

Managing Energy Use with Energy Efficiency

**Presented by Dave Waller
Hawaii Conservation Alliance Conference
July 29, 2008**

Presentation Outline

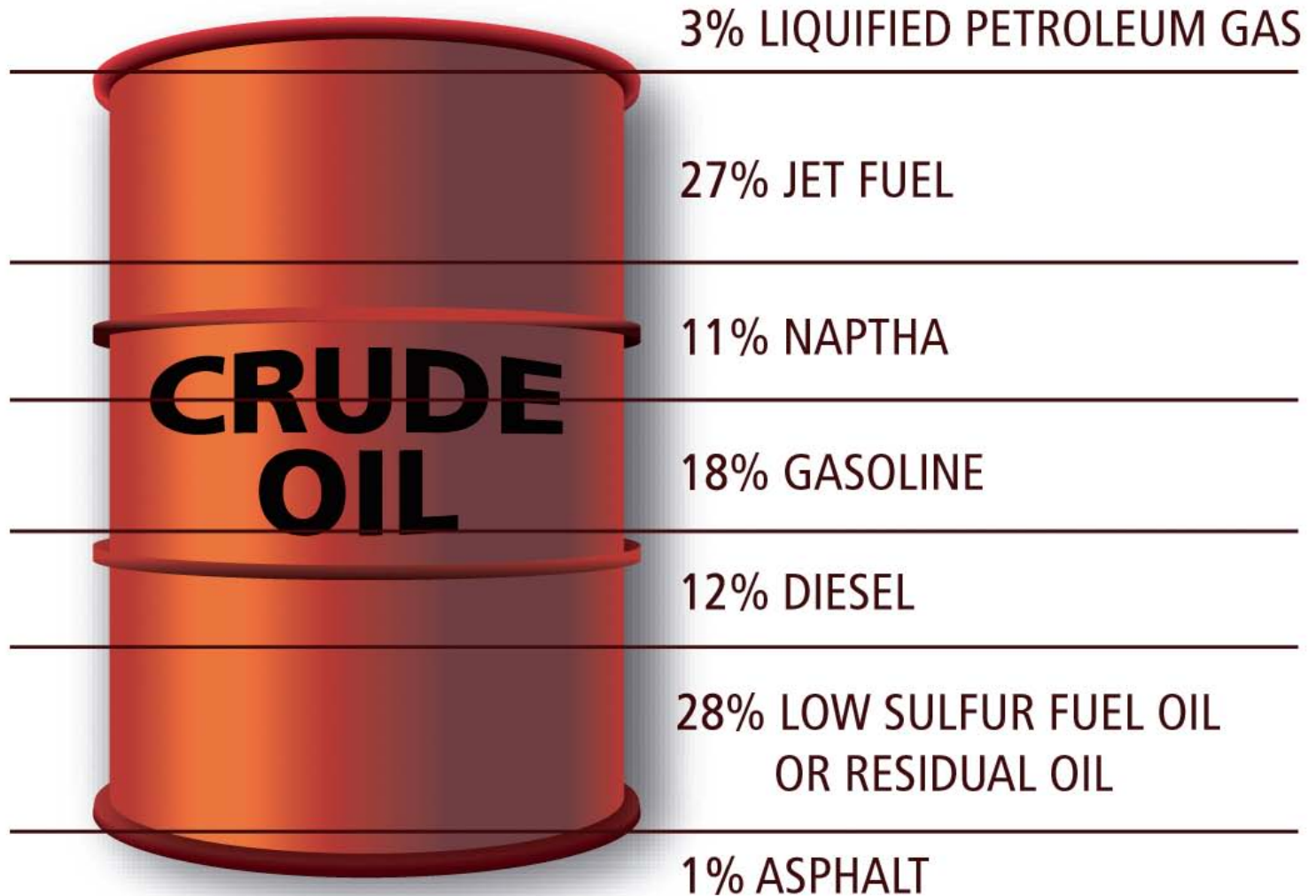
- **Current Energy Use**
- **Energy Efficiency Programs**
- **Demand Response**
- **Renewable Energy**

Troublesome Energy Future

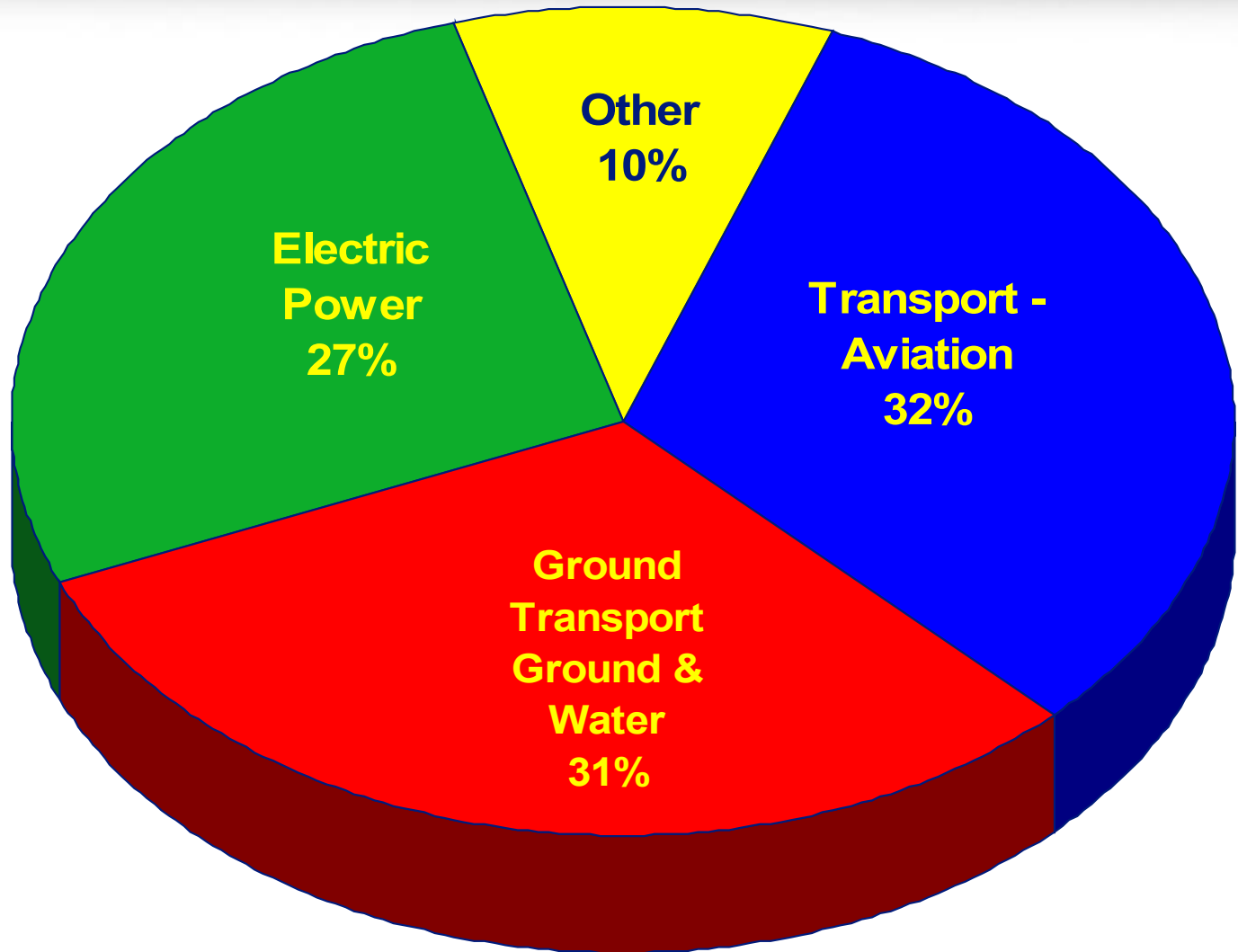
- **Oil prices at record levels**
- **Energy security in question**
- **Universal climate change concerns**
- **Pathway to sustainable energy future not clear**

Petroleum Products

51,262,000 Barrels of Crude Per Year

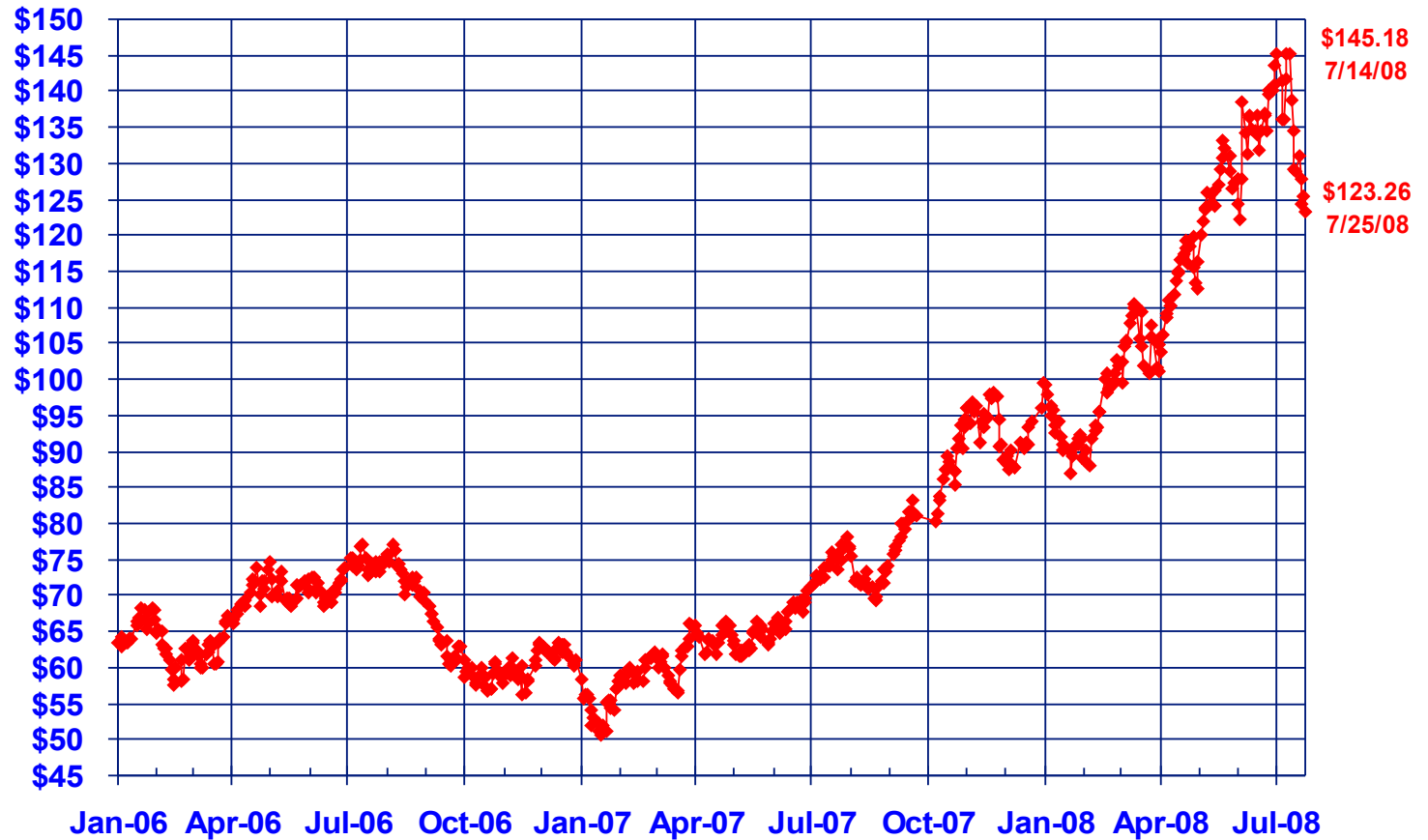


State Petroleum Consumption



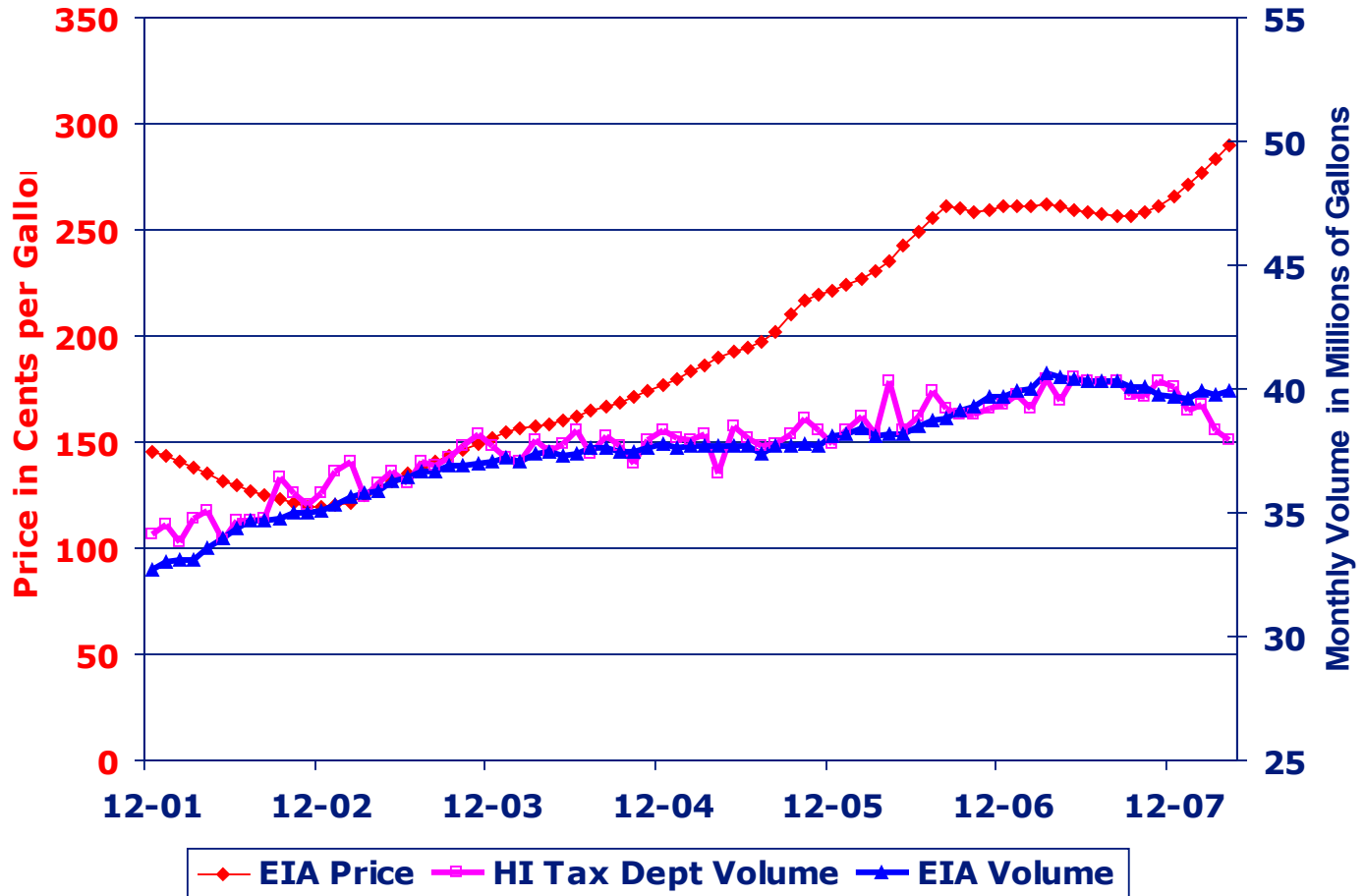
WTI NYMEX Daily Close

July 25, 2008



Hawaii Gasoline Prices and Volumes

12 Month Moving Averages



Fuel Efficiency

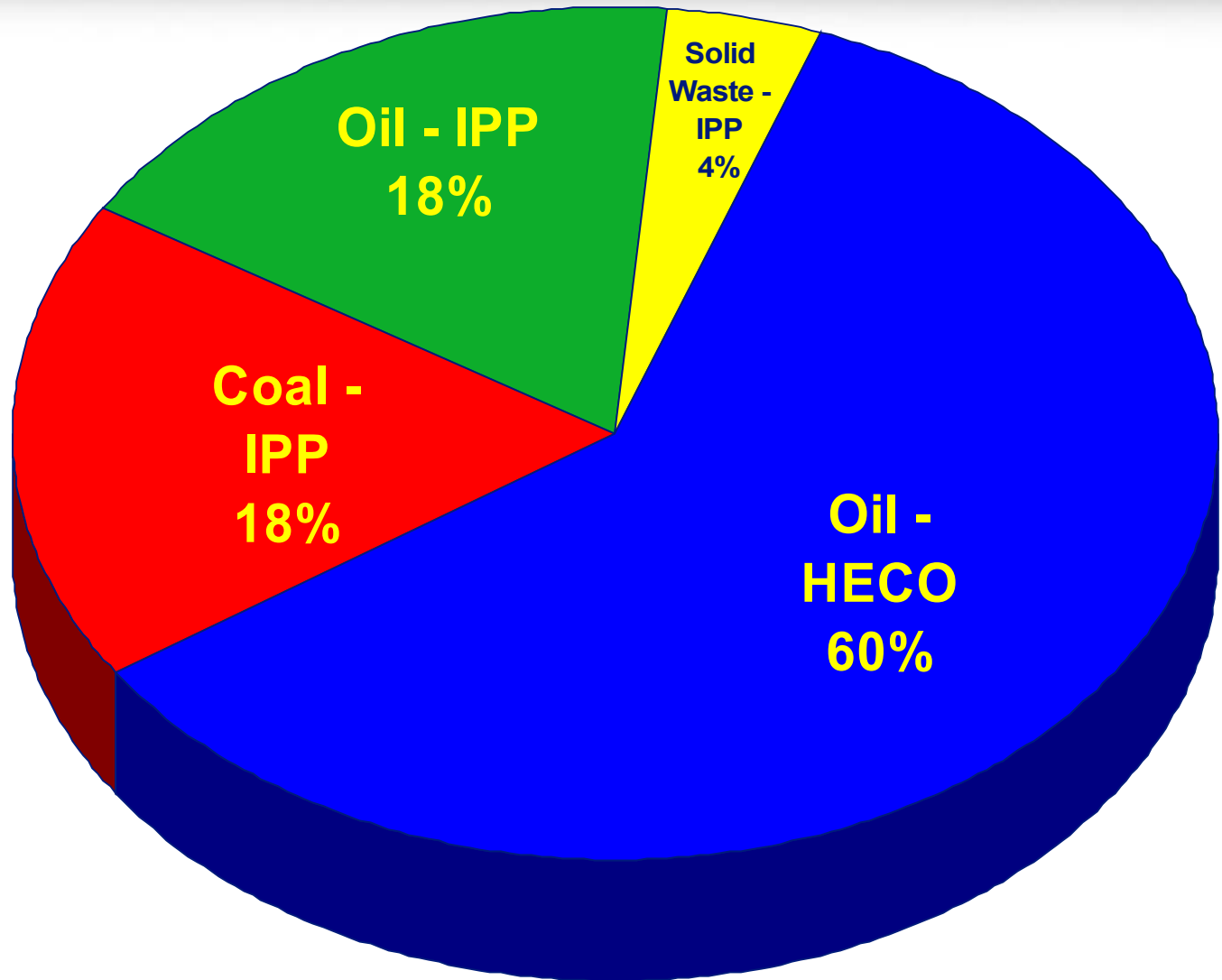
A recent study found the average American walks about 900 miles per year.

Another study found Americans drink, on average, 22 gallons of beer a year.

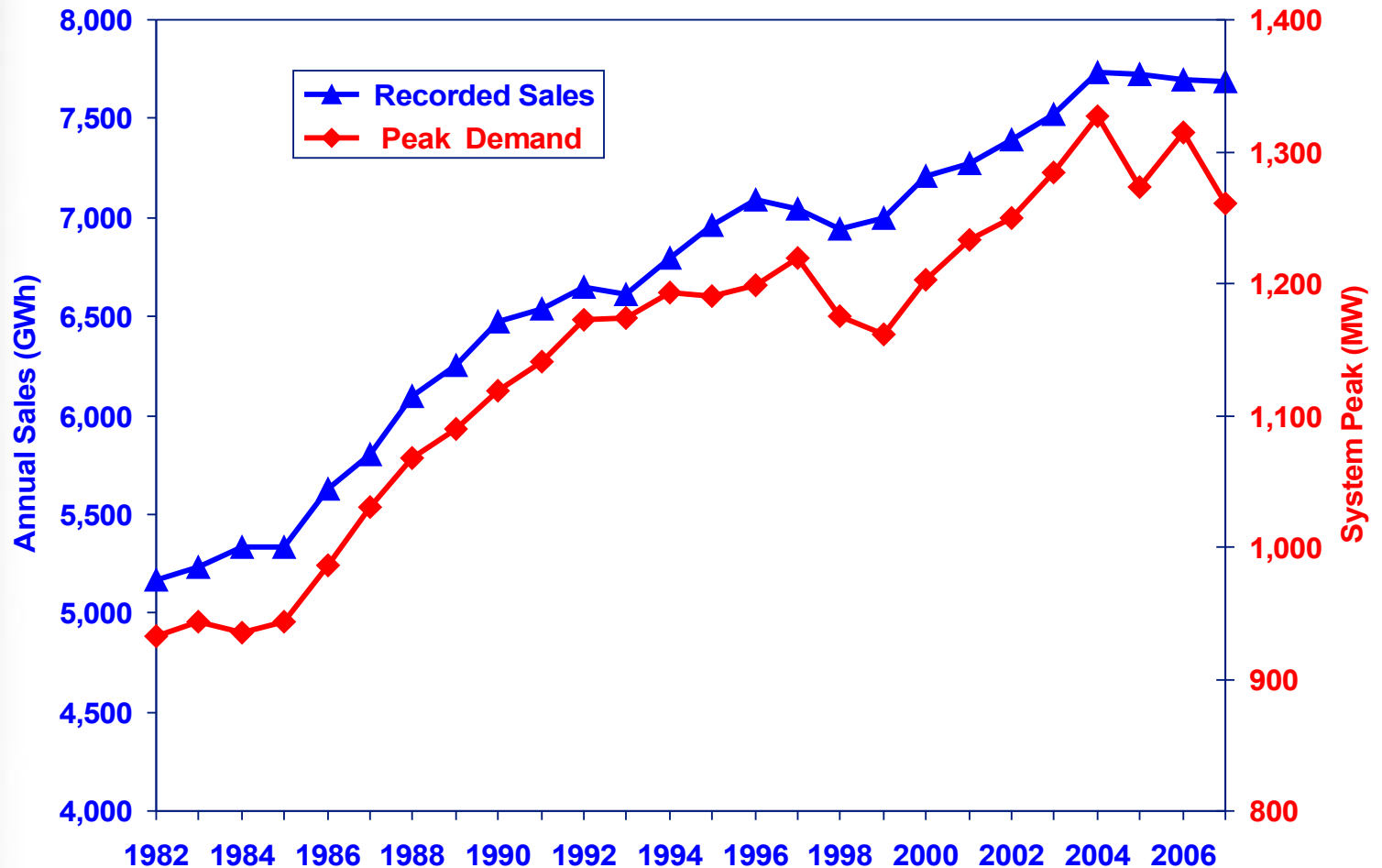
Therefore, on average, Americans get about 41 miles to the gallon.

Electricity Production

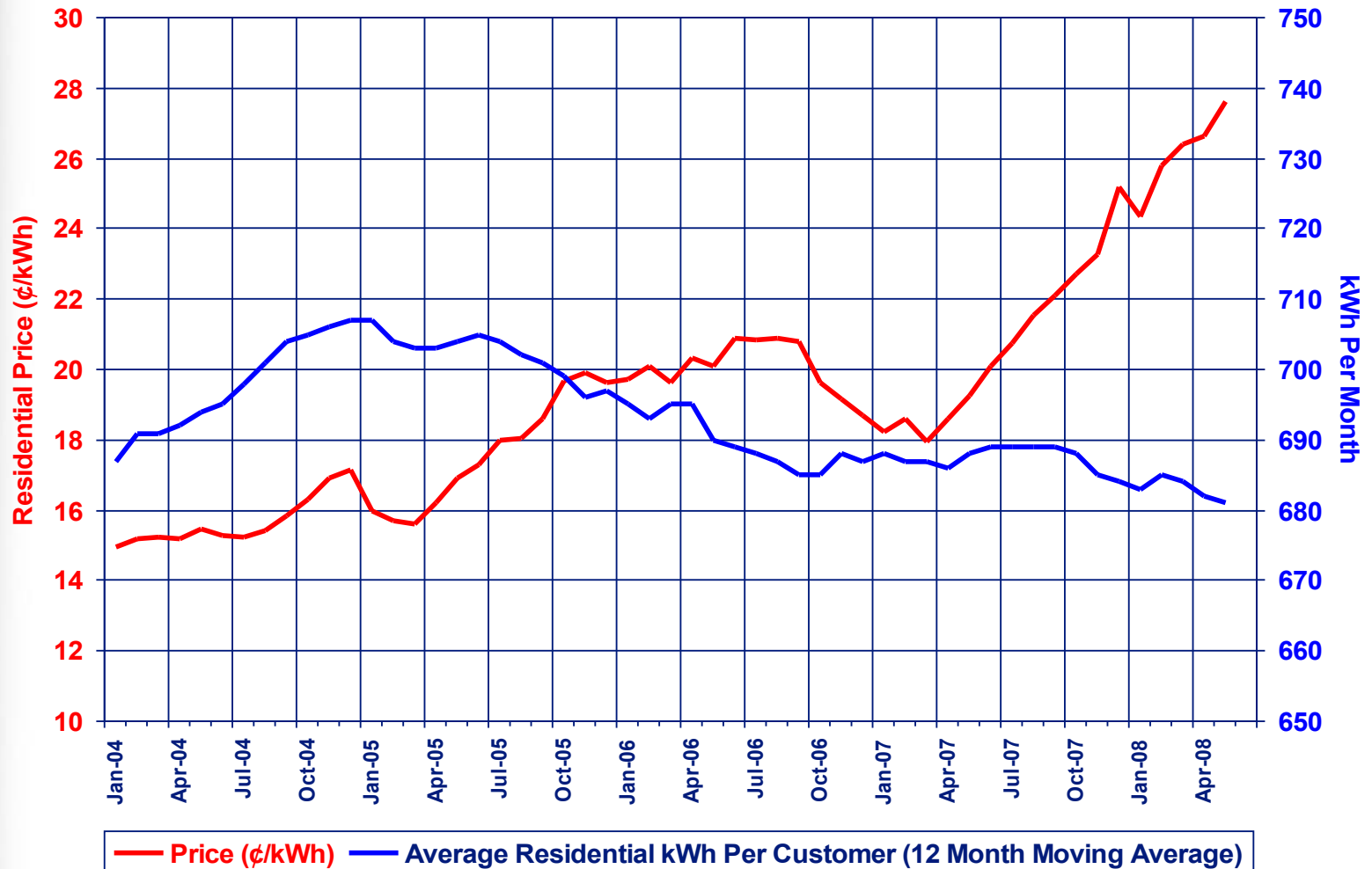
Fuel Sources



HECO Sales And Peaks



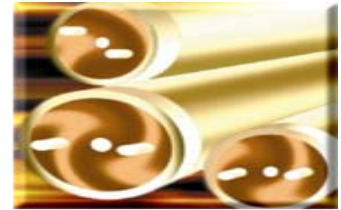
Use Declines While Electricity Prices Continue To Rise



Creating Customer Choice

Energy Efficiency and Load Management Programs

- **Efficiency Rebates and Assistance**
- **Load Management Incentives for Homes & Businesses**
- **Expanded Time of Use Rate Offerings**

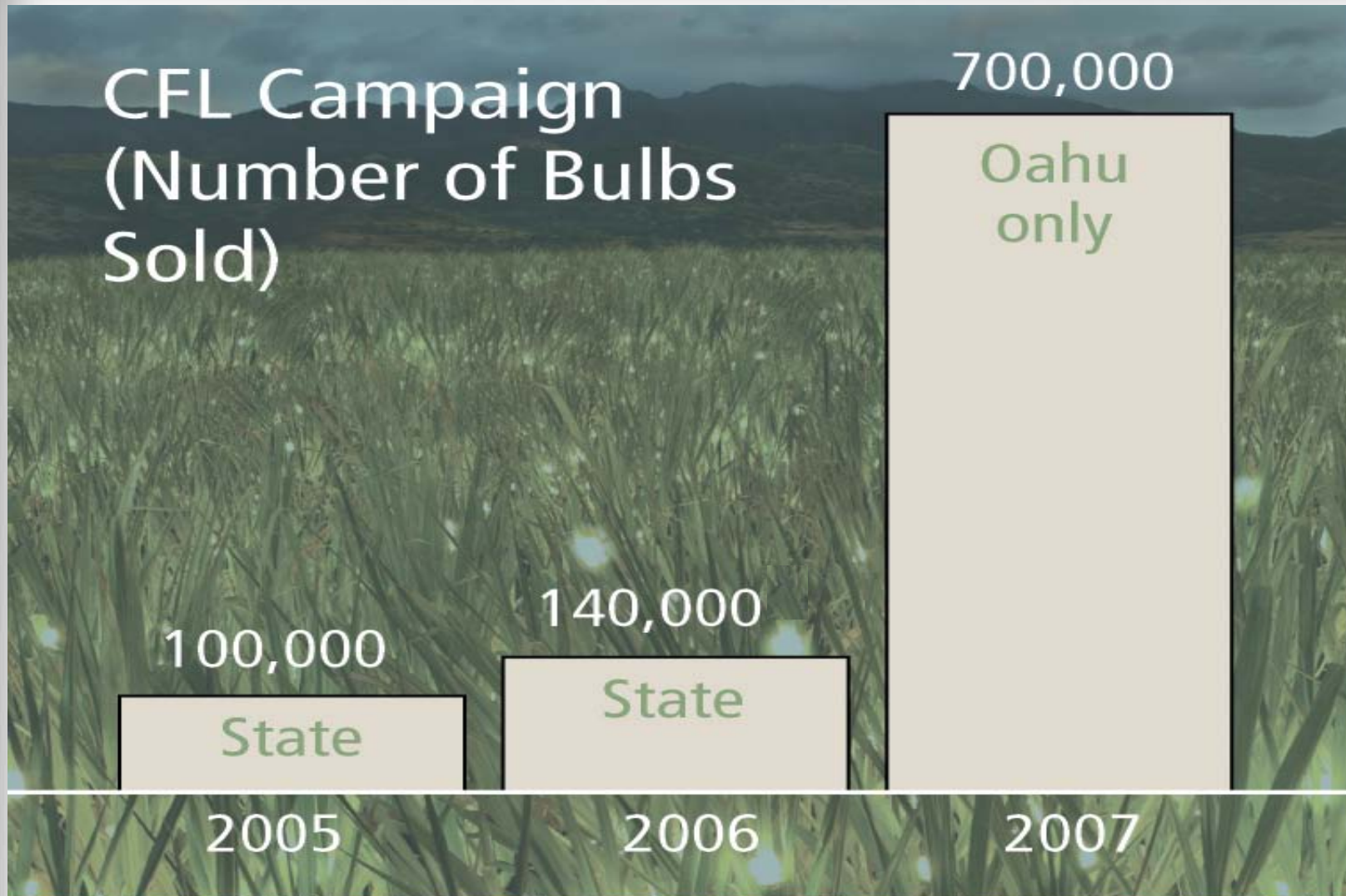


Impact of Energy Efficiency Programs

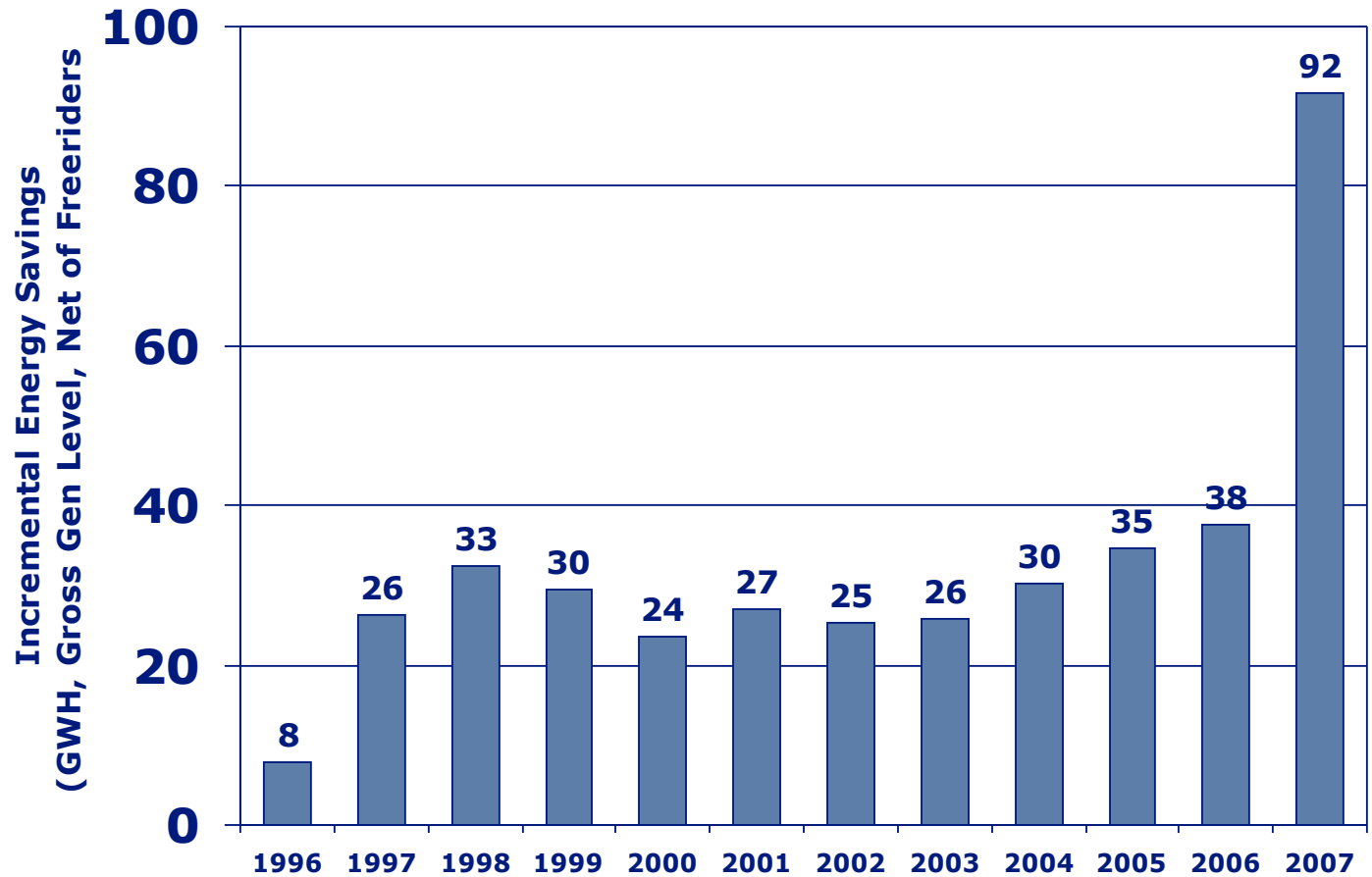
HECO, HELCO, MECO

- **Reduces demand by more than 152 MW, the size of a power plant**
- **Saves over 1.2 million barrels of oil each year**
- **Reduces CO₂ emissions by over 664,700 tons a year**

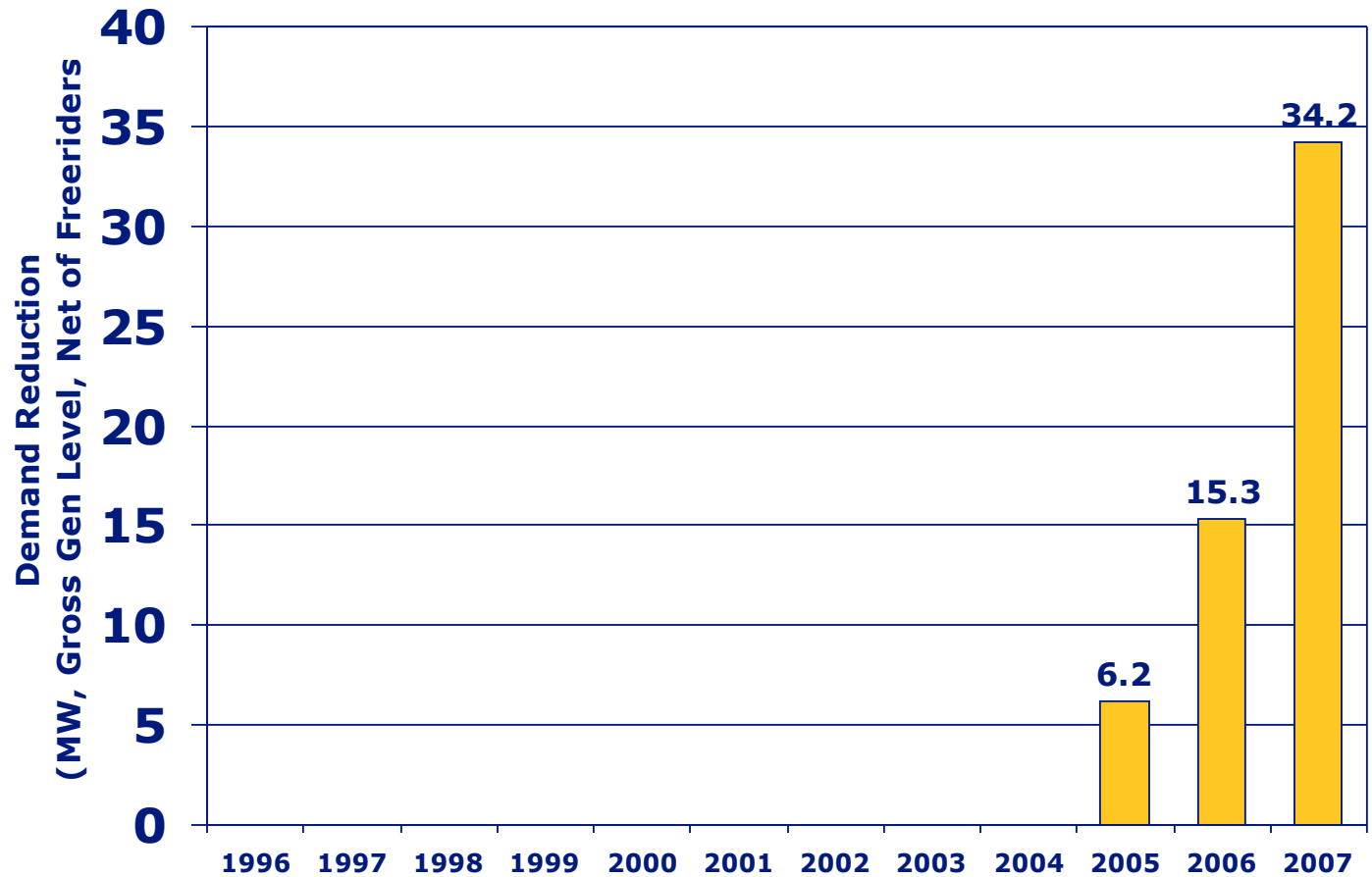
DSM Programs



Annualized DSM Energy Savings



DSM Load Management Program Demand Savings*

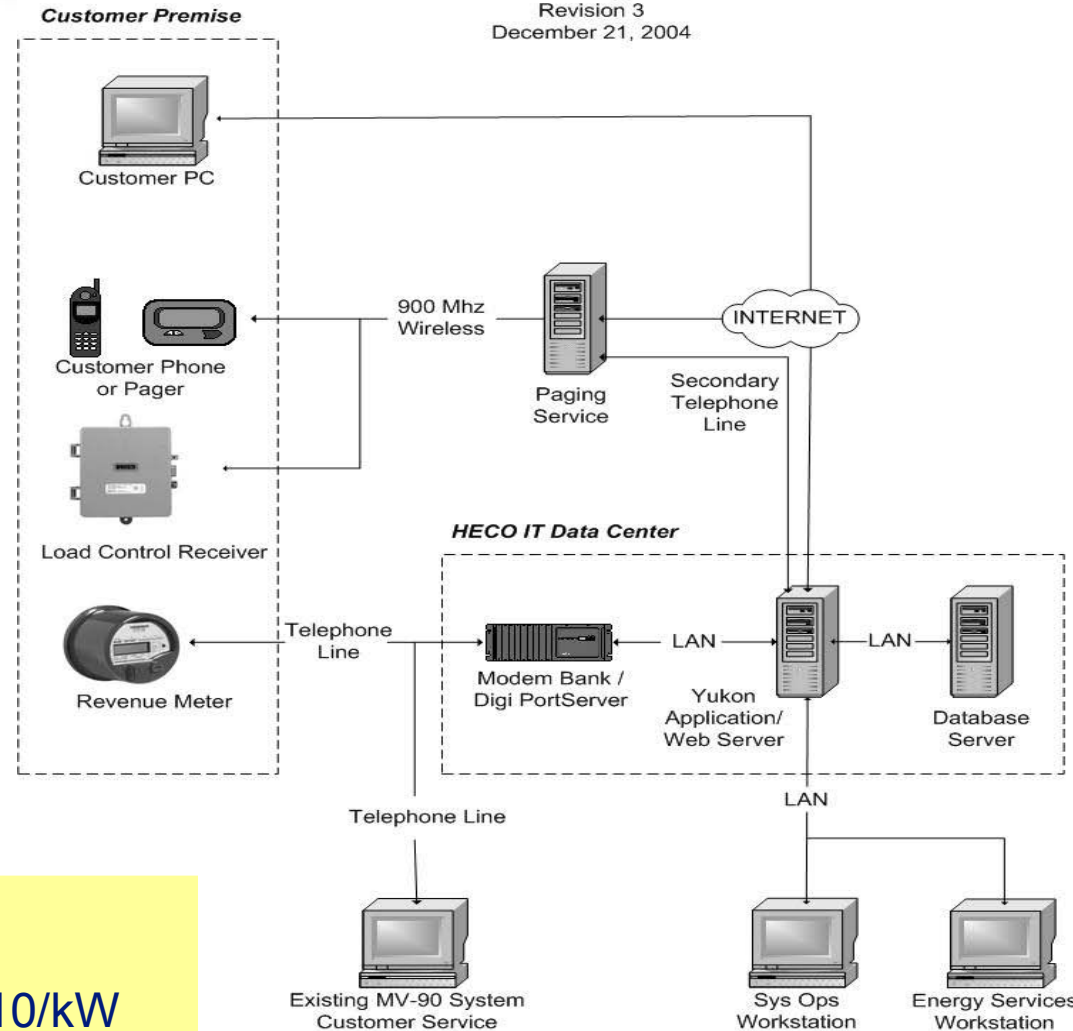


* At year-end

How Demand Response Works

EnergyScout For Business

CIDLC Network Architecture
Final Configuration
Revision 3
December 21, 2004



Back-up
Generators

Interruptible
Loads

• Heat Pumps

• Chillers

• Pumps

• Lights

• Industrial
Processes

Incentives:

Demand Reduction \$5-\$10/kW

Energy Reduction \$0.50/kWh

Advanced Metering Infrastructure

For "Smart Grid" and New Pricing Options



Renewable Portfolio Standard Status

Year End 2007

	GWh	%
Biodiesel	1	
Biomass & Hydro	437	
Geothermal	230	
Photovoltaic Systems	7	
Wind	242	
<hr/>		
Renewable Generation Subtotal	917	56.5%
Savings from Solar Water Heating	109	6.7%
Savings from Energy Efficiency Programs	598	36.8%
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Total Rewable (GWh)	1,624	100.0%
Total Sales (GWh)	10,118	
RPS PERCENTAGE		16.1%

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