

# Midwest Energy, Inc.

## Energy Resources and the Clean Power Plan

---

PRESENTATION TO THE KANSAS CORPORATION COMMISSION

FEBRUARY 8, 2016



# Midwest Energy – A Quick Overview

---

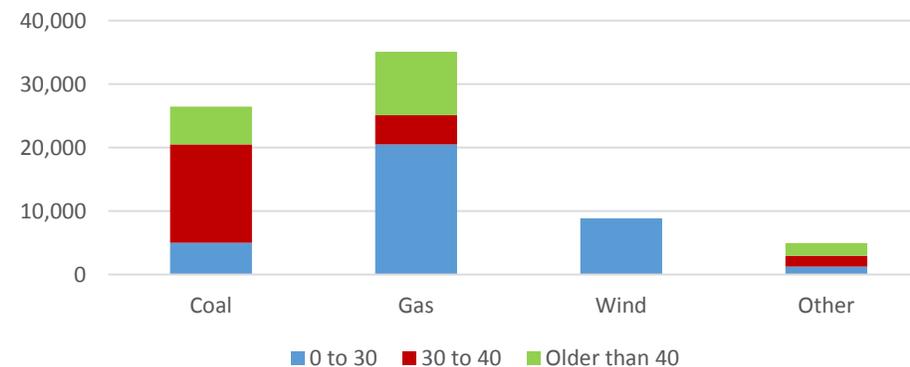
- ❖ Midwest provides retail electric energy service to 50,000+ customers in central and western Kansas. We also provide natural gas delivery service to 42,500+ customers across much of the same area.
- ❖ Midwest is a member-owned cooperative. However, we are not financed by the RUS, but rather privately financed.
- ❖ We don't fit well into a single category. We are not just a distribution cooperative, as we also own and operate generation and transmission assets. Nor are we a traditional G&T – our member-owners are direct end-use customers.
- ❖ Midwest does provide wholesale transmission service to other cooperative and municipal entities.
- ❖ Though Midwest's retail electric rates and services are no longer subject to regulation by the KCC, the transmission service rates and siting remain within the jurisdiction of this Commission.



# Midwest Energy - Generating Resources

Resource	Fuel	Ownership	COD	Capacity, MW
Coal Participation	Coal	PPA	Various	150
Fleet Participation	Coal & Gas	PPA	Various	155
Goodman Energy Center	Gas	Owned	2008 / 2016	102
Colby CT	Gas	Owned	1970	13
Bird City	Diesel	Owned	1965	2

SPP Resources-By Age



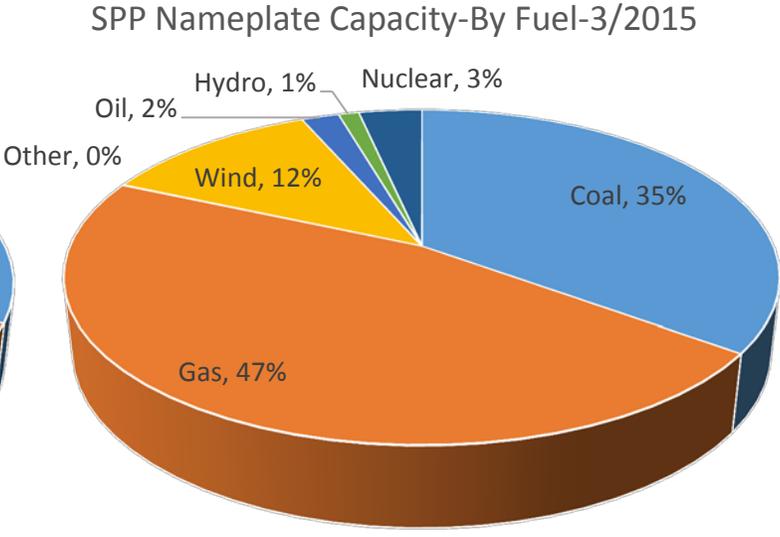
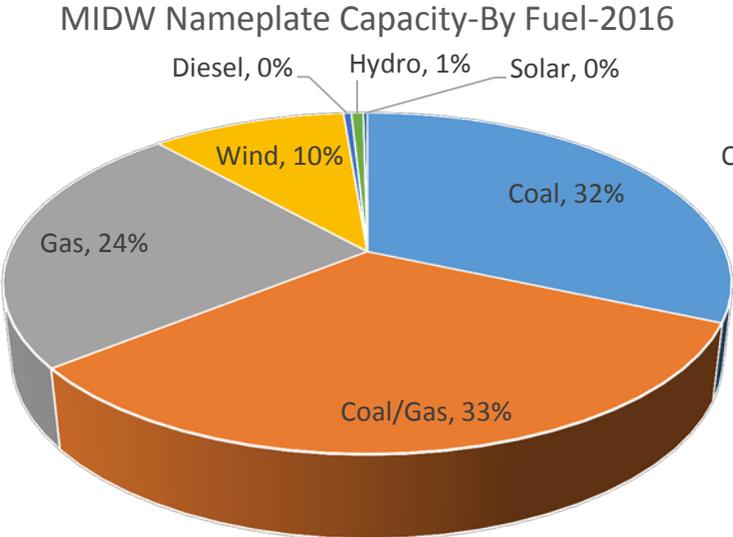
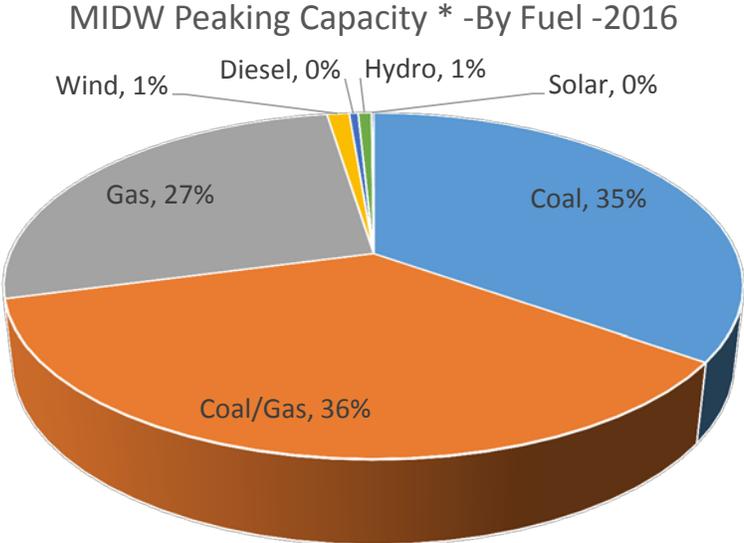
# Current Investment in Renewable Resources

Resource	Ownership	Nameplate Capacity	Peaking Capacity
Wind Energy	PPA	49	5
Hydro	PPA	3	3
Solar	PPA	1	0.5

- ❖ The wind and solar resources are obviously relatively new. The solar project entered commercial operation in 2015, while the wind turbines from which we purchase energy entered service in 2007/2008.
- ❖ The hydro assets are owned/operated by WAPA, and have largely been in service for some time.

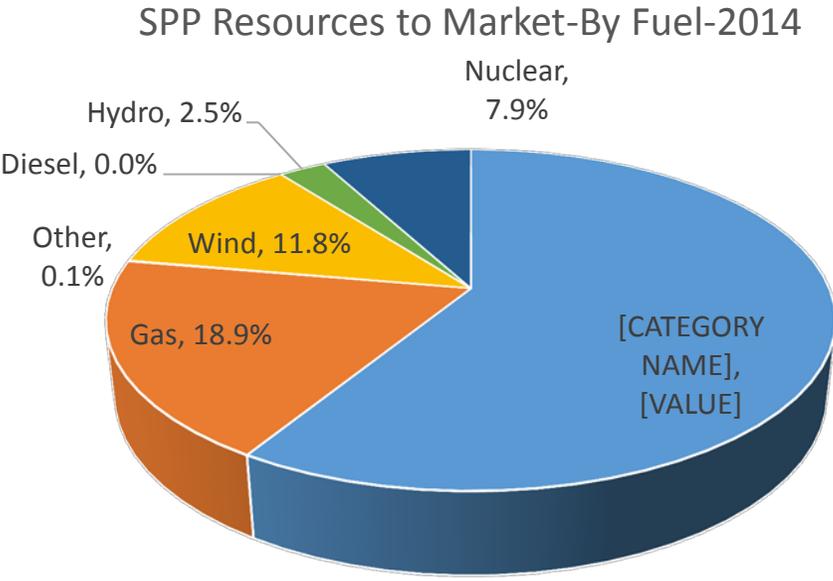


# Power Supply Portfolio-Nameplate Capacity

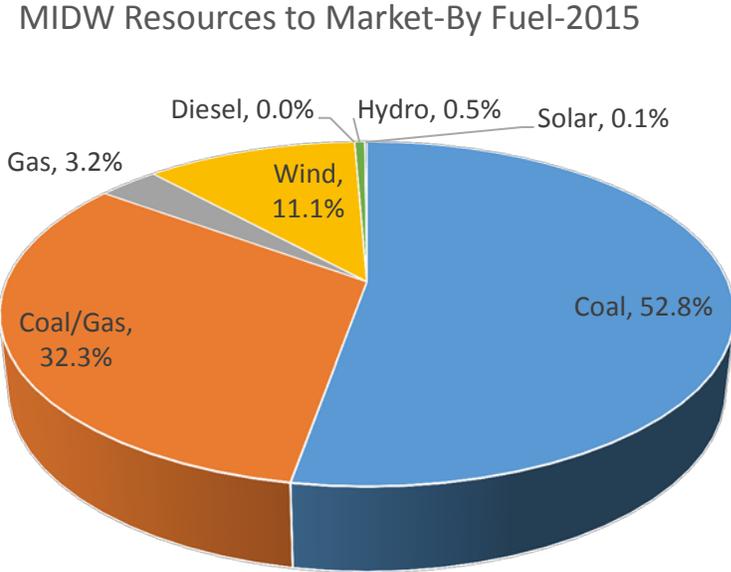


\* Peaking capacity refers to the expected capability to provide capacity at times of peak loads.

# Energy Resources - SPP Market - By Fuel



\* Most recent data available



Note: Percentages are the proportion of total owned/contracted resources scheduled into the SPP Integrated Market by Midwest.

# Resource Planning – Meeting Future Needs

---

- ❖ Currently in the final phase of updating our Resource Plan.
- ❖ Incorporated latest load forecast and growing impact of demand response resources.
- ❖ Driven in part by need to replace current fleet participation agreement, which expires in 2017.
- ❖ Reviewing various types of proposals:
  - ❖ Purchased Power Agreements – gas fired resources
  - ❖ Self-build of additional generation assets – simple and combined cycle facilities and internal combustion
  - ❖ Purchase of ownership interest in existing generating assets – simple and combined cycle facilities
  - ❖ All (prime mover) proposals fueled by natural gas; no coal-fired resources offered
  - ❖ Proposal for additional wind resource under active consideration
- ❖ Separately analyzing feasibility of adding a second solar resource, up to 10MW



# Renewable Resources as a Hedge Against Declining Coal Resource Availability

---

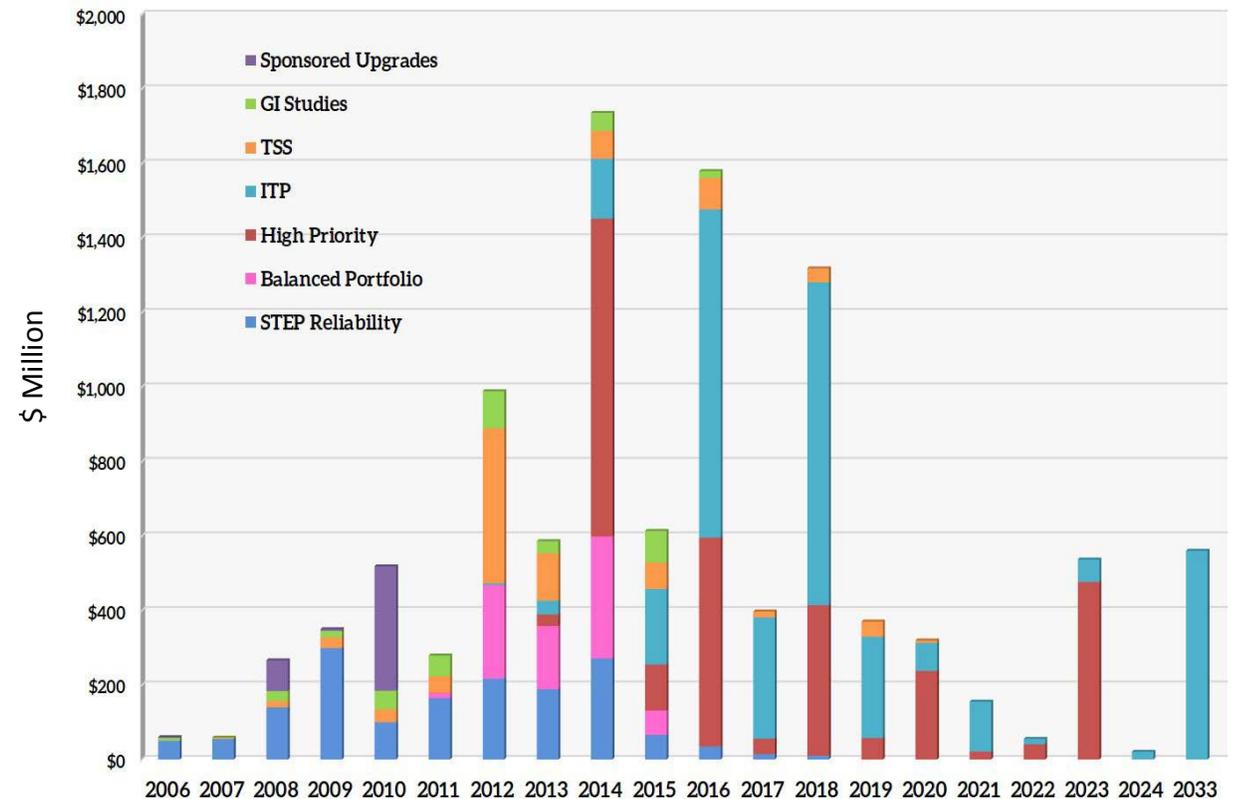
- ❖ Future of coal-fired generation is presently cloudy at best – e.g. CPP and cap & trade.
- ❖ Increasing pressure on emissions reduction will likely lead to more unit retirements, and increasing capital investments and O&M for those units remaining in service.
- ❖ SPP region currently has a large reserve margin. If the economy strengthens and demand begins to grow again, that reserve margin will diminish over time. This will impact the amount of capacity available for sale via Purchased Power Agreements, including coal resources.
- ❖ Renewable resources, including wind and solar, will likely be an important hedge against increasing regulation and pressure to reduce utilization of coal resources.
- ❖ To the extent coal capacity is reduced, it cannot be entirely replaced by renewable resources and maintain system reliability.
- ❖ New generation resources (prime mover) will likely be fueled by natural gas. This will almost certainly lead to increased upward pressure on the price of gas for generation, industrial and residential use.
- ❖ Renewable resources will provide a hedge against energy price increases driven by regulation



# Transmission Expansion Issues

- ❖ Significant investments in transmission expansion have been made, including 3.4 billion dollars in the SPP over the period 2012 to 2014 alone (\$5.2B: 2006-2014).
- ❖ Drivers for this expansion include economic, reliability, and the interconnection of renewable resources.
- ❖ Can't lose sight of the fact that customers ultimately pay for transmission expansion. In some cases savings result, but the investment drives the revenue requirement.

SPP-Initiated Transmission Construction



# Transmission Issues and the CPP

---

- ❖ It is likely that additional transmission investments will be required to accommodate the new gas fired generation constructed to replace coal resources.
- ❖ Depending on the compliance framework of SPP member states it is possible that SPP will need to build significantly more new transmission to further facilitate compliance with the CPP. For example, additional transmission may be required to export wind energy from areas with a strong wind profile to those area with fewer opportunities for wind energy development.
- ❖ These items coupled together could alter siting for future gas-fired generators to support reliability in various sub-regions of SPP.
- ❖ Midwest Energy purchases a significant portion of its resources, including all its coal resources.
- ❖ The process to develop CPP compliance plans needs to include all the stakeholders and be a transparent process. The reliability and cost implications are potentially dramatic.



Questions?

