

to industrial climate policy. Key activities include, but are not limited to:

- Design and govern province-wide modelling frameworks (structure, data governance, methodologies, assumptions); set and enforce analytical standards, validation protocols, and version control across the department.
- Develop and validate baselines and methods for carbon pricing and related climate policies; determine analytical approaches where no precedent exists and approve all novel methods before use by staff or contractors.
- Lead and support comprehensive emissions forecasting across all economic sectors; ensure inputs and assumptions accurately reflect TIER design and implementation.
- Review and approve data and analysis for public reporting on environmental, economic, and social impacts; support independent assessments of program effectiveness, carbon markets, and industry competitiveness.

2. Strategic Climate Policy Leadership, Socio-Economic & Fiscal Analysis - The Senior Economist leads the development and execution of environmental and socio-economic modelling and analysis to inform Alberta Environment and Protected Areas' climate and energy policy decisions. Key activities include, but are not limited to:

- Lead complex scenario analysis and policy design for TIER and related measures, balancing emissions, competitiveness, reliability, and fiscal impacts; provide authoritative recommendations to Executive, ADM, and DM on trade-offs and risk tolerance.
- Direct socio-economic and competitiveness assessments (industry cost impacts, distributional effects, investment competitiveness and leakage, macro indicators); MAC curves, allowance market design, benchmark setting, and compliance flexibility analysis.
- Lead development of emissions and revenue forecasts for the Government of Alberta budget process and department business plan metrics; ensure methodological integrity and clarity for executive decision-making.
- Assess mitigation technologies and clean energy solutions (e.g., CCUS, hydrogen, electrification, renewable electricity) and their implications for Alberta; identify emerging federal policies and market shifts and recommend proactive provincial responses.
- Prepare high-consequence briefings, options, and risk assessments for the Minister, DM, and ADMs; provide authoritative responses in legislative, audit, and public accountability processes.

3. Intergovernmental Representation & Cross-Government Enterprise Standards - The Senior Economist may represent Alberta and/or the department as a lead economic modelling expert in federal-provincial discussions and working groups; ensuring Alberta interests are accurately reflected in federal, provincial and/or third-party models, benchmarks, and guidance. Key activities include, but are not limited to:

- Resolve discrepancies between federal/third-party models and Alberta's systems; negotiate alignment on assumptions, scenarios, and outcomes; shape national modelling standards and methodologies where appropriate.
- Lead and support cross-ministry modelling initiatives with Treasury Board and Finance, Energy and Minerals, and others to integrate climate, energy, and fiscal policy analysis.
- Participate in and/or facilitate multi-stakeholder technical committees and cross-government working groups on emissions forecasting, and socio-economic impact assessments for climate related policies.
- Develop and maintain the enterprise data architecture and QA/QC processes for climate-economic analytics, ensuring consistent, high-quality evidence for decision-makers.

4. External Expert Oversight, Contracts & Capability Building - The Senior Economist is responsible for managing contracts and grants that support the development and application of modelling tools and environmental economic analysis. Key activities include, but are not limited to:

- Commission, direct, and technically quality assure third-party modelling and research; set methods and acceptance criteria; approve deliverables as the final authority and integrate results into enterprise frameworks.
- Identify evolving analytical needs; collaborate with the Director to prioritize multi-year platform enhancements and data investments aligned to government priorities; ensure accurate planning and monthly reporting on multi-year contract budgets.
- Maintain strong relationships with consultants and research partners; ensure efficient delivery using in-house tools, external contractors, and third-party resources; scan for new assessment tools and develop capabilities as needed.
- Mentor and develop internal economists and analysts to build durable provincial modelling capacity and ensure continuity of enterprise knowledge that cannot be fully substituted by consultants.

Problem Solving

Typical problems solved:

The Senior Economist addresses complex, high-impact analytical and policy challenges that require advanced technical expertise, sound judgment, and a deep understanding of Alberta's climate policy framework. Determines novel methodologies, reconciles conflicting models across jurisdictions, and sets authoritative positions that shape regulatory design and fiscal planning. Exercises independence in selecting approaches and making determinations relied upon for ADM/DM decisions and directly influence provincial decision-making, intergovernmental relations, and strategic planning.

Key problem types include:

- **Policy Impact Assessment and Recommendations:** Evaluates the environmental and economic implications of changes to Alberta's industrial carbon pricing and emissions trading system (TIER), and recommends policy changes to achieve greenhouse gas emission reductions, sectoral competitiveness, and economy-wide economic outcomes.
- **Modelling and Forecasting Integrity:** Accountable for the accuracy and relevance of emissions and revenue forecasts by refining modelling assumptions, validating data inputs, and updating methodologies to reflect evolving policy and market conditions.
- **Cross-Jurisdictional Representation:** Alberta representative in provincial, federal, and third-party modelling discussions to ensure Alberta's policies are accurately represented in national and international climate reporting and negotiations.
- **Technology and Market Evaluation:** Assesses the cost-effectiveness and economic impact of key emission reduction technologies, such as carbon capture and storage, renewable electricity, and industrial efficiency measures, within Alberta's regulatory and market context.
- **Contract Oversight and Technical Collaboration:** Contract Manager for third-party modelling contracts, accountable for budgeting resources. Decision making authority to resolves technical issues and action model upgrades to maintain analytical capacity aligned with Government of Alberta priorities.
- **Inter-Ministry Coordination and Strategic Support:** Provincial Expert for input to cross-ministry initiatives, budget processes, and strategic planning efforts, ensuring economic analysis supports integrated climate and energy policy development.

These problems are typically multi-dimensional, requiring the integration of environmental, economic, and policy considerations, and are solved with a high degree of independence and technical authority.

Types of guidance available for problem solving:

The Senior Economist operates with a high degree of independence and technical authority in solving complex analytical and policy-related problems. Guidance is typically available in the form of:

- **Legislation and Regulatory Frameworks:** Direction is grounded in established provincial and federal legislation, including the Technology Innovation and Emissions Reduction (TIER) regulation, federal climate policies, and relevant international reporting and accounting standards. These frameworks define mandatory requirements and boundaries for modelling and analysis.
- **Ministry Business Plans and Enterprise Priorities:** Ministry business plans, Government of Alberta strategic priorities, and enterprise-wide climate and energy objectives provide overarching direction, outcome targets, and performance expectations that shape analytical focus and policy support.
- **Professional Standards and Scientific Rigor:** Economic and environmental modelling is guided by recognized methodological standards, peer-reviewed literature, and best practices in environmental economics, carbon markets, and emissions forecasting. These sources ensure analytical defensibility, accuracy, and reproducibility.
- **Director and Executive Alignment:** The Director provides strategic alignment on priorities, resource allocation, and integration with broader ministry objectives. Executive leadership may provide additional guidance related to emerging policy issues, fiscal considerations, or legislative needs.
- **Technical Authority:** While strategic direction is provided, the **Senior Economist functions as Alberta's technical authority** for environmental-economic modelling and assumptions. This includes selecting appropriate analytical approaches, setting modelling standards, validating methodologies, approving assumptions, and determining methods where no precedent exists.
- **Inter-Ministry Collaboration and Expert Networks:** Problem-solving is supported through collaboration with departments such as Treasury Board and Finance, Energy and Minerals, and the Regulatory Assurance Division, as well as federal counterparts, academic institutions, industry, and external experts. These networks support alignment of modelling platforms, shared scenario development, and consistent policy interpretation.
- **Contractual Agreements and Technical Specifications:** For externally developed modelling tools or research, guidance is available through contract terms, scopes of work, deliverable requirements, and technical documentation. The Senior Economist evaluates methodologies, ensures quality, and provides final acceptance.

Although general direction is available through legislation, strategy documents, professional standards, and leadership oversight, the Senior Economist is expected to independently apply expert judgment, initiative, and discretion in interpreting complex data, selecting analytical methods, and producing evidence to inform policy and executive decision-making.

Direct or indirect impacts of decisions:

Decisions made by the Senior Economist have direct impacts on the accuracy, credibility, and defensibility of Alberta's emissions forecasting, revenue projections, and policy evaluations related to the province's industrial carbon pricing system (TIER). The position directly determines the accuracy and credibility of the provincial emissions and revenue forecasts that feed into budgeting, departmental planning, and public reporting. These analytical outputs shape policy and regulatory outcomes that affect multiple industries and households across Alberta, influencing competitiveness, compliance costs, and long-term investment signals.

Indirectly, the role influences intergovernmental relations, cross-ministry coordination, and stakeholder confidence by ensuring Alberta's climate policies and assumptions are accurately represented in federal and third-party models. The Senior Economist's work also affects the outcomes of intergovernmental negotiations and national modelling decisions that shape Alberta's fiscal outlook and competitive position. These analytical choices support long-term strategic planning, environmental integrity, and the province's overall approach to emissions reduction technologies and climate-economic risk management.

Key Relationships

Major stakeholders and purpose of interactions:

The Senior Economist maintains strategic and collaborative relationships across government and with

external stakeholders to support the development and evaluation of Alberta's climate policies.

Department

- Reports to the Director, Industrial Climate Policy; collaborates across the Air, Climate and Clean Technology Division and Environment and Protected Areas.
- Provides authoritative guidance to economists, policy analysts, engineers, and senior leadership across ministries.

Cross-Ministry

- Leads integrated modelling initiatives with Treasury Board & Finance, Energy & Minerals, and other departments.
- Provides authoritative input to Deputy/ADM-level committees and Cabinet supports as required.

External

- Acts as Alberta's lead expert with Environment and Climate Change Canada and in national technical committees.
- Manages strategic relationships with consultants, academic partners, and industry technical working groups.

These relationships are essential for ensuring analytical consistency, policy alignment, and the credibility of Alberta's climate strategy.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Economics	Other	

If other, specify:

environmental science, law, engineering, public policy, business administration, or a related discipline

Job-specific experience, technical competencies, certification and/or training:

The Senior Economist requires extensive experience in environmental economics, policy analysis, and quantitative modelling within a complex policy and political environment. This typically includes experience spanning environmental/energy economics, regulatory analysis, advanced modelling, and the design/ownership of enterprise modelling systems, with a proven record of advising executive decision-makers on high-consequence policy choices and participating in multi-stakeholder committees (federal - provincial, cross-ministry, industry).

A graduate degree (Master's preferred) in economics, environmental economics, public policy, engineering, or a related discipline is required. Additional training or certification in climate policy modelling, project management, or financial analysis is considered an asset. In addition, the following skills are requirements and/or assets for success in the Senior Economist role:

- Broad understanding of environmental legislation, regulations, and associated policies across Alberta, Canada, and internationally, including air, climate, water, waste, circular economy, plastics, land, biodiversity, and energy.
- Familiarity with Alberta Environment and Protected Areas' business plan goals, strategic priorities, and program areas.
- Comprehensive knowledge of economic theory and applied analysis, with the ability to select and execute appropriate methodologies to support policy impact assessments.
- Expertise in carbon pricing and emissions-trading design (e.g., output-based pricing, benchmark setting, allowance market architecture, leakage analysis) and the interaction with federal and

international frameworks.

- Understanding of energy generation, distribution, and consumption systems, including Alberta-specific challenges and opportunities. Knowledge of key emission-reduction technologies such as carbon capture and storage, renewable electricity, hydrogen, and industrial efficiency measures.
- Ability to synthesize complex datasets, validate assumptions, and conduct scenario-based impact assessments (including uncertainty analysis) to inform decision-making.
- Experience in advanced quantitative modelling using Excel/R/Python and exposure to partial-equilibrium/CGE approaches; experience developing MAC curves and related abatement analytics.
- Experience in data governance, QA/QC, and reproducible analytics standards; demonstrated ability to set and enforce enterprise methodologies, version control, and validation protocols.
- Strong verbal, written, and executive communication skills; ability to synthesize complex analysis for non-technical audiences and provide strategic advisory support to senior decision-makers.
- Proven project and contract leadership for sophisticated modelling platforms and multi-year work programs, including scoping, technical specifications, and acceptance criteria.
- Mentorship and capability building for economists and analysts to strengthen internal modelling capacity and ensure continuity of enterprise knowledge.
- Experience with financial practices, budgeting, and revenue forecasting is considered an asset, particularly in relation to climate fund management and economic impact analysis.

Behavioral Competencies

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Integrates broader context into planning: <ul style="list-style-type: none"> • Plans for how current situation is affected by broader trends • Integrates issues, political environment and risks when considering possible actions • Supports organization vision and goals through strategy • Addresses behaviours that challenge progress 	The Senior Economist integrates emissions modelling with fiscal planning and energy policy, ensuring that changes to the TIER system are evaluated not only for environmental outcomes but also for economic competitiveness and alignment with Alberta's broader climate strategy.
Creative Problem Solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Works in open teams to share ideas and process issues: <ul style="list-style-type: none"> • Uses wide range of techniques to break down problems • Allows others to think creatively and voice ideas • Brings the right people together to solve issues • Identifies new solutions 	The Senior Economist facilitates the development of new modelling frameworks to assess the impact of emerging emission reduction technologies, such as carbon capture and storage or hydrogen production, on Alberta's industrial carbon pricing

		for the organization	system. The Senior Economist identifies gaps in existing analysis, proposes novel solutions, and leads the refinement of forecasting tools to ensure policy decisions are grounded in robust and forward-looking evidence.
Drive for Results	○ ○ ● ○ ○	<p>Takes and delegates responsibility for outcomes:</p> <ul style="list-style-type: none"> • Uses variety of resources to monitor own performance standards • Acknowledges even indirect responsibility • Commits to what is good for Albertans even if not immediately accepted • Reaches goals consistent with APS direction 	The Senior Economist leads the development of emissions and revenue forecasts that directly inform Alberta's budget planning and climate reporting. They proactively manage work plans, coordinate with internal and external partners, and ensure that analytical outputs meet ministry standards, support decision-making, and align with strategic priorities.
Agility	○ ○ ○ ● ○	<p>Proactively incorporates change into processes:</p> <ul style="list-style-type: none"> • Creates opportunities for improvement • Is aware of and adapts to changing priorities • Remains objective under pressure and supports others to manage their emotions • Proactively explains impact of change on roles, and integrates change in existing work • Readily adapts plans and practices 	When federal climate regulations or carbon market dynamics shift, When federal climate regulations or carbon market dynamics shift, the Senior Economist quickly adjusts modelling assumptions and policy impact assessments to ensure Alberta's analysis remains current, credible, and aligned with strategic objectives. The incumbent proactively identifies risks and opportunities, reconfigures work plans, and communicates implications to senior leadership and cross-ministry partners.