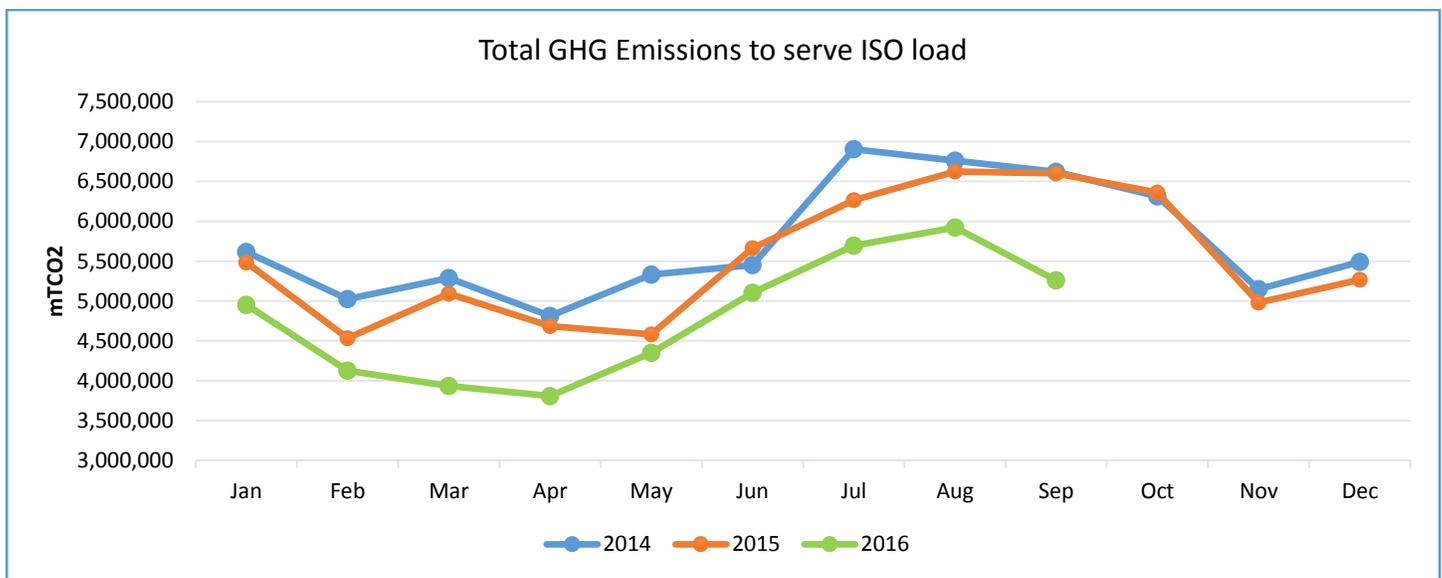


This report depicts greenhouse gas (GHG) emissions for the California Independent System Operator’s (ISO) balancing authority area as a direct result of the dispatch of ISO internal resources, net imports (including dynamic resources), and transfers from western Energy Imbalance Market¹ (EIM) entities into the ISO.

The report consists of two graphics: Figure 1 reflects total GHG emissions to serve ISO loads. Figure 2 shows the cumulative reduction of GHG attributable to the EIM.

FIGURE 1 – Total GHG emissions to serve ISO load. This figure reflects the sum of GHG emissions from internal ISO dispatches and GHG emissions from net imports into ISO, and the GHG emission impact from EIM transfers into the ISO using a counter-factual dispatch.² The graphic shows GHG emissions in 2016 are tracking below the previous two years shown.

YTD (January - September) million mTCO2	2014	2015	2016
GHG Emission to serve ISO load	51.81	49.53	43.15



¹ Energy Imbalance Market was launched on November 1, 2014.

² Counter-factual dispatch for GHG emissions was calculated starting January 2016. Before January 2016, GHG resource allocation in EIM entity was used for EIM transfers.

Since the introduction of the EIM, the ISO has been operating an ever-expanding real-time energy market across the western United States. The EIM supports the real-time transfer of non-emitting resources to displace emitting resources across participating systems, which in turn may help reduce GHG emissions associated with serving electricity loads, both within the ISO’s balancing authority area and the EIM entities’ balancing authority areas. To understand the volume of GHG emissions reductions facilitated by EIM in the respective ISO and EIM participants’ systems, it is necessary to conduct a counter-factual assessment, i.e., what GHG emissions would have occurred without the real-time transfer of energy among the ISO and EIM participants’ systems.

FIGURE 2 - EIM GHG reductions. The calculations reflected in the figure below rely on a counter-factual dispatch methodology from the ISO’s EIM quarterly benefits reports. The positive benefits in the figure below show how EIM transfers have reduced GHG emissions relative to a counter-factual assessment of emissions across the ISO and EIM balancing authority areas without EIM transfers. The line represents the way in which cumulative GHG reductions peak at the end of spring, when renewable generation is being optimized by the western region. Subsequently, during the summer, renewable generation serves California’s increased electric demand. The overall cumulative reduction in GHG emission from January through September 2016 is 136,724 metric tons.

YTD Cumulative (January 2016 - September 2016)	mTCO2
Reduced GHG emission	136,724

