

Localized Generation

The Alberta Electric System Operator (AESO) needs to plan to connect anticipated future generation prior to knowing where that generation will be, or which areas of the province will require it. The only way to do this is to build a robust, unconstrained transmission grid across the entire province.

What is localized generation?

Facilities that generate electricity near where it will be consumed are called localized generation facilities. Proponents of localized generation, in some cases referred to by industry as behind-the-fence or onsite generation, argue that instead of adding more transmission lines across Alberta, we should focus on building localized generation facilities. While the AESO encourages any and all forms of generation to meet the growing demand for electricity, we have a mandate to ensure that the transmission system is reliable across Alberta. Localized generation facilities may resolve local supply/demand power imbalances; however, they do not necessarily provide the infrastructure for future supply and demand in other parts of the province.

Planning for Alberta's future

Alberta has a deregulated electricity generation market—private investors decide where and when it is economically feasible to construct a power generation facility. It is up to the market to decide the type and location of generation in the province. Private investors are responsible for all capital costs associated with their generation facility and none of these costs are borne by the ratepayers. The AESO's mandate is to enable all generation facilities that are approved by the Alberta Utilities Commission, regardless of type or location, to connect to the transmission grid.

The AESO has identified the need for 11,900 megawatts (MW) of new generation over the next 20 years to support growth. In Alberta, the natural resources we rely on for our electricity are usually located far from major population centres. While some energy sources such as natural gas are a more flexible locational power generation source than others, e.g., coal, it is generally not practical or economical to transport these resources hundreds of kilometres to generation plants near cities or towns. Power generators are usually built near natural resources and depend on transmission lines to carry electricity from where it is produced to where it is needed. Ultimately, generators build where it makes the most economic sense, which may preclude the construction of localized generation.

What makes a strong transmission grid?

A strong transmission grid is a grid that supports diverse sources of generation and delivers the highest system reliability while relying upon no single source of generation. Relying solely on localized generation leaves consumers in local markets dependent on a single source of generation, and at risk of being held captive—in terms of price and supply—to one or only a few providers.

Furthermore, generating facilities are sometimes shut down for both planned and unplanned maintenance. It is important to have a strong transmission grid in place to be able to deliver reliable power if and when these plants—which may include localized generation—are not available. Transmission lines must move power across the province when local generation sources are not capable or sufficient to provide the necessary power that customers demand. (*See next page*)

Transmission lines are, on average, available 99 per cent of the time whereas generation plants, on average, are down 10 to 15 per cent of the time. As well, when localized generators are generating more electricity than they need, they require the option of supplying it to the grid and collecting additional revenues from the market when possible.

While localized generation may benefit a portion of the population, a strong, robust transmission system will distribute electricity throughout the entire province, to the benefit of all Albertans.