Small Distribution-Connected Generation Resources in Alberta

Within Alberta, electric distribution systems are operated by utility companies and are the portion of the electric system that operates at 25 kilovolts or less. These distribution systems are used to deliver electricity from the Alberta interconnected electric system to an end-use customer. A Distributed Energy Resource is any resource that is connected to and can supply energy to an electric distribution system. This includes distribution-connected generation resources and energy storage. This report focuses on distribution-connected generation resources, which are typically connected to a distribution system at customer locations.

Distribution-connected generation, if it qualifies, can be designated as micro-generation. For the purposes of this report, resources that are not designated as micro-generation will be referred to simply as distributed generation. This report has a section containing a brief description of each class of generation. In addition, there is data on the number of sites and total installed capacity broken out by energy source.

Micro-Generation

Distributed generation may qualify as micro-generation under the *Micro-generation Regulation*. To qualify as micro-generation, a generating unit must use renewable or alternative energy sources, be intended to offset consumer load, and have a nameplate capacity that does not exceed 5,000 kW. Electricity may be generated from solar, wind, hydro, fuel cells or biomass. Other sources may be permitted if they have current EcoLogo certification or their greenhouse gas intensity is lower than the regulated limit. Micro-generators producing electricity in excess of on-site load receive credits for what they feed to the electricity grid.

Distributed Generation

Distributed generation that does not fall under the micro-generation regulation may use any energy source and be of any size (subject to the approval of the distribution system owner). Resources of 5,000 kW and greater must register as a pool participant with the AESO. They also receive payment from the AESO at the hourly pool price for electricity supplied to a distribution system. Distributed generation resources smaller than 5,000 kW have the option to register with the AESO.

This report only contains data on resources that have a nameplate capacity of less than 5,000 kW and are registered with the AESO.

Current Micro- and Small Distributed Generation in Alberta

The table and figures below provide the number of sites and installed capacity of both micro-generation sites and distributed generation sites with a nameplate capacity of less than 5,000 kW.

Table 1: Micro-generation and Small Distributed Generation by Energy Source

	Micro-generation		Distributed Generation		Total	
October-2026	**Number of Sites**	**Installed Capacity (kW)**	**Number of Sites**	**Installed Capacity (kW)**	**Number of Sites**	**Installed Capacity (kW)**
Biomass	1	1,692	5	12,533	6	14,225
Co-gen/Solar	2	263	0	0	2	263
Gas	6	1,132	23	71,866	29	72,998
Gas Cogen	7	1,533	4	12,280	11	13,813
Hydro	2	109	4	8,900	6	9,009
Other	48	6,645	2	2,065	50	8,710
Solar	51,243	483,522	11	27,210	51,254	510,732
Solar/Wind	33	277	0	0	33	277
Wind	52	2,056	20	23,925	72	25,981
Total	51,394	497,230	69	158,779	51,463	656,009

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Figure 1: Micro-Generation Development in Alberta

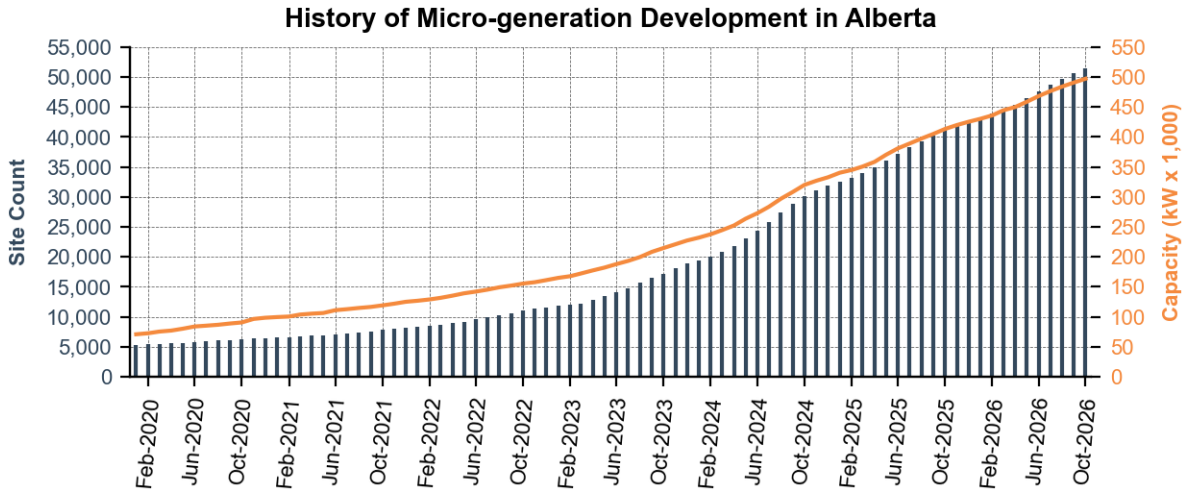
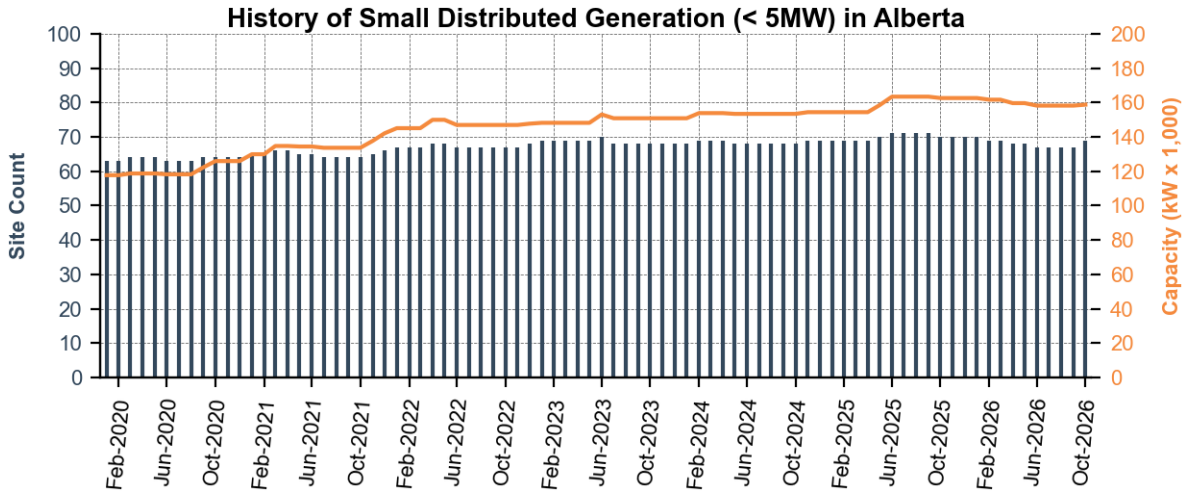


Figure 2: Small Distributed Generation Development in Alberta



Additional Information

The report is updated on a quarterly basis. Data is as-of the last day of the stated month.

Comments or questions can be directed to manalysis@aeso.ca

Further information on micro-generation can be found on the Alberta Utilities Commission website.

Disclaimers

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Capacity: Represents the generator rated capacity (kW) as reported by the Wire Service Provider (WSP).

Type: Represents the generator type as reported by the WSP.

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