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The Start of Something Big?



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A historic [agreement](#) between California's Independent System Operator and mega-western utility PacifiCorp to share an "Energy Imbalance Market" (EIM), may be a major turning point for renewable power generation in the West.

This week's announcement lays the groundwork for a voluntary energy sharing market – also known as an Energy Imbalance Market -- that can take advantage of electricity from underutilized flexible generation (generation that can start up within minutes), which can smooth out the variability inherent with renewable energy sources. In other words, when the sun is shining (or the wind is blowing) in one place, that energy produced can be used to match fall-offs in generation in other places where the wind is dying down or the sun is blocked by clouds. Renewable energy sources in different geographical locations, with different operating characteristics can be used to balance the variability of renewables elsewhere.

The agreement to develop an EIM by October 2014, which can be extended to other utilities (participation is voluntary), could be the first step to much broader coordination in the way we operate the western grid, something that is essential for adding large amounts of renewable energy into the system as we continue to phase out coal. My colleague Allison Clement described the [significance of this announcement](#) from a national perspective shortly after it was announced.

An EIM facilitates deep penetrations of renewable energy into the western grid in a couple of ways. First, by allowing participating utilities to share power generation they hold in reserve, it is easier and cheaper to continuously balance generation and customer loads to keep the grid stable. Second, it enables market participants to use existing transmission line capacity more completely. An EIM saves money for consumers because by dispatching the grid more efficiently, congestion and the need for duplicative generation and transmission infrastructure is avoided.

An EIM also allows for better utilization of flexible, fast-starting gas resources we already have in the system, but which may be used infrequently because of a lack of local demand. We have a significant amount of excess gas generation capacity across the West. Using some of this gas generation from the *existing* fleet of power plants can prevent the need for utilities to build new gas plants. Instead, utilities can share the gas capacity they hold in reserve for renewable balancing with their neighboring utilities. Less gas is burned, fewer power plants are built, and more renewables can be added to the grid at lower cost. One of the major barriers to renewable integration – swiftly addressing energy imbalances – is lifted.

But this agreement is not the only good news on the renewable integration front. The Northwest Power Pool (NWPP), an electricity marketing group that includes the Bonneville Power Administration and 21 other utilities, is also considering the formation of an EIM and a series of other major operational improvements that would enormously benefit renewable energy generation. The collection of measures is referred to as an "Efficient Market Tool (EMT)," and includes procedures that, generally speaking, speed up, automate and coordinate the scheduling of electricity resources available from numerous utilities. The EMT would enhance reliability more cost effectively by sharing balancing and regulation resources, and make more efficient use of the grid.

The NWPP initiative is a big deal. If an EIM and EMT are adopted in the Northwest, the NWPP could eventually join forces with CAISO and PacifiCorp to greatly improve and modernize grid operations over much of the western interconnection. This improvement would be revolutionary in the West, and a revolution like this is just what we need to realize our clean energy vision.

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