Political Risk Assessment

# Alberta's 2023-2024 Renewable Energy Moratorium: A Risk Analysis

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*Figure 1: Renewables in Alberta*

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# Executive Summary

Alberta had been leading renewable energy development in Canada, due to a strong combination of ideal land and engineering talent. However, after the provincial government's August 2023 moratorium on renewable energy projects was imposed, investment fled elsewhere, ending many projects. Poorly defined regulatory changes post-moratorium, such as the preservation of prime farmland, pristine landscapes, and increased end-of-life costs, continue to create uncertainty for the industry. Further, the entrenched interest of the fossil fuel industry leads to concerns about the impartiality of the government. This report covers risks from the perspective of the solar industry, and strategies the industry may adopt to mitigate these regulatory and political risks.

This report is broken down into five sections:

- An industry overview, including the effects of the moratorium
- Regulatory changes to prime farmland
- Influence of the fossil fuel industry
- Regulatory changes to pristine landscapes
- Regulatory changes to end-of-life costs

# Renewable Moratorium

The Alberta government's renewable energy moratorium was introduced in August of 2023, and it produced significant uncertainty in the province's renewable energy landscape. During the moratorium, 118 projects, representing $33 billion in investment were affected: at least 53 projects, which would have produced enough electricity to power every Albertan home, were scrapped.[12] Since the moratorium was lifted in February of 2024, sector investment has remained low; there were no project proposals in the 6 months following the change.[3] This dramatic downturn has severely impacted investor confidence in Alberta's renewable energy sector.

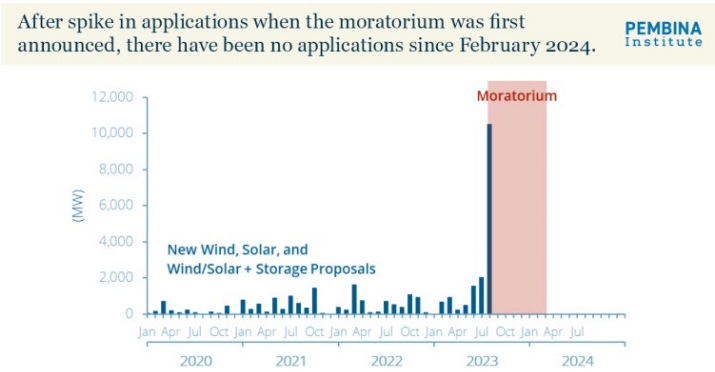


*Figure 2: New Renewable Energy*

This heightened uncertainty led many renewable energy providers to redirect their focus towards places with more stable policy environments, like British Columbia.[4] A sector executive summarized this trend: "When businesses are faced with those types of uncertainties, they pull back a little bit, and they look for other places to invest".[5] Projects in the planning phase have been shifted elsewhere.[6] Projects where work had begun have been put on hold while providers pursue opportunities elsewhere.[7] Should this shift continue, there will be a long-term reallocation of capital and expertise, diminishing Alberta's role as a national leader in renewables.

Overall, the moratorium has increased Alberta's renewables sector investment risk profile. Since the moratorium was lifted, few new project proposals have emerged, suggesting continuing market uncertainty. If Alberta fails to restore investor confidence quickly, the province will cede its competitive advantage in the renewables sector to other jurisdictions.

# Restriction of Development on Farmland

A significant justification of the Alberta government's moratorium on renewable energy development was the preservation of "prime" farmland.[8] The United Conservative Party of Alberta (UCP) has aligned with its rural base, including farmers and agricultural advocates, who argue that allowing renewable energy projects on farmland threatens food security and the long-term sustainability of agricultural communities. Solar developers require large, open spaces with consistent sun exposure to maximize energy output, making farmland an attractive option for solar projects.[9] This dimension of the governing party's policy, therefore, poses a significant threat to solar companies' ability to source suitable land and operate efficiently in the province. Thus, renewable companies face a fundamental policy challenge: how to advance their goals of renewable energy expansion while balancing the government's concern for responsible land use and preserving prime farmland for food production.

## Contested Regulation and Siting Challenges

Current regulation governing renewable project permitting uses the Agriculture Canada Land Suitability Rating System (LSRS).[10] This classification framework ranks agricultural land based on its productivity potential, and it is used by the Alberta government to identify and protect high-yield farmland from development. However, the designation of "prime" farmland is not always clear-cut. The conflicting priorities of farmers and the government versus renewable energy developers gives rise to competing interpretations of what constitutes "prime" farmland under the LSRS framework. Some argue that only Class 1 and Class 2 lands should be protected, while others contend that lower classifications also play a vital role in agricultural sustainability. The inherent subjectivity of setting the LSRS bar to define "prime" farmland fuels policy disputes, as different stakeholders use varying definitions to advance their interests. A policy aimed at protecting prime farmland, therefore, inevitably becomes a point of contention because any classification is arbitrary or biased.

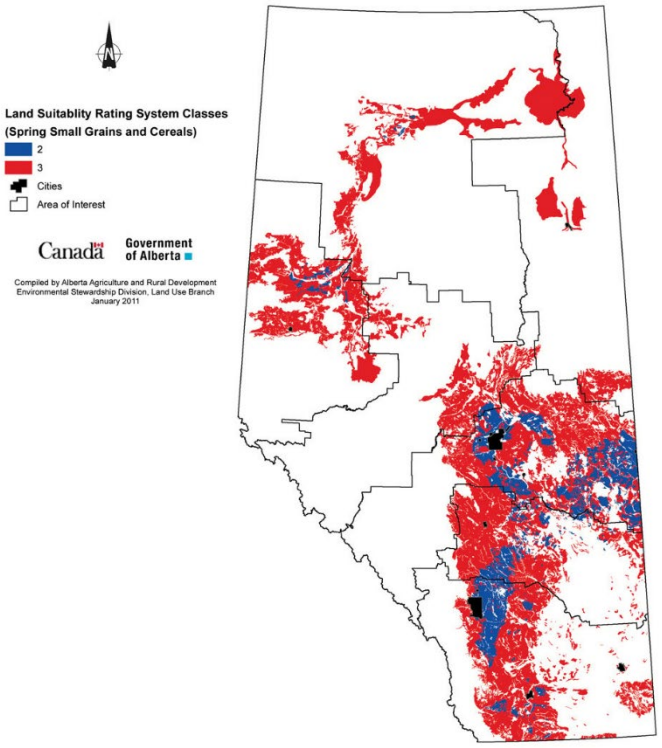


*Figure 3: Land Suitability Rating System*

Compounding this challenge is the Alberta government's disregard for the renewable industry's interests in determining developmental restrictions on farmland. The provincial government has historically prioritized industries that align with Alberta's traditional economic base, including oil, gas, and agriculture, often at the expense of emerging sectors like renewable energy. As a result, solar companies face an uphill battle in navigating restrictive permitting processes, with little political support to challenge these limitations. The influence of entrenched industries makes it difficult to implement policy changes that would provide a clearer and more favourable regulatory environment for renewable developers.

## Mitigation

To address the regulatory barriers imposed by Alberta's restrictions on renewable development on farmland, solar companies should actively lobby the provincial government for a more flexible and balanced approach to land use. A key argument in this advocacy should be shifting focus from prioritizing the preservation of farmland to the strategic end goal of ensuring food security and long-term economic prosperity. In other words, the province is better served by monitoring agricultural sustainability using the metrics of food output capacity and environmental integrity instead of the highly contested "prime" farmland metric. A more pragmatic solution would therefore involve setting clear targets for food production and criteria for responsible land use, and then determining the amount of farmland necessary to meet those targets, rather than enforcing blanket restrictions on all land classified as "prime."

To this effect, solar companies should leverage scientific and economic data to challenge assumptions

about the impact of renewable infrastructure on farmland. The most compelling argumentation lies in the Alberta Utility Commission's own investigative report, which determined that if Alberta pursued an aggressive net-zero renewable expansion strategy, and all development were to take place on Class 2 farmland, less than 2% of this "prime" land would be lost by 2041.[11] In conjunction with this fact, it is important to note that the moratorium was conceived as a prudent response to the concerns of landowners and the AUC regarding the accelerating pace of renewable development, to conduct due diligence about the effects on agricultural sustainability and the environment.[12] Solar companies must therefore strive to demonstrate that the AUC's due diligence has exonerated the renewables industry of any material aggravation of either of these concerns.

Beyond direct lobbying efforts, solar companies must actively engage with farmers, agricultural associations, and rural communities to create mutually beneficial partnerships. The UCP has demonstrated that it is willing to make major policy changes at the direction of the rural electorate. Farmers are therefore key stakeholders in the debate over land use, and their support can significantly influence government decision-making. By forging cooperative agreements with farmers' organizations, solar developers can position themselves as allies rather than adversaries in land-use discussions. A proactive engagement strategy should focus on demonstrating how solar energy projects can offer long-term benefits to farmers, particularly through lease agreements that provide stable and predictable income, as well as a defined reclamation strategy.

## Regulatory and Policy Uncertainty

Alongside the harmful limitations of the 2023 renewable moratorium, its abrupt implementation created a volatile regulatory environment. The provincial government imposed the moratorium in August of 2023 without notice or industry input, leaving renewable companies uncertain about the fate of multi-billion-dollar projects.[13] The pause impacted 118 proposals, affecting 64 developers.[14] This sets a dangerous precedent, signaling those future regulatory shocks could abruptly halt operations and lead to significant financial losses. The unpredictability complicates long-term planning, as previously viable land may suddenly become restricted, forcing companies to reassess project feasibility, causing

delays, and driving up costs.

Furthermore, the uncertainty surrounding Alberta's regulatory landscape profoundly impacts investor confidence. Total investment now frozen in the paused renewable projects is estimated to exceed $33 billion.[15] Renewable energy projects require substantial upfront capital, and financial backers prefer stable environments where risks can be accurately assessed. If policies remain unpredictable, investors may hesitate to commit funding, reducing the availability of capital for solar projects. Moreover, higher perceived risks often translate into less favourable financing terms, such as increased interest rates or stricter lending conditions, making solar projects more expensive to develop. Without regulatory consistency, Alberta's clean energy sector will struggle to compete.

## Mitigation

To counteract the uncertainty created by Alberta's volatile regulatory environment, solar companies must take proactive steps to maintain investor confidence by ensuring transparency, regular communication, and strategic risk management. Given that investors seek stability and predictability, it is crucial for companies to clearly outline how they are navigating regulatory risks and mitigating potential disruptions.

One of the most effective ways to reassure investors is through consistent and structured communication. Solar companies should provide regular updates on regulatory developments, detailing how changes in Alberta's policies might impact ongoing and future projects. This can be done through investor reports, stakeholder briefings, and direct engagement with key financial backers. By keeping investors informed about potential risks and mitigation strategies, companies demonstrate their ability to manage uncertainty, reducing fears of sudden losses or stalled projects.

In addition to keeping investors informed, developing a clear risk mitigation strategy can further bolster confidence. This includes diversifying project locations to avoid over-reliance on Alberta's uncertain regulatory landscape, securing long-term land agreements where possible, and maintaining contingency plans for navigating unexpected policy shifts. Companies should also emphasize their efforts to engage with policymakers and industry groups to advocate for more stable regulations. Demonstrating a

proactive stance in policy discussions reassures investors that the company is actively working to minimize risks rather than simply reacting to them.

# Buffer Zones & Pristine Landscapes

After the moratorium ended, the Alberta government introduced buffer zones in order to preserve pristine viewscapes. Although the provincial government's stated goal for the moratorium was to create certainty within the industry, it has not yet clearly identified what exactly constitutes a pristine landscape. Alberta's Affordability and Utilities Minister Nathan Neudorf has explained there is no universal definition of what constitutes a pristine viewscape, but generally refers to "areas that are unobstructed, natural landscapes".[16]

Along with the sudden halt of renewable energy development, a new series of draft guidelines on where and how solar and wind projects could proceed were announced. First, developers needed to take an "agricultural-first" approach when deciding on where new renewable energy projects could be built.[17] Second, they would have to be aware of a new 35 km buffer zone around pristine viewscapes.[18]

## Buffer Zones Restrictions

The newly imposed 35-kilometer buffer zones surrounding pristine landscapes present a risk of misinterpretation by energy developers. Once again, the lack of a universal definition of what constitutes a pristine landscape creates uncertainty for project planning within these regions.[19] Renewable energy developers may experience delays or cancellations because of the subjective and vague definition of pristine landscapes.[20]

## Project Approval Uncertainty

New regulations state that new projects have to coexist with agriculture and must preserve pristine landscapes. This process involves assessments from the Alberta government, which may make timelines longer and lead to the rejection of plans.[21] These forces developers to revise plans multiple times to meet unclear standards, creating financial and time constraints.

In regard to the agriculture and farmland aspect, developers would have to conduct feasibility studies to demonstrate environmental compatibility. This could significantly increase financial and time investments. Renewable energy developers may have to find different sites that are suboptimal to comply with these

regulations.

## Visual Impact Challenges

Attempts to comply with the regulations by mitigating visual impacts in a variety of ways, such as screening, fencing, and layout adjustments, require significant planning.[22] Finding optimal or effective locations may not be feasible, especially if the project is planned to be large-scale. On top of that, these countermeasures may not even fully satisfy government regulations.

## Local Stakeholders' Perspective and Input

The local community and populations may cause resistance when planning and implementing new energy plants.[23] Public criticism could result in project delays and may require more investment and planning to meet the community's needs. Developers would likely engage in community discussions to address concerns, which adds another layer of uncertainty.

## Mitigations

Considering the vague nature of the regulations, the best course of action for developers will be to mitigate the project visibility in order to best adhere to regulations. Mitigating the visual impact of solar arrays l can be done by implementing strategies such as using coloured and non-reflective materials, strategic placement, screening and buffering, and constructing earth berms.

## Coloured and Non-Reflective Materials.

Choosing coloured materials for solar arrays would allow the facilities to better blend into the existing landscape and minimize the overall visibility when compared to darker-toned panels. As well, utilizing non-reflective glass minimizes glare and greatly reduces visual contrast. Studies show that it can reduce the reflectivity of solar panels to 1-2%.[24] In other words, the visual impacts are mitigated by nearly 95-97% compared to standardized glass.

*Figure 4: Solar Energy Glare without Reflective Materials*

Constructing arrays with textured material can also greatly reduce visibility. For instance, applying

matte finishes can decrease reflectivity.[25] This approach can be used in pristine landscape regions where visual impact is a significant concern.

## Strategic Placement

Since energy developers are required to submit a visual impact assessment, strategic solar array placement is another way to minimize visibility. For instance, placing them in natural basins or valleys can obscure them from view, especially from vantage points or elevated areas.[26] By using existing terrain, solar arrays can better coexist in the context of the environment without obstructing views. Wendel, a clean energy planning firm, conducts line-of-sight studies and uses Google Earth and GIS (Geographic Information System) tools to better understand visibility from key, accessible points.[27] By doing so, visibility can be minimized without the need for extra resource investment.

## Screening and Buffering

To reduce visibility, developers can also consider incorporating natural or artificial barriers and fences around the projects.[28] To illustrate, developers could build projects within an enclosed area with trees surrounding it.

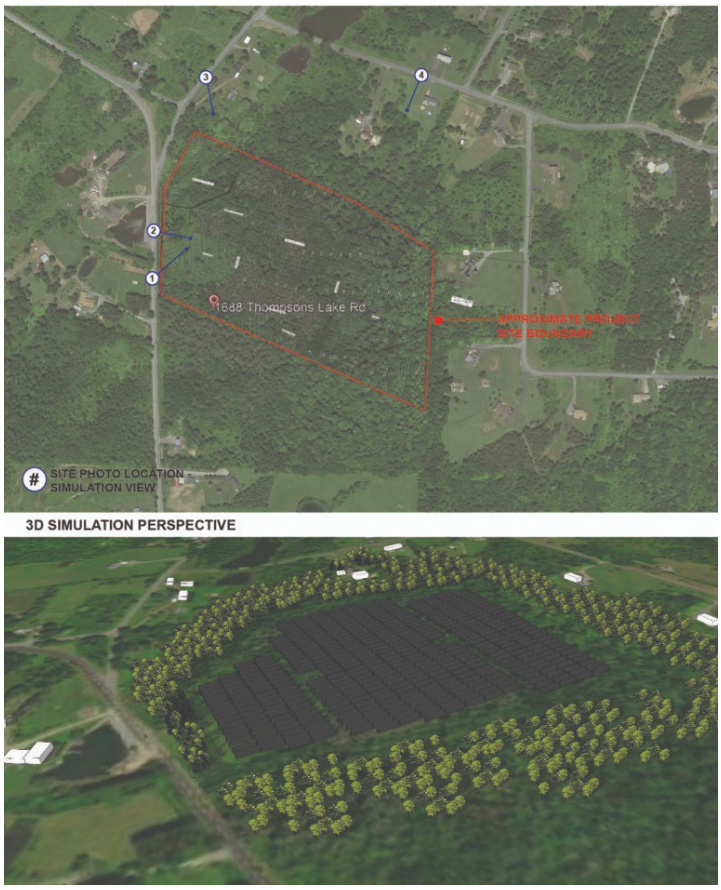


*Figure 5: Visual Impact Assessment*

This can be done either naturally or artificially. Planting vegetation, such as hedgerows or trees, creates a natural fence that blends with the environment.[29] These methods coexist with the environment while providing additional benefits for wildlife.[30] An extension of this approach would be to create earth berms.[31] These are mounds that follow the natural topography to better hide the solar projects. Typically, this is done by flattening and lowering the inner portion for maximum efficiency.

# Oil Industry Interest

Alberta finds itself at a crossroads. With a heavy dependence on oil and gas, the province faces significant political, social, and economic challenges as the global push for renewable energy intensifies.[32] The involvement of the oil and gas industry – including within Albertan politics and provincial leadership – leaves several questions surrounding the recent shift towards renewables within Alberta's socioeconomic environment. Notably, the oil industry seems to retain primacy in relation to the promotion of renewable energy resources and production within the province. Despite public support for renewable energy initiatives, the provincial government placed a 7-month pause – an effective moratorium – on approvals for renewable energy projects over 1 megawatt in August of 2023.[33] These seemingly punitive restrictions on renewable energy development raise red flags concerning the involvement of the oil and gas industry in the decision-making responsible for the moratorium and its associated policy changes.

## Conflict of Interest

It is no secret that the oil industry in Alberta exerts significant influence on the political environment, due to the industry's role in stabilizing and fueling the province's economic growth. As such, Alberta's dependence on oil and gas has always been a determining factor within provincial politics to the point that the industry has been associated with the degradation of democratic practices and accused of subverting the democratic system in order to push through favorable policies for the "oil lobby".[34] In relation to the 2023 moratorium, it was found that the Alberta Electric System Operator (AESO) board – which consists of 7 members – had 3 members who had been previous executives of the fossil fuel giant TC Energy.[35]


*Figure 6: Three Former VPs at TC Energy*

Political pressure can thus be applied from the oil lobby in order to delay or completely block renewable energy developments within the province.

Additionally, the significance of the political power that is wielded by the lobby results in a political environment where politicians may have to cater to the interests of oil and gas officials, perhaps overlooking the needs and benefits of the general populace. Overall, the political influence of the oil lobby constitutes a significant political risk to the renewable industry.

## Mitigation

In matters concerning third-party influence in democratic decision-making and processes, transparency is the best tool to mitigate the risk of bias. Through transparency, the process by which certain choices are made and certain policies are implemented is revealed to observers, thereby allowing stakeholders to determine the trustworthiness of the process they are subject to. Expansion of consultation practices to include the general populace and its representatives, environmental groups, and lobbyists, will foster a balanced political field within which all views on renewable energy would be heard and accounted for. This allows for the establishment of neutral, unbiased advisory groups – unlike the AESO board – that would minimize the risk of political interference by third parties within the democratic process.

Additionally, lobbyists and stakeholders can push for the adoption of clear, long-term policies that balance oil and renewable energy interests. If both cooperate, oil and renewable energy can complement each other's energy production to expand the pool of available energy within the province. The current antagonism is present from the oil industry's refusal to allow the renewable energy industry to overtake its share of the economy. This is born from a fear that renewable energy will eventually become Alberta's dominant form of energy generation. Though the ideal outcome would be for both oil and renewables to work together.

## Economic Competition Between Oil and Renewables

The oil industry has dominated energy production in Alberta for decades. The oil sands heavily contribute to the economy, and the industry garners billions of dollars in investments, whilst sustaining over 130,000 jobs in Alberta.[36] However, with pressure from the federal government to reach net-zero emissions by 2050, including set goals and milestones, the oil industry has begun to feel squeezed.

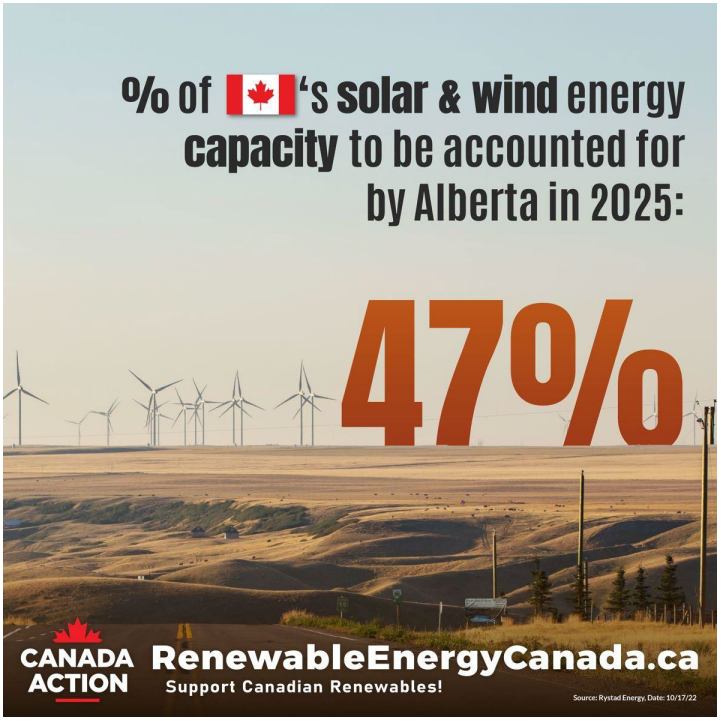


*Figure 7: Alberta Renewable Energy Facts*

Alberta's natural environment favours the implementation of two major sources of renewable energy: solar and wind.[37] The province has massive territories of open, flat ground, coupled with sufficient winds and an abundance of sun. In turn, Alberta has attracted massive investments for the advancement and construction of renewable energy. At the peak of the renewable energy sector's development in 2023, Alberta accounted for 92% of Canada's overall growth in the sector.[38] By the end of 2023, 26% of Alberta's energy was provided by renewable sources.[39] Continuous investment and public support for renewable energy development resulted in the sector rapidly gaining on the non-renewable sector. The moratorium stunted investments in renewables – but did not slow down developments. While the moratorium had paused projects that were in the process of being approved or sought approval, it was not able to block projects that had already gained approval. Thus, Alberta's renewable energy yields for the rest of 2023 were unaffected, and yields in 2024 were affected in a very limited manner.[40] Given the robust nature of the renewable energy industry and the enthusiasm of investments it enjoyed, it is clear that the industry could become an economic competitor to the oil and gas industry within the province.

This explains the antagonistic nature of the oil industry in Alberta towards the renewable energy industry. The economic pressure the latter brings with increased investments, interest, and exponentially increasing energy yields is felt greatly by the oil industry. Perhaps eventually, the rapid growth of the renewable energy industry – stunted as it may be by the moratorium's fallout effects – may begin to pull away at the investment, market shares, and profits from the oil and gas industry's giants. This adverse relationship is worsened by Alberta's political environment, pitting both industries against one another. There are many examples of cooperation between non-renewable and renewable corporations to produce energy with

maximum efficiency, both in Canada and abroad. However, Alberta as a whole does not acknowledge the ability of these two industries to work together for their common good. The political and economic risk resulting from their competition may result in expenditure and production inefficiencies, as well as exacerbate pre-existing sociopolitical issues within the Alberta provincial government relating to third-party interference and the undermining of the democratic process and decision-making.

## Mitigation

To mitigate the detrimental effects of continuous, antagonistic competition between oil and renewable energy corporations, both forms of energy should be framed as complementary to one another. This is not a novel concept – on the global front, Norway's Statoil (now Equinor) diversified from oil-only production into offshore wind projects and low-carbon technologies[41], whilst Saudi Arabia's SaudiAramco is heavily investing into wind and solar energy projects as a part of the nation's Vision 2030 directive, despite being a major oil producer.[42] As such, whether through investments or outright diversification, oil corporations in Alberta do not need to struggle with renewable energy corporations for a limited market; instead, they may open the door to cooperative ventures, allowing not only for benefits present in the form of a shared market and joint development, but also in the form of enhanced energy productive efficiency and efficiencies towards expenditure.

# End-Of-Life Cost

The renewable energy market in Alberta presents plenty of distinctive risks for individual operators and investors. More recently, following the moratorium on renewable energy development[43], reclamation awareness efforts within the Alberta government have begun to make headway. With the resumption of renewable development, the government will now require renewable energy companies to post bonds or securities to cover end-of-life costs for their projects.[44] These new requirements pose complications for new developments, raising the price of new renewable developments and creating further obstacles for entry into the market. This marks Alberta breaking from the rest of Canada, where other jurisdictions have significantly fewer end-of-life regulations standing in the way of development.[45]

*Figure 8: Solar Panel End-Of-Life*

## Investment Sourcing

With the increased upfront cost caused by end-of-life reclamation regulations[46], the ability for solar companies to source private investment has been significantly inhibited. These new regulations add additional costs to construct hardware that is nearly identical in comparison to regulations before the moratorium. So, by increasing the initial investment needed for these projects, Alberta's government is disincentivizing investment in the industry. This impacts market entry, with new firms being unable to secure the necessary funding for projects, which stifles growth and innovation. As the market dries up, investment will be driven out of the province[47], putting the future growth of the renewable industry at risk.

## Mitigation

To mitigate the damages upfront bonds are imposing on the sector, solar companies should lobby the Alberta Government to introduce tax credits, grants, or subsidies. This would allow stakeholders to offset their costs while still providing financial assurances to their end-of-life commitments. These policy responses, accomplish the understood objective of the government, while making the renewable energy

industry, accessible for new investment and growth.

## Vague Costs

To address the lack of confidence in Alberta's renewable energy industry, it is necessary to provide clarity on the specifics of reclamation costs. Currently, with little to no guidance, there is mass uncertainty, driving away investment. There is even confusion regarding who should receive reclamation assets. The office of Minister Neudorf stated that "reclamation costs will be provided directly to the Government of Alberta or could be negotiated with landowners".[48] This leaves the process of making bond payments susceptible to interpretation. What guidance the government has provided allows for "reclamations estimate in the hundreds of thousands of dollars per turbine".[49] While in terms of solar power, it is difficult to even make an estimate, with reclamation pricing being highly dependent on multiple factors unique to each project. Amid such high levels of uncertainty, developers have begun to explore new markets. Driving investment away from Alberta, as evidenced by the rise of renewable projects in British Columbia.[50]

## Mitigation

To address the uncertainty regarding end-of-life costs, the renewable sector should lobby the government to establish clear and standardized formulas for reclamation cost estimates. Taking into consideration the type of project, its scale, and the impact the project may have. Applying a form of standardization to the reclamation process would improve clarity, thereby improving investor confidence in the industry. Formularizing end-of-life cost estimates would prove to be a great improvement to the current lack of guidance from the government.[51] Allowing for renewed confidence and understanding in the renewable energy market.

## Industry Disparity

With the implementation of strict regulations in the renewable market, significant challenges have been presented for developers and investors. Concerning the management of end-of-life projects, the industry faces harsher regulations than those applied to the oil and gas sector.[52] With oil and gas projects having significantly less oversight concerning their actions.[53] This increased scrutiny for the renewable industry is unparalleled by other energy industries in the province and across the country. The Government of Alberta referred to this inequality in regulatory overview of the

industry in a frequently asked questions press release.[54] This disparity in regulatory scrutiny risks stifling innovation and investment in the renewable energy industry. Potentially driving investors to seek other opportunities with more balanced regulatory frameworks.

*Figure 9: Oil Production*

## Mitigation

With regard to the inequalities between the oil and gas industry and renewables, there is a necessity for legislative bodies to harmonize the regulatory overview. To create a level playing field for both industries, regulations concerning renewable projects must be further aligned with those governing oil and gas. This regulatory inequality is best addressed by advocacy groups, who remain in the best position to campaign on behalf of the industry in the most impactful settings. Groups such as the Canadian Renewable Energy Association[55], have begun such efforts. However, recent regulatory developments, such as end-of-life securities, demonstrate the need for continued advocacy to level the playing field for the renewable industry. If regulations, as they stand, continue to advantage the oil and gas industry, renewable investors will continue to seek out markets with more favourable regulations, and so drive renewable energy investment out of the province.

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