EcoInject

Autopilot for methanol injection

hello@ecoinject.ca
www.ecoinject.ca
Alberta, Canada

THE PROBLEM

Most Alberta gas wells over-inject methanol — not because operators are careless, but because fixed injection schedules are set to the worst-case scenario and never updated. The result is chemical waste, unnecessary pneumatic pump venting, and no record of what was actually injected or why.

~30%	Measured	Audit-ready
Reduction in methanol use	Pneumatic venting — tracked for AER reporting	Complete injection log, every well, every event

PRODUCTS

Three steps — advice, control, network

STEP 1

EcoInject Advisor

Connects to your existing SCADA or site sensors and delivers a live, optimized methanol injection recommendation your operators review and apply. No new hardware required when SCADA is in place.

STEP 2

EcoInject Control

Retrofits your pneumatic pump with a smart controller that adjusts injection rates automatically as conditions change. Full audit trail, safety limits, and manual override throughout.

STEP 3

EcoInject Network

Extends optimization across your full gathering system. Models wellhead-to-riser distances, elevation profiles, river and wetland crossings, and allocates one chemical budget across every segment simultaneously.

HOW IT WORKS

Four steps from data to optimized injection

STEP 1

Connect to your data

Integrate with SCADA (AVEVA, OSIsoft PI) or install wellhead sensors. No rip-and-replace.

STEP 2

Run the model

ML surrogate model trained on 885,000 simulation cases predicts the optimal rate in real time.

STEP 3

Act on it

Get an advisory recommendation operators apply manually, or let EcoInject close the loop automatically.

STEP 4

Track everything

Every injection event is logged — a complete record of what was injected, when, and why.

REGULATORY COMPLIANCE

Emissions you can measure, records you can defend

Pneumatic pump venting is regulated and increasingly scrutinized by AER. EcoInject captures injection event data at the pump level so you can quantify vented emissions per well — replacing generic emission factors with measured data. The same logs support TIER reporting and methanol tracking with no additional reporting burden on your operations team.

TECHNOLOGY

Model built for Alberta basin conditions

XGBoost surrogate model trained on 885,000 pressure-step simulations covering the full Alberta gas composition space. 1.37°F RMSE against held-out test cases — well within the 5°F safety margin used in standard operating procedures. Physics-based fallback for wells outside the training envelope.

AVEVA & OSIsoft PI compatible · Hydrate risk scoring · Fleet-scale monitoring · AER-ready emissions records · Physics fallback · Automated domain checks

GETTING STARTED

How a pilot works — advisory first, always

PHASE 1

Size the opportunity

Share a SCADA or production data export. We return a savings estimate — methanol reduction, emissions impact, and recoverable chemical spend. No commitment required.

PHASE 2

Scoping

We review well sites, hardware requirements, P&IDs, and SCADA integration points together before any equipment moves.

PHASE 3

Advisory with oversight

EcoInject goes live in advisory mode. Operators review every recommendation before acting. Full visibility before any automation.

PHASE 4

Closed-loop control

When ready, injection adjusts automatically. Safety limits, audit trail, and manual override remain in place throughout.

Advisory-only is a permanent option — not just a stepping stone. It delivers the same model output and emissions records at a lower cost, with no new hardware required. Advisor and Control are priced per well, per month. Network is scoped per project based on well count and pipeline complexity.

THE TEAM

50+ years of combined oil & gas experience

Todd Zerbin, P.Eng — CEO

Deep upstream engineering and operator experience. Leads commercialization and operator pilot deployments.

Ryan Mross — CTO

Architect of the closed-loop optimization platform. Machine learning and industrial automation specialist.

Colin Haggerty, P.Eng — COO

Leads field installation and operational scaling across operator infrastructure.

Alex Pierson, P.E. — CCO

Drives operator engagement, strategic partnerships, and technology adoption across the energy sector.

Developed through the **Avatar Innovations** program — an energy-focused technology accelerator. The team has extensive experience piloting and scaling new technology on real operator infrastructure.

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