

Creating (Un)certainty for Renewable Projects

Review of the impact of Alberta's
renewable energy moratorium one
year later

Will Noel, Jason Wang and Patrick Connolly

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Summary

On August 3, 2023, the Government of Alberta announced a seven-month moratorium on approvals for new wind, solar, hydro, biomass and geothermal energy projects citing the need to review the regulatory development framework.

The month after this surprise announcement saw a surge in applications seeking to be grandfathered under previous rules. After this initial rush, new project applications reached a standstill, with only 13 MW proposed since August 31, 2023. In comparison, so far in 2024 the United States has seen applications for 137,000 MW of renewable energy for its electricity grid, demonstrating that the appetite for investment in renewables remains strong.

Since Alberta's moratorium was announced, 53 projects, representing 8,630 MW of potential generation capacity, have been cancelled.

Taking into account project development and construction timelines, most of the moratorium's impacts on the sector's growth will be seen in 2025, when fewer renewable energy projects are built.

Background

On August 3, 2023, the Government of Alberta announced a seven-month moratorium and inquiry on approving renewable energy development projects, claiming that it was in response to “concerns raised from municipalities and landowners related to responsible land use and the rapid pace of renewables development [in Alberta].”¹ To better understand the potential impact of the moratorium, the Pembina Institute released a factsheet that identified 118 projects representing \$33 billion in investment in the Alberta Electric System Operator’s (AESO) development queue at the time of the announcement.²

In February 2024, the government provided direction on new restrictions based on the seven-month inquiry, including limiting permits on Class 1 and 2 agricultural land and (for wind developments only) within 35 km of protected areas and other “pristine viewscapes.”³ The lack of details or accompanying regulations associated with these new restrictions has driven further uncertainty in the wake of the moratorium (Table 1). While the Government of Alberta provided some clarification via a press conference,⁴ it has yet to provide an official map outlining where new projects can be approved.⁵

Table 1. New restrictions to renewable energy development

Restriction	Status (July 2024)
Agricultural Land Ban	<i>Still in development</i>
No-go Wind Zones for Pristine Viewscales	<i>Still in development</i>
Reclamation Security Rules	<i>Still in development</i>
Agrivoltaics Rules	<i>Still in development</i>

¹ Government of Alberta. “Creating certainty for renewable projects,” media release, August 3, 2023. <https://www.alberta.ca/release.cfm?xID=887605547987E-EABF-5E23-DFF2C9F72DB845E6>

² Jason Wang and Will Noel, *Investment Impact of Alberta’s Renewable Energy Moratorium* (Pembina Institute, 2023). <https://www.pembina.org/pub/investment-impact-albertas-renewable-energy-moratorium>

³ Government of Alberta. “Renewed path forward for renewable energy,” media release, February 28, 2024. <https://www.alberta.ca/release.cfm?xID=898196983DoFA-AECA-5F92-FF655CE1369C4E28>

⁴ Tyson Fedor, “Alberta cracks down on new renewable energy projects and EV drivers,” *CTV News Calgary*, March 1, 2024. <https://calgary.ctvnews.ca/alberta-cracks-down-on-new-renewable-energy-projects-and-ev-drivers-1.6791792>

⁵ A draft version of the map was provided to industry 15 days after the announcement of the new restrictions, as shared by Vittoria Bellissimo, “Alberta #renewableenergy update: Please see the attached draft map of Viewscales and Visual Impact Assessment Zones,” LinkedIn, March 14, 2024. https://www.linkedin.com/posts/vittoria-bellissimo-9298473a_alberta-viewscales-and-visual-impact-assessment-activity-7174159033673605120-VWYn

Revisiting projects in the queue before the moratorium

As of August 2, 2023, 118 renewable energy projects were listed in the AESO’s development queue.⁶ These projects were not yet under construction. Since then, 33 of them have been cancelled⁷ and another 42 have been delayed an average of 15 months (Table 2). The cancelled projects would have added enough capacity to produce 10,600 GWh of electricity per year. For context, that is equivalent to 98% of the average annual electricity consumption of all homes in the province and would have helped to avoid approximately 5 Mt CO₂e in electricity emissions annually.

Table 3 details the current status of each of the 118 projects that were in the development queue when the moratorium was announced.

Table 2. Summary of changes to the 118 projects

Status	Number of Projects Affected	Capacity of Projects (MW)
Operating	6	88
Approved	3	240 (+46 storage)
Advancing*	20	3,540 (+471 storage)
Delayed	42	6,992 (+506 storage)
Cancelled	33	4,847 (+188 storage)
No Change in Status	12	1,778 (+340 storage)
Total	116**	17,485 (+1,551 storage)***

* Includes projects that have made progress through stage 0 (project initiation) and stage 4 (regulatory application).

** Total number has decreased due to projects being merged.

*** Total capacity has changed due to changes in installed capacity of some projects since August 2023.

⁶ *Investment Impact of Alberta’s Renewable Energy Moratorium, 2.*

⁷ Including projects that have disappeared from the queue without first being listed as “Cancelled.”

Table 3. Where are they now? Status of projects identified in *Investment Impact of Alberta's Renewable Energy Moratorium*

Company Name	Project Information			2024 Update
	Name	Planning Area	Size (MW)	Status*
369966 Alberta Inc.	The Rock Solar	Didsbury	466	Cancelled
ABO Wind Canada	Fox Meadows Wind	Provost	150	Delayed (2023-12-01 to 2026-04-01)
	Smoky River Wind	Peace River	160	Advancing (stage 2 to stage 3)
Acestas Power ULC	Duchess DER Solar Battery	Brooks	16 (+7 storage)	Delayed (2024-09-01 to 2025-03-15)
	East Camrose DER Solar Battery	Wetaskiwin	19 (+8 storage)	Advancing (stage 0 to stage 2)
Aira Wind Power Inc.	Aira Solar	Medicine Hat	450	Delayed (2024-12-20 to 2026-01-20)
Algonquin Power	Willow Ridge Wind Battery	Fort Macleod	250	Delayed (2025-11-28 to 2026-09-01)
Alpin Sun	Sol Aurora Solar	Fort Saskatchewan	200	No change in status. Renamed for cluster (P2417 to P2816)
	Airport City Solar	Edmonton	-	Split into smaller projects and listed under Fortis instead (Devon DER solar, Blackmud DER solar and Leduc DER solar)
AltaGas	Glenridge Wind	Empress	150	Cancelled
Archer Cleantech Inc.	Archer Piikani Solar	Fort Macleod	40	Cancelled
ATCO	Anderson DER Solar	Sheerness	10	Delayed (2024-06-01 to 2025-01-15)

Aura Power Renewables	Metiskow DER Solar	Provost	22 (+23 storage)	Approved
	Killarney Lake DER Solar/Battery	Provost	18 (+23 storage)	Approved
	Peace Butte Solar Battery	Medicine Hat	230 (+100 storage)	Delayed (2024-04-01 to 2026-10-01)
	Provost DER Solar	Provost	21	Delayed (2024-11-01 to 2025-11-01)
BluEarth	Prairie Yarrow Wind	Provost	75 (previously 200)	Cancelled
	Bindloss Solar Battery	Empress	100 (+20 storage)	Cancelled
Boralex	Old Elm Wind	Glenwood	60	Cancelled
Cache Island	Rising Sun Solar	Provost	125	Advancing (stage 2 to stage 3)
Canwest Solar and Starlight Energy	Castor West Solar	Hanna	47	Delayed (2024-10-01 to 2025-12-01) and renamed for cluster (P2595 to P2767)
	Legal Solar	Edmonton	125	Delayed (2024-10-01 to 2025-12-01) and renamed for cluster (P2598 to P2776)
	Spruce Grove North Solar	Edmonton	220	Cancelled
	Heritage Wind	Fort Macleod	300	Cancelled
Capital Power	Whitla Solar	Medicine Hat	88	Cancelled
	Aldersyde Solar	High River	200	Cancelled
	Rolling Hills Wind	Provost	190	Cancelled (disappeared from queue)
Capital Power and Public Services and Procurement Canada	Halkirk 2 Wind	Alliance/Battle River	140 (previously 150)	Delayed (in-service date under review)

Capstone Infrastructure	Buffalo Atlee Cluster 1	Empress	12	Operating (2023-11-22)
	Buffalo Atlee Cluster 3 DER	Empress	5	Operating (2023-11-22)
	Kneehill Solar	Hanna	450	Advancing (stage 2 to stage 3)
Capstone Infrastructure and Maxim Power	Buffalo Atlee Cluster 2	Empress	14	Operating (2023-11-22)
Chiniki First Nation	Chiniki Solar	Seebe	40	Cancelled
City of Lethbridge	Chinook DER Solar	Lethbridge	9	Delayed (2024-05-01 to 2024-09-30)
DP Energy	Saamis Solar Park	Medicine Hat	325	Delayed (2025-03-30 to 2026-08-31) and renamed for cluster (P2442 to P2811)
EDF Renewables Canada	Bull Trail Wind	Medicine Hat	300	Delayed (2025-05-30 to 2028-05-01)
	Bull Trail 2 Wind	Medicine Hat	200	Cancelled
EDP Renewables	Arenosum Solar (formerly Blue Bridge Solar)	Empress	150	Delayed (2025-08-01 to 2026-05-26)
	Sounding Creek Solar Battery	Hanna	200 (+50 storage)	Advancing (stage 0 to stage 2) and change in in-service date (2026-12-01 to 2026-09-01)
Elemental Energy	EER Foothills Solar	High River	150	Delayed (2025-09-30 to 2026-09-30)
	High River DER Solar Battery	High River	17 (+19 storage)	Delayed (2024-06-20 to 2026-03-01) and renamed for cluster (P2556 to P2749)
Enel Green Power	Plains Solar Battery	Medicine Hat	200 (+150 storage)	Cancelled
Enerfin Energy Company of Canada	Winnifred Wind Modification	Medicine Hat	60	No change in status
	Big Rock Solar Battery	High River	90 (previously 100) (+40 storage)	Advancing (stage 2 to stage 3)

ENGIE Development Canada	Duchess Solar	Brooks	90	Advancing (stage 2 to stage 3)
	Buffalo Trail North Wind	Medicine Hat	200	Approved
	Buffalo Trail South Wind	Medicine Hat	200	Cancelled
ENMAX	Taber Solar	Vauxhall	45	Delayed (in-service date under review)
Evolugen	Sunrise Solar	Fort Macleod	75	Delayed (in-service date under review)
Fortis	Red Deer DER Solar	Red Deer	18	No change in status. Renamed for cluster (P2177 to P2807)
	Taber DER Solar 1	Vauxhall	16	Cancelled
	Taber DER Solar 2	Vauxhall	15	Cancelled
	Taber DER Solar 3	Vauxhall	12	Cancelled
	Taber DER Solar 4	Vauxhall	13	Cancelled
	Blackmud DER Solar	Edmonton	20	Delayed (2024-09-30 to 2025-10-01) and renamed for cluster (P434 to P2800)
	Leduc DER Solar	Edmonton	62	Delayed (2024-09-30 to 2025-10-01) and renamed for cluster (P435 to P2801)
	Devon DER Solar	Edmonton	20	Delayed (2024-09-30 to 2025-10-01) and renamed for cluster (P436 to P2798)
	Stony Plain DER Solar	Wabamun	12	Operating (2024-05-09)
	Buford DER Solar	Wetaskiwin	13 (previously 15)	Delayed (2024-07-01 to 2024-11-29)
	Acheson DER Solar	Edmonton	20 (previously 8.5)	No change in status. Renamed for cluster (P2176 to P2825)
	Burdett DER Solar Battery Storage	Vauxhall	18 (+18 storage)	Cancelled
	West Brooks DER Solar	Brooks	22	Cancelled
Four Rivers Renewables	Four Rivers Wind	Medicine Hat	450	Cancelled

Greengate	Luna Solar Battery	Brooks	465 (+80 storage)	Delayed (in-service date under review)
	Luna 2 Solar Battery	Brooks	465 (+80 storage)	No change in status
HEP Capital	Alderson Solar	Medicine Hat	100	Delayed (2024-12-02 to 2025-04-10)
	Bullshead DER Solar	Medicine Hat	22	Cancelled
Hive Energy	Bullpound DER Solar	Sheerness	14	Delayed (2024-06-01 to 2024-12-16)
Horus Solar Alberta Ltd.	Kirkcaldy Solar	Stavelly	350	Delayed (2024-09-15 to 2027-02-01) and renamed for cluster (P2373 to P2815)
Joss Wind	Northern Lights	Swan Hills	400	Advancing (stage 2 to stage 3)
Kiwetinohk Energy	Homestead Solar	Fort Macleod	400	Delayed (2024-11-01 to 2026-03-01)
	Granum Solar	Fort Macleod	400	Delayed (2024-11-01 to 2025-11-01)
	Phoenix Solar	Red Deer	170 (previously 300)	Delayed (2024-09-20 to 2026-09-01)
	Springbrook Solar	Red Deer	300	Advancing (stage 1 to stage 2)
Neoen Renewables	Jumbo Solar Battery	Fort Macleod	218 (+75 storage)	Advancing (stage 2 to stage 3)
	Sweetgrass Solar Battery	Fort Macleod	315 (+150 storage)	Advancing (stage 2 to stage 3)
Neyaskweyahk Group of Companies	Ermieskin Cree Nation Solar	Wetaskiwin	80	Delayed (2026-10-31 to 2028-01-12)
Northland	Bow City Solar	Brooks	400	Cancelled
PACE Canada LP	Sundre DER Solar	Caroline	13	Delayed (2024-10-24 to 2026-01-24)
	Mannix Solar Battery	Alliance/ Battle River	59 (+34 storage)	Advancing (stage 1 to stage 3)
	Harvest Sky Solar Battery	Hanna	15 (previously 40) (+14 storage)	Advancing (stage 1 to stage 3)
Paul First Nation	Paul Band Solar	Wabamun	37	No change in status. Renamed (P2140 to P2826)

Potentia Renewables	Prominence Solar	Lethbridge	80	Delayed (2025-09-05 to 2026-02-02)
Proteus	Hays DER Solar (formerly Hays DER Solar 1 and 2)	Vauxhall	40	Advancing (stage 1 to stage 2). Merged and renamed for cluster (P2620 and P2621 to P2786)
	Proteus Solar 2 Battery (formerly Hays Solar 2 Battery)	Vauxhall	185 (+60 storage)	No change in status. Renamed for cluster (P2625 to P2793)
Pteragen	Peace Butte Wind	Medicine Hat	120	Delayed (2025-08-31 to 2026-11-02)
RealPart	Calgary Area Solar	Calgary	150	Cancelled
Renewable Energy Systems Canada	Oyen Wind	Hanna	250	No change in status
	Nova Solar	Strathmore/Blackie	150	Delayed (2025-01-31 to 2026-08-01)
	Forty Mile Wind Phase 2	Medicine Hat	134	Advancing (stage 2 to stage 3)
	Oyen Wind Phase II	Hanna	216	Delayed (2026-09-01 to 2027-09-01)
	Western Solar	Calgary	150	Advancing (stage 0 to stage 2)
Saturn Power Inc.	Springbrook West Solar	Red Deer	20	Cancelled (disappeared from queue)
Solar Krafte	Solar Krafte Vauxhall	Vauxhall	60	Delayed (2024-06-01 to 2025-12-15)
	Rainier Solar	Brooks	450	Cancelled (disappeared from queue)
Spirit Pine Energy	Lone Pine Wind	Hanna	466	Delayed (2024-12-01 to 2026-07-01)
St Albert Solar Stl Inc	St. Albert Solar	Edmonton	200 (previously 400)	No change in status. Renamed for cluster (P2657 to P2777)
Suncor	Forty Mile Granlea Modification	Medicine Hat	28	Operating (2023-12-01)
Sunset Solar Inc	Sunset Solar	Vauxhall	60	Cancelled
SWITCH Power	Cypress North DER Solar	Empress	15	Advancing (stage 0 to stage 2)
Three Hills Power Corp.	Three Hills DER Solar	Hanna	18 (previously 14)	No change in status. Purchased by Three Hills Power Corp. and renamed (P2565 to P2823)

TransAlta	Riplinger Wind	Glenwood	300	Cancelled (disappeared from queue)
	Tempest Wind	Lethbridge	100	No change in status
	Red Rock Wind	Medicine Hat	100	Cancelled
	Sunhills Solar	Wabamun	130	Cancelled
	Willow Creek 1 Wind	Fort Macleod	70	Cancelled
	Willow Creek 2 Wind	Fort Macleod	70	Cancelled
Universal Kraft	UK LS5 Solar	Valleyview	25	Delayed (2026-01-01 to 2026-09-01)
	UK LS1 Solar	Valleyview	448	Delayed (2026-01-01 to 2027-02-01)
Universal Kraft and Korkia	UK Solar East	Hanna	400	Advancing (stage 2 to stage 3)
Unknown	Diamond Solar Battery	Seebe	60	Advancing (stage 0 to stage 2)
Voltarix Group	Fortis Moon Lake DER Solar	Drayton Valley	17	Operating (2024-05-29)
Westbridge Energy Corp	Georgetown Solar	Strathmore/Blackie	230	Delayed (2025-04-30 to 2026-11-16)
	Sunnynook Solar Battery	Sheerness	280 (+100 storage)	Delayed (2024-08-01 to 2027-05-01)
	Dolcy Solar Battery	Provost	300 (previously 200) (+100 storage)	Advancing (stage 2 to stage 3)
	Eastervale Solar Battery	Provost	300 (+200 storage)	Delayed (2025-03-01 to 2027-10-01)
	Red Willow Solar Battery	Alliance/Battle River	225 (+200 storage)	No change in status. Renamed (P2569 to P2789)

* Based on definitions provided by the AESO: stage 0 (project initiation), stage 1 (scoping), stage 2 (assessment), stage 3 (regulatory preparation) and stage 4 (regulatory application).⁸

⁸ Alberta Electric System Operator, “Connection Process.” <https://www.aeso.ca/grid/connecting-to-the-grid/connection-process/>

Identifying projects in the queue after the moratorium

An immediate surge of projects in the queue

Following the announcement of the moratorium, several developers sought to join the AESO cluster study process — a new process under which projects would be approved in groups (or clusters) rather than on a project-by-project basis⁹ — and advocated to be grandfathered under the pre-moratorium project development rules.¹⁰ Projects were required to submit to the AESO a completed System Access Service Request by 11:59 p.m. on August 31, 2023, in order to qualify.¹¹ This led to a flood of 147 new wind, solar, and wind/solar + storage project proposals in the month of August 2023, representing five times the capacity of all projects listed the previous month and more proposals than all of 2020, 2021 and 2022 combined (Figure 1).

Then application rates dropped off

Since that initial rush in August 2023, only three projects have been added to the AESO queue (Figure 1), all of them solar. These three projects, totalling 13 MW of generation capacity, present a stark contrast to the 3,100 MW of solar generation proposed in the months leading up to the moratorium.

It appears that the moratorium created sufficient uncertainty in the renewable energy sector even after it formally ended in February 2024 that new applications have, for now, reached a standstill. In the first seven months of 2024, the United States saw nearly 137,000 MW of new

⁹ The AESO started the cluster study process with engagement in May 2022 and announced details on March 28, 2023. The stated purpose of the cluster initiative is to “streamline the connection process to better manage the growing volume of generation projects within a progressively complex... system.” The first group of projects was to be reviewed together starting on September 1, 2023.

Alberta Electric System Operator, “Connection Process Streamlining.” <https://www.aesoengage.aeso.ca/connection-process-streamlining>

¹⁰ Several developers and renewable energy associations recommended that the Alberta Utilities Commission (AUC) grandfather existing application under the rules that applied prior to the release of the AUC’s moratorium inquiry report, as consistent with previous AUC proceedings, especially for companies that were participating in the cluster study process.

Alberta Utilities Commission, *Renewable approval pause period – stakeholder comments and responses*, August 28, 2023, 343, 361, 399, 406, 412, 464. https://media.auc.ab.ca/prd-wp-uploads/regulatory_documents/Consultations/2023-08-28-RenewableApprovalPausePeriod-StakeholderComments.pdf

¹¹ Alberta Electric System Operator, “Connection Process Streamlining – Implementation Update,” July 20, 2023, 40. <https://www.aesoengage.aeso.ca/31713/widgets/131604/documents/109613>

wind and solar project applications, showing there remains a strong appetite for renewable energy investment in North America.¹²

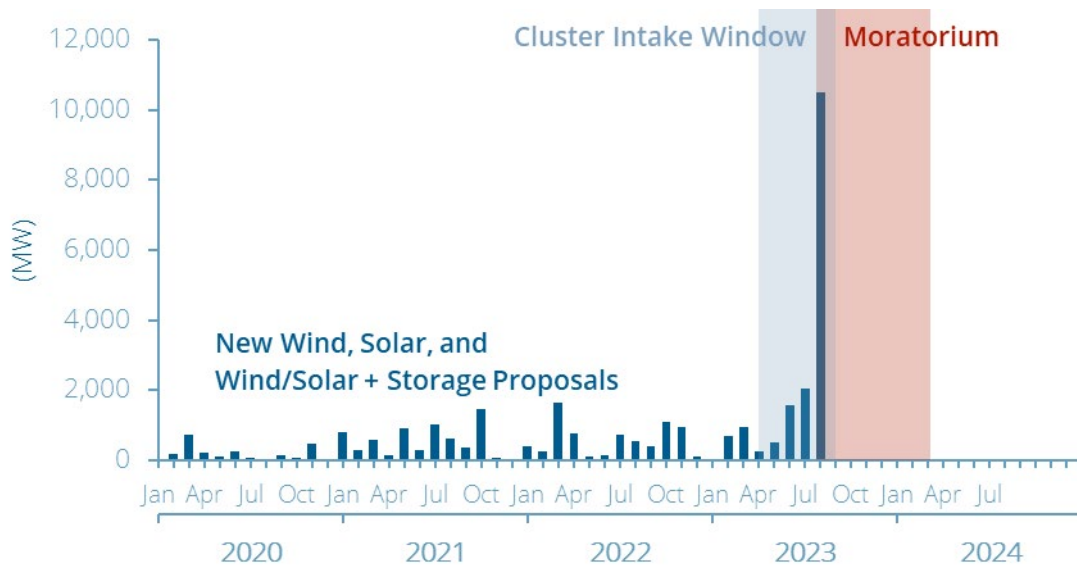


Figure 1. New renewable energy and energy storage project proposals before and after the announcement of the moratorium

Source: Alberta Electric System Operator¹³

Conclusion: Where things stand one year later

In total, 53 projects representing a total of 8,630 MW (including attached storage capacity) have been cancelled in the last year (Figure 2). This includes an additional 20 projects that were not in Table 3, as they were part of the immediate rush to be grandfathered under the regulations that were in place for renewables before the moratorium (Table 4). The list of cancelled projects does not include the projects that withdrew from the AESO queue and rejoined under the same or a different name, which are treated as the same project.¹⁴ While it is not uncommon for some projects to be cancelled, the rate of cancellations has increased substantially since the beginning of the moratorium.

¹² Chris Talley and Steven Zhang, “Tracking U.S. ISO & utility interconnection queues,” July 30, 2024. <https://www.interconnection.fyi/>

¹³ Alberta Electric System Operator, “Connection Project Reporting.” <https://www.aeso.ca/grid/transmission-projects/connection-project-reporting/>

¹⁴ The Pembina Institute used the best available public information, including the location of proposed projects, to determine if cancelled projects were relisted under a different name.

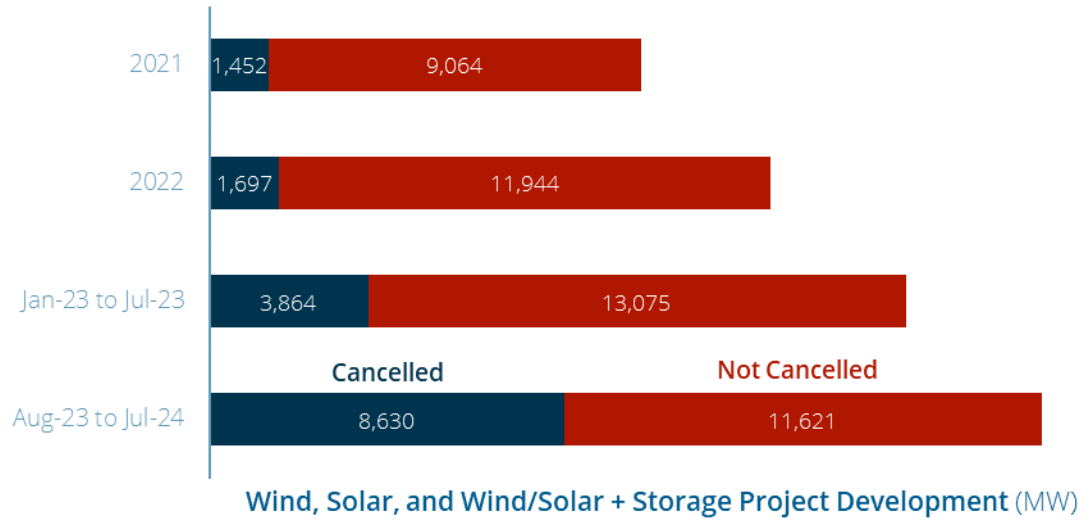


Figure 2. Cancelled renewable energy and storage projects before and after the announcement of the moratorium

Source: Alberta Electric System Operator¹⁵

¹⁵ “Connection Project Reporting.”

Table 4. Cancelled wind, solar and battery projects not included in Table 3

Company Name	Project Information		
	Name	Planning Area	Size (MW)
ABO Wind	Alix Solar Battery	Alliance/Battle River	125 (+50 storage)
Acestes Power ULC	Ponoka DER Solar Battery	Wetaskiwin	18 (+8 storage)
Aura Power Renewables	Amisk Solar Battery	Wainwright	150 (+100 storage)
	Sunland Solar Battery	Wainwright	120 (+100 storage)
Canadian Solar	Grassland Solar Battery	Empress	200 (+200 storage)
	Innisfree Solar Battery	Vegreville	100 (+100 storage)
Crescent Point	Fox Creek DER Solar	Fox Creek	10
EDF Renewables	North Slope Solar	Medicine Hat	200
	Red Rock Wind	Medicine Hat	250
	Kainai Pe-na-koyim Wind	Lethbridge	300
Enbridge	Chin Chute SCR3 Wind	Lethbridge	130
Harline Engineering	ENMAX DER Solar	Calgary	16
Invenergy	Cordel Wind	Hanna	200
	Milo Wind	Strathmore/Blackie	200
McLaughlin Wind LP	McLaughlin Wind Battery	Fort Macleod	180 (+51 storage)
Northern Valley	Irish Creek DER Wind	Lloydminster	69
Northland Power	Midnight Solar	Medicine Hat	465
NU-E Energy Corp	Jenner DER Solar	Empress	26
Prairie Home 2 Wind	Prairie Home Solar & Wind Battery	Vauxhall	130 (+50 storage)
Renewable Energy Services Ltd	Renewable Energy Service Wind	Fort Macleod	47

Acknowledgements

The Pembina Institute recognizes that the work we steward and those we serve span the lands of many Indigenous peoples. We respectfully acknowledge that our organization is headquartered in the traditional territories of Treaty 7, comprising the Blackfoot Confederacy (Siksika, Piikani and Kainai Nations); the Stoney Nakoda Nations (Goodstoney, Chiniki and Bearspaw First Nations); and the Tsuut'ina Nation. These lands also include the homeland of the Otipemisiwak Métis Government (Districts 5 and 6).

These acknowledgements are part of the start of a journey of several generations. We share them in the spirit of truth, justice and reconciliation, and to contribute to a more equitable and inclusive future for all.
