



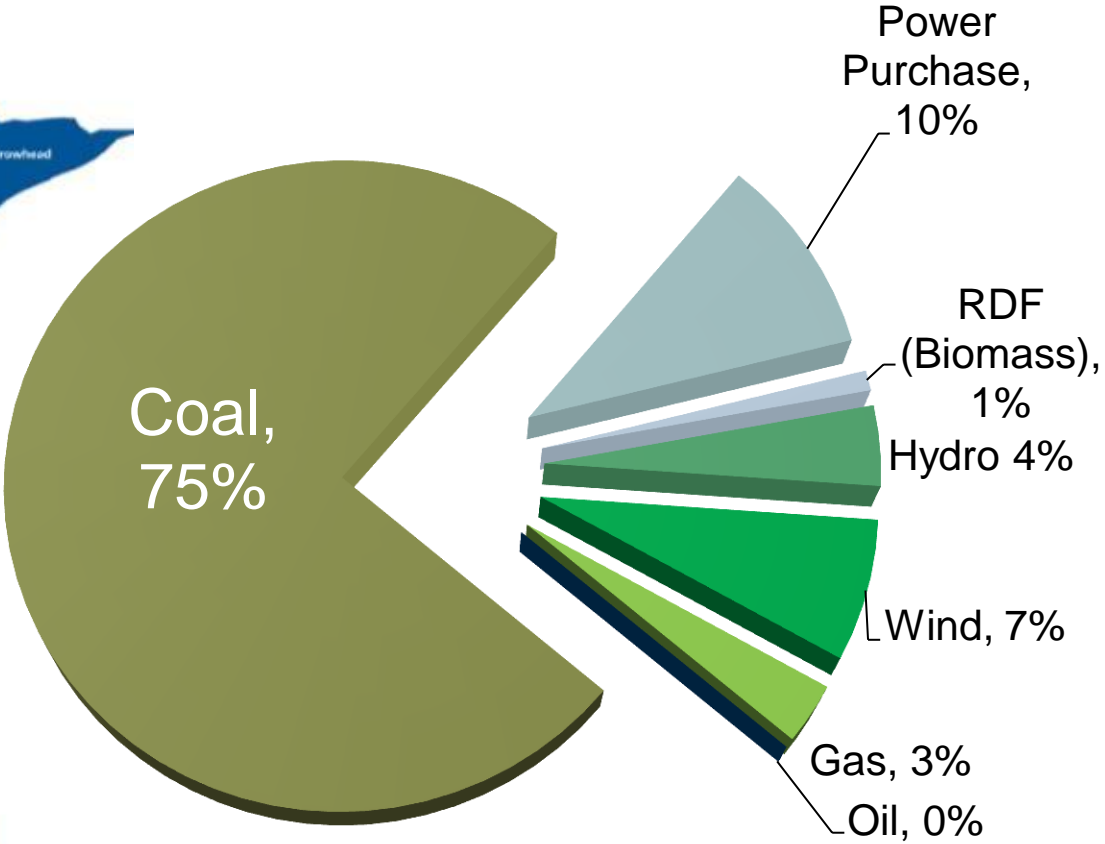
Great River Energy

Gary Connett

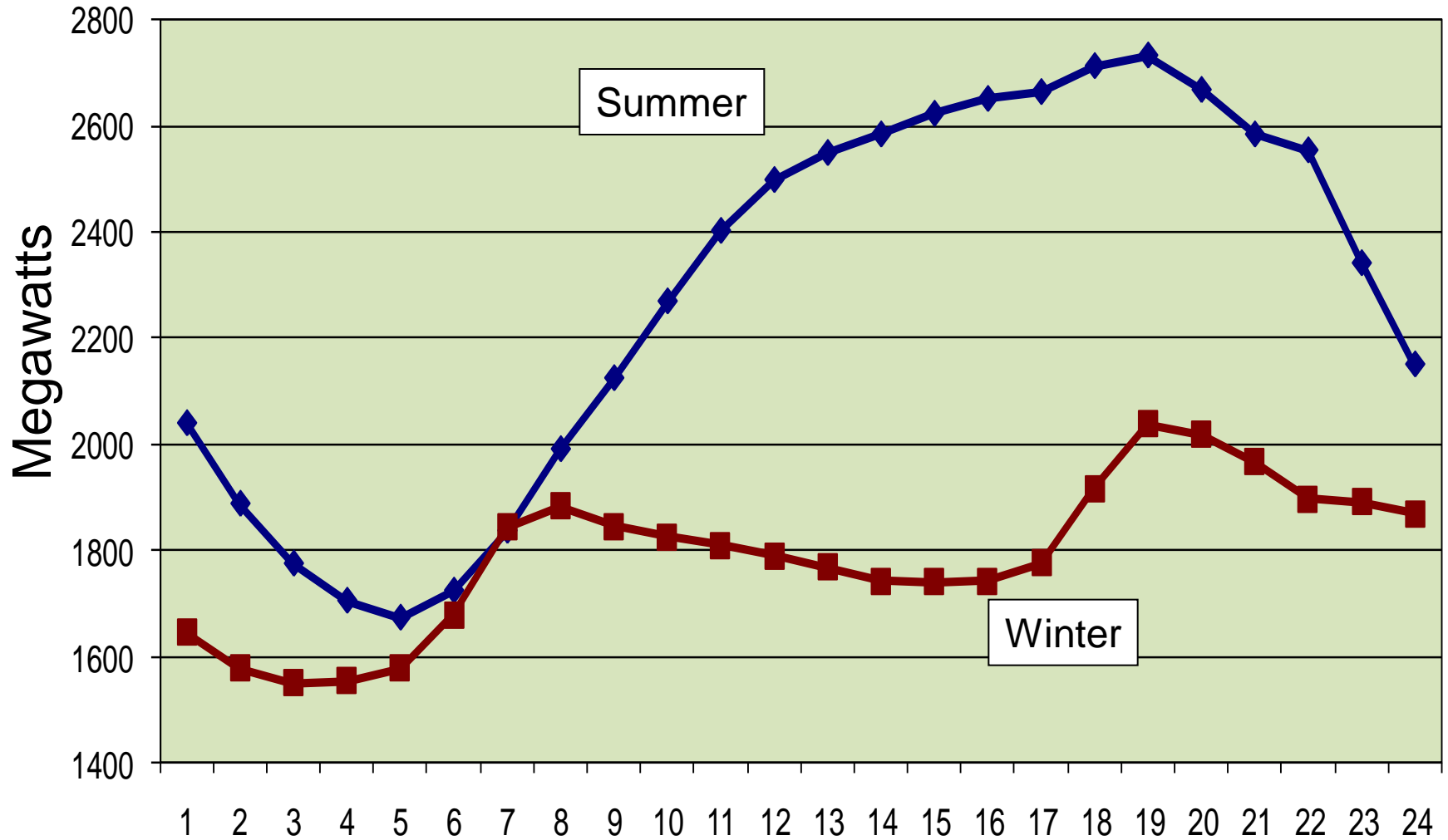
GREAT RIVER ENERGY®
A Touchstone Energy® Cooperative



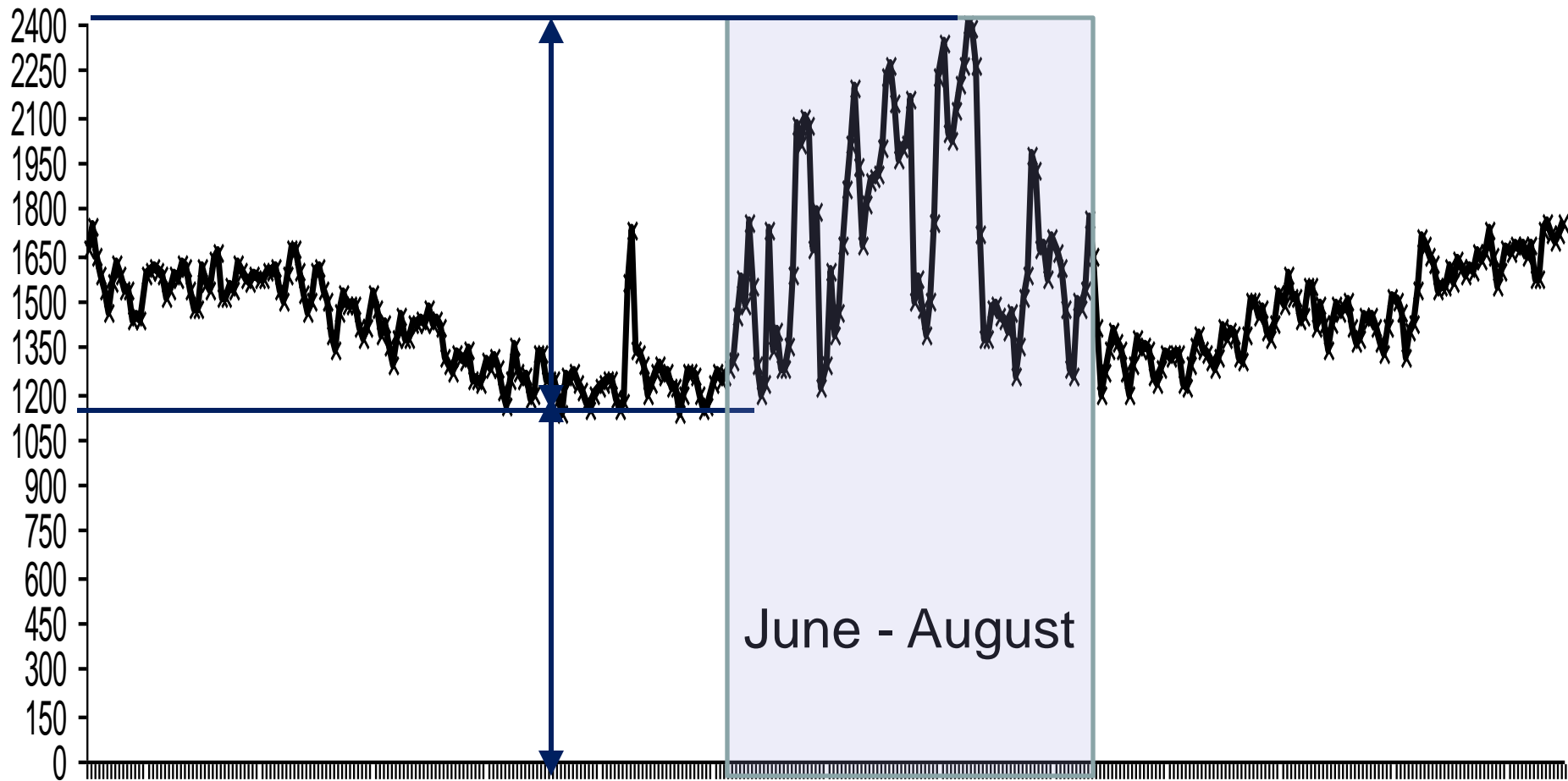
Great River Energy



GRE's daily load curves



GRE's daily peaks



MN conservation rules

- Goal:
 - Annual kWh savings of 1.5% of retail sales
 - 1% from customer-side of meter
 - Additional savings from utility-side of meter
- Requirement:
 - Conservation spending of 1.5% of retail revenue
 - Includes a low income requirement
- No renewables or demand response count
 - With exception of some demand response

Energy Conservation

- Energy conservation
 - Behavior change
 - Energy efficiency
 - Technology improvement
- } Saves kWh
- Demand Response
- } Saves kW
- Strategic conservation
- } Saves both

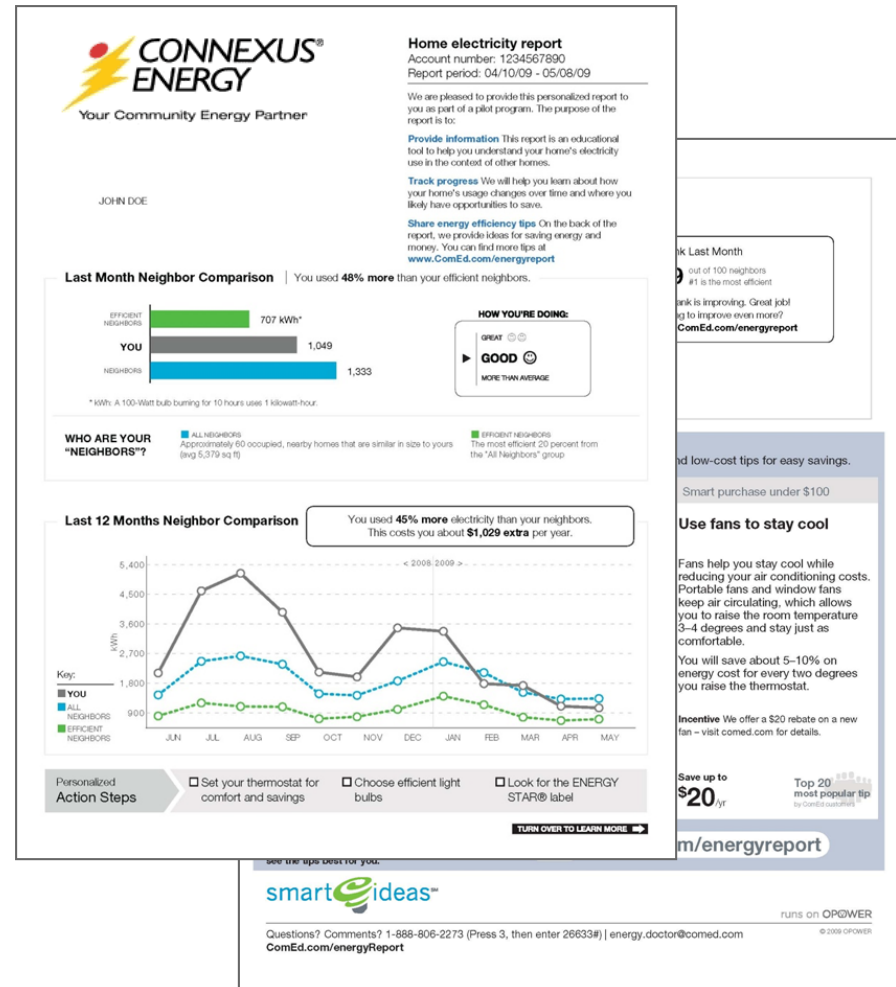
Energy conservation and efficiency programs

- Least-cost resource
- Good for our membership
- Currently, not as good for GRE...
- How can we meet the goal, help our members, and help GRE too?
- Focus on programs that:
 - Are least costly (cost per kWh saved)
 - Provide the greatest energy savings
 - Include demand response benefit as well
 - Possibly increase sales

Customer behavior programs

What motivates customers to take action?

- Comparing consumption to like neighbors
- GRE was piloting one of the nation's largest home energy reporting programs
- Program uses:
 - Cutting edge behavioral science
 - Customer data analytics
 - Software & web-base tools



Utility-side energy efficiency

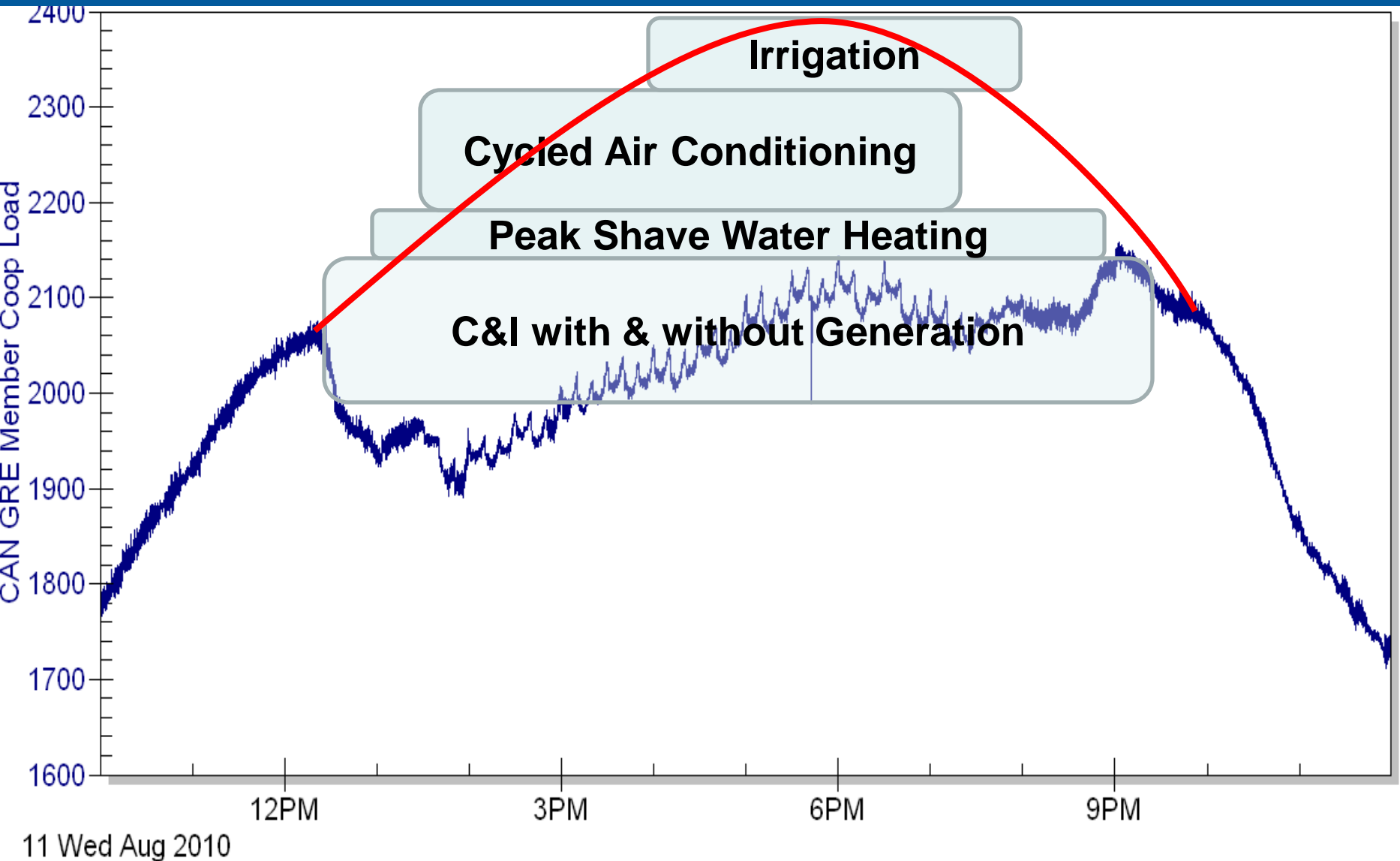
- **Distribution improvements**
 - Feeder upgrades
 - Capacitor banks
 - Transformers
- **Transmission**
 - Line upgrades
- **Generation**
 - Efficiency improvements
- **Waste heat to electricity**
 - Combined heat and power



Demand Response

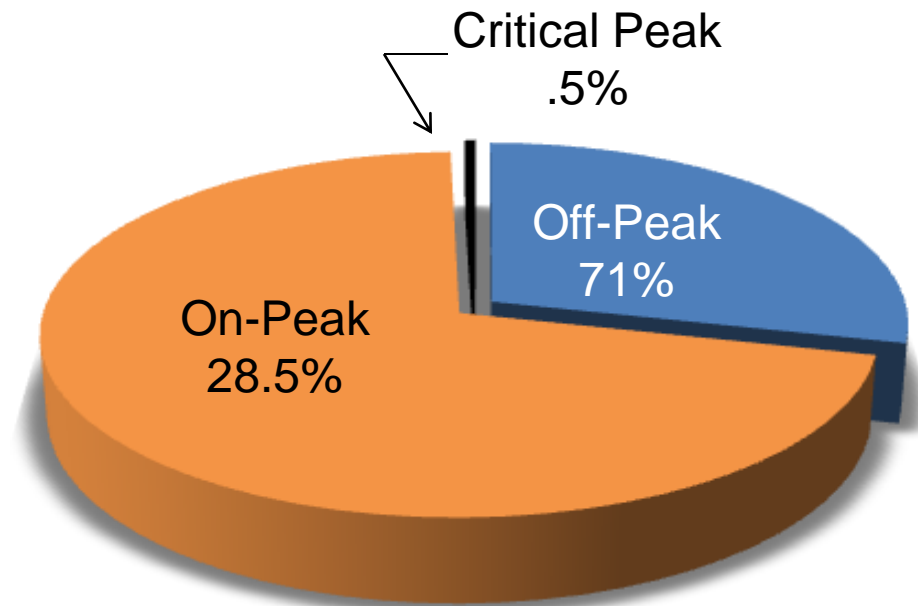
- Reducing demand during occasional high-demand periods
 - Reduces the need for new “peaking plants”
 - Or, reduces wholesale energy purchases
- Popular DR programs
 - Cycled air conditioning
 - Controlled irrigation
 - Customer owned generation
 - Off-peak and interruptible space heating
 - Off-peak and interruptible water heating

August 11, 2010



GRE's Wholesale Rate Structure

- On-Peak
 - 10:00 am – 8:00 pm
Monday-Friday
- Off-Peak
 - All hours that are not On-Peak or Critical Peak
 - Includes all weekends and holidays
- Critical Peak Period
 - 40 to 80 hrs per year



Summary

- Challenging energy savings goal
- Substantial spending requirement
- Committed to the goal, but looking for best solutions
 - What's best for our members?
 - Can we get demand response benefit?
 - Are there any programs that help meet the goals, but minimize negatives to GRE?