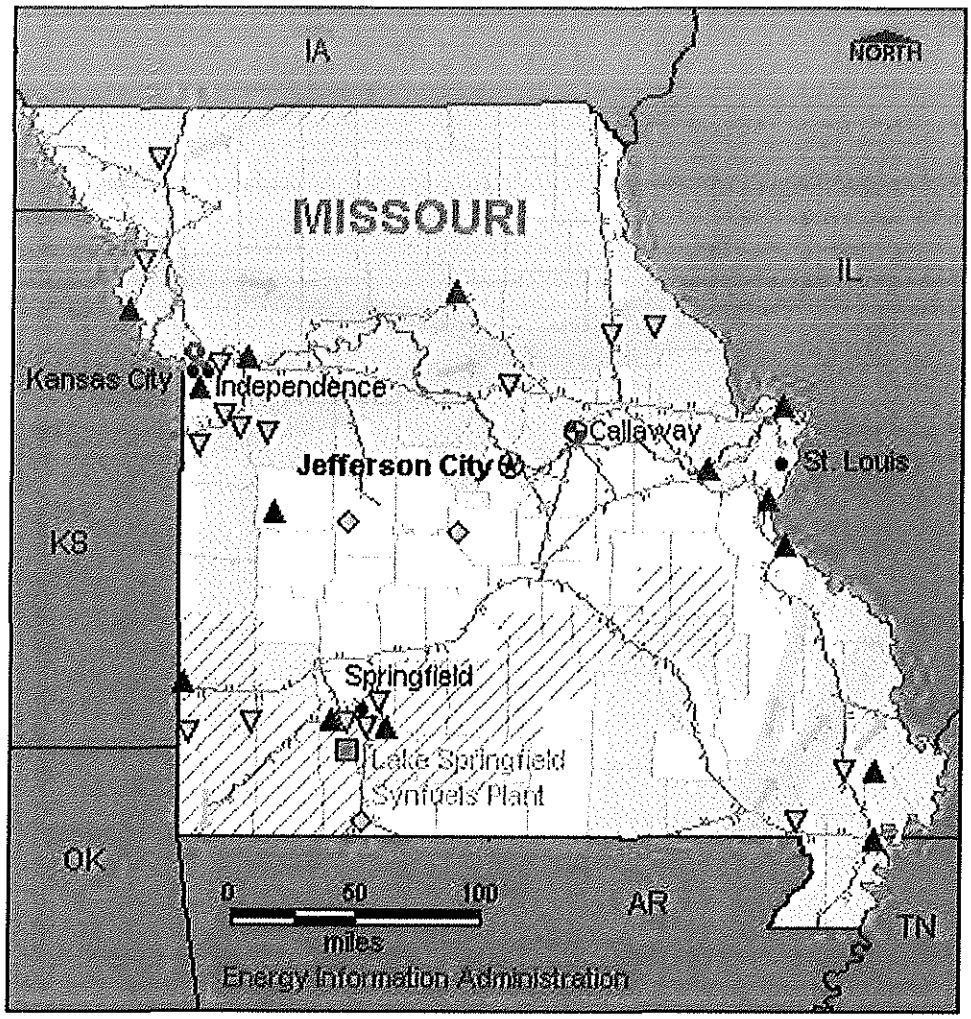
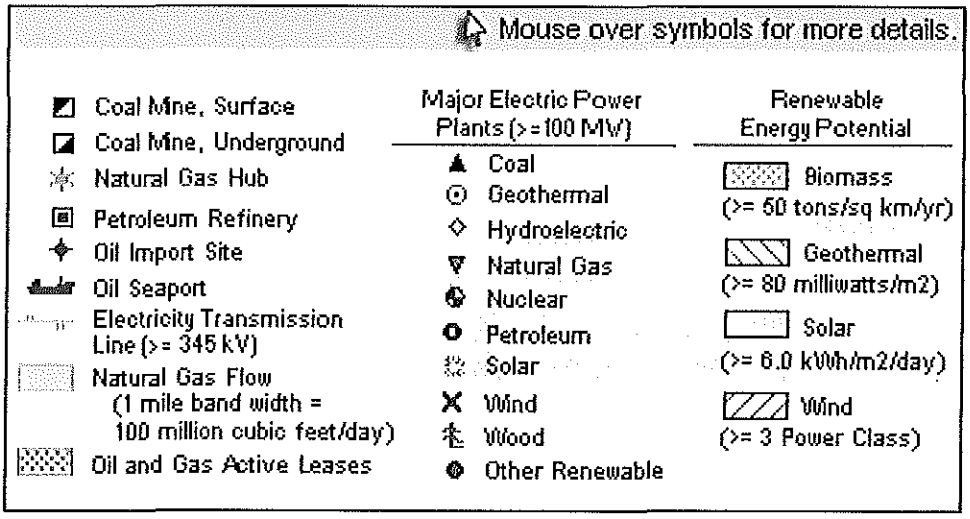
Missouri Can Cut Greenhouse Gas Emissions from Power Generation by 30 Percent & Criteria and Hazardous Air Pollution by 60 to 70 Percent Through More Efficient Use of Existing Infrastructure





Source: USDOE Energy Information Administration (EIA)[1]

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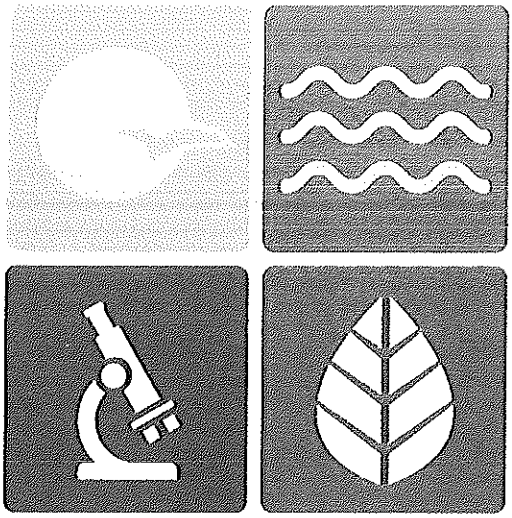


Prepared by:

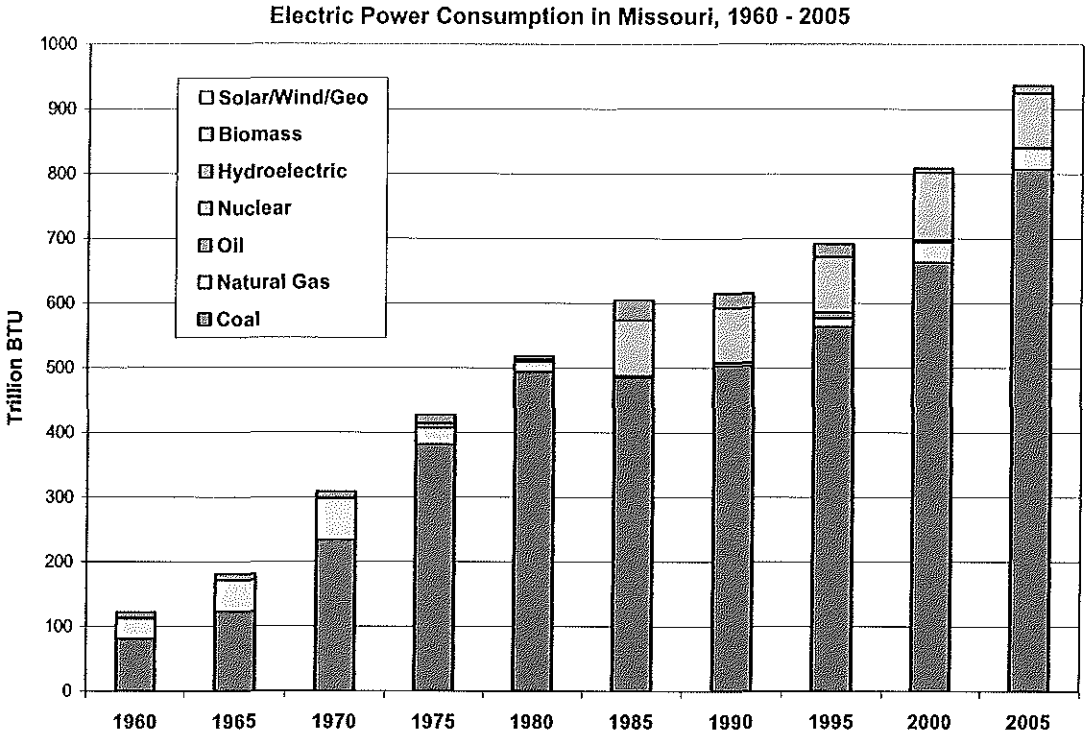
Mollie Freebairn, Air Pollution Control Program

(573) 751-4817, Mollie.Freebairn@dnr.mo.gov

Missouri Department of Natural Resources
Air Pollution Control Program
1659 East Elm Street
Jefferson City, Missouri 65109

Missouri Can Cut Greenhouse Gas Emissions from Power Generation by 20 Percent & Criteria and Hazardous Air Pollution by 40 to 50 Percent With Existing Natural Gas Power Plants

Missouri is a major contributor to greenhouse gases (GHG) along with other air pollutants in the earth's atmosphere: If it were a country, Missouri would rank 33rd among nations in terms of its carbon dioxide, methane, and nitrous oxide emissions.[2,3] The largest source of GHG emissions in Missouri is coal combustion in power plants, which has leaped by over 50 percent since 1990.[4]



While the accord in Copenhagen fell short of establishing targets for GHG emission reductions, the means to achieve the needed levels exist by proceeding in a stepwise logical fashion. Initially this entails phasing away from heavy dependence on coal-burning power plants, over to the cleanest burning of the fossil fuels, natural gas. A growing roster of nations and states are incorporating this approach in their climate protection plans. Coal is by far the worst environmental pollutant not only in terms of GHG emissions, but sulfur oxides (SOx), nitrogen oxides (NOx), particulate matter (PM), volatile organic compounds (VOC), and a long list of toxic heavy metals and organic carcinogens.

As discussed in *Missouri Action Options for Reducing Greenhouse Gas Emissions*, "Displacement of coal-fired generation by a gas-fired combined cycle (GFCC) plant is capable of reducing NOx emissions by 90 percent, and SO_2 and many toxic emissions by nearly 100 percent. Reductions of CO_2 emissions compared to conventional coal range from 50 to 66 percent." This is due to the wide variability in coal composition.[5]

According to the U.S. Department of Energy, Energy Information Administration (EIA), 213 pounds of CO_2 is emitted per million BTUs of subituminous coal combustion, compared to 117 pounds of CO_2 per million BTUs of natural gas.[6] The chemical basis for this difference is that more of the energy in natural gas (which is essentially methane, CH_4) is contained in carbon-hydrogen bonds. In coal, much of the energy is stored in carbon-carbon bonds. The combustion of the hydrocarbons in natural gas thus results in the formation of more H_2O, while coal combustion generates more CO_2.

Existing Natural Gas Plants Have the Capacity to Supply Half of the Electricity Missourians Currently Use

Missouri's electrical power generation plants have a combined nameplate generation capacity of 22,048 megawatts (MW), which corresponds to an annual generating capacity of 22,048 MW x 24 hours/day x 365 days/year = 193,141,356 megawatt hours (MWh). The EPA 2007 eGRID spreadsheet details for each electrical power plant in Missouri for 2005 are attached. Existing natural gas-fired power plants are operating far below full capacity at 7.4% in 2005. Note that these natural gas plants have the capacity to supply 51 percent of Missouri's actual electrical consumption in 2005.

Missouri Power Plant Fuels, Generating Capacity, & Consumption in 2005

Plant FUEL/ Energy Source Category	TOTAL Plant nameplate CAPACITY (MW)	TOTAL Plant annual generation CAPACITY (MWh)	TOTAL Plant actual CONSUMPTION (MWh)	Percent Use of Plant nameplate CAPACITY	TOTAL Plant annual CAPACITY as a percent of Missouri's TOTAL Plant actual CONSUMPTION
Coal	13,086	114,630,732	78,136,231	68.2%	126%
Natural Gas	5,305	46,468,296	3,427,013	7.4%	51%
Oil	1,322	11,584,224	18,051	0.2%	13%
Nuclear	1,236	10,825,608	8,030,577	74.2%	12%
Hydroelectric	1,100	9,632,496	1,482,852	15.4%	11%
TOTAL	22,048	193,141,356	91,094,723	47.2%	212%

Source: EPA eGRID2007 Version 1.1 Plant File (Year 2005 Data)[7]

Missouri Uses Less Than Half of the State's Electrical Generation Capacity

As shown, currently about 47 percent of Missouri's annual generating capacity is being utilized. Coal combustion provided 86 % of the generated electricity; natural gas supplied a little less than 4 %. Oil accounted for only 0.02%, nuclear supplied 9%, and hydroelectric about 2% of overall electricity generation and consumption.

Missouri Can Cut Greenhouse Gas Emissions from Power Generation by 30 Percent & Criteria and Hazardous Air Pollution by 60 to 70 Percent Through More Efficient Use of Existing Infrastructure

CO_2 emissions in 2005 from coal, natural gas, and oil-fired electrical power generation in Missouri were 83.4 million tons. 81.7 millions tons of which came from the burning of 45.8 million tons of coal.[4,7] If the existing natural gas (NG) generating capacity was fully utilized, displacing a portion of the coal in supplying this same energy, 16.7 million tons less of CO_2, 66.8 million tons of CO_2 would be emitted, a 20 percent reduction in Missouri's overall GHG emissions from power plants. Additional CO_2 reductions of up to 13.9 percent could be achieved by more fully utilizing nuclear and hydroelectric generating capacities.

CO2 Emissions by Missouri Power Plants & CO2 Emission Reductions Achievable

	Plant 2005 CO_2 emissions (tons)	Plant annual CO_2 emissions if generating at 100% capacity (tons)	Plant annual net generation if NG, Nuclear, Hydro generation at 100% capacity (MWh)	Plant annual CO_2 emissions at 100% capacity displacing coal (Tons)	Percent CO_2 Reductions achievable by switching to 100% NG, Nuclear, & Hydro generation capacity
Coal	81,734,869	121,341,770	24,150,272	25,564,146	
Natural Gas	1,676,569	29,603,179	46,468,296	29,603,179	20.0%
Oil	26,445	19,742,841	18,051	26,445	Increases by 9.0%
Nuclear	0	0	10,825,608	0	5.6%
Hydroelectric	0	0	9,632,496	0	8.3%
TOTAL	83,437,883	170,687,790	91,094,723	55,193,770	33.9%

Source: eGRID2007 Version 1.1 Plant File (Year 2005 Data)

NOx emissions would be reduced by nearly 45 percent. SO_2, mercury, and a long list of additional HAP emission reductions of 50 percent could be achieved, utilizing existing infrastructure.

Recognition of the potential of this approach has been growing as states and nations explore readily deployable options for reducing GHG emissions.[8] The chairman of the Federal Energy Regulatory Commission, Jon Wellinghoff, recently testified at a Senate hearing that natural gas, in combination with renewable resources and energy efficiency, could be a near-term bridge until zero-carbon technology is widely accessible.[9]

Texas Reaps Major Economic Benefits from Energy Production of Natural Gas

Texas is the number-one natural gas producer in the nation, and also its largest consumer. Natural gas is the dominant source of the state's electrical power, with a generation capacity of 71,737 MW in 2006. Natural gas power generation has risen by 51 percent since 1996. Coal usage, in contrast, has remained flat since 1996, when Texans used 19,739 MW, through 2006 when they used 19,843 MW. Nevertheless this is the largest consumption of coal by any state. In 2007, Texas burned 103 million tons of coal, with 62 million tons coming from Wyoming and 41 million coming from Texas lignite coal fields. The 62 million tons of Wyoming coal alone is more coal than is consumed in any other state. Indiana used 60 million tons, while Missouri used 46 million tons of primarily Wyoming coal in 2007 to generate 8,925 MW out of a total 10,400 MW generated. This compares to the 8,400 MW of wind generating capacity Texas already has. About half of the natural gas produced in Texas is exported to other states. For Missouri, purchasing natural gas from Texas to pump up power generation while reducing multiple pollutants is one plausible option.

There are manifold economic benefits for states that produce their own fuel or energy source, either fossil fuel or renewable energy. Texas reaps a bounty of economic benefits from natural gas recovery in place of coal importation. The gross production tax on natural gas raised more than $2 billion in general revenue funds for the state of Texas during fiscal year 2008. Natural gas producers pay taxes on natural gas reserves that are used to fund school and hospital districts. The total positive economic impact that natural gas has on the state is very large, most notably, the creation of hundreds of thousands of jobs, the payment of a utility tax, payments to the Rainy Day Fund and financing the Permanent School and Permanent University Funds.[10]

Big Oil Moves into the Natural Gas Field Tilting the Dominance of Coal Power

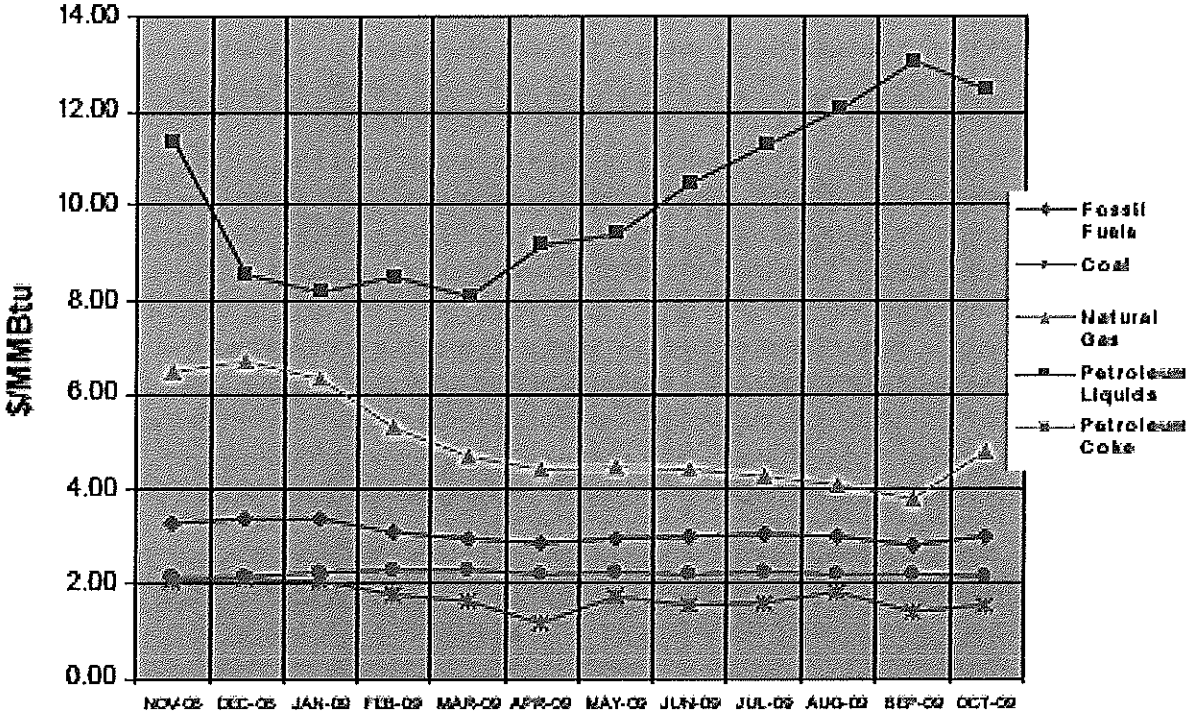
In December 2009, Exxon moved to purchase XTO Energy, one of the nation's largest gas producers based in Fort Worth, Texas. The $31 billion -XTO all-stock deal still has to jump some regulatory hurdles, but if the merger takes place, Exxon will be the largest natural gas producer in the country. Controlling extensive acreage in the most promising onshore gas fields in Texas, Louisiana, Oklahoma, Arkansas and the Appalachian regions of Pennsylvania and New York, which are the epicenter of shale gas, coalbed methane and tight-sand gas formations. Because natural gas is critical to power generation, unlike oil, Exxon may dramatically shift the balance of power in the domestic energy supply. Exxon has already

shaken up the debate in gas industry circles. At the Jan. 20 House hearing, Exxon CEO Rex Tillerson said using gas to produce baseload electricity is "a lot more efficient use of the gas than using compressed natural gas to replace Exxon's oil in trucks and buses." [9]

Utilities Profit Burning Coal Or Natural Gas

The major advantage coal has over natural gas is low price and stability. Natural gas is more expensive and more volatile. Texans are currently paying about 10.5 cents/KWh electricity costs which are close to the U.S. average, while the cost to Missouri residents of 7.48 cents/ kWh is among the lowest.[11,12] However, an examination of the EIA reports on fossil fuel prices, indicates that utilities are making a thorough profit with either fuel.

Electric Power Industry Fuel Costs,
December 2008 through November 2009



Source: EIA Electric Power Monthly[13]

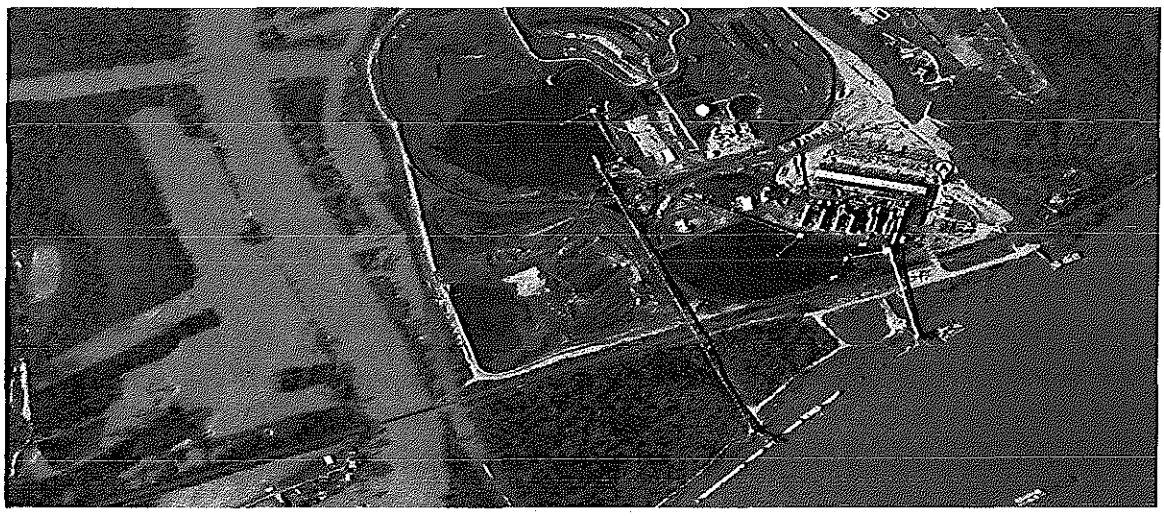
When natural gas is $5.00/MMbtu, converting 1MM Btu to its equivalent 293 KWh, the fuel cost to power plants is 500 cents/293 KWh = 1.71 cents per KWh. When coal is $2.00/MMBtu the cost is 0.68 cents per KWh. Assuming we need to factor in electrical system losses, which for coal burning power plants are about two thirds, this would triple the retail cost to 2.04 cents/KWh.. Assuming operating costs double this up to 4.08 cents /KWh, the profit from the Missouri rate of 7.48 cents/KWh is 45 cents of every dollar paid by Missouri rate payers. Natural gas is more efficient and has lower operating costs for transport, air pollution control equipment, and ash disposal. The approximate investment to utilities assuming operating costs comparable to those of coal, might be (3.42 + 2.04) cents

per KWh/7.48 which is 73 cents, leaving a profit of 27 cents out of every dollar Missourians pay for energy from natural gas. These are rough estimates of utility operating costs that require additional information. However, utilities have been largely exempted from paying the true environmental costs of coal energy production.

Coal Ash Waste Piles in Missouri Contain Thousands of Tons of Toxic Heavy Metals

Coal combustion waste left over from burning coal generates 125 to 130 million tons of ash and sludge in the U.S. annually, enough to fill a million railcars. Currently about 40% of that waste finds it way into products such as concrete and agricultural soil amendments, and 60% is stored in ponds or pits, mostly on utility property. Fossil fuel combustion wastes are categorized by EPA as a "special waste" and have been exempted from federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).[14] There is no federal standard requiring that pits be lined to prevent the leeching of pollutants into ground water or streams. Like coal, the ash contains a vast store of toxic heavy metallic elements not destroyed by combustion processes, such as arsenic, chlorine, chromium, europium, mercury, lead, antimony, strontium, thorium, thallium, uranium, and yiterbium present health and environmental risks if released into the air, ground or surface waters. The heavy metal constituents of coal consumed in Missouri based on USGS elemental analyses are attached.

Investigations by the EPA and environmental groups have identified about 1,300 coal-ash waste sites across the United States. Thus far at least 67 coal-ash sites have been found to be damaging drinking-water supplies in communities across 23 states. An impermeable liner is needed to keep toxic metals from leaching from the ash into groundwater supplies. At 155 landfill and surface-impoundment sites in 36 states reviewed by the EPA in 2007, two-thirds had no liner. There is nothing to prevent toxic wastes from leaking into water bodies from lagoons, many of which are decades old, which increases the potential for leakage and containment failure. Lisa Evans, an attorney for Earthjustice, an environmental group, says the EPA underestimates the problem. "Most impoundments are not monitored at all," she says. "The list of sites identified by the EPA in 2007 is far from comprehensive." [15,16]

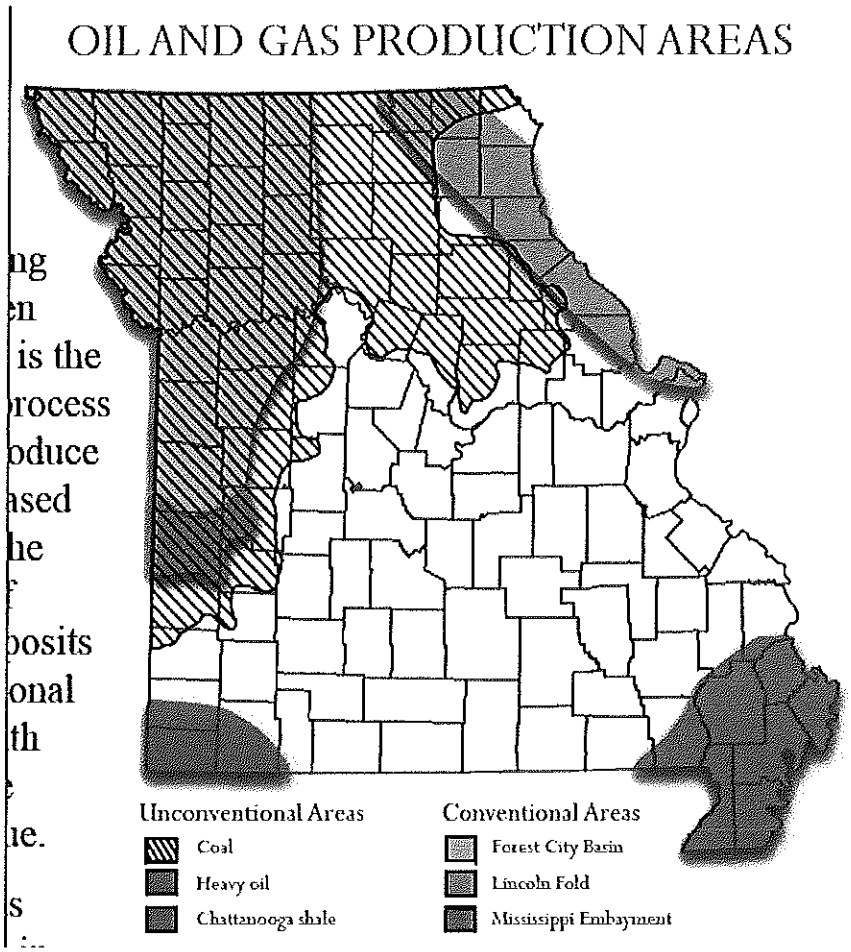


Ameren UE Meramec Power Plant in St. Louis County (Google Satellite Map)

EPA Administrator Lisa Jackson submitted proposed rules on coal waste to the OMB for review in September 2009, promising to issue her decision on the matter by the end of the year. In January 2010 the EPA said it was delaying its decision "due to the complexity of the analysis" required. Coal-burning utilities largely oppose the move by the EPA to establish a national rule under the 1976 Resource Conservation and Recovery Act.[16, 17]

Oil and Gas Reserves Exist in Missouri with a Potential Economic Value Of Hundreds of Billions of Dollars

New reserves of natural gas in shale plays in the U.S. are being discovered that have the potential to add trillions of cubic feet of natural gas to the nation's energy stores, at the same time environmental concerns call for swift enactment of protective practices during the recovery of natural gas. Oil and gas have been recovered in Missouri since the 1860s. There are three areas of current oil and gas production in the state. Commercial oil production has increased slightly in recent years, there are 323 producing oil wells. While there is no commercial gas production in Missouri, 47 domestic gas wells are being used in private homes and small businesses to fuel heating appliances. The extent of current oil and coal reserves are unknown. The potential for unconventional oil and gas resources in Missouri has an estimated economic value of hundreds of billions of dollars.[18,19]



There are six areas with potential for conventional or unconventional oil and gas production in different regions of the state. The geology of some areas resembles regions along the U.S. Gulf Coast that have had tremendous historic oil and/or gas production. With the diversity of potential sources of natural gas throughout the region, an investigation of the potential and promotion of natural gas to reduce emissions and energize Missouri's economy should be conducted.[20]

Recover Natural Gas Without Damaging the Environment

Tapping natural gas in shale deposits relies on the coupling of horizontal drilling with the decades-old hydraulic fracturing technology that blasts sand, water and chemicals down a wellbore at high pressure to release hydrocarbons trapped inside compact rocks. Environmentalists have serious concerns about the impact of fracturing on water supplies. Lawmakers in Washington have heeded their concerns and proposed legislation (**H.R. 2766** and **S. 1215**) that would require companies to disclose the chemicals used in their fracturing fluids and regulate hydraulic fracturing under the federal Safe Drinking Water Act.[21]

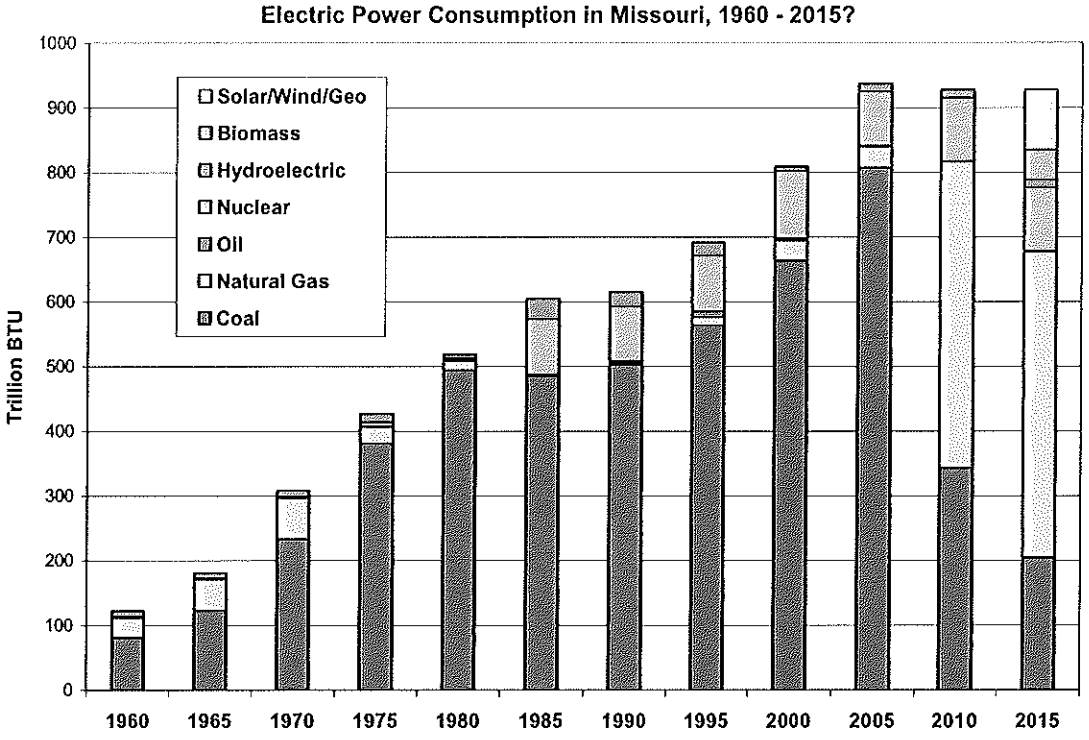
Before any natural gas recovery operations are undertaken a thorough assessment of the environmental impacts should be conducted. Unconventional gas production may well be too potentially damaging to water supplies to proceed. Long term health and environmental costs must be weighed in fully against short term financial profits. The follow is from a February 28, 2010 editorial in the Washington Post. "IN AMERICA'S climate debate, one of the most promising developments of recent months has been the growing recognition in Washington that natural gas may play a key role in curbing carbon emissions. The resurgence of gas comes through the discovery of massive deposits in Appalachian shale formations and elsewhere -- a reserve that offers the prospect of stable domestic supplies and relatively low prices. Since burning natural gas produces half the emissions of burning coal, switching the two fuels could put a significant dent in America's carbon footprint. ...In the long term, natural gas is only a bridge fuel as America weans itself off carbon, since it still produces plenty of emissions. With a rising carbon price, natural gas will become too expensive to burn. But it can provide the country some time to bring to market the cleaner technologies on which America eventually must run." [22]

Proposition C - The Missouri Clean Energy Initiative – Passed By 66% Vote

In 2007 and 2008, Renew Missouri spearheaded the Missouri Clean Energy initiative via the statewide ballot process. The initiative, which was called Proposition C, passed with 66% of the vote makes Missouri the 27th state to have a renewable electricity standard (RES), and only the 3rd to pass it by ballot initiative. [23]

- The Missouri Clean Energy Initiative requires AmerenUE, Kansas City Power & Light, Empire District Electric, and Aquila to acquire 15% of their electricity from renewable sources by2021, 2% of which must come from solar.
- Proposition C includes a solar rebate program that will make it cheaper for most Missourians to install a solar system on their home or business.

- Over the next 20 years, Prop C is predicted to save Missourians $331 million on their electric bills and is expected to stimulate in-state generation of renewable energy sources resulting in thousands of new "green-collar" jobs.
- As the Clean Energy Initiative is implemented over 20 years, the Renewable Electricity Standard would add a significant amount of renewable energy to the electricity mix in Missouri, and would produce net savings to electricity customers over time as local wind, solar, and renewable resources begin to replace coal and natural gas.



Missouri Governor and Department of Natural Resources Director Could Call for Energy Independence, Earthquake Preparedness, & Prosperity Summit for the Central and Midwestern Regions

Energy production in Missouri is too fundamental to the environmental and economic well being of the state to relegate to the decision making of a handful of corporations with their narrow concerns. An energy plan is needed that takes into account the full range of energy generation capabilities that can be brought into being to provide employment, prosperity, affordable, reliable energy, and a healthy environment. Adding different types of electricity sources, particularly when they are geographically distributed, makes the whole power system more robust, reliable, and less vulnerable to droughts, fuel supply disruptions, security threats, and technology failures. Renewable facilities can be efficiently built on a smaller scale and in much less time than coal and nuclear plants, so they can add flexibility and modularity to power planning.

A thriving industry is in order to conduct energy audits and building weatherization, new building codes and retrofitting for existing buildings. A program in St. Louis is urgently needed that incorporates energy efficient weatherization, lead and asbestos abatement, and reinforcement to withstand an earthquake by its many stately neighborhoods and magnificent and irreplaceable architecture, much of it over a century old. "Both centralized and distributed generation technologies have unique advantages. A system that includes both centralized and distributed generating facilities is likely to be more flexible, reliable and efficient than a system that relies exclusively on one or the other."[5]

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Missouri Power Plant Fuels, Generation, & Emissions Data, 2005										
eGRID2007 Version 1.1 Plant File (Year 2005 Data)										
Plant operator name	**Fuel**	**Plant nameplate capacity (MW)**	**Plant annual generation (MWh)**	**Percent Use of Plant Capacity**	**Plant annual CO2 emissions (tons)**	**Plant annual NOx emissions (tons)**	**Plant annual SO2 emissions (tons)**	**Plant annual CH4 emissions (lbs)**	**Plant annual N2O emissions (lbs)**	**Plant annual Hg emissions (lbs)**
TOTAL		**22,048**	**90,857,129**		**83,903,379**	**128,507**	**295,032**	**1,935,821**	**2,790,191**	**3,895**
Labadie - AmerenUE	COAL	2,389.4	18,637,375.0	89.0%	17,289,637.2	9,528.40	55,502.39	391,965.1	587,947.6	912.61
Rush Island - AmerenUE	COAL	1,242.0	8,922,666.0	82.0%	8,688,348.0	4,069.38	28,385.15	196,969.7	295,454.6	577.97
Thomas Hill - AEC	COAL	1,135.0	7,796,102.0	78.4%	8,584,316.1	16,471.38	17,247.26	194,630.2	291,945.4	652.47
New Madrid - AEC	COAL	1,200.0	7,000,958.0	66.6%	7,230,700.5	32,239.91	13,700.16	163,924.8	245,887.1	257.82
Meramec - AmerenUE	COAL	1,041.0	5,691,990.0	62.4%	6,666,312.7	7,753.56	18,013.69	151,186.2	226,607.1	215.13
Sioux - AmerenUE	COAL	1,099.4	6,636,478.0	68.9%	6,448,783.1	8,476.57	51,261.46	146,197.4	219,296.2	271.63
Iatan - KCP&L	COAL	726.0	4,899,449.0	77.0%	5,411,748.5	8,347.96	19,217.22	122,687.3	184,031.0	205.25
Hawthorn - KCP&L	COAL	1,071.1	4,115,751.0	43.9%	4,476,920.8	1,548.74	2,141.97	105,133.5	145,729.5	209.26
Montrose - KCP&L	COAL	564.0	3,342,902.0	67.7%	4,007,603.5	6,535.93	15,703.53	90,854.8	136,282.1	121.94
Sibley - Aquila	COAL	524.0	2,880,026.0	62.7%	3,040,397.7	9,100.32	13,794.96	68,927.5	103,391.2	120.87
Sikeston Power Station	COAL	261.0	1,981,789.0	86.7%	2,582,000.5	2,687.14	7,564.87	56,616.8	84,925.1	98.39
James River Power Station	COAL	450.5	1,674,423.0	42.4%	2,084,421.5	4,085.26	5,073.08	47,081.3	70,172.3	73.94
Springfield SW Power Station	COAL	303.0	1,276,812.0	48.1%	1,616,105.9	2,689.79	3,208.06	36,670.7	54,899.5	54.90
Asbury - Empire District	COAL	231.5	1,369,663.0	67.5%	1,573,879.4	5,532.28	11,964.93	35,680.7	53,521.1	48.60
Lake Road - Aquila	COAL	273.3	605,789.0	25.3%	969,036.2	3,197.09	3,124.64	22,267.0	31,833.4	20.30
Empire Dist State Line Combined Cycle	GAS	659.5	1,909,169.0	33.0%	844,823.1	102.62	4.26	33,065.7	3,306.6	N/A
Chamois	COAL	59.0	416,720.9	80.6%	514,601.1	2,118.75	5,351.48	11,650.5	17,475.7	27.27
Independence - Blue Valley	COAL	176.0	331,496.9	21.5%	465,496.0	1,146.69	11,499.11	10,627.6	15,715.8	26.43
St Francis Energy Facility	GAS	614.0	679,567.0	12.6%	324,459.9	54.43	1.64	12,699.1	1,269.9	N/A
Independence - Missouri City	COAL	46.0	89,779.9	22.3%	138,362.8	629.07	3,801.50	3,244.6	4,652.4	N/A
Dogwood Energy	GAS	677.0	280,173.0	4.7%	130,967.7	19.37	0.66	5,125.9	512.6	N/A
University of Missouri Columbia	COAL	91.1	144,524.8	18.1%	119,136.3	254.58	3,185.24	4,977.5	4,139.3	N/A
Peno Creek - AmerenUE	GAS	240.0	150,776.0	7.2%	104,876.2	73.60	1.10	4,085.4	408.5	N/A
Columbia	COAL	94.6	72,845.8	8.8%	102,734.7	278.39	993.41	2,333.3	3,489.7	N/A
Marshall	COAL	57.3	48,415.0	9.6%	70,116.9	348.91	2,004.53	1,655.8	2,268.8	N/A
Anheuser Busch St Louis	COAL	26.1	104,257.7	45.6%	59,086.6	193.34	870.87	977.5	1,395.3	N/A
Empire Energy Center	GAS	368.0	101,033.0	3.1%	53,769.7	35.76	2.23	2,028.3	202.8	N/A
Hercules Missouri Chemical Works	COAL	17.2	77,851.5	51.7%	50,109.1	230.76	1,226.20	1,180.6	1,683.5	N/A
Greenwood - Aquila	GAS	244.0	54,381.0	2.5%	44,357.9	103.11	5.37	1,930.9	223.9	N/A
Macon Energy Center	GAS	10.0	75,070.0	85.7%	37,318.6	88.06	1.02	1,484.2	148.4	N/A

Plant operator name	Fuel	Plant nameplate capacity (MW)	Plant annual generation (MWh)	Percent Use of Plant Capacity	Plant annual CO2 emissions (tons)	Plant annual NOx emissions (tons)	Plant annual SO2 emissions (tons)	Plant annual CH4 emissions (lbs)	Plant annual N2O emissions (lbs)	Plant annual Hg emissions (lbs)
McCartney - Springfield	GAS	117.8	43,993.9	4.3%	31,953.3	30.05	0.16	1,250.4	125.0	N/A
Audrain - AmerenUE	GAS	814.4	31,517.0	0.4%	24,277.5	5.29	0.12	950.3	95.0	N/A
South Harper - Aquila	GAS	351.0	28,902.9	0.9%	22,036.4	9.41	0.11	862.4	86.2	N/A
Holden - AEC	GAS	274.2	25,545.0	1.1%	19,960.1	6.03	0.38	765.6	76.6	N/A
Northeast - KCP&L	OIL	486.0	7,038.0	0.2%	11,578.9	148.25	13.24	1,002.0	200.4	N/A
Southeast Missouri State Universit	COAL	7.2	18,165.3	28.8%	10,510.1	47.24	145.17	235.9	351.9	N/A
Carthage	GAS	41.8	8,113.9	2.2%	5,571.8	69.97	2.00	293.8	42.7	N/A
Columbia Energy Center	GAS	162.8	7,404.0	0.5%	5,564.6	1.86	0.03	217.8	21.8	N/A
Trigen St.Louis	GAS	36.8	5,236.0	1.6%	5,346.3	7.04	0.16	212.6	21.3	N/A
Poplar Bluff Generating Station	GAS	39.8	1,913.9	0.5%	4,112.1	51.21	1.25	211.2	29.9	N/A
Ralph Green - Aquila	GAS	74.0	7,705.0	1.2%	4,080.6	9.63	0.12	162.3	16.2	N/A
Essex - AEC	GAS	121.2	4,065.0	0.4%	2,892.4	1.79	0.02	113.2	11.3	N/A
Nodaway - AEC	GAS	207.2	3,505.0	0.2%	2,501.7	1.07	0.01	97.9	9.8	N/A
Independence Station I	OIL	38.0	1,130.0	0.3%	2,433.7	4.68	2.78	210.6	42.1	N/A
Kennett City	GAS	44.5	3,057.9	0.8%	2,332.6	27.31	0.17	96.8	10.4	N/A
Chillicothe Municipal Utils	OIL	90.0	2,100.9	0.3%	2,055.5	18.27	1.97	161.7	31.0	N/A
Higginsville City	GAS	51.6	2,491.8	0.6%	1,967.4	6.63	0.24	85.7	9.9	N/A
Carrollton Board of Public Wks	GAS	23.4	2,354.9	1.1%	1,537.9	17.84	0.06	61.6	6.2	N/A
Independence Station H	GAS	43.0	1,314.9	0.3%	1,414.6	3.33	0.07	57.5	6.0	N/A
Fairgrounds - AmerenUE	OIL	68.3	887.0	0.1%	1,071.5	2.06	1.23	92.7	18.5	N/A
Moreau - AmerenUE	OIL	60.8	165.9	0.0%	944.9	1.82	1.08	81.8	16.4	N/A
Mexico - AmerenUE	OIL	60.7	309.9	0.1%	833.6	1.60	0.96	72.1	14.4	N/A
Fulton City	OIL	38.2	426.9	0.1%	689.4	6.32	0.79	59.7	11.9	N/A
Marceline City	OIL	9.6	711.9	0.8%	642.1	9.71	0.74	55.6	11.1	N/A
Trenton Municipal Utilities	OIL	13.5	612.0	0.5%	515.4	7.79	0.59	44.6	8.9	N/A
Butler City	OIL	13.1	651.9	0.6%	446.8	6.76	0.52	38.7	7.7	N/A
Moberly - AmerenUE	OIL	60.6	138.9	0.0%	421.0	0.81	0.48	36.4	7.3	N/A
Main Street - Springfield	OIL	15.3	313.0	0.2%	400.6	0.77	0.46	34.7	6.9	N/A
Trenton Municipal South	OIL	14.0	426.0	0.3%	368.1	5.56	0.42	31.9	6.4	N/A
Kahoka City	OIL	7.4	48.9	0.1%	367.7	5.56	0.41	31.8	6.4	N/A
Unionville City	OIL	8.7	228.9	0.3%	366.7	5.54	0.42	31.7	6.3	N/A
Macon City Sub 3 Generating Station	OIL	7.2	385.9	0.6%	339.5	5.13	0.39	29.4	5.9	N/A
Shelbina Power #2	OIL	6.6	322.0	0.6%	334.8	5.06	0.39	29.0	5.8	N/A
Macon City	OIL	11.2	317.9	0.3%	285.9	4.32	0.33	24.7	4.9	N/A

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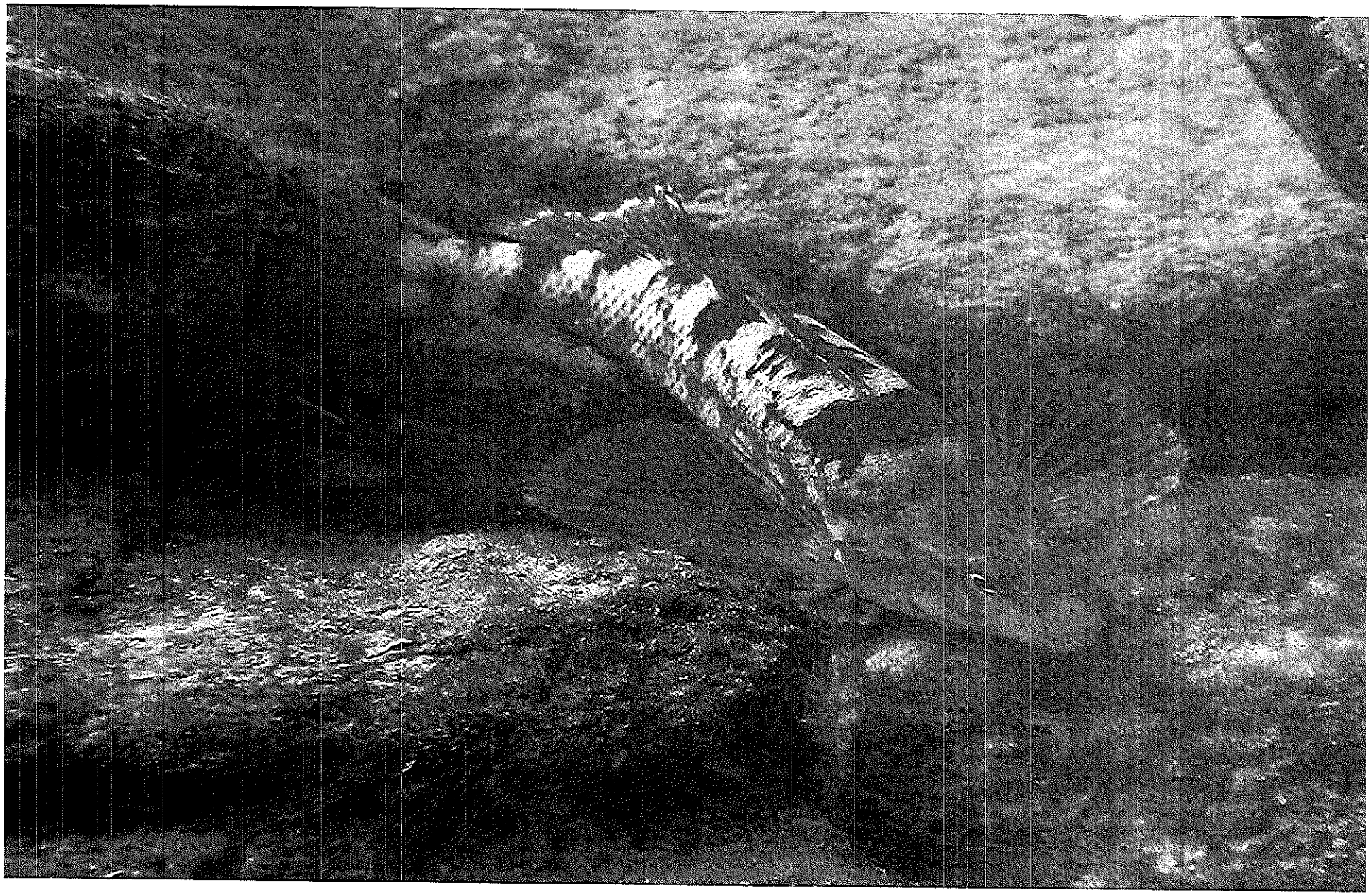
Campbell City	OIL	8.3	322.9	0.4%	271.7	4.11	0.31	23.5	4.7	N/A
Palmyra Municipal	OIL	6.8	152.9	0.3%	237.9	3.35	0.20	17.4	3.2	N/A
Malden City	OIL	17.3	-131.9	-0.1%	225.5	3.35	0.24	18.7	3.7	N/A
Viaduct - AmerenUE	GAS	30.6	-165.0	0.1%	208.9	0.49	0.01	8.3	0.8	N/A
Palmyra Municipal 2	GAS	7.0	284.0	0.5%	204.8	2.37	0.01	8.1	0.8	N/A
Jackson Square - Independence	OIL	36.0	101.0	0.0%	203.3	0.39	0.23	17.6	3.5	N/A
Macon City Sub 2 Station	OIL	3.6	225.0	0.7%	194.6	2.94	0.22	16.8	3.4	N/A
Howard Bend - AmerenUE	OIL	47.4	196.9	0.0%	191.7	0.37	0.22	16.6	3.3	N/A
Memphis City	OIL	8.8	245.9	0.3%	185.5	2.81	0.21	16.1	3.2	N/A
Monroe City	OIL	18.1	182.0	0.1%	155.7	2.35	0.18	13.5	2.7	N/A
Nevada - Aquila	OIL	22.0	-63.9	0.0%	142.9	0.27	0.17	12.4	2.5	N/A
Coleman - City of Sikeston	OIL	4.3	72.9	0.2%	79.8	1.21	0.09	6.9	1.4	N/A
Unionville - AEC	OIL	46.0	28.0	0.0%	76.2	0.15	0.09	6.6	1.3	N/A
Odessa City	OIL	7.3	68.0	0.1%	62.7	0.95	0.07	5.4	1.1	N/A
Bethany City	OIL	8.0	62.0	0.1%	53.8	0.81	0.06	4.7	0.9	N/A
Gallatin City	OIL	7.2	78.9	0.1%	53.8	0.81	0.06	4.7	0.9	N/A
Rockport City	OIL	5.7	51.0	0.1%	45.4	0.69	0.05	3.9	0.8	N/A
Albany City	OIL	6.2	53.9	0.1%	42.6	0.64	0.05	3.7	0.7	N/A
Fayette City	OIL	10.9	38.0	0.0%	37.0	0.56	0.04	3.2	0.6	N/A
Jackson City	OIL	28.3	45.0	0.0%	31.9	0.48	0.04	2.8	0.6	N/A
La Plata City	OIL	4.0	27.9	0.1%	29.0	0.44	0.03	2.5	0.5	N/A
Kirksville - AmerenUE	GAS	15.0	-156.0	0.1%	18.9	0.04	0.00	0.8	0.1	N/A
Shelbina City Power #3	OIL	3.6	21.9	0.1%	14.4	0.22	0.02	1.2	0.2	N/A
Kansas City International - Aquil	GAS	36.0	-240.0	0.1%	14.2	0.03	0.00	0.6	0.1	N/A
Southwestern Bell Telephone	OIL	8.8	55.8	0.1%	10.8	0.16	0.01	0.9	0.2	N/A
Shelbina City Power #1	OIL	4.6	1.0	0.0%	2.8	0.04	0.00	0.2	0.0	N/A
Callaway - AmerenUE	NUC	1,235.8	8,030,577.0	74.2%	0.0	0.00	0.00	0.0	0.0	N/A
Clarence Cannon - USCE-St Lo	WAT	58.0	66,501.9	13.1%	0.0	0.00	0.00	0.0	0.0	N/A
Harry Truman - USCE-Kansas	WAT	161.4	280,881.0	19.9%	0.0	0.00	0.00	0.0	0.0	N/A
Niangua - Sho-Me Power Coop	WAT	3.0	27,649.9	105.2%	0.0	0.00	0.00	0.0	0.0	N/A
Osage - AmerenUE	WAT	208.0	540,013.0	29.6%	0.0	0.00	0.00	0.0	0.0	N/A
Ozark Beach - Empire District	WAT	16.0	65,580.9	46.8%	0.0	0.00	0.00	0.0	0.0	N/A
Stockton - USCE-Kansas City	WAT	45.2	57,013.0	14.4%	0.0	0.00	0.00	0.0	0.0	N/A
Table Rock - USCE-Little Rock	WAT	200.0	445,212.0	25.4%	0.0	0.00	0.00	0.0	0.0	N/A
Taum Sauk - AmerenUE	WAT	408.0	-237,594.0	-6.6%	0.0	0.00	0.00	0.0	0.0	N/A
TOTAL		**22,048**	**90,857,129**		**83,903,379**	**128,507**	**295,032**	**1,935,821**	**2,790,191**	**3,895**



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