



# ANNUAL 2020 REPORT 2021

JUNE 1, 2020 – MAY 31, 2021

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# MESSAGES

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# MESSAGE FROM DAVE COLLYER

*EMISSIONS REDUCTION ALBERTA  
(ERA) BOARD CHAIR*

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ERA has consistently taken a portfolio approach to investment in technology and innovation. This approach recognizes the need to be flexible and adaptable in terms of areas of investment focus, and the importance of our investments having an impact in the near to medium-term, while also helping to position Alberta for success in the longer term. Furthermore, ERA's structure and business model have been designed to be flexible and scalable.

ERA's portfolio-oriented technology investment has proven to be both resilient and robust over the past year, during a period of uncertainty and change. Disruptive influences, both globally and locally, have included COVID-19, volatile energy markets, increasing impetus to accelerate the pace of greenhouse gas (GHG) emission reductions (in part driven by more frequent severe weather events), economic challenges, and enhanced investor focus on Environmental, Social, and Governance (ESG) considerations. Notwithstanding this challenging external context, ERA has maintained its overall strategic momentum, while making near-term adjustments where necessary.

To this end, over the past year, ERA has continued to be very active. Guided by our Technology Roadmap (TRM), we have launched significant new funding challenges and programs that stimulated economic activity and created jobs, while simultaneously advancing innovative technologies that reduce GHG emissions and support Alberta's transition to a low emissions future. In 2020/21 we identified, selected and funded the largest annual value of investments in our 11-year history, totalling \$224 million, including:

- ▶ Shovel Ready Challenge: \$176 million for 16 projects worth \$2 billion
- ▶ Food, Farming, and Forestry Challenge: \$33 million for 17 projects worth \$105 million
- ▶ Partnership Intake Program: \$15 million to four projects worth \$52 million.

These major areas of investment, along with other ERA funding support, led to immediate economic activity, while also contributing to long-term economic recovery, investment attraction, job creation, and, very importantly, emissions reduction.

None of this would have been possible without the leadership of ERA's executive team, the ongoing effort and commitment of ERA staff to consistently deliver results, and the strategic guidance and insight provided by my colleagues on the ERA Board. On behalf of the Board, I would also like to express our appreciation for the Government of Alberta's ongoing commitment and funding support to ERA.

While the disruptive external trends ERA is navigating are significant, there are also some constants that have not changed—the importance of economic competitiveness, the need for affordable and reliable energy systems, and the critical role of technology and innovation in contributing to both economic recovery and reductions in GHG emissions. ERA will continue to play a pivotal role in supporting the long-term recovery of Alberta's economy and accelerating GHG emissions reductions, both of which are key to positioning the province for success in the future.

Sincerely,



**DAVE COLLYER**

Board Chair, Emissions Reduction Alberta



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# MESSAGE FROM STEVE MACDONALD

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ERA CEO

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The world's response to the COVID-19 pandemic has been a powerful reminder of the need for aligned action, trusted leadership, and robust systems to respond to global challenges.

We know that technology and innovation are a key part of the solutions to the environmental and economic problems we face. We also know that finding a promising technology is not enough. We need to de-risk and scale-up production, unlock financing, create new supply chains, implement adaptive policies, and build public confidence. ERA is focused on this complete solutions approach and our work this year is another powerful example of Alberta turning ambition into action.

In 2020/21, we supported the investment of over \$330 million. This funding came from the Government of Alberta's Technology Innovation and Emissions Reduction (TIER) Fund, with \$90 million from the federal government's Low Carbon Economy Leadership Fund (LCELFL). ERA also coordinated the Clean Resource Innovation Network's \$50 million Reducing Environmental Footprint Technology Competition. This level of support is essential to achieving a self-sustaining economic solution for reducing emissions and is driven by targets and policies created to transform our energy systems.

Beyond funding technology solutions, we wrapped up our Innovator Support Pilot (ISP). The initiative targeted projects that have gone through our application process and had proposals that showed technological promise, yet did not qualify for funding due to specific challenges.

Service providers guided participating companies through various areas of

business development, resulting in them successfully raising \$31 million to accelerate their innovative clean technologies. In fact, three projects—Steeper Energy Canada, Synergraze, and Livestock Water Recycling—were successful in their submissions to the Food, Farming, and Forestry Challenge.

ERA's support has not gone unnoticed. Last year, eight ERA-funded projects were completed and several others achieved significant recognition. CarbonCure Technologies Inc. was named one-of-two grand prize winners of the \$20 million (USD) NRG COSIA Carbon XPRIZE, while Eavor Technologies secured over \$50 million in funding from various investors, including from one of ERA's Trusted Partners, Business Development Bank of Canada. This validates ERA's ability to both identify and fund the most promising technologies to reduce emissions, strengthen our economy, and create job growth.

## WE CONTINUE TO ENGAGE AND COLLABORATIVELY WORK WITH ALL LEVELS OF GOVERNMENT AND THE PRIVATE SECTOR.

While ERA is uniquely positioned to support Alberta's economic and environmental priorities, we also recognize we cannot do it alone. It takes a village. That's why we continue to engage and collaboratively work with all levels of government and the private sector. Bringing together complete solutions is our best opportunity for creating the future we need.

Thank you to ERA's staff, Board, and partners for your incredible work in what has been a challenging and unique year. On behalf of our team, and our Board, I am pleased to share our 2020/21 Annual Report.

Sincerely,



STEVE MACDONALD

CEO, Emissions Reduction Alberta



# HIGHLIGHTS AT-A-GLANCE



# 2020/2021 HIGHLIGHTS AT-A-GLANCE

## COMMITTED OVER

**\$224 MILLION** FOR  
**37 PROJECTS**

## VALUED AT

**\$2.2 BILLION**

## REDUCED EMISSIONS BY AN ESTIMATED

**1 MT**

## THIS YEAR



## COMPLETED

**8** PROJECTS  
WORTH OVER  
**\$69**  
MILLION



## LEVERAGED OVER

**\$2 BILLION**

IN PUBLIC  
AND PRIVATE  
FUNDING

## LAUNCHED >> THE <<



**\$55 MILLION**

ENERGY SAVINGS  
FOR BUSINESS  
PROGRAM

TARGETING SMALL AND  
MEDIUM-SIZED ENTERPRISES

JOINED AN INTERNATIONAL  
FUNDING INITIATIVE TARGETING

**CARBON  
CAPTURE**   
& **STORAGE**  
(CCS) TECHNOLOGY

LED FOUR COMPANIES  
THROUGH THE **INNOVATOR  
SUPPORT PILOT PROGRAM**

THAT RAISED A TOTAL OF

**\$31 MILLION**  
IN INVESTMENT



**7,000**

STAKEHOLDERS  
REACHED



BY HOSTING &  
SPEAKING AT

STRATEGIC  
EVENTS

**44**

OPERATING COSTS  
WERE LESS THAN

**2%**

OF THE  
TOTAL FUNDS  
COMMITTED  
TO PROJECTS



SUPPORTING OVER



**\$330**  
MILLION  
IN NEW  
INVESTMENTS



# OVERVIEW



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# ABOUT ERA

*ERA was created in 2009, to help deliver on the province's environmental and economic goals. ERA takes action on climate change and supports economic growth by investing in the pilot, demonstration, and deployment of clean technology solutions that reduce GHGs, lower costs, attract investment, and create jobs in Alberta.*

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## MANDATE

Reduce GHG emissions and grow Alberta's economy by accelerating the development and adoption of innovative technology solutions.

## VISION

Alberta has competitive industries that deliver sustainable environmental outcomes, attract investment, and build a diversified, lower carbon economy.

## VALUE PROPOSITION

ERA invests the proceeds from carbon pricing paid by large emitters to reduce GHGs and strengthen the competitiveness of new and incumbent industries in Alberta. Our investments help innovators develop and demonstrate GHG-reducing technologies. These technologies will lower costs, improve competitiveness, and accelerate Alberta's transformation to a low emissions economy.

ERA delivers results through a competitive, transparent, efficient, and outcomes-focused delivery model.

## STRATEGIC PRIORITIES

- 1. Accelerate Technology:** Invest in GHG-reducing technologies that help Alberta grow existing industries and create new ones.
- 2. Drive Commercialization:** Convene the resources required to accelerate the adoption of technology solutions that lead to economic growth and GHG reductions in Alberta.
- 3. Maximize Impact:** Through leveraged funding, communications, and operational excellence.



## CORE VALUES

INNOVATION  
COLLABORATION  
TRANSPARENCY  
INTEGRITY

# UNIQUE BUSINESS MODEL

While many jurisdictions have a mechanism to invest in clean technology, ERA's model is unique:

- ▶ It offers a clear line of sight from the carbon price paid by industry, under the TIER regulation, to investment in the solutions needed to help achieve emissions reductions. ERA's primary source of funding comes from the Government of Alberta, by way of a Grant Agreement, made possible by revenue from the TIER Fund.
- ▶ Funding later-stage technology means ERA is accelerating projects toward broader industry deployment and adoption by helping to de-risk projects in the crucial pilot, demonstration, and scale-up stages of development.
- ▶ Non-dilutive\* funding helps to accelerate clean technologies through development stages where private industry and financial institutions are reluctant to invest due to technology risk.
- ▶ Its Delegated Administrative Organization (DAO) structure means ERA has no annual investment caps, can fund multi-year projects, can carry funding over from year-to-year, and can reallocate funds when projects do not proceed as planned.

\* Non-dilutive funding is defined as funding that does not require proponents to give up ownership or shares of your company or product.

WE OFFER A CLEAR LINE OF SIGHT BETWEEN  
THE CARBON PRICE PAID BY INDUSTRY



TECHNOLOGIES NEEDED TO HELP  
ACHIEVE EMISSIONS REDUCTIONS

## LARGE INDUSTRIAL EMITTER

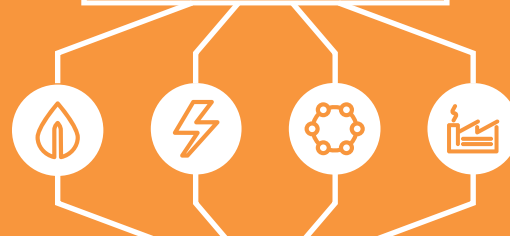


### TIER FUNDING

EMISSIONS  
REDUCTION  
ALBERTA

OTHER  
GOVERNMENT  
PROGRAMS

**7:1 LEVERAGE\***



↑  
**JOBS**

**GHG**  
↓

\*1:1 matching is ERA's minimum requirement. For every dollar invested by ERA, \$7 is invested by industry, innovators, and other project funders.



# KEY PERFORMANCE METRICS

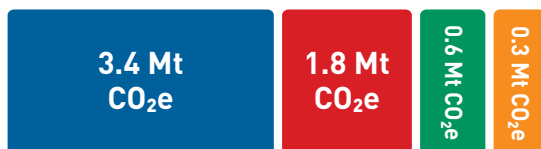
## ENVIRONMENT

*Note: the graphics on this page do not include the ESB program.*

ERA tracks the potential emissions reduction from its suite of individually funded projects. It also tracks the emissions reduction potential of these funded technologies and solutions when they are adopted into the market.

### CUMULATIVE PROJECT EMISSIONS REDUCTION

6.1 Mt CO<sub>2</sub>e Total by 2020



42.3 Mt CO<sub>2</sub>e Total by 2030



### CUMULATIVE MARKET EMISSIONS REDUCTION BY 2030

Primary Strategic Area

- ▶ Low Emitting Electricity System
- ▶ Cleaner Oil & Gas
- ▶ Low Carbon Industrial Processes & Products
- ▶ Food, Fibre, & Bioindustries

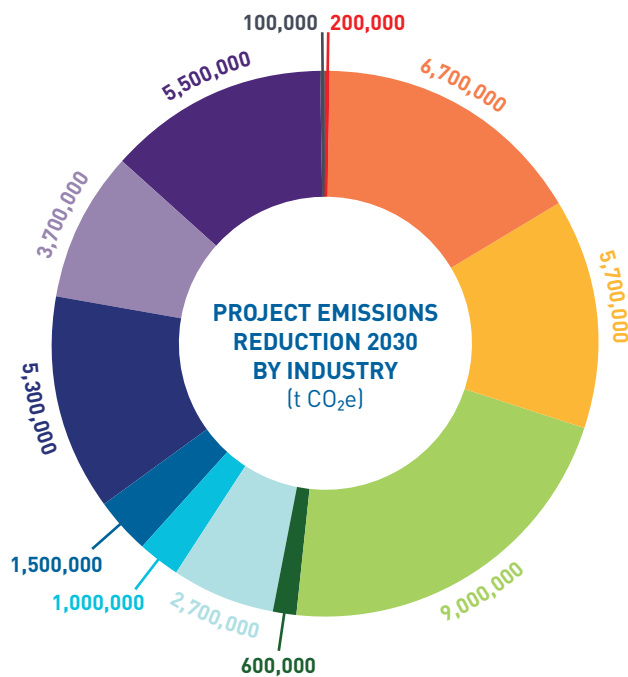
79.3 Mt CO<sub>2</sub>e Total by 2030



*Market emissions reduction estimates are difficult to predict and constantly revised. These estimates fluctuate due to a number of reasons, including adjusted market limits to account for competing technologies, updated commercial rollout of technologies based on project completion and or market conditions, along with a declining grid factor consistent with Canada's Life Cycle Assessment template for Alberta's electricity market.*

### EMISSIONS REDUCTION BY INDUSTRY

- ▶ Agriculture
- ▶ Biofuels & Bioproducts
- ▶ Chemical & Fuel Production
- ▶ Electricity Generation
- ▶ Environmental Services & Research
- ▶ Forest Products
- ▶ Landfills & Waste Management
- ▶ Mineral Product Manufacturing
- ▶ Oil and Gas - Conventional
- ▶ Oil Sands - In-Situ
- ▶ Oil Sands - Mining
- ▶ Transportation



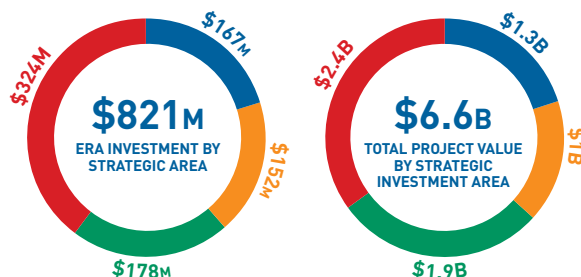
# KEY PERFORMANCE METRICS

## ECONOMY

### INVESTING IN A DIVERSE PORTFOLIO

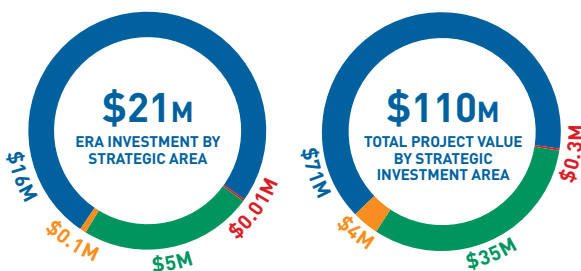
#### 221 Projects: General Investments

- Cleaner Oil & Gas** (75 Projects)
- Food, Fibre, & Bioindustries\*** (59 Projects)
- Low Emitting Electricity System** (28 Projects)
- Low Carbon Industrial Processes & Products** (59 Projects)



#### 1012 Projects: Energy Savings for Business Program

- Cleaner Oil & Gas** (6 Projects)
- Food, Fibre, & Bioindustries\*** (50 Projects)
- Low Emitting Electricity System** (371 Projects)
- Low Carbon Industrial Processes & Products** (585 Projects)



**32,000**

PERSON-YEAR JOBS  
IN ALBERTA BY 2025



**\$4.6 BILLION**

GDP IMPACT TO  
ALBERTA BY 2025



**\$7:1**

LEVERAGED FUNDING



**\$1.01 BILLION**

NET ECONOMIC  
BENEFIT OF  
AVOIDED  
CLIMATE  
CHANGE  
DAMAGES  
BY 2030



## TECHNOLOGY

Note: the graphics below does not include the ESB program.

**85%**

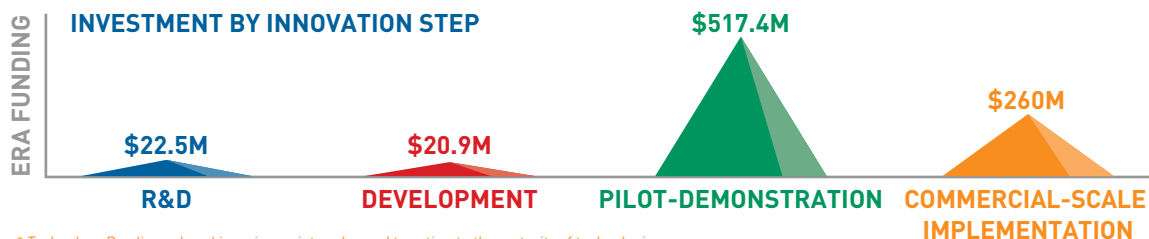
OF PROJECTS GREATER THAN  
OR EQUAL TO 1 TECHNOLOGY  
READINESS LEVEL\* PROGRESSION

**50%**

OF FUNDED PROJECTS HAVE  
REACHED TECHNOLOGY  
READINESS LEVEL 8 OR HIGHER

**53%**

OF PROJECTS CONTAIN A SMALL  
AND MEDIUM-SIZED ENTERPRISE  
AS A LEAD APPLICANT



\* Technology Readiness Level is a nine-point scale used to estimate the maturity of technologies.



# GOVERNANCE

ERA collaborates with and is accountable to the Government of Alberta. As a DAO, ERA operates under a Board of independent directors and is required to report annually on progress and outcomes delivered. This structure allows ERA to:

- ▶ Respond quickly to the needs of Alberta's innovation system
- ▶ Have independent oversight and the ability to select the best projects for funding
- ▶ Carry funds from one budget year to the next
- ▶ Ensure multi-year projects are feasible
- ▶ Reinvest funds when projects do not progress.

A commitment to best-in-class governance, operational practices, internal controls, and continuous improvement helps ERA function efficiently and effectively.



## GOVERNMENT OF ALBERTA REAPPOINTS DAVE COLLYER CHAIR OF THE BOARD

Dave Collyer was reappointed Board Chair of ERA for another two years on Oct. 1, 2020. He was first appointed to the position on Oct. 1, 2018. Mr. Collyer's experience as a thought leader in climate change and the energy industry in Alberta, as well as his experience working with government on policy, have been valuable assets to ERA's Board and work.

## VITTORIA BELLISSIMO JOINS BOARD

ERA welcomed Vittoria Bellissimo as the newest member of its Board of Directors in 2020/2021. Ms. Bellissimo has extensive experience in Alberta's power industry. She is the Principal Energy Consultant at Westmains Consulting Ltd., a firm that specializes in electricity and provides strategic advice, analysis, and advocacy with respect to market, regulatory, and policy issues. Since 2012, she has also acted as Executive Director of the Industrial Power Consumers Association of Alberta (IPCAA).

## PATRICIA MOHR RETIRES FROM BOARD

Patricia Mohr officially retired from the Board of Directors in 2021. She spent a total of seven years providing ERA with strategic insight and advice. ERA and the Board of Directors thank Ms. Mohr for her steadfast commitment and leadership. Ms. Mohr brought decades of experience to the ERA Board as one of Canada's most accomplished and influential economics and commodity market specialists.



# STRATEGIC PRIORITIES



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# STRATEGIC PRIORITY: ACCELERATE TECHNOLOGY

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*Core to ERA's business is investing in the pilot, demonstration, and deployment of technologies that reduce GHGs and improve Alberta's competitiveness. ERA funds later-stage, innovative technology solutions through competitive funding calls and its Partnership Intake Program.*

*Each process employs a rigorous review to select innovative projects that facilitate GHG emissions reductions and have the strongest potential for uptake by the market. In addition to this core focus, ERA launched a new Energy Savings for Business program, funding commercial technologies that save businesses both operating costs and energy.*

In 2020/2021, ERA committed over \$224 million to 37 projects worth a combined value of \$2.2 billion through the Food, Farming, and Forestry Challenge; Shovel-Ready Challenge; and Partnership Intake Program. It also launched the \$55 million Energy Savings for Business program and supported the promotion, review, and adjudication of the Clean Resource Innovation Network's (CRIN) \$50 million Reducing Environmental Footprint Technology Competition.







# FOOD, FARMING, AND FORESTRY CHALLENGE

## FOOD, FARMING, AND FORESTRY CHALLENGE AWARDS \$33 MILLION TO 17 PROJECTS WORTH \$105 MILLION

ERA launched the Food, Farming, and Forestry Challenge in June 2020, to accelerate technological innovation to support long-term competitiveness and stimulate growth in the critically important agriculture, agri-food, and forestry sectors, while simultaneously reducing GHGs.

ERA committed \$33 million to support 17 innovative technology projects worth a combined value of \$105 million in public and private investment. If successful, these technology innovations will lead to cumulative GHG reductions of approximately 2.7 million tonnes of CO<sub>2</sub>e by 2030.

A total of 150 applications were received requesting a total of \$383 million for projects worth \$1.5 billion. From the 17 approved projects, four are categorized as natural solutions, seven are in the bioindustry and bioenergy sector, and six are in the agriculture and agri-food sector.

Funding recipients were announced in April 2021. Project descriptions are available on [eralberta.ca/projects](https://eralberta.ca/projects).





# FOOD, FARMING, AND FORESTRY CHALLENGE

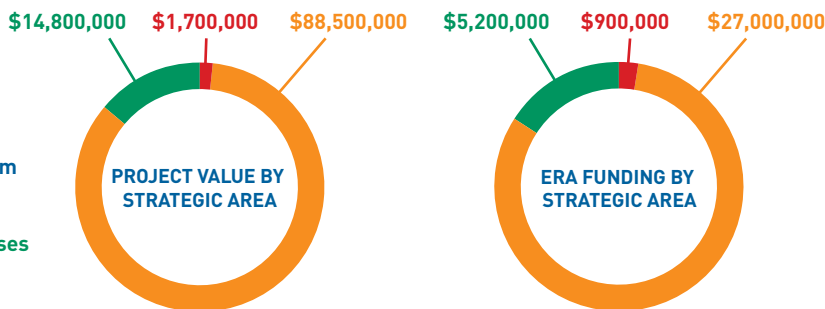
PROPONENT	PROJECT	TOTAL PROJECT VALUE	ERA COMMITMENT
<b>CENOVUS ENERGY INC.</b>	Linear Restoration Equipment Modernization and Deployment	<b>\$1,700,000</b>	<b>\$877,000</b>
<b>SALTWORKS TECHNOLOGIES INC.</b>	Ultra High Recovery Industrial Wastewater Treatment at Agri-Chem Facility	<b>\$9,500,000</b>	<b>\$2,600,000</b>
<b>FLASH FOREST INC.</b>	Commercial Pilots and Demonstrations of Rapid Drone Reforestation Technology	<b>\$3,700,000</b>	<b>\$1,800,000</b>
<b>STEEPER ENERGY CANADA LTD.</b>	The Conversion of Forestry Residue to Advanced Biofuels in Alberta	<b>\$13,000,000</b>	<b>\$5,000,000</b>
<b>KOROVA FEEDERS LTD.</b>	New Production System	<b>\$20,400,000</b>	<b>\$5,000,000</b>
<b>SEPPURE PTE. LTD.</b>	Sustainable Nanofiltration Technology for Vegetable Oil Refining	<b>\$3,600,000</b>	<b>\$1,800,000</b>
<b>ATCO GAS AND PIPELINES LTD.</b>	RNG from Pulp Mill Waste	<b>\$18,700,000</b>	<b>\$5,000,000</b>
<b>FPINNOVATIONS</b>	Bio-Sourced Asphalt from the Canadian Forest Industry	<b>\$1,300,000</b>	<b>\$350,000</b>
<b>BLINDMAN BREWING</b>	Brewery GHG Reduction First-of-Kind Commercialization Project	<b>\$205,000</b>	<b>\$102,000</b>
<b>MILLAR WESTERN FOREST PRODUCTS LTD.</b>	Application of Artificial Intelligence at Pulp Refiners to Optimize Energy Usage and Product Quality	<b>\$1,500,000</b>	<b>\$730,000</b>
<b>SYNERGRAZE INC.</b>	Cattle Feed Additive for Reducing Methane Emissions	<b>\$15,000,000</b>	<b>\$5,000,000</b>
<b>LIVESTOCK WATER RECYCLING, A DIVISION OF IWR TECHNOLOGIES LTD.</b>	Achieving On-Farm Carbon Neutrality Through the Datafication of Waste	<b>\$1,400,000</b>	<b>\$650,000</b>
<b>OPTIMAL AGRICULTURAL EQUIPMENT LTD.</b>	Opti-Cart	<b>\$1,400,000</b>	<b>\$640,000</b>
<b>AGRICULTURE AND AGRI-FOOD CANADA</b>	Demonstrating the Impact of Genomics-Enhanced Whole Herd Genetic Management Platform on Reducing Beef GHGs	<b>\$5,800,000</b>	<b>\$490,000</b>
<b>CERES SOLUTIONS LTD.</b>	Using Ag Waste and Craft Brewer's Grain to Grow High Value Mushrooms and Produce Livestock Feed	<b>\$1,500,000</b>	<b>\$500,000</b>
<b>DOEF'S GREENHOUSES LTD.</b>	Doef's Greenhouses CO <sub>2</sub> and Heat Capture	<b>\$5,100,000</b>	<b>\$2,000,000</b>
<b>WEST FRASER</b>	Product and Production Innovations for Using Alberta's Surplus Poplar to Enhance Carbon Sequestration	<b>\$1,300,000</b>	<b>\$500,000</b>



# FOOD, FARMING, AND FORESTRY CHALLENGE

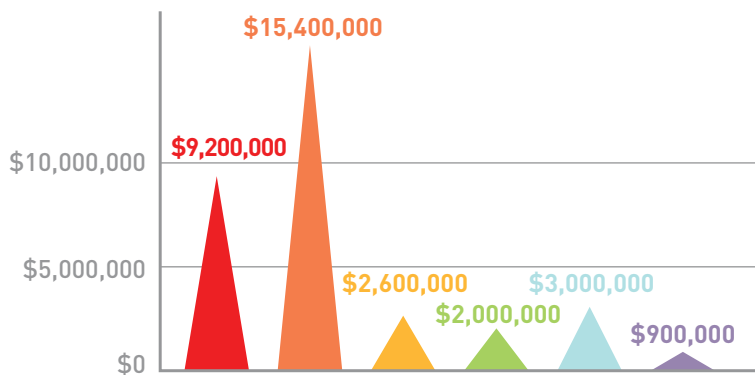
## PRIMARY STRATEGIC AREA

- Cleaner Oil & Gas
- Low Emitting Electricity System
- Food, Fibre, & Bioindustries
- Low Carbon Industrial Processes & Products

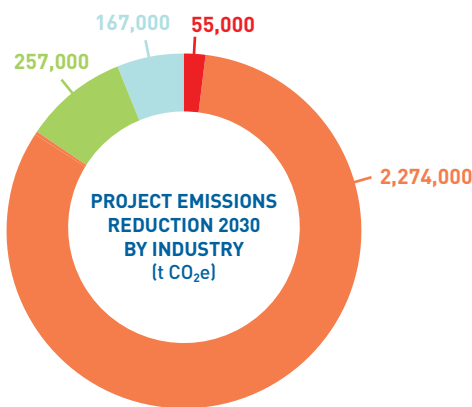
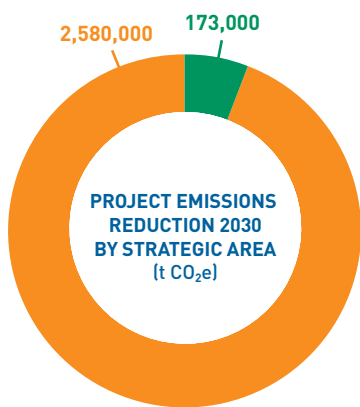


## FUNDING BY INDUSTRY

- Agriculture
- Biofuels & Bioproducts
- Chemical & Fuel Production
- Electricity Generation
- Forest Products
- Oil Sands - In-Situ



## PROJECT EMISSIONS REDUCTIONS BY 2030



## INVESTMENT BY INNOVATION STEP

STAGE OF INNOVATION



PILOT DEMONSTRATION  
(\$14,100,000)



COMMERCIAL-SCALE IMPLEMENTATION  
(\$19,000,000)





# SHOVEL-READY CHALLENGE

## **\$176 MILLION ANNOUNCED THROUGH THE SHOVEL-READY CHALLENGE TO ACCELERATE ALBERTA'S ECONOMIC RECOVERY, CUT GHG EMISSIONS**

In June 2021, ERA committed \$176 million to support 16 projects worth a combined value of \$2 billion through its Shovel-Ready Challenge—the largest dollar-value funding announcement ERA has ever made.

ERA brings an adaptable approach to achieving economic and environmental objectives. Unlike other ERA challenges focused primarily on accelerating the development of game-changing innovation to reduce greenhouse gas emissions, the Shovel-Ready Challenge was designed as an economic stimulus initiative focused on supporting job growth, economic diversification, and near-term emissions reductions.

The projects were selected because they have the highest potential to immediately stimulate Alberta's economy, support job growth, and cut GHG emissions. If successful, these technology innovations will lead to cumulative GHG reductions of up to 6.8 million tonnes of CO<sub>2</sub>e by 2030. It is anticipated these projects will also deliver approximately 5,600 new jobs.

In total, \$126 million of stimulus funding was sourced from the TIER fund. The remaining \$50 million was committed from the federal government's LCELf.

The funding provides vital financial support to companies ready to implement leading-edge technologies in applications for both greenfield and brownfield operations. Project descriptions are available on [eralberta.ca/projects](https://eralberta.ca/projects).





# SHOVEL-READY CHALLENGE

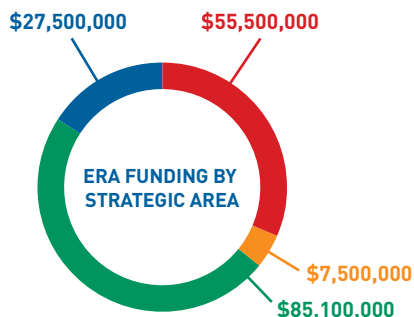
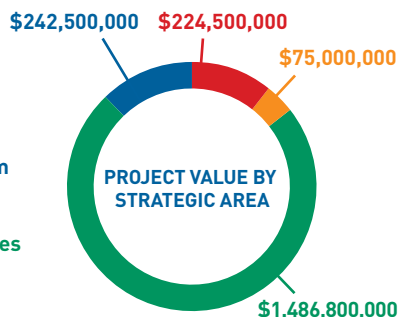
PROPONENT	PROJECT	TOTAL PROJECT VALUE	ERA COMMITMENT
<b>H2nanO INCORPORATED</b>	Sunlight Powered GHG Treatment for Oil Sands Tailings Pond	<b>\$6,600,000</b>	<b>\$3,300,000</b>
<b>CONOCOPHILLIPS CANADA</b>	Surmont Steam-Additives Pilot	<b>\$28,200,000</b>	<b>\$7,400,000</b>
<b>CANADIAN NATURAL RESOURCES LIMITED</b>	In-Pit Extraction Process Demonstration	<b>\$99,700,000</b>	<b>\$15,000,000</b>
<b>SUNCOR ENERGY INC.</b>	Suncor PURE Demonstration Facility	<b>\$52,500,000</b>	<b>\$15,000,000</b>
<b>LINDE CANADA INC.</b>	Linde LNG Low Carbon Fuels Demonstration Project	<b>\$37,500,000</b>	<b>14,900,000</b>
<b>CANADIAN PACIFIC RAILWAY COMPANY</b>	Hydrogen Locomotive Program	<b>\$33,200,000</b>	<b>\$15,000,000</b>
<b>ELEMENTAL ENERGY RENEWABLES INC.</b>	Chappice Lake Solar Storage	<b>\$40,300,000</b>	<b>\$10,000,000</b>
<b>AIR PRODUCTS CANADA LTD.</b>	New Edmonton Blue Hydrogen Hub	<b>1,269,000,000</b>	<b>\$15,000,000</b>
<b>CITY OF EDMONTON</b>	Alberta Zero Emissions Hydrogen Transit (AZEHT)	<b>\$9,900,000</b>	<b>\$4,600,000</b>
<b>TURNING POINT GENERATION</b>	Canyon Creek Pumped Hydro Energy Storage Project	<b>\$200,000,000</b>	<b>\$15,000,000</b>
<b>ATCO ELECTRIC</b>	Northern Alberta - Community Diesel Reduction	<b>\$5,400,000</b>	<b>\$2,500,000</b>
<b>MERCER PEACE RIVER PULP LTD.</b>	MPR Fibre Procurement Project	<b>\$75,100,000</b>	<b>\$7,500,000</b>
<b>CALGARY AGGREGATE RECYCLING INC.</b>	Calgary Aggregate Recycling Soil Reuse Facility Expansion	<b>\$17,600,000</b>	<b>\$8,800,000</b>
<b>LEHIGH HANSON MATERIALS LTD.</b>	Lehigh Edmonton Alternative Low Carbon Fuel Project	<b>\$23,400,000</b>	<b>\$11,700,000</b>
<b>LAFARGE CANADA INC.</b>	Landfill Fly Ash Beneficiation	<b>\$48,700,000</b>	<b>\$15,000,000</b>
<b>CAPITAL POWER CORPORATION</b>	Genesee Carbon Conversion Centre (Phase 1)		<b>\$15,000,000</b>



# SHOVEL-READY CHALLENGE

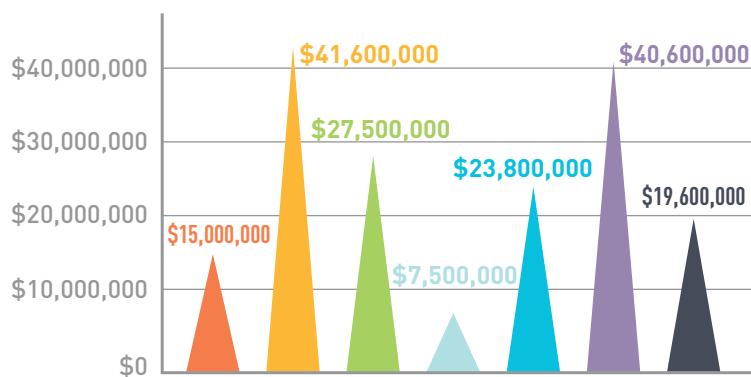
## PRIMARY STRATEGIC AREA

- ▶ Cleaner Oil & Gas
- ▶ Low Emitting Electricity System
- ▶ Food, Fibre, & Bioindustries
- ▶ Low Carbon Industrial Processes & Products

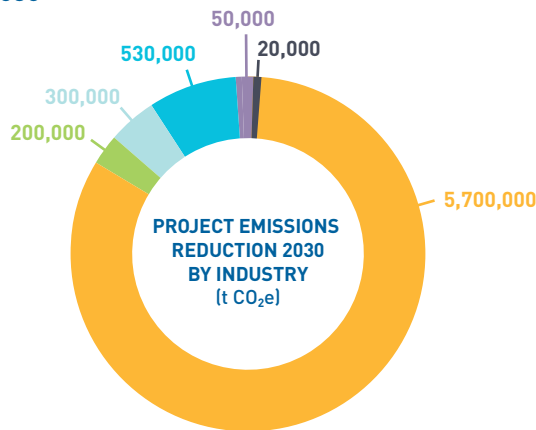
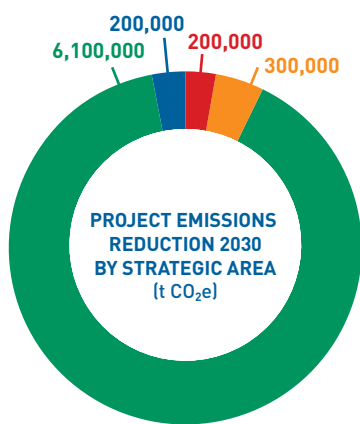


## FUNDING BY INDUSTRY

- ▶ Biofuels & Bioproducts
- ▶ Chemical & Fuel Production
- ▶ Electricity Generation
- ▶ Forest Products
- ▶ Landfills & Waste Management
- ▶ Oil Sands
- ▶ Transportation



## PROJECT EMISSIONS REDUCTIONS BY 2030



## INVESTMENT BY INNOVATION STEP

### STAGE OF INNOVATION



**PILOT DEMONSTRATION**  
(\$90,100,000)



**COMMERCIAL-SCALE IMPLEMENTATION**  
(\$85,500,000)





# PARTNERSHIP INTAKE PROGRAM

## PARTNERSHIP INTAKE PROGRAM COMMITTS \$15 MILLION TO FOUR PROJECTS WORTH \$52 MILLION

In addition to its competitive Call for Proposals process, projects can also be brought forward to ERA for consideration by Trusted Partners through the Partnership Intake Program. Trusted Partners are funding organizations with rigorous, fair, and transparent due-diligence processes comparable in principle to ERA's, including elements such as peer review and technical expertise.

The following projects were selected for funding. Project descriptions are available on [eralberta.ca/projects](https://eralberta.ca/projects).

PROPONENT	PROJECT	REFERRED BY	TOTAL PROJECT VALUE	ERA COMMITMENT
<b>SWAN HILLS GEOTHERMAL POWER CORP.</b>	Swan Hills Co-Produced Geothermal Natural Gas Power Project	Alberta Innovates	<b>\$28,800,000</b>	<b>\$10,000,000</b>
<b>WINTERHAWK WELL ABANDONMENT LTD.</b>	Casing Expansion for Annular Wellbore Methane Leakage	Natural Gas Innovation Fund (NGIF)	<b>\$1,000,000</b>	<b>\$350,000</b>
<b>SERIOUS LABS INC.</b>	MELT VR Simulator Development	Government of Alberta	<b>\$11,400,000</b>	<b>\$2,000,000</b>
<b>BASF CANADA INC.</b>	Pre-Industrial Field Demonstration of High Fines Sand Tailings Technology	Alberta Innovates	<b>\$11,000,000</b>	<b>\$3,000,000</b>

*\*This project is funded in part by the Government of Canada's Low Carbon Economy Leadership Fund.*

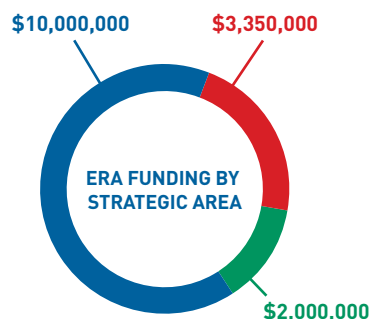
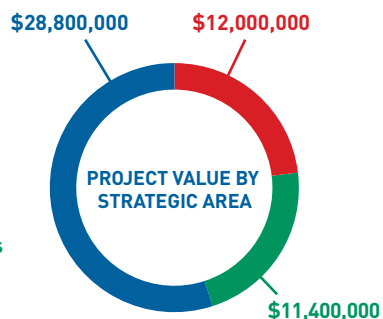
In November 2021, ERA announced its Partnership Intake Program received up to \$75 million in TIER and LCELf funding to continue supporting emissions reduction projects that will strengthen Alberta's economy. This funding will be leveraged, leading to projects worth at least \$150 million based on our 1:1 matching requirement.



# PARTNERSHIP INTAKE PROGRAM

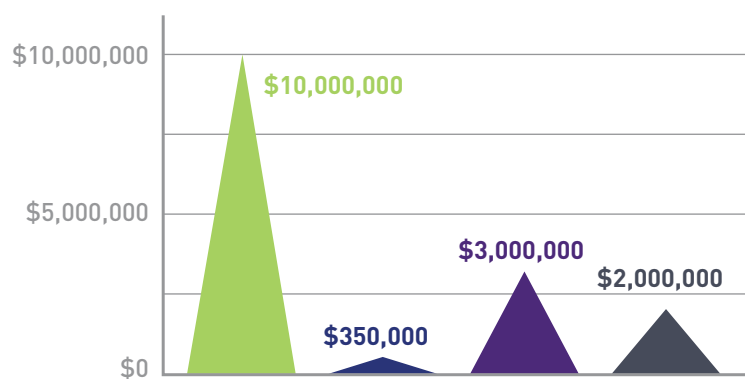
## PRIMARY STRATEGIC AREA

- ▶ Cleaner Oil & Gas
- ▶ Low Emitting Electricity System
- ▶ Food, Fibre, & Bioindustries
- ▶ Low Carbon Industrial Processes & Products



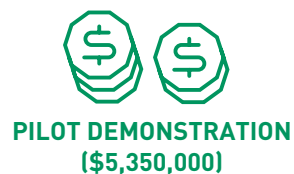
## FUNDING BY INDUSTRY

- ▶ Electricity Generation
- ▶ Oil and Gas - Conventional
- ▶ Oil Sands - Mining
- ▶ Transportation



## INVESTMENT BY INNOVATION STEP

### STAGE OF INNOVATION





## ENERGY SAVINGS FOR BUSINESS

### ENERGY SAVINGS FOR BUSINESS PROGRAM LAUNCHED AND OPERATIONAL

ERA announced \$55 million to create the Energy Savings for Business program for small and medium-sized industrial and commercial facilities in November 2020. The goal of the program is to help businesses create skilled jobs, boost investment, cut operating costs, reduce GHG emissions, and become more competitive.

The Energy Savings for Business program is a new format of programming under ERA's portfolio. It was designed as a one-time, short-term stimulus offering in the Alberta marketplace. Going forward, ERA will be further evaluating the success of the program and assessing its future potential.

The funding program was officially launched in February, 2021 and covers a portion of project costs for eligible businesses and non-profits. In total, if fully subscribed, this project is anticipated to stimulate over \$196 million in new investment and deliver lifetime GHG reductions of 1.1 million tonnes of CO<sub>2</sub>. Funding is awarded on a first-come, first-served basis and applications will remain open for 12-18 months from Feb. 1, 2021 for measures that are not yet fully allocated.

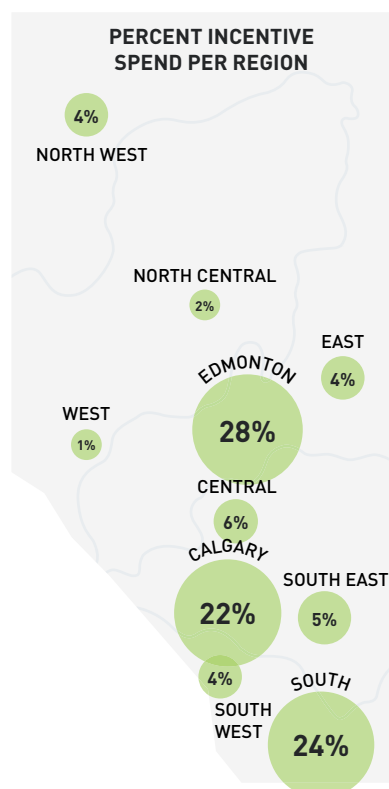
The program offers streamlined applications, quick turnaround times, expanded technology lists and clear, timely, comprehensive information. ESB will give businesses fast access to incentives for cost-effective efficiency measures:

- ▶ Up to \$250,000 is available per project
- ▶ Up to \$500,000 per parent company is available to cover the cost of products and services
- ▶ Minimum incentive amount of \$500.

A wide range of cost-effective high efficiency products and onsite energy generation technologies are eligible for incentives through this program:

- ▶ Compressed air measures
- ▶ Process heating
- ▶ Refrigeration
- ▶ Food service equipment
- ▶ HVAC
- ▶ Motors and drives
- ▶ Water heating
- ▶ Combined heat and power (CHP)
- ▶ Lighting systems
- ▶ Building envelope and windows
- ▶ Geothermal
- ▶ Agricultural lighting
- ▶ Solar air heating
- ▶ Waste energy recovery.

### OVER 900 PROJECTS SUPPORTED THROUGH THE ENERGY SAVINGS FOR BUSINESS PROGRAM





The program was designed to support the more than 160,000 small- and medium-sized enterprises in Alberta. All business and non-profits serviced by an Alberta electric utility are eligible, except for residences, some types of new construction projects, municipally, federal and provincially owned buildings, publicly funded institutions and Large Emitters—as defined under Alberta’s TIER regulation. For projects to be eligible, they must occur at facilities located within Alberta.

Since its inception, ERA has supported energy efficiency initiatives focussed on the development, demonstration, and implementation of large, innovative technologies. In the short-term, through the ESB program, ERA has played a critical role offering the only mass market program focussed on accelerating the adoption of commercially available technologies while Alberta and Canada determine the long-term path forward on energy efficiency. Given its organizational design, structure, and experience, ERA has been able to step-in to address the gaps in energy efficiency initiatives in the province. While this work is important, ERA is evaluating its role in Alberta’s energy efficiency strategy and how it best fits within the organization’s mandate.

### **ERA SUPPORTED CLEAN RESOURCE INNOVATION NETWORK’S (CRIN) \$50 MILLION FUNDING COMPETITION**

ERA helped design, launch, and promote CRIN’s \$50 million Reducing Environmental Footprint Technology Competition. Announced in April of 2021, the competition was designed to advance technology solutions for high-priority environmental challenges across the oil and gas industry with the intent to export technologies internationally and for application within Canada’s industrial sector. ERA will also support the adjudication process in 2021/2022.

ERA accepted applications on behalf of CRIN until the competition closed in May of 2021. CRIN received 72 proposals —exceeding its target of 30 submissions—with funding requests totaling \$213 million for projects worth \$919 million. Applications came

from Alberta, British Columbia, Manitoba, Ontario, Newfoundland and Labrador, Saskatchewan, and Quebec. To be eligible for consideration, applications had to have representation of at least one small or medium-sized enterprise and at least one oil and gas producer on the project team.

### **ERA JOINS INTERNATIONAL FUNDING INITIATIVE TARGETING CARBON, CAPTURE, AND STORAGE (CCS) TECHNOLOGY; COMMITS \$5 MILLION TO CALL FOR PROPOSALS**

In September 2020, ERA became the first sub-national member to join an international funding initiative called Accelerating CCUS Technology (ACT). This multi-national funding program, initiated in 2015, accelerates and matures CCUS technologies from around the globe. ACT is coordinated by the Research Council of Norway (RCN) and is a collaboration of 17 countries including the United States, United Kingdom, Germany, and India. As a funding partner, ERA committed up to \$5 million to ACT’s Call 3 projects will be announced in fall of 2021.

### **WORKSHOP SESSIONS SUPPORT 2021-2024 BUSINESS PLAN**

To support the development of its 2021-2024 Business Plan, ERA considered several potential focus areas for future Calls for Proposals. Last year, engagement with stakeholders validated the potential for reducing GHGs and ensuring Alberta stays competitive globally, by investing in the following three areas: fuels of the future, circular economy, and transforming energy systems.

## ERA COMMENCES UPDATE OF ITS TECHNOLOGY ROADMAP

In 2021, ERA began a review and update of its Technology Roadmap (TRM). The Roadmap was last updated in 2019, and since then there have been significant shifts in the policy, economic, and political context that will shape and influence Alberta's economy, its technology, and innovation priorities. We have undertaken this review of the TRM to assess future technology pathways and ensure that ERA is continuing to invest in the technologies Alberta will need in the short, medium, and long-term. The TRM is a living document that ensures the organization remains responsive to the evolving needs of Alberta's industries and innovators within a changing global context. The review of this guiding document will continue into 2021/22.

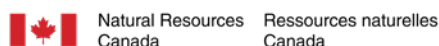
## TRUSTED PARTNERSHIP AGREEMENT SIGNED WITH EXPORT DEVELOPMENT CANADA

ERA and Export Development Canada (EDC) signed a Trusted Partner Memorandum of Understanding (MOU) in December of 2020. The agreement streamlines support for innovators by providing simplified access to multiple streams of funding and support. The agreement allows EDC to refer projects to ERA for funding through the Partnership Intake Program. ERA can also refer projects to EDC.

ERA's mandate aligns well with EDC's existing investment portfolio, including companies operating in carbon-intensive sectors and businesses leading clean technology development. EDC's emphasis on addressing climate change through policy and funding support creates unique opportunities for ERA projects.

ERA now has 13 Trusted Partner agreements in place. These partnerships allow ERA to leverage funds and due diligence, share risk, and reduce administrative burden for applicants. ERA works with strategic trusted partnerships in Alberta, with the federal government, and across the country where appropriate.

The following organizations are currently considered Trusted Partners of ERA:



(through the Canada First Research Excellence Fund)



(through the Canada First Research Excellence Fund)



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# STRATEGIC PRIORITY: DRIVE COMMERCIALIZATION

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*ERA works closely with the innovation ecosystem to bridge the gap between different sources of funding, leverage funding, and help advance important technologies toward commercialization. Its connections with both provincial and federal governments, as well as the private sector and academia, allow ERA to convene the resources required to accelerate the commercialization and wide-spread adoption of technology solutions that can support economic growth and GHG reductions.*



## **EIGHT COMPLETED PROJECTS AND KEY FINDINGS FROM 2020/21**

ERA is delivering on its mandate and demonstrating progress by collecting and reporting on outcomes, successes, and learnings from its investments. Each project that ERA funds must submit a project completion report. This report outlines key outcomes and details the unique learnings that ERA funding enabled. There were eight projects completed in 2020/21. Project descriptions and completion reports are available on [eralberta.ca/projects](https://eralberta.ca/projects).

PROPONENT	PROJECT	TOTAL PROJECT VALUE	ERA COMMITMENT	HIGHLIGHT
<b>AGRICULTURE AND AGRI- FOOD CANADA</b>	Technologies for Reducing Greenhouse Gas Emissions and Providing Offset Options for the Beef and Dairy Industries	<b>\$2,800,000</b>	<b>\$1,400,000</b>	Explored innovative dietary approaches to reduce enteric methane emissions, including initial testing on 3-nitrooxypropanol.
<b>VIRESCO SOLUTIONS</b>	Demonstration of Reduced Enteric Methane Emissions in Growing/Finishing Beef Cattle in Alberta	<b>\$2,800,000</b>	<b>\$1,400,000</b>	Demonstrated commercial viability of a feed additive (3-nitrooxypropanol) to reduce enteric methane emissions.
<b>CONOCOPHILLIPS CANADA</b>	Non-Condensable Gas Co-Injection for Thief Zone	<b>\$7,800,000</b>	<b>\$2,500,000</b>	Validated non-condensable gas co-injection to manage top-water thief zones and successfully reduced steam-oil ratio.
<b>MCGILL UNIVERSITY</b>	Field-Deployment of a Carbon Dioxide Transformation System Powered by Sunlight	<b>\$3,900,000</b>	<b>\$3,000,000</b>	In collaboration with Lumina, the team at McGill created a field-deployable demonstration unit that produces solar fuels from CO <sub>2</sub> and water.
<b>ATHABASCA OIL CORPORATION</b>	Energy Intensity Reduction Through Flow Control Devices and Non-Condensable Gas	<b>\$33,000,000</b>	<b>\$4,300,000</b>	Use of flow control devices and non-condensable gas injection to reduce energy intensity at mature SAGD sites, successfully reducing steam-oil ratio.
<b>UNIVERSITY OF MANITOBA</b>	A Matter of Timing and Source: Enhanced Efficiency Nitrogen Fertilizers and Products to Reduce Nitrous Oxide Emissions in the Prairie Provinces	<b>\$1,600,000</b>	<b>\$710,000</b>	Resolved gaps in understanding between the timing of fertilizer application and demonstrated the potential benefits of enhanced efficiency nitrogen fertilizers in decreasing N <sub>2</sub> O emissions.
<b>ATCO LTD.</b>	Methane Imaging & Quantification System for Fixed Site Monitoring	<b>\$6,100,000</b>	<b>\$1,200,000</b>	Optical gas imaging developed that will allow for more efficient and cost-effective methane inspections for the oil and gas industry.
<b>EAVOR TECHNOLOGIES INC.</b>	Eavor-Lite Demonstration Project	<b>\$11,900,000</b>	<b>\$1,000,000</b>	Demonstrated viability of a closed-loop geothermal system and is pursuing commercial-scale developments.



## CARBONCURE WINS NRG COSIA CARBON XPRIZE AND OTHER COMMERCIAL SUCCESSES

ERA funding recipient, CarbonCure Technologies Inc., was named one-of-two grand prize winners of the \$20 million (USD) NRG COSIA Carbon XPRIZE. The Canadian company was selected by a panel of independent judges alongside CarbonBuilt. Launched in 2015, the NRG COSIA Carbon XPRIZE was a global competition developed to address rising emissions by challenging innovators around the world to develop breakthrough technologies that convert the most CO<sub>2</sub> into products with the highest net value.

Carbon Upcycling-NLT and Carbon Corp, two other projects that have received funding from ERA, were awarded X-Factor awards for creating excellent products and compelling demonstrations.

Other commercial success seen in 2020/21 by ERA-funded projects include:

- ▶ Mangrove Technologies raised \$3 million from ERA's Trusted Partner, BDC, to accelerate the cost-effective production of battery grade lithium hydroxide.
- ▶ Eavor Technologies secured over \$50 million in funding from various investors, including from ERA's Trusted Partner, BDC, to help scale up its geothermal technology.

## INNOVATOR SUPPORT PILOT PROGRAM COMPLETED

ERA officially launched its Innovator Support Pilot (ISP) in May 2020. The initiative targeted projects that have gone through ERA's application process and had proposals that showed technological promise but did not qualify for funding due to specific challenges or barriers.

ERA onboarded five companies into the program and connected them with service providers, including Alberta Innovates, TEC Edmonton, Platform Calgary, Zone Startups Calgary, and Foresight Cleantech Accelerator. Service providers helped participating companies strengthen elements critical to their success such as organizational strategy and governance, technology and commercial readiness strategy, financial planning, marketing, and customer attraction.

The first cohort of companies completed their work at the end of May 2021. Of the five projects that were invited into the ISP, four completed the pilot program. Success of the ISP was based on various economic and technology metrics that were collected at the start and end of the program such as improvements to business operations, increase in financial support, and job creation. Additional metrics will be collected in a one-year post-program report to further evaluate success of the program. With the guidance of their service providers, all companies augmented various areas of their business and 100 per cent of them noted they would recommend the ISP to a company looking to enhance their overall business strategy. Each company stated they gained clarity on their team and organizational strategy, completed and engaged their target markets, and were able to improve their financial strategy.

## ISP: PROGRAM EVALUATION METRICS



**3 OUT OF 4**

companies added new team members to their organization



**4 OUT OF 4**

companies improved their pitch deck



**3 OUT OF 4**

companies improved their IP policies



**3 OUT OF 4**

companies engaged with potential investors

During the ISP, service providers guided companies through various areas of business development, leading companies to raise a total of \$31 million. Going forward, ERA will be further evaluating the success of the program and assessing the potential to offer this program in the long-term to augment its core services.

## **LESSONS LEARNED WORKSHOP AND SPARK SPEAKER SERIES EVENT FEATURES EXPERTS FOCUSED ON FOOD, FIBRE AND BIOINDUSTRIES**

ERA hosted a joint Lessons Learned Workshop and SPARK Speakers Series event in April 2021. This online offering showcased and shared insights from a series of ERA-funded projects in Alberta's food, fibre, and bioindustry sectors.

Panelists were:

- ▶ Karen Haugen-Kozyra, President of Viresco Solutions
- ▶ Dr. Maria Strack, Professor and Canada Research Chair of Geography and Environmental Management at the University of Waterloo
- ▶ John Basarab, Adjunct Professor at the University of Alberta and Senior Research Scientist at Alberta Agriculture & Forestry.

Mark Summers, ERA's Executive Director of Technology and Innovation, moderated the event.

Lessons learned included:

- ▶ Continue to invest in both technologies and solutions; oftentimes, augmentation of processes is just as critical, if not more so, than technology adoption when it comes to agriculture and forestry operations.
- ▶ Our natural environment has the potential to play a larger role in carbon sequestration.
- ▶ Policies must continually adapt and align to international targets to help incent adoption of innovation.

ERA's Lessons Learned Workshops are a way to accelerate technology adoption by sharing insights from project proponents and industry leaders with those who are developing technology. Over 200 people registered.

The event also included a broader discussion about the future of technology development in agriculture by thought leader and SPARK Speaker Series keynote, Robert Saik.

ERA's SPARK Speaker Series features thought leaders from a variety of industries to share their insights, ideas, and experiences. ERA used this event to announce the winners of its Food, Farming, and Forestry Challenge. Over 250 people registered.

## **LESSONS LEARNED WORKSHOP HIGHLIGHTS ERA'S IN-SITU TECHNOLOGIES INVESTMENTS**

ERA also hosted a Lessons Learned Workshop in November 2020 focused on in-situ technology investments to reduce emissions in Alberta's oil sands. The workshop explored learnings from projects ERA has supported that will change Alberta's energy future.

Panelists included:

- ▶ Cheryl Trudell, Vice-President of Upstream Research with Imperial Oil
- ▶ Julian Ortiz, Technology Project Integration Manager for ConocoPhillips
- ▶ Kyle Thacker, Reservoir Engineering Lead for MEG Energy
- ▶ Carrie Fanai, Canadian Heavy Oil Association (CHOA).

Mark Summers, ERA's Executive Director of Technology and Innovation, moderated the event. Panelists shared knowledge and their own insights related to project development, execution, and what's next for in-situ technologies. Over 250 people registered.

Lessons learned included:

- ▶ Set solid performance metrics and milestones
- ▶ Harness the power of people in the process
- ▶ Government funding is critical to getting projects off the ground
- ▶ Commercialization decisions depend on market conditions and production growth.

### **ERA AND THE UNIVERSITY OF CALGARY CO-HOSTED ALBERTA'S ENERGY FUTURES: SPARK SPEAKER SERIES EVENT**

In June 2020, ERA hosted its second annual SPARK Speaker Series event, Alberta's Energy Futures. The three-part virtual offering was delivered in partnership with the University of Calgary's Haskayne School of Business and School of Public Policy. The event highlighted the actions and opportunities for the short term, while focusing on the long-term sustainability of the province's energy future.

Kathy Bardswick, CEO of the Canadian Institute for Climate Choices, and Al Reid, Executive Vice-President Stakeholder Engagement, Safety, Legal & General Counsel for Cenovus Energy, discussed the threats and opportunities of the economic crisis caused by the COVID-19 pandemic and what a sustainable economic recovery would look like for Alberta's energy sector.

A panel of leading experts also discussed innovation and technology required for Alberta's energy future. Panelists included:

- ▶ Dr. Elizabeth Cannon, President Emerita and Professor, Geomatics Engineering for the University of Calgary (moderator)
- ▶ Jon Mitchell, Vice President of Sustainability with Suncor
- ▶ Scott Nelson, President & CEO for Titanium Corporation
- ▶ Harrie Vredenburg, Suncor Energy Chair, Professor, Haskayne School of Business at the University of Calgary
- ▶ Grant Strem, Chairman & CEO for Proton Technologies.

Another expert panel shared their perspectives on the factors, beyond technology innovation, required for the success of Alberta's energy future.

The panelists for this discussion were:

- ▶ Chad Park, Vice President, Sustainability and Citizenship for The Cooperators/Founding Director, Energy Futures Lab (moderator)
- ▶ Jonathan Hackett, Managing Director and Head of Sustainable Finance for BMO Financial Group
- ▶ Jennifer Winter, Assistant Professor and Scientific Director for Energy and Environment Policy research division at the School of Public Policy for the University of Calgary
- ▶ David James, Associate Deputy Minister of Natural Gas for the Government of Alberta.

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# STRATEGIC PRIORITY: MAXIMIZE IMPACT

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*ERA maximizes the value of its funding by leveraging investments through partnerships with the federal government and other organizations focused on climate innovation and continuous improvement of operational excellence. For every dollar ERA invests, another \$7 is also invested by industry, innovators, and other project funders. ERA also maximizes its impact by delivering excellence in operations and through rigorous performance measurement and reporting.*

## LEVERAGING STRATEGIC PARTNERSHIPS

### **COLLABORATING WITH THE FEDERAL AND PROVINCIAL GOVERNMENTS**

In November 2020, Premier of Alberta, Jason Kenney, and Minister of Environment and Parks, Jason Nixon, announced a commitment of up to \$280 million of new provincial and federal dollars to support a range of ERA programs that support small, medium, and large-sized industries. Funding included up to \$180 million from the province's industry-funded TIER fund and up to \$100 million from the federal government's LCELF.

ERA launched a number of funding calls in response, the Shovel-Ready Challenge and the Energy Savings for Business program. The Partnership Intake Program's budget was also boosted.



These programs were designed as economic stimulus initiatives in response to the impacts of COVID-19. These significant investments encouraged immediate economic activity while also offering creative solutions for long-term recovery, investment attraction, growth, and environmental sustainability.

### **INFORMING GOVERNMENT OF ALBERTA'S NEW CLIMATE CHANGE STRATEGY**

In 2020/21 ERA took part in a number of strategic engagement sessions and compiled feedback to inform and support the Government of Alberta's new Climate Change Strategy. Several themes emerged in these discussions that validated insights ERA gathered through its own industry engagement: policy certainty, diversify actions, investments across timescales and across the economy, consider factors beyond technology (financing, policy, infrastructure innovations), and more.



## LIFE CYCLE ANALYSIS STUDY WITH ALBERTA INNOVATES PUBLISHED

A Life Cycle Analysis Study (LCA) funded by ERA and Alberta Innovates concluded that when Alberta-specific data is used, upstream GHG intensity numbers of oil sands production pathways are 14 to 35 per cent lower than previously published. The report also found emerging technologies can further reduce upstream Steam Assisted Gravity Drainage (SAGD) emissions by 14 to 19 per cent.

Published in December 2020, the study titled *Life Cycle Analysis of GHG Emissions of Oil Sands Reference Facilities and Emerging Technologies* was carried out by top life cycle analysis experts from Stanford University, the University of Calgary and the University of Toronto.

## STRATEGIC INVESTMENT IN EDMONTON REGION HYDROGEN HUB

ERA along with an alliance of government, Indigenous, academic, and economic development leaders launched the Edmonton Region Hydrogen Hub in April 2021. ERA committed \$450,000 in funding with another \$1.2 million invested by Western Economic Diversification Canada and \$600,000 from Alberta's Heartland Association. The Edmonton Region Hydrogen Hub is an example of an early hydrogen deployment hub as outlined in the Hydrogen Strategy for Canada and will serve as a blueprint of how to accelerate a strong regional hydrogen economy that can be replicated across the country.

## ERA AND ALBERTA INNOVATES HOST MAXIMIZING FUNDING POTENTIAL WORKSHOP

ERA and Alberta Innovates hosted a two-part virtual workshop series in July 2020, with organizations that are funding innovation and clean technology in Canada. The event included Trusted Partners from the Clean Growth Hub, Export Development Canada, Business Development Bank of Canada, Natural Sciences and Engineering

Research Council of Canada, Clean Resource Innovation Network, Sustainable Development Technology Canada, Natural Resources Canada, and Natural Research Council of Canada Industrial Research Assistance Program. Participants learned about how all these organizations work together to support projects through the stages of technology readiness. Over 1,000 people registered for the event.

## FOCUSING ON PERFORMANCE MANAGEMENT & OPERATIONAL EXCELLENCE

### REFINING ERA'S APPROACH FOR REPORTING METRICS

Ensuring responsible and effective stewardship of public funds requires ERA to track and report metrics and re-adjust as data manipulation and reporting become more advanced. ERA's Balanced Scorecard continues to evolve to practically track Call for Proposal specific metrics related to environmental, economic, and community outcomes.

In 2020/21, ERA continued to refine its methodology for current metric collection, including augmenting its suite of metrics to include:

- ▶ Data from ERA's Energy Savings for Business program
- ▶ Additional community-based and communications metrics
- ▶ Net economic impact of avoided climate damages resulting from ERA's investments.

ERA is also looking to further analyze its attrition metrics to understand if there are barriers specific to certain types of projects

or sectors that can be addressed by the broader innovation ecosystem.

In addition, ERA is developing an Equity, Diversity, and Inclusion (EDI)\* strategy that will identify potential opportunities to incorporate EDI initiatives into its operations. ERA is engaging other funders in the clean tech ecosystem to gather information and align its approach. ERA has developed a multi-phase internal outreach plan to create a baseline to understand if there are operational barriers to implementing the EDI strategy.

These metrics align with federal and international standards and provide information that can be rolled-up into Government of Alberta performance reporting.

*\* EDI are terms describing the need to remove systemic barriers and biases to ensure all individuals have equal opportunity to access and benefit programs, recognizing differences in race, colour, place of origin, religion, sexual orientation etc., and ensuring all individuals are valued and respected for their contributions equally.*

## UNDERSTANDING THE ECONOMIC IMPACT OF ERA INVESTMENTS

To continue understanding how ERA's investments make an impact, Alberta Innovates carried out an updated Economic Impact Analysis and Cost-Benefit Analysis\* on behalf of ERA. That work confirmed that ERA projects will have a total cumulative impact of almost 32,000 person-year\*\* jobs and add \$4.6 billion to Alberta's GDP by 2025.

While ERA boosts Alberta's economy, its impact can be felt across Canada as well. ERA projects will add \$6 billion to Canada's GDP by 2025 and increase employment by over 43,000 person-year jobs. In addition, a Cost-Benefit Analysis was undertaken to quantify the economic impact resulting from ERA's investments. ERA's funded projects were estimated to result in cumulative net GHG emissions reductions of 45 Mt CO<sub>2</sub>e by 2030 and 109 Mt CO<sub>2</sub>e by 2050. The avoided climate damages associated with these reductions are valued at \$1 billion by 2030 and \$3 billion by 2050.

*\* Analysis numbers are risk-adjusted and take the rolling attrition rate into account.*

*\*\* A person-year is equal to one-year of employment for one individual. Please note economic impact is reported on a calendar year basis, not fiscal year.*

## STREAMLINING THE LENGTH OF INTAKE AND DECISION-MAKING CYCLE

ERA's funding process invites submissions for consideration through a competitive call for proposals. This process includes two stages of expert review prior to a Board decision. Project applicants have expressed a desire for more time to prepare their submissions and wanted a simplified Expression of Interest (EOI) application. In 2020/21, ERA ensured applicants had a minimum of seven weeks for EOI submission for both the Shovel Ready Challenge and the Food, Farming, and Forestry Challenge.

## ENSURING COST EFFECTIVE CONTRACTS WITH SERVICE PROVIDERS

Since it was established in 2009, ERA's business needs have been carried out by a network of highly-experienced service providers and delivery partners contracted to carry out specific functions. ERA continues to focus on value for money from these best-of-class service providers. This includes looking for in-year savings based on the actual operations of the year, as well as annual budget rationalization prior to the start of the fiscal year.

## OPERATING COSTS AS A PERCENTAGE OF APPROVED PROJECT COMMITMENTS

ERA's 2020/21 operating costs were \$7 million, increased from \$5 million in 2019/20. This increase was a result of the launch and delivery of \$330 million in new funding allocations this fiscal year. In 2020/21 operating costs were lower than 2 per cent of the total funds committed to projects. This remains consistent with prior years despite the higher administration costs associated with the Energy Savings for Business program.

## ADDED IN-HOUSE STAFFING CAPACITY TO ENHANCE MANDATE AND PORTFOLIO MANAGEMENT

In 2020/21, ERA's Board and management worked to build capacity to support the existing and growing investment portfolio and programs, while also building sustainable long-term internal capacity for the organization. This included the hiring of six full-time staff during the fiscal year.

## COMMUNICATING ERA'S VALUE PROPOSITION

### SHARING ERA'S IMPACT WITH GOVERNMENT OF ALBERTA DEPARTMENTS AND STAFF

ERA consistently communicates with the Government of Alberta's departments of Environment and Parks; Energy; Jobs, Economy, and Innovation to leverage funding announcements, impact stories, lessons learned, data and outcomes that demonstrate how its investment in innovation and technology is helping to stimulate the economy, grow businesses, and reduce GHG emissions in Alberta.

### RAISING ERA'S PROFILE AND CREDIBILITY THROUGH ENGAGEMENT AND LEADERSHIP

Events provide a platform to achieve broader communication goals of raising awareness of the organization's mandate and funding opportunities. In 2020/21, ERA reached 6,000 stakeholders by hosting and speaking at 35 strategic events. These efforts also helped raise the profile of Alberta as a place for clean technology investment. Highlights include:

**Alberta Energy Efficiency Virtual Summit:** Featuring world class speakers and industry experts, innovators, and leaders in the field, this event showcased the important benefits of energy efficiency in Alberta. As a sponsor of the event, ERA provided a 10-minute presentation about its Energy Savings for Business program.

**GLOBE 2021:** As part of the inaugural GLOBE Advance, ERA, GLOBE Series, The Delphi Group, together with session sponsors Carbon Management Canada, Foresight, and Royal Bank of Canada, hosted *Scaling Cleantech—What's Next for Canada*. This session built on previous discussions and progress in the Scaling Cleantech in Canada initiative, which included a session in 2019 during ERA's SPARK conference. A *Scaling Cleantech—What's Next for Canada Summary Report* was published in November 2020. ERA sponsored the event.

### **Presentation to Alberta-Washington office:**

The Canadian Embassy in Washington, D.C.—in partnership with the International Emissions Trading Association, NDC Partnership, and Capital Power—hosted a virtual event in April 2020 to explore cooperative approaches to deliver climate ambitions through the United Nations Climate Change Conference of the Parties (COP26). ERA's CEO Steve MacDonald provided a presentation about ERA's mandate and how it is attracting investment and improving Alberta's ESG performance.

**Alberta Yield:** ERA hosted a government funding panel with Results Driven Agriculture Research (RDAR) and Alberta Innovates during Alberta Yield's virtual event in March 2021. Organized by Platform Calgary, the ag-tech event brought together businesses, stakeholders, and government organizations from across Alberta.

**6th National Energy Round Table:** The annual event is a private sector forum that helps to define the Canadian energy sector's role in domestic affairs and international oil and gas markets. Founded by the Canada Europe Roundtable for Business, a transatlantic free trade advocacy group, the annual conference series gathers leaders in Toronto, Calgary, and London.

**Heads of Mission Briefing:** ERA CEO Steve MacDonald, was part of a Heads of Mission briefing in May 2021 on the use of technology and innovative strategies within the Alberta economy. This was the 4th in a series of briefings being provided to ambassadors and high commissioners; over 80 people attended.

### City of Calgary's 2021 Climate Symposium:

ERA, in partnership with EcoTrust held a joint session about the grants both organizations offer during the City of Calgary's 2021 Climate Symposium held in March 2021. During this session, ERA showcased its Energy Savings for Business program, highlighting incentives that are available to a wide range of energy saving technologies to help small- and medium-sized businesses save energy and money. The two-day virtual event was open to the public to explore how Calgary can prepare for the impacts of a changing climate and how the city can leverage economic recovery from the COVID-19 pandemic to unlock new business opportunities and strength climate change resilience through innovative solutions.

### SHARING OUR STORY TO CONNECT WITH ENTREPRENEURS, STAKEHOLDERS AND THE PUBLIC

In 2020/21, ERA began to implement its revised marketing and communication strategy to reflect current stakeholder expectations and audience awareness/knowledge of ERA, its mandate, and achievements.

As part of that new strategy, ERA published 13 project stories and six videos. It also launched five episodes of Carbon Copy, a podcast about the technology, engineering and economics of a low carbon future.

### RAISING OUR PROFILE IN THE MEDIA

ERA continued to receive favourable media coverage by top-tier news organizations at both the provincial and national level. ERA also capitalized on its relationships with industry magazines and non-traditional media partners to produce several articles and online television interviews.

Below are a few of the highlights:

- ▶ Globe & Mail - [Oil sands study shows drop in emissions, but researchers urge caution](#)
- ▶ Globe & Mail - [Ottawa, Alberta develop new hydrogen strategies](#)
- ▶ Calgary Herald - [TransAlta set to flip switch on Alberta's first large-scale battery storage project using technology from Tesla](#)
- ▶ EPAC Magazine (ERA op-ed) - [It takes a village to grow an economy and cut emissions](#)
- ▶ Context Magazine by CAPP - [Emissions Reduction Alberta wants us to be 'carbon positive'](#)
- ▶ Edmonton Journal - [Seventeen projects will receive \\$33 million in provincial funding to reduce emissions in the food, forestry and agriculture industries](#)
- ▶ The Crownsmen Show - [ERA & Clean Technology Investment featuring Mark Summers](#)

## COMMUNICATION METRICS

230%

INCREASE IN  
MEDIA MENTIONS



40%

GROWTH IN  
NEWSLETTER SUBSCRIBERS



133%

GROWTH IN LINKEDIN  
FOLLOWERS



484%

INCREASE IN  
POTENTIAL AUDIENCE  
REACH THROUGH MEDIA



146%

INCREASE  
IN WEBSITE  
USERS



1.06%

AVERAGE ENGAGEMENT ON TWITTER  
MEDIAN ACROSS  
INDUSTRIES IS .045%







# TEAM

# EXECUTIVE

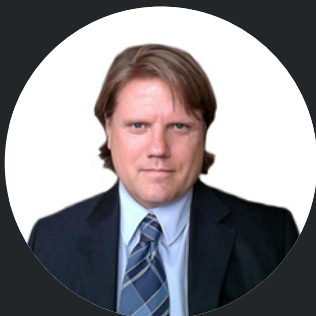
*The ERA team supports its Board by providing sound research, expert advice, and effective reporting to facilitate decision-making.*



**STEVE MACDONALD**  
*CHIEF EXECUTIVE OFFICER*



**HEATHER STEPHENS**  
*CHIEF FINANCIAL OFFICER*



**BOB SAVAGE**  
*EXECUTIVE DIRECTOR,  
PLANNING AND PERFORMANCE*



**MARK SUMMERS**  
*EXECUTIVE DIRECTOR,  
TECHNOLOGY AND INNOVATION*



**MICHELLE GURNEY**  
*COMMUNICATIONS AND  
ENGAGEMENT*



**JENNIFER CLEALL**  
*LEGAL COUNSEL*



# BOARD OF DIRECTORS

*This group of experts in technology, finance, governance, and business provides strategic direction and oversight to the organization. These individuals form a diverse Board with backgrounds that include significant experience in industry, government, academia, and the not-for-profit sector.*



**DAVE COLLYER**  
BOARD CHAIR



**JOSEPH DOUCET**  
VICE-CHAIR



**CÉLINE  
BAK**



**VITTORIA  
BELLISSIMO**



**CORRINA  
BRYSON**



**JOHANNES  
DYRING**



**RONDA  
GOULDEN**



**SARA  
HASTINGS-SIMON**



**CLIVE  
MATHER**



**PATRICIA  
MOHR**



**DAVID  
MOSS**



# FINANCIALS



## **Emissions Reduction Alberta**

(Emissions Reduction Alberta is a registered trade name of Climate Change and Emissions Management (CCEMC) Corporation)

Financial Statements

**May 31, 2021**

## Independent Auditor's Report

To the Board of Directors of  
Climate Change and Emissions Management (CCEMC) Corporation  
(operating as Emissions Reduction Alberta)

### Opinion

We have audited the financial statements of Climate Change and Emissions Management (CCEMC) Corporation (operating as Emissions Reduction Alberta) ("ERA"), which comprise the statement of financial position as at May 31, 2021, and the statements of changes in net assets, operations and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of ERA as at May 31, 2021, and the results of its operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

### Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of ERA in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing ERA's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate ERA or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing ERA's financial reporting process.

### Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of ERA's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on ERA's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause ERA to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

*Deloitte LLP*

Chartered Professional Accountants  
September 28, 2021

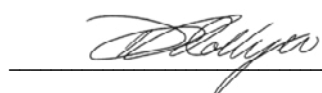
## Emissions Reduction Alberta

### Statement of Financial Position

As at May 31, 2021

	2021 \$	2020 \$
<b>Assets</b>		
<b>Current assets</b>		
Cash	510,645,699	27,858,157
Accounts receivable	62,734	26,078
Grant receivable (note 3)	13,000,000	-
Interest receivable	262,494	419,297
Prepaid expenses	41,488	7,258
Short-term investments	-	350,000,000
	<u>524,012,415</u>	<u>378,310,790</u>
<b>Non-current assets</b>		
Property and equipment	78,739	90,445
Grant receivable (note 3)	-	8,000,000
	<u>524,091,154</u>	<u>386,401,235</u>
<b>Liabilities</b>		
<b>Current liabilities</b>		
Accounts payable and accrued liabilities	2,532,892	3,510,074
Deferred lease inducement	18,083	36,166
Deferred Revenue (note 4)	80,842	-
	<u>2,631,817</u>	<u>3,546,240</u>
<b>Net Assets</b>		
<b>General Fund – unrestricted</b>	-	-
<b>Restricted Fund (note 5)</b>	<u>521,459,337</u>	<u>382,854,995</u>
	<u>524,091,154</u>	<u>386,401,235</u>
<b>Commitments and guarantees (note 7)</b>		

### Approved by the Board of Directors



Director



Director

The accompanying notes are an integral part of these financial statements.



## Emissions Reduction Alberta

### Statement of Changes in Net Assets

For the year ended May 31, 2021

	<b>2021</b>		<b>2020</b>
	<b>General Fund \$</b>	<b>Restricted Fund \$</b>	<b>Total \$</b>
<b>Balance – Beginning of year</b>	-	382,854,995	382,854,995
Excess (deficiency) of revenue over expenses for the year	-	138,604,342	138,604,342
<b>Balance – End of year</b>	-	521,459,337	521,459,337

The accompanying notes are an integral part of these financial statements.

## Emissions Reduction Alberta

### Statement of Operations

For the year ended May 31, 2021

	2021			2020
	General Fund \$	Restricted Fund \$	Total \$	Total \$
<b>Revenue</b>				
Grant revenue (note 3)	-	185,000,000	185,000,000	15,000,000
Interest income	-	4,620,210	4,620,210	8,119,333
Other revenue (note 4)	58,658	-	58,658	382,565
	58,658	189,620,210	189,678,868	23,501,898
<b>Project expenses</b> (note 7)	-	44,045,902	44,045,902	38,211,631
<b>Excess (deficiency) of revenue over project expenses</b>	58,658	145,574,308	145,632,966	(14,709,733)
<b>Operating expenses</b>				
Program management (note 6)	58,658	6,203,271	6,261,929	3,611,718
Consulting contracted services	-	245,015	245,015	265,078
Corporate costs	-	432,723	432,723	360,470
Amortization	-	43,390	43,390	30,313
Board remuneration and expenses (note 6)	-	45,567	45,567	123,060
Conference	-	-	-	616,578
	58,658	6,969,966	7,028,624	5,007,217
<b>Excess (deficiency) of revenue over expenses for the year</b>	-	138,604,342	138,604,342	(19,716,950)

The accompanying notes are an integral part of these financial statements.

## Emissions Reduction Alberta

### Statement of Cash Flows

For the year ended May 31, 2021

	2021 \$	2020 \$
<b>Cash provided by (used in)</b>		
<b>Operating activities</b>		
Excess (deficiency) of revenue over expenses for the year	138,604,342	(19,716,950)
Amortization of property and equipment	43,390	30,313
Amortization of deferred lease inducements	(18,083)	(3,014)
Net change in non-cash working capital items		
Change in deferred revenue	80,842	-
Accounts receivable	(36,656)	93,616
Grant receivable	(5,000,000)	10,000,000
Interest receivable	156,803	387,849
Prepaid expenses	(34,230)	26,989
Accounts payable and accrued liabilities	(977,182)	(365,668)
	132,819,226	(9,546,865)
<b>Investing activities</b>		
Purchase of property and equipment	(31,684)	(94,344)
Deferred lease inducement	-	39,180
Proceeds (purchase) of short-term investment	350,000,000	(350,000,000)
	349,968,316	(350,055,164)
<b>Increase (decrease) in cash during the year</b>	482,787,542	(359,602,029)
<b>Cash – Beginning of year</b>	27,858,157	387,460,186
<b>Cash – End of year</b>	510,645,699	27,858,157

The accompanying notes are an integral part of these financial statements.

# Emissions Reduction Alberta

## Notes to Financial Statements

May 31, 2021

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### 1 Organization

Climate Change and Emissions Management (CCEMC) Corporation ("CCEMC") is an Alberta-based, independent, not-for-profit organization incorporated under the Canada Corporations Act on February 17, 2009 and continued under the Canada Not-for-profit Corporations Act on October 14, 2016; its operations commenced on June 1, 2009. On October 21, 2016, CCEMC registered the trade name of Emissions Reduction Alberta ("ERA") and uses this as its operating name. ERA's mandate is to identify and accelerate innovative solutions that secure Alberta's success in a lower carbon economy. The Technology Innovation and Emissions Reductions Fund (formerly the Climate Change and Emissions Management Fund) (the "Fund") is established under the Emissions Management and Climate Resilience Act, SA 2003, c. E-7.8 (formerly the Climate Change and Emissions Management Act) by the Government of Alberta to support investment in innovation and clean technologies that will reduce Alberta's emissions of specified gases and support its ability to adapt to climate change. The Fund provides the primary source of revenue for ERA.

The Government of Alberta and ERA entered into an Agreement dated and effective March 8, 2017 together with an Amending Agreement dated March 6, 2020, for the period up to and including March 31, 2024, with respect to funding under the Emissions Management and Climate Resilience Act. As a not-for-profit organization, ERA is exempt from tax in accordance with Section 149(1)(l) of the Income Tax Act (Canada).

### 2 Summary of significant accounting policies

These financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations ("ASNPO") within the framework of the accounting policies summarized below.

#### Fund accounting

For financial reporting purposes, the accounts have been classified into the following funds:

- General Fund

The General Fund includes all resources available for immediate purposes and accounts for ERA's activities other than those directly attributable to funding innovation and clean technologies and adaptation to climate change.

The General Fund includes all unrestricted monies received that are available for use at ERA's discretion.

- Restricted Fund

The Restricted Fund includes those funds that are to be used to support investment in innovation and clean technologies and adaptation to climate change.

#### Revenue recognition

These financial statements have been prepared using the restricted fund method of accounting for contributions, the key elements of which are:



## Emissions Reduction Alberta

### Notes to Financial Statements

May 31, 2021

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- Unrestricted contributions are recognized as revenue in the General Fund when received or on becoming receivable if the amount to be received can be estimated and collection is reasonably assured.
- Externally restricted contributions are recognized as revenue in the Restricted Fund when received or receivable if the amount to be received can be estimated and collection is reasonably assured. Externally restricted amounts can only be used for the purposes designated by external parties.
- Investment income earned on contributions subject to external restrictions is recorded as revenue in the Restricted Fund in the year it is earned.

For contracts fulfilled over a period of time, ERA recognizes revenue using the percentage of completion method. The degree of completion is determined using an input-based method. In the application of percentage of completion, total expected costs to complete are determined at contract inception and are periodically reviewed. Percentage of completion is then determined based on total costs incurred to date. Funds received prior to the delivery of a milestone will be recorded as deferred revenue until such time as the recognition criteria are met.

#### Financial instruments

ERA currently does not hold any equity instruments that would be measured after initial recognition at fair value. Financial assets and financial liabilities are initially recognized at fair value less transaction costs when ERA becomes a party to the contractual provisions of the financial instrument and subsequently are measured at amortized cost with any changes recorded in the Statement of Operations.

#### Cash

Cash consists of cash on deposit.

#### Short-term investments

Short-term investments are guaranteed investment certificates ("GICs"). GICs that mature in 12 months or less are measured at cost, recorded as short-term investments and any interest is accrued as earned.

#### Use of estimates and judgements

The preparation of financial statements in conformity with ASNPO requires management to make judgments, estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses for the periods reported. Estimates and underlying assumptions are continuously evaluated and are based on management's experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Changes in judgements, estimates and assumptions based on new information could result in a material change to the carrying amount of assets or liabilities and have a material impact on assets, liabilities, revenues and expenses recognized in future periods.

## Emissions Reduction Alberta

### Notes to Financial Statements

May 31, 2021

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#### Property and equipment

Property and equipment are recorded at cost less accumulated amortization. Amortization is provided on a straight-line basis at the following annual rates:

Computer equipment and software	3 years
Furniture and fixtures	5 years
Leasehold improvements	3 years

Lease inducements are accounted for as reductions of the lease expense over the term of the lease.

#### Project expenses and liabilities

Project expenses and the associated project liability (included in accounts payable and accrued liabilities) are recognized on receipt by ERA of a valid project progress report and associated milestone invoices. A commitment for a project expense is disclosed as such when a contribution agreement is executed.

### 3 Grant revenue

Funds are granted from the Government of Alberta to ERA on an annual basis through a Grant Agreement. The current Grant Agreement was executed on March 8, 2017 and was amended on March 6, 2020 to extend the effective date to March 31, 2024.

On December 18, 2020, ERA received a letter from Alberta's Minister of Environment and Parks confirming funding of \$180 million to be used to execute ERA's business plan, as well as for the purposes stated in the Grant Agreement and the memorandum of understanding. This includes supporting the Shovel Ready Challenges, Energy Savings for Business Program, and Partnership Intake Program. The funding was received on March 18, 2021 and recorded as grant revenue. ERA also received a letter from Alberta's Minister of Environment and Parks in the prior fiscal year confirming funding of \$25 million, of which, \$10 million is to complete the funding for the Industrial Efficiency Challenge and another \$15 million to be used to execute ERA's business plan. The letter also indicated that ERA funds received in prior years relating to regulations or programs that are no longer proceeding may be reallocated to execute ERA's business plan.

On January 28, 2021, ERA executed an amendment to the original Delivery Entity Agreement dated February 22, 2019 with respect to funds that are committed to ERA under the Federal Low Carbon Economy Leadership Fund ("LCEL"). Under the amended agreement, the Government of Alberta has committed up to \$99.8 million in funding to ERA to support various initiatives including Food, Farming, and Forestry Challenge, Shovel Ready Challenges, Partnership Intake Program, Energy Savings for Business Program, and the Industrial Efficiency Challenge previously committed to in the original Delivery Entity Agreement. In the current fiscal year, ERA has recognized \$5 million of grant revenue. These monies, including \$8 million of committed funding to support the Industrial Efficiency Challenge pledged in the fiscal year ended May 31, 2019, have been recorded as grant receivable, and are expected to be received in fiscal 2022. The remaining commitment is expected to be received in the fiscal years ending May 31, 2023 and 2024.

## Emissions Reduction Alberta

### Notes to Financial Statements

May 31, 2021

#### 4 Other revenue

	2021 \$	2020 \$
CRIN Revenue	58,658	-
Conference Revenue	-	382,565
Total Other Revenue	58,658	382,565

On February 10, 2021, ERA entered into a competition coordination agreement with Clean Resource Innovation Network ("CRIN") to run an open competition for proposals. The selected proponents/projects will be awarded funds directly from CRIN. As of May 31, 2021, ERA has incurred \$58,658 of costs associated with the design and delivery of the CRIN competition and has received \$139,500 in compensation for competition coordination. Deferred revenue of \$80,842 will be recognized as associated expenses in the General Fund are incurred in fiscal year 2022. Activity in the General Fund in fiscal year 2020 is related to the hosting of ERA's Spark 2019 Conference.

#### 5 Restricted Fund

The Restricted Fund consists of funds that are externally restricted by the Government of Alberta for the purpose of investing in various initiatives and projects related to reducing emissions of specified gases or supporting Alberta's ability to adapt to climate change as established by the Fund. The funds are also restricted for the purpose of administering ERA, which includes fees, expenses, liabilities and other costs.

#### 6 Board and management remuneration

Total honoraria and expenses related to the directors of the board amounted to \$43,981 (2020 – \$121,180) in the fiscal year. Remuneration paid to directors or their employers includes honoraria totalling \$43,981 (2020 – \$55,945) as follows:

	2021 \$	2020 \$
C. Bak	4,728	6,440
V. Bellissimo (A)	2,519	-
C. Bryson	5,051	5,713
D. Collyer	5,518	9,302
J. Doucet	4,974	4,632
J. Dyring	4,206	6,178
R. Goulden (B)	-	-
S. Hastings-Simon	4,247	6,120
C. Mather	4,575	7,848
P. Mohr (C)	4,244	4,907
D. Moss	3,919	4,805
	43,981	55,945

A) Appointed September 2020

B) Appointed December 2019 and honoraria waived by this director

C) Retired May 2021

## Emissions Reduction Alberta

### Notes to Financial Statements

May 31, 2021

Of these amounts, \$6,203 (2020 – \$8,688) is included in accounts payable and accrued liabilities. No expenses were paid to directors relating to reimbursements for meals, travel and accommodation (2020 – \$65,235).

Program management expenses include remuneration to contract management who report directly to the board, totalling fees of \$290,220 (2020 – \$294,525); of this amount, \$26,129 (2020 – \$26,670) is included in accounts payable and accrued liabilities.

## 7 Commitments and guarantees

During the year, contribution agreements for ERA funding were executed for 32 projects and 1 project was not initiated. As at May 31, 2021, ERA has 183 executed contribution agreements outstanding and has commenced or completed funding for 152 of these approved projects. Funding for 31 of the 183 executed projects has not commenced. Total committed funds for executed projects is the difference between the total funding approved for executed contribution agreements and project expenses incurred to date or contribution agreements cancelled. A summary of these amounts is outlined as follows:

	2021 \$	2020 \$
Total committed funds for executed projects – Beginning of year	209,372,596	145,809,243
Total funds for executed projects approved or adjusted during the year	125,226,158	111,396,150
Project expenses incurred during the year	(44,045,902)	(38,211,631)
Contribution agreements cancelled during the year	-	(9,621,166)
Total committed funds for executed projects – End of year	290,552,852	209,372,596
Total funds for projects approved but not yet executed	223,575,051	126,808,422
Total commitments	514,127,903	336,181,018

Funds allocated to the executed contribution agreements are subject to ERA's review and approval prior to disbursement to ensure full compliance with the terms of the contribution agreement. The actual financial commitment could therefore differ materially from \$290,552,852 but will not exceed that amount.

On November 2, 2020, ERA launched the Energy Savings for Business Program and the Shovel Ready Challenge. The Energy Savings for Business Program opened for applications on February 1, 2021 and the program is ongoing. The Shovel Ready Challenge funding decisions were made on June 1, 2021 in the amount of \$175,636,703 for a total of 16 projects. This amount has been shown as a commitment in the table above as projects approved by the Board.

There are 37 projects, including the Shovel Ready Challenge, totalling \$223,575,051 (2020 – \$126,808,422), that have been approved for funding by ERA's board of directors but for which contribution agreements have not yet been executed.

Subsequent to year-end, 2 of the previously executed projects have been amended to reduce ERA funding totalling \$7,747,902, and 1 previously executed project has been terminated. In addition, 1 of the approved projects, totalling \$1,978,424, will not proceed, 3 new projects have been approved for funding of \$1,395,149 and 20 of the approved projects, totalling \$116,986,160, have executed contribution agreements. This includes a reduction of \$11,995 to ERA funding for one of these projects. As at September 28, 2021, ERA has 19 projects remaining, totalling \$105,993,621, which have been approved for funding by ERA's Board of Directors but for which contribution agreements have not been executed.



## Emissions Reduction Alberta

### Notes to Financial Statements

May 31, 2021

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Included in the project expenses for the current year is \$299,907 (2020 – \$4,350,000) paid to projects being developed in Canada, but outside of Alberta. No expenses were paid to projects being developed outside of Canada in the current year (2020 – \$59,718). Included in total executed and approved commitments for the year is \$153,398 (2020 – \$453,305) committed to projects being developed in Canada, but outside of Alberta. There are no remaining commitments for projects being developed outside of Canada (2020 – nil).

On March 11, 2020, the World Health Organization characterized the COVID-19 outbreak as a pandemic. The impact of the outbreak on the financial results of ERA will depend on future developments, including the duration and spread of the outbreak and related advisories and restrictions.

As at May 31, 2021, the COVID-19 pandemic continues to present challenges for the global business environment. It is not possible to reliably estimate the impact that the length and severity of these developments will have. ERA's continued response to this global crisis includes active management of their portfolio of investments including enhanced processes to improve cashflow to funding recipients.

ERA indemnifies its directors against claims reasonably incurred and resulting from the performance of their services to ERA. No amounts are reflected in the financial statements related to these indemnifications.

## 8 Financial instruments

ERA's financial instruments are exposed to certain financial risks, including credit risk, market risk and liquidity risk.

### Credit risk

Credit risk is the risk of financial loss to ERA if a party to a financial instrument fails to meet its contractual obligations and arises principally from cash and accounts receivable. The maximum amount of credit risk exposure is limited to the carrying value of the balances disclosed in these financial statements.

Management monitors these accounts regularly and does not believe ERA is exposed to significant credit risk at the statement of financial position date.

### Market risk

Market risk is the risk changes in market prices, such as interest rates, will affect ERA's interest income or the value of the financial instruments held. ERA is subject to interest rate cash flow risk arising primarily from fluctuations in interest rates applied to its cash balances, which are subject to floating interest rates.

### Liquidity risk

Liquidity risk is the risk ERA will not be able to meet its financial obligations as they come due. Management mitigates liquidity risk by monitoring forecasted and actual cash flows to ensure sufficient liquidity to meet its liabilities. Accounts payable and accrued liabilities are due within the current operating period.

## Emissions Reduction Alberta

Notes to Financial Statements

May 31, 2021

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### 9 Economic dependence

100% of ERA's grant revenue is received from the Government of Alberta via the executed Grant Agreement or the Delivery Entity Agreement. The loss of this funding would have a material adverse impact on ERA's future operations, project commitments and financial position.





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