Delivering Provable Methane Performance

SUMMARY

This case study highlights how Alberta-developed expertise is creating global impact in methane management. It showcases Highwood's growth from a specialized advisory firm into an internationally recognized provider of methane intelligence, helping companies improve emissions reporting, measurement, and decision-making in an increasingly complex regulatory environment.

The study documents the environmental and economic impact that Alberta-developed methane technologies, services, and expertise are achieving in international markets. Highwood is a strong example of how knowledge and innovation created in Alberta can be successfully applied worldwide to support emissions management across multiple jurisdictions. Through commercialization of its Emissions Intelligence Platform (EIP), the world's most widely deployed methane reporting and intelligence platform, Highwood Emissions Management has demonstrated strong market adoption and industry value. The company's success is illustrated by its global footprint, with solutions deployed across more than 120,000 sites spanning six continents, supporting over 90 clients and contributing to more than 300 methane engagements.

PTAC is proud to present this success story because it demonstrates the value of Alberta's innovation ecosystem in helping companies solve real-world environmental challenges. Through its software, consulting services, and education initiatives, Highwood has enabled organizations to better understand methane emissions and confidently navigate evolving reporting requirements. Its international growth reflects global demand for Alberta expertise and highlights the contribution Alberta companies are making to improved methane management worldwide.

TECHNOLOGY INCEPTION AND DEVELOPMENT IN ALBERTA

Based in Calgary, Highwood Emissions Management has developed a systematized, measurement-informed inventory workflow for the oil and gas industry. Its flagship Emissions Intelligence Platform (EIP), launched in January 2025, was co-developed with leading producers to automate and harmonize measurement-informed inventory (MII) workflows across existing regulatory and voluntary frameworks.

The company's EIP addresses growing market demand for credible, scalable, and cost-effective methane emissions information as global buyers increasingly seek empirical evidence of emissions performance. By enabling operators to understand emissions in context, benchmark results, improve decision-making, and produce credible data, the platform supports both market access and long-term methane mitigation

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strategies while advancing Highwood's mission to deliver trusted methane inventory solutions and transparent emissions reductions.

The platform is particularly well positioned to address evolving global requirements. For example, EU importers must demonstrate that imports are subject to methane monitoring, reporting, and verification (MRV) requirements equivalent to those in the EU or achieve OGMP 2.0 Level 5 monitoring and reporting with reasonable assurance verification. By helping clients stay ahead of these emerging expectations, Highwood Emissions Management's EIP equips operators with the tools and support to meet the world's most demanding emissions standards.

Highwood's Emissions Intelligence Platform (EIP) provides data consolidation, analysis, reconciliation, and reporting across voluntary and regulatory frameworks, reducing manual effort while improving traceability, consistency, and time to value. Built alongside an industry steering committee, EIP produces methane inventories aligning with the global transition to use measurement data for improving reporting and operations. EIP compiles bottom-up inventories, site information, measurement results, activity data, emission factors, and other reporting inputs in one system. EIP users then standardize materiality, uncertainty, sampling, extrapolation, emission factors, and other complex calculations across assets and reporting periods. EIP then allows comparison for top-down and bottom-up results, investigate discrepancies, document assumptions, and produce measurement-informed inventories. EIP's structured workflows produce automated, verifiable, and consistent estimates. Operators produce data from EIP that meets buyer needs and futureproofs strategy and investment. Automation and digital innovation reduce the cost and effort required to build a measurement-informed emissions and AI-powered tools streamline error corrections. EIP allows operators to produce a measurement-informed methane estimate in minutes, then combine estimates to track performance over time.

EIP's measurement investigation system enables operators to review and augment their data, bringing together insights from other business systems including LDAR processes. Enhancements including emission root cause, and event duration make the data more valuable, and are tracked centrally to support audit & verification required by some reporting programs. EIP presents companies with emissions by root cause in absolute terms and extrapolated over time which operators employ to spend mitigation dollars more effectively. EIP's unique reconciliation workflows flag discrepancies between emissions estimates produced by engineering calculations versus those based on site-level measurement and automatically create a hybrid estimate taking both datasets into account.

Complementing the platform, Highwood's consulting team provides services including gap assessments (EUMR, OGMP, MiQ), methane technology and monitoring program strategies, measurement-informed inventory reporting, methane strategy recommendations, peer benchmarking, and data intelligence. The team also supports clients by interpreting evolving regulations, aligning with frameworks such as OGMP 2.0, MiQ, and Veritas, and delivering training to ensure seamless integration across operations.

ALBERTA FUNDING AND INNOVATION SUPPORT

Highwood's collaboration with PTAC helped create a strong environment for development and growth by connecting the company with end users, government funders, and innovation ecosystem partners. This

engagement deepened market understanding and supported broader deployment. Through PTAC platforms, including domestic events, the Methane Leadership Summit, Digital Innovation Forum, TEREE committee, CERAWeek, and the World Petroleum Congress, Highwood gained valuable exposure to Canadian producers and international markets. These opportunities helped de-risk international market development and provided scale and visibility the company could not have achieved alone. They also diversified export opportunities beyond the United States while reducing financial risk through modest funding support. The result contributed to sales and employment growth despite geopolitical headwinds, with continued expansion anticipated.

TECHNOLOGY COMMERCIALIZATION LESSONS

Highwood's commercialization experience shows the importance of developing digital tools in close collaboration with the operators who will use them. Working with producers helped the company understand how methane information is collected, reviewed, reconciled, and reported across complex portfolios. That engagement allowed Highwood to design workflows around practical operating and reporting needs rather than treating the platform solely as a software product.

Highwood also learned that successful adoption depends on combining software with subject-matter expertise and implementation support. Methane reporting requirements can involve unfamiliar terminology, data structures, measurement approaches, and assurance expectations. Highwood's consulting and training services help clients interpret these requirements, organize information, and integrate EIP into existing business processes.

Participation in PTAC events, technical forums, and international conferences helped Highwood connect with prospective users, test and refine its value proposition, and build visibility beyond Alberta. These opportunities linked the company with industry representatives, regulators, and innovation partners. Highwood's experience shows that commercialization support delivers the greatest value when technical validation is paired with sustained customer engagement and market access.

DRIVERS FOR INTERNATIONAL TECHNOLOGY ADOPTION

Highwood's international growth is being driven by rising expectations for credible, transparent, and measurement-informed methane reporting. Operators managing assets across multiple jurisdictions require consistent methods to organize emissions data, compare estimates with measurements, document assumptions, and prepare information for internal review, external reporting, and third-party verification.

Highwood's integrated software and advisory model addresses these challenges through an integrated software and advisory model that combines structured digital workflows, innovation, and AI with regulatory, technical, and implementation expertise. The platform brings data from diverse assets and measurement technologies into a common workflow, while Highwood's consulting team helps clients interpret regulatory requirements and implement measurement-informed inventory practices within their organizations.

The platform's ability to support established voluntary frameworks and evolving regulatory requirements has strengthened its relevance in international markets. For operators, a repeatable and auditable approach can



reduce manual effort, improve consistency, and support access to markets and capital without relying on customer-specific emissions or financial information.

Highwood accelerates building credible methane programs, through pathways like OGMP 2.0 Gold Standard certification, enabling operators to meet growing demands for reasonable assurance, remain competitive in changing markets, meet new buyer demands, and reduce waste across their operations. This helps operators mitigate legal, commercial, and reputational risks while managing unfamiliar technical requirements and associated costs. By automating the end-to-end workflow for reconciled measurement-informed inventories, EIP replaces cumbersome spreadsheet-based and ad hoc processes with a single, proven, proprietary methodology that proves and improves methane performance.
EIP reconciles engineering estimates with real-world measurements, flags discrepancies, quantifies uncertainty, and produces automated, verifiable, and consistent inventories that improve traceability, efficiency, and confidence in regulatory disclosures.

Operators may be responsible for thousands of wells, pipelines, and facilities, each representing a separate data source. EIP's digital workflows can substantially reduce the time, cost, and manual effort required to develop measurement-informed emissions inventories.

Combined with Highwood's consulting and training services, which include guidance on regulatory compliance, and alignment with voluntary frameworks such as MiQ, Veritas, and OGMP 2.0. Together, these capabilities help clients make faster, better-informed decisions, strengthen stakeholder trust, manage legal, market-access, and reputational risks, and improve returns on emissions-reduction investments.

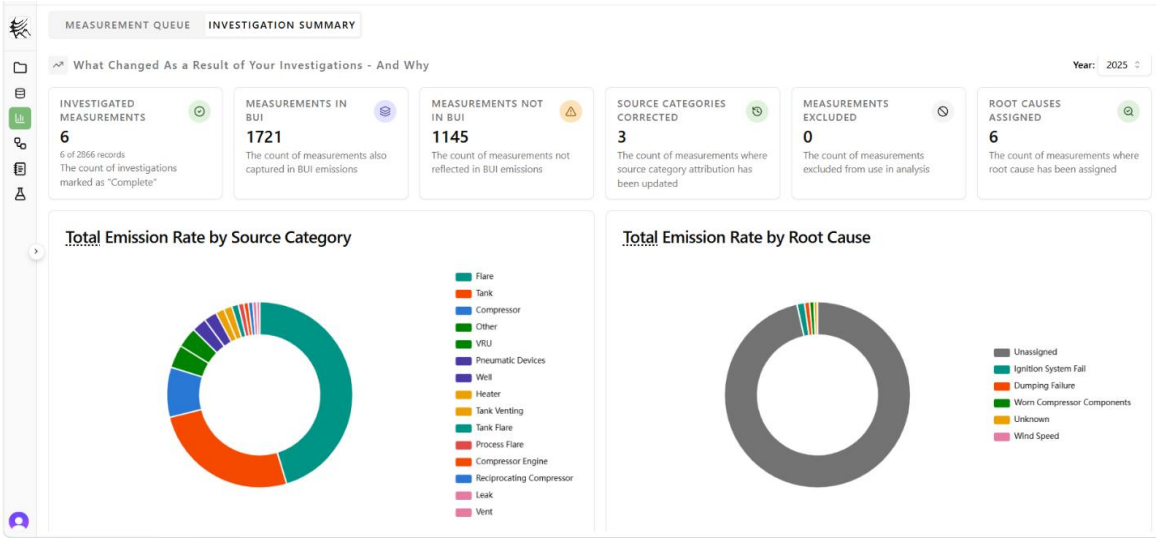


Figure 1: Highwood's EIP supports emissions reconciliation, reporting, and compliance through a streamlined digital workflow.

QUOTES

"The platform helps understand emissions in context and make better decisions. It helps operators generate credible emissions information that supports customer expectations, regulatory compliance, and long-term operational planning."
- Thomas Fox, CEO and Co-Founder

“At Highwood, we’ve built the tools operators need to produce defensible, measurement-informed methane inventories. PTAC's support accelerated our ability to validate the platform with real users, scale deployment, and position Canadian innovation at the forefront of global methane management.”
- Jessica Shumlich, COO

CONCLUSION

Highwood Emissions Management’s journey demonstrates how Alberta-developed expertise, industry collaboration, and sustained innovation support can be transformed into globally relevant solutions for methane emissions management. Through combining advanced emissions intelligence, measurement-informed inventories, and practical regulatory expertise, the company helps operators improve emissions reporting, identify reduction opportunities, and navigate evolving environmental requirements. Highwood Emissions Management’s success highlights the growing international demand for credible methane management solutions and demonstrates the value of an innovation ecosystem that connects technology developers, industry, researchers, and policymakers. As methane performance becomes an increasingly important component of global energy and climate strategies, Highwood’s growth reinforces Alberta’s position as a leading source of environmental expertise and energy innovation.

PTAC

Petroleum Technology Alliance Canada (PTAC) has supported innovation, operational performance, and environmental improvement across Canada’s oil and gas sector for three decades. As a neutral, industry-led organization, PTAC connects industry challenges with practical technology solutions, helping reduce risk, attract investment, and advance innovations from concept to field deployment. Through this work, PTAC continues to deliver value across Canada’s energy innovation ecosystem. https://ptac.org/