

Western Energy Imbalance Service FAQs

1. What is energy imbalance?

Energy imbalance is the difference between scheduled electricity generation and demand versus actual electricity generation and demand.

Energy imbalance occurs when:

- Generators produce different amounts of energy than scheduled
- Demand, also known as load, consumes different amounts of energy than scheduled

Energy imbalance is normal in electricity system operations. However, electricity supply and demand must be equal in real time for the system to remain reliable. Energy imbalance management is one of the primary functions of the balancing authorities.

Traditionally, BAs have managed energy imbalance in their respective footprints using only generation they own or have contractual rights to control. Under this paradigm, they then charged the generators or load that caused the imbalance at static rates based on the BA's cost of generation.

2. What is an energy imbalance service or market? And, what is the difference between the two?

With an energy imbalance service or market, multiple BAs and entities within the BA footprints retain the services of a market operator to procure the least-cost energy to resolve energy imbalances in real time. Larger footprints can take better advantage of diverse loads and resources. With an energy imbalance market or service, the market operator can use the generation across an entire geographic territory to balance real-time supply and demand. Over time, this leads to more economic and reliable outcomes.

With an energy imbalance service, participating electricity generators have the option to bid their generation into the market to be dispatched by the market operator. The market operator then uses security constrained economic dispatch to leverage the most economic generation available, subject to the operating constraints of the generating units and transmission assets. Energy imbalance is then charged to the entities that caused the imbalance at the market clearing price.

There is conceptually no difference between the Southwest Power Pool Western Energy Imbalance Service and the California Independent System Operator Western Energy Imbalance Market. SPP ran a successful EIS in the Eastern Interconnection from 2007 to 2014 prior to transitioning to a full market. SPP is now offering its EIS in the Western Interconnection. The CAISO launched its WEIM in 2014 and has successfully operated it since that time. There are substantive differences between the two in terms of governance, tariffs, and contract provisions. However, the two market operators provide fundamentally the same service.



3. What are the drivers for participating in Southwest Power Pool's Western Energy Imbalance Service for the Western Area Colorado Missouri and Western Area Upper Great Plains – West BAs?

WAPA's BAs currently provide imbalance service within their territories; however, managing supply and demand in real time using a limited pool of resources is becoming increasingly challenging. WAPA believes that the WEIS offers a more reliable and cost effective energy imbalance management option than the traditional bilateral approach for WACM and WAUW.

Drivers for participation include:

- Mitigating BA resource limitations
- Managing the risk of diminishing bilateral trading partners as more utilities seek centralized market solutions
- Addressing energy imbalance requirements with a broader scope of available resources through a stakeholder-involved governance structure that allows collaboration with customers
- Providing new tools for the BAs in response to industry changes
- Maintaining options for potential future Day-2 or fully integrated market in the Western Interconnection

4. How can the WEIS help the WACM and WAUW BAs today?

The Southwest Power Pool WEIS will provide WACM and WAUW dramatically increased access to a diversity of generation resources for reliability needs. WAPA's hydropower resources are limited by regulatory, contractual, and operational constraints. Additional options to manage energy imbalance are needed.



5. Have WACM and WAUW limited their trading partners by going with WEIS because the market is bounded by the interconnection seam on the east and CAISO EIM on the West?

The reality of diminishing trading partners is a concern as other utilities increasingly join organized markets. Choosing a particular energy imbalance market does not in and of itself limit WAPA's trading partners. Long term, day ahead, and real time bi-lateral agreements remain available in both the CAISO EIM and SPP EIS Markets. However, real time (hour ahead) bilateral trading volume tends to diminish as some utilities utilize energy imbalance markets to balance their hourly real time positions. In addition, some hour-ahead bilateral trading deadlines set by the CAISO EIM occur before traditional trading timelines causing a dislocation in trading times between bilateral market participants. For WAPA, this limits the ability of the BA to engage in transactions to balance the BA with utilities that cannot trade closer to the operating hour. The BA must forecast the next operating hour as close to the start of the hour as possible and cannot make reasonable forecasts with deadlines that are set too far in advance. The WEIS market will likely reduce the need for hour-ahead transactions to balance the BA. Initially, the WEIS will have limited trading partners, however, these WEIS participants will continue to trade with WAPA in the bilateral and/or WEIS market. Non-WEIS participants and other trading partners outside of the WEIS footprint will continue to transact with WAPA as today in the bilateral markets. WAPA is taking a proactive position with energy imbalance markets/services to ensure the unique aspects and requirements of the Federal power system are recognized while it still has strong negotiating leverage.

6. How are you going to track costs and benefits of the WEIS and share that with customers?

The cost of the SPP WEIS will be inclusive in the various rates on service WAPA provides. Although of little benefit to firm electric service, there is considerable benefit in meeting Balancing Authority resource requirements, especially regulation/flex reserve service. Federal hydropower resources are allocated to the FES customers, and there is little surplus power available to meet the increased demand on regulation service needed to reliably operate the power system with the continued growth in non-dispatchable resources. An energy imbalance market would help alleviate those demands.

7. How will fees associated with WEIS be distributed among the FES customers? Will there be a new rate or will it be incorporated into WAPA's rates, and how can we see what that fee is?

The amounts charged will be detailed in WAPA's financial statements and rate studies. WEIS energy imbalance transaction charges/credits will replace WAPA's current energy imbalance charges/credits. New ancillary rate schedules will reflect that change. With regard to CRSP, the administrative fees associated with the WEIS will be a relatively insignificant expense as the majority of the expense will be borne by other participating entities with a more direct benefit from joining WEIS.



8. How is the governance different between CAISO and SPP?

WAPA was able to have a strong voice in the development of the SPP WEIS governance to ensure that it is consistent with our statutory obligations and customer needs.

SPP is a not-for-profit corporation that oversees the bulk electric grid and wholesale power market on behalf of a diverse group of utilities and transmission companies in 14 states. The governance structure is broadly inclusive and is designed to not be unduly influenced by any one state, subset of utilities, or stakeholder group. The WEIS governance will mirror the overall SPP collaborative processes driven by its members. This is consistent with the public power governance of many of WAPA's customers.

The CAISO is a not-for-profit corporation governed by a five member board that is appointed by the Governor of California. The WEIM has its own governing body under the umbrella of the CAISO. The WEIM governing body is directly accountable to the CAISO Board. Although significant work has been done to attempt to separate the interests of California from the CAISO, those activities have, to-date, been generally unsuccessful.

More questions and answers available

WAPA answered numerous questions during the decision phase of this effort in summer 2019.

Check out the [Colorado River Commission questions and answers](#) and [summary customer feedback documents](#) to see if your question is answered there.

Please also feel free to contact your regional VP of Power Marketing.

