

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

Filed
January 6, 2012
Data Center
Missouri Public
Service Commission

In re: Union Electric Company's
2011 Utility Resource Filing pursuant to
4 CSR 240 – Chapter 22.

Case No. EO-2011-0271

AFFIDAVIT OF ADAM BICKFORD

STATE OF MISSOURI

CITY OF JEFFERSON

SS

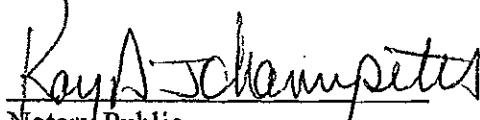
Adam Bickford, of lawful age, being duly sworn on his oath, deposes and states:

1. My name is Adam Bickford. I work in the City of Jefferson, Missouri, and I am employed by the Missouri Department of Natural Resources' Division of Energy as a Research Analyst.
2. Attached hereto and made a part hereof for all purposes are Public versions of my Surrebuttal Testimony on behalf of the Missouri Department of Natural Resources' Division of Energy, consisting of six pages of testimony and twenty-one pages of schedules, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct to the best of my knowledge.

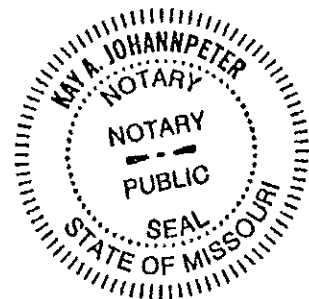
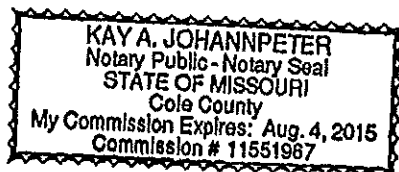


Adam Bickford

Subscribed and sworn to before me this 30th day of November, 2011.


Notary Public

My commission expires:



MDNR Exhibit No. 27
Date 12/15/11 Reporter JMB
File No. EO-2011-0271

Exhibit No.:	
Issue:	Strategy Selection
Witness:	Adam Bickford
Sponsoring Party:	Missouri Department of Natural Resources
Type of Exhibit:	Surrebuttal Testimony
File No.:	EO-2011-0271
Date testimony Prepared:	November 30, 2011

MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENERGY

SURREBUTTAL TESTIMONY OF

ADAM BICKFORD

UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI

FILE NO. EO-2011-0271

Jefferson City, Missouri
November 2011

1 SURREBUTTAL TESTIMONY

2 OF

3 ADAM BICKFORD

4 UNION ELECTRIC COMPANY d/b/a AMEREN MISSOURI

5 FILE NO. EO-2011-0271

6
7 Q: Please state your name and business address.

8 A: My name is Adam Bickford. My business address is Missouri Department of Natural Resources,
9 1101 Riverside Drive, Jefferson City, Missouri 65102. (MDNR)

10 Q: What is your present position at the Missouri Department of Natural Resources?

11 A: I am a Research Analyst in the Division of Energy.

12 Q: Are you the same Adam Bickford who filed rebuttal testimony in this case on October 28, 2011?

13 A: Yes I am.

14 Q: Please summarize the purpose of your surrebuttal testimony.

15 A: The purpose of my testimony is to respond to the rebuttal testimony of Staff Witness John
16 Rogers regarding whether Ameren analyzed its Economic Development measure appropriately
17 [Rogers Rebuttal, page 28].

18 Q. What is Staff's position in rebuttal testimony regarding this subject?

19 A. Staff Witness John Rogers states that "Staff considers it important to analyze indirect economic
20 impacts, because the economic development policy objective is given a 10 percent weight in the
21 Company's preferred plan selection scorecard which makes a complete analysis of direct and
22 indirect economic impacts very important. Staff contends it is the Company's responsibility to

1 provide a complete and thorough analysis of economic development, if the Company is going to
2 use economic development as a policy objective during its decision process.”¹

3 Q. What is MDNR’s position on whether Ameren used the economic development measure
4 appropriately?

5 A. MDNR’s position is that Ameren did not use the economic development measure appropriately
6 as it did not consider either indirect or induced economic benefits of various resource plans.
7 Stated another way, Staff’s position is correct, but should be taken one step further to address
8 induced economic benefits. Further, it should be pointed out that Ameren’s objection that such
9 additional analysis “would add a layer of complexity to the analysis that would be difficult to
10 justify”² is without merit, especially in light of the fact that Ameren has conducted such analysis
11 previously. This is evidenced by the attached report entitled “Economic Impact of AmerenUE
12 on Missouri”, which was admitted as Exhibit 657 in Ameren’s last electric rate case, Case No. ER-
13 2011-0028 (Schedule AB-1).

14 Q: What is the origin of this issue as raised by Staff?

15 A: Staff raised this issue as Concern G in Staff’s June 23, 2001, Report, stating:

16 G. When analyzing the economic development policy objective for various candidate resource
17 plans, Ameren Missouri did not analyze the indirect economic impacts of various candidate
18 resource plans due to the lower risk adjusted PVRR for RAP DSM no supply-side resources Plan
19 R0 under current environmental regulations (up to \$1.9 billion vs. Plan B2), and for Low Risk
20 DSM Combined Cycle plants in 2016 and 2026 Plan R3 under aggressive environmental
21 regulations (up to \$2.5 billion vs. Plan H1).³

22 Q: How did Ameren Missouri respond to this concern?

¹ Rebuttal Testimony of John A. Rogers. Union Electric Company d/b/a Ameren Missouri File No. EO-2011-0271. October 27, 2011. Page 28.

² Ameren Missouri, *Response to Comments of Parties of the Response of Ameren Missouri to Alleged Deficiencies and Concerns* File EO-2011-0271, Page 101.

³ *Missouri Public Service Commission Staff Report On Union Electric Company d/b/a Ameren Missouri Electric Utility Resource Planning Compliance Filing*. File No. EO-2011-0271. June 23, 2011. Page 14.

1 A: Ameren Missouri, in its September 15, 2011 *Response to Comments of Parties of the Response*
2 *of Ameren Missouri to Alleged Deficiencies and Concerns* (Response), stated that:

3 Ameren Missouri's use of its economic development measure is appropriate and reasonable.
4 While it would not be invalid at all to include consideration of indirect impacts, it would not
5 necessarily add anything to the assessment of alternative plans and would add a layer of
6 complexity to the analysis that would be difficult to justify. ... Such a refinement might also need
7 to account for the incremental costs incurred by program participants to effect the energy
8 savings, the benefits of which have already been accounted for in the direct jobs assessment.
9 One could also consider the relative quality of jobs involved, including relative pay levels and
10 relative impact on demand for other services. There is no end to how elaborate such an analysis
11 could become, so the value of information gained must be a limiting factor.⁴

12 Q: What is MDNR's position relative to Staff's rebuttal testimony?

13 A: MDNR concurs with Staff's testimony as far as it goes; however, Staff's testimony makes no
14 reference to the induced economic impacts. Ameren should have also considered these induced
15 economic impacts in addition to the indirect economic impacts. Further, Staff's rebuttal did not
16 include any reference to Ameren undertaking such analysis in the past. However, MDNR now
17 refers the Commission to Ameren's past analysis of indirect economic impacts as suggestive that
18 Ameren does not consistently find that such analysis is unduly complex or difficult to justify.

19 Q: Please describe Ameren's approach to analyzing the economic impacts of its candidate resource
20 plans.

21 A: The results of Ameren Missouri's analysis of the economic impacts of its candidate resource
22 plans are provided in Volume 9 of its February 10, 2011 plan.⁵ The analysis defines economic
23 impacts of Ameren Missouri's 216 candidate resource plans entirely as the direct outcomes of
24 changes in FTE-years (Full-Time Equivalent-years) due to its planned actions. For the supply
25 side installations, Ameren Missouri differentiates between construction FTE and ongoing FTE.
26 For demand-side programs, Ameren reports only on-going FTE.

⁴ Ameren Missouri, *Response to Comments of Parties of the Response of Ameren Missouri to Alleged Deficiencies and Concerns* File EO-2011-0271, Page 101.

⁵ "Modeling and Risk Analysis" Union Electric Company, d/b/a Ameren Missouri Triennial Compliance Filing, File EO-2011-0271. Volume 9, Pages 9-10.

1 Q: Please describe Staff's concerns about this analysis, as described on Page 28 of Mr. Rogers'
2 rebuttal testimony, and MDNR's position on this analysis.

3 A: On page 28 of Mr. Rogers' testimony, Staff expresses its concern that Ameren Missouri's
4 analysis focuses only on the direct impacts of its actions. Ameren essentially treats the impacts
5 of its plans as if Ameren acted independently, and not as part of a regional, state and national
6 economy. MDNR notes that by not including indirect and induced impacts for alternative
7 resource plans, the analysis is not capturing a significant amount of economic activity
8 attributable to Ameren's planning decisions.

9 These impacts differ by different sectors of economic activity. The "indirect impacts"
10 occur in firms that supply raw materials, goods and services to manufacture a product. For
11 example, an electric generation plant's indirect impacts occur because of purchases of raw
12 materials, transportation of raw materials, purchase of energy generating equipment, etc. In
13 contrast, "induced impacts" occur in businesses that provide goods and services purchased by
14 firm's workers. For example, a worker in an electric generation facility will spend some of his
15 income on buying retail goods and services; induced impacts occur when that money is used (by
16 the retailers where the worker spent his money) to pay workers at the retail store or pay for
17 expenses of running the store or business such as utilities, etc. By not including the indirect and
18 induced impacts in its analysis, Ameren fails to account for the total economy-wide impacts of
19 its candidate resource plans, effectively underestimating the effect of alternative plans on the
20 economy as a whole. For example, the analysis presented in the table on Page 7 of Schedule
21 AB-1 suggests that Ameren's overall indirect impact on Missouri is on the order of 2.7 billion
22 dollars⁶; Ameren has not included such impacts in the assessment of their alternative resource
23 plans.

⁶ Lewis, R. M. and A. J. Pfister, 2010. *Economic Impact of AmerenUE on Missouri*. Development Strategies. Exhibit 657, File Number: ER-2011-0028. Schedule AB-1 Page 7

1 This underestimation of the indirect economic impact of different plans will lead to
2 incorrect assessment, incorrect rank ordering and the selection of an inappropriate preferred
3 resource plan. Without proper accounting for the total economic impacts of each plan
4 considered, MDNR has no confidence that Ameren has properly considered the total economic
5 impacts of its candidate resource plans.

6 Q: Staff cites Ameren Missouri's argument that adding indirect impacts to the "assessment of
7 alternative plans and would add a layer of complexity to the analysis that would be difficult to
8 justify."⁷ Do you have any comments on this point?

9 A: Yes. In my opinion, Ameren employs this argument selectively. In the past Ameren has been
10 able to estimate the indirect impacts of Ameren's actions on Missouri's economy. For example,
11 Ameren commissioned the study cited above, showing the direct and indirect economic impacts
12 of participation in the Missouri economy⁸ This analysis suggests that the indirect economic
13 impact of Ameren's activities is approximately 67 percent of its total impact on the Missouri
14 economy, and that Ameren's activities support more than 20,000 indirect jobs.⁹ If Ameren is
15 able to assess the indirect impacts of its activities as a whole, Ameren should be expected to
16 assess the indirect and induced economic impacts of a set of potential plans.

17 Finally the economic impact analysis indicates that the indirect impacts are the majority
18 of the impacts from Ameren's actions. Staff notes that "it is important to analyze indirect
19 economic impacts, because the economic development policy objective is given a 10 percent
20 weight in the Company's preferred plan selection scorecard which makes a complete analysis of
21 direct and indirect economic impacts very important. Staff contends it is the Company's
22 responsibility to provide a complete and thorough analysis of economic development, if the

⁷ Ameren Missouri, *Response to Comments of Parties of the Response of Ameren Missouri to Alleged Deficiencies and Concerns* File EO-2011-0271, Page 101.

⁸ Lewis, R. M. and A. J. Pfister, 2010. *Economic Impact of AmerenUE on Missouri*. Development Strategies. Exhibit 657, File Number: ER-2011-0028.

⁹ Ibid. Schedule AB-1 Page 7.

1 Company is going to use economic development as a policy objective during its decision
2 process.”¹⁰ MDNR agrees with Staff that if Ameren is going to cite “economic development” as a
3 criterion for selecting a preferred plan, it should provide a complete analysis of the total
4 economic impacts of its alternative resource plans.

5 Q: Does this conclude your testimony?

6 A: Yes. Thank you.

¹⁰ Rebuttal Testimony of John A. Rogers. Union Electric Company d/b/a Ameren Missouri File No. EO-2011-0271. October 27, 2011. Page 28.

Exhibit AB-1: Lewis, R. M. and A. J. Pfister, 2010. *Economic Impact of AmerenUE on Missouri Development Strategies*. Exhibit 657, File Number: ER-2011-0028.

FILED
June 2, 2011
Data Center
Missouri Public
Service Commission

UNDIS Exhibit No. 657
Date 5/10/11 Reporter 641
File No. 92-2011-0028

Economic Impact of AmerenUE on Missouri



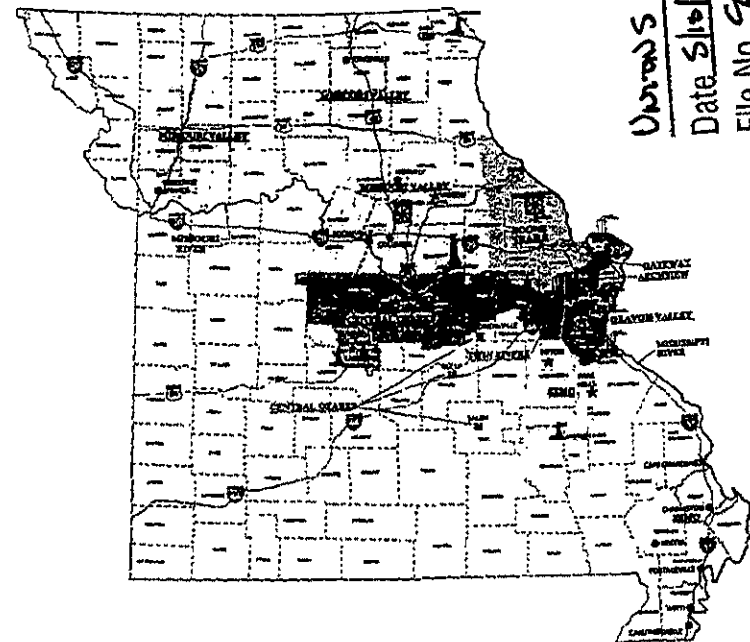
PRESENTED BY:

Robert M. Lewis

Andrew J. Pfister

Principal

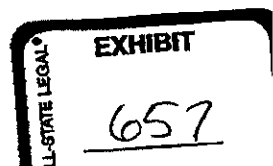
Senior Analyst



May 10, 2010

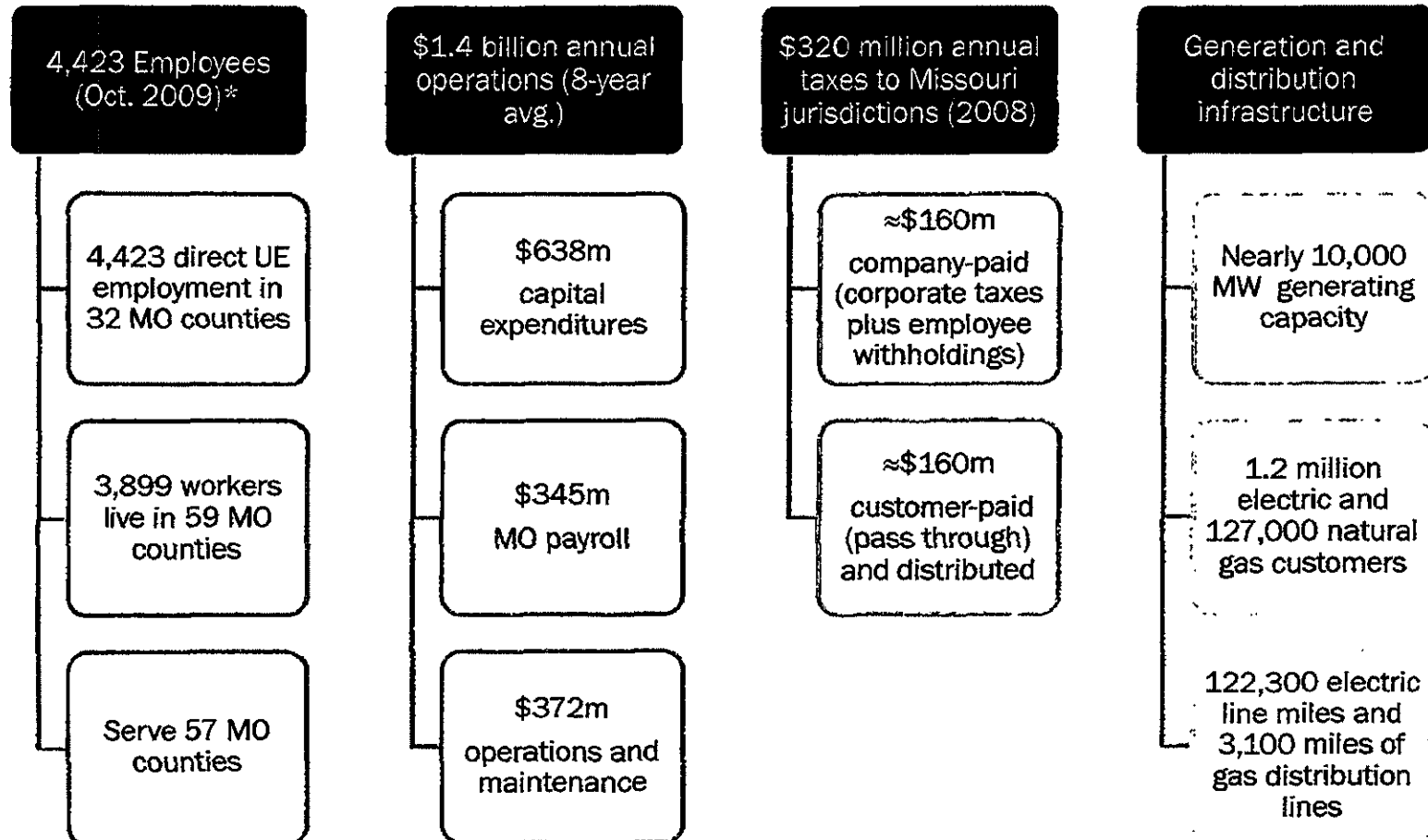


Schedule AB-1 Page 2



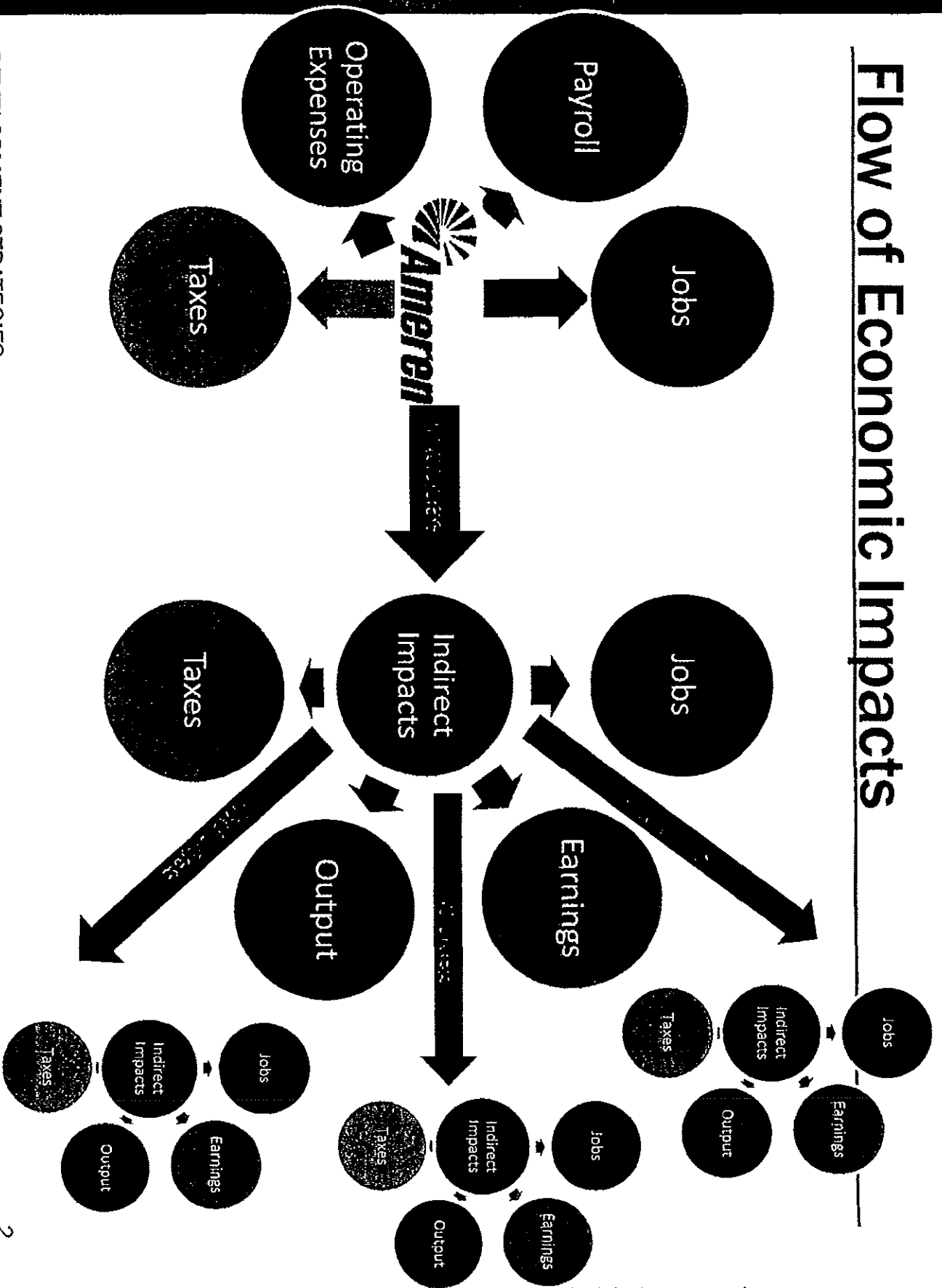
AmerenUE Facts and Economic Impact Inputs

- AmerenUE has a significant Missouri presence.



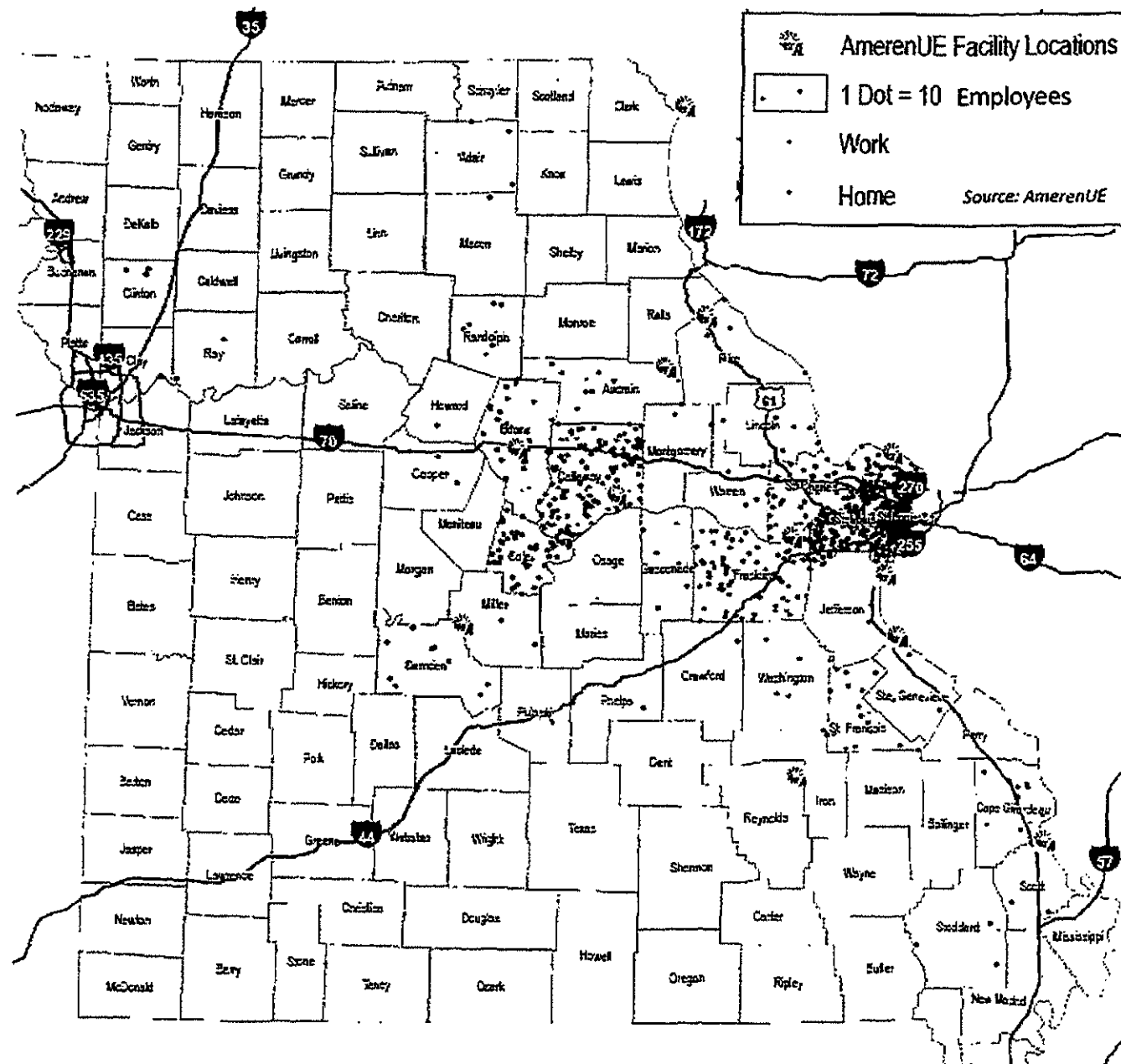
*AmerenUE only, excludes Ameren Services allocation

Flow of Economic Impacts



DEVELOPMENT STRATEGIES

AmerenUE Employees by Residence and Place of Work



Assumptions – AmerenUE Economic Impact Inputs

Economic Impact Assumption Summary

AMERENUE IMPACT ON MISSOURI

Employees

AmerenUE: Live in Missouri	3,899
Ameren Services: Live in Missouri (73%)	707
Total AmerenUE Employees Living in MO¹	4,606
AmerenUE: Work in Missouri	4,423
Ameren Services: Work in Missouri	968
Total AmerenUE Employees Working in MO²	5,391

Financial Inputs

Total Payroll (all MO Residents) ³	\$ 345,420,000
Other Operating Expenditures (annual, 2009\$)	372,340,000
Total Operations & Maintenance (O&M)	717,760,000

Capital Expenses

Total Capital Expenses (excludes Labor)	637,800,000
Total O&M and Capital Expenditures	\$ 1,355,560,000

¹This number will be applied to the payroll estimates to which the households multiplier will be applied, representing the multiplier effect of Missouri residents on the state, where they spend most of their income

²This number will be applied to the per employee capital expense and operations and maintenance expense in estimating the county-level economic impacts

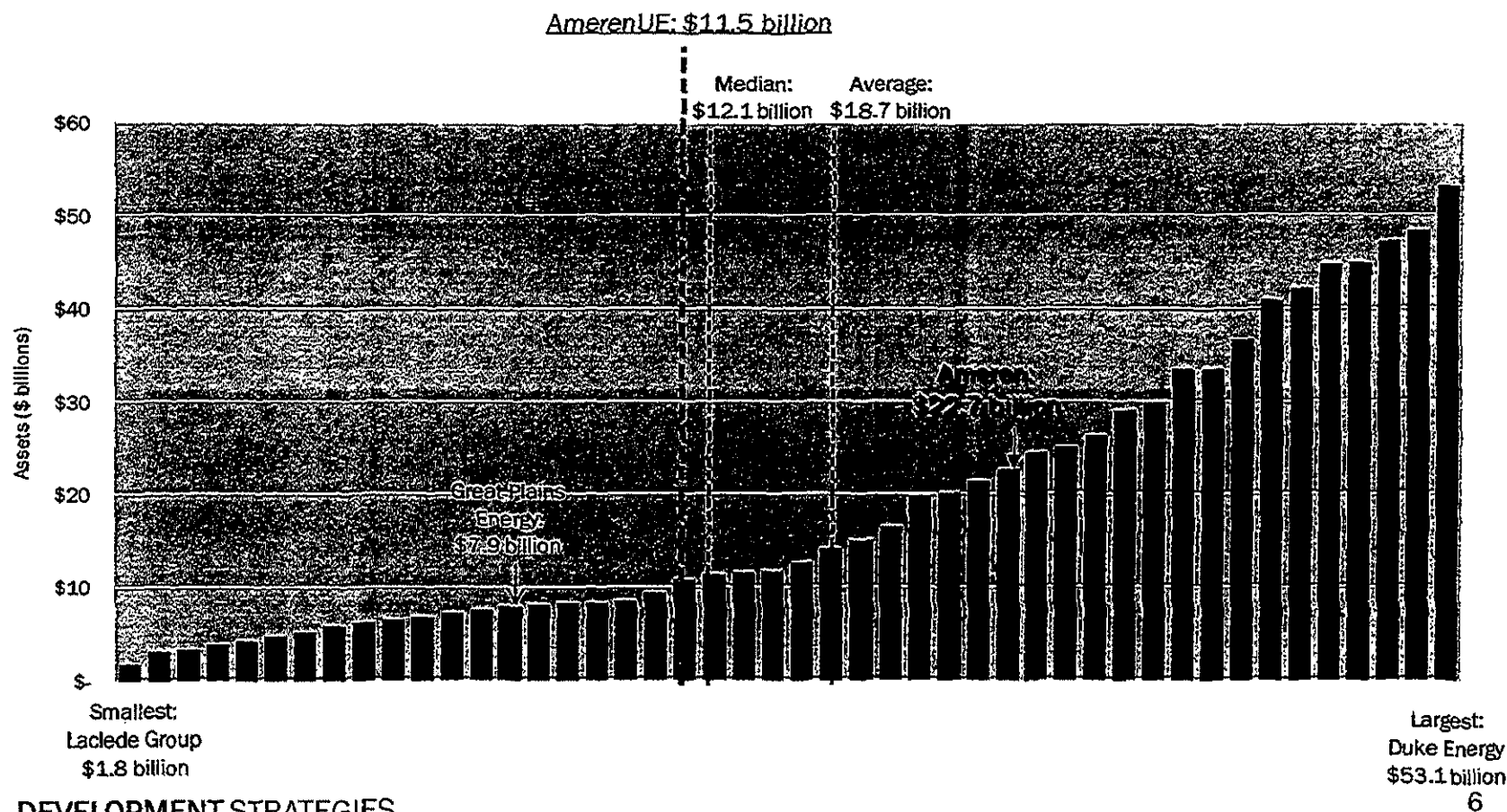
³Payroll for AmerenUE workers only (living in MO) is \$292,430,000 (3,899 x \$75,000); payroll for Ameren Services employees attributable to AmerenUE and living in MO is \$53,000,000 (707 * \$75,000); Payroll for all AmerenUE and Ameren Services attributable workers working in MO is \$404,330,000 (5,391 x \$75,000)

Annual Economic Impact of AmerenUE Operations on Missouri

	Annual in 2009 dollars ¹			
	Capital Expenditures	Operating Expenditures	Employee Compensation ²	Total
Direct Spending	\$ 637,800,000	\$ 372,340,000	\$ 345,420,000	\$ 1,355,560,000
MULTIPLIERS				
Output	2.43	1.78	1.56	2.03
Earnings	0.71	0.37	0.40	0.54
Employment	20.60	7.67	13.66	15.29
ADDED ECONOMIC IMPACT ON MISSOURI				
Output	\$ 1,552,280,000	\$ 660,940,000	\$ 537,780,000	\$ 2,751,000,000
Earnings	\$ 452,840,000	\$ 136,800,000	\$ 138,480,000	\$ 728,120,000
Indirect Jobs Held by Missouri Residents	13,140	2,860	4,720	20,720
} Avg. Salary: \$35,100				
TOTAL ECONOMIC IMPACT ON MISSOURI				
Output (Total Economic Activity)				\$ 4,106,560,000
Earnings				\$ 1,073,540,000
Direct Jobs at AmerenUE for Missouri Residents ³				4,606
Total Direct and Indirect Jobs for Missouri Residents ⁴				25,326
Direct Jobs at AmerenUE in Missouri ³				5,391

Fortune 1000 Utilities: Assets

- ❑ Ameren has 16th largest asset base.
- ❑ AmerenUE would have the 26th.



DEVELOPMENT STRATEGIES

*Sources: Fortune Magazine, Fortune 1000 List, April 2009 (based on FY 2008 data); Ameren 2008 Annual Report

Fortune 500 in St. Louis– 2010 List

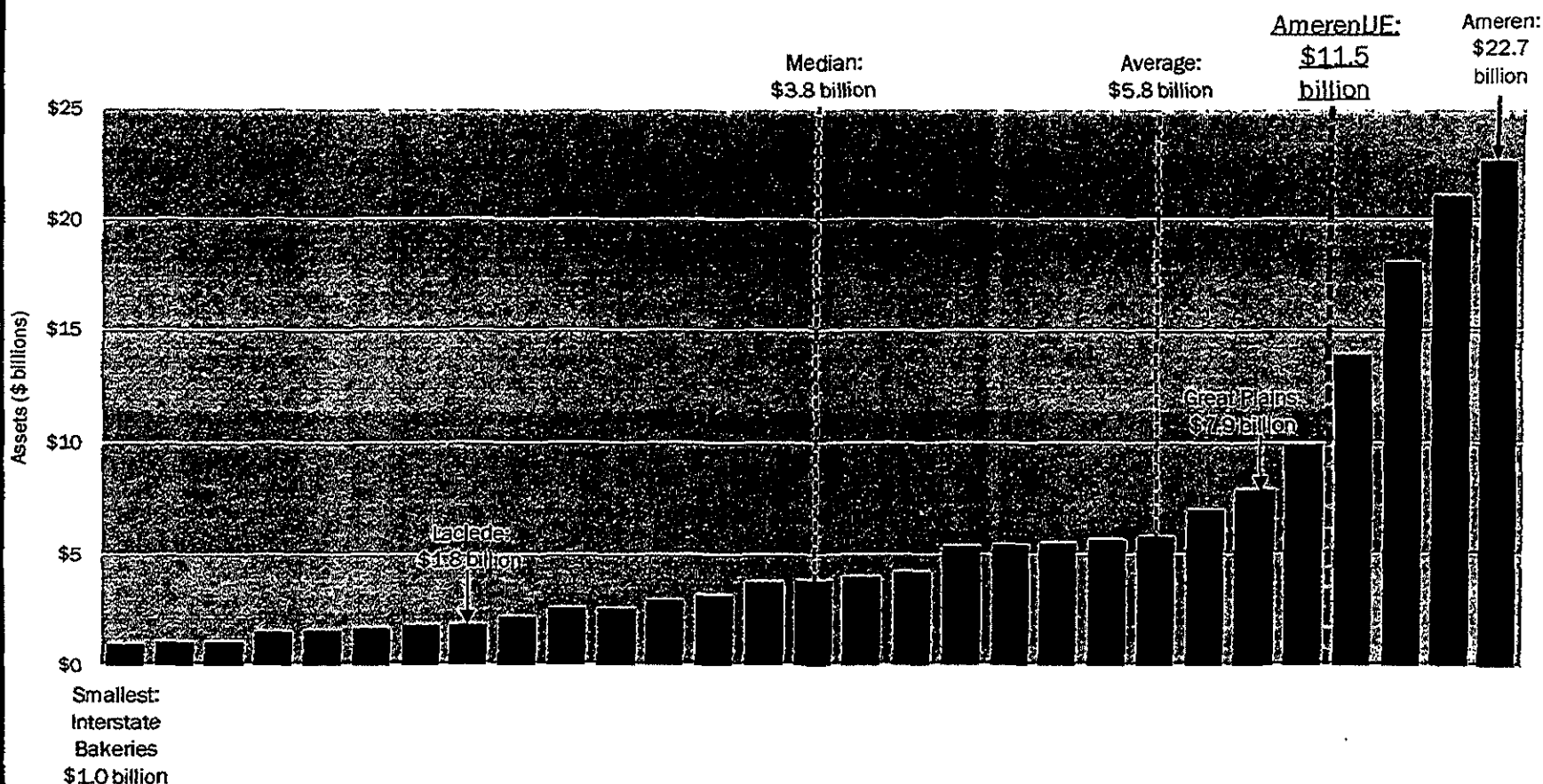
COMPANY	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Express Scripts	96	115	135	132	134	137	151	147	210	276	371
Emerson Electric	117	94	111	115	126	134	144	138	130	126	121
Monsanto	197	235	305	323	336	357	353				167
Ameren	320	327	329	339	324	380	382	418	366	434	439
Reinsurance Grp of Amer	321										
Charter Communications	332	385	409	409	413	390	358	362	417	492	
Peabody Energy	346	353	432	431	453	497					
Graybar Electric	470	439	455	450	476	462	448	401	344	336	370
Centene	486										
Smurfit-Stone		356	334								
Anheuser-Busch			149	146	146	139	142	142	159	159	151
May Department Stores						147	147	144	143	134	122
Premcor (Clark USA)									285	249	325
TWA										463	468
Ralston Purina										543	342
GenAmerica											411
Mercantile Bank											
Jefferson Smurfit											
McDonnell Douglas											
Boatmen's Bank											
No. of Companies	9	8	9	8	8	9	8	7	8	10	11

Fortune 1000 Companies HQ in Missouri (2009)

- | | | |
|-------------------------------|----------------------------|---------------------------------------|
| •Emerson Electric (94) | •Solutia (565) | •Brown Shoe (828) |
| •Express Scripts (115) | •Jones Financial (568) | •Laclede Group (829) |
| •Monsanto (235) | •O'Reilly Automotive (602) | •Sigma Aldrich (842) |
| •Ameren (327) | •Centene (609) | •Belden (898) |
| •Peabody Energy (353) | •Arch Coal (692) | •MEMC Electronic Materials (899) |
| •Charter Communications (385) | •Ralcorp Holdings (713) | •Inergy Holdings (935) |
| •Graybar Electric (439) | •Interstate Bakeries (718) | •Kansas City Southern (948) |
| •Leggett & Platt (493) | •AMC Entertainment (777) | •Olin (976) |
| •Energizer Holdings (522) | •Great Plains Energy (816) | •Furniture Brands International (982) |
| •H&R Block (556) | •DST Systems (825) | |

Missouri Fortune 1000 Companies: Assets

- Ameren has largest asset base (capital intensive).
- AmerenUE would have the 4th.



DEVELOPMENT STRATEGIES

*Sources: Fortune Magazine, Fortune 1000 List, April 2009 (based on FY 2008 data); Ameren 2008 Annual Report
Schedule AB-1 Page 11

AmerenUE-Paid or Collected Taxes (2008)

Actual Taxes Paid by AmerenUE in 2008

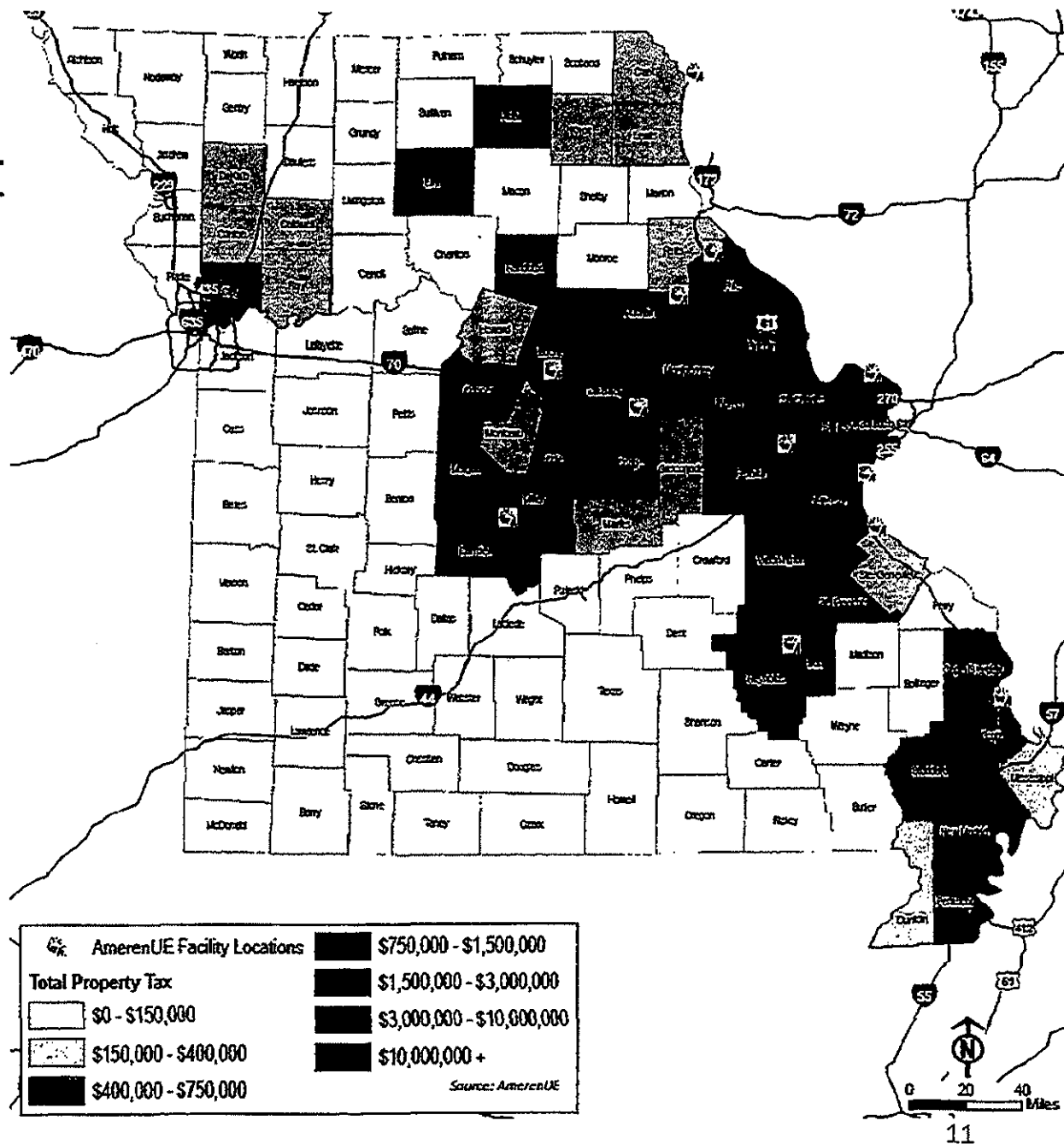
	Ameren-Paid Taxes		Customer-Paid Taxes		Total
DIRECT					
Personal Income Taxes*			\$		19,000,000
Property Taxes	\$	105,000,000	\$		105,000,000
Services Income Taxes	\$	19,500,000	\$		19,500,000
Sales and Use Taxes	\$	8,000,000	\$	52,000,000	60,000,000
Municipal Taxes			\$	109,000,000	109,000,000
All Other Taxes	\$	8,500,000	\$		8,500,000
TOTAL **	\$	141,000,000	\$	161,000,000	\$ 321,000,000

**Personal Income Taxes are State Employee Withholdings; **Taxes are paid to local jurisdiction, counties, and the state.*

Source: AmerenUE, total taxes paid, 2008. Does not represent FERC accounting.

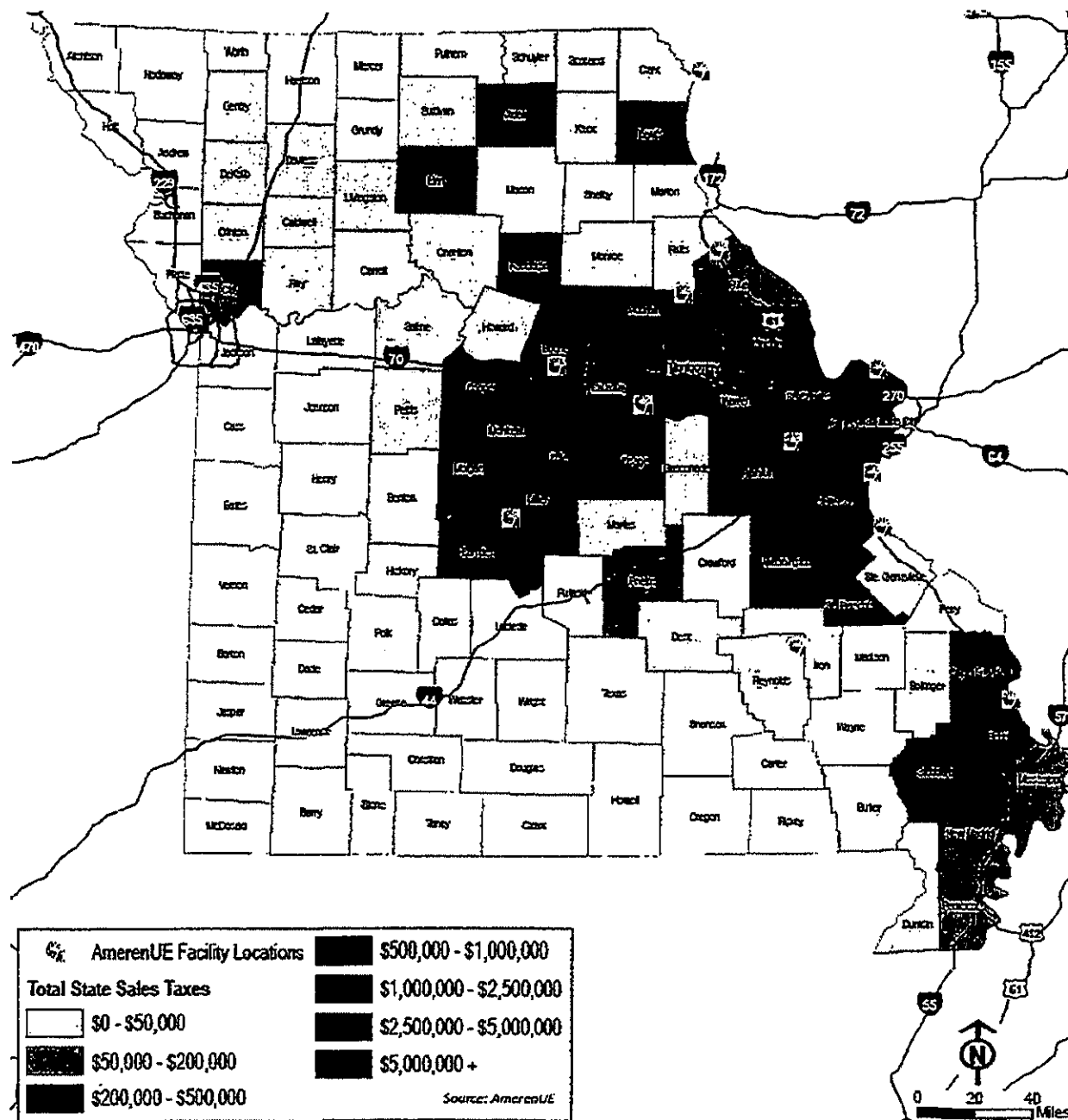
PROPERTY TAXES PAID BY AMERENUE BY COUNTY (2008) (≈\$105 MILLION TOTAL)

**Portion of property taxes
calculated based on electric line
miles*



DEVELOPMENT STRATEGIES

CUSTOMER-PAID STATE SALES TAXES COLLECTED BY COUNTY (2008) (≈\$29 MILLION TOTAL)



DEVELOPMENT STRATEGIES

Direct Fiscal Impacts

Annual Direct Fiscal Impact of AmerenUE Operations on Missouri

	<i>From AmerenUE Operations in Missouri</i>
Total Payroll (O&M Payroll + CapEx Labor)*	\$ 404,330,000
Personal Income Taxes (3.47% of total payroll)	\$ 14,030,000
Corporate Income Taxes	\$ 1,410,000
Sales and Use Taxes	\$ 12,790,000
Other Taxes and Fees	\$ 3,410,000
TOTAL	\$ 31,640,000

*Represents wages of all AmerenUE related workers who work in Missouri; Source: Development Strategies, using the ratio of personal income (earnings) to personal income taxes and sales taxes, the ratio of corporate income taxes to personal income taxes, and the ratio of all taxes to the sum of income and sales taxes. Source of tax information is the Missouri Department of Revenue's Annual Report for 2008. Source of total personal income for Missouri is the U.S. Department of Commerce for 2008.

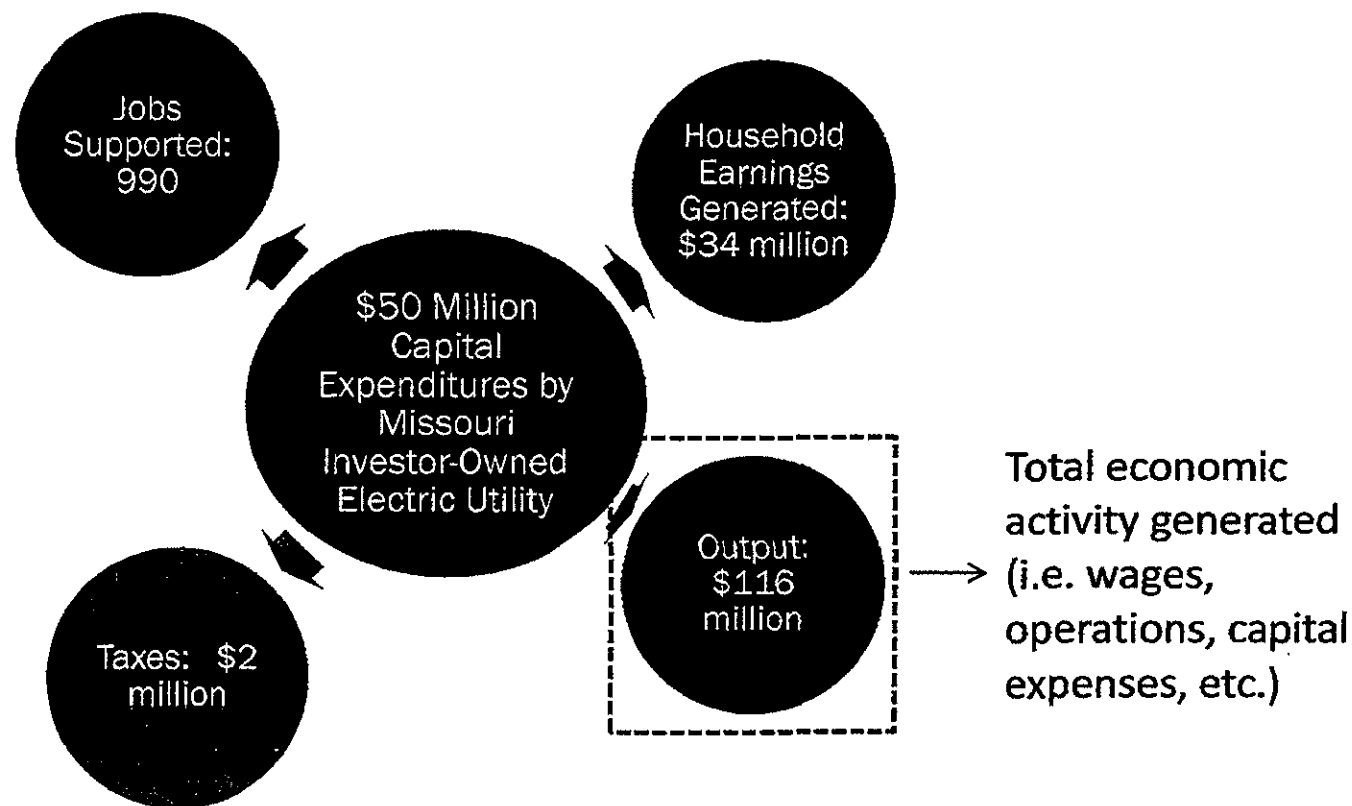
Indirect Fiscal Impacts from Multiplier Effects - Statewide

Annual Indirect Fiscal Impact of AmerenUE Operations on Missouri

	<i>From AmerenUE Operations in Missouri</i>	
Multiplier Earnings	\$	728,120,000
Personal Income Taxes (2.71%)*	\$	19,730,000
Corporate Income Taxes	\$	1,980,000
Sales and Use Taxes	\$	17,990,000
Other Taxes and Fees	\$	4,800,000
TOTAL	\$	44,500,000

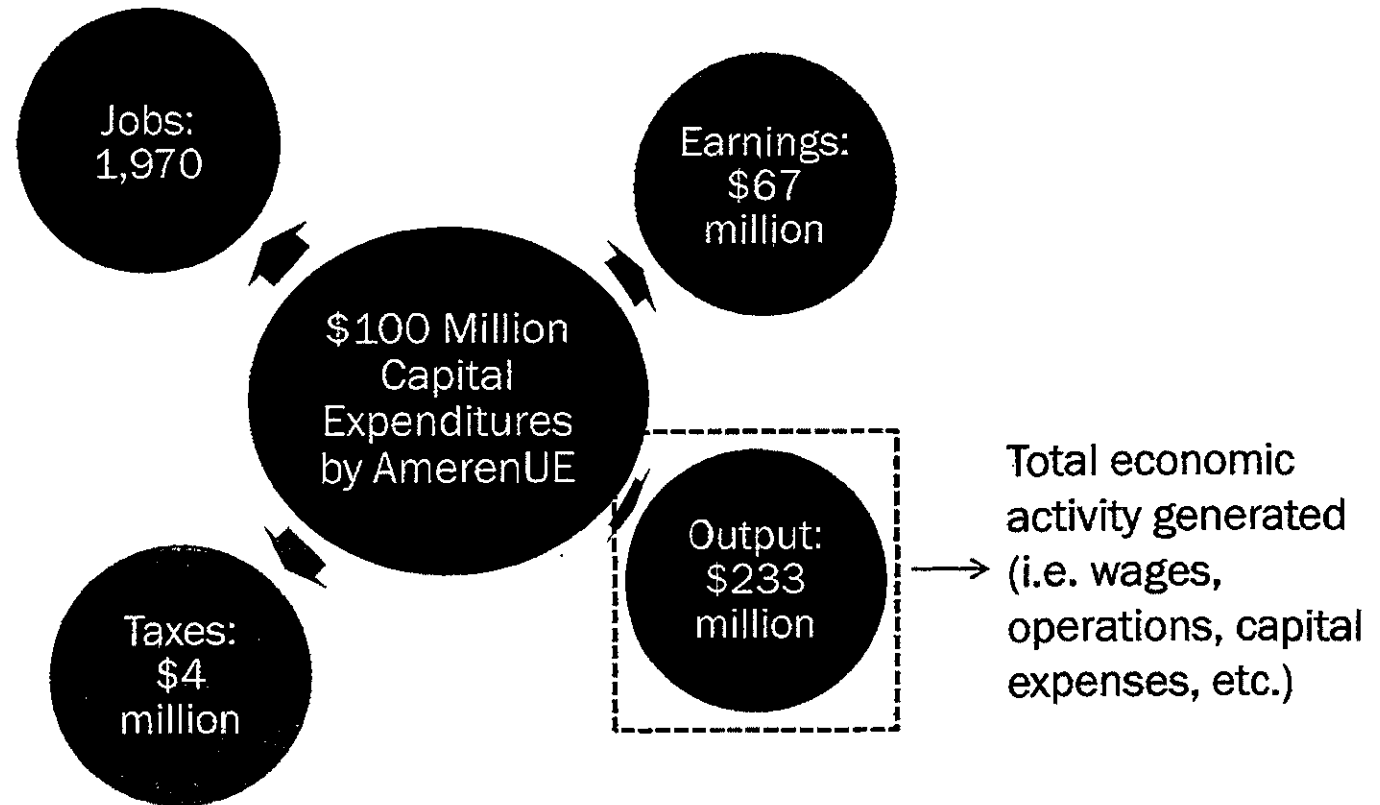
*The tax rate for households earning \$35,000 per year is 2.71%; Source: Development Strategies, using the ratio of personal income (earnings) to personal income taxes and sales taxes, the ratio of corporate income taxes to personal income taxes, and the ratio of all taxes to the sum of income and sales taxes. Source of tax information is the Missouri Department of Revenue's Annual Report for 2008. Source of total personal income for Missouri is the U.S. Department of Commerce for 2008.

Flow of Economic Impacts on Missouri



Assumes 12% of capital expenditures goes toward payroll based on actual AmerenUE data; construction multiplier applied

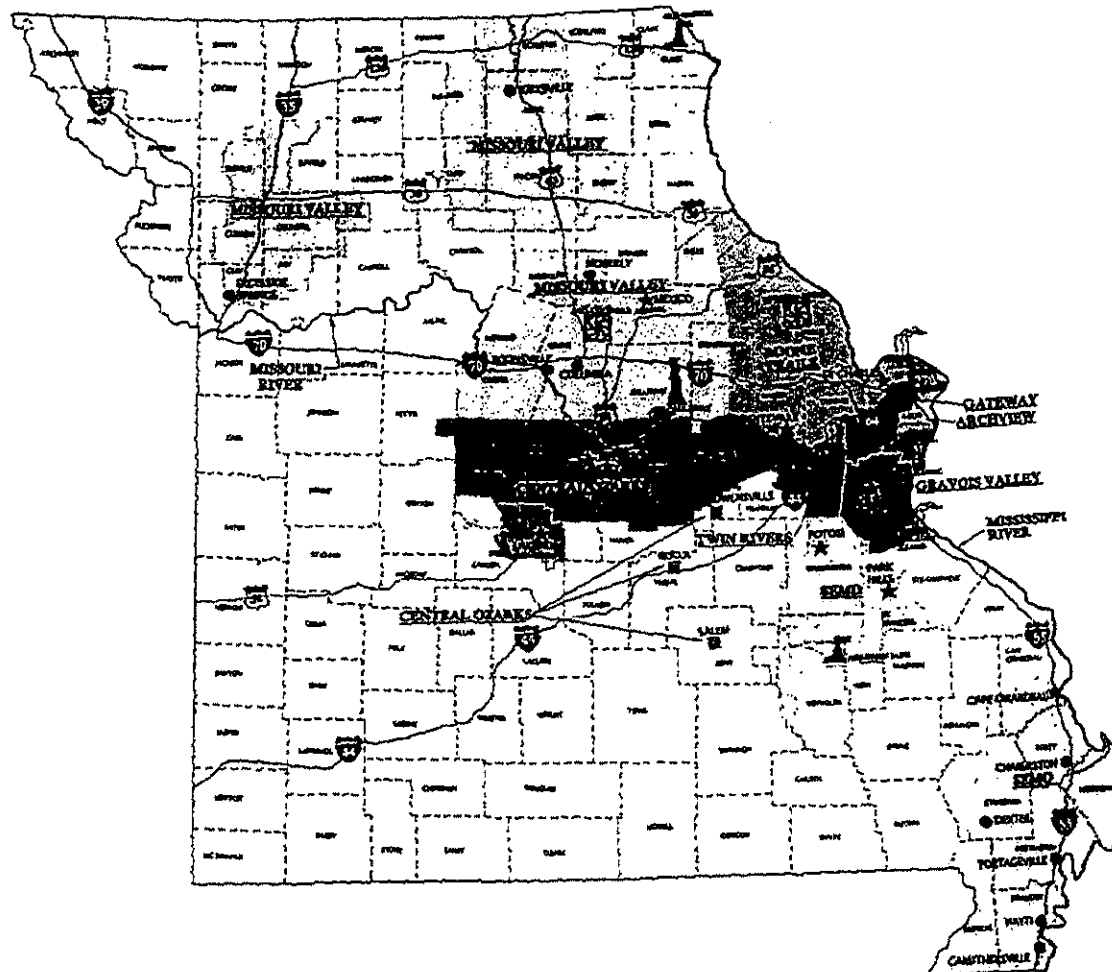
Flow of Economic Impacts on Missouri



Assumes 12% of capital expenditures goes toward payroll based on actual AmerenUE data; construction multiplier applied

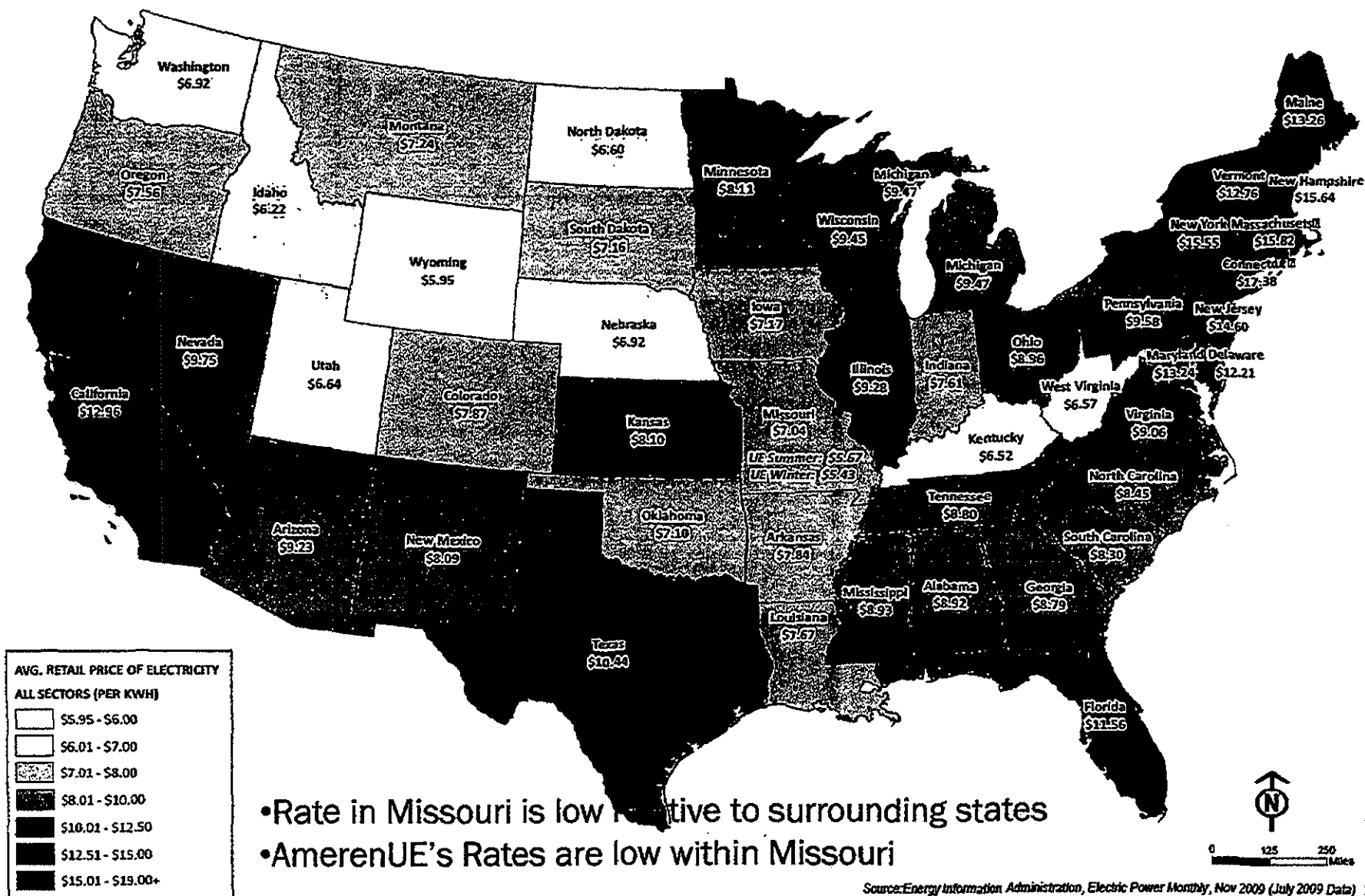
AmerenUE Summary

- AmerenUE itself would rank # 696 on the Fortune 1,000 list.*
- ~\$4.1 billion annual economic impact on Missouri economy.
- ~\$1.1 billion annual impact on household earnings for Missourians.
- ~\$76.1 million direct & indirect taxes to the state each year.**
- Supports 25,300 direct & indirect jobs for Missouri residents.



*Ameren 2008 Annual Report; Fortune Magazine, Fortune 1000 List, April 2009
(based on FY 2008 data) **Excludes Property and Municipal Taxes.

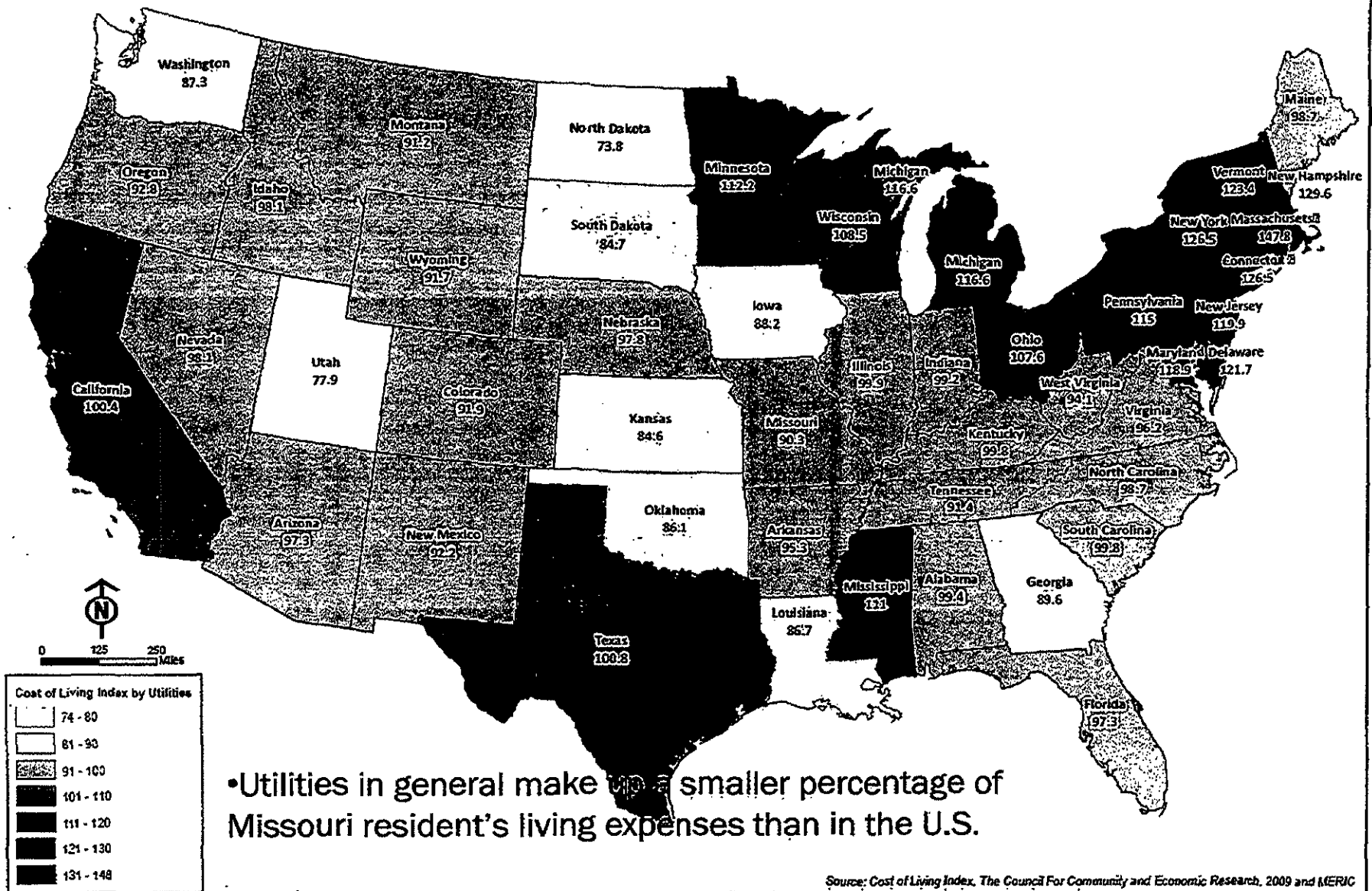
DEVELOPMENT STRATEGIES



AVG. RETAIL PRICE OF ELECTRICITY - ALL SECTORS (PER KWH)

AmerenUE Economic Impact Study, Missouri

DEVELOPMENT STRATEGIES
 CONSULTING & ANALYTICS
 18 YEARS OF SERVICE



•Utilities in general make up a smaller percentage of Missouri resident's living expenses than in the U.S.

COST OF LIVING INDEX BY UTILITIES

AmerenUE Economic Impact Study, Missouri

DEVELOPMENT STRATEGIES[®]
AN AMERENUE COMPANY