

An aerial photograph of a wide, winding river flowing through a lush, green forested valley. The river meanders from the upper right towards the lower left. The surrounding landscape is dominated by dense evergreen trees. In the background, a range of blue-toned mountains stretches across the horizon under a clear sky. A dark green horizontal bar is positioned above the title text.

A Coal Policy for Alberta - 2022 and Beyond

A Coal Policy for Alberta - 2022 and Beyond

The following document was created based on the publicly available feedback submitted to the Coal Policy Committee. It provides a clear, path forward to the end of coal development in Alberta. While this Policy recognizes existing mines and their presence on the landscape, it presents a vision for the future that encourages sustainable communities, a healthy, thriving environment, and consultation and engagement with Indigenous communities as equal partners on the landscape. Consideration of future generations, ecosystems and sustainable development provided the focus for the principles and direction contained in this Policy.

This Policy was written by Albertans, for Albertans, reflecting extensive public input to the Coal Policy Committee. It considers the current global, national, and provincial policy contexts. It preserves our landscapes, people, wildlife, and water, and enables citizens, Indigenous peoples and stakeholders to work toward a sustainable and resilient environment, economy and communities. It builds a vision for the future that represents the best of Alberta and Albertans.

1 No new coal exploration and no new coal mines.

The government will not permit any new coal exploration or new coal mines in Alberta. Existing, approved operating mines will be allowed to continue operating within existing mine permit boundaries if such operations continue to be profitable, taking into account the full costs of operation both to the businesses involved and to the people of Alberta who own the resources. These operations will need to meet all provincial and federal regulations and standards, including monitoring, remediation, and abandonment responsibilities. The government will not authorize expansion of existing mines

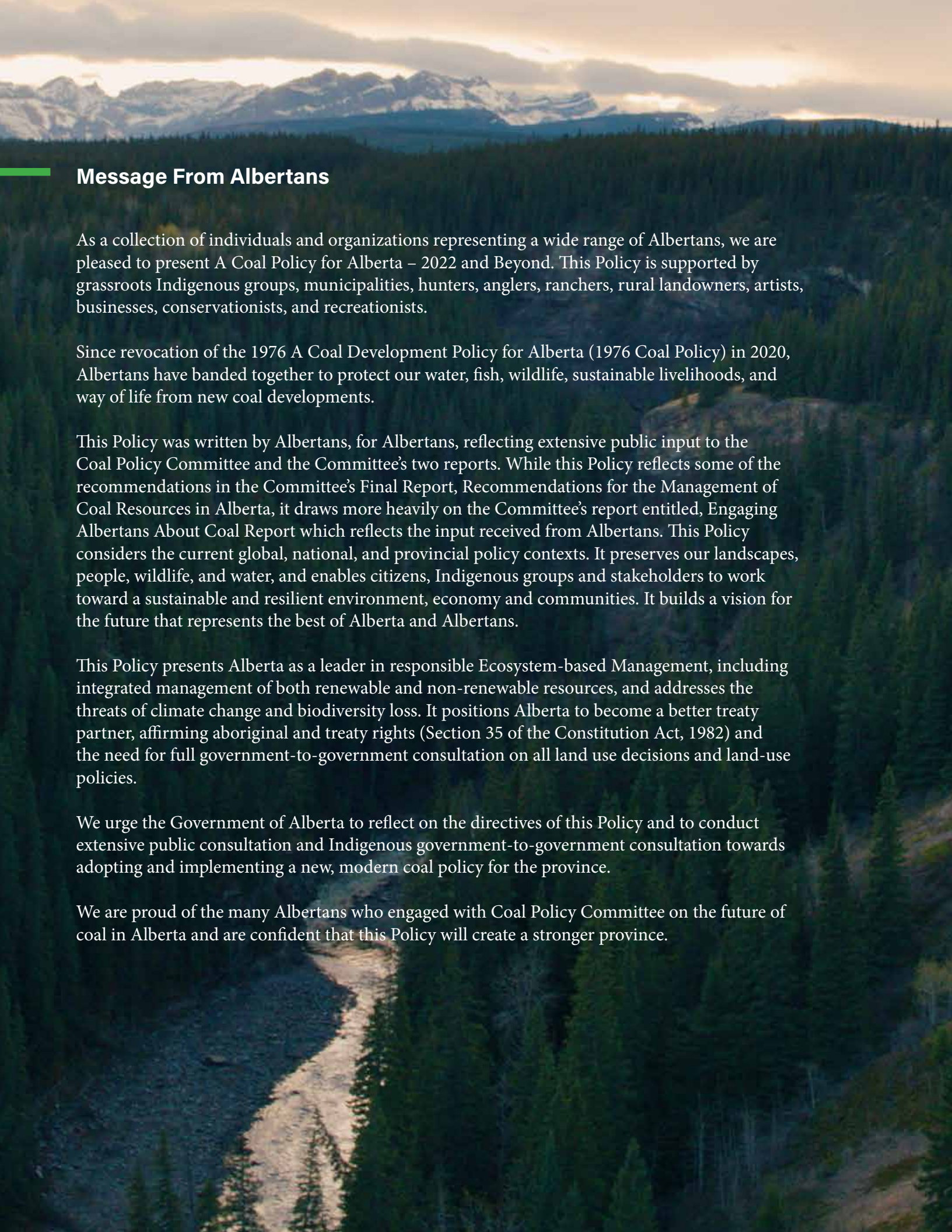
2 Assess adequacy of the current mine financial security program.

The government recognizes the concern of Albertans that there must be sufficient funds available to ensure the proper abandonment and remediation of coal exploration activities and mines. To that end, the government will direct an immediate assessment of the adequacy of the current mine financial security program to give full effect to the polluter pays principle and to ensure that future generations of Albertans are not burdened by abandonment and remediation responsibilities.

3 Ensure timely and effective remediation of lands disturbed by coal exploration and mining activities.

This Policy direction extends to all lands disturbed by coal mining activities including exploration, legacy sites, and existing mines. The Alberta Energy Regulator will require companies to ensure all lands disturbed by coal exploration are reclaimed to acceptable ecological and hydrological standards within three years, by requiring them to post a bond equivalent to the higher end of estimated reclamation costs to be returned only when the company has received a reclamation certificate. The Alberta Energy Regulator will require coal mines to be reclaimed and remediated and obtain a reclamation certificate within 20 years from the date of mine closure. Existing operating coal mines will be required to close and begin remediation if there is no production in any six total months during a calendar year.

The document also includes recommendations in an appendix supporting the completion of land-use planning across the province.



Message From Albertans

As a collection of individuals and organizations representing a wide range of Albertans, we are pleased to present A Coal Policy for Alberta – 2022 and Beyond. This Policy is supported by grassroots Indigenous groups, municipalities, hunters, anglers, ranchers, rural landowners, artists, businesses, conservationists, and recreationists.

Since revocation of the 1976 A Coal Development Policy for Alberta (1976 Coal Policy) in 2020, Albertans have banded together to protect our water, fish, wildlife, sustainable livelihoods, and way of life from new coal developments.

This Policy was written by Albertans, for Albertans, reflecting extensive public input to the Coal Policy Committee and the Committee's two reports. While this Policy reflects some of the recommendations in the Committee's Final Report, Recommendations for the Management of Coal Resources in Alberta, it draws more heavily on the Committee's report entitled, Engaging Albertans About Coal Report which reflects the input received from Albertans. This Policy considers the current global, national, and provincial policy contexts. It preserves our landscapes, people, wildlife, and water, and enables citizens, Indigenous groups and stakeholders to work toward a sustainable and resilient environment, economy and communities. It builds a vision for the future that represents the best of Alberta and Albertans.

This Policy presents Alberta as a leader in responsible Ecosystem-based Management, including integrated management of both renewable and non-renewable resources, and addresses the threats of climate change and biodiversity loss. It positions Alberta to become a better treaty partner, affirming aboriginal and treaty rights (Section 35 of the Constitution Act, 1982) and the need for full government-to-government consultation on all land use decisions and land-use policies.

We urge the Government of Alberta to reflect on the directives of this Policy and to conduct extensive public consultation and Indigenous government-to-government consultation towards adopting and implementing a new, modern coal policy for the province.

We are proud of the many Albertans who engaged with Coal Policy Committee on the future of coal in Alberta and are confident that this Policy will create a stronger province.

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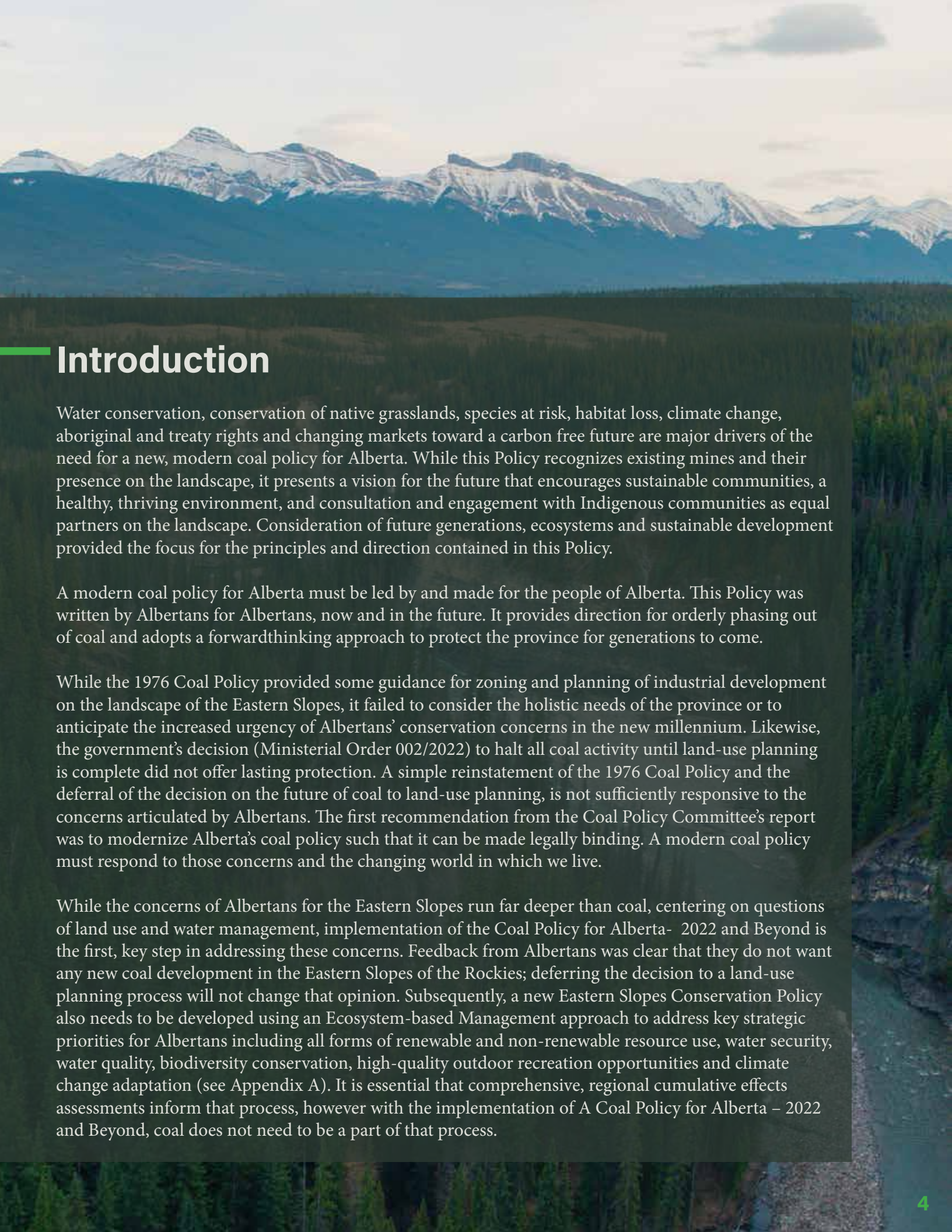
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Introduction

Water conservation, conservation of native grasslands, species at risk, habitat loss, climate change, aboriginal and treaty rights and changing markets toward a carbon free future are major drivers of the need for a new, modern coal policy for Alberta. While this Policy recognizes existing mines and their presence on the landscape, it presents a vision for the future that encourages sustainable communities, a healthy, thriving environment, and consultation and engagement with Indigenous communities as equal partners on the landscape. Consideration of future generations, ecosystems and sustainable development provided the focus for the principles and direction contained in this Policy.

A modern coal policy for Alberta must be led by and made for the people of Alberta. This Policy was written by Albertans for Albertans, now and in the future. It provides direction for orderly phasing out of coal and adopts a forwardthinking approach to protect the province for generations to come.

While the 1976 Coal Policy provided some guidance for zoning and planning of industrial development on the landscape of the Eastern Slopes, it failed to consider the holistic needs of the province or to anticipate the increased urgency of Albertans' conservation concerns in the new millennium. Likewise, the government's decision (Ministerial Order 002/2022) to halt all coal activity until land-use planning is complete did not offer lasting protection. A simple reinstatement of the 1976 Coal Policy and the deferral of the decision on the future of coal to land-use planning, is not sufficiently responsive to the concerns articulated by Albertans. The first recommendation from the Coal Policy Committee's report was to modernize Alberta's coal policy such that it can be made legally binding. A modern coal policy must respond to those concerns and the changing world in which we live.

While the concerns of Albertans for the Eastern Slopes run far deeper than coal, centering on questions of land use and water management, implementation of the Coal Policy for Alberta- 2022 and Beyond is the first, key step in addressing these concerns. Feedback from Albertans was clear that they do not want any new coal development in the Eastern Slopes of the Rockies; deferring the decision to a land-use planning process will not change that opinion. Subsequently, a new Eastern Slopes Conservation Policy also needs to be developed using an Ecosystem-based Management approach to address key strategic priorities for Albertans including all forms of renewable and non-renewable resource use, water security, water quality, biodiversity conservation, high-quality outdoor recreation opportunities and climate change adaptation (see Appendix A). It is essential that comprehensive, regional cumulative effects assessments inform that process, however with the implementation of A Coal Policy for Alberta – 2022 and Beyond, coal does not need to be a part of that process.

Acknowledgements

This Policy draws upon the publicly available feedback received by the Coal Policy Committee from May 2021 to September 2021 as well as the Engaging Albertans About Coal, and Recommendations for the Management of Coal Resources in Alberta Reports. We appreciate the work of all stakeholders who provided their input and opinions. The targeted stakeholder engagement resulted in rich information reflecting the expertise and passion of those who engaged in this process. The resulting information posted publicly online shaped this Policy.

The time and efforts dedicated to the modern coal policy engagement process by the members of the Coal Policy Committee were significant and warrant our appreciation and thanks. The members of the Coal Policy Committee are:

- Ron Wallace, Chair
- Fred Bradley
- Natalie Charlton
- Eric North-Peigan
- Bill Trafford

We acknowledge that further comprehensive public engagement is still required before a modern coal policy is implemented.

We acknowledge that Indigenous peoples have cared for and stewarded the Eastern Slopes since time immemorial and that our recommendations impact lands across Treaty 6, 7 and 8 and the First Nations beyond Alberta's provincial borders who use these territories. While the 1976 Coal Development Policy was drafted without Indigenous consultation, a full and comprehensive Indigenous government-to-government consultation process must be undertaken and funded by the Government of Alberta before a modern coal policy can be adopted and implemented.





Vision

This Policy presents a vision for the future that encourages sustainable communities, a healthy, thriving environment, and consultation and engagement with Indigenous communities as equal partners on the landscape.

It recognizes the need to contribute to an effective and progressive response to the urgent threat of climate change and supports a coal free future that preserves our landscapes, people, wildlife, and water.

Coal in Alberta

History of Coal Mining in Alberta

Alberta's coal deposits date to the Jurassic Period, between 140 million and 70 million years old, when shifting plate tectonics depressed swamps and peat bogs into the Alberta Basin Formation.

Over millennia, the basin continued to sink, the peat swamp materials hardened, and the layers of Alberta coal were formed in the three main coal regions of Alberta – Mountain, Foothills and Plains regions (Alberta Culture and Tourism 2021a).

Alberta has reserves of metallurgical bituminous coal, and thermal bituminous and subbituminous coal (Government of Alberta 2021a). Coal-bearing formations underlie approximately 300,000 km² in Alberta, with metallurgical coal found primarily in the mountainous Eastern Slopes region of Alberta, and thermal coal found in the foothills, plains, and prairie regions of Alberta. Metallurgical coal is used primarily to produce steel (although alternative measures are now available), and thermal coal is used primarily for power generation.

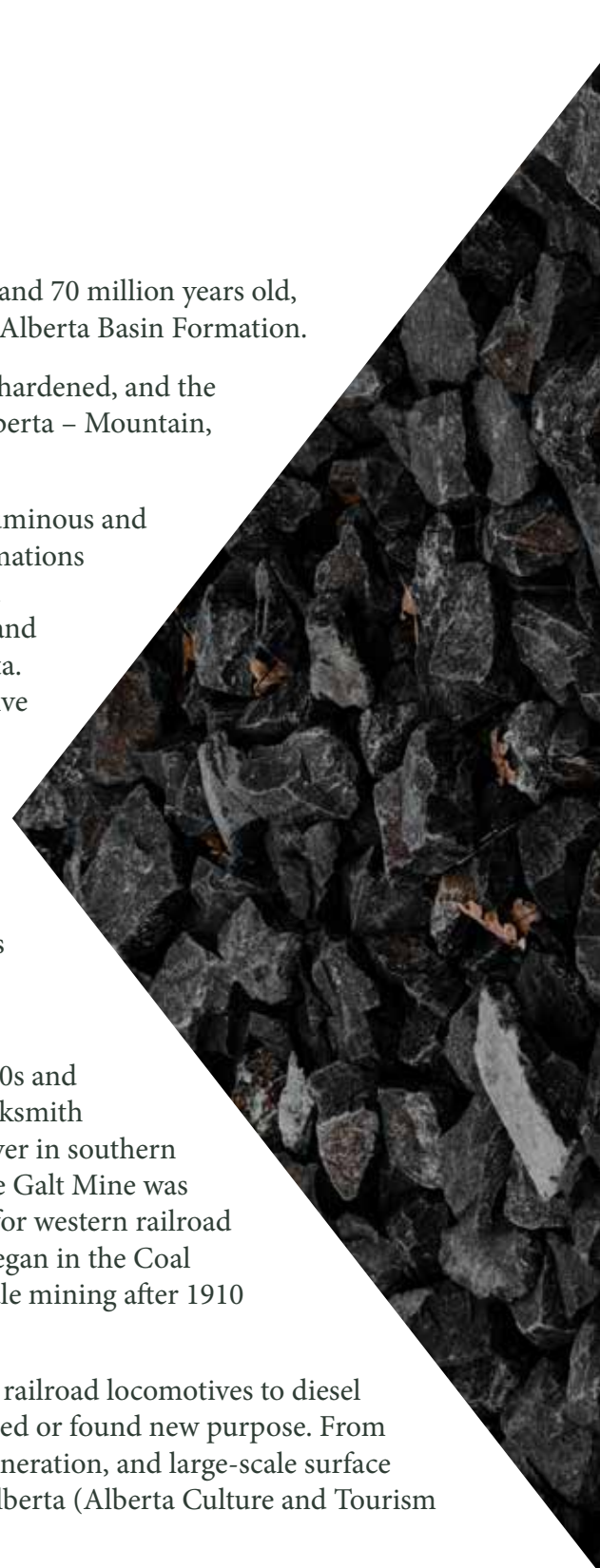
Indigenous groups in Alberta would have observed coal seams and exposed coalbeds as they travelled from the mountains out to the prairies near Drumheller. Early maps of coal producing areas shared by Indigenous peoples with European explorers helped determine areas where the first coal mines would be established (Alberta Culture and Tourism 2021b).

Coal mining started in Alberta with the first excavations in the late 1700s and early 1800s in the Fort Edmonton area where coal was used to fuel blacksmith forges. The first commercial mine was developed along the Oldman River in southern Alberta for local use (Alberta Culture and Tourism 2021d). In 1882, the Galt Mine was established and became Alberta's first large-scale mine, providing coal for western railroad expansion (Alberta Culture and Tourism 2021e). Small-scale mining began in the Coal Branch region, southwest of Edson around 1909, followed by larger-scale mining after 1910 with the arrival of the railroad (Alberta Culture and Tourism 2021f).

Coal production declined between 1946 and 1961 due to conversion of railroad locomotives to diesel electric power. Many mines closed and coal towns were either abandoned or found new purpose. From 1962 onward, coal production found a new niche in electrical power generation, and large-scale surface mining of thermal coal-fired power generation stations began across Alberta (Alberta Culture and Tourism 2021g).

In 1976, the Government of Alberta introduced A Coal Development Policy for Alberta, which classified Alberta lands into four categories to provide guidance on where and how coal exploration and mining could occur.

In November 2015, the Government of Alberta announced a complete phaseout of coal-fired electricity generation by 2030 and it is currently projected that will happen by 2023.



Mines and Production

From the start of coal mining in Alberta in the 1800s to today, more than 2000 mines have operated and produced over 1 billion tonnes of coal. In 2019, Alberta had nine working coal mines, and produced an average of 12 million tonnes of coal that year (Government of Alberta 2020a). In fiscal year 2019/20, coal represented \$11.8 million or 0.2% of Alberta's total non-renewable resource revenue of \$5.9 billion (Government of Alberta 2020b).

As of 29 March 2021, Alberta had seven active mines:

- Coal Valley near Hinton (thermal)
- Grande Cache (metallurgical)
- Genesee near Warburg (thermal)
- Highvale at Wabamun (to be closed on December 31, 2021; thermal)
- Paintearth at Forestburg (thermal)
- Sheerness/Montgomery near Hanna (thermal)
- Vista at Hinton (thermal)

Cheviot Mine (metallurgical) was closed in 2020 and is no longer considered active.

Renewed interest in metallurgical coal has led to increased exploration activities across the Eastern Slopes over the past several years.



Royalties and GDP from Coal Mining

Royalties vary annually depending on the price of coal. In the last five years, royalties have ranged between \$8 million and \$23 million per year (Government of Alberta 2021b). Coal royalty revenues have slightly increased over time; in 2020/21, they accounted for 12.4 million, or 0.4% of natural resource revenue (Winter et al. 2021). This is comparable to fiscal year 2008/09 and earlier where coal royalty revenue accounted for 0.1% or less of natural resource revenue. Relative to other sectors of Alberta's economy, between 1997 and 2017, coal mining accounted for 0.2% of Alberta's GDP in current dollars (Winter et al. 2021).



Employment

In 2019, approximately 1,520 people were employed in coal mining in Alberta (Government of Alberta 2021a). Based on the lowest employment number in August 2019 of 2,344,000 jobs, mining jobs accounted for approximately 0.06% of total jobs in Alberta (Wyton 2019).

Coal Quality and Quantity

The quality and quantity of metallurgical coal in Alberta is variable and might not be competitive in the declining markets of the future (Koliijn 2021; Langenberg 2021). Data suggests that most metallurgical coal reserves would be low or mid-value coking coal making them subject to market fluctuations and mine closures.

Competition with mines with higher quality coal and larger reserves in other jurisdictions makes Alberta mines vulnerable, with the possibility of sudden mine closures, and unpredictable economic hardship for local communities (Koliijn 2021). Alberta coal mines would be particularly vulnerable to competition from the metallurgical coal mines in the Elk Valley, which have larger reserves and higher grade coal (Koliijn 2021).

Figure A: This policy proposes that active coal mines shown below will be permitted to continue operations until end-of-life. Any other area in Alberta would be closed to coal development.



Policy Context

Background on 1976 Coal Policy

In response to the 1974 Environment Conservation Authority recommendations to the Government of Alberta, stressing the need for an integrated resource management and planning framework for the Eastern Slopes, the Government of Alberta issued A Coal Development Policy for Alberta in 1976. This was followed by A Policy for Resource Management of the Eastern Slopes (Eastern Slopes Policy) in 1977.

The 1976 Coal Policy stipulated that “the Government’s overall policy for the development of Alberta’s coal resources is designed to bring and maintain the maximum benefits, now and in the future, to the people of Alberta who own this resource [and that] no development will be permitted unless the Government is satisfied that it may proceed without irreparable harm to the environment and with satisfactory reclamation of any disturbed land” (Government of Alberta 1976).

The 1976 Coal Policy classified the lands into four categories based on environmental sensitivity or previous coal development. These categories applied to freehold coal rights as well as Crown-owned coal rights. Prohibitions or restrictions were placed on the types of activities permitted in each category. Category 1 and Category 2 provided the greatest protection of sensitive ecological regions along Alberta’s Eastern Slopes. Category 3 and Category 4 prescribed where exploration and mining development could happen, subject to regulatory approvals and assurances of environmental protection and reclamation (Government of Alberta 1976). Categories 3 and 4 were largely a reflection of where known coal resources were located, based primarily on locations of existing (or previous) mines, not a reflection of ecological, hydrological, recreational, or other intrinsic values.

The 1977 Eastern Slopes Policy in turn specified that

“

The highest priority in the overall management of the Eastern Slopes is placed on watershed management. ... The natural resources of the Eastern Slopes will be developed in a manner consistent with principles of conservation and environmental protection. ... The management of renewable resources is the longterm priority for the Eastern Slopes.

”

While the 1976 Coal Policy was created with extensive public consultation, there was no consultation with Indigenous governments or communities and that policy failed to recognize Indigenous science, treaty and aboriginal rights, connections to land, and Traditional Ecological Knowledge (TEK).



Rescinding the 1976 Coal Policy

On June 1, 2020, the Government of Alberta rescinded the 1976 A Coal Development Policy for Alberta, removing restrictions on open-pit coal mining and resulting in the issuance of extensive new coal leases across the Eastern Slopes.

The rescission of the policy without public or Indigenous consultation, and the subsequent increase in coal exploration and development activities, raised serious concerns among Albertans about the land-use planning and regulatory gaps created in the absence of the 1976 Coal Policy and the lack of clear direction on coal in the South Saskatchewan Regional Plan. High among these concerns was the impact on source water landscapes and unmitigable effects of coal mining on water and air quality.


In early 2021, the Government of Alberta paused lease sales in former Category 2 lands and reinstated the 1976 Coal Policy. The Minister of Energy proceeded to assemble a Coal Policy Committee to conduct public engagement and provide recommendations on what a “new modern coal policy should be.” Exploration on Category 2 lands was temporarily halted pending the outcome of the engagement, but exploration in Category 3 and Category 4 lands of the Eastern Slopes remained open for coal exploration and development.

The Coal Policy Committee engaged a broad range of stakeholders, including coal industry companies and groups, agriculture groups, municipalities, community groups, landowners, recreation organizations and conservation groups. The result of this engagement was two reports to government: *Engaging Albertans About Coal*, and *Recommendations for the Management of Coal Resources in Alberta*.

While industry groups and some individual submissions supported reclassification of the 1976 Coal Policy categories to allow new coal development, the vast majority of input received from Albertans supported a complete ban on new coal exploration or development in the Eastern Slopes. In *Engaging Albertans About Coal*, the Committee notes that “There is a widely shared sense that coal development is difficult to reconcile with most portions of the Eastern Slopes, especially in southern Alberta.”

The vast majority of input received from Albertans supported a complete ban on new exploration or development in the Eastern Slopes.





Reasons for a Change in Alberta's Coal Policy

- ▶ Opinions of Albertans
- ▶ Climate Change
- ▶ Grassy Mountain Joint Review Panel Decision
- ▶ Legacy of Contamination from Existing Coal Developments in Alberta
- ▶ Water Use and Climate Change Impacts of Mining
- ▶ Diversifying Economies

A simple reinstatement of the 1976 Coal Policy and the deferral of the decision on the future of coal to land-use planning is not sufficiently responsive to the concerns articulated by Albertans. In *Engaging Albertans About Coal*, the Committee notes that “participants expressed strong belief that the Coal Policy needs an update,” and as such the first recommendation from the Coal Policy Committee’s recommendation report was modernize Alberta’s coal policy such that it is legally binding. A modern coal policy must respond to those concerns and the changing world in which we live..

This Policy must address both thermal and metallurgical coal and align with other provincial and federal policies, especially where those policies are informed by the need to tackle the existential threat of climate change, threats to our source water, biodiversity and species at risk and treaty obligations.

The Eastern Slopes are among the most important places in Canada for their provision of and demand for fresh water, carbon storage and recreation (Mitchell et al. 2021). These factors are key considerations in this Policy.

▶ Opinions of Albertans

With the announcement of the Coal Policy Committee, the Government of Alberta launched an online survey for public engagement on the next steps of coal development. Ultimately the survey indicated that 90% of respondents felt there are areas that are not appropriate for coal exploration and development.

Public opinion polls were also conducted by non-government organizations (NGOs) in the spring and fall of 2021. Leger, the same polling firm used by the Government of Alberta, found in an August poll that 70% of people were concerned about the impacts of mines on streams and rivers while 63% opposed coal mining in the Eastern Slopes (Livingstone Landowners Group [LLG], 2021b). An earlier poll in March found 76% of Albertans are in favor of more protections for nature and recreation in the Eastern Slopes (LLG, 2021a).

While the Committee report on *Engaging Albertans About Coal* reflected a diversity of views on the future of coal, including those of the coal industry in support of new coal, the report also states “The sentiment was expressed in many of the submissions and presentations that any coal mining in the Eastern Slopes should not be allowed. Many considered that the Eastern Slopes and Rocky Mountains are unique and a quintessential part of the Alberta identity.” Feedback from Albertans encouraged the government to bring in permanent legislated protections to ensure no new coal activities are permitted in the Eastern Slopes. Such legislated protections

should apply to all existing coal categories, such that no further coal resources would be developed across any of the lands currently identified in the 1976 Coal Policy.

Both government and non-government polls and stakeholder feedback to the Coal Policy Committee concluded that most Albertans do not want coal development in the Eastern Slopes and in fact want more protection for nature and recreation in the region. Albertans are concerned with the potential negative impact coal mining could have on the environment, water, and other economic sectors such as agriculture, and tourism. They want legacy mines, current mines and exploration areas monitored and mitigated for contaminants and reclaimed promptly and effectively. Albertans also expressed concerns about the adequacy of the Mine Financial Security Program (MFSP) and want transparent and accountable decision making.

► Climate Change

Climate change presents an urgent threat to Albertans. The use of coal, both for energy generation and for steelmaking, is a significant source of greenhouse gas. As existing producers of coking coal are sufficient to cover demand through to 2050, pathways to mitigate the worst harm associated with climate change leave no room for new coal mines or mine extensions. The development of new carbon-free electric and hydrogen methods of steelmaking also presents a risk to the medium term viability of metallurgical coal developments. Alberta must encourage other jurisdictions to follow Alberta's lead and commit to ending electricity generation from coal.

Reducing global carbon dioxide (CO₂) emissions to net zero by 2050 is consistent with efforts to limit the long-term increase in average global temperatures to 1.5°C. This requires a paradigm shift in how society obtains and uses energy (International Energy Agency 2021). The Intergovernmental Panel on Climate Change (IPCC) estimates that a 1.5°C increase in the global average temperature will have negative ecosystem and biodiversity impacts, but that the impacts, such as species loss and extinction, will be less severe than at a 2°C increase (IPCC 2018). Canada has already experienced a 1.7°C increase in temperature since 1948, which is twice the global average (Environment and Climate Change Canada 2017).

Canada has already experienced a 1.7°C increase in temperature since 1948, which is twice the global average (Environment and Climate Change Canada 2017).



The Alberta Climate Leadership Plan, adopted in 2015, committed to the elimination of emissions from coal power generation by 2030 (Government of Alberta 2018). To facilitate this, the Government of Alberta entered into off-coal agreements with the owners of coal generating plants in 2016. As a result, the goal of eliminating emissions from coal fired generation will likely be achieved much earlier than 2030 and potentially as soon as 2023.

While the Alberta Climate Leadership Plan did not signal the end of all thermal coal mining in Alberta, it did signal the direction for a modern coal policy for the province.

The Government of Canada issued two coal policy statements in 2021. The first (June 2021) dealt with thermal coal and stated that:

“

The continued mining and use of coal for energy production anywhere in the world is not environmentally sustainable and does not align with the Government of Canada’s commitments, both domestically and internationally, with respect to combatting climate change. Accordingly, the Government of Canada considers that any new thermal coal mining projects, or expansions of existing thermal coal mines in Canada, are likely to cause unacceptable environmental effects. This position will inform federal decision making on thermal coal mining projects.

”

This statement coincided with Canada’s decision as part of the G7 to endorse a communique from the G7 Nations Ministers of Environment and Climate Change in which they recognized that “continued global investment in unabated coal power generation is incompatible with keeping 1.5°C within reach” and that “international investments in unabated coal must stop now” (G7 Climate and Environment Ministers 2021). At the recent COP26 Climate Conference, Canada furthered its commitment to the coal phaseout by stating that Canada will end exports of thermal coal by no later than 2030 and phaseout conventional coal-fired electricity by 2030 (PMO 2021).

The Government of Canada also committed, as part of a response to a request for a regional assessment of coal development in southwestern Alberta, to designate all new metallurgical coal projects or expansions of metallurgical coal projects for federal environmental assessments due to the potential impacts of selenium (Wilkinson 2021).

► Grassy Mountain Joint Review Panel Decision

The rejection of the Grassy Mountain Coal Project by a federal–provincial joint review panel in June 2021 confirmed the inappropriateness of new metallurgical coal mines in Alberta.

The panel found that the adverse environmental impacts of the project would outweigh any potential economic benefits:

“

In our capacity as a panel of AER hearing commissioners, we find that the project’s significant adverse environmental effects on surface water quality and westslope cutthroat trout and habitat outweigh the low to moderate positive economic impacts of the project. Therefore, we find that the project is not in the public interest.

”

(Joint Review Panel 2021)

The panel also concluded that the project would result in the loss of lands used for traditional activities by Indigenous peoples and that the project is likely to result in significant adverse effects on physical and cultural heritage for three Treaty 7 First Nations. At a community level, First Nations spoke out strongly against the project.

Given the importance of the entire Eastern Slopes as source water and as habitat for threatened native fish, it is likely any other projects in the region would face similar or greater challenges, creating uncertainty for investors, communities, Indigenous communities, and the Alberta public.

► Legacy of Contamination from Existing Coal Developments in Alberta

Water and airborne contamination are well documented issues associated with coal mining (Hauer and Sexton 2013; Hendryx et al. 2020; Stelfox and Donahue 2021). Alberta data show significantly elevated levels of various contaminants below mine sites, including selenium, even after mine site reclamation (Redmond 2021; Stelfox and Donahue 2021). Alberta Environment data from the McLeod River from 2005–2016 indicated that selenium concentrations in the watersheds below coal mines often exceeded toxicity effects thresholds for fish (Redmond 2021; Mackay 2006; Stelfox and Donahue 2021).

Mitigation strategies and management practices proposed in current mine applications have yet to be proven effective in the field at industrial scale and thus the precautionary principle must be applied to protect clean water across the Eastern Slopes. This is especially important since most metallurgic coal reserves are in watersheds containing trout species that are at risk provincially and nationally.

► Water Use and Climate Change Impacts of Mining

A challenge with metallurgical coal mining is that coal reserves occur in the headwater basins of the province. The quantity, quality and location of water used and impacted by coal industry operations significantly degrades the ecological integrity of watersheds and negatively affects the wildlife and downstream users that rely on that water.

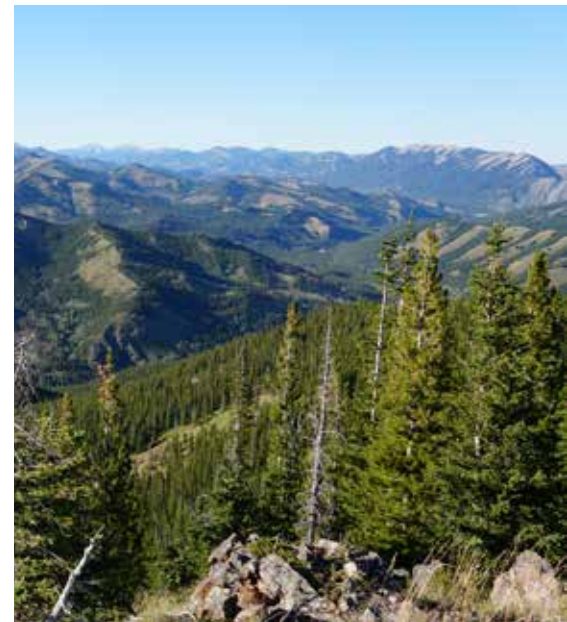
Currently there is a lack of data on instream flows in the waterways near coal reserves. Baseline streamflow data must be collected in the upper reaches of the watersheds to understand present instream flow patterns and the flows required to sustain healthy watersheds. Water scarce regions of the province are particularly vulnerable, such as the South Saskatchewan River Basin, which (outside the Red Deer sub-basin) is closed to new water licences and is exhibiting lower water levels attributed to climate change.

Given the competing pressures on the waterways and impacts of climate change, water security for existing users is already precarious without adding large-scale industrial use in the headwaters. The cumulative impacts of existing industrial and motorized activities in the Eastern Slopes source water region are already implicated in reduced natural flows, increased spring flood intensities and reduced summer and winter water volumes, leading to higher risk of expensive mitigation and future water shortages. Coal mining would further diminish the water security priorities of Alberta communities, businesses, and families.

► Diversifying Economies

The Government of Alberta recognizes the need to diversify our economy. Many of the regions with coal reserves support a diversity of long-term, sustainable economic activities, including ranching, agriculture, recreation, and tourism, as well as the provision of ecosystem services. Other growing sectors such as technology innovation, aviation, aerospace, logistics, financial services, and the arts are strengthened through intact landscapes. Amenity-based migration is an increasingly important factor in the decisions that businesses and individuals make in terms of where to locate; natural amenity values are strategic economic assets that need to be protected and enhanced.

Agriculture as an industry is older than the province of Alberta yet aligned for the future. Agriculture and agri-food are Alberta's success story, with a platform for renewed and sustainable growth – in jobs, investment, and economic development. Agriculture and agri-food are the province's largest employer and the leading economic driver. In 2020, agriculture and agri-food were a \$56 billion industry, with total sales beating that of Alberta's oil sales by over \$20 billion (Spencer & McConnell 2021). Alberta leads the nation in cattle inventory, accounting for more than 41 percent of Canada's total herd – with a high population of these cattle raised in the eastern slopes of Alberta (Spencer & McConnell 2021). Agricultural operations rely on access to land and water to support their livestock, forage and feed production, and irrigation. Downstream agricultural producers also rely on clean water and natural flows to sustain operations.



Outdoor recreation provides the opportunity to help Alberta to grow, strengthen and diversify the economy, while improving the health and well-being of our citizens. Outdoor recreation is already a powerful economic driver, which contributes \$2.8 billion to GDP and represents 1.5% of total employment in Alberta, equivalent to 36,000 full-time jobs (Tourism Industry Association of Alberta 2021).

Each year, Alberta National and Provincial Parks attract millions of visitors from outside the province to rural communities, creating jobs and supporting economic development, both directly and indirectly, across the province while providing opportunities to diversify local and regional economies.

Indigenous peoples' economies, language, history, ceremonies, and culture rely on the interconnectedness of clean water, healthy land, and the environment. The history of Indigenous lands in Canada is one of dispossession and isolation. This alienation of land and resources has been a major contributor to the economic marginalization of Indigenous peoples in Canada. Land rights increase autonomy, generate revenues, and create economic opportunities, and can provide the benefits of environmental conservation and cultural preservation (Organisation for Economic Co-operation and Development 2020). In moving towards economic diversification in Alberta, particular attention must be focused on Indigenous communities and land rights.

A recent paper published by the University of Calgary School of Public Policy confirmed that the economic benefits of a new coal mine are heavily outweighed by adverse effects to the environment, local communities, ranching, tourism, and aboriginal and treaty rights (Winter et al. 2021). Most benefits would be accrued by the coal company, and in current markets it is unlikely that a new coal mine would do better than break even financially (Winter et al. 2021). This cost-benefit analysis highlights the low likelihood of success for a new coal mine in Alberta.



A recent paper published by the University of Calgary School of Public Policy confirmed that the economic benefits of a new coal mine are heavily outweighed by adverse effects to the environment, local communities, ranching, tourism, and aboriginal and treaty rights (Winter et al. 2021)





Policy Scope

This Policy covers both metallurgical coal and thermal coal in Alberta, whether owned by the Crown or private parties. Because this Policy commits to phasing out metallurgical coal development, and because Alberta has committed to phasing out power generation from thermal coal, it is time to unify government policy for the two types of coal. This Policy applies to both exploration for and development of coal resources, regardless of the techniques used. This Policy replaces the 1976 Coal Policy.

The bulk of this Policy falls under the jurisdiction of the Ministry of Energy, pursuant to the Mines and Minerals Act, Coal Conservation Act and Responsible Energy Development Act. Certain elements of the Policy require consequential changes to regulatory documents in the Ministry of Environment and Parks.

Policy Guiding Principles

Guiding Principles at a Glance:

Respect for Indigenous Values, Knowledge and Treaty Rights

Protection and Preservation of a Healthy Environment

Engage in Holistic and Transparent Decision Making

Ensure Communities are Engaged and Economies are Sustainable

Through their input and submissions to the Coal Policy Committee, Albertans identified the following guiding principles they expect the Government of Alberta to follow to achieve the intentions of a modern coal policy for the province:

Respect for Indigenous Values, Knowledge, and Treaty Rights

The Government of Alberta respects the cultures and traditions of Indigenous peoples and their communities and acknowledges that aboriginal and treaty rights are recognized and affirmed by Section 35 of the Constitution Act, 1982. The Government of Alberta has a government-to-government relationship with First Nations and Métis, and, with the adoption of this Policy, endorses the United Nations Declaration on the Rights of Indigenous Peoples and affirms that aboriginal and treaty rights and traditional uses of Crown lands will be considered in all decisions that relate to management of renewable and non-renewable resources in the province.

Core elements of this principle are:

- Respect for aboriginal and treaty rights and an obligation to consult with Indigenous groups whose traditional lands might be affected by proposed projects.
- Colonialism and limited economic opportunities have disadvantaged Indigenous communities. The Government of Alberta will recognize and focus on opportunities in these communities to sustain cultural values and to provide job creation and sustainable local economies.

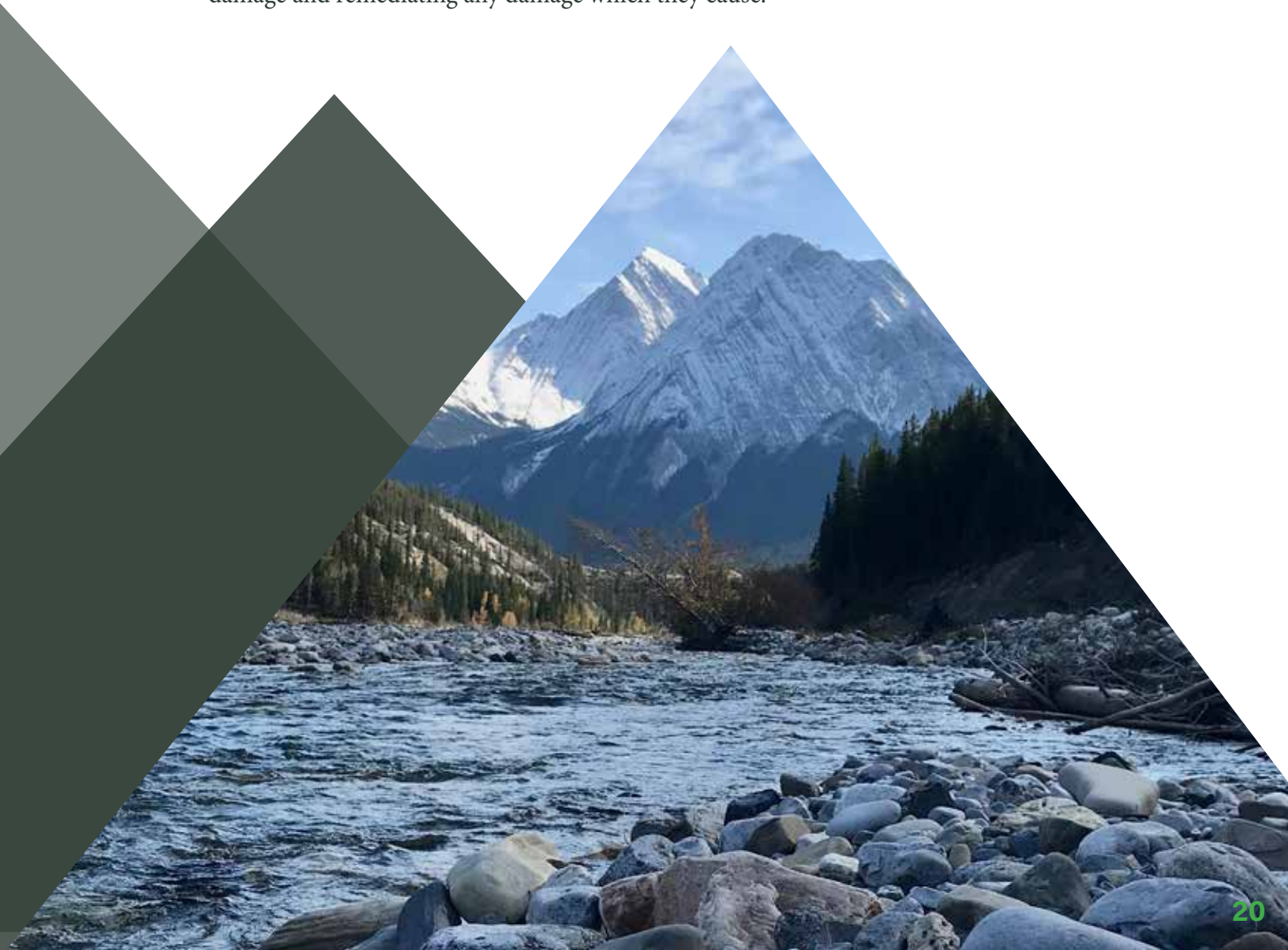


Protection and Preservation of a Healthy Environment

Resource development cannot occur at the expense of the environment. Healthy, functioning watersheds and ecosystems are required to sustain fish, wildlife, and people. The Government of Alberta will ensure proposed projects effectively incorporate sustainable, environmentally sound practices in their developments.

Core elements of this principle are:

- Decision making pertaining to current resource projects requires effective management and protection of Alberta's environment. Partnership with Indigenous communities will focus on efforts to support their management of traditional lands. Stewardship requires multistakeholder collaboration that relies on contributions from citizens, industry, NGOs, and government.
- Ecosystem-based Management and conserving protected spaces, landscapes and species is a central component of this Policy and prioritized above non-renewable resource development.
- Clean drinking water, instream flows that meet ecological needs and formal protection of these watersheds is necessary in the face of increased demands and the effects of climate change. Watersheds and groundwater recharge processes will not be compromised because of proposed mining in the region.
- Land users and polluters will be required to assume full responsibility for avoiding environmental damage and remediating any damage which they cause.



Engage in Holistic and Transparent Decision Making

The Government of Alberta and its regulatory agencies will share information regarding resource and energy development activities with all Albertans and relevant stakeholder groups through open communication and enhanced, transparent reporting mechanisms. Education and knowledge-sharing are important cornerstones of the Government of Alberta's transparent and inclusive decision-making framework. The Government of Alberta and its regulatory agencies will use Traditional Ecological Knowledge in conjunction with western science approaches to assess the impacts of existing and proposed project activities.

Core elements of this principle are:

- Recognition of TEK as a valued component for regulatory decision making and resource management. TEK must be incorporated in all regulatory processes related to coal resource development.
- In conjunction with TEK, western science approaches to assess proposed project impacts will be used to objectively evaluate existing projects pursuant to this Policy. The Government of Alberta and Alberta Energy Regulator will apply best available science and undertake additional research to fill in knowledge gaps.
- Coal development in Alberta must be scrutinized against the values of the precautionary principle. One implication of this principle is that changes to developments or technologies that could cause unknown harm or damage to the environment, wildlife or humans will not be permitted until such a time that potential effects and implications are fully understood.
- Information will continue to be shared through enhanced transparent reporting and open communication with stakeholders and the public. Education and knowledge-sharing will be important components of a transparent system.
- Engagement must be built on open consultation with Albertans and relevant stakeholder groups. The current policy of only accepting input from those deemed “directly and adversely affected” will be broadened in recognition of the legitimate interest and concern all Albertans have in the management of their public lands and the protection of their strategic environmental assets. Sufficient time needs to be given for effective, thorough feedback and dialogue will be encouraged. Meaningful incorporation of suggested actions must be undertaken by the government and Alberta Energy Regulator.



Education and knowledge-sharing are important cornerstones of the Government of Alberta's transparent and inclusive decision-making framework.

Ensure Communities are Engaged and Economies are Sustainable

The Government of Alberta is driven by a vision of ecologically sustainable economic development. In that context, maintenance and enhancement of ecosystem function, including renewable resources, is the highest resource management priority for the province. Coal resource development will only be allowed to continue for existing and approved projects but will be phased out over time. Communities are central to resource and energy development in Alberta by providing workers, supplies and other essential goods. Development that gives back to the community and keeps it engaged through effective consultation and openness ensures that residents are an important component of each project.

Core elements of this principle are:

- Consideration of the needs and rights of future generations throughout all decision-making processes. Ecosystem goods and services will be optimized through active restoration and management to provide for such future needs as clean drinking water, wild spaces, biodiversity and fish and wildlife on the landscape.
- Communities will be supported in a just transition to a carbon-free net zero future by 2050 through training and incentives. Government policies and funding must strive to support renewable energy initiatives and projects that decrease GHG emissions.
- Regional economic stability is achieved through diverse local initiatives prioritizing entrepreneurship, protection of natural capital, and place-based businesses.



Policy Direction

There are three elements to Alberta's new coal policy:

1 No new coal exploration and no new coal mines.

The government will not permit any new coal exploration or new coal mines in Alberta. Existing, approved operating mines will be allowed to continue operating within existing mine permit boundaries if such operations continue to be profitable, taking into account the full costs of operation both to the businesses involved and to the people of Alberta who own the resources. These operations will need to meet all provincial and federal regulations and standards, including monitoring, remediation, and abandonment responsibilities. The government will not authorize expansion of existing mines.

2 Assess the adequacy of the current mine financial security program.

The government recognizes the concern of Albertans that there must be sufficient funds available to ensure the proper abandonment and remediation of coal exploration activities and mines. To that end, the government will direct an immediate assessment of the adequacy of the current mine financial security program to give full effect to the polluter pays principle and to ensure that future generations of Albertans are not burdened by abandonment and remediation responsibilities.

3 Ensure timely and effective remediation of lands disturbed by coal exploration and mining activities.

This Policy direction extends to all lands disturbed by coal mining activities including exploration, legacy sites, and existing mines. The Alberta Energy Regulator will require companies to ensure all lands disturbed by coal exploration are reclaimed to acceptable ecological and hydrological standards within three years, by requiring them to post a bond equivalent to the higher end of estimated reclamation costs to be returned only when the company has received a reclamation certificate. The Alberta Energy Regulator will require coal mines to be reclaimed and remediated and obtain a reclamation certificate within 20 years from the date of mine closure. Existing operating coal mines will be required to close and begin remediation if there is no production in any six total months during a calendar year.

These Policy direction elements will be achieved by Alberta Energy and the Alberta Energy Regulator, as appropriate, by:

- Informing operators of these requirements immediately following approval of this Policy.
- Ensuring continued communication by government and regulatory agencies on updates to standards with all relevant stakeholders.
- Creating a comprehensive public record, as of the date of Policy approval, of all exploration activity and existing mines, their approval conditions and operation boundaries.
- Clearly communicate the date that reclamation must be completed and follow up at least twice a year post-closure to assess reclamation progress.
- Collaboratively define “no production” so operators are aware of their obligation to initiate reclamation after six total months over a calendar year with no production.

Policy Implementation

This Policy calls for a definite and non-discretionary end to coal exploration and development. Therefore, Policy implementation will require legislative changes.

Key components of Policy implementation under authority of the Minister of Energy include:

1. Formal Withdrawal of 1976 Coal Development Policy for Alberta

2. Termination of Coal Leases Without Mine Approvals:

- Minister of Energy will cancel all Crown coal leases that fall outside existing approved mine permit boundaries pursuant to section 8(1)(d) the Mines and Minerals Act, RSA 2000, c M17 within 60 days of the publication of this Policy, subject to ensuring that all reclamation and remediation responsibilities can still be met.
- Minister of Energy shall reject all coal lease applications under review and not accept new coal lease applications.

3. Termination of Coal Exploration:

- Government of Alberta will introduce amendments as appropriate to relevant sections of the Mines and Minerals Act and Coal Conservation Act to remove the power to grant new leases and coal exploration approvals.
- Minister of Energy shall direct Alberta Energy Regulator to revise or rescind Manual 008: Oil Sands and Coal Exploration Application Guide, Manual 020: Coal Development, and other relevant manuals and directives to preclude further applications for coal exploration or development.
- Minister of Energy shall rescind Ministerial Order 002/2022 (Government of Alberta 2021c) and issue a new Coal Policy Direction to Alberta Energy Regulator that is consistent with the terms of this Policy.

4. Ensuring Sufficient Security for Reclamation of Mine and Exploration Activity:

- Minister of Energy shall review the Mine Financial Security Program as it applies to coal to ensure the program collects sufficient security based on a conservative estimate of coal mine reclamation liabilities for Alberta's existing coal mines.
- Minister of Energy shall retain any compensation owed to companies under the Mineral Rights Compensation Regulation, Alta Reg 317/2003 until lease holders have fulfilled any reclamation obligations they have as a result of exploration activities.
- Minister of Energy shall direct the Alberta Energy Regulator to prepare and publish a report within one year describing the extent and likely costs of remediation for any coal developments for which there is no solvent owner and for which it is likely the public will be required to pay for reclamation and remediation costs. The Alberta Energy Regulator shall update this report annually.

5. Ensuring a fair return to Albertans:

- Minister of Energy shall direct a review of the Coal Royalty Regulation to ensure that Albertans are receiving a fair return on production from existing mines. The review shall be undertaken within six months and should compare Alberta's coal royalty rates with those established in other coal producing jurisdictions.
- Minister of Energy shall give the necessary instructions to amend the Freehold Mineral Rights Tax Regulation so as to levy a freehold mineral tax on coal.

6. Reporting and Assessment:

- Minister of Energy shall report on implementation of the Policy annually until such time as all coal mines and lands disturbed by coal exploration in Alberta are closed and have been remediated.
- Minister of Energy shall request Auditor General of Alberta review and report on design and implementation of the Mine Financial Security Program as it relates to coal by January 2023.

7. Consequential Actions Required of Other Ministries:

- Minister of Environment and Parks will make consequential changes to Code of Practice for Exploration Operations (2005) to remove references to coal exploration.
- Minister of Environment and Parks will take necessary steps to ensure that the terms of this Policy are reflected in existing and proposed regional plans developed under the auspices of the Alberta Land Stewardship Act.
- Minister of Environment and Parks will take necessary steps to rescind the 9 September 2020 Restriction on Coal Activities on Areas of Public Land in the Eastern Slopes (Government of Alberta 2021d) and replace it with a new directive that gives effect to the terms of this Policy.



Glossary Of Terms

| Term | Definition |
|--|---|
| A Coal Development Policy for Alberta 1976 | <p>First broad government effort to manage coal mining across the Eastern Slopes. Environmental protection was stressed as much as economic development of the coal resource. Lands in the policy area were classified into four categories (Government of Alberta 1976):</p> <p>Category 1: No exploration or development.</p> <p>Category 2: Limited exploration and restricted development of underground or in-situ mines only on lands deemed not environmentally sensitive.</p> <p>Category 3: Exploration permitted and mine development allowed if determined in the public interest.</p> <p>Category 4: Exploration and development permitted.</p> |
| AER | Alberta Energy Regulator |
| bituminous coal | <p>Second highest quality coal after anthracite, generally found in Alberta's Eastern Slopes region. Can contain up to 85% carbon, has heating value of 10,500 to 15,000 BTU and higher quality bituminous coal is used as metallurgical coal to make coke, a source of carbon necessary for steel and iron production (Vedantu n.d.). Bituminous coal without the necessary qualities for steel making is used as thermal coal in power generation.</p> |
| Eastern Slopes | <p>A 90,000 km² region of Alberta encompassing the eastern slopes of the Rocky Mountains. This region consists mainly of forest-covered mountains and foothills owned by the Crown. This ecologically significant area contains the headwaters of many Alberta streams and rivers, abundant wildlife, forests, and culturally significant landscapes (Government of Alberta 1984).</p> |
| Ecosystem-based Management | <p>Ecosystem-based Management is a framework for managing ecological systems that prioritizes ecosystem health and integrity, incorporates science-based decision-making (including adaptive management), and utilizes natural ecosystem dynamics as a template for management (Powell 2021). This approach encourages community engagement and involvement through an iterative process that ensures feedback and input is considered and adopted into adaptive management.</p> |

| Term | Definition |
|--|---|
| selenium | Naturally occurring element found in the terrestrial crust, often in metal ores and selenium-rich rock formations. During coal mining, selenium can be released, often ending up in nearby waterbodies. Though selenium is not acutely poisonous, continuous release into the environment causes bioaccumulation, leading to deformities and developmental effects in aquatic species and potential harmful effects on humans (Kellogg 2013; Environment and Climate Change Canada and Health Canada 2017). |
| subbituminous coal | Lower quality coal found throughout Alberta's prairie and parkland regions. Contains 35–45% carbon, has lower heating value than bituminous coal and is used as thermal coal in power generation to produce steam for electricity and industrial uses (Vedantu n.d.). |
| Traditional Ecological Knowledge (TEK) | The evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is specific to a location and includes the relationships between plants, animals, natural phenomena, landscapes, and timing of events that are used for lifeways, including but not limited to hunting, fishing, trapping, agriculture, and forestry. TEK is an accumulating body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (human and non-human) with one another and with the environment (U.S. Fish & Wildlife Service 2011). |

References

Alberta Culture and Tourism. 2021a. *The Geology of Alberta's Coal Deposits*.

<http://history.alberta.ca/energyheritage/coal/early-coal-history-to-1900/albertas-first-discoveries/the-geology-of-albertas-coal-deposits.aspx>.

Alberta Culture and Tourism. 2021b. *Alberta's First Discoveries*.

<http://history.alberta.ca/energyheritage/coal/early-coal-history-to-1900/albertas-first-discoveries/default.aspx#page-1>.

Alberta Culture and Tourism. 2021c. *Early Coal Use in Alberta*.

<http://history.alberta.ca/energyheritage/coal/early-coal-history-to-1900/albertas-first-discoveries/early-coal-use-in-alberta.aspx#page-1>.

Alberta Culture and Tourism. 2021d. *The Spirit of Entrepreneurialism*.

<http://history.alberta.ca/energyheritage/coal/the-early-development-of-the-coal-industry-1874-1914/the-spirit-of-entrepreneurialism/default.aspx>.

Alberta Culture and Tourism. 2021e. *Alberta's First Coal Mining Community*.

<http://history.alberta.ca/energyheritage/coal/the-early-development-of-the-coal-industry-1874-1914/coal-town-formation/albertas-first-coal-mining-community.aspx>.

Alberta Culture and Tourism. 2021f. *The Coal Branch*.

<http://history.alberta.ca/energyheritage/coal/triumphs-and-tragedies-1914-1930/albertas-coal-town-evolution/the-coal-branch.aspx>.

Alberta Culture and Tourism. 2021g. *Reinvention: 1950 Onwards*.

<http://history.alberta.ca/energyheritage/coal/reinvention-1950-onwards/default.aspx>.

Environment and Climate Change Canada. 2017. *Annual 2016: Climate Trends and Variations Bulletin*.

<https://www.canada.ca/content/dam/eccc/migration/main/sc-cs/439e7f88-2ac6-4617-a24e-bdd4f99ad-1f7/4325-annual-eng06.pdf>.

Environment and Climate Change Canada and Health Canada. 2017. *Risk Management Approach for Selenium and its Compounds under the Selenium-containing Substance Grouping*.

<https://www.canada.ca/en/environment-climate-change/services/evaluating-existing-substances/rm-approach-selenium.html>.

G7 Climate and Environment Ministers. 2021. *Joint Commitments*. May 21, 2021.

<https://www.g7uk.org/g7-climate-and-environment-ministers-communique/>.

Government of Alberta. 1976. *A Coal Development Policy for Alberta*.

<https://open.alberta.ca/dataset/cc40f8f5-a3f7-42ce-ad53-7521ef360b99/resource/802d6feb-04ae-4bcc-aac3-3b3be31a0476/download/1114651976Coal-Development-Policy-for-Alberta1976-06.pdf>.

Government of Alberta. 1984. *A Policy for Resource Management of the Eastern Slopes – Revised 1984*.

<https://open.alberta.ca/dataset/63df0041-7619-4fc9-948b-738cf108e47c/resource/6938bfdd-1316-4f84-adf7->

[5ed1744b3d84/download/1984-policyresourcemanagementeasternslopes.pdf](https://open.alberta.ca/dataset/428e517b-3bd4-4d3d-b197-b0233c85647e/resource/f23497a3-6208-41d6-84da-c44416e1676b/download/investorconfidenceclimateleadershipplanfactsheet.pdf).

Government of Alberta. 2018. *Alberta's Climate Leadership Plan: Progressive climate policy*.

<https://open.alberta.ca/dataset/428e517b-3bd4-4d3d-b197-b0233c85647e/resource/f23497a3-6208-41d6-84da-c44416e1676b/download/investorconfidenceclimateleadershipplanfactsheet.pdf>.

Government of Alberta. 2020a. *Coal and Mineral Development in Alberta: 2019 Year in Review*.

<https://open.alberta.ca/dataset/35ee97e3-63d7-4c32-9e3b-c64407f31221/resource/35666b7c-7c62-4adc-acf8-fb5106adb74e/download/energy-coal-mineral-development-year-2019-in-review-2020-06.pdf>.

Government of Alberta. 2020b. *Annual Report: Energy 2019–2020*.

<https://open.alberta.ca/dataset/cbd7147b-d304-4e3e-af28-78970c71232c/resource/83da37dc-74f3-4734-b26d-63c7fae923e1/download/energy-annual-report-2019-2020.pdf>.

Government of Alberta. 2021a. *Coal in Alberta*.

<https://www.alberta.ca/assets/documents/energy-coal-in-alberta-factsheet.pdf>.

Government of Alberta. 2021b. *Coal royalties and reporting*.

<https://www.alberta.ca/coal-royalties-and-reporting.aspx>.

Government of Alberta. 2021c. *Information Letter 2021-07*.

<https://inform.energy.gov.ab.ca/Documents/Published/IL-2021-07.pdf>.

Government of Alberta. 2021d. *Restriction on Coal Activities on Areas of Public Land in the Eastern Slopes*.

<https://open.alberta.ca/dataset/c5c05647-0986-4056-abca-62332c672b32/resource/74fb58d3-7a05-46d2-bbe7-b2e5076f755d/download/aep-restriction-on-coal-activities-on-areas-of-public-land-in-eastern-slopes-directive.pdf>.

Government of Canada. 2021. *Statement by the Government of Canada on Thermal Coal Mining*.

<https://www.canada.ca/en/environment-climate-change/services/managing-pollution/energy-production/electricity-generation/statement-government-canada-thermal-coal-mining.html>.

Hauer, F. and E. Sexton. 2013. *Transboundary Flathead River: Water Quality and Aquatic Life Use –*

Final Report. Glacier National Park. https://files.cfc.umt.edu/cesu/NPS/UMT/2008/08Hauer_GLAC_water_quality_fnlrpt.pdf.

Hendryx, M., M.S. Islam, G.H. Dong and G. Paul. 2020. Air pollution emissions 2008–2018 from Australian coal mining: Implications for public and occupational health. *International Journal of Environmental Research and Public Health* 17(5): 1570. <https://doi.org/10.3390/ijerph17051570>.

Intergovernmental Panel on Climate Change. 2018. *Summary for Policymakers*. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf.

International Energy Agency. 2021. *Net Zero by 2050: A Roadmap for the Global Energy Sector*. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf.

Joint Review Panel. 2021. *Report of the Joint Review Panel: Benga Mining Limited Grassy Mountain Coal Project*. Joint Review Panel Established by Federal Minister of Environment and Climate Change and Alberta Energy Regulator. June 17, 2021. <https://static.aer.ca/prd/documents/decisions/2021/2021ABAER010.pdf>.

- Kellogg, S. 2013. Effects of selenium poisoning: Deformed and dying fish at Sutton Lake. *Front Porch Blog*. Retrieved from: <https://appvoices.org/2013/12/05/effects-of-selenium-poisoning-deformed-and-dying-fish-at-sutton-lake>.
- Kolijn, C. 2021. *Crowsnest Coal Reserves: Mistaken Value of Alberta's Eastern Slopes Coal Reserves – Metallurgical Coal Quality and Market Value*. <https://your.alberta.ca/22184/widgets/91480/documents>.
- Kuchapski, K.A. and J. B. Rasmussen. 2015. Food chain transfer and exposure to Se in salmonid fish communities in the Canadian Rocky Mountains. *Can. Journal of Fisheries and Aquatic Science* 72; 955-967.
- Langenberg, W. 2021. *Coal Reserves and Coal Mine Economics of the Crowsnest Pass*. <https://your.alberta.ca/22184/widgets/91480/documents>.
- Livingstone Landowners Group. 2021a. *Poll Shows Albertans Want More Protections in the Eastern Slopes and Oppose New Coal Mines*. <https://www.livingstonelandowners.net/survey-news>.
- Livingstone Landowners Group. 2021b. *Poll Confirms Albertans Concerns About Coal Mining Impact on Water*. <https://www.facebook.com/Livingstone.Landowners>.
- Mackay, W.C. 2006. *Selenium Concentrations in the Tissues of Fish From the Upper McLeod and Upper Smoky River Systems*. Alberta Sustainable Resource Development and Alberta Environment. <https://open.alberta.ca/dataset/762754c7-f30a-472d-a991-6c535b9e0eed/resource/140e7841-e359-4ace-bbf1-da339506304d/download/3937754-2006-selenium-concentrations-tissues-fish.pdf>.
- Mitchell, M.G.E., R. Schuster, A.L. Jacob, D.E.L. Hanna, C. Ouellet Dallaire, C. RaudseppHearne, E.M. Bennet, B. Lehner and K.M.A. Chan. 2021. Identifying key ecosystem service providing areas to inform nation-scale conservation planning. *Environmental Research Letters* 16: 014038. <https://iopscience.iop.org/article/10.1088/1748-9326/abc121>.
- Organisation for Economic Co-operation and Development. 2020. *Linking Indigenous Communities with Regional Development in Canada*, OECD Rural Policy Reviews, OECD Publishing, Paris. <https://doi.org/10.1787/fa0f60c6-en>.
- Powell, B. 2021. Changes Made to Alberta's Forest Laws in May 2021 but has Anything Really Changed? The need to shift to managing forests not forestry. *Environmental Law Centre*. Retrieved from: <https://elc.ab.ca/changes-made-to-albertas-forest-laws-in-may-2021-but-has-anything-really-changed/>.
- Prime Minister's Office (PMO). 2021. Prime Minister Trudeau announces enhanced and ambitious climate action to cut pollution at the COP26 summit. <https://pm.gc.ca/en/news/news-releases/2021/11/01/prime-minister-trudeau-announces-enhanced-and-ambitious-climate>.
- Redmond, L.E. 2021. *Water Quality in the McLeod River As an Indicator for Mining Impacts and Reclamation Success (2005 to 2016)*. Government of Alberta, Ministry of Environment and Parks. <https://open.alberta.ca/dataset/a573a0ab-bc31-4a4d-92cd-54c4fa929bd3/resource/90945a21-e8f6-4c91-9055-196d7f03ad47/download/aep-water-quality-mcleod-river-as-indicator-mining-impacts-reclamation-success-2005-2016.pdf>.
- Spencer, K. & McConnell, K. 2021. *Alberta Agri-Food Future*. University of Calgary, The School of Public Policy. https://www.policyschool.ca/wp-content/uploads/2021/07/AF8_AB-Agri-Food_Spencer-McConnell.pdf.

- Stelfox, J.B and Donahue, W.F. 2021. *Assessing watershed scale consequences of coal surface mines in the headwaters of the Oldman River Watershed (ORW)*. Report prepared for the Livingstone Landowners Group. Tourism Industry Association of Alberta. 2021. Contribution of Alberta's Crown Land Outdoor Recreation Economy. <https://silkstart.s3.amazonaws.com/53871da4-c2ad-4589-b73a-7569e930d2ac.pdf>.
- U.S. Fish & Wildlife Service. 2011. *Traditional Ecological Knowledge for Application by Service Scientists*. <https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf>.
- Vedantu. n.d. *Bituminous Coal*. <https://www.vedantu.com/geography/bituminous-coal>.
- Wilkinson, J. 2021. *Letter from Minister of Environment and Climate Change Wilkinson to Heather McPherson MP*. June 16, 2021. <https://iaac-aeic.gc.ca/050/documents/p81540/139346E.pdf>.
- Winter, J., M. Bailey, E. Galley, C. Joseph and B. Shaffer. 2021. *A Multiple Account Benefit-Cost Analysis of Coal Mining in Alberta*. <https://your.alberta.ca/22184/widgets/91480/documents>.
- Wyton, M. 2019. Alberta economy shed 14,000 full-time jobs in July. *Edmonton Journal*. Aug. 9, 2019. <https://edmontonjournal.com/news/local-news/alberta-economy-sheds-14000-full-time-jobs-in-july>.

Appendix A: Additional Recommendations for Resource Conservation and Management of the Eastern Slopes

The Coal Policy for Alberta – 2022 and Beyond provides direction on the future of coal development in Alberta, but the concerns of Albertans run far deeper than coal. Coal is, fundamentally, a land use issue and our concerns are centered on questions of land use and water management. Because we care about clean water, recreation access, Indigenous land rights, sustainable and diversified economies, fish and wildlife and species at risk, the following recommendations are meant to complement the Coal Policy for Alberta – 2022 and Beyond. These recommendations must be given equal priority to the implementation of the Coal Policy.

In general, a resource management plan can only be properly crafted as part of an overall land use plan. The Coal Policy for Alberta – 2022 and Beyond is an exception because it allows for no new coal development that needs to be fitted onto the landscape. Any resource management plan that recommends or allows for new developments must be crafted as part of a broader land use plan.

Alberta enacted the Alberta Land Stewardship Act (ALSA) in 2009 to give direction on Alberta's economic, environmental, and social objectives, to co-ordinate decisions impacting land, species, human settlement, natural resources, and the environment, and to enable sustainable development by taking account of cumulative effects. More than a decade after the ALSA was passed, only two of seven regional plans have been published. Furthermore, these two plans are deficient since they deferred key land use decisions to future planning processes and documents that in many cases have not been completed.

The Alberta Government must complete the plans promised by ALSA. The rescission of the coal policy was democratically inappropriate. The Alberta government should expect resistance to all land use decisions that recommend or allow new development made outside the landscape level planning process legislated by the ALSA.

Development of an Eastern Slopes Conservation Policy

A priority for the Government of Alberta must be to engage Albertans and Indigenous governments in the development of a new Eastern Slopes Conservation Policy that, when approved, will replace the existing Eastern Slopes Policy (1977, revised 1984) and provide binding policy direction to regional and subregional plans that are required under the Land Use Framework. The new Eastern Slopes Conservation Policy will take an Ecosystem-based Management approach and address key strategic priorities for Albertans including all forms of renewable and non-renewable resource use, water security, water quality, biodiversity conservation, high-quality outdoor recreation opportunities and climate change adaptation. The priority for the Eastern Slopes will be attaining water security and quality for downstream communities.

- The Government of Alberta shall initiate the necessary steps to ensure that the terms of this policy will be reflected in all existing regional plans developed under the Alberta Land Stewardship Act as well as any future plans, and in the development or conservation of all renewable and non-renewable resources within the Eastern Slopes. As part of this policy the government must:
 - Develop an Eastern Slopes cumulative effects management framework that will guide resource management decision-making and restoration priorities within the region. This will include ecological thresholds for spatial and linear footprints as well as industrial and recreational carrying capacity. Restoration of damaged landscapes will be a priority. This will be a collaborative effort with Indigenous peoples, industry, organizations, and individuals and will be appropriately funded.

- In cooperation with Indigenous Nations, assess the impacts of all land-uses and their cumulative effects on the exercise by First Nations and Indigenous peoples of their s. 35 constitutionally protected treaty and aboriginal rights.
- Develop integrated resource management plans and subregional plans at appropriate spatial and temporal scales using all the ecological and sociological tools available.
- Amend or develop appropriate legislation and regulations to align them with implementation of new Eastern Slopes Conservation Policy and approved regional and subregional plans. Regulatory oversight will be fully funded to assure adherence to policy and regulations.
- Ensure that all departments of government and all regulatory agencies including the Alberta Energy Regulator, the Alberta Utilities Commission and the Natural Resources Conservation Board are required to manage their responsibilities in ways that are consistent with, and support implementation, of the new Eastern Slopes Conservation Policy and of approved regional and subregional plans.
- Undertake full-cost accounting for all land use sectors to determine the short and long-term economic benefits versus costs to Albertans

Transparent Planning and Regulatory Framework

- Work to establish a seamless, integrated, and transparent regulatory framework among federal, provincial, Indigenous, and municipal governments.
- Reinvigorate Alberta's Land Use Framework and prioritize completion of all regional land use plans as well as any necessary management frameworks to ensure that cumulative effects of all land uses are properly addressed, including:
 - Forestry
 - Recreation and Tourism
 - Agriculture
 - Mining
 - Oil and Gas
 - Linear Infrastructure