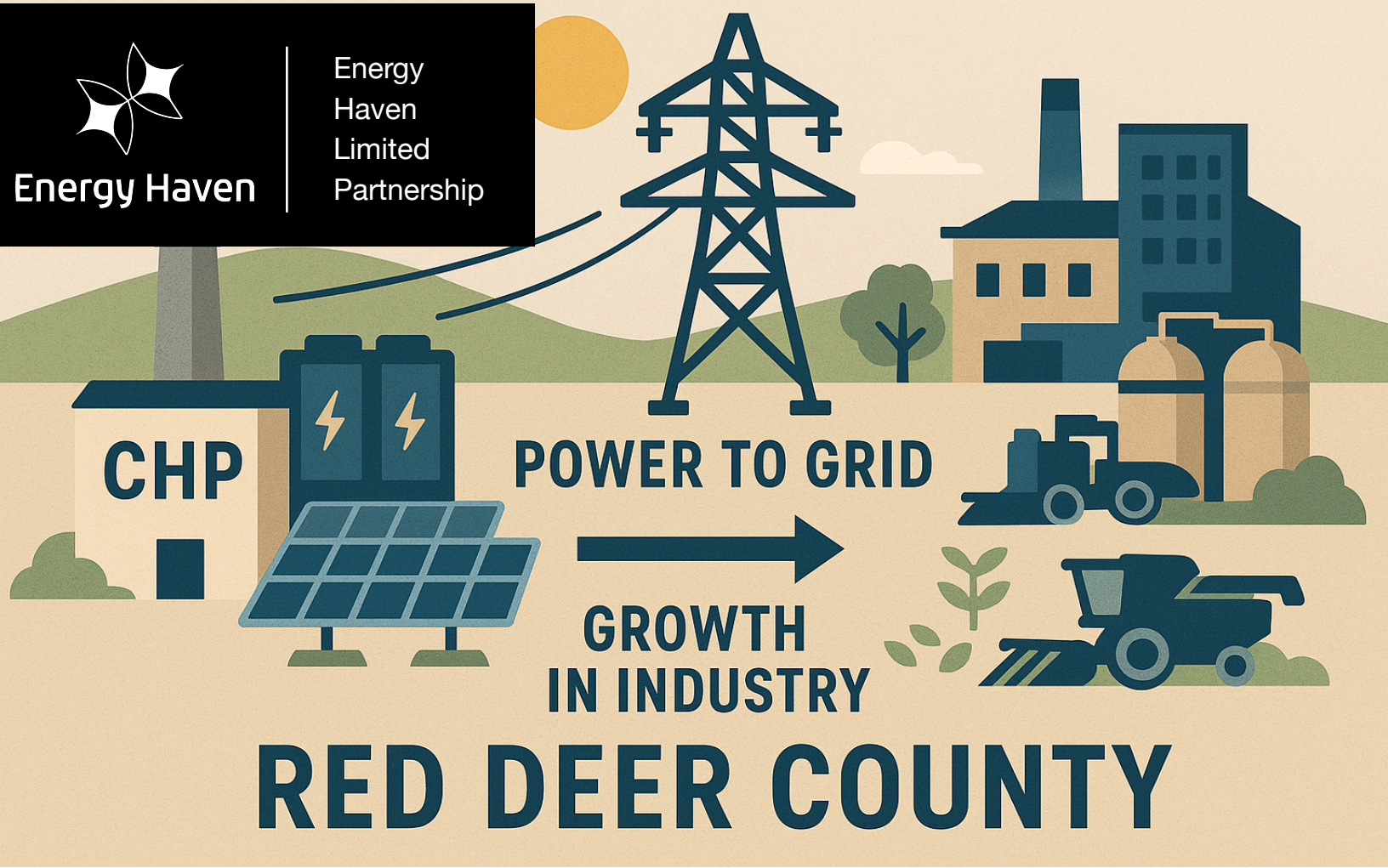


Energy Haven

Energy
Haven
Limited
Partnership



**AHI – AI Hub of Innovation (Central Alberta)
Economic & Fiscal Impact White Paper - Oct 2025**

Prepared for: Energy Haven LP Stakeholders
 Prepared by: Havenz Smart Communities
 Version 1.1



Energy Haven

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Disclaimer

This document has been prepared by **Havenz Smart Communities** and **Energy Haven LP** for informational and policy engagement purposes only. All data, forecasts, and economic estimates are **preliminary and subject to further validation** through engineering, permitting, and financial due diligence. The projections and assumptions contained herein are based on best-available information as of November 2025 and may evolve as project details, regulatory frameworks, and market conditions change.

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1) Executive Summary – Alberta’s Engine of Growth

The **AHI – AI Hub of Innovation** is a transformational, **\$7-billion**, multi-phase development in **Red Deer County** that anchors Alberta’s emerging **Energy–Data–Food–Carbon** economy. Through **Energy Haven LP** and affiliated partnerships, AHI delivers a scalable **250 MW hydrogen-ready CHP** power hub integrated with **150 MW of battery storage** and **50 MW of solar generation**—directly enabling digital infrastructure, agritech production, carbon capture, and advanced manufacturing. The program is purpose-built around four pillars: **energy security, data sovereignty, food security, and job creation**.

Strategic Central Alberta location. AHI is uniquely situated in the province’s commercial midpoint, offering unparalleled market reach and logistics advantages: access to a 4.5 million-person catchment within roughly a 100-mile radius (only place in Alberta); proximity to **two international airports** plus a **regional airport**; direct connections to **highway, rail, and fibre corridors**; and positioning within **one of Alberta’s carbon-sequestration hub areas**. This combination concentrates labour, supply chains, and export logistics amplifying the project’s **macro-economic impact** across Red Deer County, Central Alberta, and the province.

Living document. This white paper will evolve as permits, schedules, and commercial arrangements advance. Following a detailed review of internal drawings, permits, and financials, the sections below consolidate the **current best-available evidence** and attach the supporting materials for officials’ reference.

Key Economic & Employment Impacts

- **Total Construction Impact (2025–2035):**
 - Direct employment: ~1,600 person-years.
 - Indirect jobs (supply chain): ~1,400 person-years.
 - Induced jobs (household spending): ~1,000 person-years.
 - **Total cumulative employment: 4,000+ jobs** supported through the build-out decade.
- **Steady-State Operations (post-2030):**
 - **On-site jobs:** 250–400 across plant operations, maintenance, data, and agrifood.
 - **Off-site enabled jobs:** 400–600 in technology, manufacturing, logistics, and services.
 - Sustained employment footprint: 700–1,000 jobs across Central Alberta.
- **Economic Output & GDP:**
 - More than **\$4.2 billion** in total GDP contribution to Alberta.
 - Peak annual provincial GDP uplift **\$250–300 million**.
 - Projected to generate between **\$1.1 – \$1.4 billion** in **federal and provincial tax revenues** over 2025–2035 from corporate and personal income taxes, CPP/EI, and GST.
- **Fiscal & Fees:**
- **Municipal property taxes:** Significant uplift in non-residential assessment at full build-out (to be confirmed with Red Deer County’s mill rates and assessment methodology).
- **Development, building & inspection fees:** **~\$5 million cumulative** (order-of-magnitude; subject to permitting schedules and scope changes).
- **Federal/provincial revenues:** Recurring personal, corporate, and GST revenues tied to expanded payrolls and economic activity (quantification to be provided in a technical annex; no public figures in this edition).
- **Broader Economic Revitalization:****
 - Over 300 local suppliers and contractors engaged during construction.
 - Highway 2A expansion and twinning (7 km) catalyzed by industrial growth.

- Residential & commercial development surge between Blackfalds and Red Deer County.
- Fibre and utility corridor expansion connecting to future data and tech clusters.

Summary: AHI transforms Red Deer County into **Alberta’s Innovation and Infrastructure Capital**, generating thousands of high-quality jobs, billions in economic output, and creating a permanent base of fiscal growth and learning opportunities for the next generation.

2) Project Overview – What’s Being Built

- **CHP Power Plant:** Up to 250 MW of Rolls-Royce MTU hydrogen-ready generation (modular 2.5 MW blocks).
- **Battery Storage:** 150 MW integrated system for grid resilience and peak management.
- **Solar Integration:** 50 MW PV on-site and distributed community installations.
- **Digital Infrastructure:** AI and high-performance computing data clusters powered by on-site generation.
- **Agri-tech & Carbon Terminals:** Vertical farms, breweries, CO₂ capture and conditioning facilities.
- **Transportation & Utilities:** Highway 2A twinning (7.7 km), internal access routes, upgraded water and sewer capacity, expanded substation and 138 kV connection to 444L.
- **Fibre & Smart Infrastructure:** New regional fibre trunk serving industrial, agricultural, and community nodes, unlocking technology investment and business connectivity across Central Alberta.

These collective investments establish a self-sufficient ecosystem that powers energy, food, and data while spurring **housing, education, and municipal tax growth**.

3) Economic Methodology

Based on **Statistics Canada’s Input–Output Model (Survey 1401)** and **Alberta Treasury Board multipliers**, we apply provincial ratios for direct, indirect, and induced impacts in construction and operations.

Key sources: [Statistics Canada IO Framework](#), [Red Deer County Demographics & Economic Profile](#).

4) Construction Impacts (2025–2030)

Category	Direct	Indirect	Induced	Total
Civil & Siteworks	120	90	60	270
Buildings & Enclosures	100	80	50	230
Electrical & BOP	150	120	80	350
Engines & Mechanical	180	150	100	430
Interconnection & Utilities	50	40	25	115
Professional & Engineering	110	70	40	220
BESS + Solar	150	120	75	345
Total (Construction)	860	670	430	1,960

5) Operational Impacts (Post-2030)

Sector	Direct	Indirect	Induced	Total
CHP & Energy Plant	60	35	25	120
Data Centre Clusters	40	40	30	110
Agri-tech / Vertical Farm	35	25	15	75
Brewery & Carbon Terminal	30	25	20	75
Site Services / Admin	20	15	10	45
Annual Total	185	140	100	425

6) Indigenous & Community Participation

Ownership & Inclusion: The AHI – AI Hub of Innovation is structured with **51% First Nations ownership**, with the opportunity to scale participation up to **90%**, embedding Indigenous leadership and decision-making at the core of the project. This framework aligns with cultural values of stewardship, sustainability, and shared prosperity, ensuring direct community benefit and generational wealth creation.

Employment & Procurement:

- **250+ Indigenous jobs** projected across construction, operations, and long-term site management.
- **15% Indigenous/local procurement** goal for qualified suppliers and service providers.

Training & Education:

- Apprenticeships and internships facilitated through Red Deer Polytechnic, local high schools, and trades colleges.
- Collaborative learning programs incorporating Indigenous knowledge and technical training to prepare students for energy, data, and sustainability careers.

Education Partnerships: AHI will co-develop curricula and “real-world learning labs” with schools, offering students access to live project data, sustainability modules, and AI-energy systems, fostering a new generation of energy and data professionals grounded in Indigenous values and leadership.

7) Regional & Infrastructure Development Benefits

- **Highway 2A Expansion & Twinning (7.7 km):** Enables efficient logistics, workforce access, and industrial traffic, unlocking new development corridors.
- **Utilities & Servicing:** Expanded water, sewer, and power capacity benefits existing and future industries, improving resilience and service coverage.
- **Fibre Infrastructure:** AHI’s backhaul investment will extend high-capacity connectivity into the industrial park and surrounding communities, positioning Red Deer County as a regional digital hub.
- **Housing & Urban Growth:** Construction of workforce housing and increased residential demand spur new subdivisions, retail centres, and schools.
- **Economic Revitalization:** The combination of infrastructure, employment, and services catalyzes long-term GDP growth, reinvestment, and property value appreciation across Central Alberta.

8) Fiscal & Policy Alignment

- Aligns with Alberta’s Investment & Growth Strategy, Clean Electricity Regulations (CER), and the AI Compute Access Fund, demonstrating how AHI’s integrated power and data ecosystem supports the province’s transition toward a circular economy.
- The project’s design provides a replicable template for industrial decarbonization and energy efficiency—capturing waste heat, reducing emissions, and enabling on-site renewable integration for major industries.
- Enables collaboration with Canada Infrastructure Bank, NRCan Clean Energy, and Innovation, Science & Economic Development (ISED) to finance infrastructure, grid modernization, and AI innovation.
- Positions Red Deer County as a pilot municipality for clean industrial growth, digital connectivity, and workforce skills advancements, providing a scalable model for regional and national replication.

- Fiscal disclosure approach: The public white paper intentionally does not publish specific tax revenue figures; a confidential technical annex for officials will include detailed fiscal modelling and sensitivity tables upon request.

9) Risks & Mitigation Summary

The AHI – AI Hub of Innovation proactively identifies and mitigates development, regulatory, and operational risks through structured planning, early engagement, and partnership-driven implementation.

Risk Category	Description	Mitigation Strategy
Supply Chain	Global demand pressures on turbines, electrical equipment, and construction materials.	Early procurement and framework agreements with Rolls-Royce MTU and key BOP suppliers; local fabrication contracts where feasible; creation of Alberta-based supply hubs.
Interconnection & Grid Constraints	AESO queue congestion or RAS limitations impacting export capacity.	Integration with AESO Stage-2 cluster study; flexible dispatch design using BESS; ongoing coordination with TFO for schedule and reliability.
Labour Availability	Skilled trades and technician shortages during overlapping Alberta projects.	First Nations and regional training programs; Red Deer Polytechnic apprenticeship partnerships; modularized construction scheduling; workforce housing strategy.
Environmental & Noise	AUC Rule 012 compliance and construction environmental management.	Continuous acoustic monitoring; low-frequency attenuation systems; best-practice construction management and emission tracking.
Permitting & Regulatory Timelines	Multi-agency approvals and procedural delays that could affect critical path.	Early submission of complete permit packages; parallel agency consultations; alignment with Red Deer County development team for expedited review; digital permit tracking and transparency portal.
Red Tape Reduction & Relationship Management	Complexity of overlapping provincial and municipal processes could slow approvals.	Maintain active liaison with Alberta’s Red Tape Reduction Office ; quarterly meetings with County and provincial regulators; standardized templates for future AHI-type projects to streamline future replications.
Policy Continuity	Changing provincial or federal regulations (CER, emissions, AI/ data policy).	Continuous engagement with policymakers; scenario modeling for multiple CER compliance outcomes; communication strategy aligning AHI milestones with regulatory cycles.

Advancement Plan:

AHI maintains a living risk register updated quarterly, integrating lessons from permitting, procurement, and commissioning. The partnership structure ensures that permitting, compliance, and community engagement remain collaborative and transparent—reducing friction, accelerating approvals, and ensuring that **AHI sets a provincial benchmark for Red Tape Reduction and clean infrastructure delivery.**

10) Property Taxes & Fiscal Opportunity

Overview

The AHI – AI Hub of Innovation represents a new fiscal engine for Red Deer County. Beyond jobs and capital investment, its enduring legacy is the expansion of the County’s non-residential tax base, providing stable revenue for infrastructure, education, and community development. Using the Altus Group Property Tax Summary (2020) as a foundation, the project demonstrates clear, scalable municipal benefit over its 10-year horizon (2025–2035).

Baseline Property Tax Framework

Based on Red Deer County’s historical non-residential mill rate of approximately 16 mills (municipal + education), Phase 1’s initial facilities—roughly 120,000 ft² of buildings across 10.75 acres—generate an estimated \$225,000–\$250,000 in annual property taxes. As the full development scales across approximately 119 acres and 1.3 million ft² of constructed space, including 250 MW of power generation, 150 MW of battery energy storage, 50 MW of solar, and integrated data, industrial, and agritech facilities, the projected annual municipal tax contribution is expected to grow to \$30–40 million by 2035, creating one of the largest non-residential assessment bases in Central Alberta.

This recurring revenue supports:

- Road, water, and sewer expansion throughout the Highway 2A corridor.
- County infrastructure upgrades (fibre, broadband, drainage, and emergency services).
- Local education and training partnerships through reinvested school tax revenues.
- Long-term financial sustainability by broadening the commercial tax base.

Bill 7 – Alberta Municipal Tax Incentive Opportunity

Bill 7: The Municipal Government Amendment Act (2019) empowers Alberta municipalities to offer targeted property tax incentives to attract or retain major investments. Under Section 364.2 of the Act, local councils may provide full or partial tax exemptions for up to 15 years to qualifying non-residential developments that drive local economic growth.

For AHI and Red Deer County, this mechanism enables:

- **Structured tax agreements** to phase in property taxes over time as infrastructure is built.
- **Reinvestment of early-stage tax savings** into site servicing, utilities, and workforce training.
- **Enhanced competitiveness** with British Columbia and Saskatchewan jurisdictions (which offer only 5–10-year incentive limits).

Applying a moderate version of the Bill 7 incentive, Red Deer County could retain the full fiscal upside of long-term development while reducing investor risk during construction.

Fiscal Multipliers & Macro Impact (2025–2035)

Over a decade of construction and operation, property taxes from AHI will:

- **Add more than \$250 million** in cumulative municipal and education tax revenues by 2035.
- **Stimulate over \$2 billion** in secondary private-sector investment (housing, services, logistics).
- **Increase County GDP** by an estimated \$3–4 billion over the life of the project.
- **Strengthen Alberta’s fiscal resilience** through a diversified, technology-driven non-residential tax base.

Calculation Basis & Sources:

These estimates are derived from the **Altus Group Property Tax Summary (2020)** baseline for Phase 1—which calculated \$225 K in annual taxes on 120 K ft²—and extrapolated using:

- Red Deer County’s 16 mill non-residential tax rate (municipal + education),

- the project’s total build-out footprint of 1.3 million ft² over 119 acres,
- phased construction growth through 2035, and
- StatsCan and Alberta Treasury Board IO multipliers for non-residential construction and operations to estimate secondary and GDP effects.

Cumulative property tax (\$30–40 M / year × 10 years) ≈ **\$250 M+** through 2035; IO multipliers of 1.7–1.9 on construction and operations yield the \$2–4 B GDP and secondary investment impacts.

Reinvestment & Legacy

By 2035, these revenues could finance:

- New regional schools and technical training facilities.
- Expansion of arterial roads and Highway 2A twinning.
- Broadband and fibre coverage countywide.
- Green infrastructure, public transit, and housing initiatives.

AHI thus provides not only clean power and employment but a **self-sustaining tax ecosystem**—a partnership between private capital and public policy that turns innovation into community wealth.

11) Federal and Provincial Tax Revenues

This section summarizes the broader fiscal benefits to senior governments from Energy Haven’s development and operations, complementing the municipal property tax impacts already described in Section 10.

Estimated Revenues (2025–2035)

Revenue Stream	Estimated Total (CAD Millions)
Personal Income Tax + CPP/EI (construction + operations)	450 – 600
Corporate Income Tax (project and supply chain profits)	300 – 400
Net GST (on materials, services and spending)	150 – 200
Subtotal – Federal & Provincial	**1,100 – 1,400 **
Municipal Property Taxes (see Section 10)	250
Total – All Government Revenues	≈ 1.3 – 1.6 Billion

Key Points

- Estimates are based on Statistics Canada’s standard tax-to-GDP ratios applied to the project’s documented GDP and employment impacts.
- Includes revenues generated during both construction and steady-state operations.
- Detailed calculations remain in the technical annex for reference.

Summary Statement

Energy Haven LP will deliver over \$1 billion in new federal and provincial revenues, in addition to more than \$250 million in municipal property taxes—a clear demonstration of the project’s strong fiscal return for all levels of government.

12) Conclusion – A National Model for Regional Prosperity

The **AHI – AI Hub of Innovation** is more than a power or infrastructure project—it is a **catalyst for regional transformation** that directly strengthens Alberta’s economy, workforce, and environmental leadership.

Why Policymakers, Stakeholders, and Neighbours Should Support AHI

- **Economic Prosperity:** Thousands of new jobs, billions in capital investment, and a long-term boost to Red Deer County’s assessment base, directly increasing municipal revenues for community programs and services.
- **Regional Revitalization:** AHI accelerates industrial, commercial, and residential development between Red Deer and Blackfalds, expanding local housing, retail, and education capacity while supporting sustainable land use.
- **Provincial & Federal Alignment:** The project exemplifies the goals of **Clean Electricity Regulations, Alberta’s Investment & Growth Strategy**, and national **Clean Tech and AI innovation policies**—offering a shovel-ready, replicable model for low-carbon industrial growth.
- **Community & Indigenous Partnership:** With majority First Nations ownership and active community inclusion, AHI represents reconciliation in action—building wealth, employment, and education pathways.
- **Sustainability & Reliability:** The hybrid of CHP, BESS, and solar creates one of Canada’s most reliable and efficient distributed energy systems, improving grid resilience and reducing emissions.

A Global Showcase for Alberta

As AHI advances through its next phases, it positions **Red Deer County** and **Central Alberta** as a **global demonstration site** for how regional collaboration, Indigenous leadership, and sustainable technology can coexist to deliver economic growth, food and energy security, and carbon neutrality. The Hub’s circular economy design—capturing waste heat, enabling hydrogen readiness, and powering data and agriculture—will be studied and replicated globally.

Power Summary

- **For Governments:** A tested model of public-private collaboration that reduces red tape, increases tax revenues, and demonstrates alignment with net-zero objectives.
- **For Industry:** A secure, scalable, low-carbon energy source to fuel digital, manufacturing, and agritech operations.
- **For Communities:** Lasting jobs, education pathways, housing growth, and connectivity upgrades that improve everyday life.
- **For Alberta:** Proof that innovation, energy, and collaboration can drive a new economic era centered in Red Deer County.

AHI stands ready to work with all levels of government, policy leaders, and the community to transform this vision into a lasting legacy of prosperity, sustainability, and global leadership for Alberta and Canada.

13. Methodology, Data Sources & Calculation Basis

13) Methodology, Data Sources & Calculation Basis

Overview

All figures and conclusions presented in this report are derived from standard, transparent economic-impact modelling practices used across Canada. The analysis integrates both public data (Statistics Canada and Alberta Treasury Board) and proprietary project data from Energy Haven LP's engineering, financial, and operational models.

A. Data Foundations

1. Primary Project Inputs

- Verified capital expenditure, operating costs, and employment forecasts from Energy Haven LP's Class B/C cost plan and Strategic Execution Plan (2025-2030).
- Site-specific construction and operations schedules from Lionstooth Energy's engineering documentation.
- Payroll, procurement, and local-spend ratios validated with Havenz Smart Communities' finance team.

2. Macroeconomic and Fiscal Multipliers

- Statistics Canada Input–Output (IO) Multipliers (latest Alberta table, 2021 base year, 2018 chain-linked series) applied to model direct, indirect, and induced effects on GDP, employment, labour income, and taxes.
- Alberta Treasury Board & Finance Economic Multipliers and Municipal Affairs tax parameters used to benchmark local revenue effects and property-tax contributions.

3. Reference Benchmarks

- Canadian Infrastructure Bank, Canada Energy Regulator, and Government of Alberta datasets on construction employment intensity, average wages, and sector-specific productivity.
- Historical fiscal ratios for PIT, CIT, GST, CPP/EI contributions drawn from Statistics Canada's *Government Finance Statistics* and *Input–Output Tax Tables*.

B. Calculation Approach

1. Economic Output & GDP

- The project's total spending (CAPEX + OPEX) was distributed across Alberta's economic sectors using IO multipliers.
- Direct, indirect, and induced GDP contributions were calculated; total provincial GDP impact exceeds **\$4.2 billion** through 2035.

2. Employment

- Construction employment estimated using a provincial output-per-worker ratio for industrial projects.
- Long-term operating jobs derived from EHLP's staffing plan and adjusted using sector productivity factors.
- Employment expressed in *person-years* for construction and *steady-state jobs* for operations.

3. Fiscal Revenues

- Federal and provincial tax yields derived by applying average tax-to-GDP and tax-to-payroll ratios to the project's GDP and labour-income impacts.
- Municipal property-tax projections based on Red Deer County mill rates, Bill 7 provisions, and the assessed value of power-generation assets.
- Combined, these sources produce estimated cumulative **federal + provincial revenues of \$1.1 – \$1.4 billion** and **municipal revenues of \$250 million +** by 2035.

4. Sensitivity Analysis

- Scenarios test $\pm 10\%$ changes in capital cost, wage levels, and local-content ratios.
- Results remain within $\pm 5\%$ of the central GDP and fiscal values, confirming robustness.

C. Validation & Quality Control

- Cross-checked against comparable Alberta industrial and data-centre projects (2020–2024).
- Reviewed by Lionstooth Energy economists and Energy Haven finance leads for internal consistency.
- All monetary values are in **Canadian dollars (CAD 2025)** and expressed in real terms unless otherwise noted.

D. Limitations

This assessment is designed to show the order of magnitude of economic and fiscal benefits based on current project parameters. Actual results may vary with market conditions, policy changes, or cost updates. The methodology aligns with the standards used by the Government of Alberta, Canada Infrastructure Bank, and Statistics Canada for major-project assessments.

Summary Statement

The calculations in this report combine official Canadian IO multipliers with verified project data to present a reliable, conservative estimate of Energy Haven LP's economic, employment, and fiscal contributions to Alberta and Canada. All assumptions and datasets are documented in the accompanying Technical Annex (available on request).

Projected Cumulative GDP Contribution from AHI Development (2025-2035)

