Trade and Alberta Innovates, will help manage government investments in research, innovation and technology and help commercialize these products.



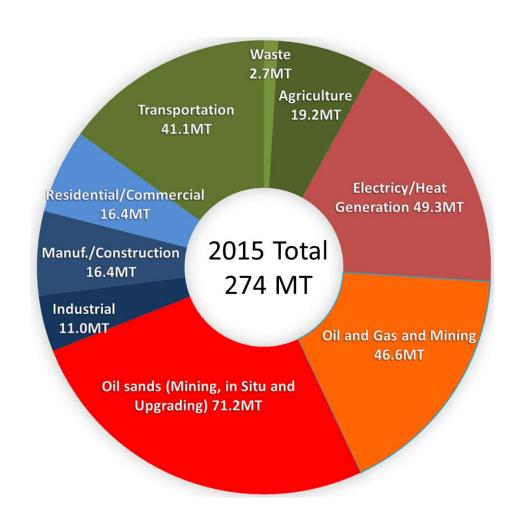
ALBERTA INNOVATES MANAGED CCITF PROGRAMS

Al CCITF Programs		Total Program Funding \$94.7M	Funding Available for This Competition \$39.1M
1. Clean Technology Development		\$43.2 M	\$20.0 M
2. Clean Technology Networks		\$3.0 M	\$2.8 M
3. Clean Technology Commercialization		\$15.0 M	\$14.0 M
4. Clean Technology Business Innovation		\$2.5 M	\$2.3 M
5. Clean Technology Facility Support		\$31.0 M	TBD
6. Clean reciniology Demonstration	SSIONS UCTION BERTA	\$80.0 M	



CCITF PROGRAMS FOCUS "SECTORS"

- 1. Cleaner Oil and Gas
- 2. Methane Emissions Reduction
- 3. Low Carbon Electricity
- 4. Waste to Value-Added
- 5. Green Buildings
- 6. Energy Efficiency





CCITF PROGRAMS DELIVERY TIMELINE

2018	2019	2020	2021
1st Set of Co	mpetitions		
	2nd Set of Co	ompetitions	



CLEAN TECHNOLOGY DEVELOPMENT (CTD) PROGRAM

PROGRAM OBJECTIVES

- Advancing technologies that benefit Alberta industry or public sector.
- Funding novel technologies with the potential for GHG reduction, economic diversification, and employment opportunities.
- Recruiting & developing highly skilled personnel in emerging clean technology industries.

Alignment with GoA strategic priorities & targets.



TYPES OF PROJECTS WE ARE SEEKING (EXAMPLES)

- Novel hydrocarbon extraction
- Methane detection
- Natural Gas conversion to fuels and other
- Advanced renewables
- Energy storage
- Innovative building components
- Advanced biomaterials



ELIGIBILITY CONSIDERATIONS

- Applicants need to be one of:
 - Alberta-based technology developer
 - A major GHG emitter in Alberta
 - Researcher(s) in Alberta post-secondary institution
 - Stakeholder with identified opportunity
- Partnerships are highly encouraged, especially
 - Potential end user(s)
 - Identified expertise

If you're not sure of your eligibility, ask!



COMPETITION PROCESS

- The CCITF CTD program has been allocated \$43M over 3 years.
- The current Call for Proposals is for Phase 1:
 - \$20M available
 - Up to \$2M per project
- Two stage process.
- First funding releases in October 2018.

Future phases to come.



EVALUATION CRITERIA

- Opportunity
 - Market Potential
 - Knowledge / Technology Opportunity
- Outcomes
 - Project Outcome
 - GHG Emissions
 - Economic Benefit
- Implementation
 - Work Plan
 - Excellence of the Project Team
 - Training of Highly Qualified & Skilled Personnel
 - Funding Commitment



COMPETITION TIMELINE

Stage	Step	Date
Expression of	Program Guide Posted	March 28
Interest (EOI)	EOI Submission Deadline	May 4
	Decision Letter sent to all Applicants	June 1
Full Project Proposal (FPP)	FPP Submission Deadline	July 27
	Decision Letter sent to all Applicants	September 10
Execution	Contribution/Grant Agreement deadline	October 5
	Fully executed Agreement sent to Applicant	October 12

Applications under \$100,000 may be approved for funding at the EOI stage



HOW TO APPLY

- Read the Program Guide
 - https://albertainnovates.ca/wp-content/uploads/2018/03/Clean-Technology-Development-PROGRAM-GUIDE-Final-March-28-2018.pdf
- Fill out the Expression of Interest (EOI) form
 - https://albertainnovates.ca/wp-content/uploads/2018/04/Clean-Technology-Development-Program-Expression-of-Interest-Application-Form-2018-04-03.pdf
- If successful at EOI stage, will be invited to submit a Full Project Proposal (FPP)
 - Link TBA



ADVICE FOR PREPARING A SUCCESSFUL SUBMISSION

- Read the Program Guide.
- Use clear and concise language.
- Address each point in the template.
- Add additional description or context as appropriate, but watch your character count.
- Have a credible and quantifiable GHG reduction narrative.
- Don't wait until the last day(s) to submit.







PREFACE - FIRST PROGRAM LAUNCHED

- CT Networks provided us with the opportunity to launch one of the programs.
- Because of the small budget @\$3 million over three years, and the high level of awareness of the program by the community.
- Simple launch.
- Received 21 applications and can support 5 projects.

PROGRAM OBJECTIVES

- Creation of new support mechanisms to encourage or enhance networks or partnerships.
- Development of networks that demonstrate GHG reduction while supporting economic growth and diversification, energy transition and increased innovation capacity.
- Provision on SME training and mentoring.

TYPES OF PROJECTS WE ARE SEEKING (EXAMPLES)

- Industry/government consortia to advance next generation carbon conversion.
- Mechanisms that provide coaching and mentoring for Alberta SMEs.
- Multi-jurisdictional strategic partnerships that support business to business clean technology development.
- A community of practice for priority sectors to de-risk technology adoption.

ELIGIBILITY CONSIDERATIONS

- Legal entity.
- Incorporated in Alberta.
- Can be from outside of Alberta but registered in Alberta.
- Have no outstanding balance or otherwise owe money to Alberta Innovates.

COMPETITION PROCESS

- Call for Expression of Interest (closed April 9, 2018).
- EOIs will undergo a merit review and phase 2 entities will be invited to submit a full project proposal.
- Successful applicants will be notified July 5, 2018.



EVALUATION CRITERIA

- Establishment of a mechanism to demonstrate:
 - GHG reduction
 - Collaboration
 - Impact on job growth
 - Impact on global export
 - Impact on increase in revenues





CLEAN TECHNOLOGY COMMERCIALIZATION PROGRAM

PROGRAM FUNDING & OBJECTIVES

- Total Program Budget of \$15M.
- There will be multiple challenges. Each Challenge Budget up to ~\$1M over 3 year maximum project term.
- Support for Alberta SME technology developers to:
 - Develop solutions to reduce Greenhouse Gas Emissions and solve market problems;
 - Increase Alberta's global competitive standing; and
 - Grow revenues and create jobs.

DEMAND-PULL INNOVATION

- Challenge business case is developed with influential industry partners, targeting defined market gaps that provide opportunities for both quantifiable GHG reductions and economic development.
- Mechanism for Alberta SMEs to compete for development support, validation and potential procurement of their technology-based solution.

COMPETITION PROCESS

- Stage 1: Opportunity Identification
 - Public call for proposals
 - Expression of Interest
- Stage 2: Business Readiness
 - By Invitation only
 - Full Proposal
 - Financial statements & business plan required
- Stage 3: Go-to-Market Plan
 - By Invitation only
 - Project plan developed



EVALUATION CRITERIA

- Applicant must be a qualified Alberta Small and Medium Sized Enterprise (SME) with:
 - Fewer than 500 full time employees; and
 - Less than \$50M annual gross revenue.
- Applicant is scored against Challenge criteria, program guidelines and peer group. Both technical and business merits are evaluated.
- Applicant must abide by stacking rules: maximum of 75% government assistance of eligible project costs.

COMPETITION TIMELINE

- Challenge process typically runs about 8-9 months from launch before a decision is made.
- Agreement negotiations can take several months.
- Project teams have up to three years to complete project.



COMPETITION TIMELINE HUSKY CHOPS METHANE CHALLENGE

ltem	Timeframe	Deadline
Challenge Launch	N/A	March 23, 2018
Stage I - Submission Deadline	Six weeks	May 4, 2018
Stage I - Results Notification	Four weeks	June 6, 2018
Stage II - Submission Deadline	Six weeks	July 19, 2018
Stage II - Results Notification	Four weeks	August 17, 2018
Stage III - Submission Deadline	Six weeks	September 28, 2018
Stage III - Pitch Session	One week	October 5, 2018
Stage III - Results Notification	Four weeks	November 2, 2018



HOW TO APPLY

- Visit AlbertaInnovates.ca to access the program guide and read up on active challenges.
- Contact CTCOM Program Staff for further information:
 - Garth Likes:
 - E. garth.likes@albertainnovates.ca
 - P. 780-450-5415
 - Alistair Hazewinkel:
 - E. <u>alistair.hazewinkel@albertainnovates.ca</u>
 - P. 780-450-5334

ADVICE FOR PREPARING A SUCCESSFUL SUBMISSION

- Proposals are thoroughly vetted. Make sure you read and meet the Challenge and Program criteria!
- Identify and pursue other funding options funders like to share the risk and the reward.
- Back-up your claims they will be fact-checked.
- Discuss with your Alberta Innovates TDA.



CLEAN TECHNOLOGY BUSINESS INNOVATION VOUCHER PROGRAM (CTBI)

PROGRAM FUNDING & OBJECTIVES

- Total Program Budget \$2.5M over 3 years.
- \$1.2M Available for this competition period.

Support for established and viable Alberta SMEs to:

- Reduce Greenhouse Gases
- Create jobs
- New exports in the lower carbon economy



TWO STREAMS OF FUNDING

Stream 1: Assess and Plan

- Identify GHG reduction opportunities.
- Identify best option: productivity, energy efficiency, new market, product iteration opportunity or combination of above.
- Develop an implementation plan.
- Quantify GHG estimates using AI methodology.

TWO STREAMS OF FUNDING

Stream 2: Implement

- Implement the low carbon plan.
- Additional funding resources required to complete project (e.g. NRC-IRAP, bank financing, private investment) should be identified and pursued in Stream 1.

EVALUATION CRITERIA

- Applicant must be an established Alberta Small and Medium Sized Enterprise (SME) with:
 - Minimum of \$3M in annual revenues and 10 FTE employees.
 - Recurring revenues and operating profit.
 - Strong management team.
 - Ability to contribute to a lower carbon economy.
- Project must have the support of an Alberta Innovates Technology Development Advisor (TDA).
- Projects cannot exceed 1 year.



FUNDING

- Applicant must contribute at least 50% cash to Stream 1 project and 50% cash/in-kind for Stream 2.
- Stream 1 funding flows to consultant, Stream 2 to applicant.
- NO stacking limit with other government programs.
- Al funding is non-dilutive.

PROJECT EXAMPLES

- Holistic projects that look at internal operations and a path to contribute to the lower carbon economy.
- Combinations to optimize outcomes:
 - Reduce GHG from operations in focus areas (e.g. building infrastructure, production line);
 - Iterate product to reduce GHG from the product sold.

COMPETITION PROCESS

- Stream 1: Competition with defined timeline.
- Stream 2: By invitation only Applicants who have successfully completed Stream 1 are invited to apply.



COMPETITION TIMELINE

Step	Targeted Date
Program Guide Posted	March 23, 2018
Stream One - Applications Portal Open	April 16, 2018
Stream One - Applications Submission Deadline	June 15, 2018
Stream One - Decision Letter Sent to all Applicants	July 20, 2018
Stream Two – Application Portal Open	Oct 15, 2018
Stream Two - Submission Deadline	Nov 19, 2018
Stream Two - Decision Letter Sent to all Applicants	Dec 14, 2018



HOW TO APPLY

- Contact your TDA to setup a meeting and discuss your eligibility and application process.
- If you are not working with a TDA, contact Alistair Hazewinkel,
 CTBI Program Manager:
 - E. <u>alistair.hazewinkel@albertainnovates.ca</u>
 - P. 780-450-5334

ADVICE FOR PREPARING A SUCCESSFUL SUBMISSION

- Did we mention TDA support?
- Engage a consultant qualified for the project scope and able to do GHG estimate.
- Well-defined budget and work plan.
- Quantify potential outcomes where possible.
- Is there a broader impact? Who else might benefit?



CLEAN TECHNOLOGY FACILITY SUPPORT PROGRAM

PROGRAM OBJECTIVES

- Supports new or existing technical facilities that can:
 - Facilitate significant advances in GHG emissions reductions;
 - Support economic growth and diversification, energy technology development, and increased innovation capacity;
 - Be used by industry and research organizations; and
 - Provide equipment and operational support .
- Potential uses of facilities may include testing, certification, training, demonstration, experimentation, creation of a hub for technology awareness.

Alignment with GoA strategic priorities & targets



FACILITY SUPPORT THEMES

Methane Technology Test Facility

Oil Sands Technology Test Facility Electricity Technology Test Grid Waste/NG Conversion Technology Test Facility Green
Building
Technology
Test Facility

The program is will support new development and technical upgrades of existing facilities that align with these 5 themes.



ELIGIBILITY CONSIDERATIONS

- Applicants that can provide broad access to the technology development community will be preferred.
- Partnerships and co-funding from other organizations are highly encouraged.

If you're not sure of your eligibility, ask!

COMPETITION PROCESS

- The CCITF Facilities program has been allocated \$31 M over 3 years.
- Calls for proposals will be announced and described in the program guide for each theme.
- Developed projects will be invited to submit applications for evaluation.

Future phases to come







Mark Summers (<u>msummers@eralberta.ca</u>)
Emissions Reduction Alberta



Emissions Reduction Alberta (ERA)

- Alberta-based not-for-profit organization
- Created in 2009 as Climate Change and Emissions Management Corporation (CCEMC)
- Rebranded as Emissions Reduction Alberta (ERA) in 2016
- Support provincial priorities Climate Leadership Plan

Mandate: Identify and accelerate innovative solutions that secure <u>Alberta's</u> success in a lower carbon economy

- Invest in technology advancement to build a sustainable and diversified economy
- Supported by the SGER/CCIR compliance fund



ERA's Investments at a Glance



TOTAL PROJECTS:

>120



TOTAL FUNDS COMMITTED:

>\$324M



TOTAL PROJECT VALUE:

>\$2B



CUMULATIVE GHG REDUCTIONS BY 2020:

8Mt **CO**₂e

CUMULATIVE GHG REDUCTIONS BY 2030:

27.4Mt **CO**₂e



GDP IMPACT IN ALBERTA BY 2021:

\$1.8B



JOB CREATION IN ALBERTA BY 2021:

15,000+ PERSON-YEARS²

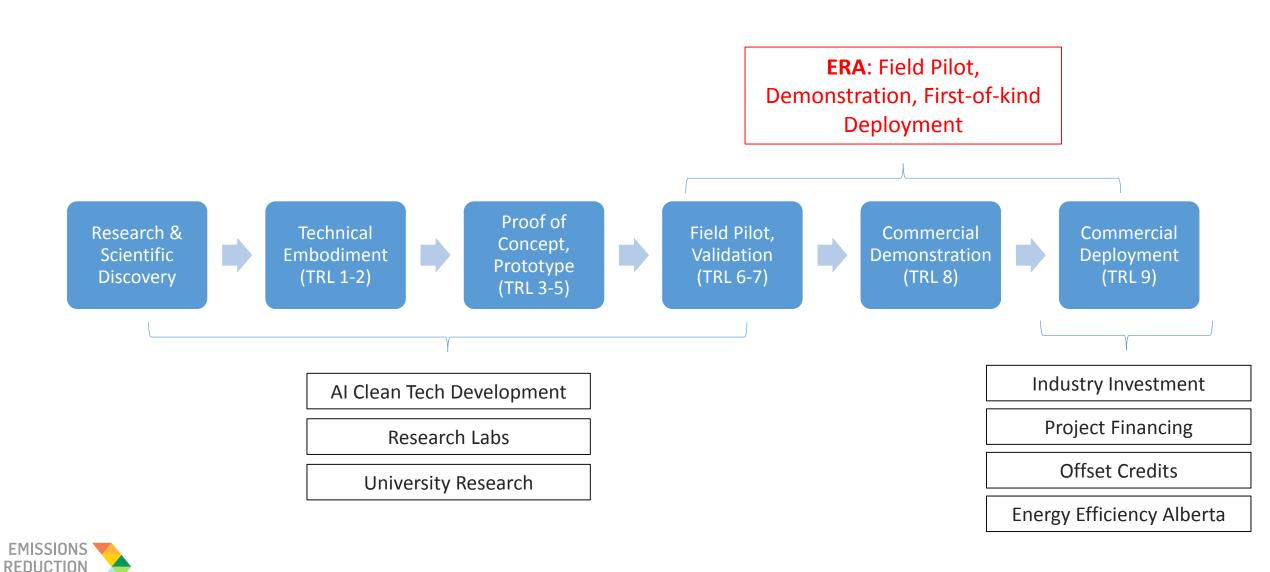


CCITF Scale-Up and Demonstration Program

- 6th Program of the CCITF
- Clean Technology Large-Scale Demonstration and Innovation Deployment Program
- Managed by Emissions Reduction Alberta (ERA)
- Consists of ERA's demonstration and deployment funding initiatives
 - Targeted calls for proposals
 - Partnership intake program

Visit <u>www.eralberta.ca</u> to learn more about ERA's funding opportunities.

Program Scope: Demonstration and Deployment Projects



ALBERTA

How We Fund

- ERA operates primarily on a callfor-proposals basis
- Generally thematic or targeting specific needs, for example:
 - Methane Challenge (2016)
 - Oil Sands Innovation Challenge (2017)
 - Industrial Efficiency Challenge (2018)
- Staged evaluation process
- Process overseen by a fairness monitor
- For each funding competition:
 - Detailed guidelines document
 - Webinar for applicants

ERA Call for Proposals Process

EXPRESSION OF INTEREST (EOI) STAGE

















Public Call for **EOIs**

EOI Submission Expert Team Evaluation

Shortlist Decision **Decision Letter** to Applicants

FULL PROJECT PROPOSAL (FPP) STAGE



FPP Submission



Oral Presentation



Expert Team Evaluation



Board Decision



Decision Letter to Applicants

PROJECT EXECUTION STAGE

















Sharing of **Progress** Reporting Results

Work Plan Finalization Contribution Agreement

Project Monitoring



Types of Projects: ERA's Focus Areas

Strategic Areas

Reduced GHG Fossil Fuels

Low Emitting Electricity

Biological Resource Optimization

Industrial Process
Efficiency

Example Potential Initiatives

- Low energy bitumen recovery
- Methane emissions reduction
- Hydrocarbon processing
- Renewable electricity
- Geothermal
- Advanced grid management
- Biofuels
- Bio-materials and bio-products
- Waste management
- Industrial energy efficiency
- Industrial process innovation
- Low-GHG chemicals and materials



THE ERA METHANE CHALLENGE

Call for Expressions of Interest Addressing the Methane Challenge

> Online submissions: www.ERAadmin.ca

> > Deadline:

December 15, 2016, 5:00 PM MST (UTC-7h)

Methane Challenge

- Launched Oct 2016
- Detection, monitoring, reduction of methane emissions
- Over 100 proposals received
- 12 projects approved for funding
 - \$30.6 million ERA contribution
 - \$88.4 million total project value
 - 7.5 MT CO2e reductions estimated by 2030





ERA OIL SANDS INNOVATION CHALLENGE

Call for Expressions of Interest

Online submissions: www.ERAadmin.ca

September 7, 2017 5:00 PM MDT (UTC-6h)

Oil Sands Innovation Challenge

- \$50M challenge launched July 2017
- Focused on oil sands technology:
 - In situ extraction
 - Surface mining and upgrading
 - Partial upgrading and value added
- Approximately 50 proposals received
- Projects to be announced in the coming weeks



Industrial Efficiency Challenge

- Launched March 28, 2018
- Industrial efficiency opportunities at Alberta's large final emitter facilities
- Submission deadline: May 31, 2018

Open for submissions now!

See: www.eralberta.ca



INDUSTRIAL EFFICIENCY
CHALLENGE

CALL FOR EXPRESSIONS OF INTEREST







How we Fund: Partnership Intake Process

- ERA has established trusted partnerships with a number of like-minded organizations
 - e.g. Alberta Innovates, SDTC, Ontario Centres of Excellence, NRCan, others
- Trusted partnership organizations:
 - Funding organizations with comparable-in-principle process
 - Government departments and agencies OR organizations with strong alignment
 - Have MoU or information sharing agreement with ERA
- ERA is partnered with Alberta Innovates (AI) and the Alberta Department of Economic Development and Trade (EDT)

Note: AI, ERA, and EDT are working closely to ensure a coordinated approach for all CCITF programs



Advice for Applicants

- Stay apprised of ERA's funding opportunities
 - Check our website: eralberta.ca
 - Sign-up for our newsletter: eralberta.ca/newsletter
- Read the documentation
- Work with our funding partners we talk to each other
- Did we mention the TDAs?
- Tell us your pain points



Concluding Thoughts

Working to improve the success rate of innovation in Alberta

- Broad set funding available for entrepreneurs and innovators through CCITF programs
- ERA's funding represents an important CCITF program to accelerate technology toward commercialization
- We need your ideas and innovation
- Visit www.eralberta.ca for further information about ERA's funding opportunities

FINAL Q & A





WRAP UP

Unanswered questions?

1. Review the program guides on the CCITF landing page:

https://albertainnovates.ca/climate-change-innovation-and-technology-framework-ccitf/

2. Email remaining questions to:

<u>CCITFQuestions@Albertainnovates.ca</u> by May 2, 2018.

3. A webinar recording and a summary of all Q and A will be posted on the CCITF landing page.

Begin your submissions today!

