# Alberta Cleantech Ecosystem Map 2023

# **MAP SPONSORS**

Développement économique Canada pour les Prairies

# Section 1: Funding

# **Grant Funding, Tax Credits & Challenge Prizes**

#### <u>Alberta Innovates</u>

Alberta Innovates manages a number of investment programs on behalf of the Government of Alberta

<u>Alberta Upstream Petroleum Research Funding (AUPRF)</u> Oil and aas industry-sponsored research fundina.

**Branch Out Neurological Foundation** Provides grants for researchers at universities across Canada pursuing technological solutions for neurological conditions.

**Calgary Foundation** Connects donors and local organizations to give grants.

**Canada Foundation for Innovation** The CFI supports research and innovation at post secondary institutions, hospitals and non-profit organizations.

Canadian Agri-Food Automation and

Intelligence Network CAAIN funds projects connecting technology and agri-food companies to create solutions that improve competitiveness, growth and jobs.

<u>Canada Infrastructure Bank (CIB)</u> Organization looking to invest \$35 billion in revenue-generating infrastructure which benefits Canadians and attracts private capital.

**<u>Clean Resources Innovation Network</u>** 

Accelerates ground-breaking solutions by establishing industry priorities and connecting innovators and resources

**<u>Climate Innovation Fund hosted by Alberta Ecotrust</u>** CIF provides programming in Calgary and Edmonton, taking on a nimble, accelerator role, complementing and advancing the leadership work undertaken by the municipalities

**Emissions Reduction Alberta (ERA)** ERA accelerates innovation to reduce greenhouse gas emissions in Alberta.

Environment and Climate Change Canada (ECCC) Organization that funds development projects like the Low Carbon Economy Fund.

# Federal investor tax credit for renewables -Fall Economic Statement 2022

The 2022 Fall Economic Statement proposed a refundable tax credit of 30 percent for clean technology investments made as of the day of Budget 2023, with a phase out starting in 2032, for investments in:

Electricity Generation Systems
Stationary Electricity Storage Systems

• Low-Carbon Heat Equipment

Industrial zero-emission vehicle

**Government of Alberta - Small Business Resources** 

Supports are available to help Alberta entrepreneurs and small businesses start, grow and succeed.

#### GreenSTEM

Provides funding and support for high-tech entrepreneurial development.

Impact Canada Challenge Hub A hub for the government's various innovation challenges to create solutions to economic, environmental, and social problems.

Innovation, Science and Economic Development **Canada Business grants and financing** 

Grants, loans, private and public sector financing and leveraging personal assets.

Innovative Solutions Canada

Supports innovation by having Federal Government departments define

#### Scientific Research and Experimental Development Tax Incentive Program (SR&ED)

The Scientific Research and Experimental Development (SR&ED) Program uses tax incentives to encourage Canadian businesses of all sizes and in all sectors to conduct research and development (R&D) in Canada.

Smart, Sustainable, Resilient Infrastructure Association

SSRIA funds elements of approved building projects that employ innovative GHG reducing technologies OR provides training to upskill the current and future building workforce

**Social Sciences and Humanities Research Council** Federal research funding agency promoting research and training in humanities

**Strategic Innovation Fund** 

Grants for large projects and national innovation ecosystems

**Strategic Timelines** Helps Alberta technology companies secure grants and funding opportunities

Sustainable Development Technology Canada

#### **Clean Tech Fund**

and social science

Prairies Economic

**Development Canada** 

Helps accelerate the development and deployment of globally competitive clean technology solutions through coaching & funding Canadian entrepreneurs.

# Group of early stage investment funds for UofC and community based startups.

UCeed

# Venture Capital

#### **Accelerate Fund**

Alberta focused early stage VC fund that matches Angel investments into a startup. Collaboration between Yaletown Partners & the A100

**Alberta Enterprise** 

Connects innovators and entrepreneurs with venture capital firms.

#### **ARC Financial**

Focused on early stage growth focused oil and gas companies and established energy transition team

**Arctern Ventures** Focused on climate change and sustainability.

#### **AVAC Group**

Focused on new Canadian agriculture technology companies.

#### **Carrot Ventures**

Carrot sources and vets new technologies, recruits experienced leadership, forms new companies around the tech and talent, and leads the first round of financing

**Chrysalix VC** VC firm focused on industrial innovation.

## **Cycle Capital**

VC firm focused on addressing the most pressing economic and environmental challenges of the oil and gas industry.

#### **Enertech Capital**

Focused on technology-enabled solutions or business models comprised of software and or hardware

#### **EVOK Innovations**

VC firm focused on industrial innovation and clean technology

#### <u>Intergen Fund</u>

Focused on helping already established companies (approx. \$1-5 million in revenue) scale

#### McRock Capital

VC firm focused on dramatically improving the profitability of producing or consuming energy. Startup TNT Community of entrepreneurs, scientists, investors, innovators, and startup



# **Wages and Interns**

#### <u>Alberta Innovates -</u>

**Commercialization Associates Program** 

This program is designed to fund SMEs to employ a commercialization professional, for one year for between \$52-\$105,000/yr.

**Alberta Training to Work Programs** 

Reimbursements for workplace and 3rd party training of unemployed Albertans. <u>Brain Create - University of Calgary</u>

Program for neurotechnology graduate studies where research is dedicated to brain function in geographical, biological and environmental extremes.

Career Launcher - grad internship program up to \$15,000 to hire a canadian post-secondary grad, under 30yrs old, for a 6-12

month internship **GreenSTEM - fellowship** 

2yr fellowship for recent grads of STEM Masters & Phd programs, so they can develop their technologies with emissions reduction potential.

**MITACS** 

We provide funding for projects – up to 55% – and connect highly trained researchers with the businesses that need them and help guide you through the process.

#### <u>NRC - Industrial Research Assistance Program</u>

R&D and Internship funding. Wage subsidy funding for 3 - 12 month internships for young grads.

#### **Parex Resources Innovation Fellowships**

Fellowships providing researchers and students the resources to innovate and solve problems in data science, analytics, cybersecurity, precision medicine and energy

**PURE Program** 

Funding for undergraduate students to explore and conduct research opportunities.

#### Work-Integrated Learning Industry

# Voucher pilot program

Fund paid work-integrated learning placements for post-secondary students with employers in with Technology Alberta, Alberta Construction Association, BioAlberta. Working with post-secondary institutions and employers to match students with new work-integrated learning opportunities

The program will also help employers access emerging local talent by providing a grant of up to \$5,000 per student placement, which is matched by the employer.

# Section 2: Commercialization

### Accelerators

#### Campus Alberta Neuroscience

Collaboration between the Universities of Alberta, Calgary and Lethbridge to improve research and innovation related to brain health through funding and

Canadian Environmental Technology

**Creative Destruction Labs-Rockies** 

**Advancement Corporation- WEST**  $\label{eq:supports} \textsc{SMEs}\ engaged in the development and commercialization of new$ environmental technologies

A seed-stage program at UofC for massively scalable, science-based

companies with both a general technology and energy specific stream.

#### Knowledge Engagement and Innovation Grant

Provides grants and supports innovation through collaboration, focused on the public-sphere and providing real-world impact.

#### NRC Industrial Research Assistance Program

# (NRC IRAP)

Provides funding, advice, and connections to help businesses increase their innovation capacity and take ideas to market

#### Natural Gas Innovation Fund

Backed by natural gas producers, distributors and utilities, NGIF funds and validates early stage cleantech innovation in the natural gas value chain.

#### Natural Products Canada

Helping to connect and support a vibrant ecosystem of expertise, resources, and investment that bolsters commercialization in Canada's natural products industry.

# **Natural Sciences and Engineering Research**

#### **Council of Canada**

Funds innovators creating scientific and technological breakthroughs that will benefit Canada.

#### Next Generation Manufacturing Canada

NGen brings together advanced manufacturing and technology to drive digital transformation in Canada through challenges, grants and cluster building.

#### Prairies Economic Development Canada

Funding and support for businesses and non-profits that advance economic growth and diversity in Alberta, Saskatchewan and Manitoba.

#### <u>Protein Industries Canada</u>

PIC works with private sector industry partners to create co-investment projects that have the potential to transform the agriculture and food production sector.

upporters that, among other activities, hosts inve private funding

#### **Sprout**

VC firm focused on seed-stage technology companies.

#### <u>The51</u>

Focused on providing capital for women and gender-diverse founders.

#### Valhalla Private Capital

Focused on early stage startups providing investments, training and mentorship.

#### Venture Capital Catalyst Initiative

Investing in young, high growth potential companies to develop ideas into marketable products

## Loans

#### Alberta Indian Investment Corporation

Provides Alberta First Nation entrepreneurs loan and equity financing.

#### **Alberta Women Entrepreneurs**

Provides programs and services to women at all stages of business through advising, loans, mentoring, and skills and network development.

#### **ATB Financial**

Offers financing solutions and access to experts and resources to help Alberta businesses start and grow.

#### **Business Development Bank of Canada**

The bank for entrepreneurs. Offers financing, venture capital, growth & transition capital and consulting services

#### **Futurepreneur**

Provides financing, mentoring and support tools for aspiring business owners aged 18-39.

#### Edmonton Unlimited

scale their business.

DMZ

Edmonton Unlimited supports founders and entrepreneurs as they launch and build innovative products and companies.

Accelerating tech startups and entrepreneurs with assistance to launch and

#### Endeavor Canada

Endeavor Canada will provide homegrown entrepreneurs with access to Canada's established business leaders as well as Endeavor's international community of mentors, investors, and peers.

#### <u>Energy Innovation to Commercialisation Program (I2CP)</u>

Focus on decentralized energy in relation to fuel production or procurement, on-site energy generation, energy management tech and energy intensive consumers

#### **Foresight CAC**

Canada's cleantech accelerator for transformative clean technology startups from launch to scale.

#### **Global Innovation Clusters**

Objectives include connecting SME's with larger firms, increasing industry investments, maximizing IP creation, building connections to support growth and connecting stakeholders.

#### **Innovate Calgary**

Innovate Calgary supports founders and entrepreneurs as they launch and build innovative products and companies

#### Integrated Management Platform

#### to Accelerate Clinical Trials

Helps biomedical startups conduct clinical trials and secure regulatory approvals faster.

#### <u>League of Innovators</u>

Acceleration and educational programs for youth entrepreneurs.

#### MaRS

Toronto based accelerator for Canadian ventures in the cleantech, fintech, health, and enterprise sectors.

#### Section 2:

# Commercialization

## Accelerators

#### MRU Growth Catalyst

The Growth Catalyst program sparks the creation and sets the foundation for executing a growth strategy by CEOs and their senior leadership teams.

<u>NAIT - Productivity and Innovation Centre (PIC)</u> Provides support for companies focused on decentralized energy

#### startup Calgary

Calgary based events and programs for ideation and conception stage entrepreneurs.

#### startup Edmonton

Edmonton based mentorship, programs, coworking space, community events and support for entrepreneurs as they build and grow tech-enabled products.

# **Tecterra**

Calgary based geomatics technology innovation support centre.

#### <u>Tenet i2c</u>

Transforming medical research into companies up with up to \$100,000.

#### **The Accelerator**

Seed accelerator working with 10 companies at a time who apply to be part of their 5 month programs

#### **THRIVE Accelerator by SVG Ventures**

The THRIVE Accelerator supports seed stage startups from all areas of the value chain whose technologies drive us towards a more efficient, sustainable, and secure agriculture future.

#### <u>Tundra ACE (Acceleration Centre for Entrepreneurs)</u>

ACE is designed to help Alberta's best and brightest accelerate the commercialization of their near market-ready technologies that solve some of the industry's biggest challenges.

#### <u> UofC - Innovate Calgary</u>

UofC's innovation company offers resources, facilities, and expert guidance to help students, faculty and the community reach their goals

# Venture Mentoring Service of Alberta

VMSA is a volunteer organization that provides objective, conflict-free guidance to entrepreneurs

#### Venturepark Labs

Supports businesses with funding, marketing to scaling and strategizing to drive growth.

# Prototyping, Testing and Tech Validation

#### AIC-FER Technologies

Provides full-scale testing and specialized engineering consulting services from world-class facilities in Edmonton. Advances safety, environmental performance and efficiency in the energy industry.

#### <u>Al Innotech</u>

Operates several applied research facilities across AB, and delivers lab services for government and industry clients.

#### **COSIA Environmental Technology Assessment Portal**

COSIA's online assessment tool for technologies, practical solutions, and research that can accelerate environmental performance improvement in Canada's oil sands

#### **COSIA Water Technology Development Centre**

A dedicated test facility for new water treatment technologies for the oil sands. Federal Government - CanmetENERGY - Devon AB Research Centre Dedicated to the the development of cleaner fossil fuels and related environmental technologies with a focus on oil sands and heavy oil

#### **NAIT Centre for Sensors & System Integration**

We help industry partners develop prototype devices that address sensor-based challenges in resource extraction, agriculture, biomedical, and advanced technology enterprises. Our team uses engineering technology to produce and evaluate prototypes for field trial.

#### NAIT Distributed Energy Management Initiative A "plug-and-play" microgrid where energy companies can test and validate

their technologies under realistic field conditions.

# Olds College Smart Farm

Smart Agriculture Hub that provides land and facilities so that researchers & entrepreneurs can test, demonstrate and scale up their technologies.

#### RDC Red Deer College Alternative Energy Lab The lab assists industry and research, while also providing RDC students with the

skills necessary to install, operate, and maintain alternative energy system SAIT - ARIS Centre for Energy Research and Clean

# **Unconventional Technology Solutions**

An ARIS managed centre at SAIT that has lab space for testing and pilot demonstrations for energy research.

#### SAIT - ARIS Green Building Centre

A SAIT research division that develops environmentally friendly technologies, processes, and systems that will change the way we build, educate and develop skilled labour

#### SK Gov Saskatchewan Research Council

# Workspace

#### **Energy Transition Centre**

Space that nurtures emerging startups and their founders by de-risking and high-grades energy transition technologies in collaboration with industry, academics, students, researchers, end users and the community.

#### Lab NEXT

Bookable lab space at UofC providing high performance computers and other services for research activitie

#### Microsystems Hub

Provides access for small business and academics to affordable nano/ microtechnology equipment and prototyping.

#### <u>Platform Calgary - Platform Innovation Centre</u>

the ARTC offers more than 120,000-square-feet of office and shared space making it one of Calgary's largest innovation communities.

#### **Visualization Studio**

High resolution display for working with digital information. For use by faculty, students and other collaborators at UofC

#### **Work Nicer Coworking**

Alberta's largest coworking community.

#### Zetta

Digital design, virtual reality and internet of things labs at UofC for researchers and students to connect and develop digital solutions.

#### 150 Startups

Promotes collaboration between Alberta college and universities to share ideas, resources, technology to guide students in their journey to become entrepreneurs.

# Section 3: Connections

# **Building Your Industry Network**

#### **321 Growth Academy**

Courses built by experienced entrepreneurs to scale their startups

# <u>A100</u>

Non-profit organization dedicated to help upcoming tech innovators. **Alberta Catalyzer** 

#### Pre-accelerator to help entrepreneurs launch a tech business in Alberta.

Alberta Council of Technologies A higher level group composed of Alberta's technology industry associations. A point of contact for Alberta's technology leaders and entrepreneurs.

#### **Alberta Women's Science Network**

Promotes and connects individuals in all stages of their STEM career.

#### **BioAlberta**

Supports Alberta's life sciences through promoting awareness of the industry and the products and services of member companies

#### **BLG Business Venture Clinic**

Student-run pro bono clinic at UofC providing free legal information for Calgary's entrepreneurs

#### <u>Business Link</u>

Provides support to start-ups at all stages with market research, guidance, training and networking. **Calgary Innovation Coalition** Group of organizations in the Calgary region that support entrepreneurs,

# startups and enterprises.

Canada's Oil Sands Innovation Alliance (COSIA) Accelerating the pace of improvement in environmental performance in Canada's oil sands through collaborative action and innovation

# Canadian Geothermal Energy Association (CANGEA) Accelerating the exploration and development of geothermal resources to provide secure and sustainable clean energy.

**Canadian Institutes of Health Research** A network of researchers collaborating to solve health problems across various

# health sectors, regions and disciplines.

#### **Cybera** Overseeing the development and operations of cyberinfrastructure in Alberta.

**Decentralized Energy Canada** 

# Calgary based national industry association for the decentralized energy sector.

# Environmental Services Association of Alberta (ESAA) The ESAA provides its members with networking opportunities, education publications and conferences in the environmental industry.

# **Experience Ventures**

Connects students with new companies and social ventures working on innovative projects and technologies.

# **Genome Alberta**

Initiates, funds and manages genomics research partnerships.

#### **Gylconet**

Connecting glycomics researchers across the industry to support entreprene urship and research advance

# **Building Your Industry Network**

Palix Foundation

Product Calgary

**Rainforest AB** 

**Spark Calgary** 

ST Innovations

<u>Startup Calgary</u>

**Technology Alberta** 

of health system research.

**Clean Growth Hub** 

JWN Energy

updated daily

Startup TNT

**W21C** 

institutions

other and find opportunities.

**SHEInnovates Alberta** 

success in innovation and entrepreneurship.

and a multi-stakeholder team approach to projects.

meeting weekly to connect and build business.

**University of Alberta eHub** 

space for prospective entrepreneurs.

Facilitates the connection of people, ideas and skills to promote entrepreneurship and innovation.

providing access to funding and other business support systems.

Community of entrepreneurs, scientists, investors and startup supporters

Technology Alberta promotes entrepreneurial advanced technology companies by

Students or student-teams can join eHUB and gain access to a collaborative

Enabling researchers and industry professionals to perform pre-clinical testing

**Seeking Ecosystem Advisors & Hubs** 

Alberta Innovates TDAs enhance innovation system navigation and offer

Federal Government help for clean technology projects. Helping to find and

understand what government programs and services may be right for you

<u>NRC IRAP Industrial Research Assistance Program</u>

Provides advice, connections, and funding to help businesses increase their innovation capacity and take ideas to market

Your source for energy news, data, research reports and event information—

Seeking International Opportunities & Funding

A four session program to prepare businesses for expansion in to international markets.

Supports collaborative industrial research and development projects with high potential for commercialization between Canada and Brazil, China, India, Israel & South Korea.

Federal department that helps companies navigate international markets, and

Global business development program supports companies in clean tech, digital and information communication technologies industries as well as life

EDC works with Canadian companies and their banks to help reduce the financial risks associated with selling goods or services outside of Canada.

Collaboration of Clean Biotech Industry associations dedicated to catalyzing the

We welcome comments & corrections

to take into account for the next update.

Please send to: info@foresightcac.com

growth of the clean biotech sector in the Prairies through funding mechanisms.

The Canadian Trade Commissioner Service (TCS)

<u>Al Technology Development Advisors</u>

**Calgary Trade Accelerator Program** 

provides funding and support programs for exporters.

Export Development Canada

**Prairie Biosciences Canada** 

sciences and digital health.

Canadian International Innovation Program

**Canadian Technology Accelerator Program** 

improved access to business networks and services for SMEs

health science

#### Northern Alberta Clinical Trials and Research Centre Help organizations conduct research trials, develop treatments and bring them to market.

Supports research, connects policy makers, scientists and education professionals and educates people on the science of brain health to improve

Facilitates collaborative R&D and technology development, and partners with industry stakeholders to transform challenges into opportunities.

Product management community connecting professionals to learn from each

An informal organization of people working together to improve Alberta's

Provides access to development tools and resources to promote women's

One year program supporting digital health innovations at UofC and other local

Promotes health innovators and entrepreneurs laboratory equipment and space

innovation ecosystem. Weekly meetings in Calgary and Edmonton.

<u>Petroleum Technology Alliance of Canada</u>

demonstration (RD&D) and technology commercialization

#### **UofA Centre for Smart Transportation**

Operating within the department of Civil & Environmental Engineering, CST is focused on advancing transportation research and technology developn and transfer

#### **UofC Carbon Management Canada**

National research network focused on accelerating R&D, training and commercialization of knowledge-technologies toward zero-carbon emissions fossil energy systems

# Workspace

#### **City Building Design Lab**

Building in downtown Calgary home to companies driving innovation and hosting exhibitions.

#### **Edison Building**

Located in Calgary's downtown core. Develops a solid business community through cultivating connections and providing spaces that spark creativity

#### **Edmonton Unlimited**

Provides a co-working space for entrepreneurs, companies, creators, designers and developers

#### **Hunter Hub for Entrepreneurial Thinking**

Showcases funding opportunities and networks for innovation and entrepreneurship.

#### iGem Calgary

Annual competition for students developing synthetic biology projects

#### **Innovation Masterminds Edmonton**

Connects experienced entrepreneurs with innovators to support them on the path to commercialization.

#### **Innovation Workshop Series**

Connects researchers with industry partners for collaboration and funding opportunities

#### Innovation4Health

Connects innovators in human and animal healthcare to address inefficiencies.

#### Institute for Innovation and Entrepreneurship -**Mount Royal University**

Community partnerships for students and companies as well as mentorship opportunities to promote innovation

#### **Intellectual Property Strategy**

Helps entrepreneurs, innovators and business better understand and have better access to IP.

Developed in part from the University of Calgary's Innovation Ecosystem Directory that was created from the support of the Calgary Innovation Coalition.