

CLEANBC INDUSTRY FUND

SUPPORTING INDUSTRY INVESTMENTS TO REDUCE GHG EMISSIONS

1. CleanBC Industry Fund (CIF) Background
2. CIF 2021 Call Review
 - Emission Performance 2021 Review
 - Innovation Accelerator 2021 Review
 - Project Feasibility Studies 2021 Review
3. CIF 2022 Updates
 - 2022 RFP Timelines
 - Other Initiatives in 2022
4. Additional Support Tools
5. Questions and Comments

POLL!

How familiar with the Industry Fund are you?

1. Very familiar
2. Somewhat familiar
3. Not familiar

CLEANBC INDUSTRY FUND BACKGROUND



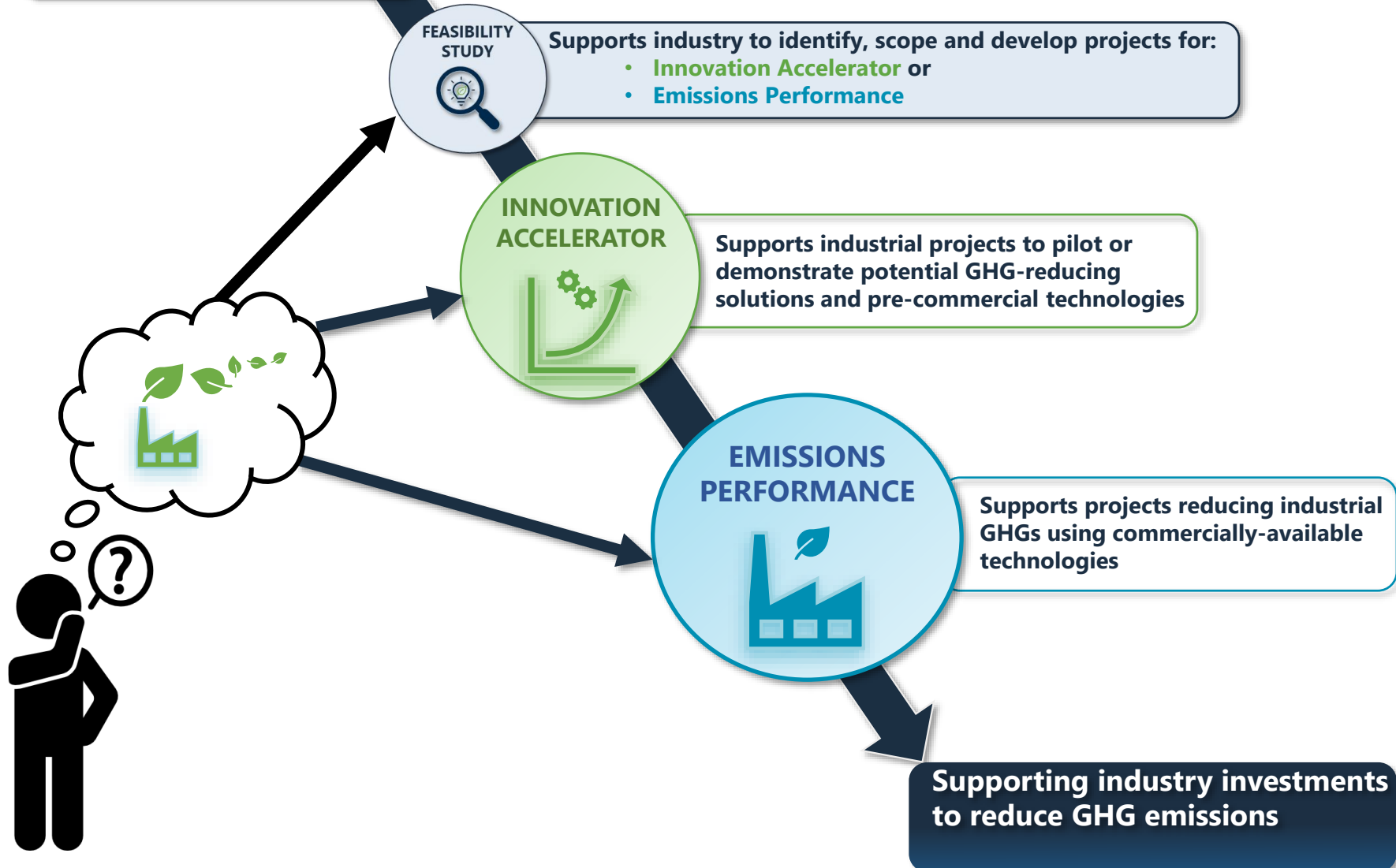
- The overarching goal of CIF is to support industry investments to reduce emissions from B.C. Industry.
- CIF directs a portion of B.C.'s carbon tax paid by industry into emissions reduction projects at B.C. operations:
 - The funding is based on estimates of carbon tax revenue paid annually by industry above \$30/tonne.
 - Funding provided through competitive RFP processes.
 - CIF only available to large industrial operations (emitting over 10,000 tCO₂e/year).
 - Reporting Operations (RO's) may form partnerships on projects, but it is not required (ex. other Operations, cleantech providers etc.)

CLEANBC INDUSTRY FUND



Options for funding at all stages of project readiness and development

PROJECT TYPE



EMISSIONS PERFORMANCE - 2021



Emission Performance (EP) Summary

- The 3rd round (2021) of EP projects includes 25 projects supported by more than \$70 million in provincial investment and an additional \$97 million from industry and partners.
- 2021 results have been updated on the CIF website.
- 2022 will be 4th annual call of EP.

Year	Intake	Funding	Estimated Emission Reductions
2019	34 proposals received 13 projects approved	\$9.5M Provincial \$45M Industry & Partners	442,668 t/CO2e over 10 years
2020	38 proposals received 22 projects approved	\$32M Provincial \$54M Industry & Partners	984,312 t/CO2e over 10 years
2021	82 proposals received 25 projects approved	\$70M Provincial \$96.5M Industry & Partners	4.6M t/CO2e over 10 years

EP – 2021 LESSONS LEARNED



- 2021 most competitive year yet.
 - Saw many applicants asking for less than maximum available funding.
 - Helped to make proposals more competitive/score higher.
 - Attention to detail for all sections of the proposal.
 - Review the RFP and align content.
- Full Project Cycle Experience
 - Entering verification processes on many projects.
 - Evaluating current guidance and approach to ensure it is appropriate.
 - Feedback/questions are encouraged and appreciated
 - We want to ensure this process is structured efficiently.

Innovation Accelerator (IA) 2021 Summary

- First intake of IA was a success, anticipated to be an annual call.
- 14 project submitted to Innovation Accelerator.
- Currently in Funding Agreement negotiations with successful applicants.

Year	Intake	Funding
2021	14 proposals received TBD projects approved	TBD

IA – 2021 LESSON LEARNED

- Proposals submitted to both IA and EP streams
 - Caused challenges during review process
 - For eligibility questions, contact the Program Advisor
- 2-phased application process did not provide the efficiencies intended
 - Process is anticipated to be a single-phase in 2022
- SDTC one-window application process
 - Supports our goal of collaboration and alignment with other programs
 - Anticipated to continue this year

Feasibility Studies (FS) 2021 Summary

- First intake of FS was a success, anticipated to be a recurring annual call.
- Included **11** studies supported by more than **\$1.78 million** in provincial investment.
- Study information will be available publicly on the website soon.

Year	Intake	Funding	Types of Proposals Received (# with selected categorization)*
2021	41 proposals received 11 studies approved	\$1.78M Provincial \$871,700 Industry & Partners	<ul style="list-style-type: none">• Fuel Switching (24)• Energy Efficiency (14)• Renewable Energy (13)• Process Improvements (12)• Carbon Capture & Storage (12)• Waste Heat Recovery (8)• Other (4)

**Applicants could select more than one category*

FS – 2021 LESSONS LEARNED



- Successful & oversubscribed first year, demonstrating a strong need for call.
- Applications came from all sectors, varying in scope, size and cost.
- Ongoing program improvement to ensure application process and evaluation is clear and efficient for proponents.
- Additional feedback/questions are encouraged and appreciated.

RFP TIMELINES

- **Emissions Performance RFP:**
 - Launch – Spring 2022
 - Decisions – August 2022
- **Innovation Accelerator RFP:**
 - Launch – Spring 2022
 - Decisions – Fall 2022
- **Feasibility Studies:**
 - Launch - Spring 2022
 - Decisions – Fall 2022

*Note all dates are tentative and subject to change

OTHER INITIATIVES IN 2022



- Outreach, collaboration and partnerships with other Funding Programs.
- Globe 2022
- Program development and review.

ADDITIONAL SUPPORT TOOLS



- Developing an Industry Fund Application: Guidance and Tips for Success
- Funding Spotlight: Programs that Support Emission Reductions in B.C.
 - Opportunities to leverage project funding.
- Program Advisor – Available for support/guidance at any stage.

- 1. Are you planning to submit a project in the 2022 Emissions Performance Call?**
- 2. Are you planning to submit a project in the 2022 Innovation Accelerator Call?**
- 3. Are you planning to submit a project in the 2022 Feasibility Studies Call?**
- 4. Would you like a follow up from the Program Advisor?**

Thank you!

URL: [Cleanbc.ca/industryfund](https://cleanbc.ca/industryfund)

Email: CleanBCIndustryFund@gov.bc.ca

CLEANBC INDUSTRY FUND

Funding Spotlight

AGENDA



1. Funding Spotlight – Goals
2. CIF Overview – Stacking
3. Funding Program Presentations
 - 9:50–10:00am - Centre for Innovation and Clean Energy (CICE)
 - 10:00-10:10am - FortisBC
 - 10:10-10:20am - BC Hydro
 - 10:20-10:30am - Sustainable Development Technology Canada (SDTC)
 - 10:30-10:40am - Strategic Innovation Fund (SIF)
 - 10:40-10:50am - Energy Innovation Program (EIP)
 - 10:50–11:00am - Low Carbon Economy Challenge (LCEC)
 - 11:00–11:10am - Emission Reduction Fund (ERF)
 - 11:10-11:20am Clean Growth Hub

Goals

- Overview of potential funding opportunities for our Stakeholders.
- Identify stacking and leveraging opportunities.
- Facilitate connections between the Industry Fund, Industry and other Funding Programs.
- Collaboration to move great projects forward!

CIF Stacking Potential

- Emissions Performance, Innovation Accelerator and Feasibility Studies generally allow for up to 75% stacking.
 - Reporting operations must contribute at least 25% of eligible (capital) expenses for the project.
- CIF must be notified of any funding provided by outside sources.
- Connect with the Program Advisor with any questions!



Scaling clean energy
solutions. From B.C.
To the world.



Agenda

1. Introductions: CICE & Hayden Francis
2. Funding Opportunities & Beyond
3. Open Innovation Call

At the forefront of action for decarbonization worldwide.

OUR PURPOSE

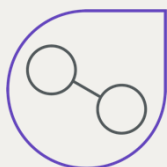
CICE works with B.C. innovators and companies to accelerate the commercialization and global scaling of clean energy solutions.

INDEPENDENT WITH SUPPORT

CICE was founded with \$105M CAD funding from the private and public sectors and is looking for other visionary companies to join us to unlock pathways to net zero.



CICE's five focus areas enable us to work with you to turn a climate challenge into an opportunity.



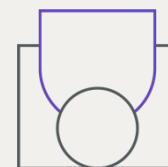
**LOW CARBON
HYDROGEN**



**RENEWABLE
NATURAL GAS**



**BATTERY TECHNOLOGY
& ENERGY STORAGE**



**CARBON CAPTURE,
UTILIZATION & STORAGE**



**BIOFUELS &
SYNTHETIC FUELS**

Open Innovation Call

Open Innovation Call

How to apply:

- Visit www.cice.ca
- Complete the online submission
 - Save if not ready to submit
- Submit a video expression of interest (VOI)
 - Max 5 minutes
 - Professional filming not required

Available funding:

- \$2M total in this round
- May fund up to 100%
- Grant funding provided based on project milestones
- Can combine with other funding partners

Open Innovation Call

Who can apply:

- Open to innovators and entrepreneurs operating in British Columbia who have a project that fits any of the five focus areas

Project Criteria:

- Technology Readiness Level (TRL)
 - Between 5 to 9
- Able to show Greenhouse Gas (GHG) Impacts
- Able to answer following:
 - Who is the customer and what is the long term go-to-market strategy
 - Realized and potential GHG reduction
 - Description of the organization proposing the project, its capabilities and project backing
 - Project definition; what exactly is being proposed for funding
 - How this project will move the technology/process towards scale

Open Innovation Call

Evaluation Criteria:

Strategic Alignment: The project furthers the commercialization of a technology or business model innovation which has the ability to significantly reduce GHG emissions in the province with potential for significant global GHG reduction when applied at scale. The technology or business model innovation is developed and commercialized by a BC based company.

Portfolio Match: The project fits within the CICE portfolio and compliments the Centre's balance of risk / reward profile of CICE investments. Opportunity is within Technology Readiness Level (TRL) 5-9 and within one or more of the CICE focus areas.

Team Strength: Strong management team with required skills for growth aspiration. Depth of knowledge on what is required to successfully scale.

Technology Viability: Overall plan for technology development is realistic, barriers identified and plans to overcome barriers have clear and measurable targets. Regulatory, permitting and IP ownership issues are addressed to enable project implementation.

Corporate Readiness: Finance framework in place to partially fund and scale the opportunity. No encumbrances or other liabilities to prevent implementation and scaling. Planned partnership agreements in place.

Plan Readiness: Project outcomes lead to scaling opportunity for business. Development plan including assumptions for market readiness and financing is in place.

Social Impact: Overall environmental, social and governance impact benefits are shown. Including impact on indigenous communities and enhancement of diversity and inclusion.

Open Innovation Call

Timeframe:

Date	Event
January 31, 2022	Program Announcement
February 28, 2022 at 5pm PST	Deadline for submission of Video Expression of Interest via CICE website
15 March, 2022	Notification of Stage 1 outcome, invitation for successful projects to advance to Stage 2
April 29, 2022 at 5pm PST	Deadline for submission of detailed project proposal
June 17, 2022	Stage 3 invitation to successful applicants
July 4, 2022	Execution of contribution agreements, projects start



Thank You.

Questions? Comments?

www.cice.ca

info@cice.ca

FortisBC Industrial Energy Efficiency Programs

Saleh Lavaee

Program Manager, Commercial & Industrial
Conservation and Energy Management (C&EM), FortisBC



Energy at work



FORTIS BC™

Rebates



- Canadian-owned, BC-based utility with 2,500+ employees across the province.
- Delivering natural gas and electricity to 1.2 million customers in 135 communities, and 57 Indigenous communities across 150 traditional territories.
- Owning ~50,000 km of natural gas lines and 7,260 km of electric transmission and distribution power lines.



Program Overview

- Product Rebates
 - FortisBC customer (gas/electric or both)
 - Point-of-Sale rebate and/or upon submission of proof of purchase
 - Paid upfront (Point-of-Sale) or after the fact (submission of proof of purchase)
- Custom Efficiency Program
 - FortisBC customer (gas/electric or both)
 - See [participant guide](#)
- Strategic Energy Management Program
 - In partnership with BC Hydro

Accounts & billing Services Rebates & energy savings Build & renovate Safety & outages In your community News & events About us

Rebates and offers

For homes **For business** Search by model number

Location: All [Change city](#)

Showing 1 to 6 of 6 rebates [Clear all](#) x

Rebate type: Only show instant rebates (0)

Project type

Natural gas boiler rebates Up to **\$45,000**
Improve your energy performance and quality for a rebate of up to \$45,000 by installing a high-efficiency natural gas boiler in your building or facility.

Irrigation equipment **Varies**
Save on converting to a drip irrigation system or retrofitting existing pumps for high efficiency.

Energy at work **FORTIS BC™**

Participant guide

Custom Efficiency Program

April 2021

Natural Gas Product Rebates



Hydronic Boilers



Hot Water



Gas Kitchen Appliances



Steam Boilers



Thermal Curtains



Radiant and Unit Heaters

And more!

Electric Product Rebates (Interior BC)



LED & Horticultural LED Lighting



Refrigeration



Electric Kitchen Appliances



Heat Pumps and PTHPs



Compressed Air



Variable Speed Drives

And more!

Custom Efficiency Program

- **Plant Wide Audit Incentive** – 50% up to \$10,000 for a walkthrough assessment.
- **Energy Study Incentive** – Up to 75% of energy study costs for a detailed engineering study
- **Implementation Incentive** – For eligible cost-effective energy efficiency projects you can receive the lesser of:
 - \$3/GJ over the life of the energy efficiency measure (gas measures)
 - 0.02/kWh over the life of the energy efficiency measure (electric measures)
 - 75% of the invoiced project costs
 - Up to a maximum of \$1 million
- **Implementation Bonus** – Remaining 25% of energy study costs if customer implements one or more eligible measures funded by FortisBC.

Stacking with Other Funds

- BC Hydro rebate and programs for electric measures (kWh, kW) in BC (except for FortisBC electric service area)
- Strategic Energy Management (SEM) Program
 - FortisBC in partnership with BC Hydro
<https://www.bchydro.com/powersmart/business/programs/energy-management.html>



Evaluation Criteria

- **Product Rebates**

- No post installation evaluation needed

- **Custom Efficiency Program**

- Post installation Measurement & Verification (M&V) is required for
 - Natural gas efficiency projects exceeding \$250,000 in incentive, or
 - electric efficiency projects exceeding \$100,000 in incentive
- FortisBC approves scope and covers the M&V costs and manages the process



Resources

- Equipment Incentive
 - FortisBC's **Product Rebate Offers (for business)**:
<https://www.fortisbc.com/rebates-and-energy-savings/rebates-and-offers/rebates-business>
- Customized energy upgrade projects
 - FortisBC's **Custom Efficiency Program**:
<https://www.fortisbc.com/rebates/business/custom-efficiency-program>

[Participant Guide](#)
- Strategic Energy Management (SEM) Program
 - FortisBC in partnership with BC Hydro
<https://www.bchydro.com/powersmart/business/programs/energy-management.html>

Thank you! Questions?



For further information,
please contact:

Saleh Lavaee, Program Manager, C&EM, Commercial & Industrial

Saleh.Lavaee@fortisbc.com

Find FortisBC at:

Fortisbc.com



604-576-7000

BC Hydro Large Custom Low Carbon Electrification Program

Hansi Liu-Atkinson

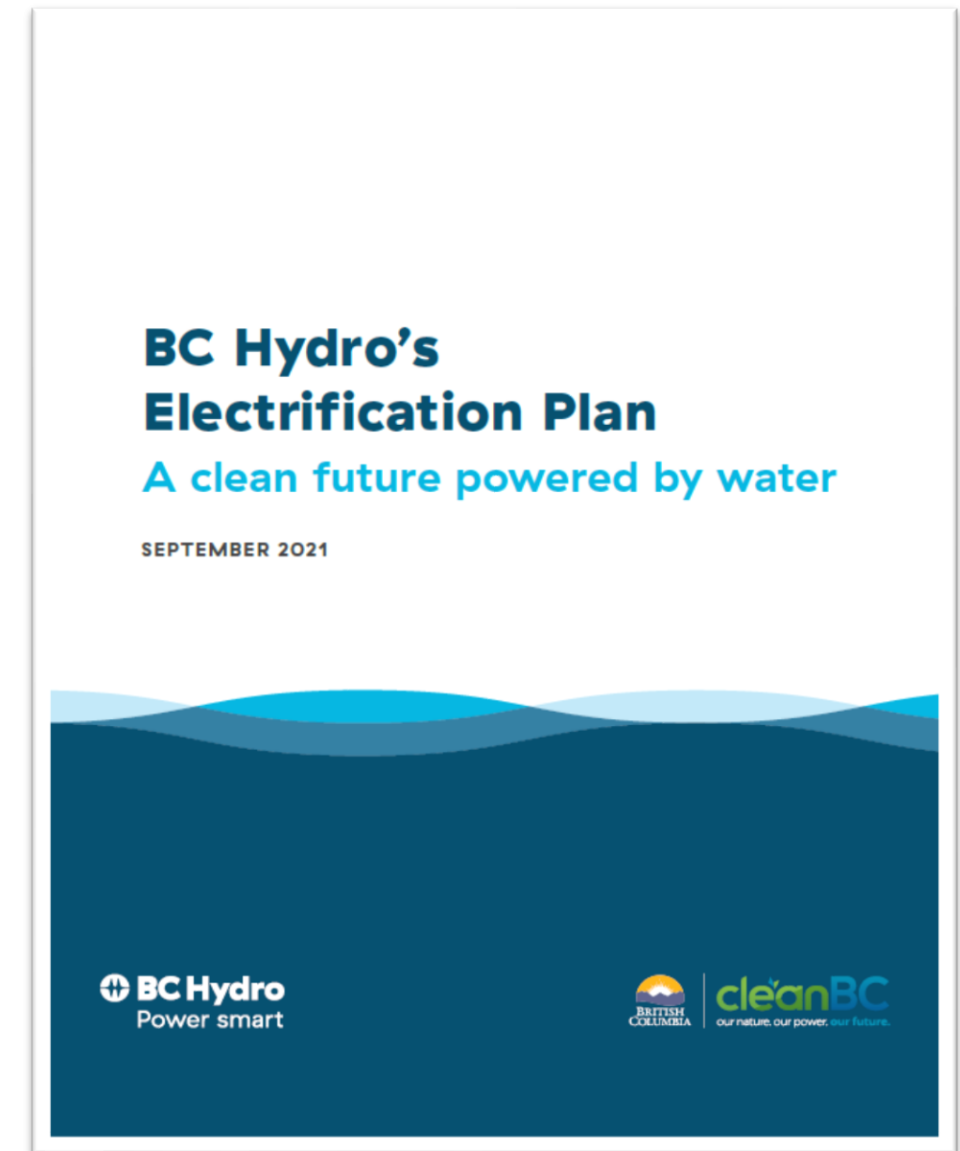
Tera Nelson



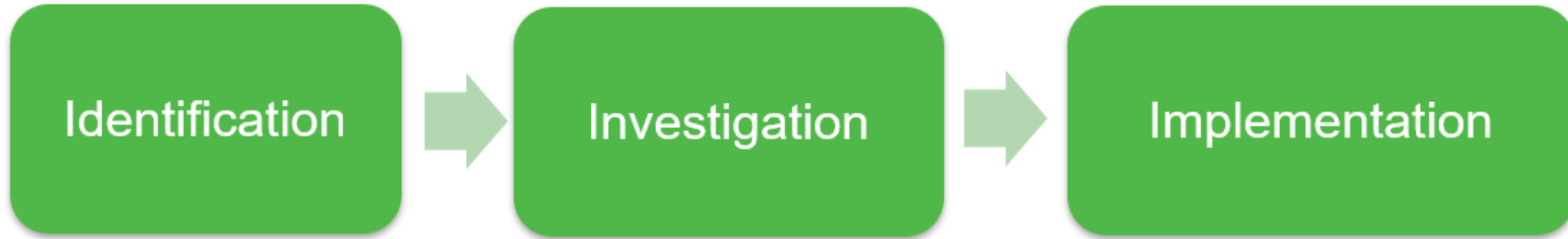
February 24, 2022

Program overview

- Supports fuel-switching across industrial sector, plus off-road transportation and district energy
- Eligibility requirements
 - Currently on LGS or TSR
 - Must reduce GHG emissions
 - Must increase electricity consumption
- **Program is currently open**



Program offer



Pre-feasibility and feasibility

- 100% study funding
- No claw backs
- Help identifying consulting firms to do the work

Incentives

- Custom Incentive Process

Stacking with other funds

- LCE Large Custom allows stacking with other sources
- Can also be stacked with CleanBC Facilities Electrification Fund
- Generally expect other funding sources to be confirmed first before finalizing LCE agreement

Evaluation criteria

- *Key piece: baseline vs. LCE*
- Incremental electricity consumption (kWh)
- Incremental demand (kW)
- GHG emissions reduction

Funding structure

- Based on BC Hydro's pre-incentive NPV in the form of an up-front capital incentive
- BC Hydro's pre-incentive NPV based on tariff revenue minus the cost of energy, capacity, program costs and infrastructure costs
- Implementation funding provided through a funding agreement, which typically includes a two-stage payment:
 1. On project completion
 2. After measurement and verification

Eligible projects

- Wide-ranging customer sites, from mining operations to saw-mills (custom)
- Projects across natural gas, mining, forest products, pulp & paper...
- Includes off-road fleets (e.g., ferries, rail)
- Goal is to help address one of the biggest barriers to electrification: **cost**



CleanBC Facilities Electrification Fund



Program overview

Federal infrastructure funding to reduce customer interconnection costs for projects that reduce greenhouse gas emissions

Funding

- \$84 million infrastructure fund
- 50% of eligible interconnection costs
- Up to \$15 million per project
- Payment following project completion

Stacking with other funds

- Funding can be stacked with other provincial and BC Hydro programs
- Federal stacking limits apply
 - Maximum of 50% from all federal funding sources

Eligibility criteria

- Reduction/avoidance of GHGs
- Public infrastructure and assets
- Project completion by spring 2027
- Cost and fuel-switching thresholds
- Progress through interconnection queue

	Industry (Tx)	Industry (Dx)	Transportation / Buildings
Interconnection cost	> \$5 M	> \$2 M	> \$2 M
Fuel-switching load	> 5 MW	> 2 MW	> 2 MW

Spotlight: Copper Mountain Mine



- Project: Installation of one-kilometre-long section of electric trolley-assist – *the first of its kind in North America*
- Potential GHG reduction: ~14,000 tonnes/year (Phase 1)
- Project incentives:
 - BC Hydro Low Carbon Electrification
 - CleanBC Industry Fund 2019, 2020
 - CleanBC Industrial Electrification Rate
 - CleanBC Facilities Electrification Fund (*submitted*)

Resources & contact information

- Contact your BC Hydro [Key Account Manager](#) or [Energy Manager](#) to identify fuel-switching opportunities
- Check out our website for more information:
bchydro.com/electrificationfund
- To learn more about our Electrification Plan, visit:
bchydro.com/electrificationplan





**SUSTAINABLE DEVELOPMENT
TECHNOLOGY CANADA**

**TECHNOLOGIES DU DEVELOPPEMENT
DURABLE CANADA**

Largest Funder of Cleantech SMEs in Canada



RECOGNIZED EXPERTISE

SDTC's board consists of public and private sector leaders from across Canada to provide strategic direction to strengthen the country's growing cleantech sector. Federal and provincial government partners work with us to create a one-window access for entrepreneurs.



ENTREPRENEUR-CENTRIC

SDTC invests in and provides ongoing support and coaching to Canadian cleantech projects and entrepreneurs.



ECOSYSTEM BUILDERS

We build and nurture a network of support to grow Canada's cleantech economy, including federal and provincial partnerships.

“

At SDTC we have a singular focus: supporting Canadian companies who are leading in the development of clean technologies

”

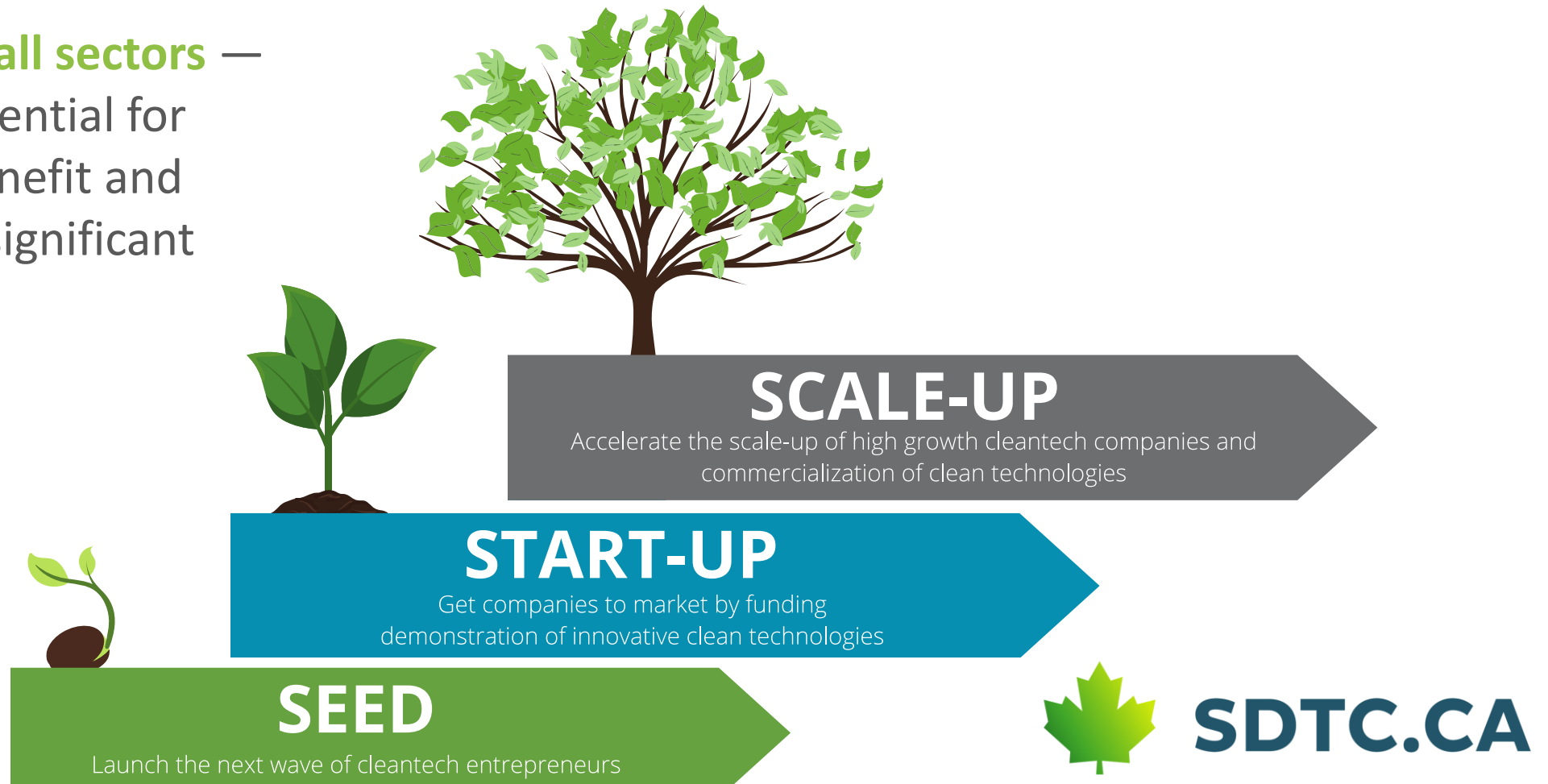


SDTC.CA

From Seed To Scale-up

Moving at the speed of business, we catalyze cleantech innovation at every stage.

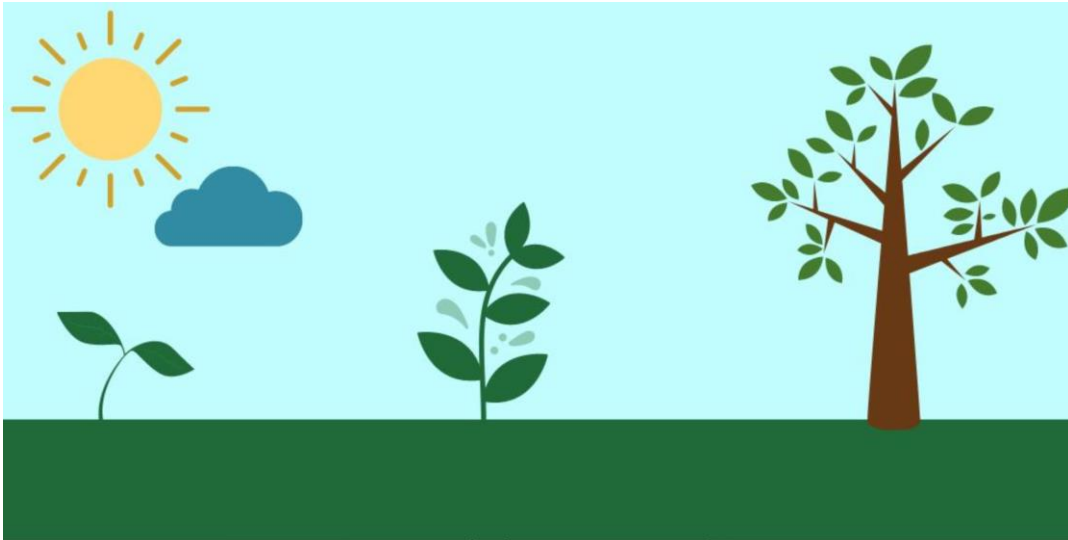
We invest across all sectors —
anywhere the potential for
environmental benefit and
economic gain is significant



Two Ways that SDTC Supports Entrepreneurs

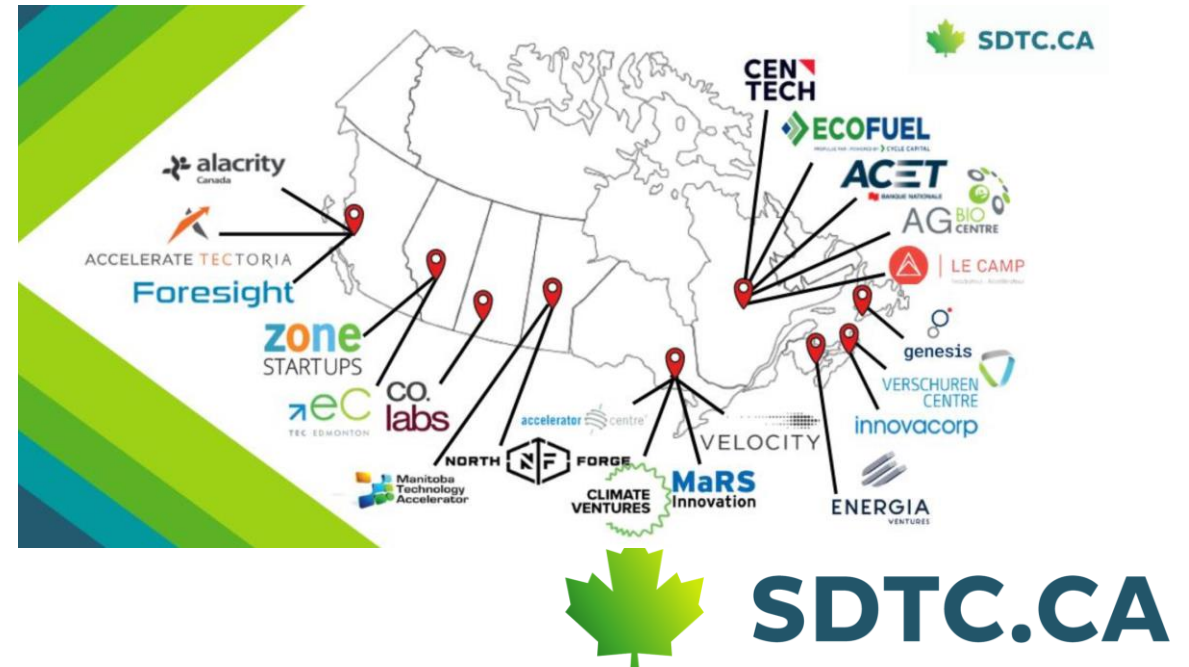
SD Tech (*the Original)

- Larger Start-up & Scale-up Projects (\$MM)
- Approvals in < 6 months, continuous application
- ~35-40 projects approved annually across all sectors, annual disbursement ~\$150 MM
- Initial Application – VCS – Due Diligence - Approval



SEED (*New!)

- Smaller grants (\$50,000 - \$100,000)
- Earlier stage companies
- Round based
- Approvals in < 8 weeks
- Nominated by Accelerators



Evaluation Criteria (Tech Fund)



- Support for Canadian small-to-medium size enterprises
- 33% (up to 40%) of eligible projects costs
- Average investment ~\$2-3M, complete in 5 years or less
- 25% of the eligible project costs must be funded through private sector / market partner contributions (including in-kind)
- Funding from all levels of government must not surpass 75% of eligible costs
- At least 50% of eligible project costs must be incurred in Canada



Canadian Cleantech Innovators



Mobility

- DRIVEWISE**
www.drivewisebc.com
- NEW FLYER**
- RIDE GO**
- netlift**
- THE LION ELECTRIC CO**
- Brisk Suneraies**
- smarthalo**
- GSTS**
Navigate Tomorrow Today

Water

- Saltworks**
- SANEXEN**
ENVIRONMENTAL SERVICES INC.
- PARADIGM**
- UBIOS**
- pure**
TECHNOLOGIES
- EcoVu**
- FUSE FORWARD**
- SewerVu**
IN-PIPE GPR

Infrastructure

- miOVISION**
- THINK DATA WORKS**
- Sightline**
- NÜENERGY**
- BluWave^{ai}**
- SWITCH**
- CarbiCrete**

Sensors

- GIATEC**
- smart energy instruments**
- GHGSat**
GLOBAL GREENHOUSE GAS MONITORING
- SPARK**
Microsystems
- Odotech**

Buildings

- OTI Lumionics**
Quantum Computing for Materials Discovery
- COOLEGE**
- mappedin**
- ecobee**
- ATABOTICS**
- NORTEK**
AIR SOLUTIONS
- IBC**
Better Boilers
- AXIS**
- carmanah**
we put solar to work
- ASEE smart energy**
- nanoleaf**

Energy

- opus one**
SOLUTIONS
- core**
ENERGY RECOVERY SOLUTIONS
- NRSTOR**
- Borealis Wind**
- EnPowered**
- HELIENE**
- awesense**
- smarteralloys**
making smart materials smarter
- PEAK POWER**
- ecamion**
- JDRF**
ELECTROMAG

Waste

- DEM**
sherbrooke
- Recycle Smart**
- GREENMANTRA**
TECHNOLOGIES
- PYROWAVE**
CLOSING THE LOOP
- NEW RUBBER TECHNOLOGIES**
- Li-Cycle**
- Lithion**
Lithium-ion battery recycling
- Polystyvert**
- FIBRACAST**
- WASTE ROBOTICS**
- Enerkem**

Interested in working with us?

If you're ready, we're ready.

Check out our website for more info
www.sdtc.ca/en/apply

Or contact us, we'd love to hear from you.

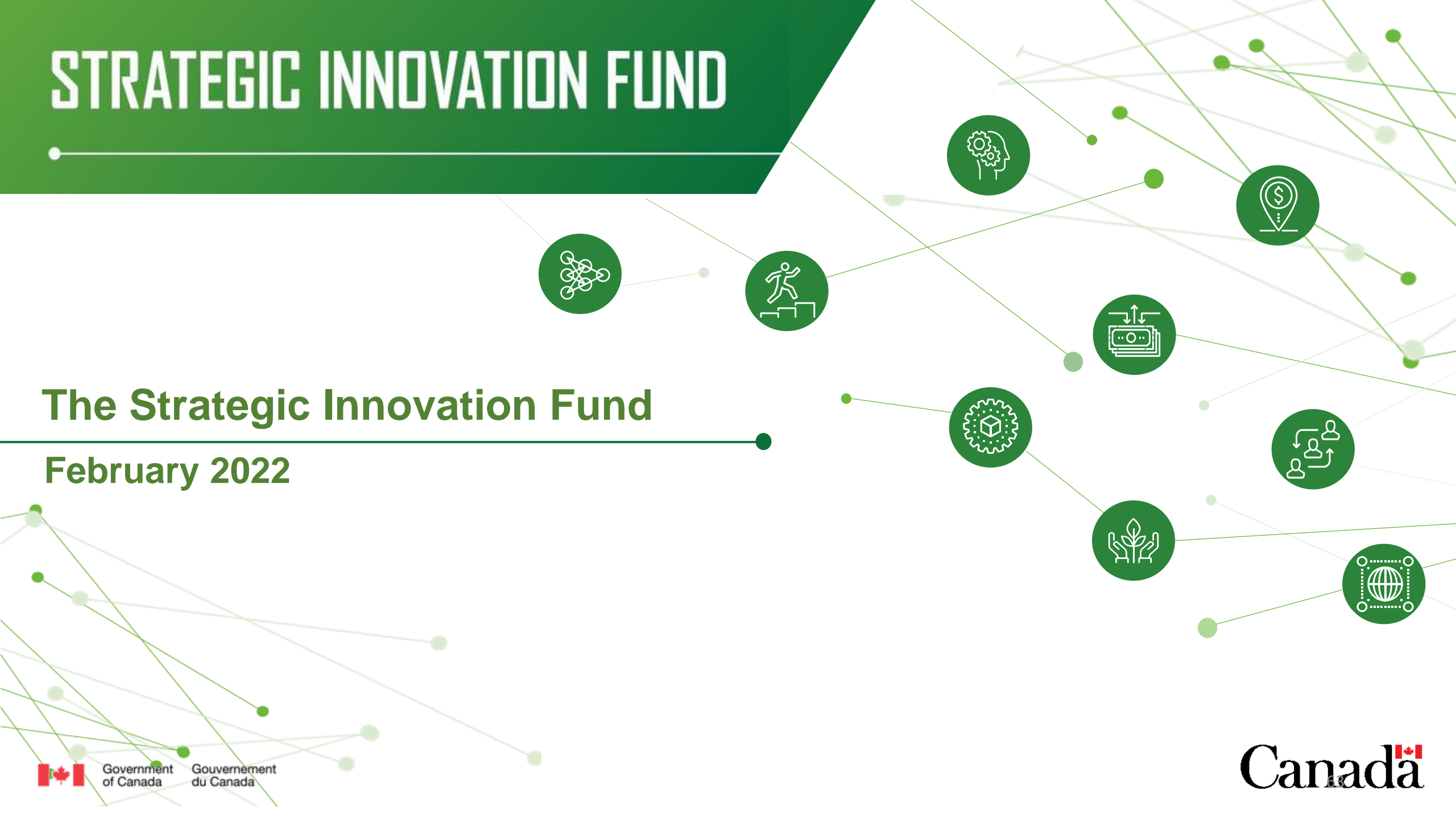


SDTC.CA

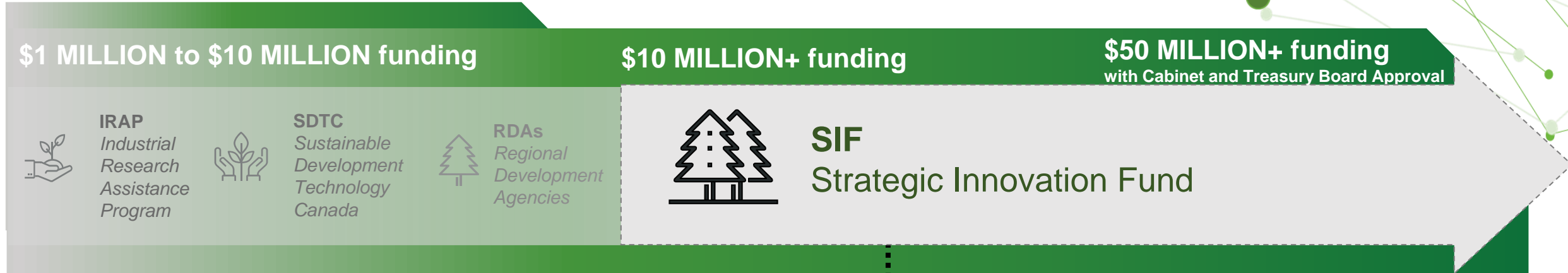
STRATEGIC INNOVATION FUND

The Strategic Innovation Fund

February 2022



About - Strategic Innovation Fund (SIF)



Large Scale projects:

- Min. \$10M ask towards total project costs of at least \$20M.
- Average SIF investment of \$97M to date
- Average total project cost of \$398M to date

Leveraging Private Investments:

- SIF contributions cover 10-50% of total project costs, average to date 25%

Supporting the Canadian innovation ecosystem:

Business Innovation & Growth:

- Support R&D
- Facilitate scale up
- Investment Attraction

Collaborations & Networks:

- Tackle innovation challenges
- Support national ecosystems

Long Term Agreements:

From 10 to 25 years:

- 3- to 5-year work phase
- 2-year grace period
- Up to 20 years in repayment and/or benefits commitments to Canada

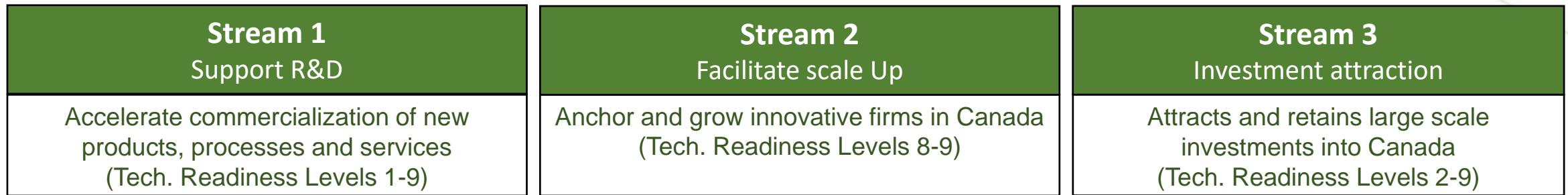
Securing Benefits for Canadians:

Secure long-term commitments to create and maintain jobs, R&D, and retain IP in Canada (contractual obligations)

Supporting 5 types of projects in two categories

Business, Innovation & Growth

(for-profit companies incorporated in Canada – small, medium or large)

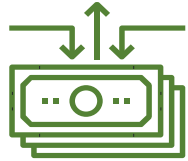


Collaborations & Networks

(e.g. networks of academic institutions, non-profit organizations, private sector consortia)



Designed to attract and select high benefit projects



Economic benefits

Long-term high-skill job footprint, significant FDI/greenfield/brownfield investment in Canada, incremental activities to strengthen supply chain support for SMEs and commercialization



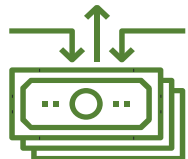
Innovation benefits

Collaboration to enable disruptive innovation, commercialization of new IP, high R&D in Canada, new technology with potential for market disruption



Public benefits

Environmental benefits, collaboration with academic and research institutions, robust diversity and inclusion plan



Financial and management capacity

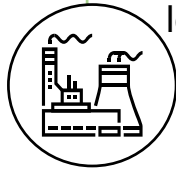
Assessment of the applicant's ability to deliver on the project e.g. secure/provide required funding, remain solvent, and ability of senior management to undertake a project on scale of proposal.

SIF's Net Zero Accelerator (NZA)

To support the Government of Canada's climate agenda, the NZA has \$8 billion in funding across three overarching priorities:

Decarbonizing High Emitting Sectors

- Support Canada's largest industrial emitters to dramatically reduce their GHG footprint faster and with less financial risk



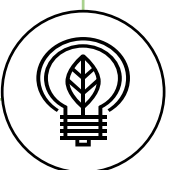
Green Industrial Transformation

- Position other key industrial sectors (automotive, aerospace, mining and others) for success – securing first-mover advantage in a low-carbon global economy



Clean Tech Development & Battery Ecosystem

- Establish Canada as a clean tech leader, enabling domestic decarbonization and industrial transformation, while capitalizing on new growth opportunities



Thank you!

Contact us

Have a SIF inquiry or considering your project?

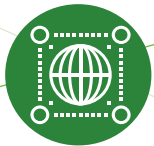
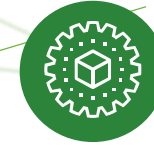
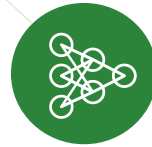
SIF encourages **pre-application consultation** for all projects seeking funding. Potential applicants are invited to send us an email at ic.sifinfo-infoksi.ic@canada.ca to coordinate proposal guidance

Get informed

Set yourself up for success and guide your application through the [SIF toolkit](#)

How to apply

Request the SIF Statement of Interest application package by e-mail: ic.sifadmission-fsiadmission.ic@canada.ca





Energy Innovation Program

Managed by the Office of Energy Research & Development



Natural Resources
Canada

Ressources naturelles
Canada

Canada

February 2022

Energy Innovation Program (EIP)

- Advances clean energy technologies that will help Canada meet its climate change targets, while supporting the transition to a low-carbon economy.
- Funds research, development, and demonstration (RD&D) projects and other related scientific activities. Recent funding calls linked to Carbon Capture, Utilization and Storage (CCUS), Clean Fuels Production, and Industrial Fuel Switching to advance key energy innovation priorities in these areas.

SUPPORTING CLEAN ENERGY INNOVATION ACROSS FOUR MISSIONS

Improving
efficiency and
processes to reduce
emissions from
energy end-use

Accelerating
electrification and
maximize benefits of
low-emitting heat
and power

Developing
cleaner fuels
pathways

Maintaining
safe and resilient
energy systems to
protect Canadians in
the changing energy
landscape

Funding and Eligibility

- Ongoing annual grants and contributions budget of \$24M/year to run targeted calls and other strategic collaboration and investment programs. In addition, \$319M over seven years from Budget 2021 for CCUS-related RD&D.
- Eligible recipients include:
 - Registered corporations and other business entities
 - Non-profit entities
 - Provincial and municipal governments and organizations
 - Utilities
 - Indigenous organizations
 - Academic institutions


Clean Fuels and Industrial Fuel Switching

- Accelerate the development of technologies that can decarbonize heavy industry and other hard-to-abate sectors. This call features three focus areas:
 - **Focus Area 1: Industrial fuel switching (~\$25M):** substitution of lower carbon fuels or feedstock in the following four heavy industrial sectors: chemicals and fertilizers, iron and steel, smelting and refining, and cement;
 - **Focus Area 2: Clean fuels production (~\$25M):** production of clean gaseous and liquid fuels, such as hydrogen, advanced biofuels, liquid synthetic fuels, and renewable natural gas;
 - **Focus Area 3: Hydrogen codes and standards (\$3M):** advancement of codes and standards along the hydrogen life cycle, from production to end-use.
- Intake for expressions of interest has *closed*. Successful applicants will be invited to full project proposals in Spring of 2022.

CCUS Calls

- **CCUS Front-End Engineering and Design study** (intake of full project proposals has now *closed*, successful applicants will be notified in March 2022)
 - This call supports projects that have the potential to significantly mitigate emissions and advance the knowledge base for applying CCUS technologies to different types of facilities in Canada.
- **CCUS R&D** (additional funding opportunities to be announced in Summer 2022)
 - Additional requests for proposals are planned that will advance critical knowledge and technologies across the CCUS value chain in Canada and bring together businesses, academia, non-profits, industry, government, and federal laboratories on the path to net-zero emissions by 2050.
 - This support will cover capture, utilization, storage and transport related carbon technologies.

CONTACT US

 Natural Resources Canada Ressources naturelles Canada

Canada



nrcan.energyinnovation-innovationenergetique.rncan@canada.ca



www.nrcan.gc.ca/energyinnovation



LOW CARBON ECONOMY FUND (LCEF)

February, 2022



Environment and Climate Change Canada's **50th anniversary**
50^e anniversaire d'Environnement et Changement climatique Canada

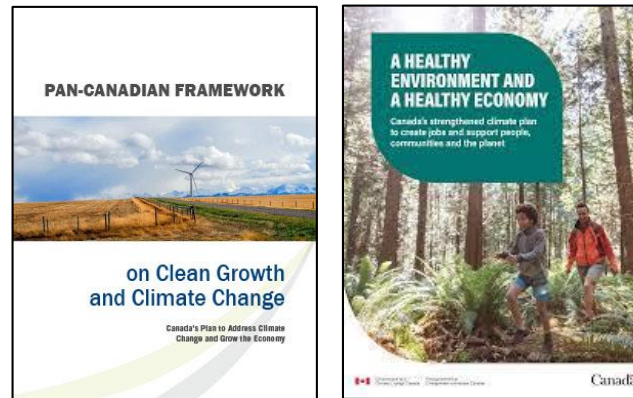
Meteorological Service of Canada's **150th anniversary**
150^e anniversaire du Service météorologique du Canada



Canada 

ABOUT THE LOW CARBON ECONOMY FUND

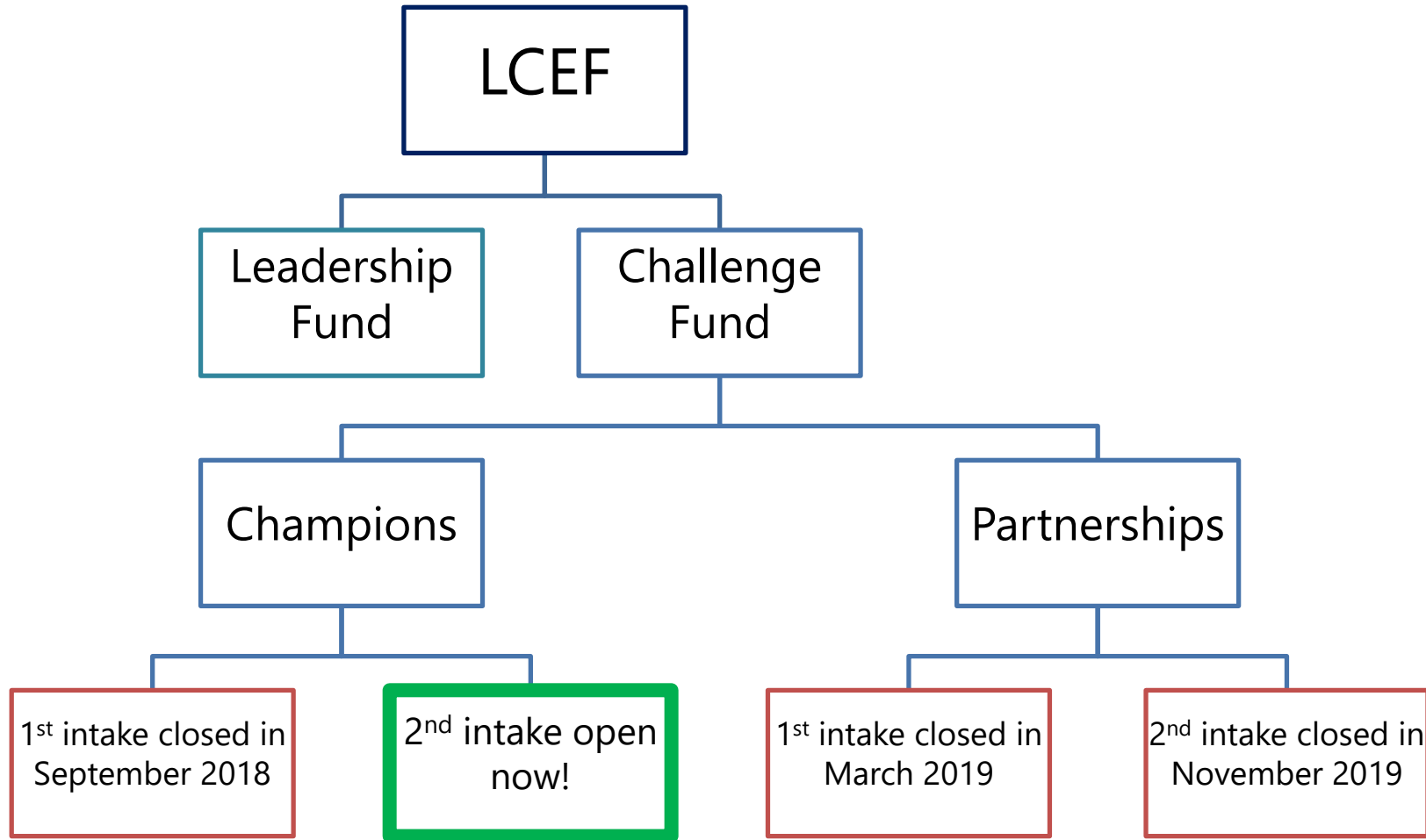
- The Low Carbon Economy Fund (LCEF) supports the Pan-Canadian Framework on Clean Growth and Climate Change and Canada's new strengthened climate plan, *A Healthy Environment and a Healthy Economy*



- The LCEF objectives include:
 - reducing Canada's greenhouse gas emissions (GHG)
 - meeting or exceeding Paris Agreement commitments
 - generating clean growth
 - supporting innovation
 - creating jobs



ABOUT THE LOW CARBON ECONOMY FUND



CHAMPIONS STREAM: 2022 INTAKE RESULTS & TIMELINE

- Supports projects that **reduce Canada's GHG emissions** in 2030 and beyond
- All projects must have **GHG emissions reductions** that are **material, cost-effective, and incremental**
- Final selection expected in **fall 2022**
- **Projects must be completed by March 31, 2025**



CHAMPIONS STREAM: 2022 INTAKE FUNDING

- Projects can receive **between \$1 million and \$25 million** in funding
- Funding provided once **claims** for eligible expenses are **submitted and processed**
- All expenses **incurred prior to the signing of a Funding Agreement** between Environment and Climate Change Canada (ECCC) and the recipient **are NOT eligible** for funding



ELIGIBLE APPLICANTS

Applicant Type	Maximum LCEF contribution toward eligible expenditures
Provinces	50%
Territories	75%
Municipalities	40%
Indigenous Communities and Organizations	75%
Businesses	25%
Not-for-profit Organizations	40%

ELIGIBLE PROJECTS

- Must result in reductions in GHG emissions in 2030 and over the lifetime of the project
- These reductions must be:
 - ✓ Of sources of emissions controlled by the applicant or project partner (“**direct**”) and/or to grid electricity emissions (“**acquired**” or “**indirect**”)
 - ✓ Beyond what is required by existing regulations, standards, or codes and ongoing work by project proponents (“**incremental**”)
 - ✓ Directly and immediately the result of activities funded by the program



ELIGIBLE PROJECTS CONT.



Must make use of commercially available technology



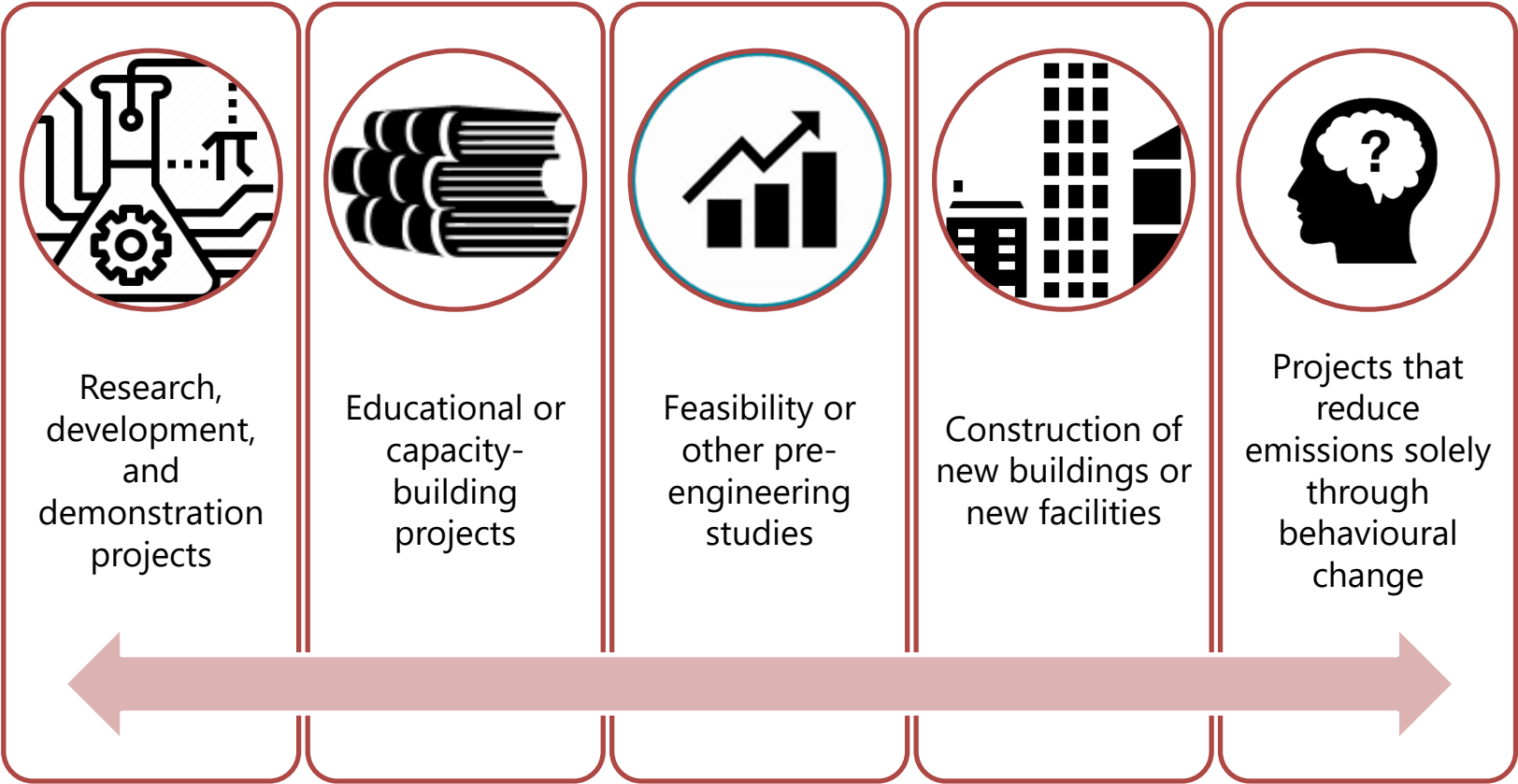
Project locations must be confirmed at the submission of the Formal Proposal



Projects producing electricity or fuel must be producing these for "own-use"



INELIGIBLE PROJECTS



INELIGIBLE ACTIVITY TYPES

- × LED lighting retrofits
- × Enhancing carbon sinks
- × Zero Emission Vehicles (ZEVs) and ZEV infrastructure
- × Purchase of new vehicles
- × Active transport (e.g. biking or pedestrian infrastructure)
- × Public transit infrastructure and vehicles
- × Fuel transportation infrastructure
- × Transmission and distribution infrastructure
- × District energy systems for new construction
- × Activities where GHG reductions are based solely on products manufactured or sold by the Applicant for market consumption



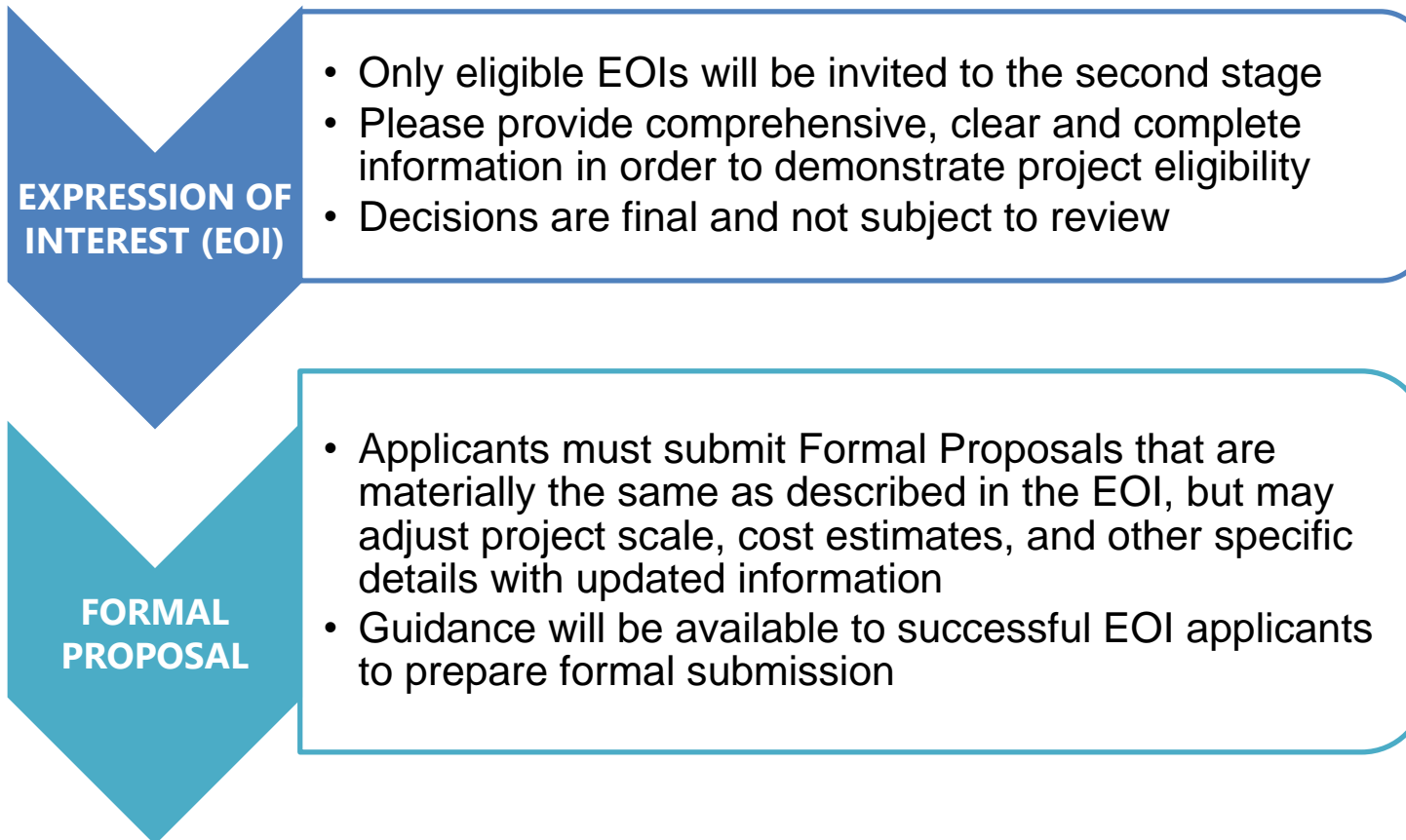
CHAMPIONS PROJECT EXAMPLES

Project	Recipient	Location
Softwood Mechanical Dewatering to Reduce Fuel Consumption	Pinnacle Renewable Energy Inc.	BC
Landfill Gas System Expansion and Gas-Collecting Well Upgrade	The City of Winnipeg	MB
Deep Energy Retrofits and District Heating System	City of Saint John	NB
Solar Energy for Mine Diesel Switching	De Beers Canada Inc.	NWT
Campus Energy Efficiency and Heat Recovery	Board of Governors of the University of Calgary	AB



HOW TO APPLY

TWO-STAGE APPLICATION PROCESS



KEY DATES

Expression of Interest (EOI) Submission Deadline:

March 25, 2022 at 8:00 pm EDT

- Stream opened for EOI: **January 27, 2022 at 00:01 am EST**
- Eligible and non-eligible applicants will be notified **within six (6) weeks** of the closure of the EOI intake period
- The Formal Proposal intake will last approximately two months and take place **mid 2022**
- Final funding decisions: **fall 2022**



CONTACT US

- **Low Carbon Economy Challenge email:** lcef-fefec@ec.gc.ca
- **SWIM technical assistance and website functionality:** gigu-swim@ec.gc.ca
- ***Webinars coming later this month. They will be offered in both English and French. Stay tuned!***





EMISSIONS
REDUCTION
FUND



Natural Resources
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Canada

Canada 

Methane Context and the ERF



Canada's strengthened climate plan

- By 2030, 40-45% GHG reductions below 2005 levels
- By 2030, at least 75% CH₄ reductions in the oil and gas sector below 2012 levels
- By 2050, net-zero emissions

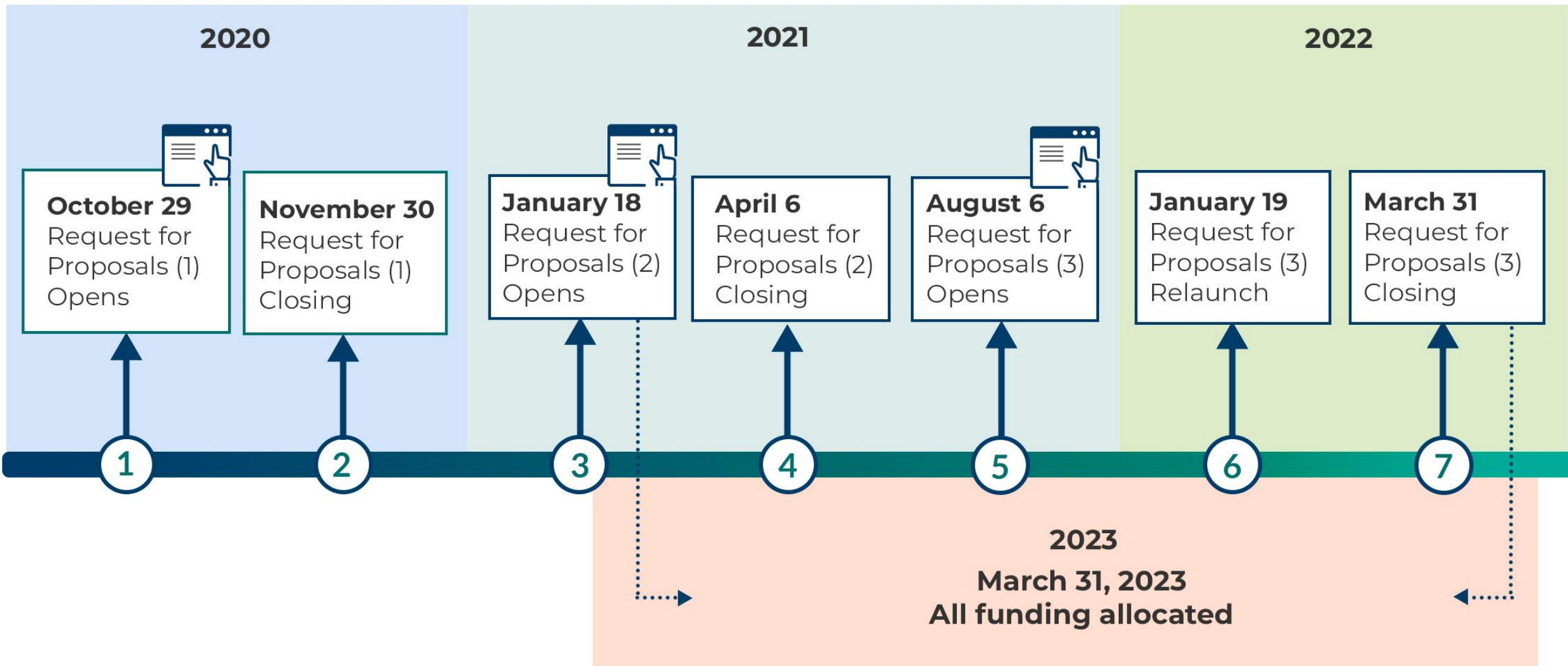


Emissions Reduction Fund (ERF) making major strides in reducing methane, helping oil and gas companies deploy green technologies and infrastructure solutions

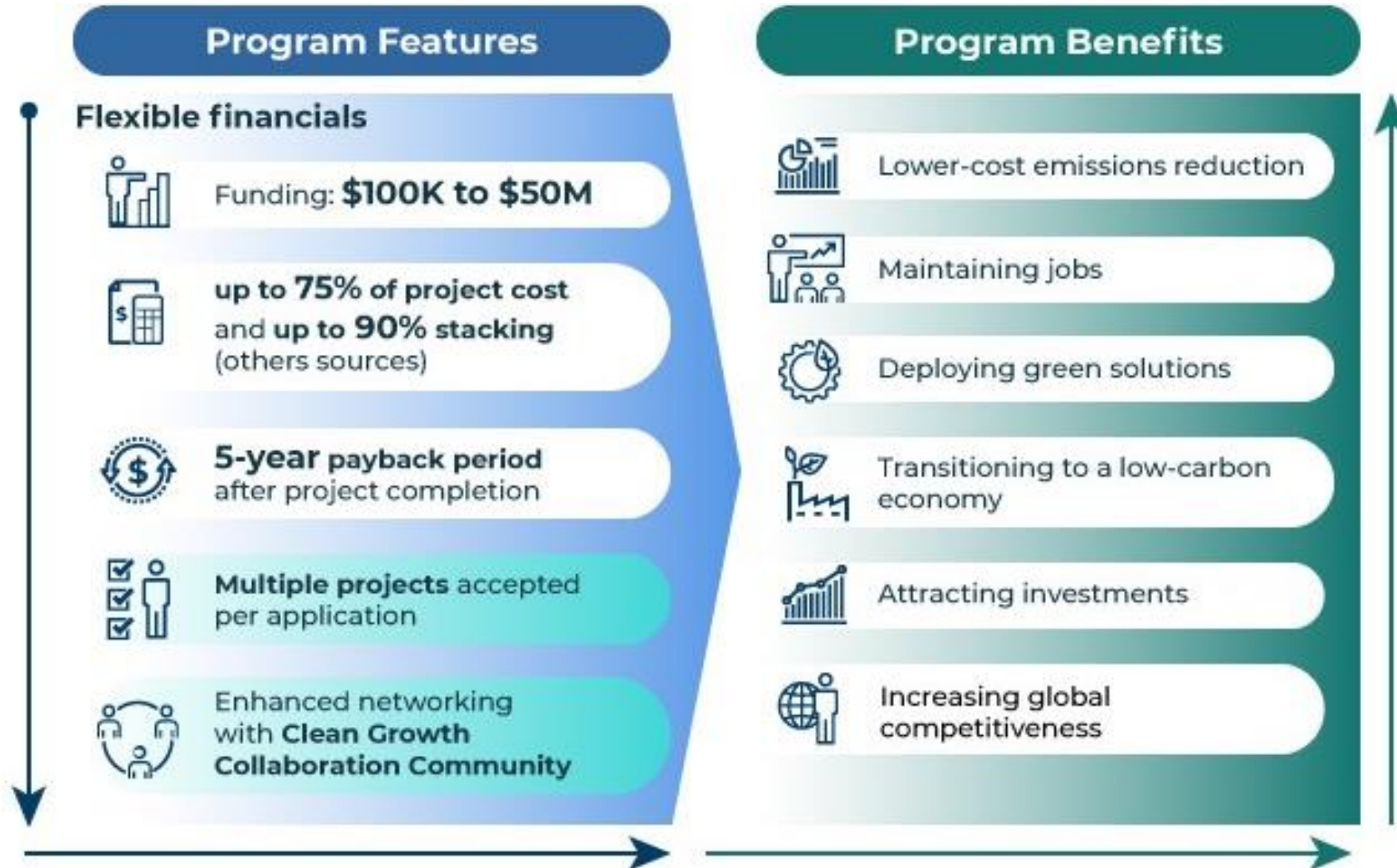
Refocused Emissions Reduction Fund Onshore Program

- ▶ Adapts to the improved economic situation in Canada's oil and gas sector
- ▶ Feedback from program stakeholders including industry, ENGOs
- ▶ Recommendations of Commissioner of the Environment and Sustainable Development (CESD)

ERF Intake Timelines



About the Program



Some Key Requirements Across All Intakes

❖ **Baseline Opportunities Assessment (BOA)**

- Accurate time series quantification of vented volumes
- Accurate chemical analysis of methane and non-methane VOC
- BOA costs are eligible under the ERF

❖ **Class 3 cost estimates**

- Accurate BOA enables accurate design, sizing and costing of gas conservation infrastructure

❖ **Continuous metering**

- Metering with custody transfer accuracy is required for all elimination projects; and
- Metering costs are eligible under the ERF

Minimum ERF Funding Required

- ❖ Proposed projects must demonstrate that they would not be executed without funding from the Program.
- ❖ Demonstrate project will not be / very low-likelihood of being sanctioned internally, without the minimum requested funding from the Program.

Cost Per Tonne Repayability Scale

$$\text{Cost Per Tonne} \left[\frac{\$}{tCO_2e} \right] = \frac{\text{Total Project Cost} [\$]}{\text{Net Emission Reductions} [tCO_2e] \text{ in the first 12 months after project completion}}$$

Partially Repayable Contribution

Forego any potential carbon offsets generated

Opt-in

Fully Repayable Contribution

Retain carbon offsets generated, if applicable

Cost Per Tonne of GHG Reductions	Non-Repayable Portion of ERF Funding
\$20 or less	50%
\$21 to \$50	35%
\$51 to \$100	20%
\$101 to \$250	10%

Cost Per Tonne must be equal to or less than **\$250/tCO₂e**

Must Surpass Regulatory Requirements

Emissions elimination projects must result in the facility, wherein the proposed project is being implemented, **surpassing the regulatory requirements** relevant to the jurisdiction of facility operation, and must result in net emissions reductions that are verifiably incremental to what is required under the relevant regulation(s).

❖ **Baseline Operating Condition**

- Describe the current operating conditions of venting, flaring and/or incineration of gas

❖ **Compliant Operating Condition (if applicable)**

- Describe any project(s) that need to be executed to meet the most stringent pending regulatory requirements (independent of ERF funding)

❖ **Post-ERF Project Operation Condition**

- Describe how the outcomes of the proposed project will surpass regulatory requirements

See Applicant's Guide Section 2.3.6 for additional information

Thank you!

Our revised third application intake period is open until March 31, 2022 at 5:00 PM Pacific

For more information and/or questions, please contact the ERF Concierge Service:

erf-fre@nrcan-rncan.gc.ca



CLEAN GROWTH HUB



Overview

- **Clean Growth Hub** was launched in January 2018 as **whole-of-government** focal point on clean technology
- **Single-window** approach for clean technology developers and adopters
- **Real-time sharing of information and collaboration** across federal organizations in order to help companies and programs
- We are a **service**, not a funder, and have served over 2,300 clients thus far



Helping Canadian
clean technology
developers and adopters



Specialized knowledge
of federal programs
and services



Nimble service
that is responsive
and reliable

Hub has three core functions



Supporting clients



Enhancing program coordination



Strengthening capacity to track results

Supporting clients: tailored advice

- We help clean tech innovators and adopters with program-ready clean tech projects connect with appropriate financial and non-financial federal supports:
 - **Relevant funding programs and services**
 - **Federal experts** who can provide support related to regulations, standards, government procurement, skills and training, domestic and international markets, intellectual property, and more.
- Our clients
 - The service is available to clean tech innovators and adopters from across Canada, clean tech sub-sectors and innovation stages
 - Most organizations are **SMEs** (65%) and we have served 2300+ clients since 2018
 - Most common reasons for contacting: want info on government programs (81%); seeking support for export activities (20%); questions about regulatory policy, procurement or IP (14%)



When to reach out

- You have a partial gap in funding
- Have a project that is program-ready
- Need help navigating Federal programs and services that are available to help you advance your clean tech projects

What does “program-ready” mean?

- You have a clearly defined project that is past the idea stage;
- You own the IP or have an IP strategy;
- You have a business plan

Our partners & our network

Access to expert advice, resources networks from 17 government organizations across Canada

- **Innovation, Science and Economic Development Canada (Co-Chair)**
- Agriculture and Agri-Food Canada
- Business Development Bank of Canada
- Canadian Commercial Corporation
- Crown-Indigenous Relations and Northern Affairs Canada
- Employment and Social Development Canada
- Environment and Climate Change Canada
- Export Development Canada
- **Natural Resources Canada (Co-Chair)**
- Fisheries and Oceans Canada
- Global Affairs Canada (Trade Commissioner Service)
- Indigenous Services Canada
- National Research Council Canada
- Standards Council of Canada
- Sustainable Development Technology Canada
- Transport Canada
- Treasury Board of Canada Secretariat (Centre for Greening Government)

Resources and Contact Information

- Accessing the Hub's advisory service:
 - When you have a project fill out our [online service request form](#) to help us understand your needs
 - We will respond to you within 5 business days
- Online resources
 - [Hub website](#) is updated weekly with federal resources, services, information and tools
 - [TRL assessment tool](#)
 - [Toolkit on how to apply for federal funding](#)
- Quarterly newsletters
 - Subscribe to our [newsletter](#) to stay up to date on programs and services



info.cgh-ccp@canada.ca



Canada.ca/clean-growth



[#CleanGrowthHub](https://twitter.com/CleanGrowthHub)

Thank You!!

URL: [Cleanbc.ca/industryfund](https://cleanbc.ca/industryfund)

Email: CleanBCIndustryFund@gov.bc.ca