

Determining the Wholesale Market Price for Electricity

At the heart of Alberta's wholesale real-time electricity market is the System Coordination Centre (SCC), staffed 24 hours a day, seven days a week by a team of system controllers. The SCC features advanced technology infrastructure that supports real-time electric system operations. The Energy Management System (EMS) enables the system controller to dispatch electricity to meet demand and monitor the status of the provincial electric system, as well as our interconnections to neighbouring jurisdictions. The Energy Trading System (ETS) facilitates the real-time wholesale electricity market by matching electricity supply offers and demand bids from pool participants and posting this market information to the AESO website. The ETS also receives electric metering data and performs financial settlement and billing functions for the wholesale market.

The Hourly Wholesale Market Price

System controllers dispatch electricity to meet demand, which establishes the hourly real-time market price, referred to as the pool price. The pool price is published hourly in the [AESO Reports](#); select *Current*, then from the pull down menu select *Pool Price*. The pool price is used to calculate payments to suppliers and to charge consumers.

Here's how the pool price is established:

1. Power producers and importers submit electricity supply offers to the AESO system controller. Exporters submit bids to purchase supply generated in Alberta to export to neighbouring jurisdictions. Consumers submit demand bids to purchase electricity at or below a specific price, indicating an intention not to purchase if the electricity price reaches a specific point. Supply offers and demand bids are entered via the ETS.
2. Schedulers sort the supply offers and demand bids from the lowest to the highest price for each hour of the day. This list is called a merit order for dispatching electricity in the electricity market.
3. As electricity demand shifts throughout the day, the system controller keeps supply and demand in balance and maintains reliability of the system by dispatching from the merit order. As system demand increases, the system controller moves up the merit order, dispatching the next eligible supply or accepting the next demand bid. As system demand declines, the system controller dispatches down the merit order, instructing suppliers to reduce output and/or instructing consumers to increase demand. This system ensures Alberta's overall electricity needs are met by the lowest cost option whenever possible.
4. Every minute, the last eligible electricity block dispatched by the system controller sets the System Marginal Price (SMP). The SMP is updated in real time and published in the [AESO Reports](#); select *Current*, then from the pull down menu select *System Marginal Price*.
5. At the end of the hour, the time-weighted average of the 60 one-minute SMPs is calculated and published as the pool price. Wholesale electricity is financially settled at this real-time pool price.

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The following examples illustrate how the merit order is dispatched and market price is set:

Export bid	\$ 999	40 MW
Demand bid 1 *	\$150	25 MW
Supply offer 5	\$ 80	25 MW
Supply offer 4	\$ 50	55 MW
Supply offer 3	\$ 40	50 MW
Supply offer 2	\$ 20	20 MW
Supply offer 1	\$ 10	10 MW

- If supply offer # 3 is fully dispatched to meet system demand, it would set SMP at \$40. If demand were to increase by 40 MW, the system controller would move up the merit order and dispatch 40 MW of supply offer #4, which would result in an SMP of \$50.
- If supply offer #3 is fully dispatched and the SMP is set at \$40, a drop in demand of 50 MW would be handled by dispatching down the merit order. The system controller would instruct the supplier who submitted supply offer #3 to reduce electricity output by 50 MW and the SMP would then be set by the next eligible supply - supply offer #2 at \$20.
- By default, consumers (load) have a standing bid to purchase electricity regardless of price. However, consumers can also submit a demand bid that specifies a certain price at which they will reduce their electricity use or lower their demand. For example, if supply offer #5 is fully dispatched and demand increases 5 MW, the system controller would dispatch demand bid #1. This would set SMP at \$150 and the consumer who submitted demand bid #1 would reduce load by 5 MW.

* This demand bid reflects a submission by a consumer to decrease load by 25 MW when electricity is dispatched, setting the SMP at \$150.

For Further Information

AESOfirstcall is your one-stop information resource for doing business at the AESO. Call us Monday to Friday 8 a.m. to 5 p.m. at 1-888-588-AESO (2376) or email info@aeso.ca

The Customer Information Line at 403-214-7508 provides recorded updates during planned and unplanned interruptions to the AESO's systems.