



KEPCo

Power Supply Overview



**Kansas Energy Council
Electricity Committee
May 21, 2008**

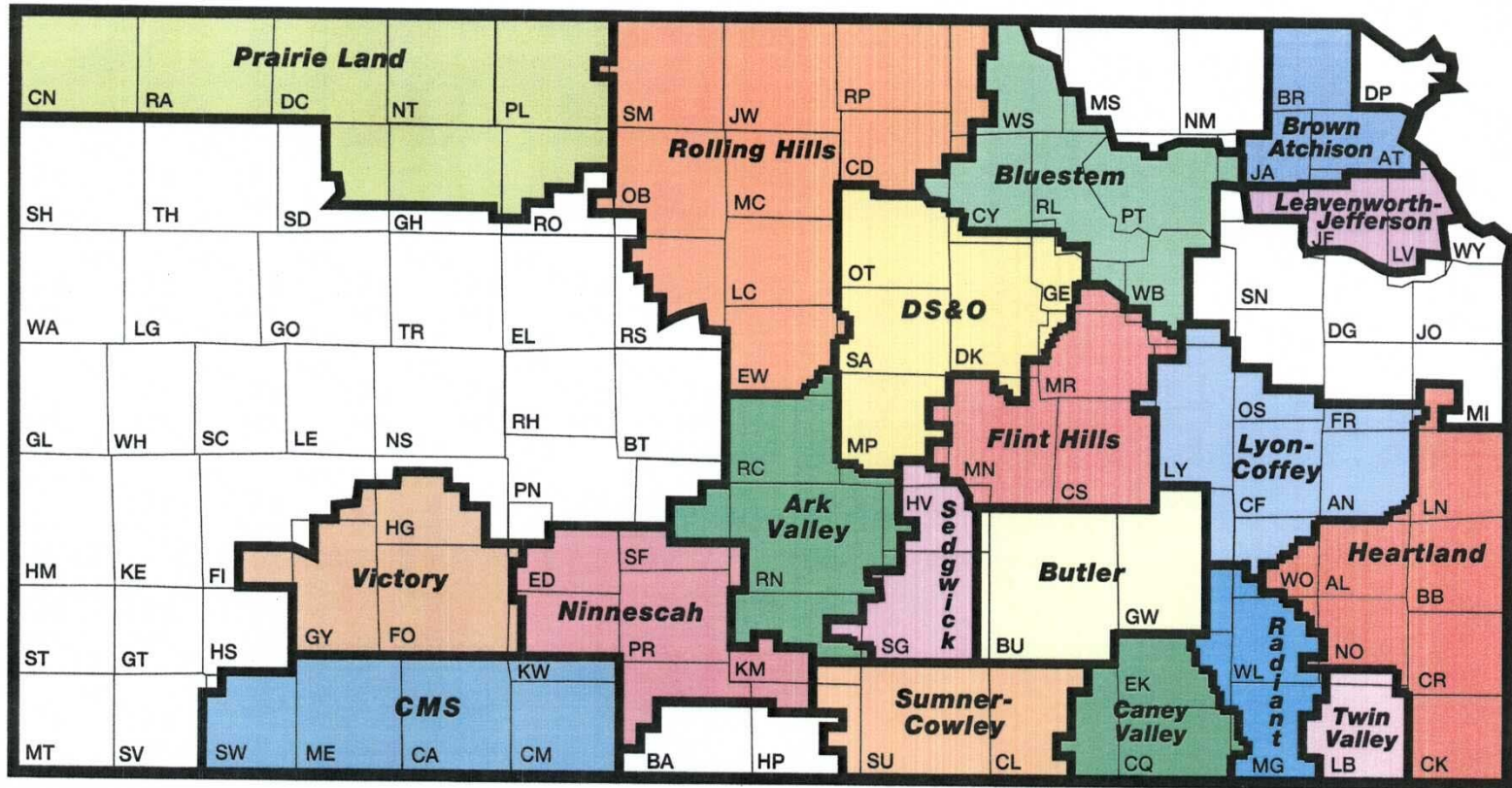
**Les Evans
Vice President, Power Supply
KEPCo**

Overview

- KEPCo Background
- Current Power Supply
- Drivers for Past Investment Decisions
- CO2 Emissions
- Power Supply Planning
- Energy Efficiency / Conservation
- Demand Side Management
- Questions



Member Service Area

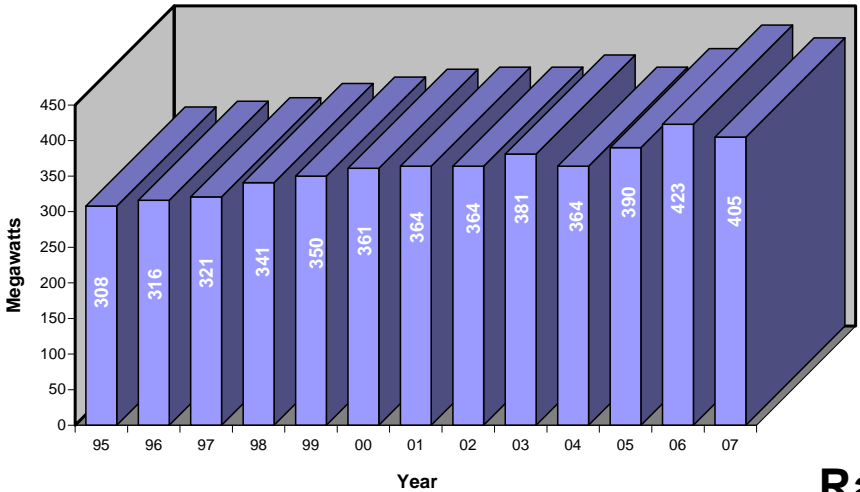


**KEPCo is comprised of 19 Member Coops
Serving approximately 115,000 Customer Meters**

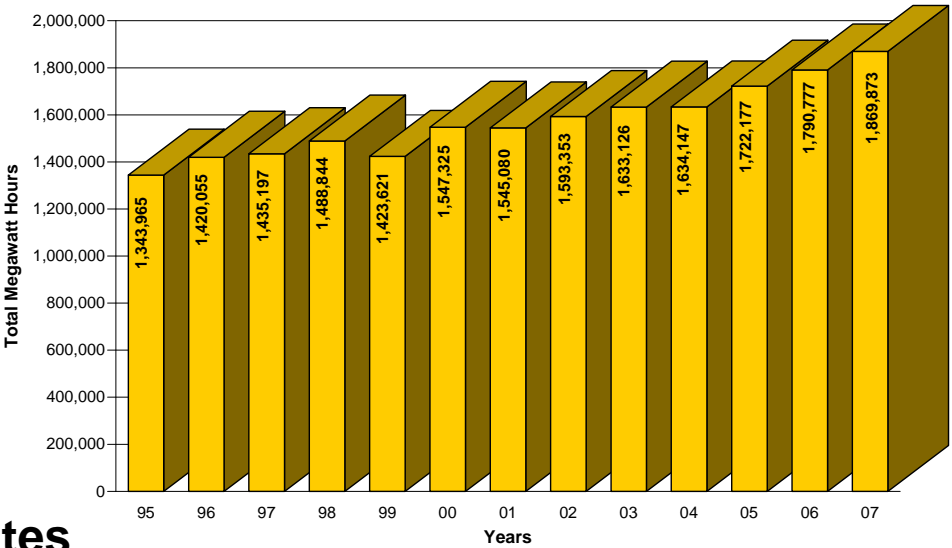


Historical Statistics

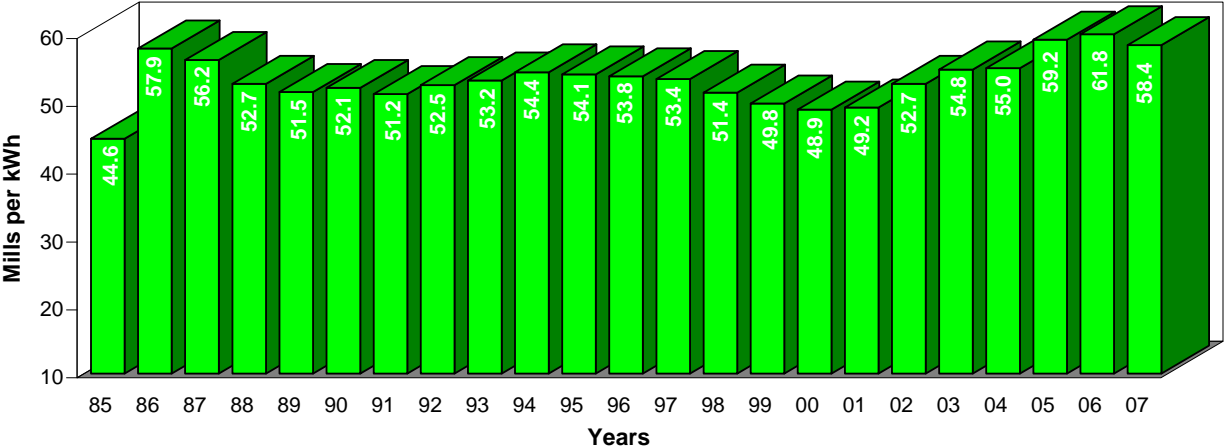
Peak Demand



Energy Sales



Rates





KEPCo Power Supply

- Strategic Power Supply Goals
 - Avoid exposure to the Market
 - Reduce volatility
 - Long-term stable power supply strategy
 - Own generation when prudent
 - Long term PPA's
 - Existing generation at Cost Based Rates
 - Spread reliability risk over many shafts
 - Cost effective incorporation of renewables
 - Access through terms in PPA's
 - National Renewable Cooperative Organization
 - Based on Cooperative Principles (non-profit / Member owned)
 - Participation based on individual Coop needs / requirements
 - Diversified and balanced Power Supply
 - Current portfolio minimizes greenhouse gas emissions
 - (34% nuclear, 20% hydro)
 - Incorporates Demand Side technology in Power Supply Planning process
 - Member Load Management Programs



KEPCo Power Supply

RESOURCE	OWNERSHIP	FUEL	TYPE	MW	TERM
Wolf Creek	6%	N	B	70	2045*
Sharpe	100%	O	P	20	2032
SWPA	PPA	H	I	100	2016
WAPA	PPA	H	B	14	2024
Westar	PPA	C/N/G/O	B/I/P	187	2045
Sunflower	PPA	C/G/O/W	B/I/P	43	2018
KCPL	PPA	C/N/G/O	B/I/P	12	2012
Total				446	

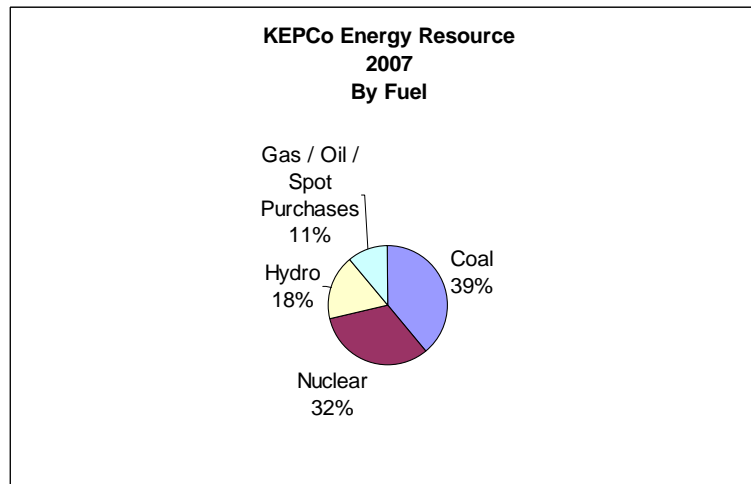
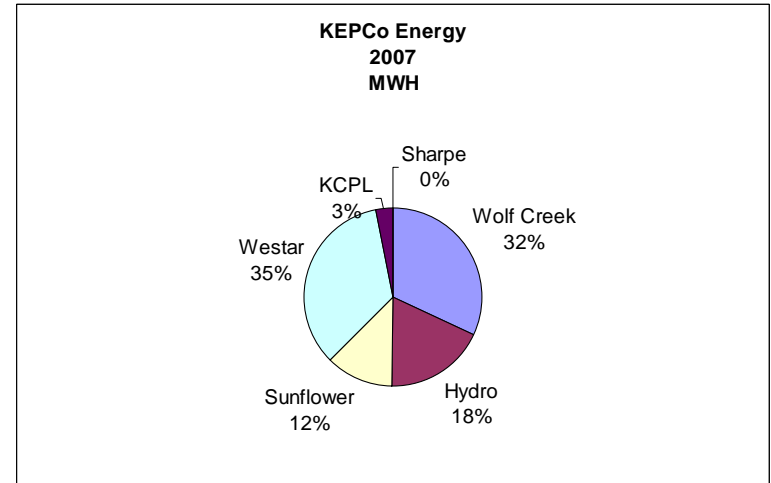
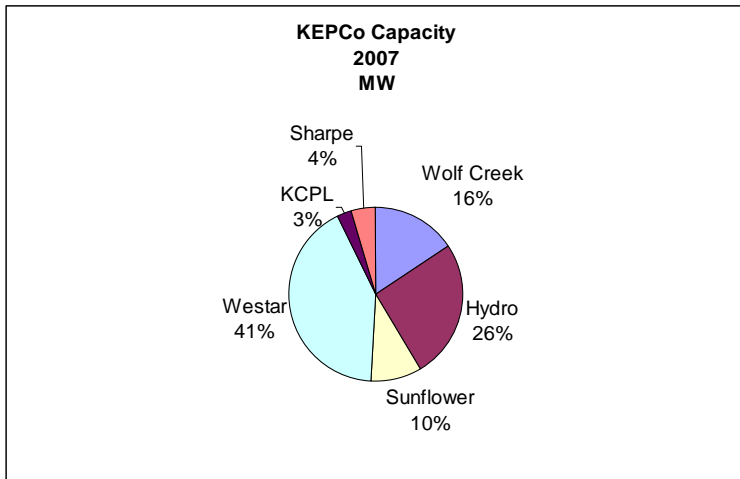
* With 20 year license extension
currently being reviewed by NRC

N = Nuclear
C = Coal
G = Gas
O = Oil
H = Hydro
W = Wind

B = Base
I = Intermediate
P = Peaking



KEPCo Power Supply



Drivers for Past KEPCo Generation Investment Decisions

- Wolf Creek
 - KEPCo need for generation resources
 - SWPA hydro power offering required recipient to have baseload generation for balance to peaking nature of hydro product
- Sharpe
 - KEPCo needed capacity
 - Attractive price
 - Back-up for Wolf Creek emergency diesel generators





CO2 Emissions from KEPCo Resources

Unit	Fuel	Net Generation 2007 (MWh)	CO2 Emissions (Tons)	CO2 Emission Rate (Tons / MWh)
Wolf Creek (KEPCo 6% Share)	Uranium	622171	0	0
Sharpe	No. 2 Oil	50	43	0.85



KEPCo Generation Planning

- Driven by KEPCo Board Policy
- Key Criteria for evaluating power supply options:
 - Reliability of power supply
 - Adequacy of power supply, demand and energy
 - Absolute and relative cost of viable resource plan options
 - Physical and economic risks and benefits of each viable resource plan
- Two phase approach
 - Long Range Power Supply Plan
 - Generation Construction Work Plan
- Performed with assistance of outside technical consultants
 - Burns & McDonnell
 - GDS & Associates



KEPCo Power Supply Challenges

- Member load served in multiple control areas
- Dependency on other utilities for transmission delivery and ancillary services, including scheduling
- Transitioning of the Southwest Power Pool to a Regional Transmission Organization (RTO) and progression towards market operations
- Lack of a robust wholesale market from which to acquire spot, short term and long term purchases





Long Range Planning

- Objective: Develop a Long Range Resource plan to meet Member's forecast capacity and energy needs
 - Low cost consistent with
 - Reliability
- Process:
 - Current and future needs assessment, option screening, general recommendations
 - Selected options refinement, detailed recommendations, study done to RUS financing requirements
 - Iterative in nature - continual updating, validation of plan

Power Supply Planning Methodology

- Load forecast
 - Built up from 19 Member system input
 - Econometric
- Evaluate existing resources and contracts
 - Potential for uprates
 - Potential for contract extension
- Screen generation resource technologies
- Identify future potential resource scenarios:
 - Contract extension scenarios
 - Partner / Own Scenarios
 - Partner / Own and Contract extension scenarios
- Evaluate potential resource scenarios
 - Probabilistic net present value analysis
 - Risk analysis
 - Fuel
 - Load forecast
 - Capital costs
 - Interest rates
- Rank results
- Develop Long Range Resource Plan



Power Supply Planning Results

- Optimum plan includes partnering in new generation combined with extension of contracts
- Uprate Wolf Creek – 2 to 3 MW KEPCo Share in 2011
- Look for opportunity to participate in new baseload coal
 - Iatan 2
 - 30 MW / 3.53% ownership share
- Extension of power contracts
 - Westar – extended to 2045
 - KCPL – extended to 2012
 - Sunflower – extended to 2018
 - SWPA – extended to 2016
 - WAPA -extended to 2024



KEPCo Energy Efficiency / Conservation



- Both KEPCo and Member Coops offer Energy Efficiency / Conservation incentives
- Current program structured to incent Customer to install devices with high efficiency ratings
- KEPCo offers incentives for:
 - Heat pumps – nearly 300 annually (1/3 ground source)
 - Water heaters – nearly 700 annually



KEPCo Demand Side Management

- Load Management Program – since early 1990's
- Each KEPCo Member incented through rate structure to reduce demand during peak hours
- Many Member Coops have incorporated Automated Metering Technology
- KEPCo estimates that peak demand is reduced by 8% to 9% through Load Management



Questions?

Les Evans
Vice President Power Supply
(785) 271-4839
levans@kepco.org

