

# *Energy Trends in Kentucky*



# *East Kentucky Power Cooperative*

- Generation and Transmission Co-op
- Serve 16 Distribution Co-ops in Kentucky
- Distribution Co-ops serve 500,000 Customers in 89 Counties
- 2800 Miles of Transmission Lines
- 2500 MW of Generation



# *Utilities Require Large Amounts Of Capital*



- One of the most capital intensive industries in the world
- Coal generation plant installation costs are approximately \$1,500 per kW
- 345 kV transmission line construction costs are approximately \$1,000,000 per mile

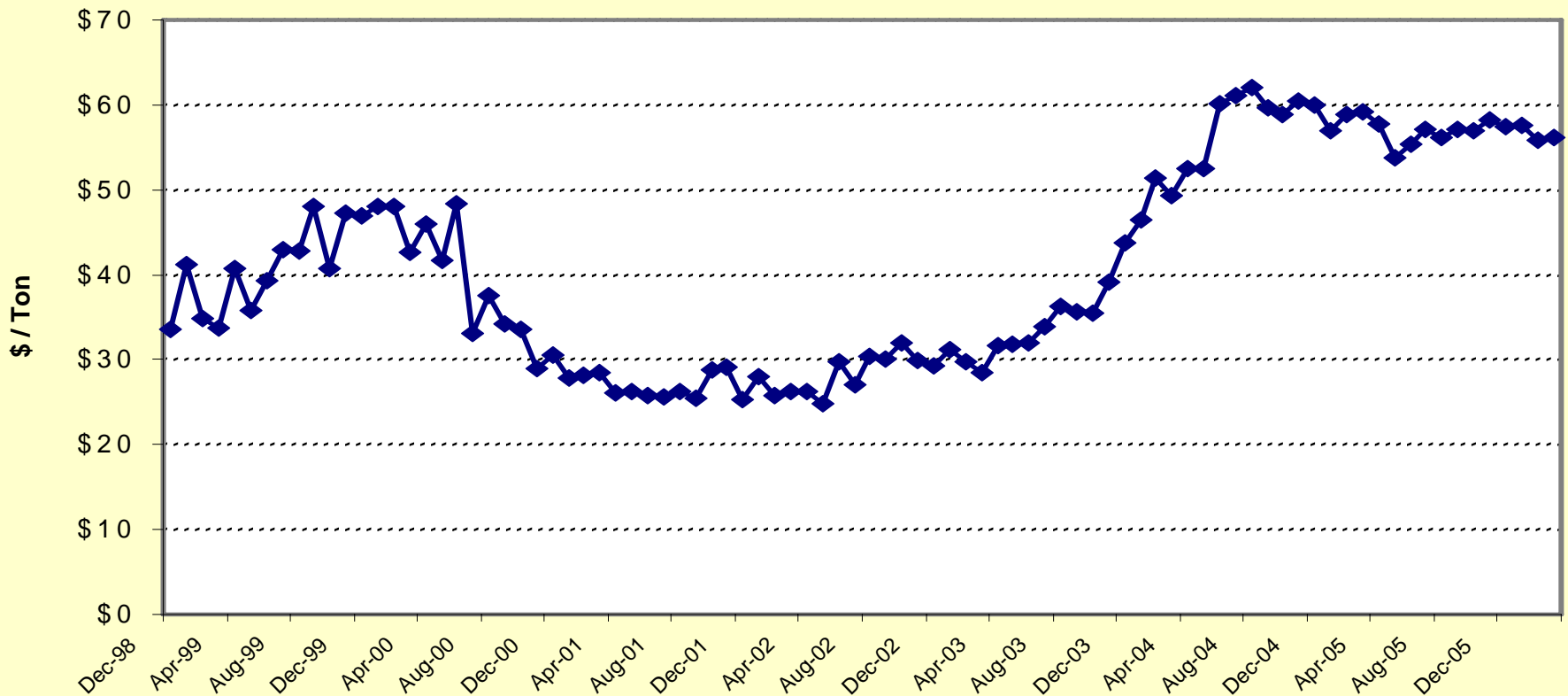
# *What Are The Costs Behind Power Prices?*



- Construction Costs
- O&M Costs
- Fuel Costs
- Cost of Environmental Compliance
- Cost of Capital (Interest Rates)

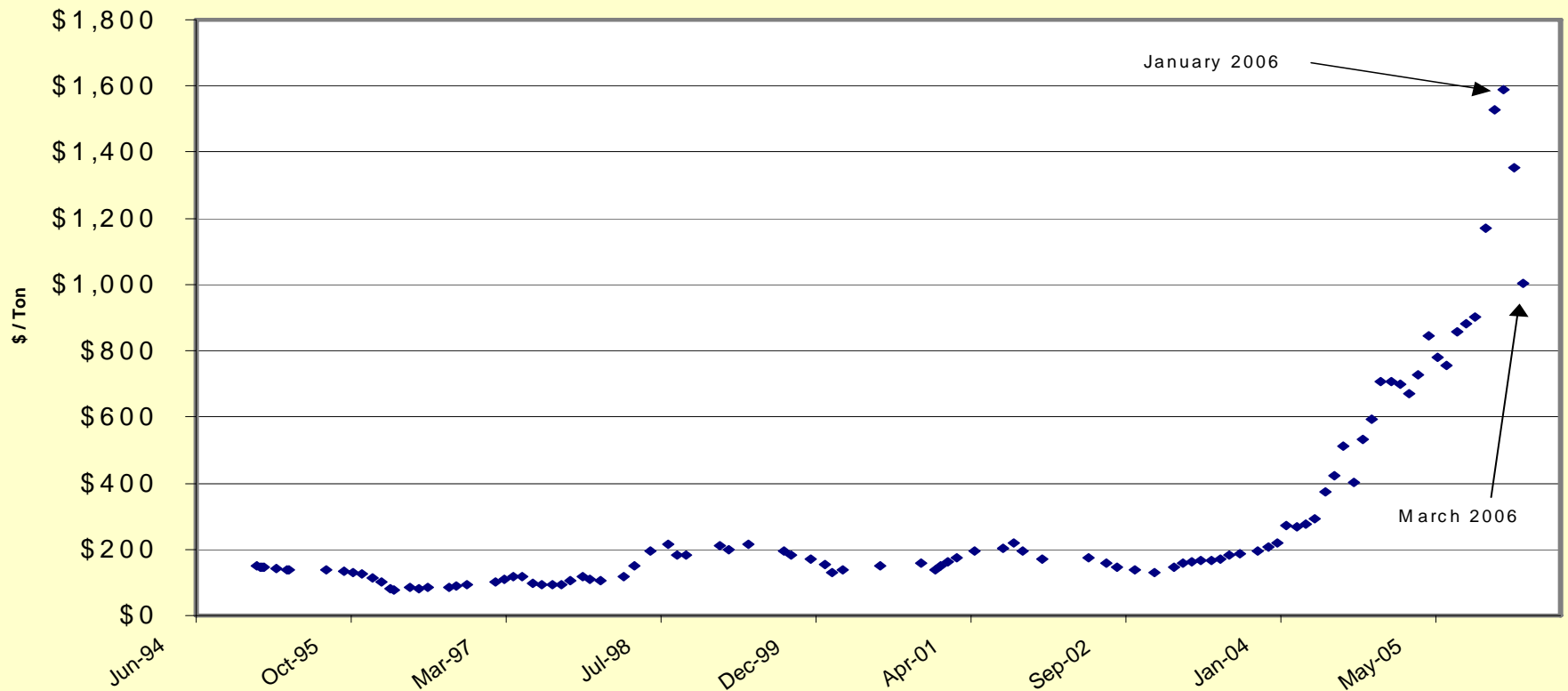
# Coal Price Trends

**NYMEX Coal Prices**



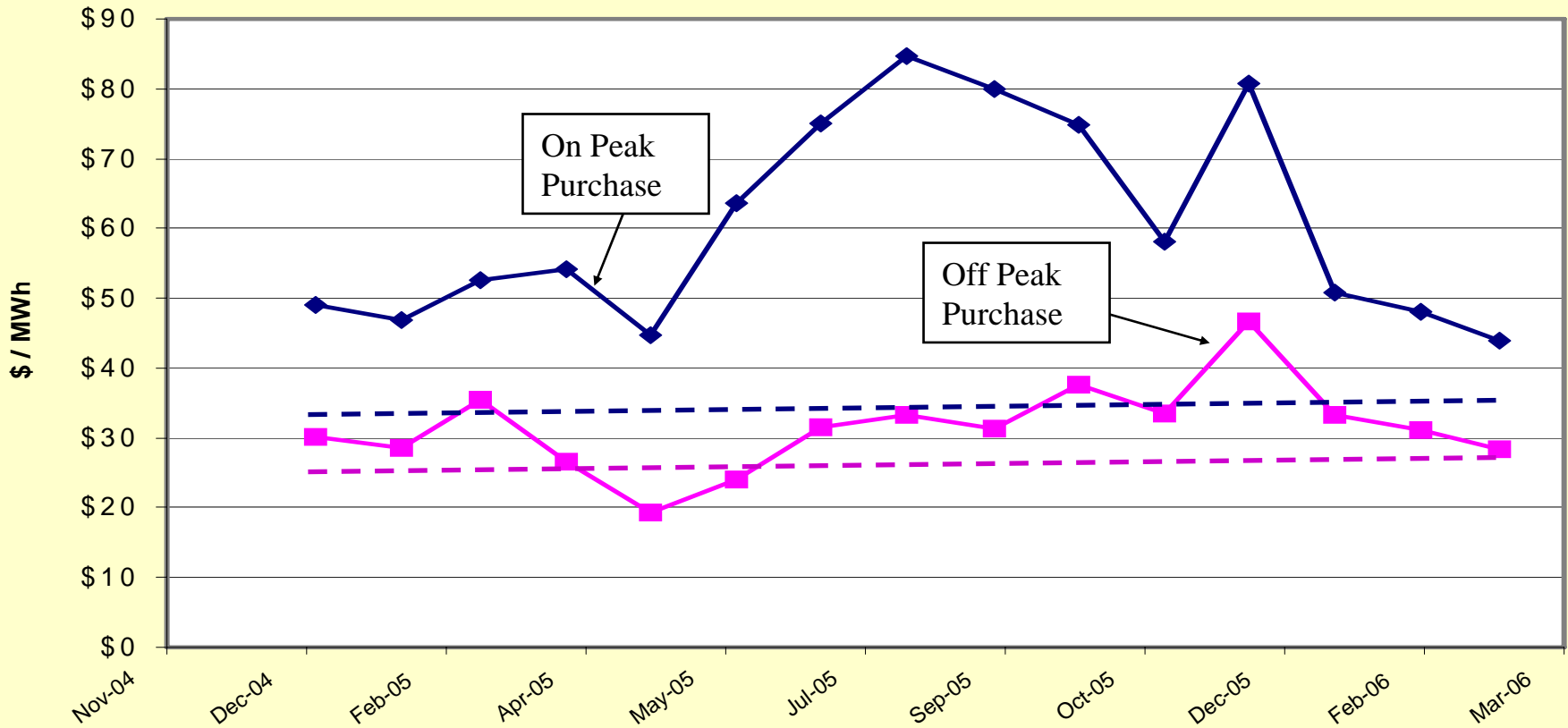
# Emission Allowance Trends

## SO2 Emission Allowance Prices



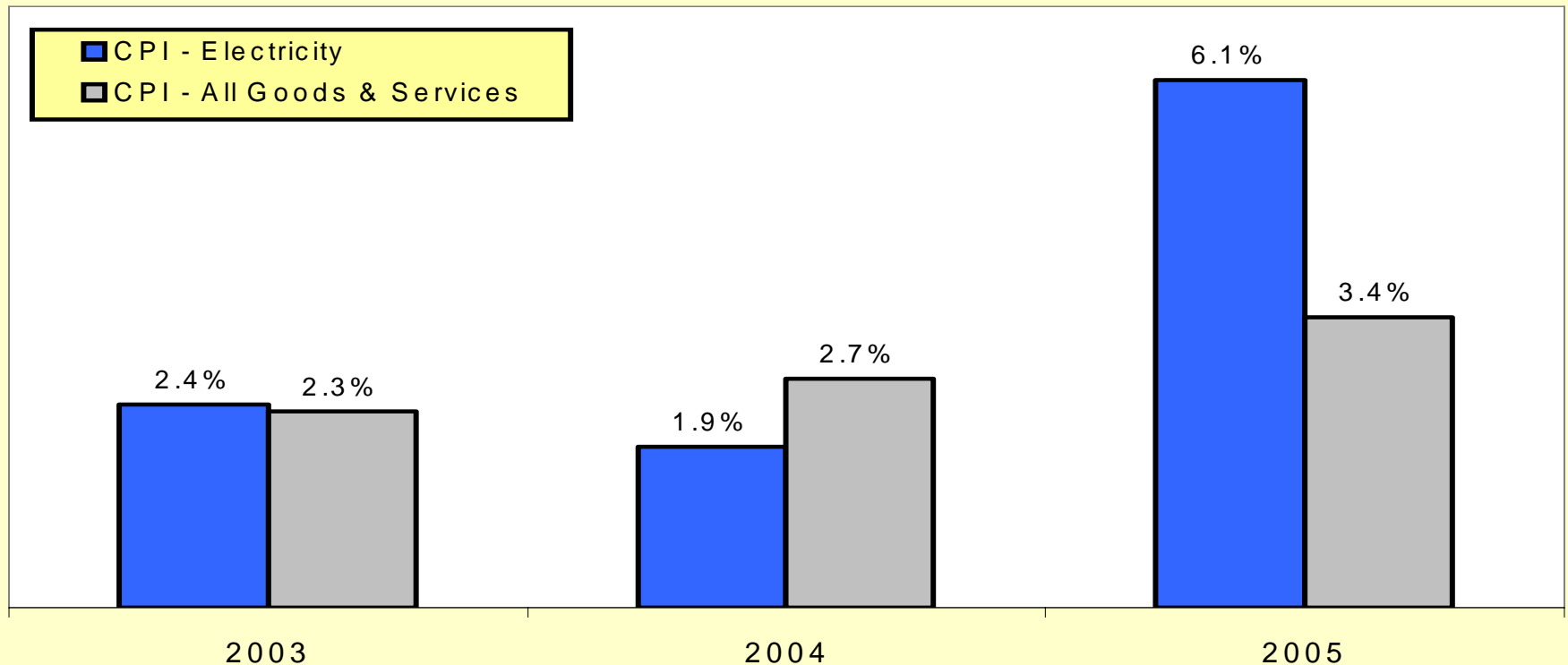
# Wholesale Power Price Trends

Wholesale Power Prices - Cinergy Hub



# *Electricity Prices vs. Other Goods*

**Retail Electricity Prices Jumped In 2005**



Source: [www.bls.gov](http://www.bls.gov)

# *Impacts of Rising Prices*



- EKPC's load forecast assumes residential price elasticity of  $-0.2$ . Therefore, as the electric price increases 1%, residential energy usage decreases 0.2%.
- Emphasis on conservation will be renewed.  
Example -Customers may adjust thermostats.
- As electric prices continue to rise, customers will revert to the cheapest available fuel source. EK has seen a resurgence of electric furnaces in new homes, due in part to rising natural gas prices.

# *What Does All This Mean?*



- Power prices are high because costs are high
- While there should be a moderation in prices, nobody is predicting a return to the “good old” days

# *Alternative Supply Solutions*



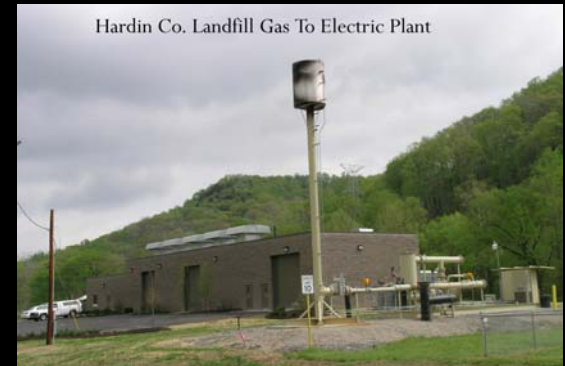
- Landfill Gas
- Circulating Fluidized Bed Boilers
- Wind Power
- Hydro
- Conservation

# *Landfill Gas Generation*

EKPC has four landfill gas plants generating 12 MW of Electricity with additional generation scheduled for 2007.

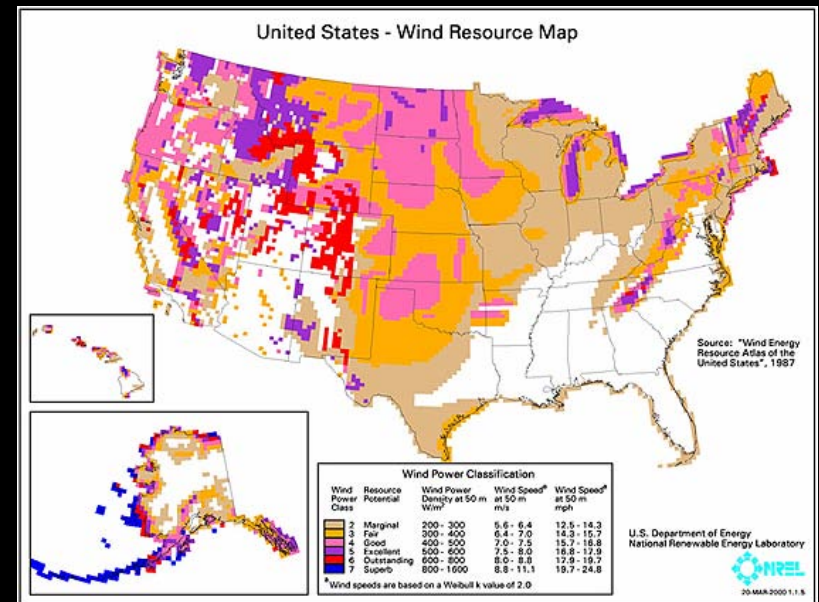
Benefits include:

- Low fuel costs
- Reduction of Greenhouse Gases
- Utilizes Waste Resource



# Wind Resources

- Marginal Wind Resources
- Technology Improving
- Environmental Concerns



# *Fluidized Bed Boilers*

- 268 Mw Capacity
- Lower Fuel Costs
- Greater Fuel Flexibility
- Lower SO<sub>2</sub> Emissions
- Lower NO<sub>x</sub> Emissions



# *Hydro Generation*

- 170 MW Capacity
- Two Locations
  - Wolf Creek Dam
  - Laurel Dam
- Low Cost
- Environmentally Friendly



# *Consumer Efficiency*



- Commercial and Industrial Programs
- Engineering Services
- Residential Services

# *Small Commercial and Industrial Programs*



- Energy Audits
- Lighting Efficiency Incentive
- Motor Efficiency Incentive
- Button Up Program
- Heat Pump Tune Up Program

# *Engineering Services*



- Infrared Testing
- Ultrasonic Inspections
- Power Quality
- Compressed Air Audit
- Motor Management
- Chilled Water Systems

# *Residential Services*



- Energy Audits
- HVAC Tune up and Maintenance Program
- Electric Thermal Storage
- Geothermal Systems
- Water Heater programs
- Button Up Weatherization Program
- Touchstone Energy Home
- Pilot Project – Direct Load Control

*Questions?*

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