

Introduction

The following report provides information on the long term adequacy of the Alberta electric energy market. The report contains metrics that include tables on generation projects under development and generation retirements, an annual reserve margin with a five year forecast period at the time of system peak, a two year daily supply cushion, and a two year probabilistic assessment of the Alberta Internal Load (AIL). The Long Term Adequacy (LTA) Metrics provide an assessment and information that can be used to facilitate further assessments of long term adequacy. This report is updated quarterly in February, May, August, and November. Inquiries on the report can be made at forecast@aeso.ca.

Summary of Changes since Previous Report

New Generation and Retirements Metric

Projects completed and removed from list:

- FortisAlberta Strathmore 151S DER Solar 1
- FortisAlberta Strathmore 151S DER Solar 2
- FortisAlberta Brooks 121S DER Solar (83L)
- FortisAlberta Brooks 121S DER Solar (257LE)
- Travers Solar Phase 2*
- ATCO Elmworth 731S DER Gas
- Medicine Hat CMH Unit 17 Gas

* To be fully energized by Q4 2022.

Generation Projects moved to “Active Construction”:

- Enel Grizzly Bear Wind
- BER Hand Hills Wind LP MPC Wind
- FortisAlberta High River 65S DER Gas
- Suncor Forty Mile Granlea Solar Phase 2
- ATCO Mercer Hill 728S DER Battery

Generation projects moved to “Regulatory Approval”:

- Buffalo Plains MPC Wind
- Enerfin Winnifred MPC Wind
- Enerfin Winnifred Wind Modification
- EDF Bull Trail Wind

Generation projects that have been added to “Announced, Applied for AESO Interconnection, and/or Applied for Regulatory Approval”:

- Kiwetinohk Granum MPC Solar
- Enfinite Blackie MPC Battery
- Enfinite Bowmanton MPC Battery
- Enfinite Foothills MPC Battery
- Enfinite Nilrem MPC Battery
- Shell SR Scotford Solar

- TA Alberta Hydro WaterCharger Battery
- EER Foothills Solar II
- Fortis Nilrem 574S DER Battery
- CEC Beddington 162S Gas
- Greenlight MPC Gas
- EDF Cypress 3 Wind
- EDF Bull Trail 2 Wind
- Fortis Ponoka 331S DER Solar Battery
- Fortis Duchess 339S DER Solar Battery
- Cache Rising Sun Solar
- Fortis Peace Butte 404S DER Wind
- PRD Halsbury Solar
- CP Genesee GN2 Modification
- Red Deer Red Deer MPC Solar
- Kneehill MPC Solar
- Dolcy Solar Battery
- ATCO Goodfare 815S DER Battery
- CP Rolling Hills MPC Wind

Generation projects that have been added to on hold status:

- -

Generation projects that have been removed:

- ATCO Monitor 2 774S DER Solar
- Fortis Duchess 339S DER Solar

Other changes to generation projects:

Project	Change
RESC – McLaughlin WAGF	New ISD of Jun-2023 from Nov-2022
Greengate Power – Paintearth Wind Farm	New ISD of Jul-2023 from Apr-2023
Turning Point Gen – Canyon Creek PHES Storage	New ISD of Jul-2024 from Oct-2023
Spirit Pine – Lone Pine WAGF	New ISD of Dec-2024 from Jan-2999
HEP Capital – Alderson Solar	New ISD of Dec-2022 from Jan-2024
FortisAlberta – 255S Vulcan Faribault Farms P/V	New ISD of Sep-2022 from Feb-2022
FortisAlberta – 498S Tilley DG PV	New ISD of Jul-2022 from Mar-2022
FortisAlberta – Coaldale 254S DER Solar 3	New ISD of Apr-2022 from Feb-2022
FortisAlberta – Monarch 492S DER Solar	New ISD of Apr-2022 from Feb-2022
BowArk Energy – Lanfine North Wind WAGF	New ISD of Nov-2022 from Sep-2022
TransAlta – Garden Plain Wind	New ISD of Aug-2022 from Jul-2022
FortisAlberta – Conrad DER Solar	New ISD of Jun-2022 from Feb-2022
FortisAlberta – Namaka DER Solar	New ISD of Oct-2021 from Apr-2022
FortisAlberta – Conrad DER Solar 2	New ISD of Jun-2022 from Feb-2022
ATCO – Michichi DER Solar	New ISD of Nov-2023 from Nov-2022
Solar Krafte – Rainier	New ISD of Dec-2023 from Jul-2024
Pengrowth – Cold Lake Area Energy Centre	New ISD of Apr-2025 from Apr-2024
EDF – Cypress Wind	New ISD of Aug-2022 from Nov-2022
ENGIE – Buffalo Trail North MPC Wind	New ISD of Aug-2024 from Mar-2023
ATCO – Sarah Lake 743S DER Geothermal	New ISD of Jul-2022 from Jun-2022
ATCO – Michichi Creek 802S DER Solar	New ISD of Feb-2023 from Jun-2022
RESC – Enterprise MPC Solar	New ISD of Jun-2023 from Aug-2022

FortisAlberta – High River 65S DER Gas	New ISD of Nov-2022 from Jan-1999
EDF – North Slope Solar	New ISD of Sep-2023 from Aug-2023
FortisAlberta – Vulcan 255S DER Solar	New ISD of Jun-2023 from May-2022
ATCO – Fieldgate 824S DER Gas	New ISD of Oct-2022 from Jun-2022
RESC – Aurora MPC Solar	New ISD of Jul-2023 from Dec-2022
Old Elm Wind – Old Elm Wind	New ISD of Dec-2023 from Jan-1999
EDF – Cypress 2 Wind	New ISD of Aug-2022 from Nov-2022
RESC America Development – RESC Big Sky MPC Solar	New ISD of Jan-2024 from Jun-2023
ATCO – Oyen 767S DER Solar	New ISD of Dec-2022 from Jul-2022
Fortis – Blackmud DER Solar	New ISD of Apr-2024 from Nov-2022
Fortis – Leduc DER Solar	New ISD of Apr-2024 from Nov-2022
Fortis – Devon DER Solar	New ISD of Apr-2024 from Nov-2022
Kiwetinohk – Homestead MPC Solar	New ISD of Mar-2024 from Dec-2023
ENMAX – Barlow Park DER Solar	New ISD of Oct-2022 from Sep-2022
Greengate – Luna 2 MPC Solar Battery	New ISD of Apr-2024 from Mar-2024

Reserve Margin Metric

The reserve margin has been updated to reflect changes to the project list and the updated 2021 LTO system load forecast.

Supply Cushion Metric

The forecast supply cushion has been updated to reflect the new time period and updated using the 2021 LTO Alberta Internal Load forecast.

Two Year Probability of Supply Adequacy Shortfall Metric

New values for the metric have been calculated with Total Energy Not Served equaling 11 MWh. This value is below the 1,982 MWh threshold. The forecast PSAS has been updated to reflect the new time period and updated using the 2021 LTO Alberta Internal Load forecast.

New Generation Projects and Retirements Metric

The New Generation Projects and Retirements Metric is a summary of generation at various stages of development in Alberta and is shown in Tables 1 to 5 below. In Alberta's deregulated electricity market competitive forces determine the location, magnitude, and timing of new generation additions. Information on prospective generation additions and retirements provides context for the future market in Alberta. The information is drawn from a variety of public sources and includes new generation, changes to existing generation and the retirement of generating units. Changes in project in-service dates (ISDs) and regulatory stages occur as projects move forward and/or market conditions change. Current information on connection project ISDs can be found in the [AESO Project List](#) and information on power plant applications can be found at the [Alberta Utilities Commission](#) website.

Table 1: Generation Projects under Construction

Sponsor(s)	Project Name	Fuel	Unit Capacity	ISD
Suncor	Forty Mile Granlea WAGF	Wind	200	May-2022
Fortis	Monarch 492S DER Solar	Solar	24	May-2022
Fortis	Namaka DER Solar	Solar	20	May-2022
Capital Power	Genesee 3 Change	Coal	6	May-2022
ATCO	Mercer Hill 728S DER Battery	Storage	20	Jun-2022
Greengate Power	Wheatland WAGF	Wind	120	Jun-2022
Fortis	Conrad DER Solar 1	Solar	23	Jun-2022
Fortis	Conrad DER Solar 2	Solar	22	Jun-2022
Fortis	498S Tilley DG PV	Solar	22	Jul-2022
ATCO	Sarah Lake 743S DER Geothermal	Gas	21	Jul-2022
Fortis	Spring Coulee 385S Solar DG	Solar	29	Aug-2022
CNRL	Primrose East 641S Gas	Gas	32	Aug-2022
ATCO	Ethel Lake 717S DER Wasteheat	Wasteheat	19	Aug-2022
TransAlta	Garden Plain Wind	Wind	131	Aug-2022
Joss Wind	Jenner MPC WAGF	Wind	122	Aug-2022

Joss Wind	Jenner WAGF - Phase 2	Wind	71.4	Aug-2022
Joss Wind	Jenner Wind Phase 3	Wind	106	Aug-2022
EDF	Cypress Wind Project Connection	Wind	201.6	Aug-2022
Fortis	Enchant 447S DER Solar	Solar	23	Aug-2022
Fortis	Enchant 447S DER Solar 2	Solar	18	Aug-2022
Fortis	Enchant 447S DER Solar 3	Solar	10	Aug-2022
Fortis	Enchant 447S DER Solar 4	Solar	24	Aug-2022
Fortis	255S Vulcan Faribault Farm DG P/V	Solar	22	Sep-2022
Fortis	Buffalo Atlee Cluster 1 WAGF	Wind	18	Sep-2022
Fortis	Buffalo Atlee Cluster 3 WAGF DER	Wind	17	Sep-2022
EPCOR	WSI DG Solar	Solar	13.6	Sep-2022
EPCOR	WSI DG Solar	Storage	4	Sep-2022
Fortis	Buffalo Atlee Cluster 2	Wind	14	Sep-2022
BER Hand Hills Wind LP	Hand Hills MPC Wind	Wind	145	Sep-2022
Wild Run	Grizzly Bear Wind	Wind	120	Oct-2022
Fortis	Stavely 349S DER Solar	Solar	8.5	Oct-2022
Pattern	Lanfine North Wind	Wind	150.5	Nov-2022
Fortis	High River 65S DER Gas	Gas	13	Nov-2022
Fortis	Empress 394S DER Solar 1	Solar	22.5	Nov-2022
Fortis	Empress 394S DER Solar 2	Solar	16	Nov-2022
Fortis	Bassano 435S DER Solar	Solar	10	Feb-2023
Nutrien	Redwater Cogen	Gas	30	Mar-2023
Dunmore Solar Inc.	Dunmore Solar	Solar	216	Apr-2023
RESC	Enterprise MPC Solar	Solar	65	Jun-2023

Greengate Power	Stirling WAGF	Wind	115	Jun-2023
Fortis	Vulcan 255S DER Solar	Solar	15	Jun-2023
Cascade	Combined Cycle Phase 1	Gas	450	Sep-2023
Cascade	Combined Cycle Phase 2	Gas	450	Sep-2023
ATCO	Michichi DER Solar	Solar	75	Nov-2023
Suncor	Forty Mile Granlea Solar Phase 2	Solar	220	Nov-2023
ENMAX	FMC Change	Gas	18	Dec-2023
Suncor	Base Plant Cogen	Gas	806	Dec-2024
Total (MW)			4,300	

*Unit Capacity – Expected MW capacity; ISD – Estimated in-service date

Table 2: Generation Projects with Regulatory Approval

Sponsor(s)	Project Name	Fuel	Unit Capacity	ISD
ATCO	Three Hills 770S DER Solar 1	Solar	25	May-2022
ATCO	Michichi Creek 802S DER Solar	Solar	25	May-2022
Pembina	Empress Cogen	Gas	46	Jun-2022
BowArk	Drywood Battery	Storage	33.9	Jun-2022
Fortis	High River 65S DER Gas	Gas	5	Jul-2022
Fortis	Gleichen DG Solar	Solar	13.3	Jul-2022
Naturener	Wild Rose 1 Wind Farm	Wind	192	Aug-2022
Naturener	Wild Rose 2 Wind Farm	Wind	218	Aug-2022
Fortis	High River 65S DER Gas	Gas	5	Aug-2022
RESC	Hilda MPC Wind	Wind	100	Aug-2022
EDF	Cypress 2 Wind	Wind	46.5	Aug-2022
Suncor	Forty Mile Maleb WAGF	Wind	200	Sep-2022

Fortis	Buffalo Atlee Cluster 4 DER Wind	Wind	10	Sep-2022
TCE	Saddlebrook Solar Storage	Solar	102.5	Sep-2022
TCE	Saddlebrook Solar Storage	Storage	6.5	Sep-2022
Fortis	Chappice Lake 649S DER Solar	Solar	15	Sep-2022
ATCO	Fieldgate 824S DER Gas	Gas	16	Oct-2022
ENMAX	Barlow Park DER Solar	Solar	27	Oct-2022
ATCO	Youngstown 772S DER Solar	Solar	6	Oct-2022
EDPR	Sharp Hills Wind Farm	Wind	297.1	Oct-2022
MECL	Kirkcaldy MPC Solar	Solar	350	Nov-2022
Fortis	Metiskow 648S DER Solar	Solar	22.5	Dec-2022
Fortis	Metiskow 648S DER Solar	Storage	22.5	Dec-2022
Fortis	Killarney Lake 267S DER Solar/Battery Storage	Solar	22.5	Dec-2022
Fortis	Killarney Lake 267S DER Solar/Battery Storage	Storage	22.5	Dec-2022
ATCO	Oyen 767S DER Solar	Solar	15	Dec-2022
ENMAX	FMC DER Cogen	Gas	7	Dec-2022
Fortis	Joffre 535S DER Solar	Solar	25	Dec-2022
Fortis	Joffre 535S DER Solar 2	Solar	22	Dec-2022
EPC	SS-24 DER Solar	Solar	37	Dec-2022
ATCO	Michichi Creek 802S DER Solar	Solar	13.5	Feb-2023
ATCO	Michichi Creek 802S DER Solar	Storage	8	Feb-2023
Invenenergy	Schuler Wind	Wind	150	Mar-2023
BluEarth	Wheatcrest MPC Solar	Solar	60	Mar-2023
Capital Power	Genesee 1 Repower GT (unit 6 Gas)	Gas	430	May-2023

Enbridge	WhiteTail Peaking Station	Gas	200	May-2023
RESL	Renewable Energy Service WAGF	Wind	47	Jun-2023
Greengate Power	Paintearth Wind Farm	Wind	150	Jul-2023
Potentia	Stirling WAGF Phase 2	Wind	26	Jul-2023
Capital Power	Genesee 2 Repower GT (unit 7 Gas)	Gas	430	Aug-2023
Pteragen	Peace Butte MPC Wind	Wind	122	Sep-2023
OEWFL	Old Elm Wind	Wind	60	Dec-2023
Capital Power	Genesee 1 Repower ST	Gas	286	Jan-2024
Capital Power	Genesee 2 Repower ST	Gas	286	Apr-2024
Prairie Lights Power	Grand Prairie MPC Gas	Gas	400	Jun-2024
Turning Point Gen	Canyon Creek PHES Storage	Storage	75	Jul-2024
Sunset Solar Inc.	Sunset Solar	Solar	60	TBD
TransAlta	Sundance Unit 5 Gas	Gas	795	TBD
ATCO	Ksituan River 754S DER Gas	Gas	66	TBD
PetroChina	MacKay-Phase 1	Gas	85	TBD
Syncrude	Mildred Lake (Base Plant)-Phase 1	Gas	85	TBD
Sequoia Energy	Schuler WAGF (MPC)	Wind	100	TBD
Heartland	Rainbow Lake Gas	Gas	45	TBD
Suncor	Hand Hills Wind Energy Project	Wind	80	TBD
Imperial Oil	Kearl - Phase 2	Gas	100	TBD
Imperial Oil	Kearl - Phase 3	Gas	35	TBD
Pattern Development	Lanfine South Wind	Wind	129.6	TBD
Total (MW)			6,680	

Table 3: Generation Projects that have been Announced, Applied for AESO Connection, and/or Applied for Regulatory Approval

Sponsor(s)	Project Name	Fuel	Unit Capacity	ISD
Fortis	Castle Meridian DER Wind	Wind	22	May-2022
Fortis	Rimbey 297S DER Gas	Gas	7.25	Jul-2022
ATCO	Poplar Hill 790S DER Gas	Gas	16.5	Sep-2022
Fortis	Hughenden 213S DER Battery	Storage	20	Sep-2022
Wild Run	Grizzly Bear Wind Phase 2	Wind	34	Oct-2022
Capital Power	Genesee GN2 Modification	Coal	20	Oct-2022
Fortis	Taber 83S DER Solar 1	Solar	19	Nov-2022
Fortis	Taber 83S DER Solar 2	Solar	16	Nov-2022
Fortis	Taber 83S DER Solar 3	Solar	16	Nov-2022
Fortis	Taber 83S DER Solar 4	Solar	14	Nov-2022
ATCO	Sturgeon 734S DER Battery	Storage	20	Nov-2022
Fortis	Nilrem 574S DER Battery	Storage	40	Nov-2022
Fortis	Cutting Lake 227S DER Gas	Gas	12	Nov-2022
HEP Energy	Alderson Solar	Solar	100	Dec-2022
GL&PC	Sollair Solar	Solar	90	Dec-2022
Greencells	Estuary Solar	Solar	200	Dec-2022
Claresholm Solar LP	Claresholm Solar	Solar	20	Dec-2022
ATCO	Thornton 2091S DER Gas	Gas	17.1	Dec-2022
Fortis	Bullshead 523S DER Solar	Solar	22.3	Jan-2023
Solar Krafte	Vauxhall	Solar	150	Feb-2023
Solar Krafte	Brooks	Solar	400	Feb-2023

Enerfin	Winnifred MPC Wind	Wind	90	Feb-2023
Buffalo Plains farm	Buffalo Plains MPC Wind	Wind	466	Apr-2023
CEC	Beddington 162S Gas	Gas	26	May-2023
Kiwetinohk	Opal Gas	Gas	101	May-2023
Pembina	Duvernay Cogen	Gas	46	Jun-2023
COL	Chinook 181S DER Solar	Solar	8.75	Jun-2023
EER	Foothills Solar II	Solar	100	Jun-2023
Shell	SR Scotford Solar	Solar	58	Jun-2023
PRD	Halsbury Solar	Solar	84	Jun-2023
RESC	Forty Mile MPC Wind	Wind	400	Jun-2023
ATCO	Goodfare 815S DER Battery	Storage	20	Jun-2023
EER	Foothills MPC Solar	Solar	150	Jun-2023
Capital Power	Halkirk 2 MPC Wind	Wind	150	Jul-2023
Capital Power	Whitla MPC Solar	Solar	88	Jul-2023
TransAlta	Willow Creek 1 MPC Wind	Wind	70	Jul-2023
TransAlta	Willow Creek 2 MPC Wind	Wind	70	Jul-2023
RESC	Nova MPC Solar	Solar	150	Jul-2023
Enerfin	Winnifred Wind Modification	Wind	38	Jul-2023
PR	Prominence MPC Solar	Solar	80	Jul-2023
GSI	Georgetown Solar	Solar	230	Aug-2023
Georgetown	Battery Addition	Storage	100	Aug-2023
EDF	North Slope Solar	Solar	200	Sep-2023
EDF	Bull Trail Wind	Wind	300	Sep-2023
Sol	Aurora Solar Battery	Solar	200	Sep-2023

Sol	Aurora Solar Battery	Storage	100	Sep-2023
Fortis	West Brooks 28S DER Solar	Solar	23	Sep-2023
Clem	Geo Castle Meridian MPC Solar	Solar	75	Sep-2023
CP	Genesee MPC Battery	Storage	0	Sep-2023
DP Energy	Saamis Solar Park	Solar	325	Sep-2023
ENGIE	Duchess Solar	Solar	90	Sep-2023
EDTI	Edmonton 3 H2 Plant Cogen	Gas	100	Sep-2023
Fortis	Moon Lake DER Solar	Solar	18.4	Sep-2023
Fortis	Stony Plain 434S DER Solar	Solar	18.4	Sep-2023
Fortis	Buford 538S DER Solar	Solar	18.4	Sep-2023
Fortis	Tilley 498S DER Solar	Solar	23.6	Sep-2023
Fortis	Tilley 498S DER Solar	Storage	8	Sep-2023
ABO	Fox Meadows MPC Wind	Wind	200	Dec-2023
Phoenix	MPC Solar	Solar	299	Dec-2023
Enerfin	Sylvan Lake MPC Solar	Solar	120	Dec-2023
Enfinite	Blackie MPC Battery	Storage	300	Dec-2023
Enfinite	Nilrem MPC Battery	Storage	150	Dec-2023
Solar Krafte	Rainier	Solar	450	Dec-2023
SPWC	Willow Ridge Wind	Wind	250	Dec-2023
SPWC	Willow Ridge Battery	Storage	50	Dec-2023
TA	Alberta Hydro WaterCharger Battery	Storage	180	Dec-2023
Greengate	Jurassic MPC Solar Battery	Solar	300	Dec-2023
Greengate	Jurassic MPC Solar Battery	Storage	300	Dec-2023
Greengate	Midnight MPC Solar Battery	Solar	465	Dec-2023

Greengate	Midnight MPC Solar Battery	Storage	465	Dec-2023
Greengate	Luna MPC Solar Battery	Solar	530	Dec-2023
Greengate	Luna MPC Solar Battery	Storage	530	Dec-2023
RESC	Big Sky Solar	Solar	120	Jan-2024
Kiwetinohk	Homestead MPC Solar	Solar	400	Mar-2024
Fortis	Blackmud DER Solar	Solar	24	Apr-2024
Fortis	Leduc DER Solar	Solar	67.3	Apr-2024
Fortis	Devon DER Solar	Solar	21	Apr-2024
Greengate	Luna 2 MPC Solar Battery	Solar	465	Apr-2024
Greengate	Luna 2 MPC Solar Battery	Storage	465	Apr-2024
Kiwetinohk	Granum MPC Solar	Solar	400	May-2024
Aira	MPC Solar	Solar	450	Jun-2024
EDF	Bull Trail 2 Wind	Wind	200	Jun-2024
Frontline	Red Deer MPC Solar	Solar	450	Jun-2024
Frontline	Kneehill MPC Solar	Solar	450	Jun-2024
Dolcy	Dolcy Solar Battery	Solar	250	Jun-2024
Dolcy	Dolcy Solar Battery	Storage	100	Jun-2024
RESC	Oyen MPC Wind	Wind	250	Jun-2024
Capital Power	Aldersyde Solar	Solar	200	Jun-2024
TransAlta	Riplinger MPC Wind	Wind	300	Jul-2024
ENGIE	Buffalo Trail North Wind	Wind	200	Aug-2024
Ascent	Sunnynook Solar Battery	Solar	250	Aug-2024
Ascent	Sunnynook Solar Battery	Storage	100	Aug-2024
BluEarth	Bindloss MPC Solar Battery	Solar	100	Aug-2024

BluEarth	Bindloss MPC Solar Battery	Storage	20	Aug-2024
Northland	Buffalo Trail WAGF	Wind	100	Aug-2024
NGCI	Ermineskin Cree Nation Solar	Solar	80	Aug-2024
EDF	Cypress 3 Wind	Wind	75	Sep-2024
Enfinite	Bowmanton MPC Battery	Storage	500	Sep-2024
Enfinite	Foothills MPC Battery	Storage	400	Sep-2024
TransAlta	Tempest MPC Wind	Wind	100	Sep-2024
Cache	Rising Sun Solar	Solar	125	Sep-2024
Spirit Pine	Lone Pine WAGF	Wind	173	Dec-2024
Fortis	Duchess 339S DER Solar	Solar	19.8	Dec-2024
Fortis	Ponoka 331S DER Solar Battery	Solar	23.2	Dec-2024
Fortis	Ponoka 331S DER Solar Battery	Storage	7.8	Dec-2024
Fortis	Duchess 339S DER Solar Battery	Solar	19.8	Dec-2024
Fortis	Duchess 339S DER Solar Battery	Storage	6.7	Dec-2024
Greenlight	Greenlight MPC Gas	Gas	466	Jan-2025
Pengrowth	Cold Lake Area Energy Centre	Gas	100	Apr-2025
CP	Rolling Hills MPC Wind	Wind	190	Jun-2025
Kiwetinohk	Maskwa MPC Gas	Gas	450	Jul-2025
Kalina Pincher Creek	CO2 MPC Combined Cycle	Gas	438	Aug-2025
Kiwetinohk	Flipi MPC Gas	Gas	444	Aug-2025
Federation	Marguerite Lake CAE Storage	Storage	320	Sep-2025
Fortis	Peace Butte 404S DER Wind	Wind	22	Oct-2025
NextEra	Red Deer Battery Energy Storage	Storage	40	TBD
NextEra	Ghost Pine Battery ES System	Storage	30	TBD

Enterprise	Prosperity Wind	Wind	175	TBD
Joss Wind	Northern Lights WAGF	Wind	400	TBD
Archer	Piikani Solar	Solar	40	TBD
Altagas	Glenridge Wind	Wind	150	TBD
RealPart	Calgary Area Solar	Solar	150	TBD
ATCO	Coronation 773S Solar DG	Solar	10	TBD
Chiniki	Chiniki Solar	Solar	40	TBD
E.ON	Four Rivers Wind	Wind	450	TBD
EDP Renewables	Blue Bridge Solar	Solar	150	TBD
Northland	Bow City MPC Solar	Solar	400	TBD
Quill	Rocky Mountain Gas	Gas	295	TBD
PBC	Paul Band Solar	Solar	45	TBD
Fortis	Acheson 305S DER Solar	Solar	10	TBD
Fortis	Red Deer 63S DER Solar	Solar	20	TBD
Suncor	Meadow Creek Cogen	Gas	126	TBD
ENGIE	Buffalo Trail South MPC Wind	Wind	400	TBD
ATCO	Bridge Creek 798S DER Gas	Gas	10	TBD
Fortis	Burdett 368S DER Solar Battery	Solar	17.5	TBD
Fortis	Burdett 368S DER Solar Battery	Storage	17.5	TBD
Nose Hill	MPC Wind	Wind	120	TBD
ATCO	Anderson 801S DER Solar	Solar	13	TBD
ATCO	Updike 886S DER Gas	Gas	33	TBD
AHP Development	Amisk Hydroelectric Project	Hydro	330	TBD
Total (MW)			22,719	

Table 4: Generation Projects that have Announced to be Retired/Derated

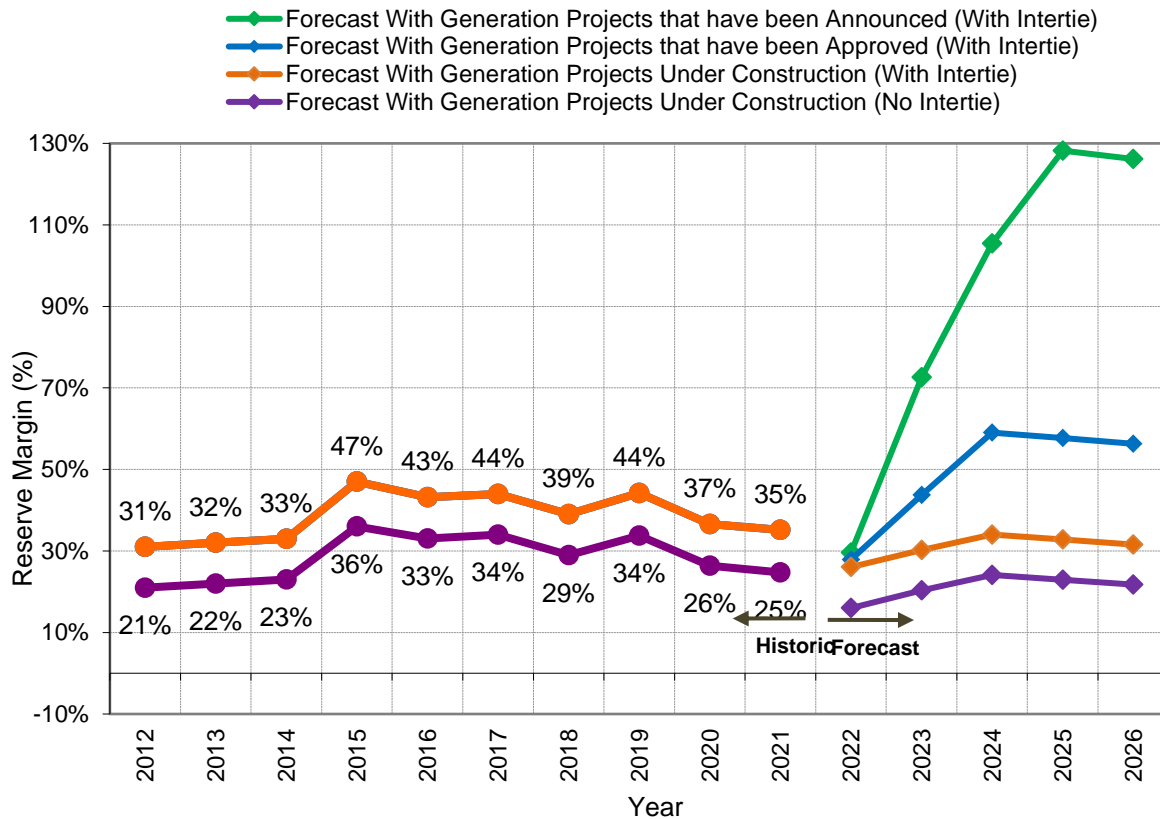
Sponsor(s)	Project Name	Fuel	Unit Capacity*	Date	Status

**MC values are announced derate values*

Reserve Margin Metric

The Reserve Margin Metric, shown in Figure 1, presents a comparison of generation supply and demand in Alberta. It is a calculation of the firm generation capacity at the time of system peak that is in excess of the system annual peak demand, expressed as a percentage of the system peak. Information on the annual peak demand within the reserve margin can be found on the AESO's [Forecasting](#) web page. Firm generation is defined as installed and future generation capacity, adjusting for seasonal hydro capacity and behind-the-fence demand and generation, and excludes wind and solar capacity. Three forecast reserve margins are presented, each with different future supply additions. The supply additions correspond to the stage of the generation projects in the New Generation Projects and Retirements Metric. The metric is graphed with and without inertia capacity in one reserve margin since full import capability may not always be available at the time of system peak demand.

Figure 1: Alberta Interconnected Electric System (AIES) Reserve Margin, 2012 – 2026



Supply Cushion Metric

The Supply Cushion Metric provides visibility of the Alberta Internal Load’s ability to meet peak demand daily. The supply cushion is the difference between the daily available firm supply minus daily peak demand. Only existing generation and generation under construction are used within the metric. The supply cushion refines the reserve margin calculation by using daily peak rather than annual and incorporates planned outages. Figure 2 presents the estimated daily supply cushion for the next two years. Figure 3 presents daily peak demand and firm supply by fuel type, as well as interties, wind and solar which are not included in the supply cushion calculation due to the intermittent or uncertain nature of the supply. When the supply cushion is negative in Figure 2, there is an increased level of reliance on interties and wind, as indicated in Figure 3.

Figure 2: Alberta Internal Load (AIL) Daily Supply Cushion, May 1, 2022 to April 30, 2024

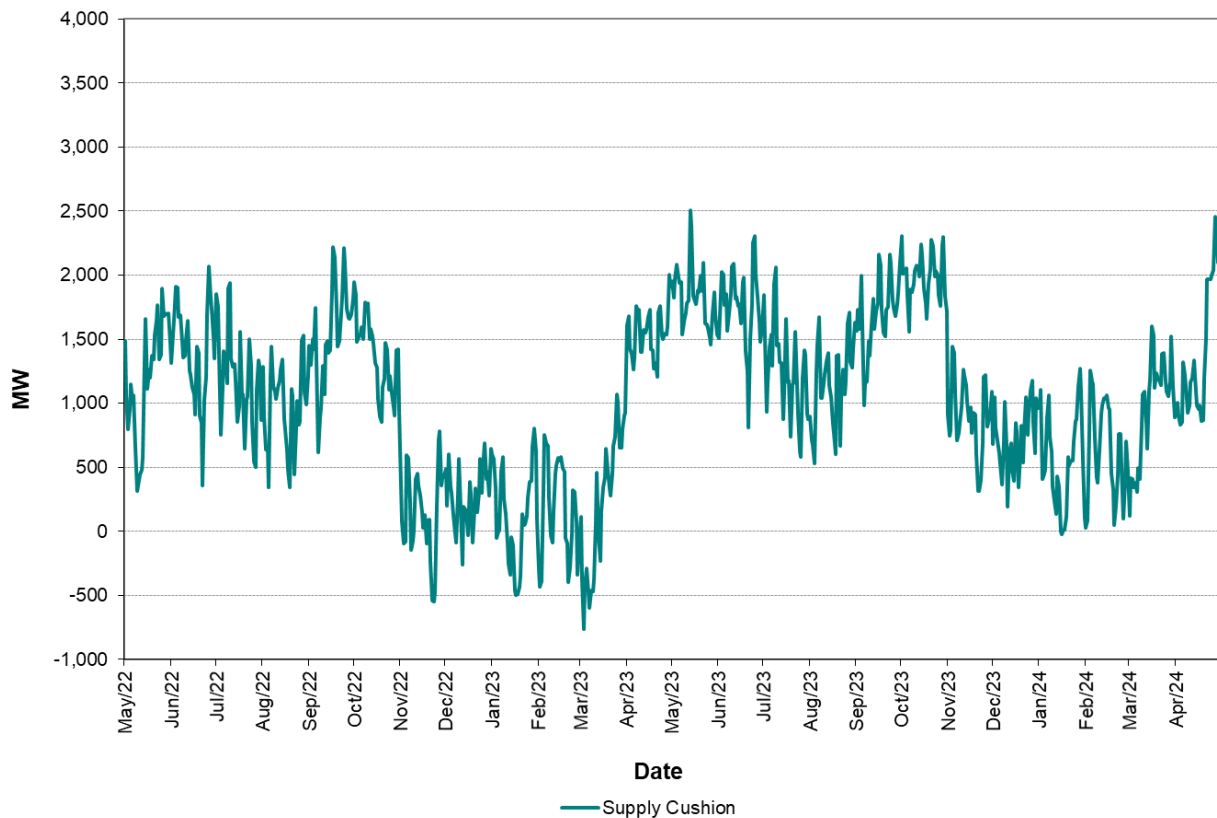
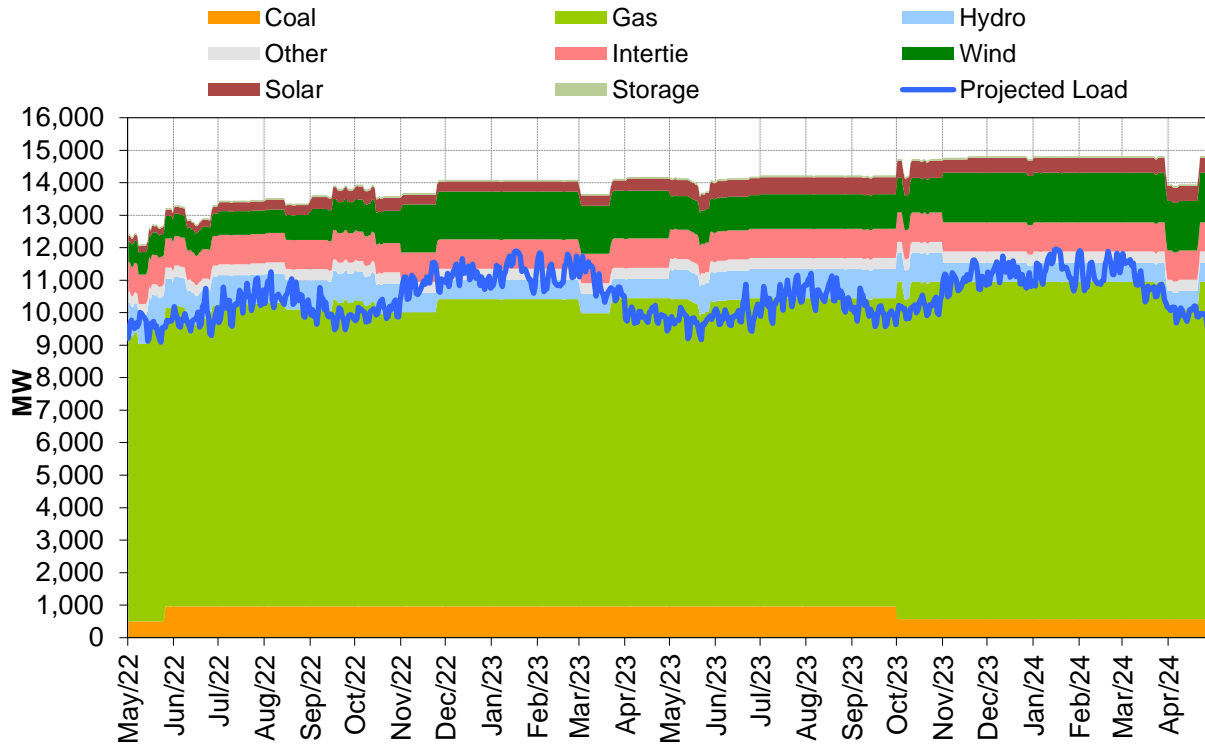


Figure 3: Alberta Internal Load (AIL) Daily Peak Demand and Available Supply, May 1, 2022 to April 30, 2024



Outage information as of Apr 20th 2022

Two Year Probability of Supply Adequacy Shortfall Metric

The Two Year Probability of Supply Adequacy Shortfall Metric is a probabilistic assessment of encountering a supply shortfall over the next two years. It builds on the Supply Cushion Metric by incorporating the probability of wind production, forced generation outages and generation derates into the calculation of hourly firm supply. The calculation estimates, on a probabilistic basis, how much load may go without supply over the next two year period. Based on extensive consultation with stakeholders, when this unserved energy exceeds 1,982 MWh (consistent with ISO rule 202.6, Section 5(1)), the AESO may take certain actions to bridge the temporary supply adequacy gap while maintaining investor confidence in the market. The total energy not served shown in Table 6 does not reach the threshold.

Table 6: Two Year Probability of Supply Adequacy Shortfall, May 1, 2022 to April 30, 2024

Worst Shortfall Hour (MW)	# of Hours in Shortfall	Total Energy Not Served (MWh)
5.2	0.08	11

Note: Values are rounded and represent average outputs