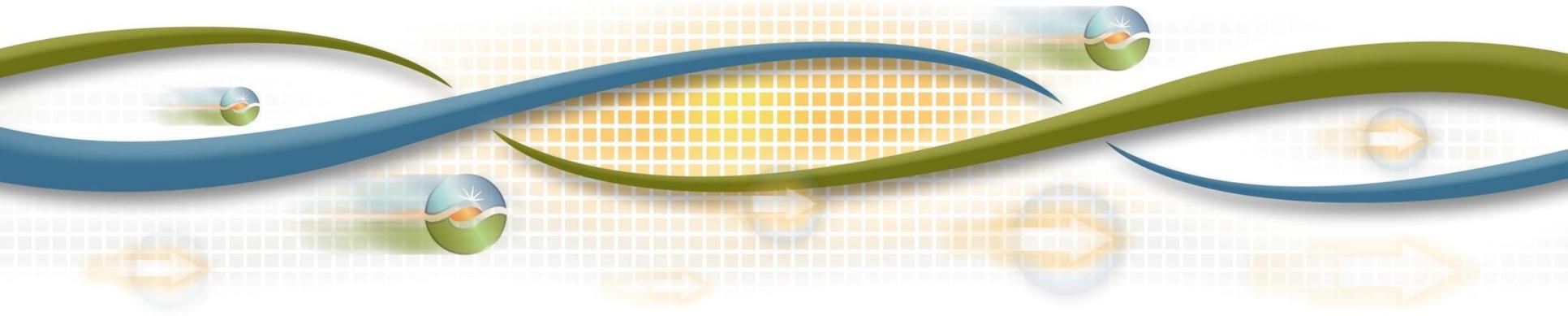




Energy Imbalance Market GHG Counter-Factual Comparison (Preliminary Results: January-June 2016)

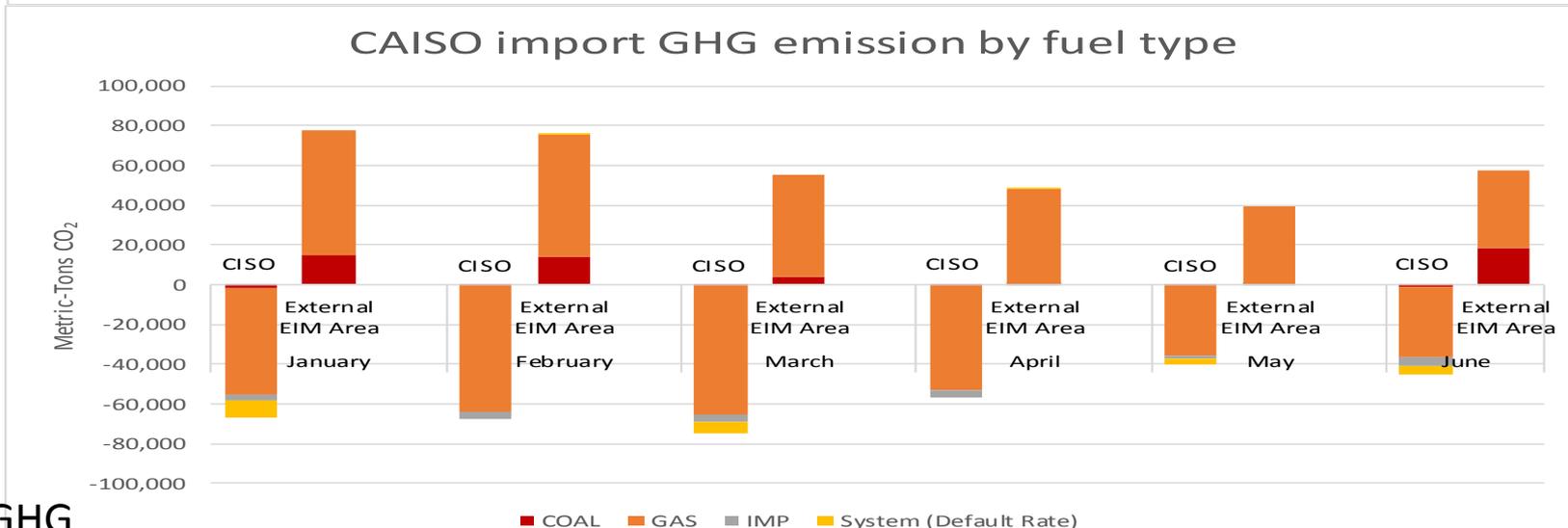
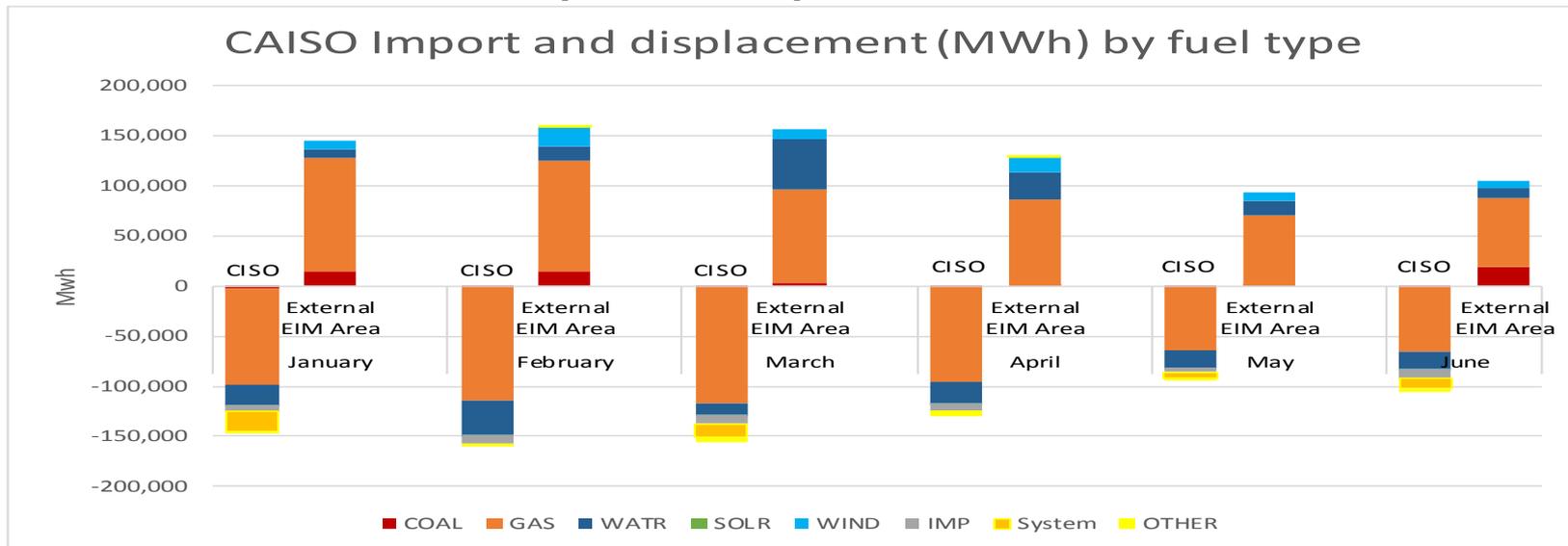
August 25, 2016



Preliminary Counter-factual Comparison

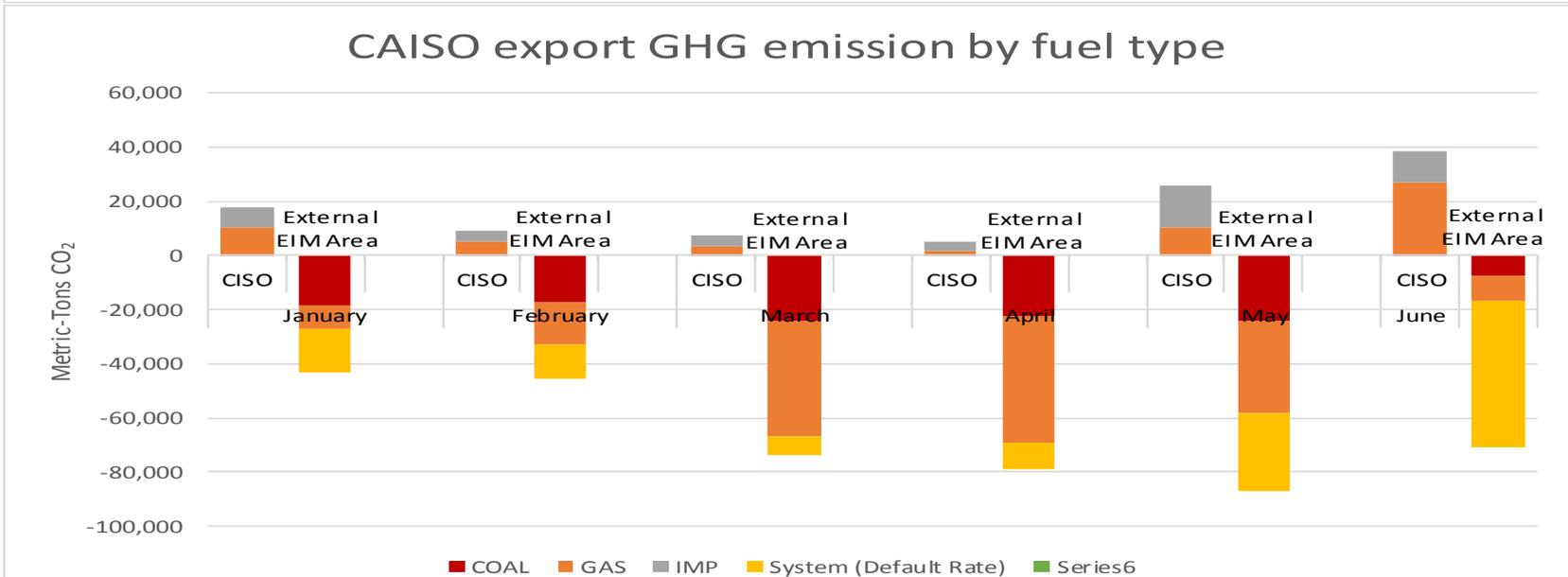
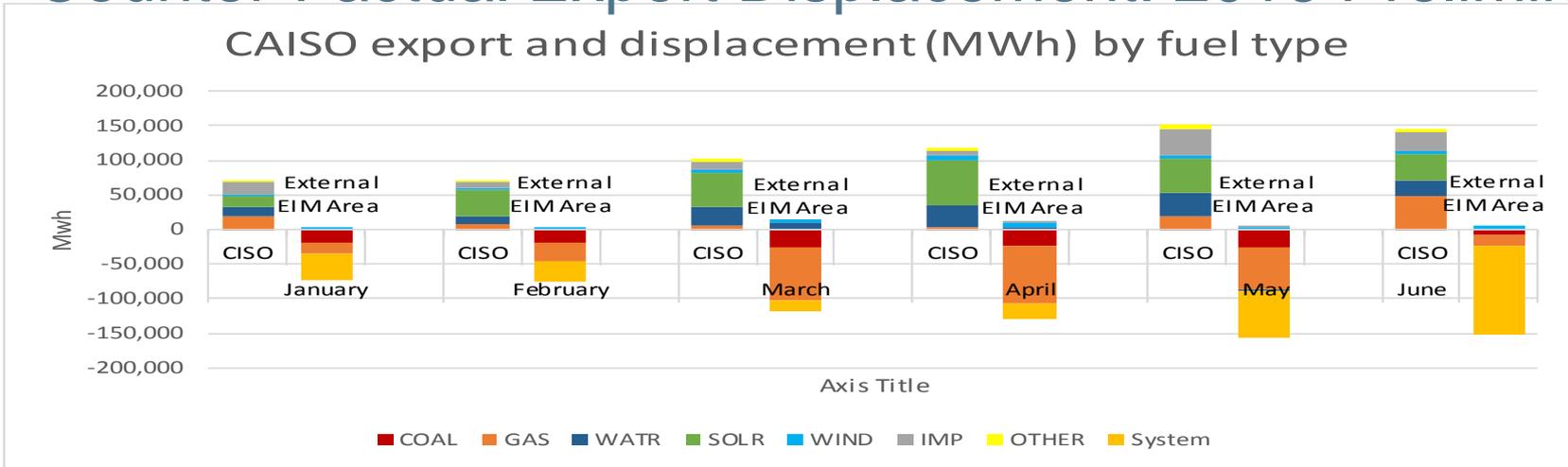
- Leverages counter-factual dispatch used for EIM benefit reports
- Slide 3 compares dispatch and GHG of external resources supporting CAISO imbalances and internal CAISO supply displaced by EIM transfers to the CAISO.
 - Upward bars reflect external supply dispatched in EIM case that would not be dispatched in counter-factual without EIM
 - Downward bars reflect CAISO supply that is displaced by EIM transfers to CAISO
- Slide 4 compares dispatch and GHG of internal supply and external supply displaced by EIM transfers out of CAISO
 - Upward bars reflect CAISO supply dispatched in EIM case that would not be dispatched in counter-factual without EIM
 - Downward bars reflect external supply that is displaced by EIM transfers out of CAISO
- GHG difference at bottom of slide 3 and slide 4:
 - (-) EIM reduces GHG relative to counter-factual
 - (+) EIM increases GHG relative to counter-factual

Counter Factual Import Displacement: 2016 Preliminary



GHG Difference	January	February	March	April	May	June	Total Difference
	10,471	7,529	-19,571	-8,073	-314	12,065	2,106

Counter-Factual Export Displacement: 2016 Preliminary



GHG Difference

January	February	March	April	May	June	Total Difference
-25,293	-36,289	-66,411	-73,260	-60,564	-32,287	-294,105

EIM reduces GHG by total of 291,998 Mtons

California ISO

Conclusions

- EIM dispatch reduced GHG emissions by 291,998 MTons for period January-June 2016
- The secondary dispatch GHG emissions associated with EIM transfers into CAISO to serve load are offset by GHG emission reductions associated with EIM transfers out of the CAISO; the EIM transfers out of the CAISO reflect renewable resources displacing external emitting resources