

**Before the Senate Utilities Committee
Comments by the
Staff of the Kansas Corporation Commission
January 13, 2014**

Kansas Report on Electric Supply and Demand

Thank you, Mr. Chairman and members of the Committee. I am Leo Haynos, Chief of Energy Operations and Pipeline Safety for the Kansas Corporation Commission. I am appearing today to provide an overview of the Kansas Electric Supply and Demand report that is prepared by the Commission Staff every two years.

Beginning in 2013, K.S.A. 66-1282 requires the Commission to deliver a report to the legislature by the first of February regarding electric supply and demand for all electric utilities in Kansas. The report provides information on generation capacity, system peak capacity, and renewable generation requirements as well. The report breaks out this information for the three investor owned utilities and provides an aggregate report for the cooperatives and municipal utilities. Capacities for Kansas City –BPU, Sunflower, and Midwest Energy are shown separately from the aggregated cooperatives or municipals because of the significant load they represent.

In your handouts today, I have provided a draft copy of the summary tables from the 2015 KCC report. The final report will be delivered to the legislature at the end of this month. Table 1 of the report shows the total system capacity available for each of the major electric utility companies or associations in Kansas.

A utility's system capacity can be defined as the sum of the accredited capability in megawatts (MW) of its generation facilities, plus purchase power contracts available at the time of such utility's peak demand. The system peak capacity responsibility represents the amount of generation capacity (including net purchased power) a given system would need to meet its peak demand plus a 12% capacity margin. Kansas, as

whole, has sufficient capacity margin to meet the SPP requirements as shown in the tables in the report.

Section 2 of the report also provides a projection of how the various entities are meeting their renewable capacity requirements as per the Renewable Energy Standards found in K.S.A. 66-1258 and Kansas regulations K.A.R. 82-16-1 through 82-16-6. The RES requires the utility to acquire access to renewable generation capacity such that the nameplate capacity of the renewables is equal to a certain percentage of the utility's most current 3-year average peak retail sales. The percentages start at 10% in years 2011 through 2015 and increase to 20% for all years after 2020. Table 2 provides 2012 actual numbers and then projections of renewable deficits or surpluses through the year 2013 for each of the utility groups contained in the report.

The remainder of the report consists of a series of appendices that provides more detailed information for each operator. That information will be included in the final report which will be delivered to you in a couple of weeks. If you have any questions after reviewing the complete report, I would be happy to answer them at that time.

All of the utilities listed in this report are members of the Southwest Power Pool (SPP) which is the Regional Transmission Organization that operates throughout Kansas as well as eight other states. SPP serves as a FERC entity responsible for electric reliability and adequate supply in the region. To that end, SPP requires each of its members to have acquired sufficient capacity to serve the member's native load plus have a 12% capacity margin. How that capacity is dispatched to serve native load –whether it is coal, nuclear, gas, or renewable, is tied to the size and capabilities of the facility but it is also a function of the marketplace.

Prior to March of last year, there were 23 separate “balancing authorities” in SPP, with each BA responsible for its own generating unit commitments (dispatch). Beginning on March 1, 2014, the SPP became the consolidated (single) regional balancing authority. The generation mix being used to power Kansas on any given day is a function of

consolidated unit dispatch in the SPP integrated marketplace and unit dispatch changes on five minute intervals. The load serving entities in each of the 23 balancing authorities I mentioned are all still required to meet a SPP standard of 12% capacity margin with respect to their own native loads, but it is important to remember that generation in Kansas can be utilized to serve loads anywhere in the SPP region at any given point in time.

To give an idea of where generation is located in Kansas, I have a series of maps that I would like to discuss with you.

➔ Kansas Energy Generation by Fuel Type

The first map indicates the location of the larger power plants in Kansas and the type of fuel used to power them. The background of the map indicates the service territories for the investor owned utilities and some of the larger cooperatives or the cooperative associations.

➔ The second map shows all generation in Kansas along with the electric transmission system. Note the number of municipal generators that are spread across the state. There are 65 municipal generators in Kansas. After Kansas City BPU and McPherson, the next largest unit is Chanute with 84 Mw of capacity. Municipal generation is typically under contract with larger utilities or their municipal association as standby generation or peaking generation.

➔ The third map shows a snapshot of how the larger generation units were used to meet SPP dispatch in 2012. The green shaded area indicates the percentage of the plant's potential capacity that was produced in 2012. The diameter of the circles indicating the location of the plants provides a scale of the nameplate capacity of the facility with the largest facility being the Jeffrey Energy Center. Note the base units will produce around 70% of their potential while the peaking units used to regulate load or meet demand peaks are less than 25% of their potential. In this particular 2012 snapshot, wind power was producing as much as 45% of its nameplate capacity.

➔ The last chart included in my testimony summarizes the generating fuel mix in Kansas by showing two pie charts: One shows the percentage of nameplate capacity by type of fuel and the second shows the percentage of 2012 net generation by type of fuel. Although gas, wind, and nuclear sources provided about one-third of generation in 2012, coal was clearly the fuel of choice for Kansas in 2012

This concludes my presentation today, but I would be happy to answer any questions you may have.

Table 1—Overview of Current and Projected Total System Capacity and System Capacity Responsibility for Utilities Operating in Kansas

Investor Owned Utilities (IOUs)				Cooperatives				Municipal Utilities		
	Empire District Electric Company (Empire)	Kansas City Power & Light (KCP&L)	Westar Energy (Westar)	Kansas Electric Power Coop. (KEPCo)	Midwest Energy (Midwest)	Sunflower Electric Power Corporation (Sunflower)	Kansas City Board of Public Utilities (KC-BPU)	Kansas Municipal Energy Agency (KMEA)	Kansas Power Pool (KPP)	
2012 Historical	Total System Capacity (MW)	73	2,015	6,596	532	407	1,306	601	246	574
	System Peak Responsibility (MW)	73	1,930	6,072	514	388	1,314	563	220	422
	System Capacity Surplus (Deficit)	0	86	524	18	18	(8)	38	26	152
	Total System Capacity (MW)	74	2,052	6,703	527	421	1,286	726	465	376
	System Peak Responsibility (MW)	69	1,770	5,811	519	427	1,248	538	445	218
2017 Projected	System Capacity Surplus (Deficit)	5	282	918	7	(6)	38	198	20	94
	Total System Capacity (MW)	74	1,901	6,888	515	441	1,147	677	396	376
	System Peak Responsibility (MW)	70	1,811	6,180	506	453	1,240	549	483	308
	System Capacity Surplus (Deficit)	4	90	731	9	(12)	(93)	128	(87)	68
	Total System Capacity (MW)	73	1,880	---	531	466	1,144	477	330	301
2022 Projected	System Peak Responsibility (MW)	72	1,866	---	523	481	1,265	558	516	337
	System Capacity Surplus (Deficit)	1	14	---	8	(15)	(121)	(81)	(186)	(36)
	Total System Capacity (MW)	72	1,880	---	546	491	1,143	477	---	67
	System Peak Responsibility (MW)	73	1,930	---	544	510	1,292	549	---	370
	System Capacity Surplus (Deficit)	(1)	(50)	---	3	(19)	(150)	(92)	---	(303)
2032 Projected										

Table 2—Overview of Renewable Capacity and Renewable Capacity Requirements for Utilities Operating in Kansas

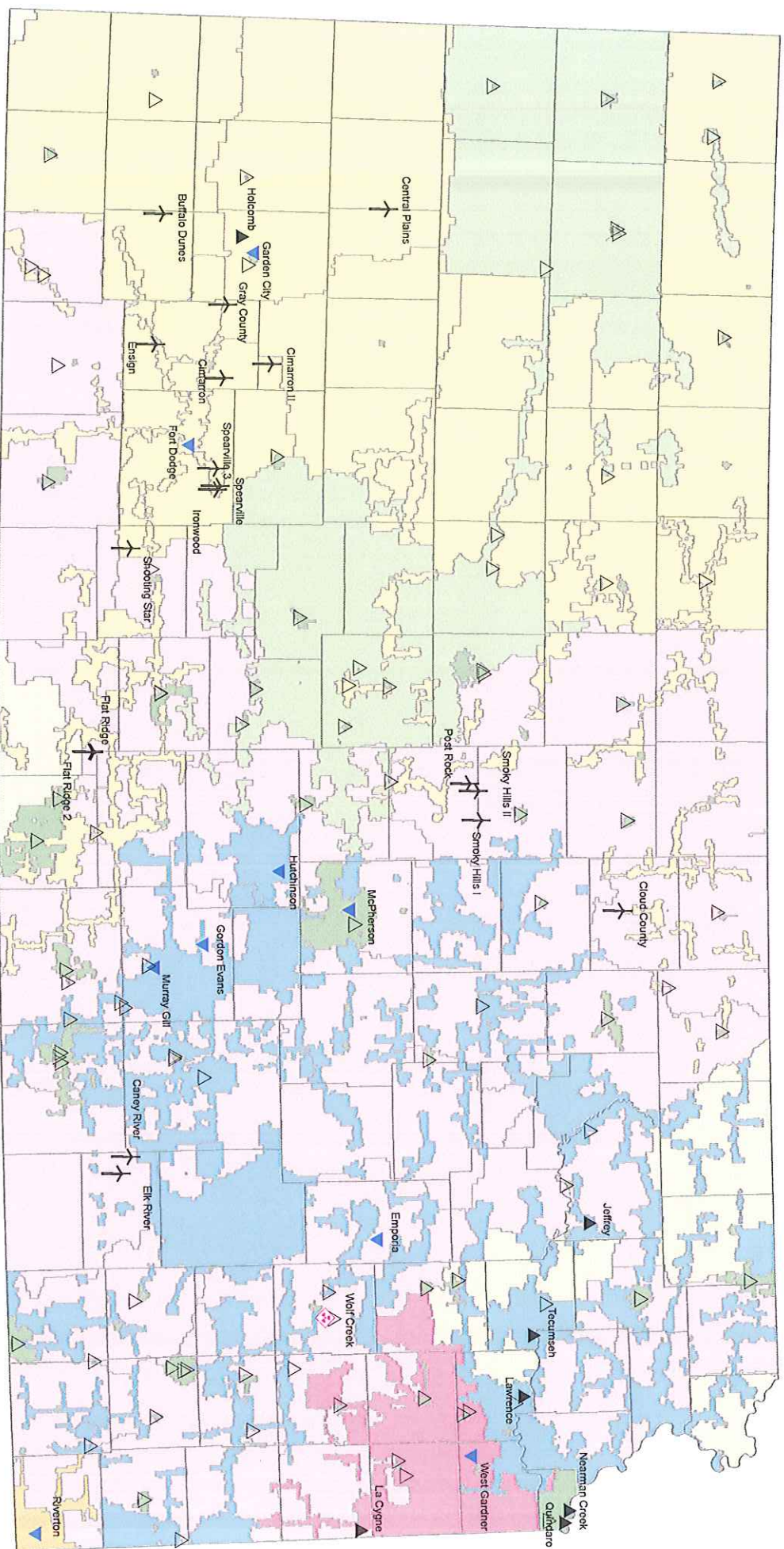
	Utilities Subject to Renewable Energy Standard (RES) under K.S.A. 66-1258						Kansas City Board of Public Utilities (KC-BPU) ¹	Kansas Power Pool (KPP) ²
	Empire District Electric Company (Empire)	Kansas City Power & Light (KCP&L)	Westar Energy (Westar)	Kansas Electric Power Coop. (KEPCo)	Midwest Energy (Midwest)	Sunflower Electric Power Corporation (Sunflower)		
2012 Historical								
System Renewable Capacity (MW)	14	178	737	133	57	142	73	41
Renewable Capacity Responsibility—10% (MW)	7	170	475	43	32	71	47	38
Renewable Capacity Surplus (Deficit)	7	8	262	89	25	71	26	3
2017 Projected								
System Renewable Capacity (MW)	12	332	936	130	57	198	111	27
Renewable Capacity Responsibility—15% (MW)	9	243	691	67	55	154	71	42
Renewable Capacity Surplus (Deficit)	3	89	245	63	2	45	41	(15)
2022 Projected								
System Renewable Capacity (MW)	6	332	1,046	130	57	198	111	27
Renewable Capacity Responsibility—20% (MW)	12	331	958	92	81	162	97	58
Renewable Capacity Surplus (Deficit)	(6)	1	88	38	(24)	37	14	(31)
2027 Projected								
System Renewable Capacity (MW)	(2) ³	340	1,046	130	57	195	111	27
Renewable Capacity Responsibility—20% (MW)	12	341	---	91	86	170	99	64
Renewable Capacity Surplus (Deficit)	(14)	(1)	---	39	(29)	25	13	(37)
2031 Projected								
System Renewable Capacity (MW)	(8)	340	1,045	130	57	114	110	27
Renewable Capacity Responsibility—20% (MW)	12	350	---	93	90	177	99	70
Renewable Capacity Surplus (Deficit)	(20)*	(20)	---	36	(33)	(63)	11	(43)

¹ KC-BPU is a municipal utility not subject to K.S.A. 66-1258. However, KC-BPU has publicly stated that it will voluntarily comply with the Renewable Energy Standard (RES) contained within the statute. Data shown is 2012.

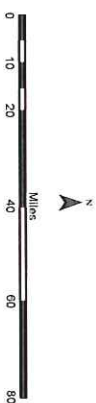
² KPP, also an organization of municipal utilities, included renewable energy information in its compliance filing with the Commission, yet is not required to comply with the State RES.

³ Negative System Capacity due to the equation subtracts renewable capacity for other jurisdictions and states, which was greater than that that was available as a whole.

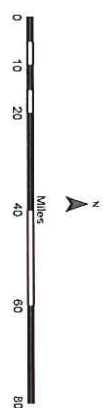
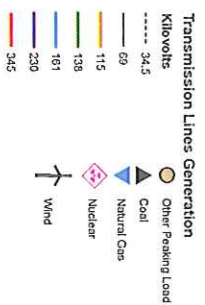
⁴ Empire's deficiency of 20 MW is a result of PPA's that expire with Kansas wind farms in 2025 and 2028, coupled with a need to meet Missouri's RES.



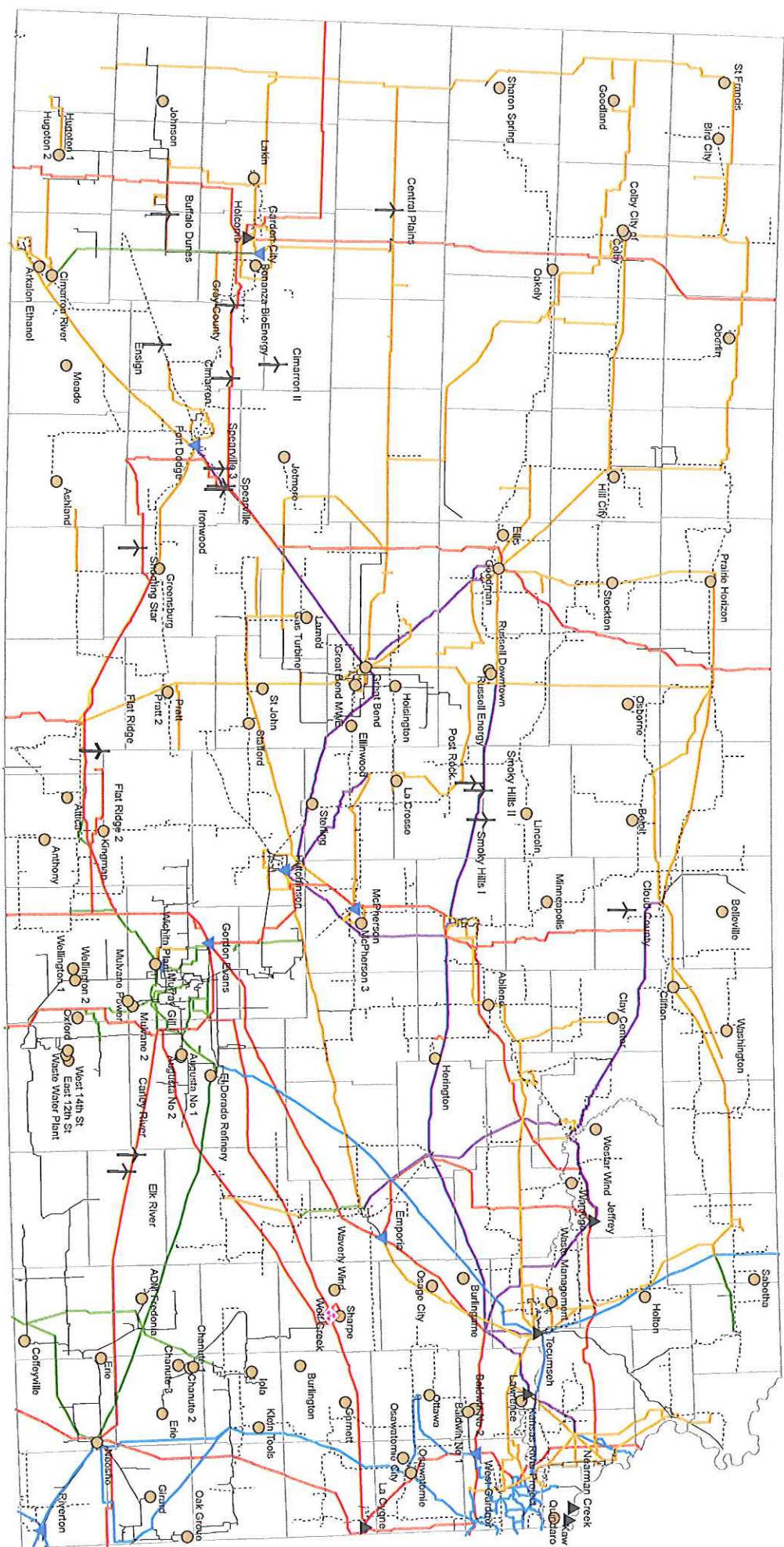
Kansas Energy Generation By Fuel Type



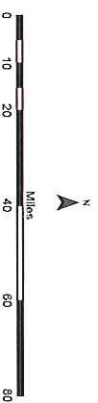
Data Sourced from Energy Information Agency,
EIA-923 and EIA-860 Reports



Kansas Energy Generation By Fuel Type

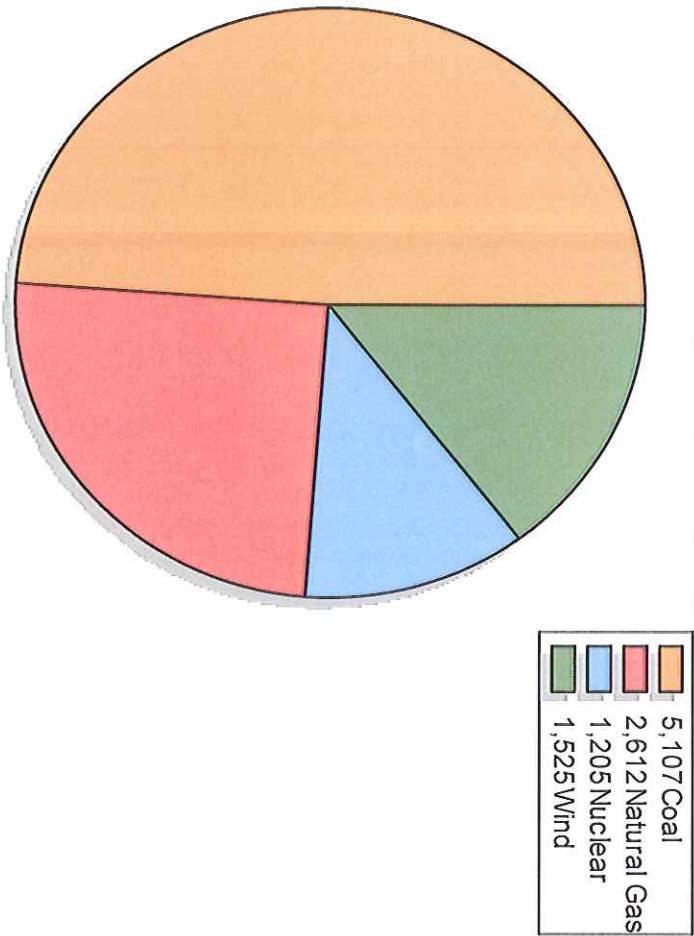


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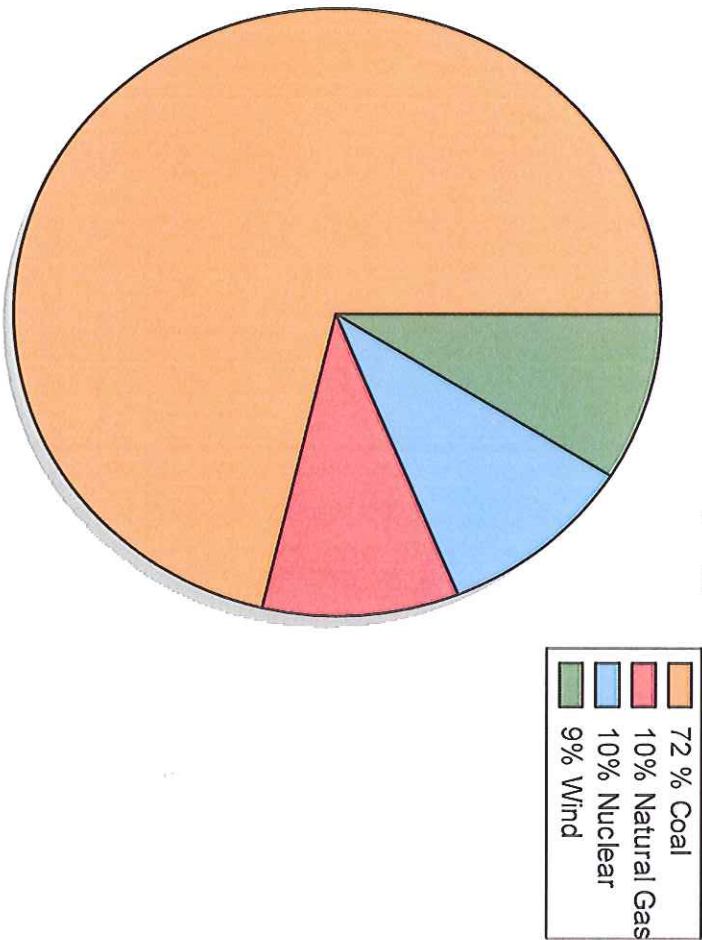


Data Sourced from Energy Information Agency,
EIA-923 and EIA-860 Reports

Nameplate MW Capacity % By Type



2013 Net Generation % By Type



Data Sourced from Energy Information Agency,
EIA-923 and EIA-860 Reports