

2019 Market Share Offer Control Report

September 24, 2019

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Assessment of Offer Control

Section 5 of the *Fair, Efficient and Open Competition Regulation* (FEOC Regulation) requires that the MSA publish the percentage of offer control held by electricity market participants at least annually. Details of the process to collect and publish information on offer control are set out in the MSA's <u>Market Share Offer Control (MSOC) Process</u>.

In accordance with the process, the MSA calculated offer control information from the AESO for the period January 31, 2019 hour ending 16. On February 21, 2019, the MSA requested confirmation of offer control from participants whose total offer control was calculated as greater than five percent, or for joint ventures that required further clarification.

As per Section 5(2) of FEOC Regulation, an electricity market participant's total offer control is measured as the ratio of megawatts under its control to the sum of maximum capability of generating units in Alberta.

	2019-01-31 Control		
Company	(MW)	%	
TransAlta	3,270	21.0%	
Balancing Pool	2,284	14.7%	
ATCO	1,977	12.7%	
ENMAX	1,446	9.3%	
Suncor	1,158	7.4%	
Capital Power	1,118	7.2%	
Other	4,002	25.7%	
Total Dispatchable	15,254	98.0%	
Total Non-dispatchable	316	2.0%	
Grand Total	15,570	100.0%	

Further details on offer control are provided in the appendix of this report, including: a list of affiliates of electricity market participants with offer control over five percent, the individual assets under the control of electricity market participants with offer control over five percent, and a breakdown of offer control by unit. The definition of "electricity market participant" in Section 5 of the FEOC Regulation means an electricity market participant as defined in the *Electric Utilities Act* (EUA) and also includes any affiliates of an electricity market participant.

Total offer control among participants with greater than five percent MSOC remained largely the same year-over-year with percentages of 74.3% in 2019 and 74.8% in 2018.

	2018-04-22		2019-01-31	
_	Control		Control	
Company	(MW)	<u>%</u>	(MW)	<u>%</u>
ΓransAlta	3,550	22.3%	3,270	21.0%
Balancing Pool	2,652	16.7%	2,284	14.7%
TCO	1,609	10.1%	1,977	12.7%
NMAX	1,446	9.1%	1,446	9.3%
Suncor	1,158	7.3%	1,158	7.4%
Capital Power	1,118	7.0%	1,118	7.2%
ther	4,006	25.2%	4,002	25.7%
ransCanada	446	2.8%	448	2.9%
nperial Oil	365	2.3%	365	2.3%
lexen Inc.	340	2.1%	340	2.2%
low Chemical Canada ULC	326	2.1%	326	2.1%
DF Renewables Development Inc.	300	1.9%	300	1.9%
City of Medicine Hat	255	1.6%	255	1.6%
IEG Energy Corp.	202	1.3%	202	1.3%
Cenovus Energy Inc.	198	1.2%	198	1.3%
RICA Asset Optimization Ltd.	156	1.0%	161	1.0%
laxim Power	149	0.9%	149	1.0%
ldman 2 Wind Farm Ltd.	134	0.8%	134	0.9%
xelon	105	0.7%	105	0.7%
yncrude Canada Ltd.	100	0.6%	100	0.6%
ir Liquide Canada Inc.	96	0.6%	96	0.6%
extEra	82	0.5%	82	0.5%
astle Rock Ridge LP	77	0.5%	77	0.5%
owerex Corp.	73	0.5%	73	0.5%
berta Pacific Forest Industries	67	0.4%	67	0.4%
anadian Natural Resources Ltd.	65	0.4%	65	0.4%
berta Newsprint Company / ANC Power	63	0.4%	63	0.4%
taGas Ltd.	62	0.4%	62	0.4%
aishowa-Marubeni Int. Ltd.	52	0.3%	52	0.3%
ternational Paper Canada Pulp Holdings ULC	48	0.3%	48	0.3%
ancarb Ltd.	42	0.3%	42	0.3%
ull Creek Wind Power Limited Partnership	29	0.2%	29	0.2%
anadian Forest Products Ltd.	27	0.2%	27	0.2%
/hitecourt Power Ltd.	25	0.2%	25	0.2%
orthstone Power Corp.	20	0.1%	20	0.1%
RGreen Power Limited Partnership	16	0.1%	16	0.1%
Igonquin Power Operating Trust	15	0.1%	15	0.1%
rooks Solar Corporation	15	0.1%	15	0.1%
epsol Canada Energy Partnership	13	0.1%	13	0.1%
Iniversity of Calgary	12	0.1%		0.1%

West Fraser Mills Ltd.	10	0.1%	10	0.1%
Keyera Partnership	5	0.0%	5	0.0%
University of Alberta	5	0.0%	5	0.0%
Valley Power L.P.	11	0.1%		
Total Dispatchable	15,538	98.0%	15,254	98.0%
Total Non-dispatchable	311	2.0%	316	2.0%
Grand Total	15,849	100.0%	15,570	100.0%

Changes from 2018

Alberta's total capacity decreased 318 MW since the last MSOC assessment on April 22, 2018. This decrease was primarily due to the retirement of Sundance #2 on July 31, 2018. Other retirements that occurred since the previous MSOC assessment include: the Drayton Valley (DV1) 11 MW biomass unit on September 30, 2018.

On November 28, 2018, Genalta III GP Ltd. connected Bellshill (BHL1) a 5.4 MW gas unit.² While the unit is owned and operated by Genalta III GP Ltd. the offer control for the unit has been assigned to URICA Asset Optimization Ltd.

On September 30, 2018, the Battle River #5 PPA was terminated. Upon termination, 368 MW of offer control was transferred to ATCO from the Balancing Pool.³

Units are included in offer control (and the denominator) as long as they are registered as active assets during the reference time. Units registered as active are still required to make offers (even if they are not available or mothballed) and their lack of availability is included in outage data published by the AESO.

The maximum capability of an asset used to calculate the denominator may not correspond to the name plate maximum capabilities as they would be typically viewed on the AESO's Current Supply Demand Report. Instead, the denominator uses maximum capability as it is registered with the AESO for the purpose of submitting price-quantity offer pairs.

TransAlta Announces Retirement of Sundance Unit 2, July 18, 2018.

² New Asset Bellshill (BHL1) Notice.

³ Balancing Pool to Terminate Battle River 5 PPA, March 21, 2018.

	2018	2019	
Unit	(MW)	(MW)	Diff
BHL1 Bellshill		5.4	5.4
Units Added (Units >=5 MW)	0	5.4	5.4
DV1 Drayton Valley	11		-11
SD2 Sundance #2	280		-280
Units Retired (>=5 MW)	291	0	-291
MKRC MacKay River Cogeneration Plant	205	207	2
MC Changes (Units >=5 MW)	205	207	2
Units <5 MW	124.1	127.9	3.8
Unchanged Units >=5 MW	15,229	15,229	0.0
TOTAL (MW)	15,849	15,570	-280

Capacity Market Shares based on Estimated UCAP

The MSA has also calculated an initial estimate of capacity market shares based on the uniform capacity (UCAP) values of the generating assets in Alberta. The UCAP calculations are based on the methodologies set out in proposed ISO Rule 206.3 ("Proposed UCAP rule"). The Proposed UCAP rule outlines in detail the methodologies the AESO has put forward to calculate the UCAP values for different types of assets. The MSA calculated UCAP values for all the dispatchable assets in Alberta and the corresponding capacity market shares by owner.

The UCAP value determinations are based on two primary methodologies: availability factor and capacity factor. The availability factor methodology was used for assets that can change generation levels in response to a dispatch signal from the AESO and have metered volumes that align with dispatch levels. Additionally, self-supply assets that are dispatchable on a gross-production basis undergo a further adjustment based on their net-to-grid output relative to their energy market dispatches. The capacity factor methodology was used for wind, solar and run-of-river hydroelectric assets.

A capacity market participant's market share has been quantified as the ratio of total UCAP MW under the participant's offer control to the sum of UCAP MW of all generating assets in Alberta. For the purposes of this analysis, capacity resources other than dispatchable Alberta generators are not included in the determination of market shares.

The capacity market shares have been calculated assuming that, if the asset is individually owned, its full capacity is controlled by its owner; if the asset is jointly owned, each owner controls only its offer control portion of the asset as per the MSA's Market Share Offer Control reporting. The reported market shares have been obtained by using the 2019 Market Share Offer Control figures assuming that the PPA assets are returned to their owners, as they will be

⁴ It is important to note that these UCAP estimates are initial not final and will be subject to change. For example, the MSA did not use a time-weighted average supply cushion for this analysis and the MSA has not fully accounted for all asset exclusion hours.

prior to the beginning of the capacity market. In particular, the offer control for the Keephills 1 and 2 assets is assumed to be 100% TransAlta, the offer control for the Genesee 1 and 2 assets is assumed to be 100% Capital Power, and the offer control for the Sheerness 1 and 2 assets is assumed to be 50% ATCO and 50% TransAlta. It should be noted that no new additions or asset retirements are accounted for in this market shares analysis. In addition, to be consistent with the Market Share Offer Control methodology, import assets are not included in the analysis.

All participants with a capacity market share of greater than five percent are listed in the table below. As shown, the MSA's initial estimates of UCAP in the capacity market imply that the market will be relatively concentrated with TransAlta controlling over 35% of Alberta's generation UCAP and the top-four firms controlling approximately 80%.

Company	MW	%
TransAlta	3,157	35.7%
Capital Power	1,504	17.0%
ATCO	1,364	15.4%
ENMAX	972	11.0%
Other	1,853	21.0%
Grand Total	8,850	100.0%

Appendix

Market Share Offer Control by Company

The tables below detail the units for each electricity market participant with offer control greater than five percent, as well as the affiliates of the electricity market participant (as defined in Section 5(1)(a) of the FEOC Regulation) insofar as they were making offers into the power pool. Offers for import energy are not applicable to offer control as contemplated in the FEOC Regulation, and affiliates offering imports may not be included.

> **ATCO** ATCO Power Canada Ltd.

ATCO	Offer Control
Asset	(MW)
APS1 Scotford Cogen	195
BR3 Battle River #3	149
BR4 Battle River #4	155
BR5 Battle River #5	385
HSM1 House Mountain	6
JOF1 Joffre #1	474
MKR1 Muskeg River	202
OMRH CUPC Oldman River	32
PH1 Poplar Hill #1	48
PR1 Primrose #1	100
RB5 Rainbow #5	50
RL1 Rainbow Lake #1	47
SH1 Sheerness #1	22
SH2 Sheerness #2	12
VVW1 Valley View 1	50
VVW2 Valley View 2	50
Grand Total	1,977

Balancing Pool

Balancing Pool

Balancing Pool

Asset	Offer Control (MW)
GN1 Genesee #1	381
GN2 Genesee #2	381
KH1 Keephills #1	383
KH2 Keephills #2	383
SH1 Sheerness #1	378
SH2 Sheerness #2	378
Grand Total	2,284

Capital Power

Capital Power GP Holdings Inc. Halkirk I Wind Project LP

Capital Power

Asset	Offer Control (MW)
EGC1 Shepard	215
ENC1 Cloverbar #1	48
ENC2 Cloverbar #2	101
ENC3 Cloverbar #3	101
GN1 Genesee #1	19
GN2 Genesee #2	19
GN3 Genesee #3	233
HAL1 Halkirk Wind Power Facility	150
KH3 Keephills #3	232
Grand Total	1,118

ENMAX

Calgary Energy Centre No. 2 Inc.

ENMAX Cavalier LP

ENMAX Energy Corporation

ENMAX Generation Portfolio Inc.

ENMAX Kettles Hill Inc.

ENMAX

Asset	Offer Control (MW)
AKE1 McBride Lake Windfarm	73
CAL1 CALP Gen #1	320
CRS1 Summit- Crossfield	48
CRS2 Summit- Crossfield	48
CRS3 Summit- Crossfield	48
EC01 Cavalier	120
EGC1 Shepard	645
KHW1 Kettles Hill Wind	63
TAB1 Enmax Taber	81
Grand Total	1,446

Suncor

Suncor Energy Inc.

Suncor

Asset	Offer Control (MW)
FH1 Fort Hills	199
SCR1 Base Plant	50
SCR2 Magrath	30
SCR3 Suncor Chin Chute	30
SCR5 Poplar Creek	376
SCR6 Firebag	473
Grand Total	1,158

TransAlta

TransAlta Corporation
TransAlta Energy Marketing Corp.
TransAlta Generation Partnership

TransAlta

Transaita	
Asset	Offer Control (MW)
ARD1 Ardenville	68
BIG Bighorn Hydro	120
BOW1 Bow River Hydro	320
BRA Brazeau Hydro	350
BTR1 Blue Trail Wind	66
CR1 ARM2262 Castle River	39
CRE3 Cowley Ridge Expansion #3	20
GN3 Genesee #3	233
GWW1 GW Wind #1	71
IEW1 Summerview Phase 1	66
IEW2 Summerview Phase 2	66
KH1 Keephills #1	12
KH2 Keephills #2	12
KH3 Keephills #3	232
SD3 Sundance #3	368
SD4 Sundance #4	406
SD5 Sundance #5	406
SD6 Sundance #6	401
TAY1 Taylor Hydro 1	14
Grand Total	3,270

Market Share Offer Control by Unit

The following table provides a breakdown of offer control by unit. The total for each unit is its maximum capability.

Unit - Control	MW
AFG1 APF Athabasca	67
Alberta Pacific Forest Industries	67
AKE1 McBride Lake Windfarm	73
ENMAX	73
ALP1 ALP	7
AltaGas Ltd.	7
ALP2 ALP	10
AltaGas Ltd.	10
ALS1 Air Liquide Scotford #1	96
Air Liquide Canada Inc.	96
ANC1 AB Newsprint	63
Alberta Newsprint Company / ANC Power	63
APS1 Scotford Cogen	195
ATCO	195
ARD1 Ardenville	68
TransAlta	68
BCR2 Bear Creek Cogen Plant	36
TransCanada	36
BCRK Bear Creek Cogen	64
TransCanada	64
BHL1 Bellshill	5
URICA Asset Optimization Ltd.	5
BIG Bighorn Hydro	120
TransAlta	120
BOW1 Bow River Hydro	320
TransAlta	320
BR3 Battle River #3	149
ATCO	149
BR4 Battle River #4	155
ATCO	155
BR5 Battle River #5	385
ATCO	385
BRA Brazeau Hydro	350
TransAlta	350
BSC1 Brooks Solar	15
Brooks Solar Corporation	15
BSR1 Blackspring Ridge	300
EDF Renewables Development Inc.	300

BTR1 Blue Trail Wind	66
TransAlta	66
BUL1 Bull Creek	13
Bull Creek Wind Power Limited Partnership	13
BUL2 Bull Creek	16
Bull Creek Wind Power Limited Partnership	16
CAL1 CALP Gen #1	320
ENMAX	320
CCMH Cancarb Medicine Hat	42
Cancarb Ltd.	42
CHIN Chin Chute	15
URICA Asset Optimization Ltd.	15
CL01 Christina Lake	100
Cenovus Energy Inc.	100
CMH1 Medicine Hat #1	255
City of Medicine Hat	255
CNR5 CNRL Horizon	65
Canadian Natural Resources Ltd.	65
CR1 ARM2262 Castle River	39
TransAlta	39
CRE3 Cowley Ridge Expansion #3	20
TransAlta	20
CRR1 Enel Alberta Castle Rock Wind Farm	77
Castle Rock Ridge LP	77
CRS1 Summit- Crossfield	48
ENMAX	48
CRS2 Summit- Crossfield	48
ENMAX	48
CRS3 Summit- Crossfield	48
ENMAX	48
DAI1 52MW Turbo Generator	52
Daishowa-Marubeni Int. Ltd.	52
DKSN Dickson Dam	15
Algonquin Power Operating Trust	15
DOWG Total Gen. & SR	326
Dow Chemical Canada ULC	326
DRW1 Drywood	6
URICA Asset Optimization Ltd.	6
EAGL Whitecourt Power	25
Whitecourt Power Ltd.	25
EC01 Cavalier	120
ENMAX	120
EC04 EnCana Foster Creek	98

Cenovus Energy Inc.	98
EGC1 Shepard	860
Capital Power	215
ENMAX	645
ENC1 Cloverbar #1	48
Capital Power	48
ENC2 Cloverbar #2	101
Capital Power	101
ENC3 Cloverbar #3	101
Capital Power	101
FH1 Fort Hills	199
Suncor	199
FNG1 Fort Nelson	73
Powerex Corp.	73
GEN5 Carson Creek	15
URICA Asset Optimization Ltd.	15
GEN6 Judy Creek	15
URICA Asset Optimization Ltd.	15
GN1 Genesee #1	400
Balancing Pool	381
Capital Power	19
GN2 Genesee #2	400
Balancing Pool	381
Capital Power	19
GN3 Genesee #3	466
Capital Power	233
TransAlta	233
GOC1 Gold Creek Facility	5
Maxim Power	5
GPEC Grande Prairie	27
Canadian Forest Products Ltd.	27
GWW1 GW Wind #1	71
TransAlta	71
HAL1 Halkirk Wind Power Facility	150
Capital Power	150
HMT1 ALP	45
AltaGas Ltd.	45
HRM H.R. Milner	144
Maxim Power	144
HSM1 House Mountain	6
ATCO	6
ICP1 Drops 4, 5, 6	7
URICA Asset Optimization Ltd.	7

IEW1 Summerview Phase 1	66
TransAlta	66
IEW2 Summerview Phase 2	66
TransAlta	66
IOR1 Mahkeses Central Plant	180
Imperial Oil	180
IOR2 Nabiye	185
Imperial Oil	185
JOF1 Joffre #1	474
ATCO	474
KH1 Keephills #1	395
Balancing Pool	383
TransAlta	12
KH2 Keephills #2	395
Balancing Pool	383
TransAlta	12
KH3 Keephills #3	463
Capital Power	231.5
TransAlta	231.5
KHW1 Kettles Hill Wind	63
ENMAX	63
ME02 Lethbridge Taber	8
URICA Asset Optimization Ltd.	8
ME03 Lethbridge Burdett	7
URICA Asset Optimization Ltd.	7
ME04 Lethbridge Coaldale	6
URICA Asset Optimization Ltd.	6
MEG1 Christina Lake	202
MEG Energy Corp.	202
MFG1 MFC Mazeppa	16
URICA Asset Optimization Ltd.	16
MKR1 Muskeg River	202
ATCO	202
MKRC MacKay River Cogeneration Plant	207
TransCanada	207
NAT1 Ralston	20
URICA Asset Optimization Ltd.	20
NEP1 Ghost Pine	82
NextEra	82
NPC1 Denis St. Pierre	11
Northstone Power Corp.	11
NPC2 JL Landry	9
Northstone Power Corp.	9

NPP1 Constellation	105
Exelon	105
NRG3 NRGreen Cogen	16
NRGreen Power Limited Partnership	16
NX01 Nexen Inc #1	120
Nexen Inc.	120
NX02 Nexen Inc. #2	220
Nexen Inc.	220
OMRH CUPC Oldman River	32
ATCO	32
OWF1 Oldman 2 Wind Farm 1	46
Oldman 2 Wind Farm Ltd.	46
PH1 Poplar Hill #1	48
ATCO	48
PR1 Primrose #1	100
ATCO	100
PW01 Minnehik-Buck Lake	5
Keyera Partnership	5
RB5 Rainbow #5	50
ATCO	50
RL1 Rainbow Lake #1	47
ATCO	47
RYMD Raymond Reservoir	21
URICA Asset Optimization Ltd.	21
SCL1 Syncrude #1	100
Syncrude Canada Ltd.	100
SCR1 Base Plant	50
Suncor	50
SCR2 Magrath	30
Suncor	30
SCR3 Suncor Chin Chute	30
Suncor	30
SCR4 Wintering Hills	88
Oldman 2 Wind Farm Ltd.	88
SCR5 Poplar Creek	376
Suncor	376
SCR6 Firebag	473
Suncor	473
SD3 Sundance #3	368
TransAlta	368
SD4 Sundance #4	406
TransAlta	406
SD5 Sundance #5	406

TransAlta	406
SD6 Sundance #6	401
TransAlta	401
SH1 Sheerness #1	400
ATCO	22.4
Balancing Pool	377.6
SH2 Sheerness #2	390
ATCO	11.9
Balancing Pool	378.1
TAB1 Enmax Taber	81
ENMAX	81
TAY1 Taylor Hydro 1	14
TransAlta	14
TC01 Carseland Cogen	95
TransCanada	95
TC02 Redwater Cogen	46
TransCanada	46
TLM2 Edson	13
Repsol Canada Energy Partnership	13
UOA1 UofA Generator	5
University of Alberta	5
UOC1 U of C Generator	12
University of Calgary	12
VVW1 Valley View 1	50
ATCO	50
VVW2 Valley View 2	50
ATCO	50
WCD1 West Cadotte	20
URICA Asset Optimization Ltd.	20
WEY1 Steam Turbine 48MW	48
International Paper Canada Pulp Holdings ULC	48
WWD1 Weldwood	10
West Fraser Mills Ltd.	10
Grand Total	15,254