Great Plains Energy

First Quarter 2011
Earnings Presentation

May 6, 2011

Forward-Looking Statement

Statements made in this presentation that are not based on historical facts are forward-looking, may involve risks and uncertainties, and are intended to be as of the date when made. Forward-looking statements include, but are not limited to, the outcome of regulatory proceedings, cost estimates of capital projects and other matters affecting future operations. In connection with the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, Great Plains Energy and KCP&L are providing a number of important factors that could cause actual results to differ materially from the provided forward-looking information. These important factors include: future economic conditions in regional, national and international markets and their effects on sales, prices and costs, including but not limited to possible further deterioration in economic conditions and the timing and extent of any economic recovery; prices and availability of electricity in regional and national wholesale markets; market perception of the energy industry, Great Plains Energy and KCP&L; changes in business strategy, operations or development plans; effects of current or proposed state and federal legislative and regulatory actions or developments, including, but not limited to, deregulation, re-regulation and restructuring of the electric utility industry; decisions of regulators regarding rates the companies can charge for electricity; adverse changes in applicable laws, regulations, rules, principles or practices governing tax, accounting and environmental matters including, but not limited to, air and water quality; financial market conditions and performance including, but not limited to, changes in interest rates and credit spreads and in availability and cost of capital and the effects on nuclear decommissioning trust and pension plan assets and costs; impairments of long-lived assets or goodwill; credit ratings; inflation rates; effectiveness of risk management policies and procedures and the ability of counterparties to satisfy their contractual commitments; impact of terrorist acts; ability to carry out marketing and sales plans; weather conditions including, but not limited to, weather-related damage and their effects on sales, prices and costs; cost, availability, quality and deliverability of fuel; the inherent uncertainties in estimating the effects of weather, economic conditions and other factors on customer consumption and financial results; ability to achieve generation goals and the occurrence and duration of planned and unplanned generation outages; delays in the anticipated in-service dates and cost increases of additional generation, transmission, distribution or other projects; the inherent risks associated with the ownership and operation of a nuclear facility including, but not limited to, environmental, health, safety, regulatory and financial risks; workforce risks, including, but not limited to, increased costs of retirement, health care and other benefits; and other risks and uncertainties.

This list of factors is not all-inclusive because it is not possible to predict all factors. Other risk factors are detailed from time to time in Great Plains Energy's and KCP&L's quarterly reports on Form 10-Q and annual report on Form 10-K filed with the Securities and Exchange Commission. Each forward-looking statement speaks only as of the date of the particular statement. Great Plains Energy and KCP&L undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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Michael J. Chesser
Chairman and CEO

CEO Discussion

- Senior Executive Change
- Key Elements of 1Q11 Results
  - KCP&L Missouri Rate Case Impacts
  - Organizational Realignment and Voluntary Separation Program Charges
  - Regulatory Lag – Fuel (KCP&L MO) and Property Tax
  - Customer Consumption
- Wolf Creek
- EPA Pronouncements
- Completion of Missouri Rate Cases and Comprehensive Energy Plan

Strong Track Record of Execution

Comprehensive Energy Plan

	Project Description	Comments
Wind	• 100 MW plant in Spearville, KS • Began construction in 2005	✓ Completed in Q3 2006 ✓ In rate base from 1/1/2007 ✓ No regulatory disallowance
LaCygne Environmental	• Selective Catalytic Reduction (SCR) unit at LaCygne 1	✓ Completed in Q2 2007 ✓ In rate base from 1/1/2008 ✓ No regulatory disallowance
Iatan 1 Environmental	• Air Quality Control System at Iatan 1	✓Completed in Q2 2009 ✓Included in KCP&L KS, KCP&L MO and GMO rate base with minimal disallowance
Iatan 2	• Construction of Iatan 2 super-critical coal plant (850 MW; 73% GXP ownership share)[1]	✓In-service on 8/26/2010; Included in KCP&L KS, KCP&L MO and GMO rate base with minimal (1%) disallowance

Great Plains Energy effectively executed all elements of its Comprehensive Energy Plan and received constructive regulatory treatment

[1] Includes post-combustion environmental technologies including an SCR system, wet flue gas desulphurization system and fabric filter to control emissions

William H. Downey
Executive Vice Chairman

KCP&L Missouri Rate Case Results

- Annual Revenue Increase of $34.8 Million or 5.25% (vs. Updated Company Request of $66.5 million) Effective May 4, 2011
- 10.00% Authorized ROE (vs. Updated Company Request of 10.75%); Equity Ratio of 46.3%
- Iatan 2 in Service and Added to Rate Base
  - Total Project Disallowance of $21.1 million ($6.2 million for KCP&L Missouri Jurisdictional Share) or ~1 Percent of Total Project Cost
- Minimal Iatan 1 Environmental Project Disallowance
- KCP&L Missouri Jurisdictional Rate Base of $2.036 billion
- Off-System Sales Margin Threshold Set at $45.9 Million Missouri Jurisdictional Share
  - Compares to Updated Company Request of $29.4 million

GMO Rate Case Results

- Order Issued May 4, 2011
- Staff Report Outlining Rate Increase Details Not Yet Issued
- Same ROE and Equity Ratio as KCP&L
- Iatan 2 – Same Total Project Disallowance as in KCP&L's Case; $3.8 Million for GMO's Jurisdictional Share
- Minimal Iatan 1 Environmental Project Disallowance
- Disallowances related to Crossroads Energy Center
  - Approximately $50 Million of Asset Cost Removed from Rate Base
  - About $5 million of Related Transmission Costs Excluded from Cost of Service

KCP&L℠
energizing *life*

Terry Bassham
President and COO

Operations Update

- LaCygne Predetermination Filing Update
- Plant Performance
- Recent EPA Proposals (HAPs/MACT, Water Intake Structures)
- Customer Consumption

Kansas Predetermination Filing Update

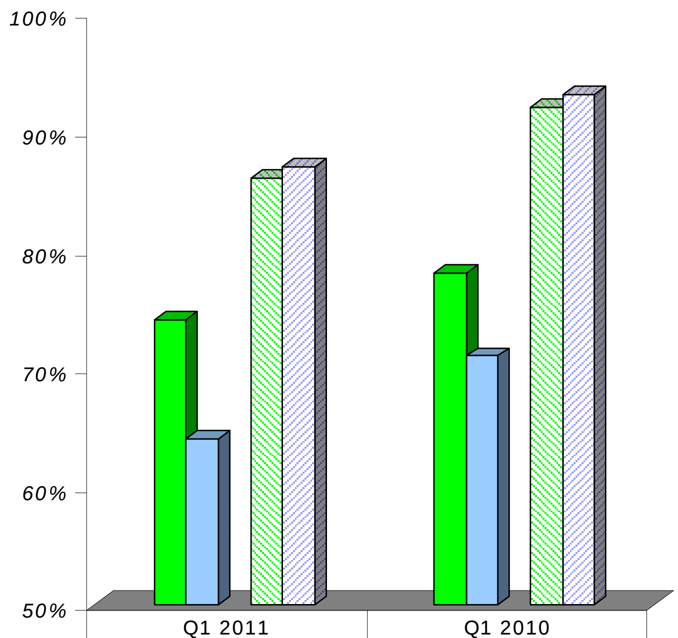
Coal Unit	MW	SCR	Scrubber	Bag House	Particulate Control	Mercury Controls	Cooling Tower
LaCygne 1	368[a]	✓	✓ (b)	△	✓ (c)	△	◇
LaCygne 2	341[a]	△	△	△	✓ (d)	△	◇

(a) KCP&L's share of jointly-owned facility
(b) LaCygne 1 currently has a scrubber installed; however, 2011-13 capital expenditure plan includes the installation of a new scrubber on the unit
(c) Existing scrubber removes particulate matter but will be replaced by the baghouse
(d) Existing precipitator will be replaced by the baghouse
✓ Installed
△ Installation of this equipment is scheduled to begin during the period covered by the 2011-2013 capital expenditure plan
◇ Not installed

- Project includes the installation of:
  - LaCygne 1 – Wet scrubber, baghouse, activated carbon injection
  - LaCygne 2 – Selective Catalytic Reduction system (SCR), wet scrubber, baghouse, activated carbon injection and low NOx burners
- Predetermination filing is for total project cost of $1.23 billion; KCP&L's total share is $615 million and Kansas jurisdictional share is $281 million
- Filing includes request for a LaCygne project-specific rider
- Predetermination case proceeding in parallel with KCC general investigation docket concerning environmental retrofits
- Decision in predetermination filing expected in August 2011

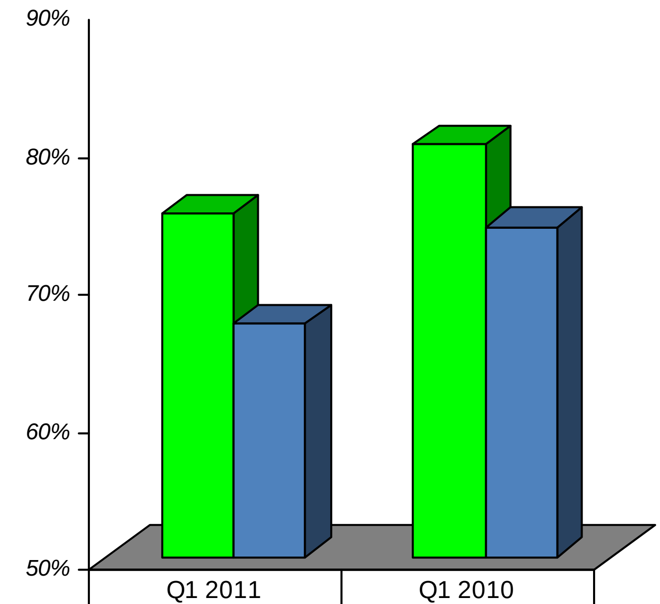
Plant Performance

Coal and Nuclear



	Q1 2011	Q1 2010
Equivalent Availability Coal	74%	78%
Capacity Factor Coal	64%	71%
Equivalent Availability Nuclear	86%	92%
Capacity Factor Nuclear	87%	93%

Combined Fleet



	Q1 2011	Q1 2010
Equivalent Availability	75%	80%
Capacity Factor	67%	74%

Recent EPA Ruling and Proposals

Industrial Boiler Maximum Achievable Control Technology (MACT) Rule

- EPA final rule issued in February 2011
- Applies to most of GMO's Lake Road boilers and auxiliary boilers at other generating facilities
- Expected cost of compliance for this rule and the currently effective CAIR and BART is approximately $1 billion

Utility Boiler MACT Rule

- EPA proposed rule issued in March 2011; plans to issue final rule by November 2011
- Proposed rule will impact all KCP&L and GMO coal plants
- If final rule is as proposed:
    - Potential retrofit of about 1,250 MW of baseload coal generation. Expected cost of compliance to be within the approximate $1 billion estimate referenced above
    - Potential retirement of older units totaling about 535 MW
- Final rule is expected to change from the current form

Section 316(B) Rule – Water Intake Structures

- EPA proposed rule issued in March 2011; plans to issue final rule by July 2012
- Proposed rule applicable to most KCP&L and GMO coal units
- If cooling towers are ultimately required, projected compliance costs would likely be significant; however, this is not likely
- Current form of proposed rule by itself would not be expected to lead to retirements
- Final rule is likely to change from the current form

Customer Consumption

Retail MWh Sales and Customer Growth Rates

1Q 2011 Compared to 1Q 2010

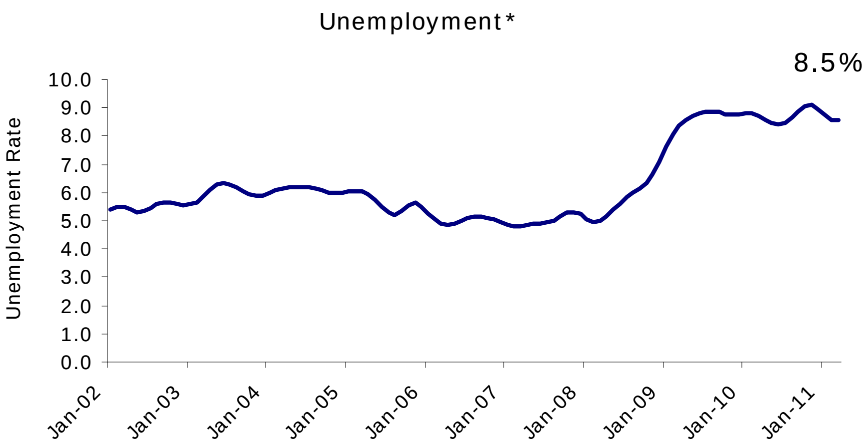
	Total Change in MWh Sales	Weather-Normalized		
		Customers	Use / Customers	Change MWh Sales
Residential	(4.0%)	(0.1%)	(5.7%)	(5.8%)
Commercial	(1.3%)	0.3%	(2.0%)	(1.7%)
Industrial	(0.0%)	(0.9%)	1.1%	0.1%
	(2.2%)	0.0%*	(3.1%)*	(3.2%)*

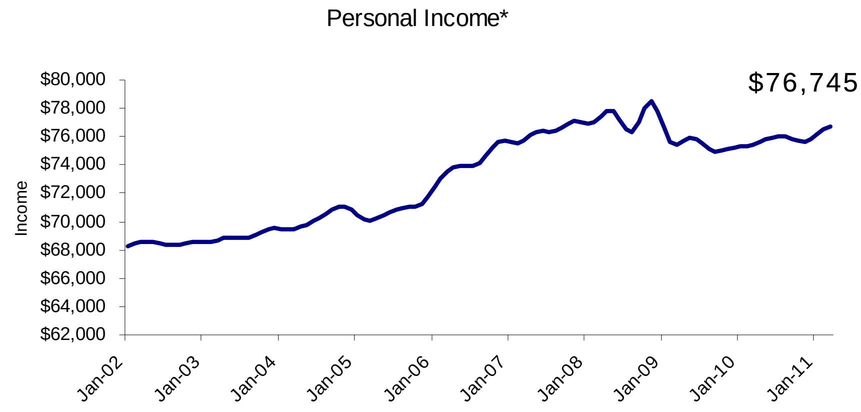
* Weighted average

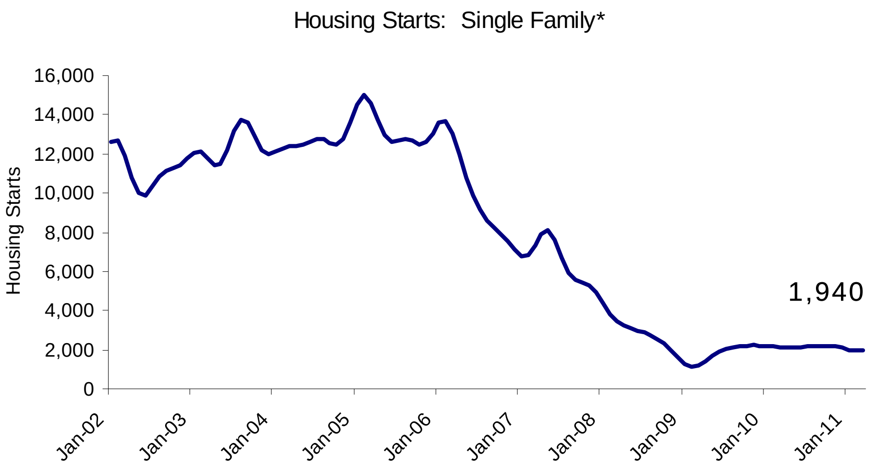
Statistics by Customer Class First Quarter 2011

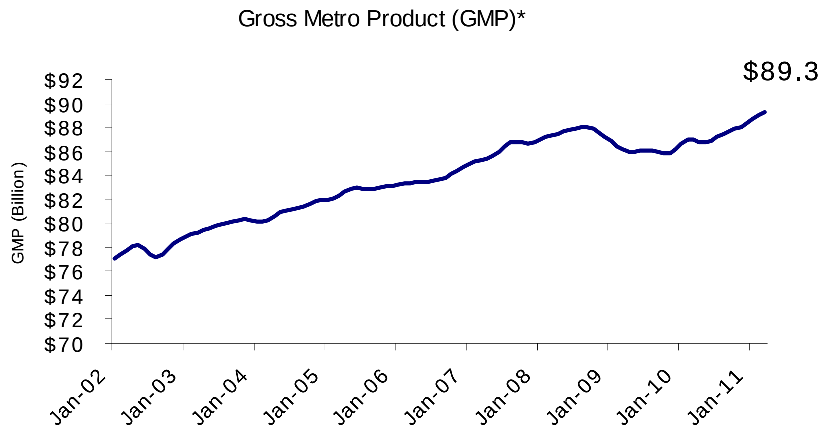
	Customers	Revenue (in millions)	Sales (000s of MWhs)	% of MWh Sales
Residential	725,500	$201.5	2,437	42%
Commercial	96,400	182.3	2,589	45%
Industrial	2,300	38.5	746	13%

KC Metropolitan Economy – Key Indicators January 2002 – March 2011









Source: Moody's

Financial Overview

James C. Shay
Senior Vice President - Finance &
Strategic Planning and CFO

Great Plains Energy Consolidated Earnings and Earnings Per Share - Three Months Ended March 31

(Unaudited)

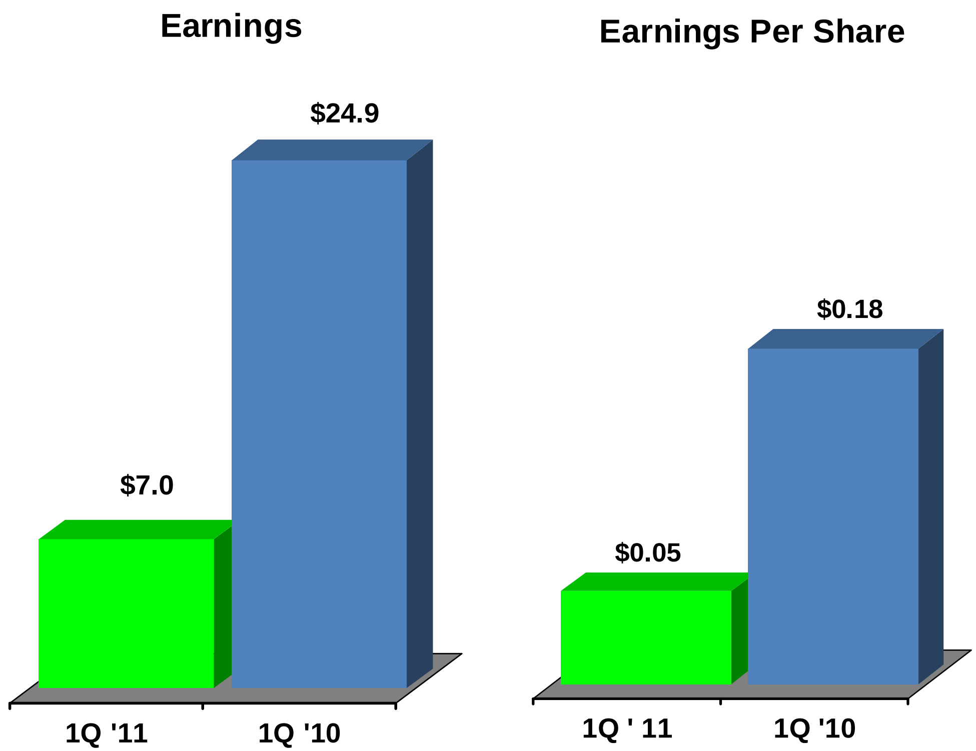
	Earnings (in Millions)		Earnings per Share	
	2011	2010	2011	2010
Electric Utility	$ 7.0	$ 24.9	$ 0.05	$ 0.18
Other	(4.7)	(4.6)	(0.04)	(0.03)
Net income	2.3	20.3	0.01	0.15
Less: Net loss attributable to noncontrolling interest	0.1	-	-	-
Net income attributable to Great Plains Energy	2.4	20.3	0.01	0.15
Preferred dividends	(0.4)	(0.4)	-	-
Earnings available for common shareholders	$ 2.0	$ 19.9	$ 0.01	$ 0.15

- Electric Utility's net income decreased $17.9 million including an $8.4 million decrease in gross margin*
- Common stock outstanding for the quarter averaged 138.2 million shares, about 1 percent higher than the same period in 2010

*Gross margin is defined and reconciled to GAAP operating revenues at the end of the presentation

Electric Utility First Quarter Results

(in millions)



* Gross margin is defined and reconciled to GAAP operating revenues at the end of the presentation

Key Earnings Drivers

- ↑ Decreased depreciation and amortization of $9.8 million primarily driven by a reduction of KCP&L's regulatory amortization in Kansas;
- ↑ Decreased income tax expense of $10.7 million resulting from lower pre-tax income;
- ↓ Decreased gross margin* of $8.4 million due to a $5.7 million reduction in retail revenue from reduced customer consumption and $4.6 million of increased coal transportation costs not recovered in KCP&L Missouri retail rates where there is no fuel recovery mechanism;
- ↓ Increased other operating expenses of $12.4 million primarily driven by $6.9 million loss attributed to Iatan 1 and 2 construction costs plus other costs resulting from the Missouri rate case orders and a $4.0 million increase in general taxes principally related to property taxes at Iatan 2;
- ↓ A $9.7 million expense for the voluntary separation program; and
- ↓ Decreased non-operating income and expenses of $9.8 million primarily due to lower AFUDC equity

Factors Impacting 2011

- Weather-Normalized MWh Sales
  - Initial full-year guidance – 0.7% growth
  - Current view is essentially flat given 3.2% decline in 1Q
- Expenses Associated with Voluntary Separation Program
  - $0.04 EPS impact in 1Q
  - $0.02 EPS impact to be recognized in 2Q
- Missouri Rate Case-Related Expenses
  - $0.03 EPS impact in 1Q
  - Currently assessing impacts of GMO order

Debt Profile as of March 31, 2011

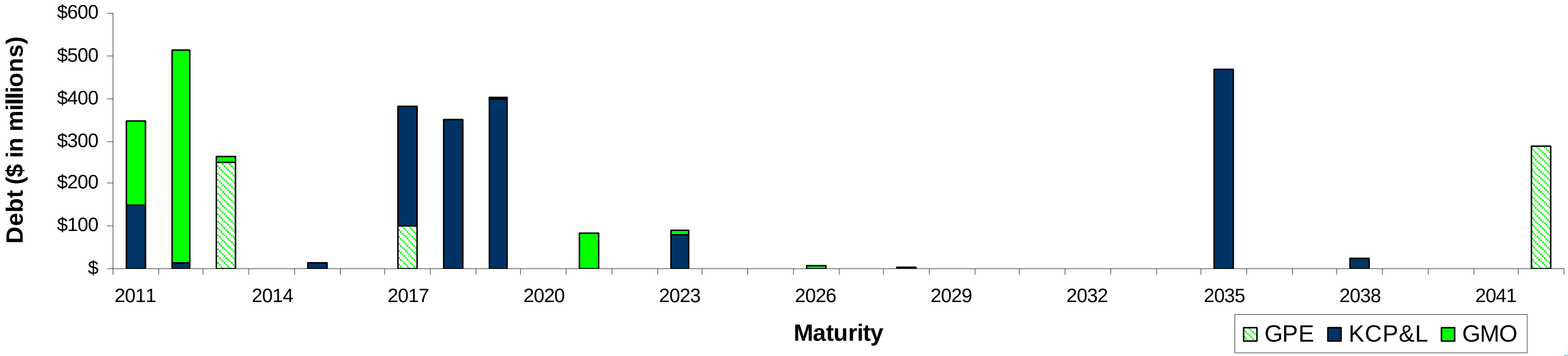
Great Plains Energy Debt

($ in millions)	KCP&L		GMO [1]		GPE		Consolidated	
	Amount	Rate [2]	Amount	Rate [2]	Amount	Rate [2]	Amount	Rate [2]
Short-term debt	$ 383.8	0.61%	$ 205.0	3.06%	$ 14.0	3.06%	$ 602.8	1.50%
Long-term debt [3]	1,780.1	6.13%	863.9	10.20%	637.0	7.57%	3,281.0	7.45%
Total	$2,163.9	5.15%	$1,068.9	8.78%	$ 651.0	7.47%	$3,883.8	6.51%

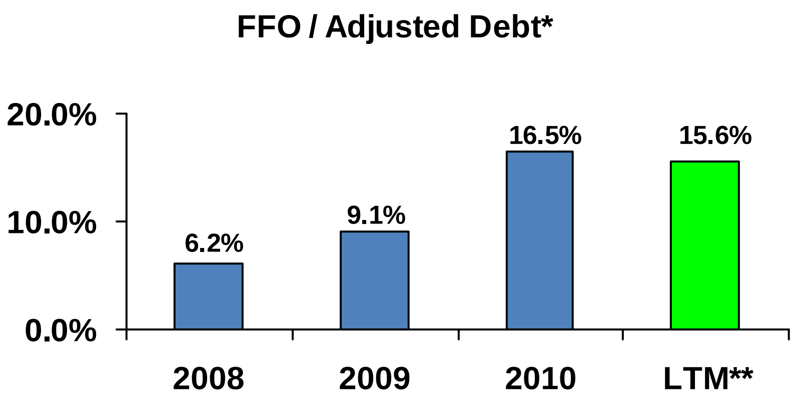
Secured debt = $861.5 (22%), Unsecured debt = $3,022.3 (78%)

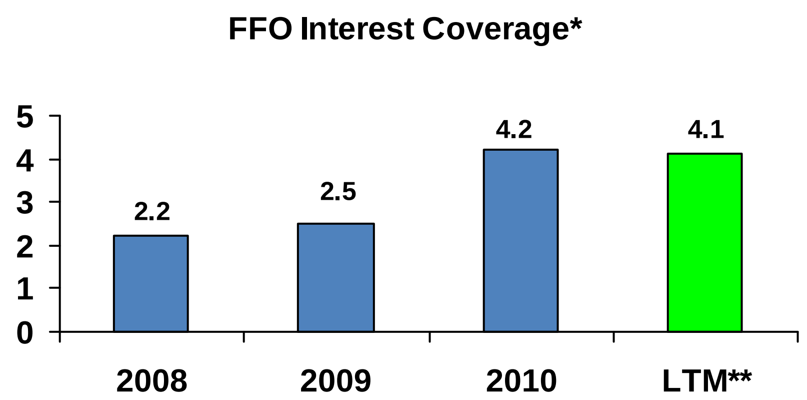
(1) GPE guarantees substantially all of GMO's debt
(2) Weighted Average Rates – excludes premium / discounts and fair market value adjustments; includes full Equity Units coupon (12%) for GPE
(3) Includes current maturities of long-term debt

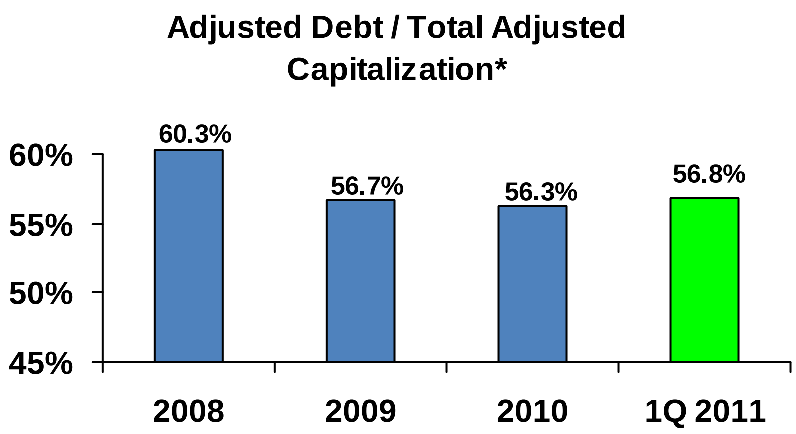
Long-term Debt Maturities



Credit Profile for Great Plains Energy







Current Credit Ratings

	Moody's	Standard & Poor's
Great Plains Energy		
Outlook	**Stable**	**Stable**
Corporate Credit Rating	-	BBB
Preferred Stock	Ba2	BB+
Senior Unsecured Debt	Baa3	BBB-
KCP&L		
Outlook	**Stable**	**Stable**
Senior Secured Debt	A3	BBB+
Senior Unsecured Debt	Baa2	BBB
Commercial Paper	P-2	A-2
GMO		
Outlook	**Stable**	**Stable**
Senior Unsecured Debt	Baa3	BBB

* All ratios calculated using Standard and Poor's methodology
** Last twelve months as of March 31, 2011

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Great Plains Energy Incorporated Reconciliation of Gross Margin to Operating Revenues (Unaudited)

(millions)	Three Months Ended March 31	
	2011	2010
Operating revenues	$ 492.9	$ 506.9
Fuel	(104.9)	(101.8)
Purchase power	(54.9)	(65.5)
Transmission of electricity by others	(7.5)	(5.6)
Gross margin	$ 325.6	$ 334.0

Gross margin is a financial measure that is not calculated in accordance with generally accepted accounting principles (GAAP). Gross margin, as used by Great Plains Energy, is defined as operating revenues less fuel, purchased power and transmission of electricity by others. The Company's expense for fuel, purchased power and transmission of electricity by others, offset by wholesale sales margin, is subject to recovery through cost adjustment mechanisms, except for KCP&L's Missouri retail operations. As a result, operating revenues increase or decrease in relation to a significant portion of these expenses. Management believes that gross margin provides a more meaningful basis for evaluating the Electric Utility segment's operations across periods than operating revenues because gross margin excludes the revenue effect of fluctuations in these expenses. Gross margin is used internally to measure performance against budget and in reports for management and the Board of Directors. The Company's definition of gross margin may differ from similar terms used by other companies. A reconciliation to GAAP operating revenues is provided in the table above.