The Issues

1. **"The more than 60,000 water systems and 15,000 wastewater systems in the United States are among the country's largest energy consumers, using about 75 billion kWh/yr nationally – 3 percent of annual U.S. electricity consumption."**

Electric Power Research Institute, Energy Audit Manual for Water/Wastewater Facilities, (Palo Alto: 1999), Executive Summary.

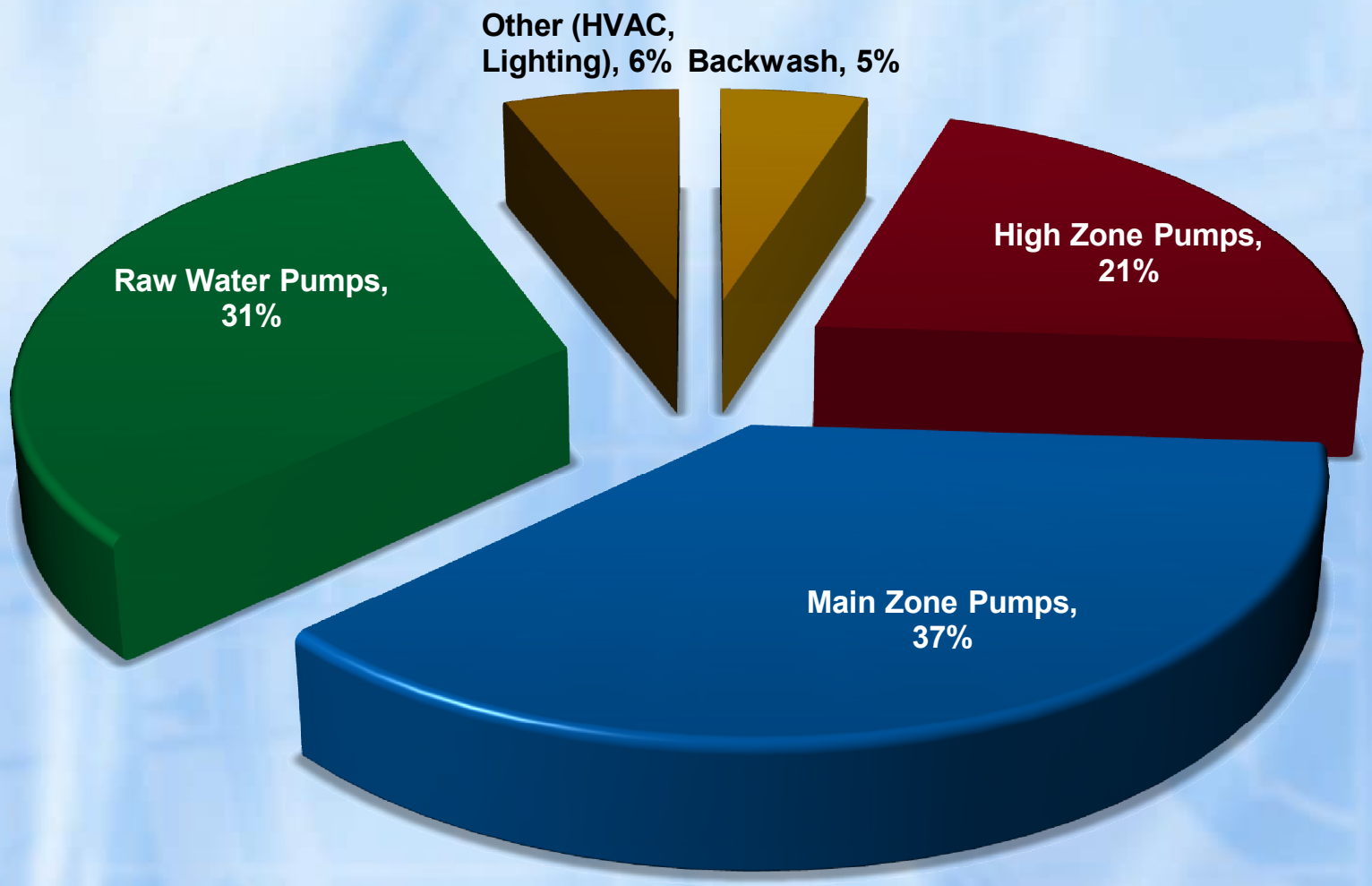
2. **2001 Electricity Demand for California's Water System = 250,454 GWh Total Water Related CA Electricity Usage 19%**

California Energy Commission June 10, 2006

3. Electricity accounts for the major portion of the cost of water distribution, and costs are rising. Careful Management of this power usage can save utilities hundreds of thousands annually and reduce GHG emissions by up to 10%.

Derceto

Power Use in a Water System



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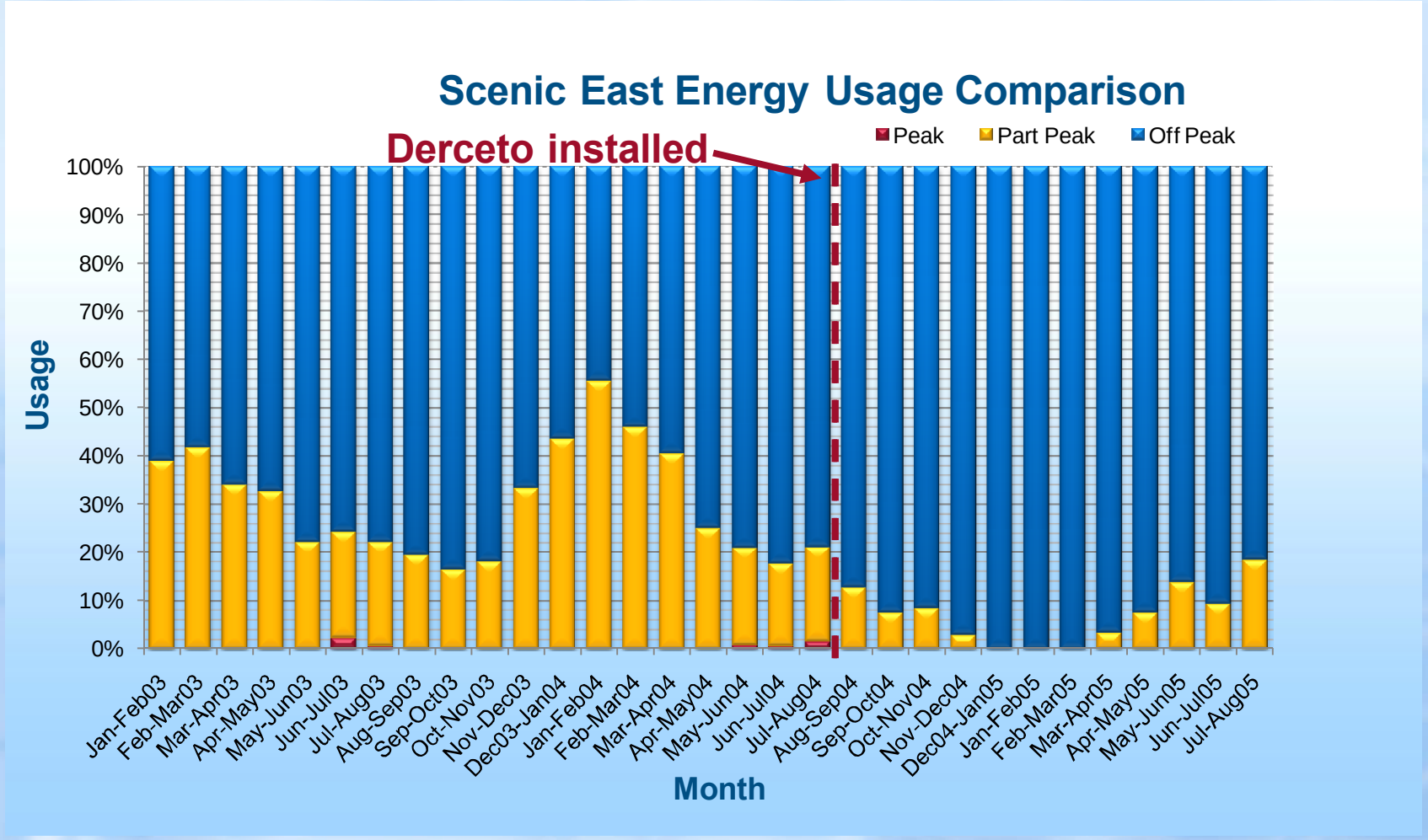
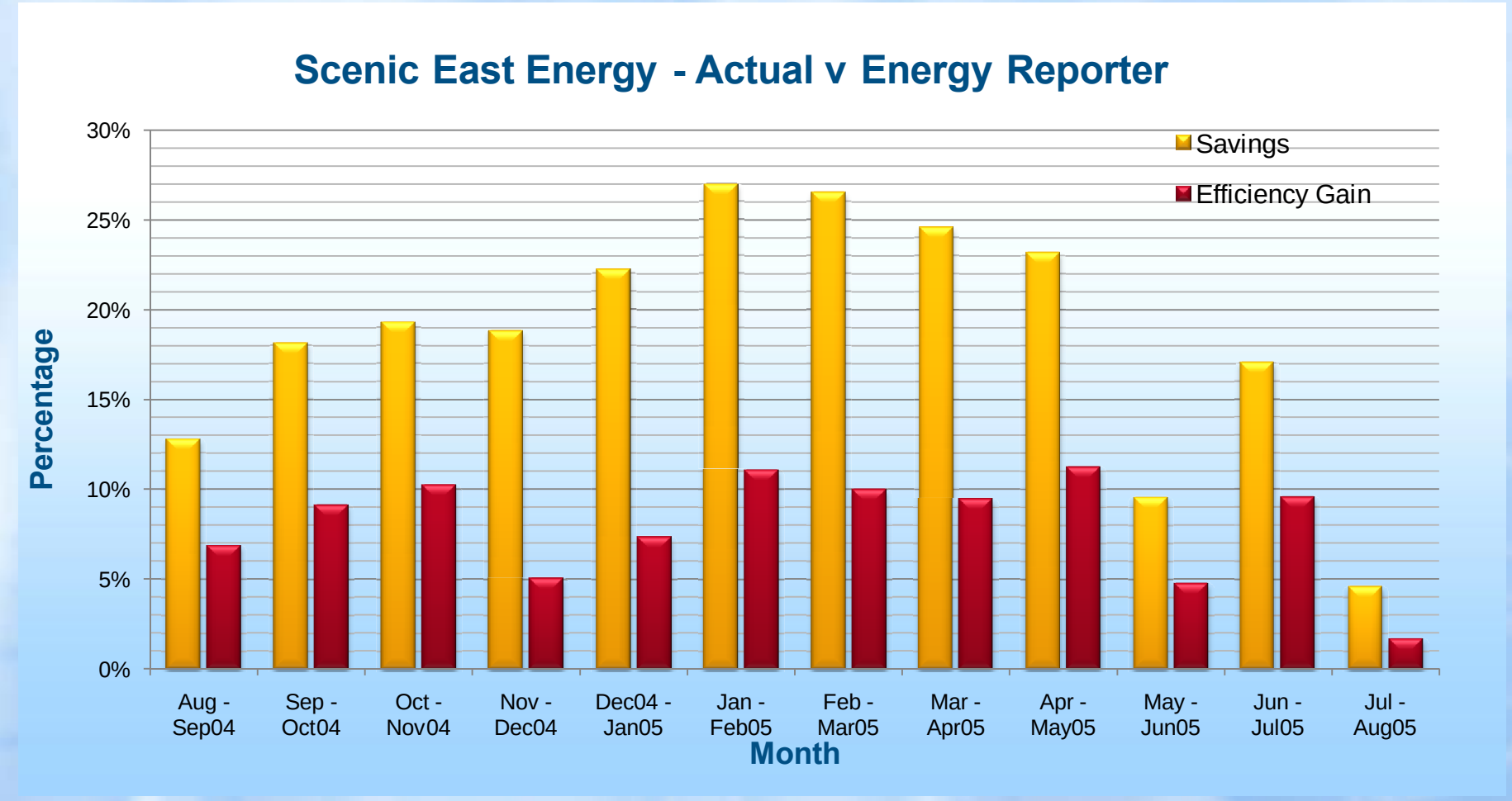
EM& O Benefit – Load Shift /Savings



Derceto *max advantage off peak rates & most eff power sources*

EM& O Benefit – Efficiency Gains



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Efficiency Gains reduce power use and GHG Emissions

Reference Projects – East Bay MUD

- Service 1.3 million people

  Derceto controls 1/3rd of system (highest power use)
- 20 pump stations, 66 pumps, 28 reservoirs
- One treatment plant, one back-up supply plus numerous transfers between zones
- $2.6M annual energy costs
- Derceto installed June 2004

  - *Annual Energy Cost Savings - 12.6% - $391,000*
  - *Annual Energy Use Reduction – 6.1 %*
  - *Annual GHG Reductions – 800MT*

Derceto

Reference Project – Eastern MWD

- 4 Operational Subsystems - Moreno Valley, Perris, Sun City, and East Valley
- 80 Tanks
- 70 Pumping Plants
- 5 Water Treatment Plants
- $2.5 Million in annual energy spend

- *Annual Energy Cost Savings - 12.5% - $250,000*
- *Annual Energy Use Reduction – 7.9 %*
- *Annual GHG Reductions – 300MT*

Derceto

CA Energy Management Award – Eastern MWD

- 2007 CA NV AWWA Energy Management Award
- 2007 Top 100 Green Companies

GoingGreen 100 Winner

Derceto

US Clients Performance Summary

System	Pop. Served	Reservoirs	Pressure Zones	Pump Stations	Pumps	Auto. Control Valves	Daily Demand (MLD)
East Bay MUD	660k	28	26	20	66	4	160 to 480
Washington Suburban	1.6M	57	15	18	81	25	640 to 900
Water One, Kansas	375k	26	13	26	62	2	88 to 170
Eastern Municipal	570k	25	3	26	84	11	190 to 400

Water Utility	*Total Utility Population*	*Energy Cost Savings*	*Annual Savings*	*Efficiency Gains*	*Annual GHG Reduction*
WaterOne KS Full system ï May 2006	400 k	20%	$800 k	6%	4,800 MT
EMWD CA [1)] Stage 1 - Aug 2006	600 k	10%	$100 k	8%	300 MT
EMWD CA Stage 2 ï Sep 2007	600 k	15%	$150 k	N/A	N/A
EBMUD CA Stage 1 ï Aug 2004	1.3 M	13%	$400 k	6%	800 MT
WSSC MD Full System ï May 2006	1.7 M	11%	$800 k	8%	4,500 MT

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