

The basics of electricity transmission

One of the AESO's key responsibilities is planning an effective transmission system; the towers, wires and related equipment that move electricity from where it is generated to where it is used.

Here is a brief overview of Alberta's electricity transmission system.
For in-depth information, visit www.powerinalberta.ca/publications

➤ THE NEED FOR TRANSMISSION

- Transmission is essential to move electricity from where it is produced to where it is needed.
- Alberta has the fastest growing electricity demand in Canada, and the transmission system must keep pace. To picture this growth, imagine adding the electricity needed for two cities the size of Red Deer—every year.
- Access to a strong transmission system is required to attract investment in new generation.
- Reliable transmission promotes competition by enabling all generators to get their product to market.



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➤ PLANNING THE GRID

- The AESO is responsible for forecasting electricity supply and demand, and planning a robust transmission system that is able to meet that demand.

Here are just a few of the factors we consider:

- Economic, population and industrial growth.
- Where electricity demand is growing and the rate it is growing at.
- Condition and age of current transmission infrastructure.
- The ability to transmit electricity during emergencies.
- Environmental, residential, agricultural and visual impacts, and public safety concerns.



➤ BUILDING TRANSMISSION

- The AESO cannot own transmission infrastructure.
- Transmission Facility Owners (TFOs) build, own and operate the transmission system within their service territories.
- There are four major TFOs in Alberta: ATCO Electric Ltd., AltaLink Management Ltd., EPCOR Utilities Inc. and ENMAX Power Corporation.



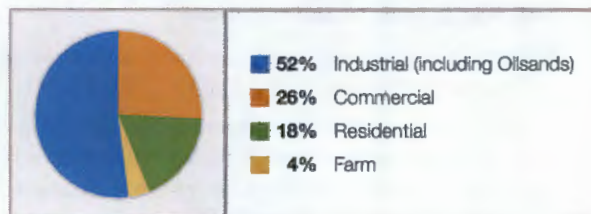
➤ ALBERTANS HAVE A SAY

- Before construction can begin, strict rules for planning, building and maintaining transmission must be adhered to. Alberta has a stringent, comprehensive approval process that provides several opportunities for Albertans to become involved.

➤ TRANSMISSION COSTS

- In most cases the average cost of transmission is about 20 per cent of your monthly residential electricity bill—approximately \$19 a month, or around 70 cents a day.
- Transmission charges appear on your residential electricity bill as transmission delivery charges, and cover the cost of building and maintaining the transmission system.
- Alberta's transmission charges are approved by the Alberta Utilities Commission (AUC).

Different electricity users pay for transmission in different proportions



The transmission development process



The AESO must notify all potentially affected stakeholders and prove the need for transmission development to the Alberta Utilities Commission (AUC).

The company that will build and own the proposed transmission infrastructure (the transmission facility owner) must consult with people in the affected area.



➤ WHO IS THE AESO?

The Alberta Electric System Operator (AESO) is a not-for-profit organization with no financial interest or investment in the power industry. We plan and operate Alberta's electricity grid and wholesale electricity market safely, reliably and in the public interest of all Albertans.