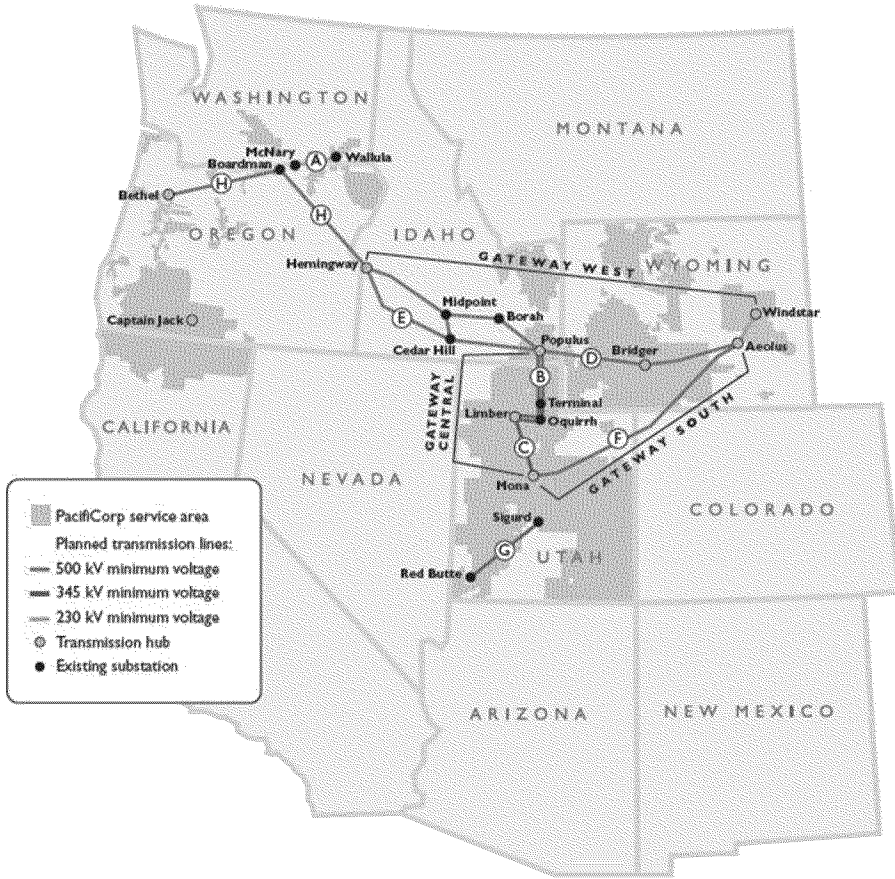
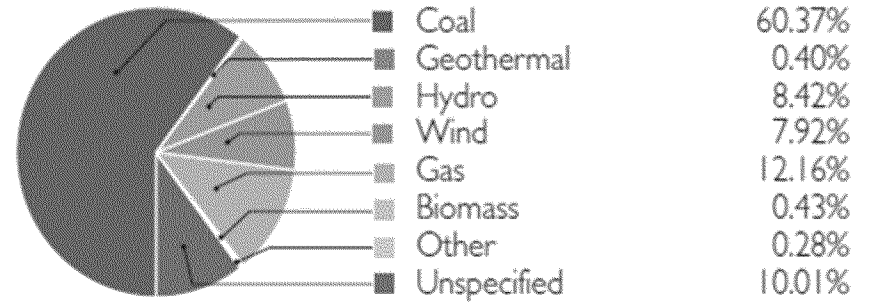




CAISO/PacifiCorp Energy Imbalance Market - Background



Generation sources
(energy production)



EIM will perform least-cost dispatch across the combined footprint of the CAISO and the two PacifiCorp BAAs: PacifiCorp East (PACE) and PacifiCorp West (PACW) in the Real-time Market (but not in Day Ahead)



Overview

- PG&E supports the CAISO's EIM stakeholder process to vet the benefits, costs, and design details of the CAISO-PacifiCorp EIM
- PG&E's support of an EIM will depend on achieving a level of comfort that the benefits to customers will be commensurate with the costs and risks that will be incurred by customers
- Currently:
 - CAISO claims combined gross benefits of \$20-130M/yr. (study details are lacking)
 - CAISO estimates the cost to implement at \$2.1 – 18.3M (for WECC-wide); PacifiCorp's exposure capped at \$2.1 million
 - GHG design does not appear fully fleshed out
 - Other significant design details still to be worked out



Key Considerations

- 1) Costs:
 - a. Exit Fees (no exit fee currently)
 - b. Fair Administrative Cost Sharing (implementation cost capped for PacifiCorp)
 - c. Uplift / Allocation of PacifiCorp Congestion Costs
- 2) Greenhouse Gas (GHG) Compliance / Optimization
- 3) Virtual Bidding Impacts – EIM may create systematic market differences that can be gamed)
- 4) CAISO's process to modify PacifiCorp pre-EIM schedules to ensure schedules going into real-time are feasible
- 5) Preferred Stakeholder Status – PacifiCorp could have greater leverage in stakeholder processes if no exit fees
- 6) Changes in CAISO governance
- 7) Other BAAs with large intermittent portfolio or inflexible resources may exacerbate CAISO grid challenges