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Alternative Energy Sources & Conservation in Florida

L. Walton



State Policy Objectives

Adam Putnam - *Commissioner, Florida Department of Agriculture and Consumer Services*

Objective: to secure a stable, reliable and diverse supply of energy for Florida.

- Stabilizing the price of fuel is key to keeping the price of energy predictable and affordable.
- Reliability is important to ensure that Floridians can count on a steady supply of electricity.
- Diversity is imperative to minimize price and outage risk to consumers, increase/improve energy security, ensure long-term sustainability and foster economic development.

State Policy Recommendations

- Increase diversity in Florida's energy portfolio
- Advance renewable energy production
- Encourage the development of home-grown technologies
- Promote energy efficiency

Renewable Energy

"Electrical, mechanical, or thermal energy produced from a method that uses one or more of the following fuels or energy sources: ethanol, cellulosic ethanol, biobutanol, biodiesel, biomass, biogas, hydrogen fuel cells, ocean energy, hydrogen, solar, hydro, wind, or geothermal. "Biomass" means a power source that is comprised of, but not limited to, combustible residues or gases from forest products manufacturing, waste, byproducts, or products from agricultural and orchard crops, waste or co-products products from livestock and poultry operations, waste or byproducts from and food processing, urban wood waste, municipal solid waste, municipal liquid waste treatment operations, and landfill gas."

Non-Dispatchable Renewables

Solar – the capacity for solar power in Florida is among the highest in the country. Higher capital startup costs with low O&M costs.

Wind – very little sustainable wind in Florida limits implementation.

Hydro – limited by topography.

Dispatchable Renewables

Biomass – powered by organic material such as residual production (wood chips from logging, wheat straw, etc) or purpose grown crops. Florida ranks first in bioenergy feedstock of sugarcane and citrus, forest residues and urban wood waste.

Waste to Energy – combustion of municipal solid waste or capturing landfill gas to run generation. Reduces landfill needs.

Ancillary Benefits

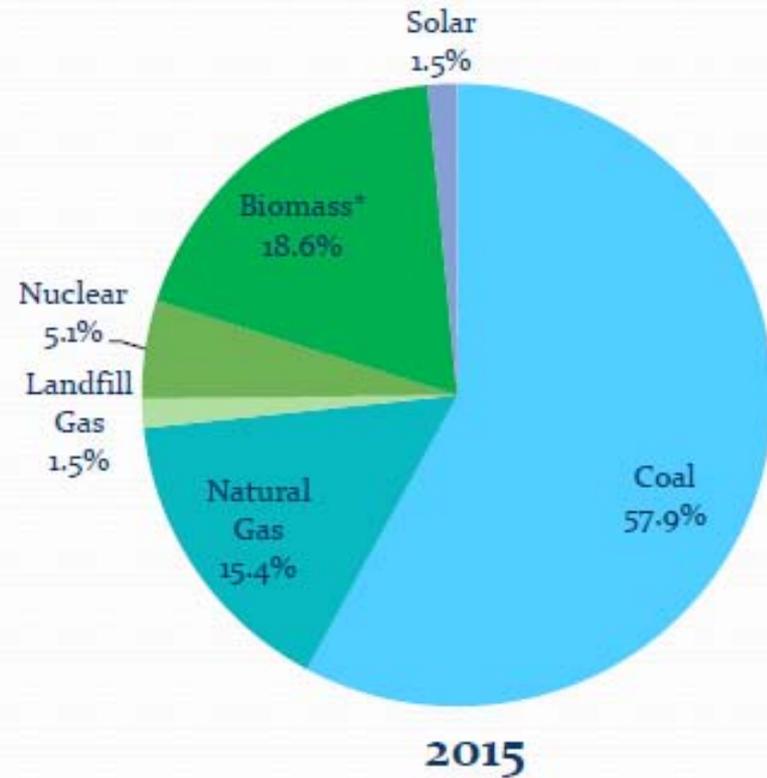
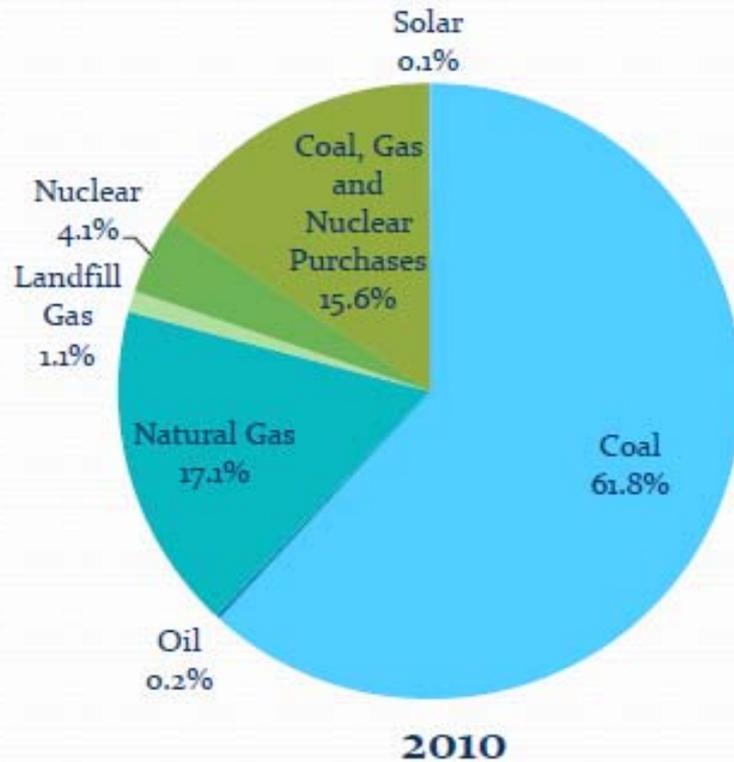
Energy reliability – renewable is local; without constraint, risk and cost of delivered fuels.

Environmental benefits – greenhouse gas emissions and landfill space.

Long-term price stability – less volatile and more predictable than fossil fuels.

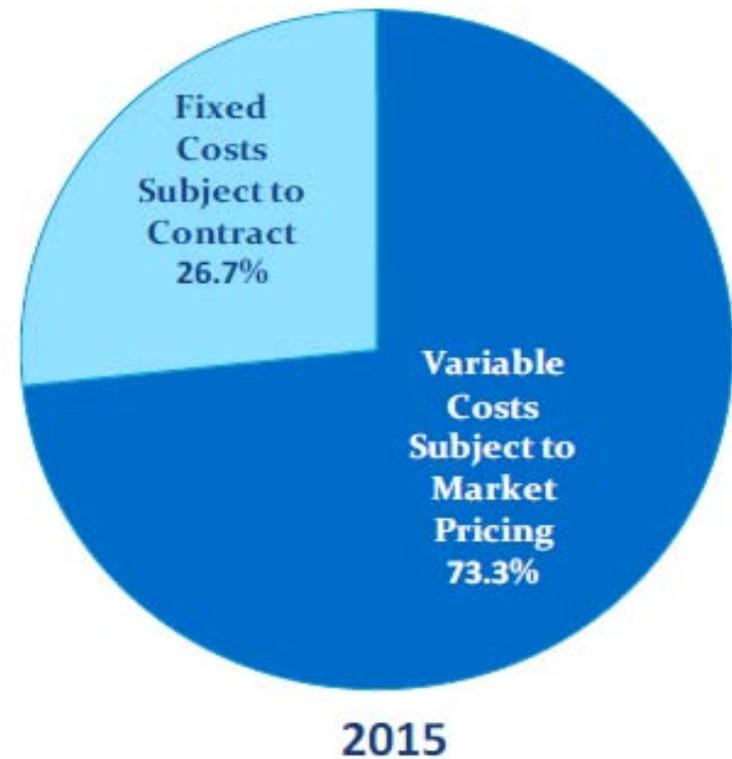
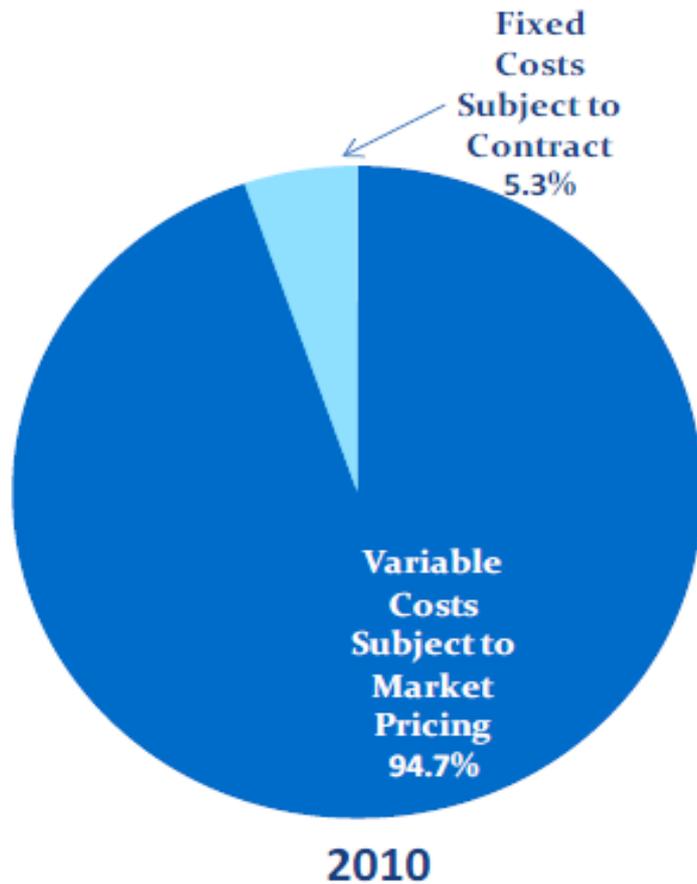
Economic development – solar creates up to 30 direct jobs per MW and biomass projects generated \$1.15 billion in output and 17,500+ jobs in Florida.

Increase Fuel Diversity –Portfolio Strategies Reduce Risk

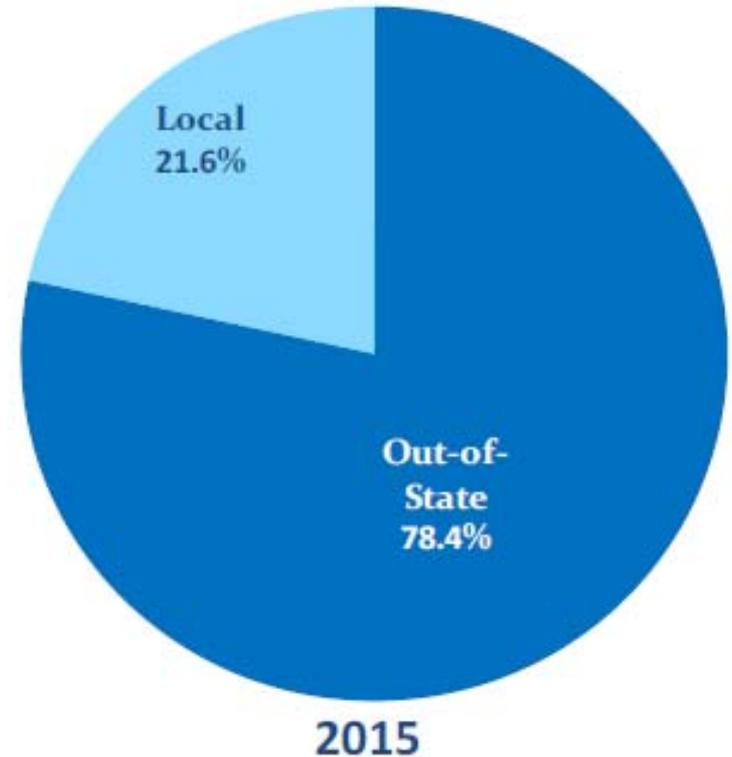
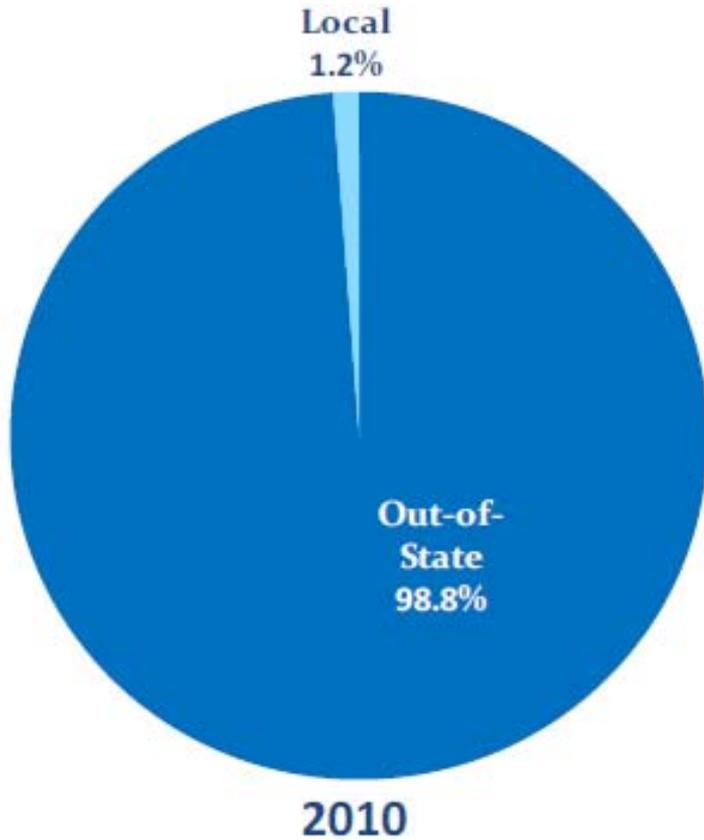


* Assumes GRU retains 50 MW of GREC

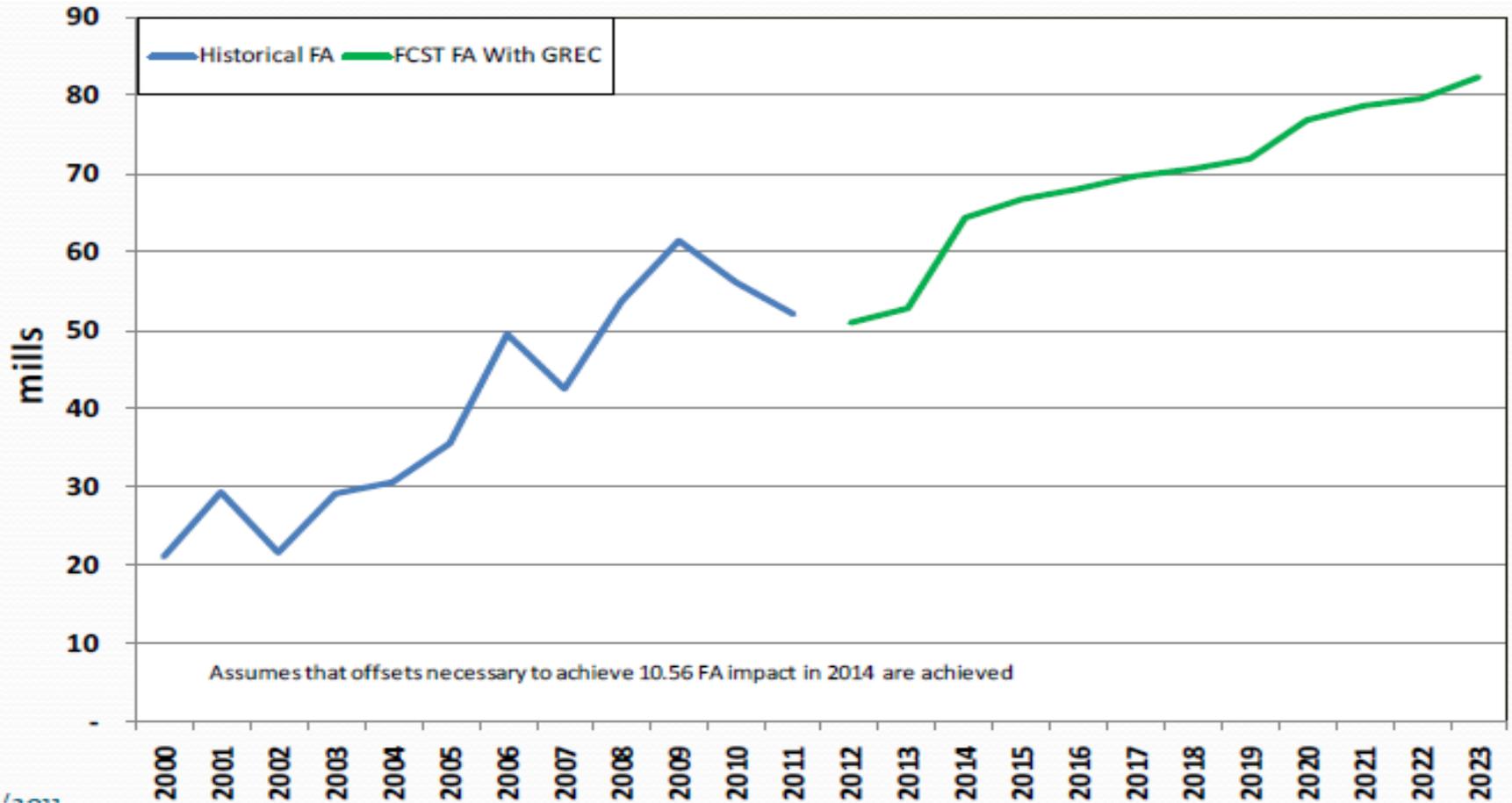
Price Stability –Less Market Exposure



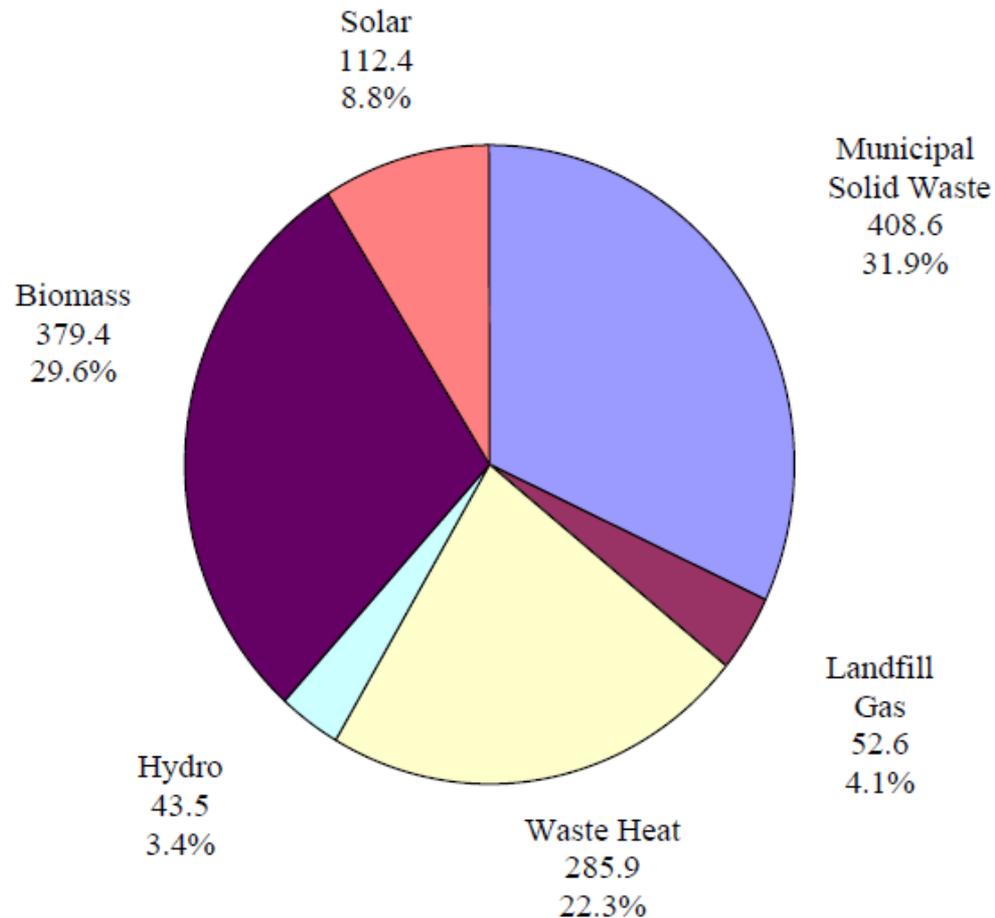
Energy Independence -Local Fuel



Projected FA – Current Fuel Price Forecasts



Florida's Renewables in MW (2011)



Energy Efficiency

The ratio of the work done or energy developed by a machine, engine, etc., to the energy supplied to it, usually expressed as a percentage.

Energy Efficiency Programs

Rebates – cash incentives to bridge cost of implementing higher standards.

P.A.C.E. – (property assessed clean energy program) financing efficiency improvements through tax bill.

Standards & Codes – requirements for insulation, equipment, and new construction or improvements.

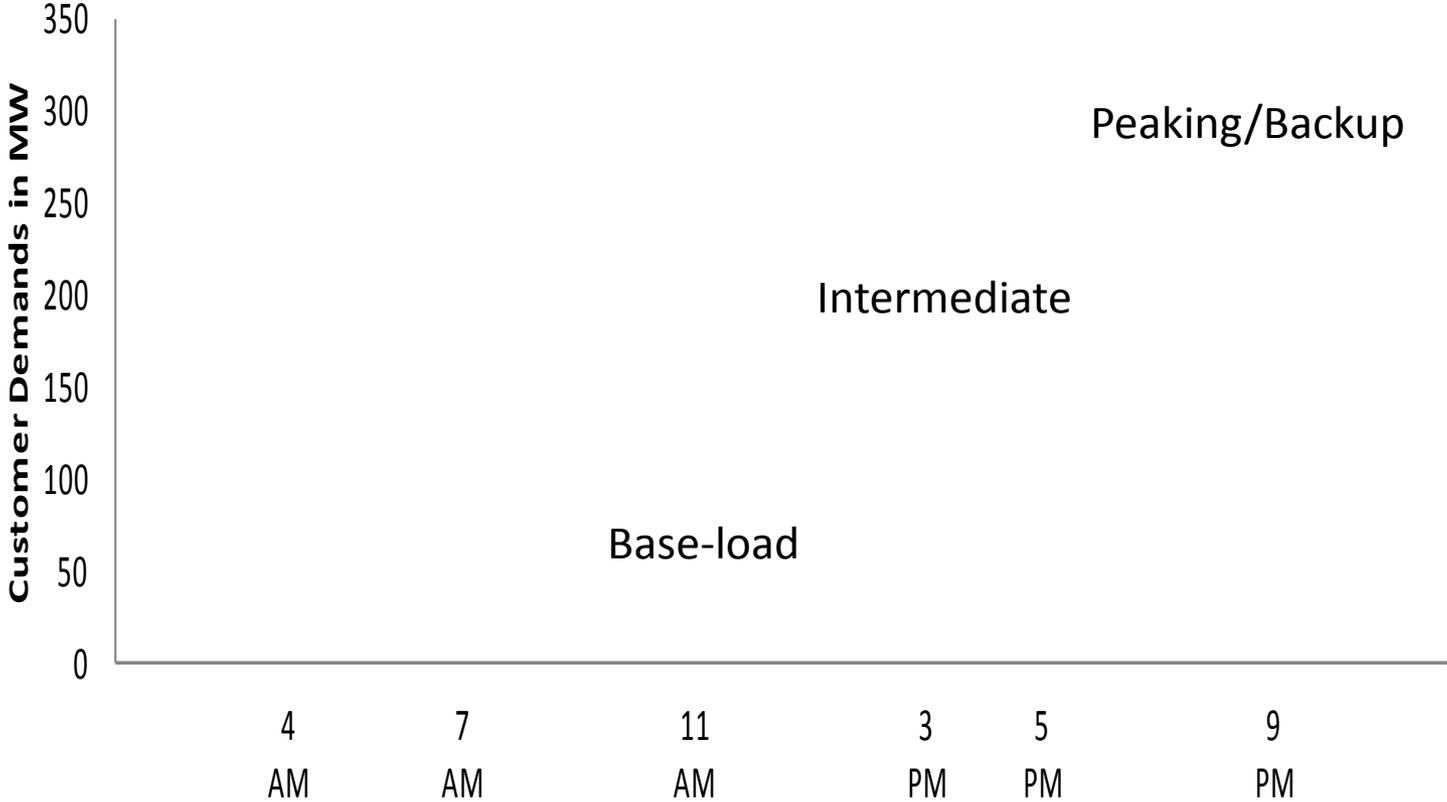
Conservation Programs

Education – promoting knowledge to lower bills or use less energy.

Marketing – promoting certain perspectives to change behavior.

Outreach – communications to groups who may otherwise not be influenced by the above.

IT WAS A TUESDAY.....





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Thank You

