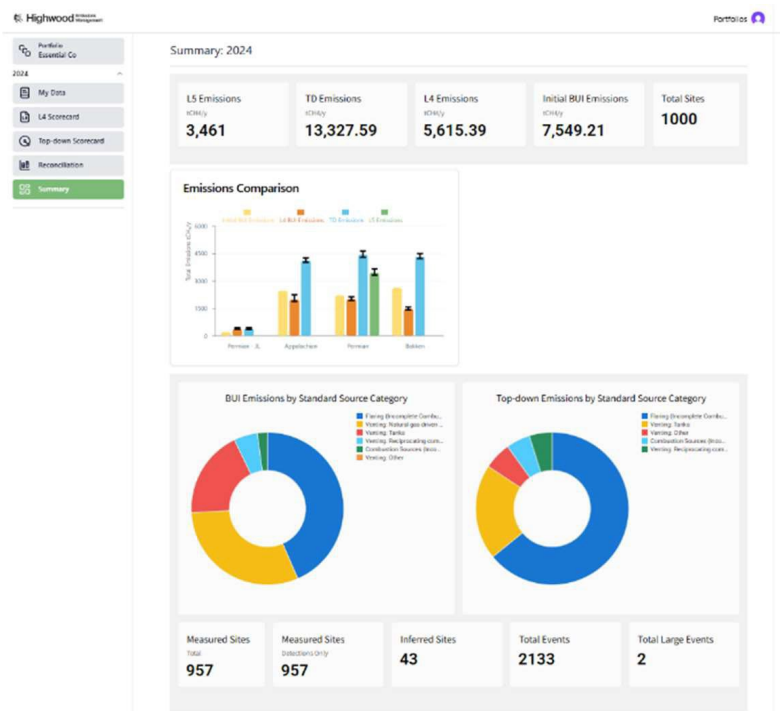


Emissions Intelligence Platform (EIP)

Highwood's Emissions Intelligence Platform addresses challenges faced by the oil and gas industry in accurately quantifying and managing emissions. As the urgency of climate change grows, the need for precise emissions data becomes paramount. The core challenge is that operators are unable to accurately calculate and communicate their total emissions due to many factors. Highwood's proposed EIP is an innovative solution that enables companies to leverage their existing datasets by generating measurement informed inventories based on reconciliation frameworks including Veritas and OGMP 2.0.



RECIPIENT:

**Highwood
Emissions
Management**



PARTNERS:

PTAC



TOTAL BUDGET:

\$1,528,800



AI FUNDING:

\$250,000



PROJECT DATES:

**MAY 2024 –
OCT 2025**



PROJECT TRL:

**Start: 6
End: 9**

APPLICATION

The oil and gas value chain is complex due to its intricate network of processes, including exploration, extraction, refining, transportation, and distribution, involving numerous stakeholders, regulatory frameworks, and geopolitical factors. Highwood's EIP aims to provide clarity, transparency, and assurance, offering valuable insights for emissions reduction, event prevention, repair prioritization, and carbon tax management. The innovation involves the development of a software solution for managing emissions data and reconciling inventories.

ALBERTA INNOVATES CLEAN ENERGY

ADVANCED HYDROCARBONS

DIGITAL INNOVATION

PROJECT GOALS

[The overall objective of the proposed project is to develop an all-in-one Software as a Service (SaaS) platform for managing emissions data and optimizing emissions reduction programs. To meet this objective, the scope of this project includes the development of the critical technology components: the "data model", the "reconciliation engine", and the "analytics solutions". The proposed project has 3 major milestones associated with the critical technology components:

- Generate measurement informed inventory;
- Add complex calculations to measurement informed inventory; and
- Extend methodology to additional frameworks.

The overarching goal is to achieve market penetration within Alberta and then in international markets through scaling and commercialization efforts, including collaborations and partnerships.

BENEFITS TO ALBERTA

- Successful commercialization of the EIP is expected to lead to new job creation in areas such as software development, data analytics, sales, marketing, and customer support, contributing to the growth of a skilled workforce in Alberta. Existing workforce retraining will be essential to adapt to the technological advancements introduced by the EIP.
- The EIP's adoption is expected to improve operational efficiencies for O&G companies and other carbon intensive sectors. By optimizing emissions reduction programs and providing valuable insights, organizations can streamline their processes, reduce costs, and enhance overall efficiency.
- As the EIP proves its adaptability to global markets, there is a potential for increased exports of the technology and associated services, contributing to Alberta's export revenue.



10 Project Jobs



30 Future Jobs



2 New
Products/Services



245 kt/yr Project
GHGs Reduced



1,266 kt/yr Future
GHGs Reduced

CURRENT STATUS

MAY 2025

Highwood's EIP now supports Measurement Informed Inventories using Veritas Protocol calculations, integrating data from aerial sensing and inspections. They developed scalable methods for uncertainty aggregation, incorporated frameworks for aerial measurement uncertainty, and implemented tools for aggregating data across time and space. Highwood addressed emission intermittency, explored methods for estimating undetected emitters, and began integrating SCADA data for emission duration analysis.