California ISO
Shaping a Renewed Future

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

FAST FACTS

Energy imbalance market partnership

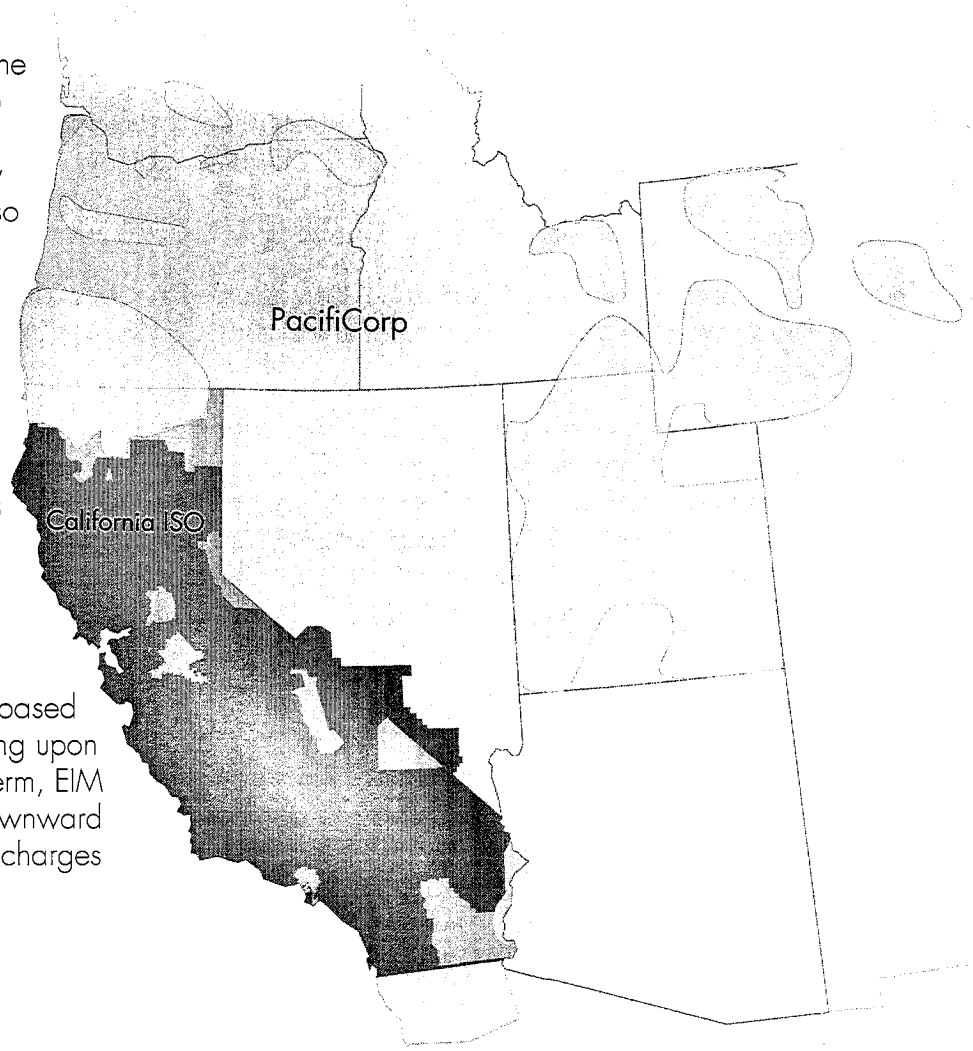
The California ISO and PacifiCorp recently entered into a memorandum of understanding to explore a broader energy partnership that brings both reliability and renewable integration benefits to the West. The regional real-time market service, referred to as an "energy imbalance market" or EIM, provides ease of entry for participation by outside utilities and optimizes supply and demand with more precision through a five-minute energy dispatch service.

Modernized energy dispatching

As the only real-time energy market in the Western U.S., advanced ISO market systems automatically balance electricity deviations every five minutes by choosing the least-cost resources available to meet demand. Deviations in expected supply and demand often occur resulting in a mismatch between available electricity versus what is needed by consumers. Balancing authorities have traditionally tried to manage these deviations by relying on manual dispatches and extra power reserves to perform the critical balance of supply and demand essential to grid reliability.

Benefits of energy diversity

The expanded EIM simply makes the ISO five-minute market available to other entities so their resources can be economically and automatically dispatched in real time. An EIM also leverages geographical diversities so regions can share resources during times of under- or over-generation. By capturing a wider portfolio of resources, an EIM optimizes available resources reducing the quantity of reserves required to ensure electricity shows up where and when it is needed.



Easy and economical entry

New EIM participants will pay their way beginning with a set-up cost based on size and ongoing fees depending upon participation level. Over the long term, EIM participation is expected to put downward pressure on existing administrative charges for all participants.

How the concept developed

The ISO was asked by the Western Governors Association Public Utility Commission EIM sub-committee in 2012 to provide a conceptual proposal for providing an energy imbalance market. By using a proven platform, the ISO was able to provide a proposal that is highly scalable and allows entities to enter as they choose, when they choose. Further, it is easier for these entities to get involved because their financial commitment is small compared to other options of building an EIM from scratch.

PacifiCorp and future EIM participants will maintain their existing balancing authority responsibilities and continue to line up their own operating reserves and serve their customers. The ISO's energy imbalance approach simply provides "ease of entry" for participating in the ISO real-time market so that outside utilities can optimize supply and demand with more precision through a five-minute dispatch service with access to a large pool of resources.

Helps renewables and reliability

As the nation's energy supply becomes more diverse, regional coordination and finely-tuned dispatches become more important because of changing weather conditions that produce variability in wind and solar power generation. The EIM improves the ability to manage resource deviations, smoothing out power flows so that renewable energy is effectively integrated onto the grid.

EIM strengthens grid reliability by trueing up supply and demand closer to when electricity is consumed and by allowing real-time visibility across neighboring grids. ISO market systems sense changes in supply and demand and automatically adjust to find the best resource to meet fluctuating demand. This also optimizes the high-voltage system as the market takes into account electricity bottlenecks on transmission lines when it corrects and balances the flow of electrons on the grid.

Next steps

A stakeholder briefing regarding the EIM partnership is scheduled for February 27th. The ISO Board of Governors will then be asked at its March 2013 meeting to approve moving forward with the EIM implementation agreement negotiations with the expectation the agreement will be filed with the Federal Energy Regulatory Commission (FERC) at the end of April 2013.

The ISO expects to initiate a formal stakeholder process in the second quarter of this year regarding how the EIM should be integrated into its federal transmission tariff and seek FERC approval for the tariff modifications by the end of 2013.

In parallel, the ISO will work with PacifiCorp on system modeling and technical design with the goal of implementing the EIM partnership by October 2014. Once FERC approves the implementation agreement, the ISO plans to open an application window, perhaps as early as this summer, for additional participants interested joining the EIM in 2015. The initial EIM governance framework will be consistent with the current governance structure, allowing for voluntary participation and expansion of participants and market activities, and may evolve based on stakeholder feedback.

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FAQ

ISO and PacifiCorp EIM partnership

Q: What is an energy imbalance market (EIM)?

A: The automated ISO system balances electricity supply and demand every five minutes by choosing the least-cost resource to meet the needs of the grid. External to the ISO, however, utilities still manually balance supply and demand. A more precise system will help with the transformation to a more diverse energy mix. Renewable resources introduce new operating dynamics best met by modernized grid dispatching. This latest technology increases visibility of interconnected systems and uses automated tools to more accurately balance resources, which is why it is referred to as an "energy imbalance market" or EIM.

Q: If it is more efficient, will it reduce costs?

A: The EIM is expected to bring down costs by allowing non-ISO transmission owners to benefit from economically dispatched power and the ISO to benefit from access to a wider array of resources. It will also achieve efficiencies by leveraging geographical diversity to fine-tune electricity flows during times of under- or over-generation of energy. For instance, resources such as wind and solar power fluctuate depending on the weather, which can be calm and sunny in one area, and cloudy and windy in another. By capturing a wider portfolio of resources, an EIM optimizes available regional resources to ensure electricity shows up where and when it is needed. That saves costs and enhances reliability.

Q: How much will it cost and who pays for it?

A: The pay-as-you-go structure includes an initial start-up fee based on the size of the potential partner. In the case of PacifiCorp, the start-up fee is estimated to be about $2 million. The ISO and PacifiCorp are working to define additional costs unique to their systems to ensure that the benefits of an EIM outweigh the costs. Once the technical requirements are in place and the market goes live, PacifiCorp will only pay as it uses the market for the benefit of its customers. EIM participants can enter and exit easily, and the service is scalable so that other entities can join at any time. The EIM does not raise costs for existing participants in the ISO market.

Q: Why a market-based solution?

A: The ISO already operates a real-time market with five-minute dispatch capability. This is tried and true and exists in a similar form in two-thirds of the United States, particularly in the Northeast and Midwest as well as much of Canada. This arrangement signals PacifiCorp's interest in joining what is already working effectively to lower costs and in doing so expands the pool of reserves available. It is a natural step toward more efficient management of both PacifiCorp and ISO systems for the benefit of customers.

Q: Will this lead to a regional EIM?

A: Regional discussions related to the development of a west-wide EIM as well as other potential western energy market enhancements are ongoing and generally show broad benefits. Both the ISO and PacifiCorp remain fully supportive of efforts to move toward broader market coordination. We believe that the larger an EIM, the greater the benefit for customers. At the same time, PacifiCorp feels a responsibility to pursue customer and system benefits now, if that opportunity exists. Other western grids may pursue joining the expanded EIM in the future within a timeframe established by the ISO. The increased need to integrate renewable resources and reduce the strain on the transmission system makes the pursuit of better regional coordination more pressing now and in the future.

Q: What happens next?

A: A stakeholder briefing regarding the EIM partnership is scheduled for February 27th. The ISO Board of Governors will then be asked at its March 2013 meeting to approve moving forward with the EIM implementation agreement negotiations with the expectation the agreement will be filed with the Federal Energy Regulatory Commission (FERC) at the end of April 2013.

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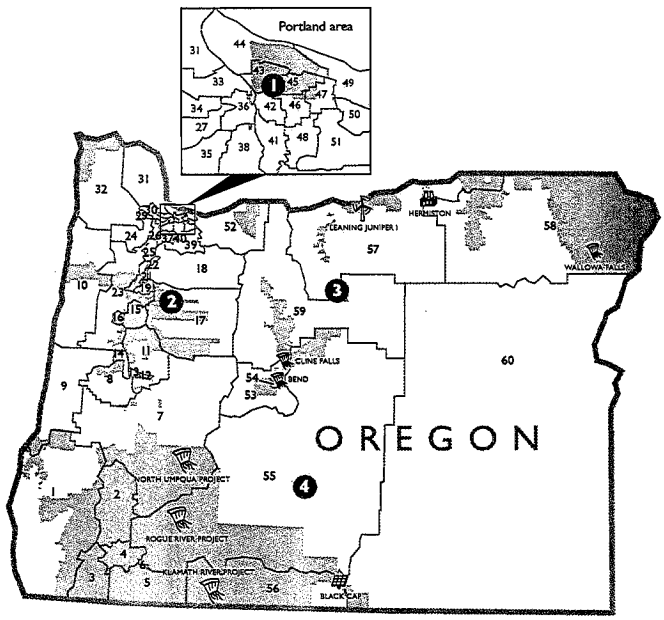
Where are Pacific Power's customers located across Oregon's legislative districts?

Oregon House Districts

Roll over the different numbered sections of Oregon to learn more about the company's presence in each region.



District number	Number of Pacific Power customers	District number	Number of Pacific Power customers
1	22,500	32	23,300
2	28,100	33	100
3	26,600	36	4,100
4	27,300	43	23,900
5	27,200	44	11,900
6	25,000	45	22,600
7	16,200	46	7,000
8	500	47	4,700
9	15,000	52	7,100
10	12,700	53	30,800
11	8,400	54	20,700
14	1,600	55	27,800
15	40,600	56	34,400
16	12,700	57	6,800
17	23,200	58	18,100
19	1,200	59	12,500
23	18,700	60	200

Pacific Power service area
Natural gas facility
Hydro
Wind facilities
Solar facilities

2012