

# ANNUAL REPORT 2023 - 2024







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STATEMENT OF OPERATIONS



Canada's oil and gas sector is one of constant evolution. With each year comes new challenges and opportunities. As PTAC and its members continue to navigate the everchanging landscape of the oil and gas industry, we remain steadfast in our commitment to driving collaborative innovation and technology development for a responsible Canadian hydrocarbon sector. With the closure of the 2023–2024 fiscal year, PTAC's Board of Directors are proud of the accomplishments achieved by PTAC and its members, as well as the opportunities that lie ahead.

### **PROJECTS**

The 2023-2024 fiscal year saw a total revenue reported of \$15.6M, almost double the budget. Of this total, \$14.6M pertains to the R&D projects facilitated by PTAC, which focused on digital innovation, tight oil, methane emissions reductions, and environmental applied research. PTAC had 94 ongoing projects or new phases of projects in 2023/2024, of which 63 were launched during that period.

PTAC's 2023-2024 project roster includes an exciting partnership with the Clean Resource Innovation Network (CRIN), with 5 new technology projects launched, each with their own unique contributions which help drive innovative action within Canada's energy industry.

PTAC's longstanding efforts to provide technical advisory services for Small and Medium Sized Enterprises (SMEs) operating within the Canadian oil and gas industry continued this past fiscal year, carrying out 32 product market fit analyses of SME technologies. PTAC's SME program has been run in collaboration with the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP) for over a decade and is designed to assist SMEs in navigating the constantly evolving energy marketplace.

The 2023–2024 fiscal year also saw the completion of the Canadian Emissions Reduction Innovation Network (CanERIC) 1.0 Program. CanERIC is a pan-Canadian network of researchers and end-users established to develop and deploy technologies to reduce methane emissions. CanERIC provides the oil and gas industry with a platform to bring forward their most pressing methane emission challenges, while providing technology vendors with a platform to field test their technologies and respond to other challenges and better understand the potential market for their products. Throughout its 3 years of operation (2021–2023), CanERIC 1.0 supported the development of innovative technologies to reduce methane emissions throughout the Canadian oil and gas industry, completing 31 projects since its inception.



In addition to the slate of technology-focused initiatives, PTAC continued its longstanding role as the facilitator of the Alberta Upstream Petroleum Research Fund (AUPRF). AUPRF is a longstanding contributor to the oil and gas industry's innovation ecosystem, helping solve complex environmental challenges related to air emissions, water use, well closure, biodiversity, and site reclamation. This past year, through the voluntary support of more than 400 producers providing program funding, AUPRF launched 29 new projects and project phases.

### **ENGAGEMENT**

The past fiscal year also saw new partnerships being forged, and current partnerships strengthened. Memorandums of Understanding were executed with Genome Alberta and GTI Energy, and renewed with the Alberta Energy Regulator, allowing PTAC to focus on areas of cooperation that are mutually beneficial to the participating organizations and enhance the strategic working relationship between parties to promote collaborative innovation.

PTAC's engagement continued to gain momentum both nationally and abroad, through the participation from PTAC and its members in numerous events, which allowed us to disseminate the results of our activities on a broad scale and provide a platform for knowledge sharing, technology innovation and implementing best practices.

### **EVENTS**

PTAC had the pleasure of presenting, co-chairing, and hosting several events throughout the World Petroleum Congress (WPC) hosted in Calgary in September 2023. PTAC also took on a new partnership with the Canada-Texas Chamber of Commerce through the "Doing Business in Texas" session hosted at PTAC's offices during the WPC, where Canadian SMEs were invited to learn more about how the Canada-Texas Chamber of Commerce helps Canadian businesses navigate the complexities of entering new markets.



PTAC also had the opportunity to highlight its activities in 5 events at COP28 in Dubai, UAE from November 30 – December 12, 2023, moderating 2 panels and presenting at 3 sessions. In close partnership with CRIN, PTAC presented at the CRIN Pavilion, where Canada's critical efforts to reduce emissions and reach targets were highlighted on an international stage.

The 2024 Methane Leadership Summit took place this past April, bringing together a diverse and knowledgeable stakeholder group. This sold-out in-person annual forum serves as a space where the methane emissions challenges facing the oil and gas sector on both a national and international scale are discussed, and opportunities regarding emissions reduction targets are explored.

PTAC also hosted a variety of webinars throughout the past year, 11 in total, which aimed to directly inform producers of technologies and best practices available to mitigate cost, reduce emissions, and help bridge the gap between Canadian SMEs and their target audience.

### **WEBSITE**

We were also pleased to announce the launch of PTAC's new website in early 2024. PTAC aims to continue providing its members with the best possible service, and this website allows us to deliver enhanced functionality and an improved Technical Library which provides an improved experience for all our visitors.

### **OUTLOOK**

As we look ahead to 2024-2025, PTAC's outlook for the forthcoming year is optimistic and strategically positioned. PTAC will continue to expand its activities within the digital realm, tight oil operations, and methane reductions, including continued work on the AUPRF program, CanERIC 2.0, and the Methane Emissions Reduction Network (MERN), as well as increased SME support initiatives through continued market fit analyses. Initiatives which support producers most critical needs will continue to be the primary motivator of PTAC's slate of activities, prioritizing the uptake of technologies to reduce methane emissions and cut costs, while improving operational efficiencies.



The coming years promise to be a time of transformation and growth, offering PTAC a chance to navigate new terrain. A historic budget for 2024–2025 has been presented, which aims to increase PTAC's growth by nearly 50%. In the fiscal year ahead, the anticipated growth will be facilitated through the launch of projects within focus areas including: Managing Environmental Impacts of Oil and Gas, Reducing Costs, Improving Oil and Gas Recovery. Working Towards a Low Carbon Hydrocarbon Economy, Digitization of the Oil and Gas Industry, Tight Oil, Methane, and Net–Zero.

In reflection of the exceptional journey PTAC has made over the past year, the importance of our membership base and volunteers is clearer than ever. Collaborative innovation will continue to be the foundation upon which PTAC builds its success.

Thank you,



**Soheil Asgarpour Ph.D., FCAE, FCIM, FCSSE, P.Eng.**President & CEO, PTAC



Cheryl Trudell Ph.D., FCAE, P.Eng.

Joint Interest Production Manager, Imperial Oil
Chairperson - PTAC



# **BOARD OF DIRECTORS**

(AS OF MARCH 31, 2024)

### **Cheryl Trudell, Chairperson**

Joint Interest Production Manager Imperial Oil

### Matt Bryan, Chair-Elect

Managing Director SLB Canada Limited

### Kevin Stashin, Past Chair

Independent

### **Andrew Noseworthy**

Assistant Deputy Minister, Clean Technology ISED

### **Brian Doucette**

Independent

### **Craig Stenhouse**

Principal and Founder Shift Critical

### John Zhou

Chief Cleantech Officer and VP Clean Resources Alberta Innovates

### **Joy Romero**

Executive Advisor, Innovation
Canadian Natural Resources Limited

### **Ken Putt**

Independent

### **Martin Foy**

Chief Operations Officer Alberta Energy Regulator

### **Michele Evans**

Assistant Deputy Minister, Alberta Region Prairies Economic Development Canada

### Mike Ekelund

Independent

### **Mina Hoorfar**

Dean of Faculty of Engineering and Computer Science University of Victoria

### **Murray Todd**

Independent

### **Nannette Ho-Covernton**

Sustainability Leader Spartan Controls

### **Nicole Harbauer**

Trade Commissioner Global Affairs Canada

### Randy Rudolph

Associate Vice President AECOM Canada Ltd.

### **Richard Slocomb**

Vice President, Well & Energy Resource Stewardship British Columbia Energy Regulator

### **Soheil Asgarpour**

President & CEO PTAC



# **ABOUT PTAC**

As an organization that collaborates to advance Canada's leadership in hydrocarbon energy technology, Petroleum Technology Alliance Canada (PTAC) facilitates innovation, research, and development to propel the industry forward while ensuring sustainability. PTAC members gain access to a network of industry experts and collaborate on cutting-edge projects to support the future of the hydrocarbon energy sector. The primary focus of PTAC is to raise awareness, foster innovation, and facilitate sustainable practices that benefit all members and the industry by providing opportunities for growth, cost-savings, and increased competitiveness.

### 2023-2024 IMPACT



\$14.6M FACILITATED FOR R&D PROJECTS



VOLUNTARY SUPPORT OF OVER 400 PRODUCERS



11 WEBINARS IN 2023-2024







**63 PROJECTS LAUNCHED** 



# OUR MISSION OUR VISION OUR PURPOSE

# **MISSION**

Petroleum Technology Alliance Canada (PTAC) is a neutral, not-for-profit association dedicated to managing and facilitating innovation, cooperative research, technology advancement, demonstration, and implementation for a responsible Canadian hydrocarbon energy industry.

# **VISION**

To help Canada become a global hydrocarbon energy technology leader.

# **PURPOSE**

Manage and facilitate collaborative research and technology advancements for the collective benefit of all participants in the Canadian hydrocarbon energy industry by:

- Enhancing awareness of cutting-edge technological solutions that effectively address industry challenges.
- Cultivating an innovation ecosystem that brings together stakeholders to identify challenges, explore
  opportunities, and collaboratively initiate projects to tackle them.
- Encouraging active industry involvement in research, technology development, lab and field testing, demonstration, commercialization, and deployment by assisting in securing funding from diverse sources.
- Facilitating the adoption of commercial technologies from industrial sectors and jurisdictions to the hydrocarbon energy industry.
- Advocate for the implementation of innovative and effective business practices for hydrocarbon systems.



# **PTAC STAFF**

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### Yusra Muzaffar

CPA, CGA, ACCA (UK) Accountant 403-218-7708 ymuzaffar@ptac.org



# PROJECTS LAUNCHED

- Calscan Separator
- CanERIC 2.0
- Comparing Gas invasion into Oilwell Cement Slurry Versus Five Other Wellbore Sealing Products
- Controlled Methane Injection Pilot Demonstration of a Biocover Concept for Mitigating Leaking Oil and Gas Wells
- Conventional vs. Passive Management of Noxious Weeds for Final Reclamation of Industrial Sites in the Boreal Forest: A Risk Management-Based Approach
- Direct Contact Steam EOR (GERI)
- Energy UTM Expansion (AIRmarket)
- Enhancing auto-recognition technologies and data management practices within the open environmental sensor platform, WildTrax
- Evaluating Technology-based Assessments for Use in Reclamation Certification of Anthropogenic Footprints
- Evaluation of Cements to Replace Class G Portland Cement
- Evaluation of Soil Chloride Delineation Requirements
- Identifying Barriers to Water Recycling in Alberta Hydraulic Fracturing
- Longevity Testing of 5 Alternative Materials for Wellbore Remediation & Closure
- Material Testing of Cement Alternative Products for Well Remediation & Closure
- Minimum Acceptable Emissions and Closure Guidelines for Leaking Abandoned Wells
- Modular CO2 Capture Ionada
- Nano-particle Foam (Cnergreen)
- · Novel molecular test to detect Canadian toad environmental DNA
- Pathways to Mitigating Methane Emissions from Inactive Oil and Gas Wells
- Predictive Emissions Monitoring Systems VL Energy 2.0
- Process Guide for Approaching Salt Contamination
- Re-Evaluation of F2 and F3 Petroleum Hydrocarbon Management Limits
- Regulatory Approval of Risk Assessment Tools
- Temporal variability in methane and air pollutant emissions from abandoned, inactive, and suspended oil and gas wells
- Testing Three Alternate Products for Sealing Impaired Wellbore Cement (Phase 2)
- The Alberta Background Soil Quality System Phase 3
- The effects of oil and gas development on the occupancy, reproduction status, and reproductive rates of prey species within caribou ranges
- The Oxiperator for Methane Slip from Lean-Burn Gas Engines and Much More
- Towards Net-Zero Emissions: Mechanics, Processes and Materials to Support Risk-Based Well Decommissioning
- Understanding and Mitigating Leakage Pathways in Oil and Gas Well Cements
- Unlit Flares: Aerial Quantification of a non-Inventoried Emission Source in Western Canada
- Using Various Forms of Remote Sensing to Improve our Ability to Manage Risk of Incidental Take for Pileated Woodpeckers
- Verified Methane Reductions: Leveraging Measurement-Based Methane Inventories to Quantify Reductions Trends and Prove Methane Intensities



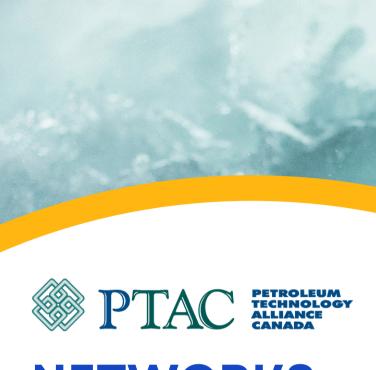
# **ONGOING PROJECTS**

- Agronomic Receptors Phase 3
- Alberta Energy Cleantech Export Program
- Beyond-Line-of-Sight
- CanERIC 2.0
- Controlled Methane Injection Pilot Demonstration of a Biocover Concept for Mitigating Leaking Oil and Gas Wells
- Development of a Chloride Water Quality Guideline Based on Hardness and Consideration for Cation Toxicity
- EcoSeis Phase 2
- Evaluation of Reclamation Practices on Peatland Wellsites Stage 3, Phase 4B Research Program
- Expanded Correlations Between Hydrometer Data, Sieve Data, and Saturation Percentage
- Finalization of Research and Preliminary Selenium Soil Quality Guideline Derivation
- Gas Migration Measurements for Inventory Accuracy and Well Abandonment
- GRF Grassland Reclamation Forum Recovery Strategy Updates
- Investigate the potential for surface casing vent flow/groundwater migration issues
- Methane Emissions Reduction Network
- Multi-Year Compositional, Isotopic and Microbial Investigation of Methane Migration Issues to Develop "Best-Practices" for Industry
- NSERC FlareNet Strategic Research Network
- Quantification of Methane Emission in Stationary Engine Exhaust and Best Management Practices for Mitigation
- Remote Sensing Tool
- SME Innovation
- Soil and Groundwater Guideline Calculator
- State of Science on Emission Rate Thresholds for Upstream Petroleum Industry Leaks Corresponding to a Range of ppm Concentration Thresholds
- Systematic Third-party Validation of Environmental and Economic Performance of Methane Reduction Technologies
- Subsoil Salinity Tool Version 3.0 Technical Manual
- Testing Alternate Products in Place of Cement for Well Decommissioning and Remediation
- Using Various Forms of Remote Sensing to Improve our Ability to Manage Risk of Incidental Take for Pileated Woodpeckers



# PROJECTS COMPLETED

- Agronomic Receptor Evaluation for Direct Soil Contact
- Alberta Water Tool
- Background Metals and Salinity Database and Analysis Tool
- CanERIC 1.0
- CanExport
- Development of a Chloride Water Quality Guideline Based on Hardness and Consideration for Cation Toxicity
- Development or Adaptation of an Existing Sensor Technology to Monitor Leaks in Temporary Surface Pipelines
- Electric Dump Valve Actuator
- Evaluation of Current & Emerging Emission Quantification Tools: Arolytics
- Evaluation of Reclamation Practices on Forested Upland and Peatland Well Sites
- Evaluation of Surface Casing Vent Flows at Inactive Wells: Database Analysis and Field Measurements in Alberta
- Intelligent Methane Monitoring and Management System
- Low Probability Receptor Demonstration Project
- Methane Consortium Program
- Methods for Estimating Emissions from Tanks
- NOx Abatement Technology & Exhaust Testing Showdown
- Plant Uptake of Petroleum Hydrocarbons and Salt (NaCl) and Derivation of Soilto-Plant Uptake Factors
- PureJet
- Reduction Pathways
- Re-Evaluation of F2 and F3 Petroleum Hydrocarbon Management Limits
- Regulatory Approval of Risk Assessment Tools
- Soil and Groundwater Guideline Calculator
- Standardizing Risk Assessment Approaches Based on Residual Mass vs. Numerical Endpoints



# **NETWORKS**

PTAC'S SIX CORE NETWORKS WORK TOGETHER TO STRENGTHEN AND MAGNIFY INDUSTRY COLLABORATION

### ALBERTA UPSTREAM PETROLEUM RESEARCH FUND (AUPRF)

AUPRF finances environmental research aimed at tackling significant challenges in air quality, ecosystems, land reclamation, water resources, and the closure of wells associated with conventional oil and natural gas operations. The AUPRF program is entirely funded on a voluntary basis by Alberta's oil and natural gas operators, while PTAC serves as an impartial third-party project manager and administrator. Under the AUPRF program, industry collaborates with policymakers and regulators to identify and prioritize research requirements. The program is supported by the Canadian Association of Petroleum Producers (CAPP) and the Explorers and Producers Association of Canada (EPAC).

Projects under AUPRF must be relevant to operators in Alberta, however, the projects could be applicable to other jurisdictions and do not necessarily have to be conducted in Alberta.

### **CANADIAN EMISSIONS REDUCTION INNOVATION CONSORTIUM (CANERIC)**

CanERIC is an international network of emissions reduction test facilities with a vision to meet the global emissions reduction challenge by providing practical, streamlined support for validation, bench testing, and field testing of innovative technologies. For the 3 years CanERIC has been in existence (2021-2023), 31 projects were completed. In 2024, PTAC secured funds from Alberta Innovates and, with industry support, was able to launch CanERIC 2.0 to help small and medium enterprises (SME) field test their technologies. This program was designed to systematically address and reduce risks associated with methane emissions reduction technologies.

### **DIGITAL INNOVATION NETWORK (DIN)**

DIN focuses on digital transformation for the benefit of Canadian producers, researchers, academia, government organizations, regulatory bodies, and entrepreneurs. DIN contributes to the direct creation of thousands of jobs. The purpose is to facilitate and energize the commercial deployment of digital technologies. Three networking events were facilitated this year, as well as the annual, well-attended Digital Innovation Forum.



# **NETWORKS**

PTAC'S SIX CORE NETWORKS WORK TOGETHER TO STRENGTHEN AND MAGNIFY INDUSTRY COLLABORATION

### **METHANE EMISSIONS REDUCTION NETWORK (MERN)**

MERN champions projects and initiatives to detect, quantify and reduce methane emissions, as well as identify and address technology gaps. Our goal is, through ongoing and planned technology initiatives, under the MERN umbrella, to increase the collective technology capacity and help the oil and gas industry meet its methane emissions targets.

### **SME INNOVATION PROGRAM**

PTAC, in collaboration with the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP), has been working on the Small and Medium Sized Enterprise (SME) innovation program for over a decade. This initiative is designed to assist SMEs in navigating the constantly evolving energy marketplace. PTAC has a wealth of experience providing technical advisory services for R&D, as well as strategic intelligence and tailored solutions. NRC-IRAP offers financial support to eligible SMEs in Canada to help them innovate with technology. Businesses that work with NRC-IRAP are better positioned to engage in applied R&D, introduce new products and services to global markets, and access new markets. In 2023-2024, PTAC helped to complete 18 Product Market Fit (280 completed since 2016) and 20 Project Consortium Development engagements (165 completed since 2016).

### TECHNOLOGY FOR EMISSIONS REDUCTION AND ECO-EFFICIENCY (TEREE)

TEREE is a collaborative initiative that has brought together stakeholders from various sectors to work towards reducing air emissions in the oil and gas industry. This effort is commendable and has resulted in the transfer of technologies used globally in the sector, making a significant contribution to the industry. TEREE projects have made a substantial contribution to the industry through the transfer of technologies used globally in the sector.



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### AIR RESEARCH PLANNING COMMITTEE (ARPC)

The ARPC is a technical committee that supports the AUPRF Program. The goal of ARPC is to help the industry expand its credible and relevant information to address knowledge gaps on high-priority methane and other emissions. They aim to initiate dependable research projects, both fundamental and applied, on existing and emerging environmental issues to support the development of new technologies and industry best practices. By doing so, ARPC supports the industry's desire for shared research development and provides an opportunity to understand and manage these matters in a safe and effective manner.

Andrea Zabloski
Andrew Cattran
Carolyn Ussher
Colin Hennel
Don McCrimmon
Filiz Onder
Gerald Palanca
Graham Noble
Jacob Bayda
Koray Onder
Marie Johnson
Peter Kos
Randy Dobko
Sean Hiebert
Sean Smith

Yaomin Jin

Canadian Natural Resources Limited NuVista Energy Ltd. Alberta Energy Regulator Bonavista Energy Canadian Association of Petroleum Producers Pembina Pipeline Corporation Alberta Energy Regulator Government of Saskatchewan Government of Saskatchewan TC Energy **Environment and Climate Change Canada** BC Ministry of Environment and Climate Change Strategy Alberta Environment and Protected Areas Cenovus Energy **Environment and Climate Change Canada** BC Ministry of Energy, Mines and Low Carbon Innovation





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### **AUPRF OVERSIGHT COMMITTEE (AOC)**

AUPRF supports practical science-based studies that develop credible and relevant information to address knowledge gaps in the understanding and management of high-priority environmental and social matters related to oil and gas exploration and development in Alberta. Research reports are shared with the oil and gas industry funders as well as regulators and government agencies that serve on the technical committees.

The program is governed by an Oversight Committee comprised of four CAPP members and two EPAC members. These are the voting members of the committee. Observers on the committee include representatives from the Alberta Energy Regulator and Alberta Environment and Protected Areas.

Scott Volk (Chair)
James Agate (Vice Chair)
Alexandra Robertson
Jason Brunet
Kellen Forman
Mike Fulsom
Scott Milligan
Sharla Howard
Susan McGillivray
Tara Payment

Tourmaline Oil
Canadian Natural Resources Limited
Alberta Energy Regulator
Alberta Energy Regulator
Ovintiv
The Explorers and Producers Association of Canada
Alberta Environment and Protected Areas
Cenovus Energy
Alberta Environment and Protected Areas
Canadian Association of Petroleum Producers



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### **CANERIC 2.0 STEERING COMMITTEE**

The CanERIC 2.0 Steering Committee represents the researchers who are testing and evaluating technologies to reduce methane emissions.

Andrea Zabloski Chris Carroll Claude Ghazar Tyler Homan Canadian Natural Resources Limited
Ovintiv
Alberta Innovates
Teine Energy

### **COMMUNICATIONS COMMITTEE**

PTAC's Communications Committee is committed to improving the organization's communication strategies and ensuring the effective distribution of information. As PTAC formalizes its communication activities, this committee is crucial in reviewing and providing feedback on important events and initiatives to ensure clear and effective communication with all stakeholders.

Allan Fogwill (Chairperson)
Amber Hark
Bill Whitelaw
Braden Kimoff
Denise Dodds
Jay Averill
Maria Gisondo
Olivia Petrus

Soheil Asgarpour

Tony Knafla

Clean Resource Innovation Network
geoLOGIC Systems
PTAC
SLB
Canadian Association of Petroleum Producers
Canadian Natural Resources Limited
Spartan Controls
PTAC

Equilibrium Environmental Inc.

PTAC



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### **ECOLOGICAL RESEARCH PLANNING COMMITTEE (ERPC)**

As we continue to explore solutions for resource access issues, the ERPC is dedicated to supporting the AUPRF Program. ERPC is committed to developing credible and relevant information to address knowledge gaps related to high-priority environmental challenges, such as woodland caribou, habitat relationship for listed species, and the health and size of species at risk. By supporting the industry's desire for shared research development, ERPC is supporting the effectiveness of managing these matters.

Agnes Wajda-Plytta
Ben Hale
Carol Engstrom
Devon Versnick-Brown
Jeremy Reid
Krista Phillips
Lindsay Clothier
Mark Boulton
Shane Patterson
Sherry Becker
Tara Bernat

Alberta Energy Regulator
Cenovus Energy
Independent
Canadian Natural Resources Limited
Canadian Natural Resources Limited
Canadian Natural Resources Limited
Canadian Association of Petroleum Producers
Canada's Oil Sands Innovation Alliance
Suncor Energy
Alberta Environment and Protected Areas
Imperial Oil
Ovintiv



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### **ENERGY UTM STEERING COMMITTEE**

Energy UTM is a technology to allow safe and regulated drone flights beyond visual line of sight (BVLOS). Drones are a very advantageous technology with countless applications. However, in Canada, as in most countries, regulations are not yet in place for full deployment. Robust and reliable technologies are required to permit, approve, monitor, and regulate drone flights to ensure public safety and the safety of crewed aircrafts. AirMarket and PTAC member oil and gas companies are collaborating for the piloting of the UTM technology in the context of national trials supervised by Transport Canada and NAV Canada.

The Project, which was completed in 2023, has demonstrated Cellular UTM services using the existing TELUS fixed telecommunications infrastructure to conduct trials between Edmonton and Fort McMurray and in the oil sands region. The outcome will be reduced environmental impact (reduced GHG emissions and land disturbance), substantial operating cost reductions, improved worker safety, and the progression of a technology and service that could be deployed in other industries and other regions, and open the door to automation, machine learning and artificial intelligence application in resource industries.

Dallas Johnson Genevieve Dacambra Lindsay Mohr Nicole Meiklejohn Tania Rizwan Tedman Jess AIRmarket Suncor Energy AIRMarket AIRmarket TC Energy Suncor Energy



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### METHANE CONSORTIA PROGRAM STEERING COMMITTEE (MCP)

Environment and Protected Areas – formed the Methane Consortia Program. This collaborative committee promotes the deployment of innovation within the Alberta oil and gas sector.

The Program will increase market uptake of commercial technologies to significantly reduce methane emissions and will demonstrate GHG reductions in the near term (6-12 months) by leveraging the deployment of methane projects in the PTAC inventory. The outcome will be building capacity for the sector to deliver additional GHG reductions in the medium term and developing new technologies for energy efficiency and methane emissions reductions that will create economic and employment opportunities in the medium term while opening the door to greater GHG reductions. Project participants consist of Alberta oil and gas producers and technology providers.

Chris Hugenholtz Gerald Palanca Heather Carmichael Monica Micak University of Calgary Alberta Energy Regulator Alberta Environment and Parks Alberta Environment and Parks



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### **PUREJET STEERING COMMITTEE**

When flaring is unviable or uneconomic, venting may occur. Targeted at eliminating this risk, PTAC is facilitating the PureJet project with collaborators Cenovus Energy, the City of Medicine Hat, Emissions Reduction Alberta, and Alberta-based Atlantis Research Labs to develop the PureJet Incinerator. This device, coupled with its ability to handle a wide range of pressures and flow rates, enables methane to be destroyed at sites.

The goal of the PureJet Demonstration Project is to work with clients who each have a slightly different application across the oil/gas supply chain. Working on this project with multiple oil/gas operators will also give Atlantis valuable industry experience which will assist in refining the ideal market roll-out strategy. Throughout these pilots, Atlantis' engineering team collected data and monitored performance, so that the PureJet incinerator design was validated and optimized.

Aaron Baugh Janelle Mravcak Prashant Pandey Vladimir Mravcak Emissions Reduction Alberta Atlantis Research Labs Alberta Innovates Atlantis Research Labs



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### REMEDIATION RECLAMATION RESEARCH COMMITTEE (RRRC)

The RRRC is a crucial technical committee that supports the AUPRF Program. They work towards the development of credible and relevant information that addresses knowledge gaps related to soil contaminants and vegetation. Specifically, they focus on assessing and managing exploration and production sites as related to geo-environmental protection, soil and groundwater remediation and reclamation. Their work is essential for ensuring that these high-priority issues are managed in a cost-effective manner.

**Brett Reynolds** Deanna Cottrell Devin Scheck Jason Desilets Jeff Mills Jonas Fenn Lance Miller Lisa Warren Lori Neufeld Nadia Cruickshank Paul Hartzheim Rick Rohl Sara Blacklaws Shawn Glessing Sheldon Exner Sonia Glubish

Tyrel Hemsley

Shell Canada Shell Canada BC Energy Regulator Cenovus Energy Orphan Well Association Whitecap Resources Canadian Association of Petroleum Producers Cenovus Energy Imperial Oil Alberta Energy Regulator Canadian Association of Petroleum Producers **ARC Resources** Alberta Energy Regulator Cenovus Energy Canadian Natural Resources Limited Alberta Environment and Protected Areas



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### SUPPORT FOR SMALL AND MEDIUM SIZED ENTERPRISES (SMES) PROGRAM

Some of the industry's most ground-breaking innovations flow from the SME sector, yet these small companies often face significant barriers in bringing their ideas to market. PTAC facilitates the SME program in collaboration with representatives of the National Research Council Industrial Research Assistance Program (NRC-IRAP) who reach out to their colleagues across Canada. The Committee discusses practical opportunities to provide innovation support to SMEs, particularly for the demonstration and deployment of near-commercial or deployment-ready technologies that improve environmental performance and reduce costs.

Arvinder Kainth Tamer Al-Ramahi National Research Council Industrial Research Assistance Program National Research Council Industrial Research Assistance Program





OUR VARIOUS COMMITTEES ARE AT THE HEART OF OUR RESEARCH AND DEVELOPMENT SUCCESS. ACROSS OUR NETWORKS AND PROJECTS, THEY GUIDE OUR WORK.

# SYSTEMATIC THIRD-PARTY VALIDATION OF ENVIRONMENTAL AND ECONOMIC PERFORMANCE OF METHANE REDUCTION TECHNOLOGIES (STV) STEERING COMMITTEE

STV is supported by a broad partnership of operators, government regulators and policymakers, and innovators with PTAC as a neutral third-party facilitator to generate complete field-based performance for a cohort of methane reduction technologies, thus providing operators with information to confidently purchase equipment at scale and benefiting stakeholders, governments, innovators with local market growth and a launchpad for exports.

STV removed a critical barrier (knowledge gap) to reducing methane emissions while returning the oil and gas sector to an economically strong engine that provides high-quality employment. To date, 46 subprojects have been installed and are continuing to operate, generating information and learnings for industry.

Claude Ghazar Morgan Wrishko Patrick Kitchin Richelle Foster Alberta Innovates Cenovus Energy Whitecap Resources Canadian Natural Resources Limited



### **TECHNOLOGY FOR EMISSIONS REDUCTION AND ECO-EFFICIENCY (TEREE)**

The TEREE Committee supports network activities and projects. It is composed of industry, services, products technology providers, and provincial and federal government representatives convened to oversee finding and implementing new technologies and methods required to achieve air emissions reductions TEREE meetings occur four times per year to discuss relevant and current topics and are a unique opportunity for practitioners to share practical insights with their colleagues.

Andrew Cattran **Brendan Moorehouse** Brian Van Vliet Cam Dowler Carolyn Pfau **Charles Ward** Chelsea O'Connor Dallas Rosevear Doug Bezpalko Graham Noble **Hector Ortiz** James Holoboff Kirk Osadetz Koray Onder Liz O'Connell Monica Sippola Morgan Wrishko Olivia Petrus Steve Froehler

NuVista Energy Highwood Environmental Management Spartan Controls Spartan Controls Alberta Energy Regulator Alberta Department of Energy SFC Energy Canada Clear Rush Calscan Government of Saskatchewan Spartan Controls Process Ecology CMC Research Institutes TC Energy **Arolytics** Kuva Systems Cenovus Energy Spartan Controls LCO Technologies



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### WATER INNOVATION PLANNING COMMITTEE (WIPC)

WIPC is an important AUPRF technical committee . Their work is dedicated to providing credible and relevant information that addresses knowledge gaps related to water issues in upstream oil and natural gas development. They focus on identifying key challenges for the energy sector in managing water across the spectrum, including sourcing, storage, transport, treatment, recycling/reuse, and disposal. By working towards the development of shared research, WIPC supports work to help manage high-priority environmental matters related to water.

Anil Gupta Deanna Cottrell Geoff Webb Guillaume Lafond Jarred Anstett Julia Fletcher Matt Mclean Michael Bevan Natasha Rowden Paul Martin Rodney Guest Sarah Belak Scott Hillier Scott Rayner Susan Satterthwaite Tara Payment

Alberta Environment and Protected Areas Shell Canada Canadian Natural Resources Limited Ovintiv Murphy Oil Corp. Shell Canada Cenovus Energy Alberta Energy Regulator MEG Energy ConocoPhillips Suncor Energy Tourmaline Oil Cenovus MEG Energy Alberta Environment and Protected Areas Canadian Association of Petroleum Producers



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### WELL CLOSURE RESEARCH COMMITTEE (WCRC)

WCRC focuses on helping to deliver on reducing methane emissions from operations and closed wells. The challenge of emissions migration through the well infrastructure is of concern to many Oil and Gas producing jurisdictions. This committee works diligently to find new cost effective mitigation technology solutions.

Andrew Robinson
Ben Fraser
Charity Callahan
Claudette Panei
Dave Samuelson
Deanna Cottrell
Leah Davies
Mitch Kosior
Rajan Varughese
Richard Wong
Ryan McDowell
Shanna Nolan
Shawn Forster
Wade Hartzell

Alberta Energy Regulator
Imperial Oil
Rev Energy
Canadian Association of Petroleum Producers
Cenovus Energy
Shell Canada
Imperial Oil
Crescent Point Energy
Alberta Energy Regulator
Cenovus Energy
Crescent Point Energy
Shell Canada
Cenovus Energy
Crenovus Energy
Crescent Point Energy
Crescent Point Energy



# **MEMBERS**

**APRIL 1, 2023 - MARCH 31, 2024** 

### **ASSOCIATIONS**

- Alacrity Foundation
- Alberta Canada Fusion Technology Alliance
- BC Innovation Council
- Canadian Association of Petroleum Producers
- Clean Resource Innovation Network
- Environmental Services Association of Alberta
- The Explorers and Producers Association of Canada

### **EPC**

• Worley Parsons Canada Services Ltd.

### GOVERNMENT

- Alberta Department of Energy
- Alberta Economic Development and Trade
- Alberta Energy Regulator
- Alberta Environment & Parks
- BC Energy Regulator
- · Environment & Climate Change in Canada
- Global Affairs Canada
- Natural Resources Canada
- Saskatchewan Ministry of Energy and Resources

### **INDIVIDUALS**

- Angela Vande
- Bob Mick
- Dave Rushford
- Earle Shirley
- Eric Lloyd
- Gobind Khiani
- Ian Jobe
- Ken Putt
- Ken Wright
- Kevin Stashin
- Kyle Duan
- Murray Todd
- Paul Fuellbrandt
- Schooner Consulting
- Shunde Yin

### LEARNING INSTITUTIONS

- Carleton University
- Flux Lab, St. Francis Xavier University
- McGill University Subsurface Hydrology & Environmental Analysis Laboratory (SHEAL)
- NAIT Centre for Boreal Research
- Southern Alberta Institute of Technology
- University of Alberta
- University of British Columbia/Universite Laval
- University of Calgary
- University of Windsor

### **PRODUCERS**

- Bonavista Energy Corporation
- Canadian Natural Resources Limited
- Cenovus Energy Incorporation
- Chevron Canada Resources
- Imperial Oil Limited
- Lynx Energy
- NuVista Energy
- Ovintiv
- Revitalize Energy Inc.
- Suncor Energy Oil Sands Limited Partnership
- Teine Energy Ltd.
- Vermilion Energy Inc.
- Whitecap Resources

### **RESEARCH PROVIDERS**

- Alberta Innovates
- BC Research Inc.
- CMC Research Institutes
- Environmental Material Sciences Inc.
- fRI Research
- InnoTech Alberta
- Patro Research
- Project Forest
- Saskatchewan Research Council
- University of Calgary Alberta Sulphur Research Ltd.
- Waterline Resources Inc. Environmental Team



# MEMBERS APRIL 1, 2023 - MARCH 31, 2024

### SERVICE & SUPPLY

- ABClean Energy
- Accurata Inc
- Actenum
- AddGlobe LLC
- AFCOM
- AGAT Laboratories
- **AIRmarket**
- Akine Well Optimization Services Inc.
- Alberta H2
- Ambyint
- **AMGAS Service Incorporation**
- Analythium Solutions
- Arolytics
- **AVH Engineering**
- Bioform Solutions Inc.
- BioOilSolv
- Bridger Photonics
- Calscan Energy Limited
- Canada Pump and Power (CPP) Corporation
- Canadian UAVs
- CanaGas Incorporated
- Capstone Oilfield Services Limited
- Carbon Accessors
- Carbon Al
- Carbon Connect International
- CHZero Emissions Ltd.
- Clear Rush Co.
- Clearstone Engineering Limited
- Clearview Downhole Technologies
- Closure Liability Management Inc.
- CNTRAL Inc.
- Computer Modelling Group Ltd.
- Convrg Innovations
- COOEC Canada Company Ltd.
- Copoint
- Crbon Labs
- Cream Energy Group
- Drift Resource Technologies
- DXD Consulting

- Earthmaster Environmental Strategies Inc
- eMission Software Inc.
- Encino Environmental Services
- Envirosoft
- **EnviroVault Corporation**
- Equilibrium Environmental
- Etalim
- Ethox Energy
- ETTER Engineering Company Inc.
- Expansion Power
- Extreme Telematics Corporation
- **EZOPS Incorporation**
- First Step Analytics Inc.
- FLIR System Incorporation
- FluidsData
- Foundry Spatial
- Fuzeium Data Analytics
- Gas Pro Compression
- **GCHEM Limited**
- General Energy Recovery Incorporation (GERI)
- Genetique Solide
- geoLOGIC systems Limited
- **GHGSat Incorporation**
- Global Power Technologies
- Grid Environment Ltd.
- Halliburton Group Canada
- Hatfield Consultants
- Hetek Solutions Inc.
- · Highwood Emissions Management
- Horizon Compliance
- HydrocarbonX Inc.
- INNIO Waukesha Gas Engines Inc.
- Ionada Carbon Solutions Limited / ICS Research Corporation
- ITM Instruments
- Kathairos Solutions
- Katch Kan
- Kinitics Automation Limited
- Kuva Systems
- LCO Technologies



# **MEMBERS**

**APRIL 1, 2023 - MARCH 31, 2024** 

- Linear Motion Technologies Canada
- Marathon Compression Corporation
- Marler Integrity Incorporated
- Matrix Solutions Inc.
- Maverick Inspection Ltd.
- MedEng Research Institute Inc.
- Millenium EMS Solutions Ltd.
- · MLCan Ltd.
- Modern West Advisory
- Monitor Emissions
- Montrose Environmental Group Incorporation
- NanoTech Innovation
- Nevada Nanotech Systems Inc.
- New Paradigm Engineering Limited
- North Shore Environmental Consultants
- · Noyan Gas
- NTWIST Inc.
- OilPro Oilfield Production Equipment Ltd.
- Okanagan Mountain Helicopters
- Onyx Energy Solutions
- · OptiSeis Solutions Ltd.
- PMAP Mine Water Corporation
- Portfire Associates
- Prabhu Energy Labs
- Precise Downhole Solutions
- Process Ecology Incorporation
- QuadroCore
- Qube Technologies Incorporation
- Radicle Balance
- Rainforest Algae
- Rigid Robotics
- Rokk
- Schlumberger Canada Limited
- Seal Well Incorporation
- SeekOps
- Sensirion Connected Solutions
- Sensor Up
- Sensyn Inc.
- SFC Energy LTD

- Silvacom
- Sirius Instrumentation & Controls Incorporation
- SLR Consulting
- Spartan Controls
- Stranded Solutions
- Surface Solutions
- Synerbridge
- Tara Energy Services
- Telops
- · Tetra Tech
- Theia HDM
- TL Data Solutions Inc.
- Tomahawk Energy Services Limited Partnership
- Total Combustion Incorporation
- TriAcc
- Trido Energy Services
- TSGI Corporation
- TS-Nano
- VEERUM
- Vent Medics
- · Ventbuster Instruments Incorporation
- Vertex
- VL Energy Limited
- WeldFit
- West Country Energy Services, Div of 876919 AB LTD
- · Winterhawk Well Abandonment Limited

### TRANSPORTATION - MIDSTREAM

- ATCO
- TransCanada PipeLines Limited

### **VENTURE CAPITAL**

• First Merchants Capital Partners Inc.



# **2023-2024 EVENTS**

2023 Update on the Alberta Upstream Petroleum Research Fund	19-Apr-23
Methane Leadership Summit 2023	25-Apr-23 & 26-Apr-23
Exergy/PTAC: Accelerating Decarbonization Through Advanced Manufacturing	9-May-23
PTAC/Precise Downhole Solutions: Electric, Intelligent Valve Technology: Improving EOR Sweep Efficiency and Recovery Factor	11-May-23
Digital Spotlight: Revolutionizing Operations and ESG with Artificial Intelligence, Intelligent Drones, and Computer Vision	24-May-23
2023 PTAC Remediation Reclamation Forum	30-May-23
Focused Conversations: Reducing Methane Emissions from Wellsites – Outcomes from Pilots and Field Testing	31-May-23
PTAC Member Event: Detecting and reducing methane/GHG fugitive emissions	1-Jun-23
Funding, Financing, and Credits for Clean Technology Research	19-Jun-23
Simplifying the Complexity of Data Analytics	27-Jun-23
Workshop Webinar Series – Policy Issues and Knowledge Gaps	15-Aug-23









# **2023-2024 EVENTS**

Advances in Methane Emissions Monitoring Sensor Technologies	7-Sep-23
26th Annual General Meeting & Awards Celebration	13-Sep-23
PTAC Technology Information Session (TIS): Bioform Solutions Inc.	27-Sep-23
Technical Webinar – Submission Process for New AUPRF Proposals	4-Oct-23
Empowering Industry Decarbonization with Iron Energy Storage	17-Oct-23
Digital Innovation Forum 2023	18-Oct-23
2023 Ecological Forum	22-Nov-23
The Future is nowDrone use is being accelerated for Alberta Industry! Learn how you can participate to realize your net-zero objectives	28-Nov-23
Eliminate Voluntarily Flared/Vented Gas Volumes	13-Dec-23
IP Webinar and Introduction to CERAWeek and OTC	8-Feb-24
February Technology Information Session (TIS)	13-Feb-24











The Honourable Rebecca Schulz & Murray Todd

### ORGANIZATION LEADERSHIP AWARD

### **ALBERTA ENVIRONMENT AND PROTECTED AREAS**

In recognition of outstanding leadership and guidance in sustainable hydrocarbon development.



Zahra Majeed Accepting on Behalf of James Diamond & Soheil Asgarpour

PRESIDENT'S METHANE AWARD
JAMES DIAMOND, ENVIRONMENT AND CLIMATE CHANGE CANADA In recognition of strong support to PTAC and collaborative efforts focused on methane detection monitoring and reporting.



### MATTHEW JOHNSON, CARLETON UNIVERSITY

In recognition of strong support to PTAC and collaborative efforts focused on methane detection monitoring and reporting.





The Honourable Rebecca Schulz & Kevin Stashin

### **OUTSTANDING SERVICE AWARD**

In recognition of outstanding service and dedication on the PTAC Board of Directors, PTAC's governance, and devoted commitment to PTAC's mission and vision.



Brian Doucette, Cheryl Trudell, Kevin Stashin & Martin Foy

# OUTSTANDING SERVICE AWARD CHERYL TRUDELL, IMPERIAL OIL LIMITED

In recognition of outstanding service and dedication on the PTAC Board of Directors, PTAC's governance, and devoted commitment to PTAC's mission and vision.



### **OUTSTANDING SERVICE AWARD KEN PUTT**

In recognition of outstanding service and dedication on the PTAC Board of Directors, PTAC's governance, and devoted commitment to PTAC's mission and vision.





**Brian Doucette & Martin Fov** 

### **OUTSTANDING SERVICE AWARD**

### **BRIAN DOUCETTE**

In recognition of outstanding service and dedication on the PTAC Board of Directors, PTAC's governance, and devoted commitment to PTAC's mission and vision.



### **AIR QUALITY R&D LEADERSHIP AWARD**

# YAOMIN JIN, BC MINISTRY OF ENERGY, MINES AND LOW CARBON INNOVATION

In recognition of providing valuable technical direction and leadership on projects related to industry performance and environmental excellence through the PTAC Air Research Planning Committee.



### ECOLOGICAL LEADERSHIP AWARD

### MARK BOULTON, SUNCOR ENERGY

In recognition of providing valuable technical direction and leadership on projects related to industry performance and environmental excellence through the PTAC Ecological Research Planning Committee.





# REMEDIATION AND RECLAMATION RESEARCH LEADERSHIP AWARD

### TOM KNAPIK, PLAINS MIDSTREAM

In recognition of providing valuable technical direction and leadership on projects related to industry performance and environmental excellence through the PTAC Remediation Reclamation Research Committee.



Tara Payment & The Honourable Rebecca Schulz

### **WATER INNOVATION LEADERSHIP AWARD**

# TARA PAYMENT, CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

In recognition of providing valuable technical direction and leadership on projects related to industry performance and environmental excellence through the PTAC Water Innovation Planning Committee.



### ECO-EFFICIENCY LEADERSHIP AWARD ELDON SIEGLE, OVINTIV

In recognition of providing valuable contributions and leadership to PTAC through participation in CanERIC, the Methane Leadership Summit, and pilot testing of several methane emissions reduction technologies at Ovintiv.





Rajan Varughese & The Honourable Rebecca Schulz

# WELL CLOSURE LEADERSHIP AWARD RAJAN VARUGHESE, ALBERTA ENERGY REGULATOR

In recognition of providing valuable technical direction and leadership on projects related to industry performance and environmental excellence through the PTAC Well Closure Research Committee.



**Arvinder Kainth & Brian Doucett** 

### COMMERCIALIZING OF SME TECHNOLOGY AWARD

### ARVINDER KAINTH, NRC/IRAP

In recognition of outstanding efforts in helping SMEs achieve economic prosperity.



### CANERIC LAB TESTING LEADERSHIP AWARD **VITA MARTEZ**

In recognition inspiring support of SME's, new technologies and the methane ecosystem, as well as her contributions to the CanERIC Infrastructure Steering Committee (ISC).





Tyler Homan & Cheryl Trudell

### **CANERIC FIELD TESTING LEADERSHIP AWARD**

### **TYLER HOMAN, TEINE ENERGY**

In recognition of providing valuable technical direction and leadership to the CanERIC Industry Solutions Steering Committee (ISSC), including new technology adoption and visioning on key Knowledge Gaps.



**Kevin Stashin & Soheil Asgarpour** 

### LIFETIME ACHIEVEMENT AWARD

### **KEVIN STASHIN**

In recognition of Kevin's outstanding contributions to PTAC as Chairperson, as well as his unwavering dedication to supporting collaborative innovation within the Canadian energy industry



# **AUDITOR'S REPORT**

TO THE DIRECTORS OF PETROLEUM TECHNOLOGY ALLIANCE CANADA

### **OPINION**

We have audited the financial statements of Petroleum Technology Alliance Canada (the "Organization"), which comprise the statement of financial position as at March 31, 2024, and the statements of operations, changes in net assets and cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Organization as at March 31, 2024, and its results of operations and its cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

### **BASIS FOR OPINION**

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

Management is responsible for the preparation and fair presentation of these 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 the Organization'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 the Organization or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organization'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 generally accepted auditing standards 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.

### PTAC Petroleum Technology Alliance Canada

### Statment of Financial Position

As at March 31, 2024

	2024		2023	
ASSETS				
Current				
Cash and cash equivalents (note 3)	\$ 4,107,277	\$	2,562,254	
Restricted cash and cash equivalents (note 4)	7,672,026		8,920,075	
Goods and services tax receivable	30,850		103,595	
Accounts receivable and accrued receivables	909,160		2,078,611	
Prepaid expenses	 95,390		93,736	
	12,814,703		13,758,271	
Equipment and intangibles (note 5)	2,439		1,629	
	\$ 12,817,142	\$	13,759,900	
LIABILITIES				
Current				
Accounts payable and accrued liabilities	\$ 2,666,569	\$	3,956,882	
Deferred event revenue	250,438		271,311	
Deferred membership revenue	13,129 2,930,136		20,149 4,248,342	
Deferred contributions (note 6)	 4,247,401		4,378,133	
	4,247,401		4,378,133	
NET ASSETS	 			
Invested in equipment and intangibles	2,439		1,629	
Internally restricted (note 12)	3,637,166		3,131,796	
Reserve (note 12)	 2,000,000		2,000,000	
	 5,639,605		5,133,425	
	\$ 12,817,142		\$ 13,759,900	

### PTAC Petroleum Technology Alliance Canada

### Statement of Operations

For the year ended March 31, 2024

	2024		2023
Revenue			
Project and service revenue (notes 11 & 14)	\$ 14,664,01	<b>3</b> \$	16,600,478
Event revenue (notes 14)	423,94	3	402,292
Membership revenue	359,38	3	353,767
Interest income	127,75	4	155,479
Miscellaneous income	17,84	7	4,377
	15,592,94	0	17,516,393
Expenses			
Direct project and service costs	13,152,56	5	15,280,309
Salaries and benefits	1,398,58	9	1,330,841
Direct event costs	171,47	8	179,877
Consulting and professional fees	108,22	9	46,579
Rent	81,03	3	78,598
Marketing	51,81	7	15,982
Computer and website	35,67	4	13,297
Insurance	26,43	4	23,296
Bank charges and credit card discounts	16,84	€	11,972
Volunteer recognition	13,59	5	5,234
Office and equipment leases	11,62	1	33,515
Bad debt	9,80	5	1,884
Training	8,36	3	8,268
Amortization	70	8	944
	15,086,76	0	17,030,596
Excess of revenue over expenses	\$ 506,18	<b>o</b> \$	485,796



# THANK YOU

### **CONTACT US:**

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500 – 5 Avenue SW
Calgary, Alberta T2P 3L5

Phone: 403.218.7700 Email: info@ptac.org

