Potential Impact of EPA's Clean Power Plan

October 22, 2015

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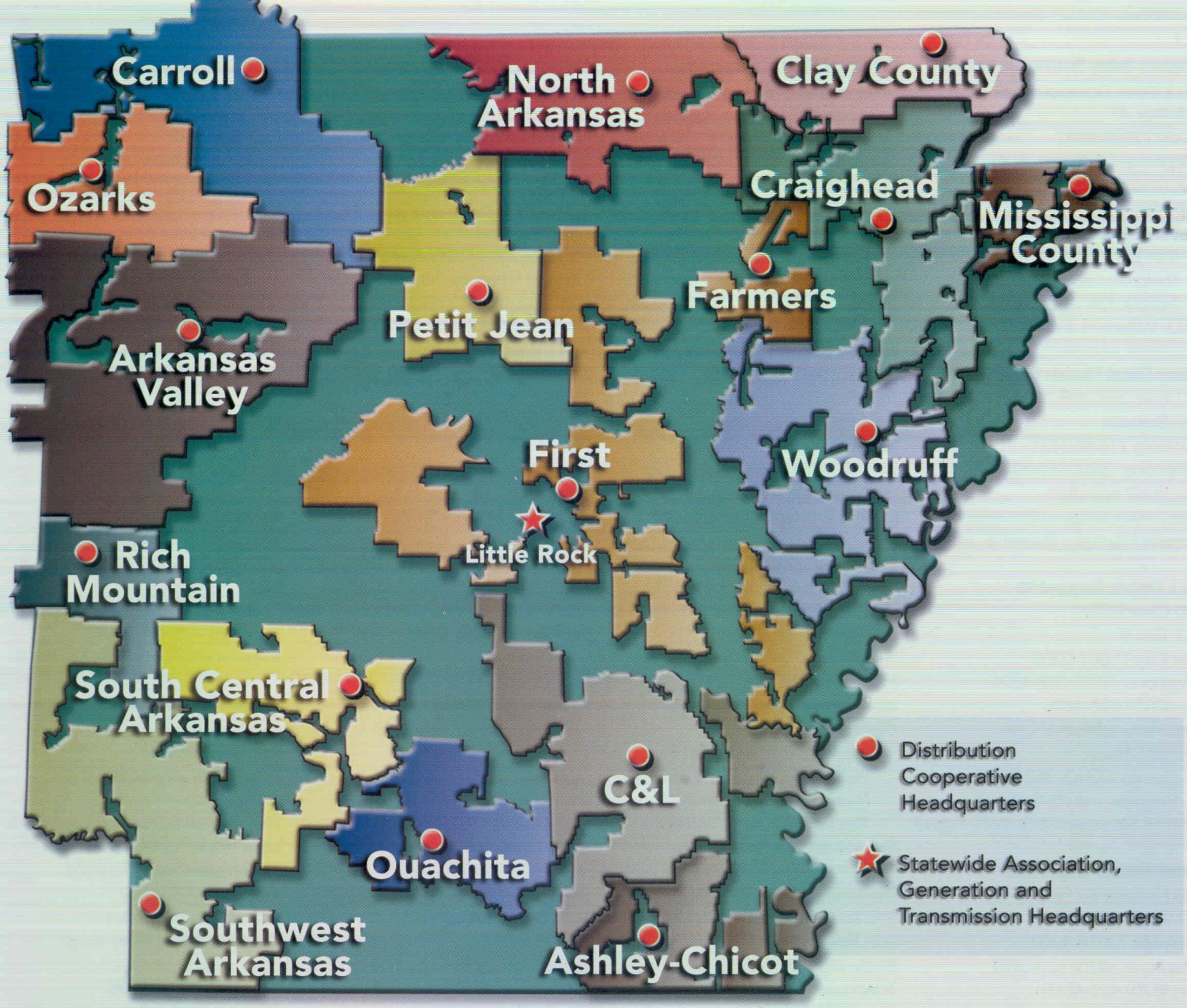
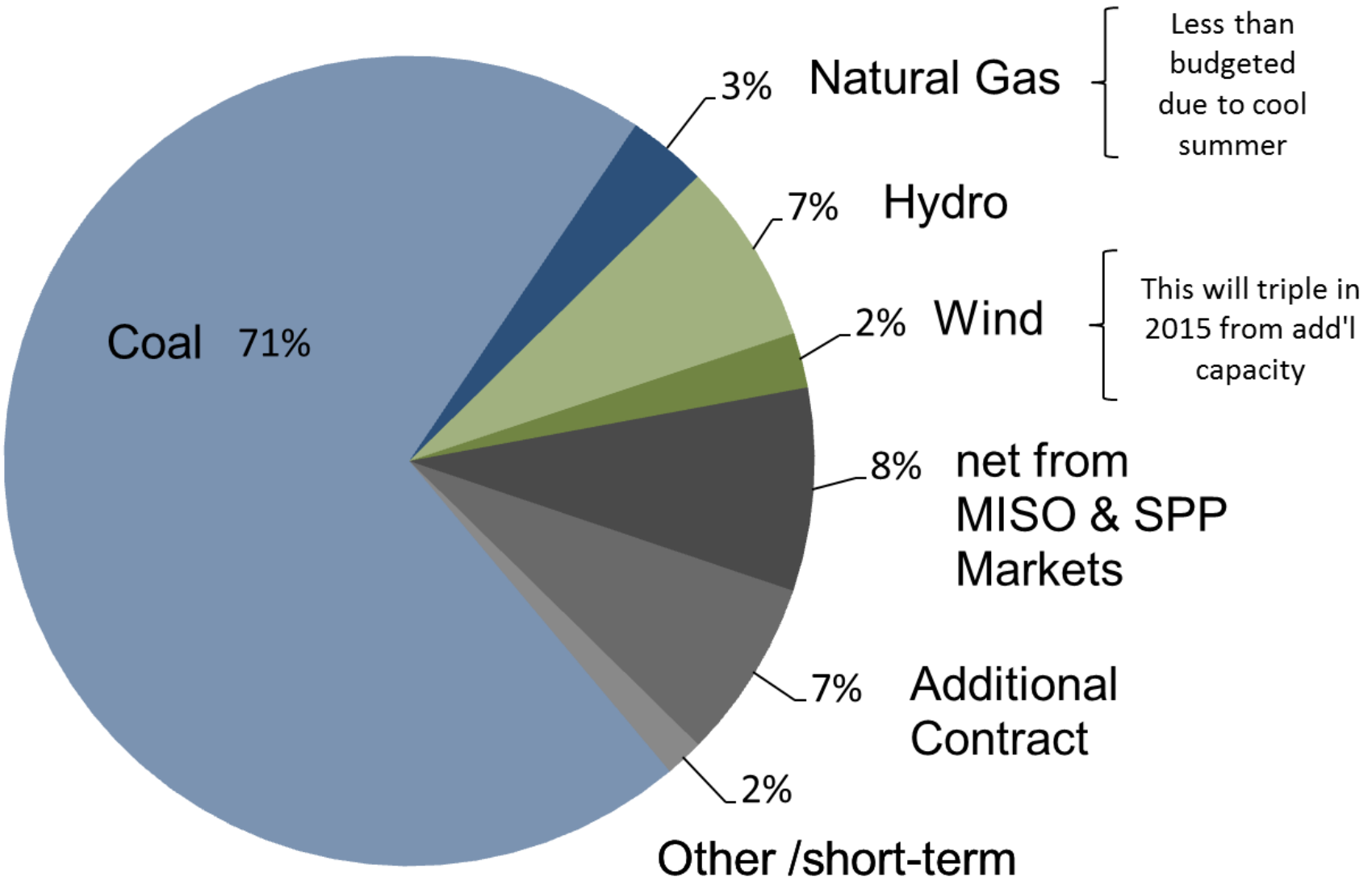

Carroll
North Arkansas
Clay County
Ozarks
Craighead
Mississippi County
Farmers
Petit Jean
Arkansas Valley
First
Woodruff
Little Rock
Rich Mountain
South Central Arkansas
C&L
Ouachita
Southwest Arkansas
Ashley-Chicot
Distribution Cooperative Headquarters
Statewide Association, Generation and Transmission Headquarters

Sources of AECC's Energy Supply in 2014



Overview

- There are considerable uncertainties with implementing the Clean Power Plan
- The final CPP was a considerable improvement and much less onerous to Arkansas than the proposed CPP
- Arkansas (ADEQ, APSC, Attorney General) has begun work on a state implementation plan
- Arkansas must decide on a mass-based or rate-based option

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Proposed Rule vs. Final Rule

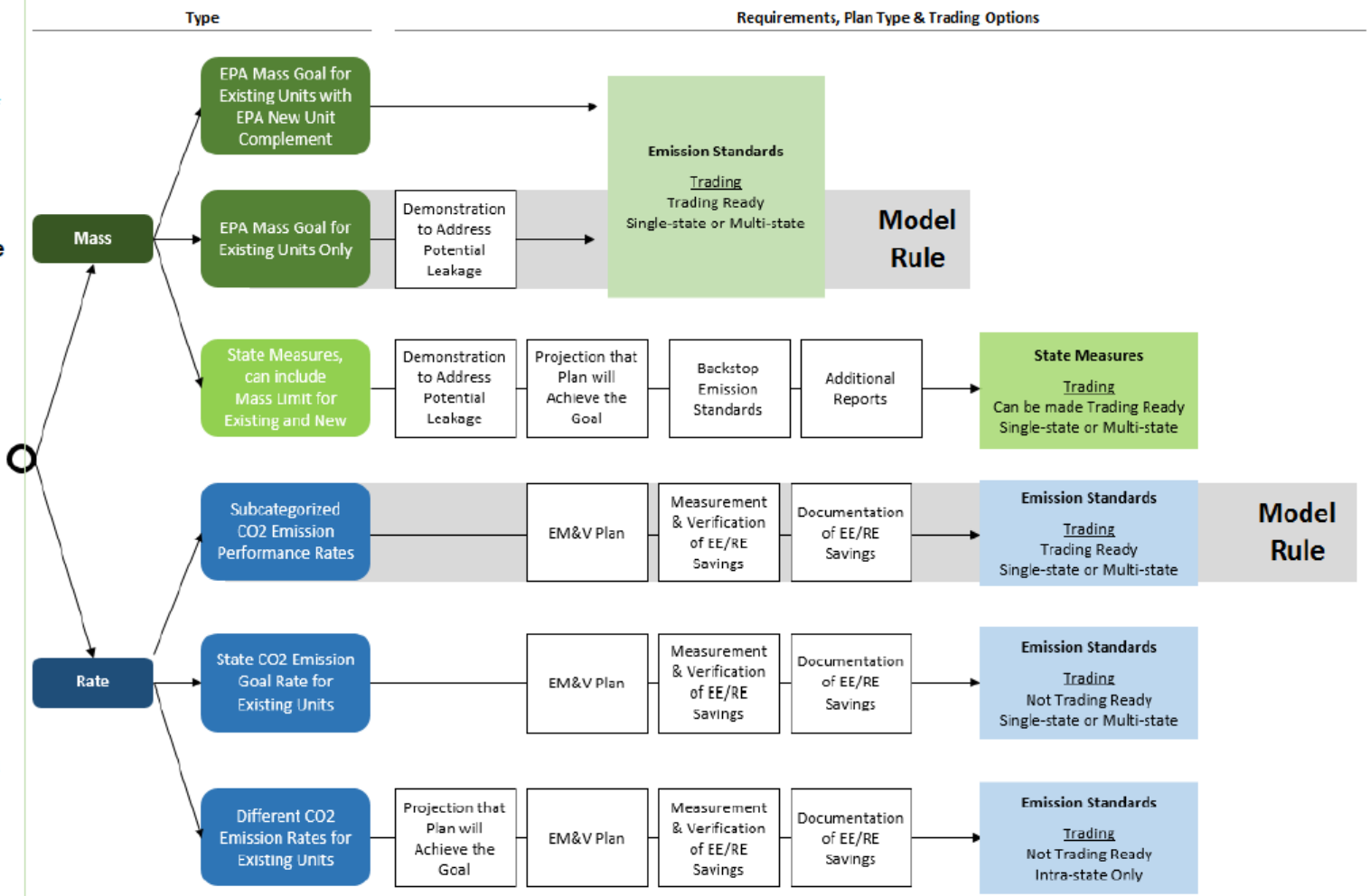
Proposed	Final
30% Nationwide Reduction in CO2 by 2030	32% Nationwide Reduction in CO2 by 2030
44% for AR (7th highest)	36% for AR (24% if mass-based)
Begins 2020	Begins 2022
Four building blocks	Three building blocks (EE removed)
"Switch to gas"	"Switch to renewables"

Clean Power Plan Timeline

15 Years	• January 1, 2030 - CO_2 Emission Goals met
Summer 2015	• August 3, 2015 - Final Clean Power Plan
1 Year	• September 6, 2016 - States submit initial state plan
3 Years	• September 6, 2018 - States submit final state plan
7 Years	• January 1, 2022 - Compliance period begins

More State Options, Lower Costs

- This chart shows some of the compliance pathways available to states under the final Clean Power Plan. Ultimately, it is up to the states to choose how they will meet the requirements of the rule
- EPA's illustrative analysis shows that nationwide, in 2030, a **mass-based approach is less-expensive** than a rate-based approach ($5.1 billion versus $8.4 billion)
- Under a mass-based plan, states that anticipate continuing or expanding investments in energy efficiency have unlimited flexibility to leverage those investments to meet their CPP targets. EE programs and projects do not need to be approved as part of a mass-based state plan, and EM&V will not be required
- For states currently implementing mass-based trading programs, the "state measures" approach offers a ready path forward
- Demand-side energy efficiency is an important, proven strategy that states are already widely using and that can substantially and cost-effectively lower CO_2 emissions from the power sector



Preliminary Analysis of Effect on AECC

- There are numerous assumptions that were required to be able to quantify potential impacts on AECC
- Until Arkansas finalizes the state implementation plan, impacts will remain highly uncertain
- Key sensitivities included load growth and gas prices

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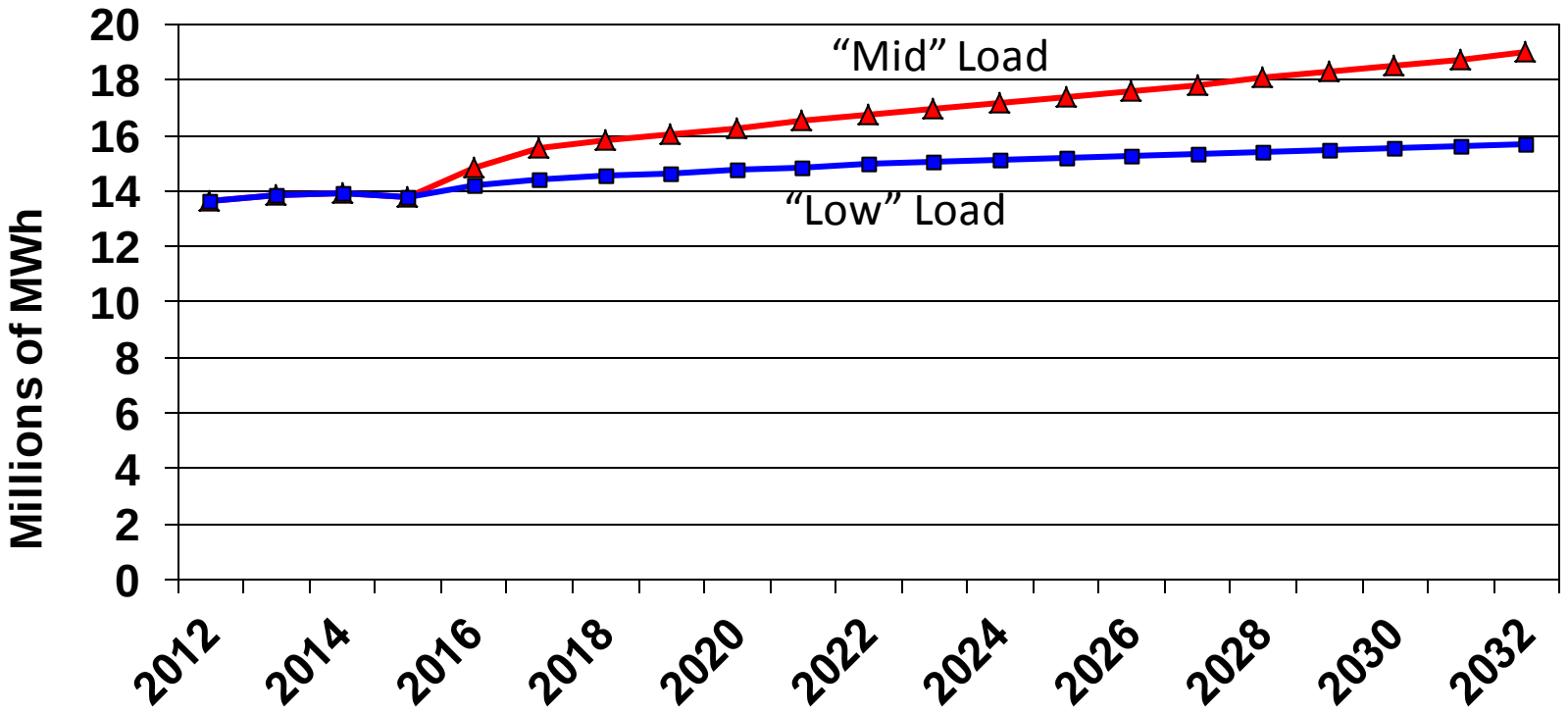
Load Forecast
AECC Energy Sales to Members



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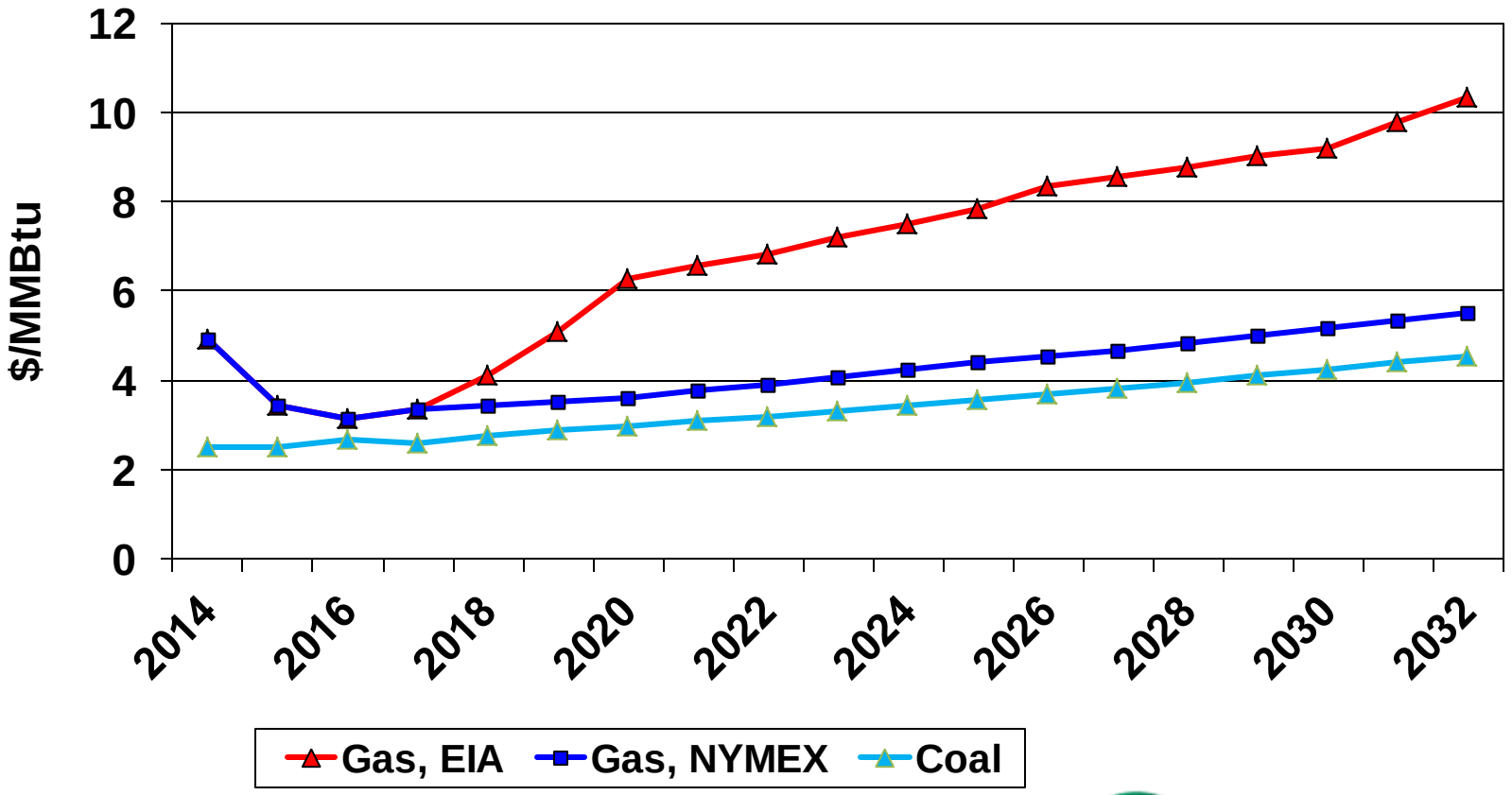
Fuel Price Forecasts



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Gas Forecasts

- EIA Gas Forecast is the forecast from the U.S. Energy Information Administration's 2015 Annual Energy Outlook
- Slides that follow show the cost impacts of the CPP using the EIA forecast
- The NYMEX Gas Forecast uses the NYMEX future's price through 2024, escalated 1% thereafter
- *With the NYMEX forecast, analysis shows that the cost impacts of the CPP are negligible, less than $.5/MWh or 1%; no further details are shown in this presentation*

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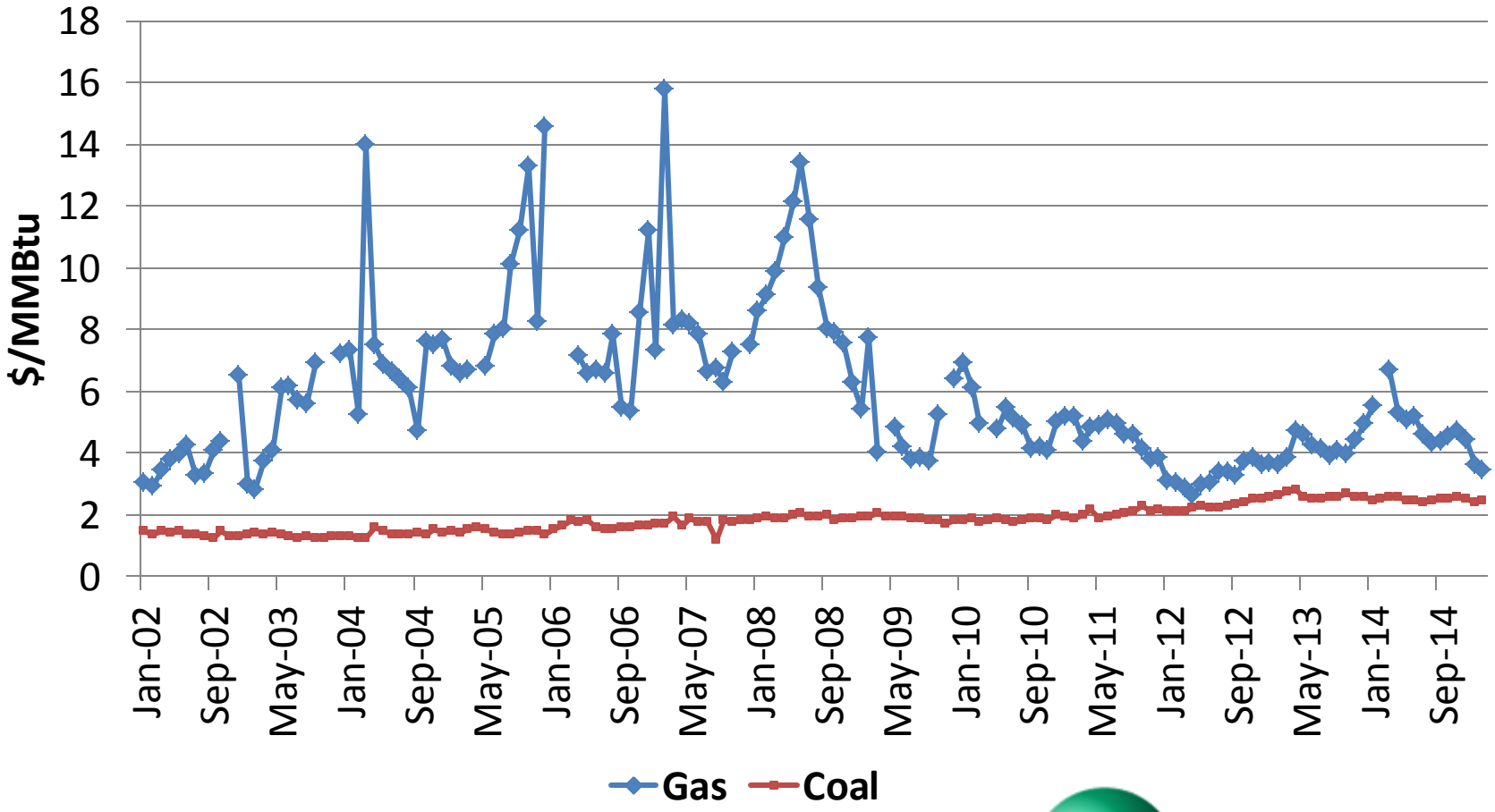
Gas and Coal Prices at AECC Plants



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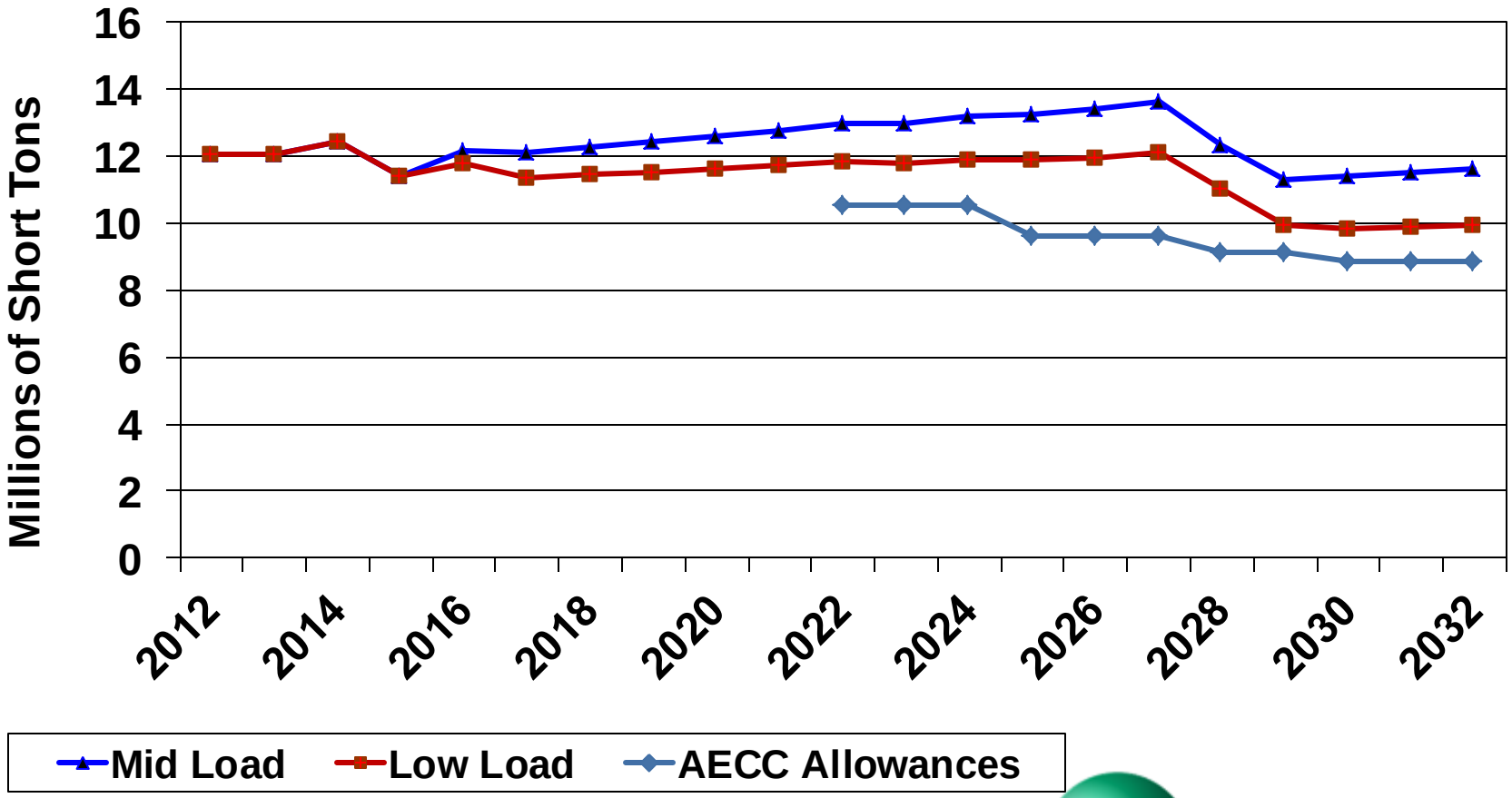
CO_2 Emissions, Tons



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Mass-Based Considerations, p. 1

- Cost impacts on following slides do not consider potential benefits from regional trading of emission allowances.
- Costs shown represent combined cycle generation displacing coal generation to meet requirement.
- Assumes allowances are allocated to generating units based on 2012 emissions, accounting for percentage reductions required.

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Mass-Based Considerations, p. 2

- EPA proposes to discontinue allowance allocations if a generating facility has not operated for two full consecutive calendar years.
- It is unclear whether EPA will further propose that allowances from a retired plant be reallocated to renewables or be removed from the allowance pool.
- The analysis here assumes AECC will continue receiving its share of White Bluff emission allowances.
- Analysis shown here includes CO2 from new generating facilities; considered to be legally suspect.

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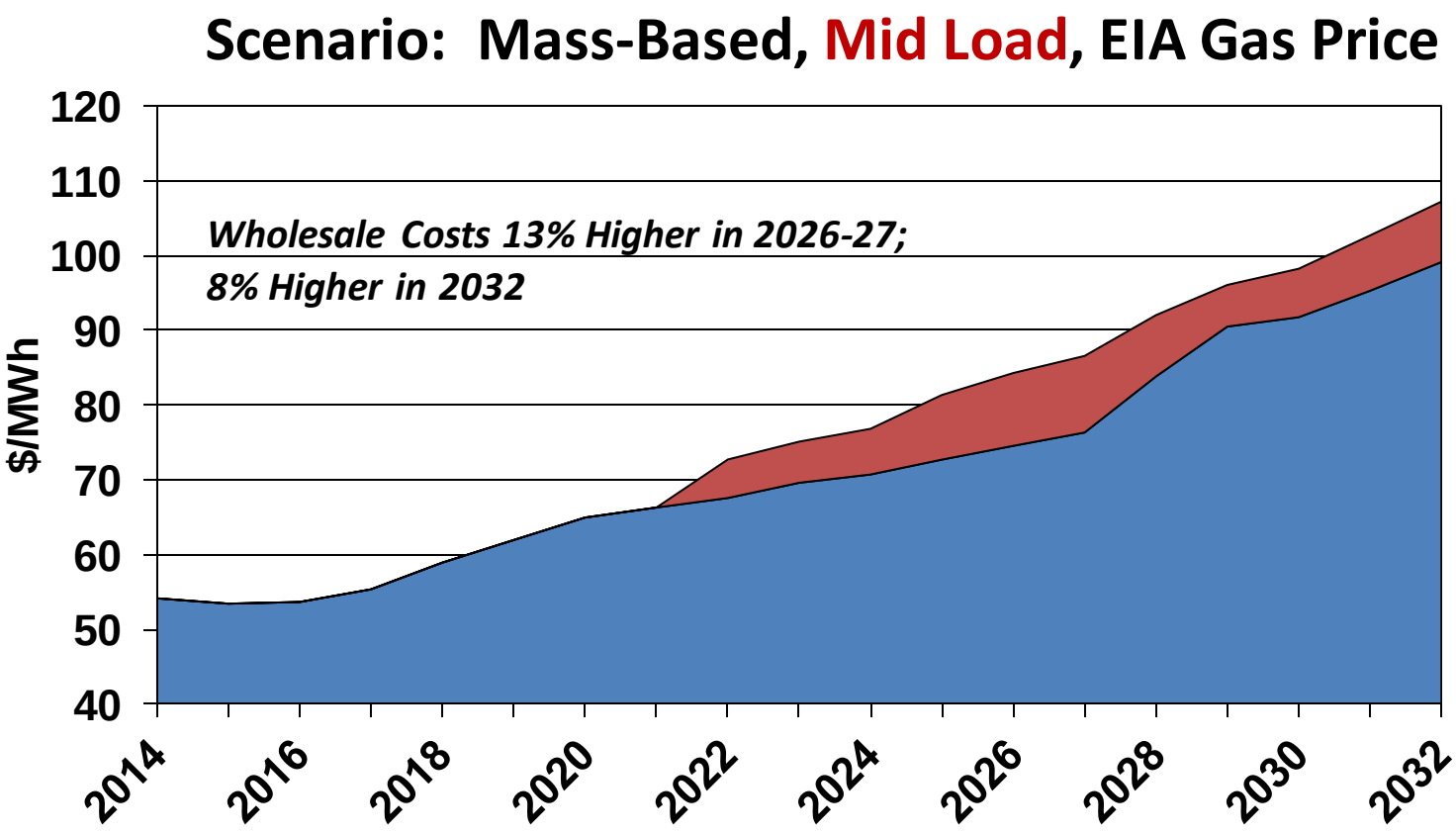
Wholesale Power Costs per MWh
Effect of Clean Power Plan



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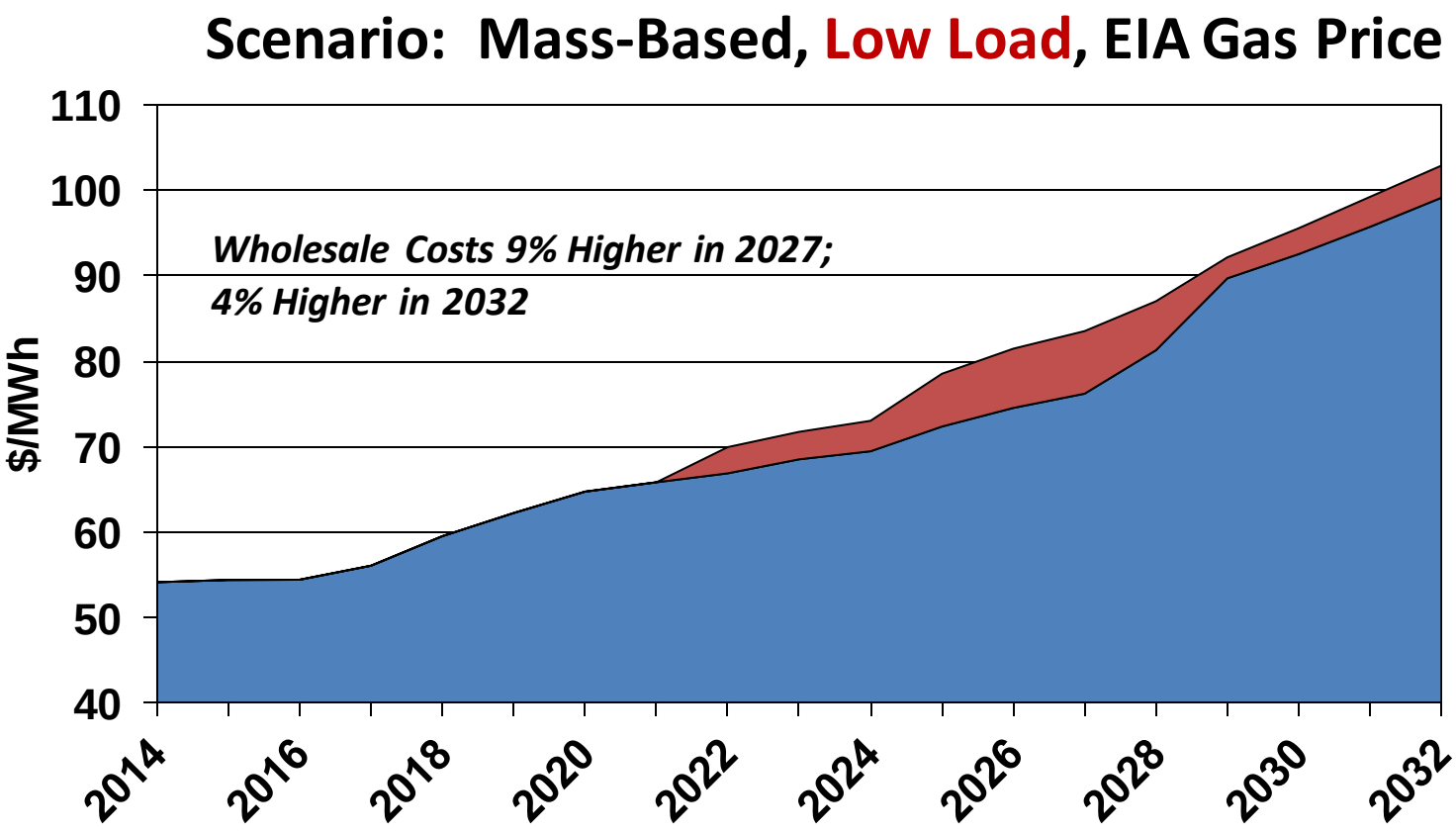
Wholesale Power Costs per MWh
Effect of Clean Power Plan



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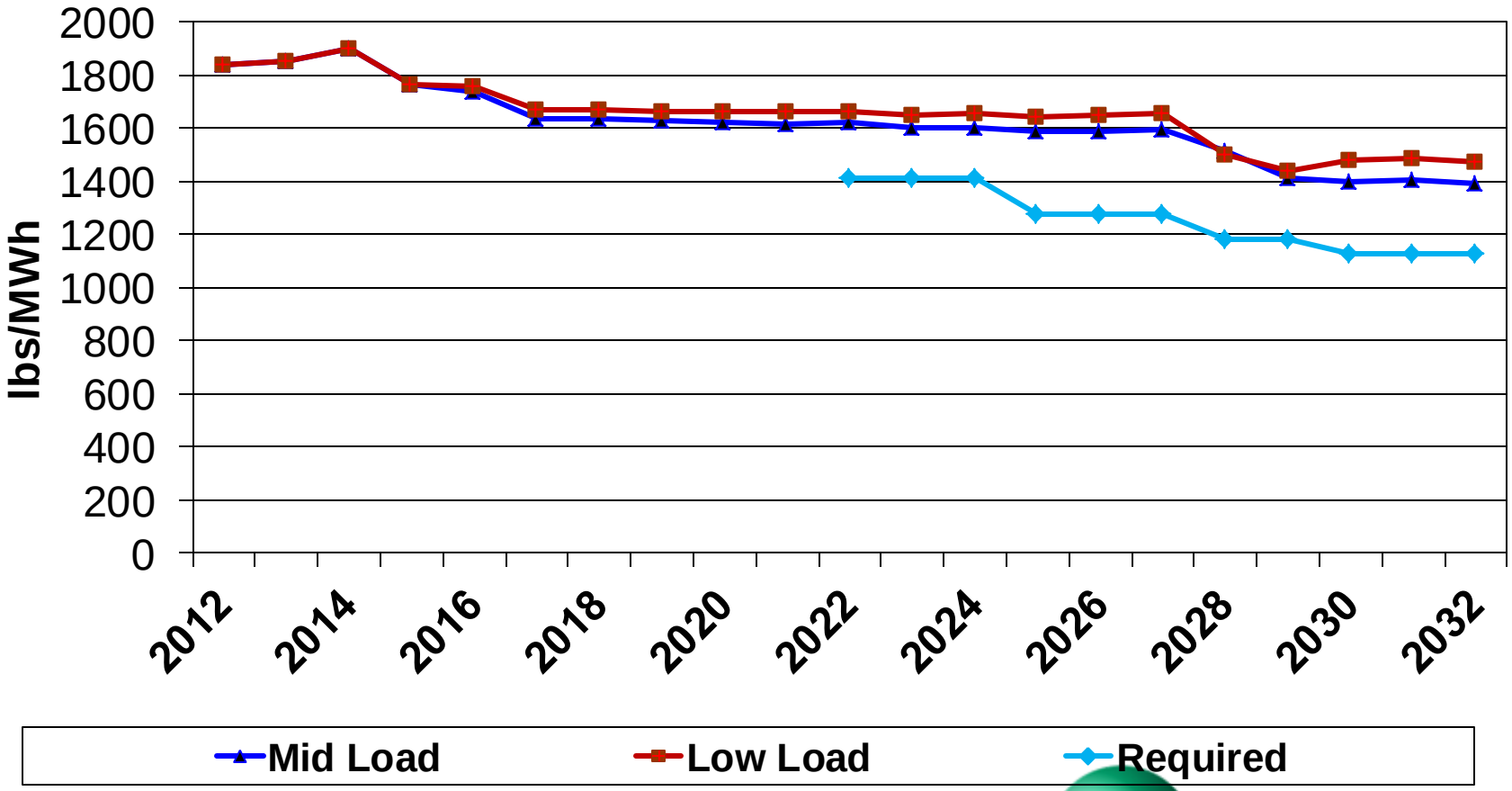
CO_2 Emissions, lbs/MWh



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Rate-Based Considerations

- Rate-based approach modeled does not allow for any trading outside of Arkansas.
- Costs shown represent combined cycle generation displacing coal generation to meet requirement.
- New renewables and energy efficiency produce emission reduction credits and may allow for a lower-cost option.
- The rate-based approach excludes new generating facilities.

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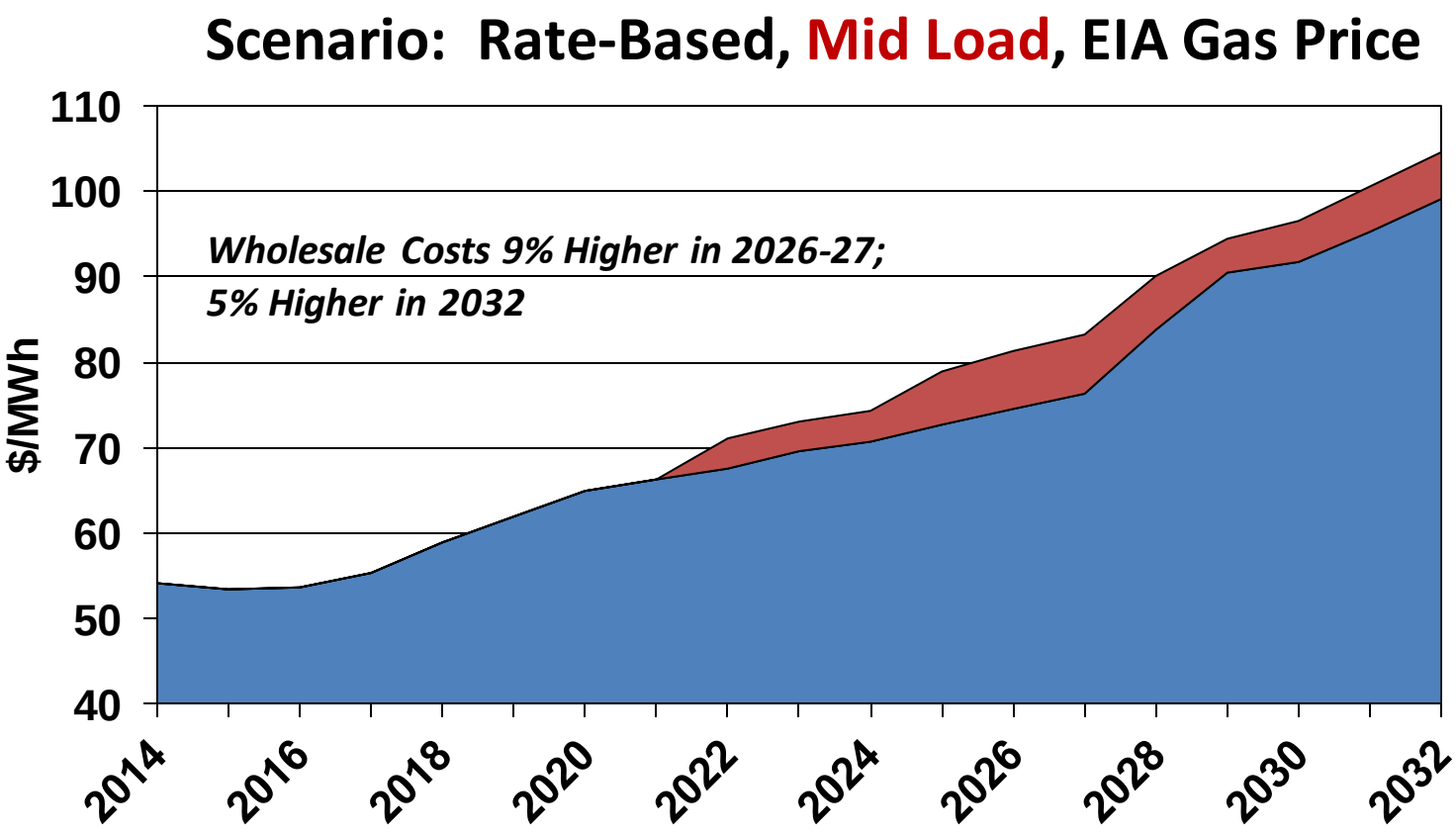
Wholesale Power Costs per MWh
Effect of Clean Power Plan



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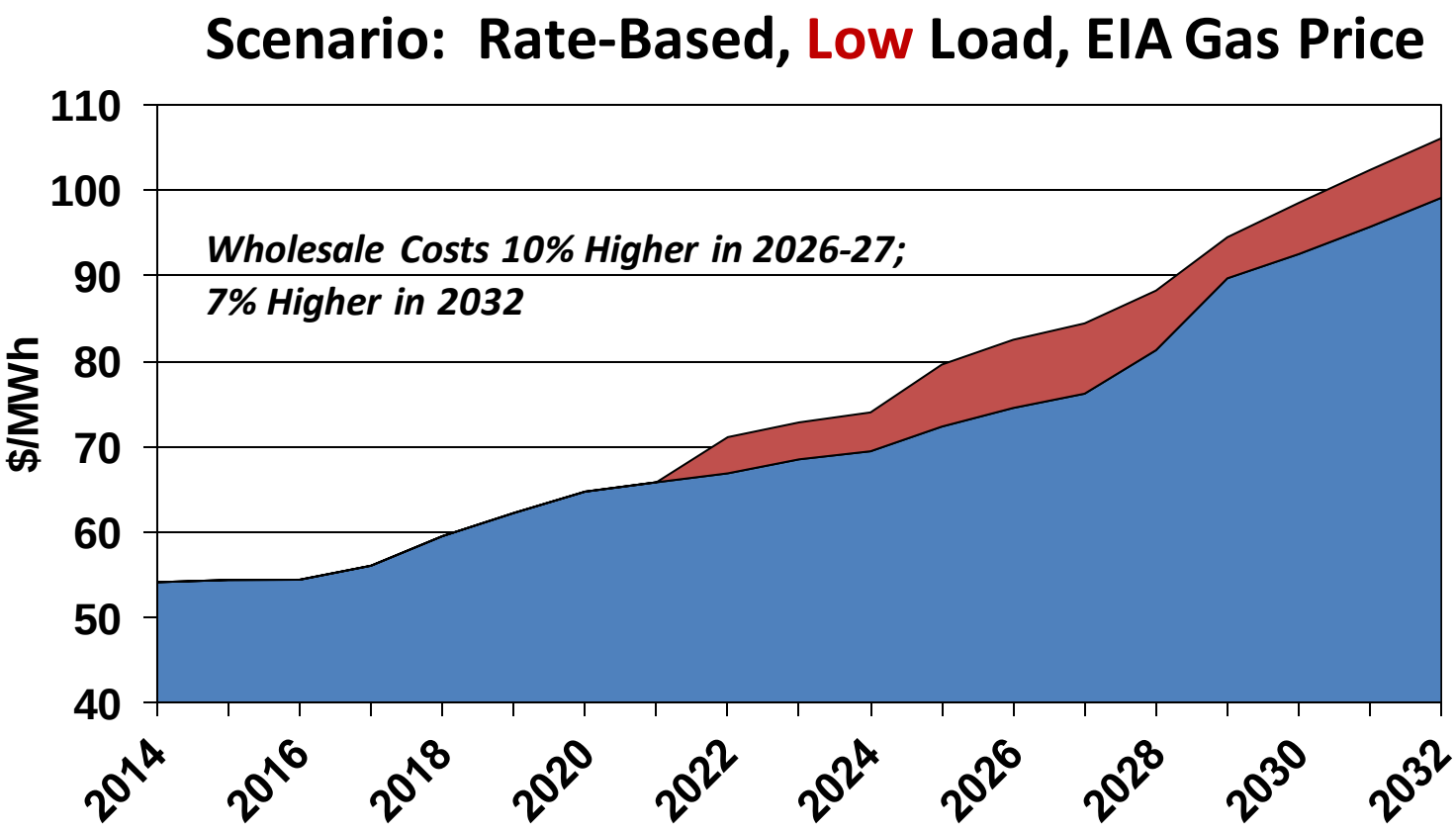
Wholesale Power Costs per MWh
Effect of Clean Power Plan



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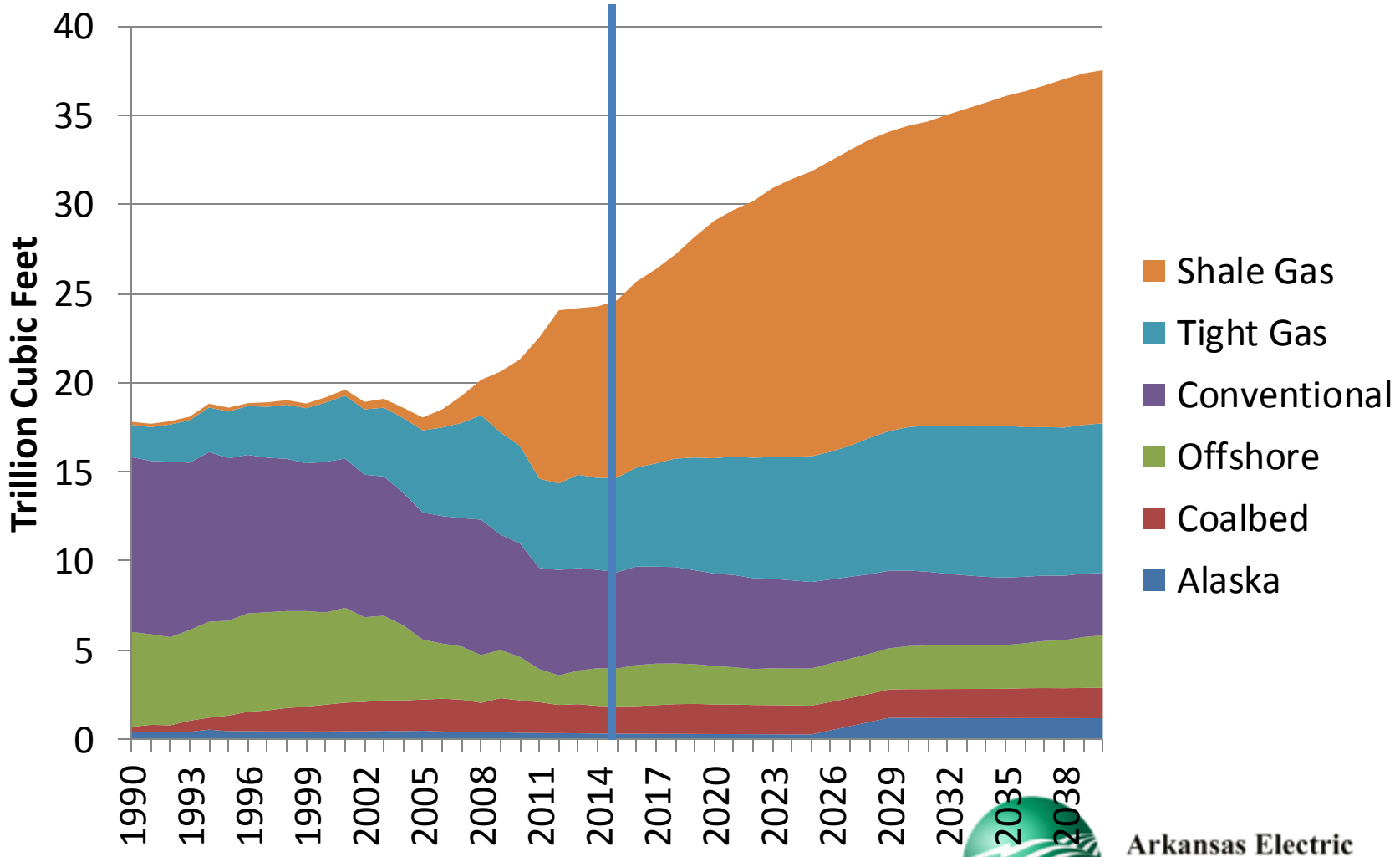
General Thoughts about Compliance Approach

- SPP studies indicate a regional approach to compliance is better than state-by-state approaches
- Studies demonstrate merits to development of regional carbon trading markets
- States are encouraged to coordinate with each other and develop plans, even if litigating, rather than waiting for EPA's Federal Plan to be imposed on them
- SPP stands ready to assist any way that it can to ensure a reliable, cost effective approach to compliance

From an SPP Presentation

Shale Gas Impact on US Gas Supply



Energy Information Administration

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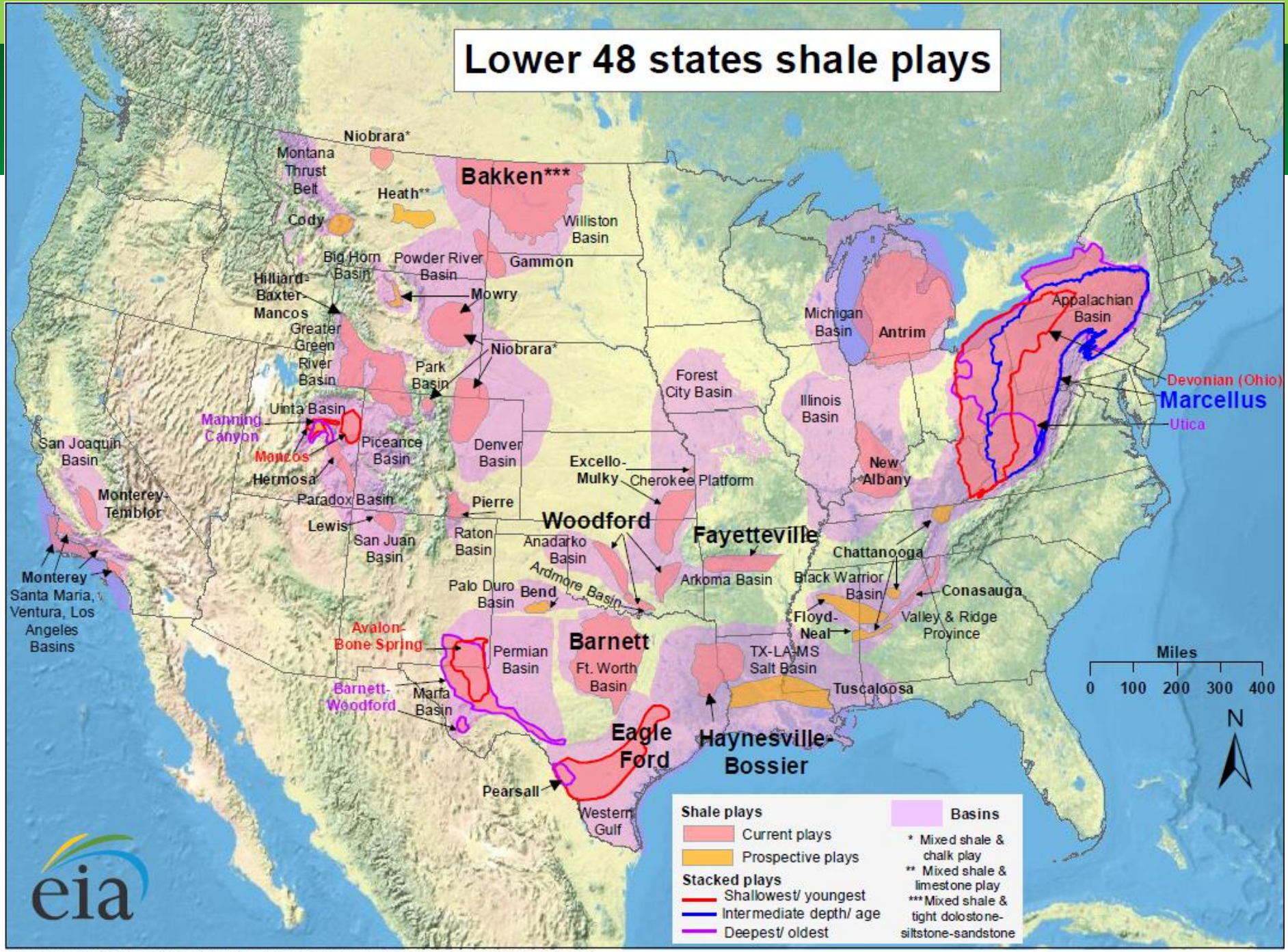
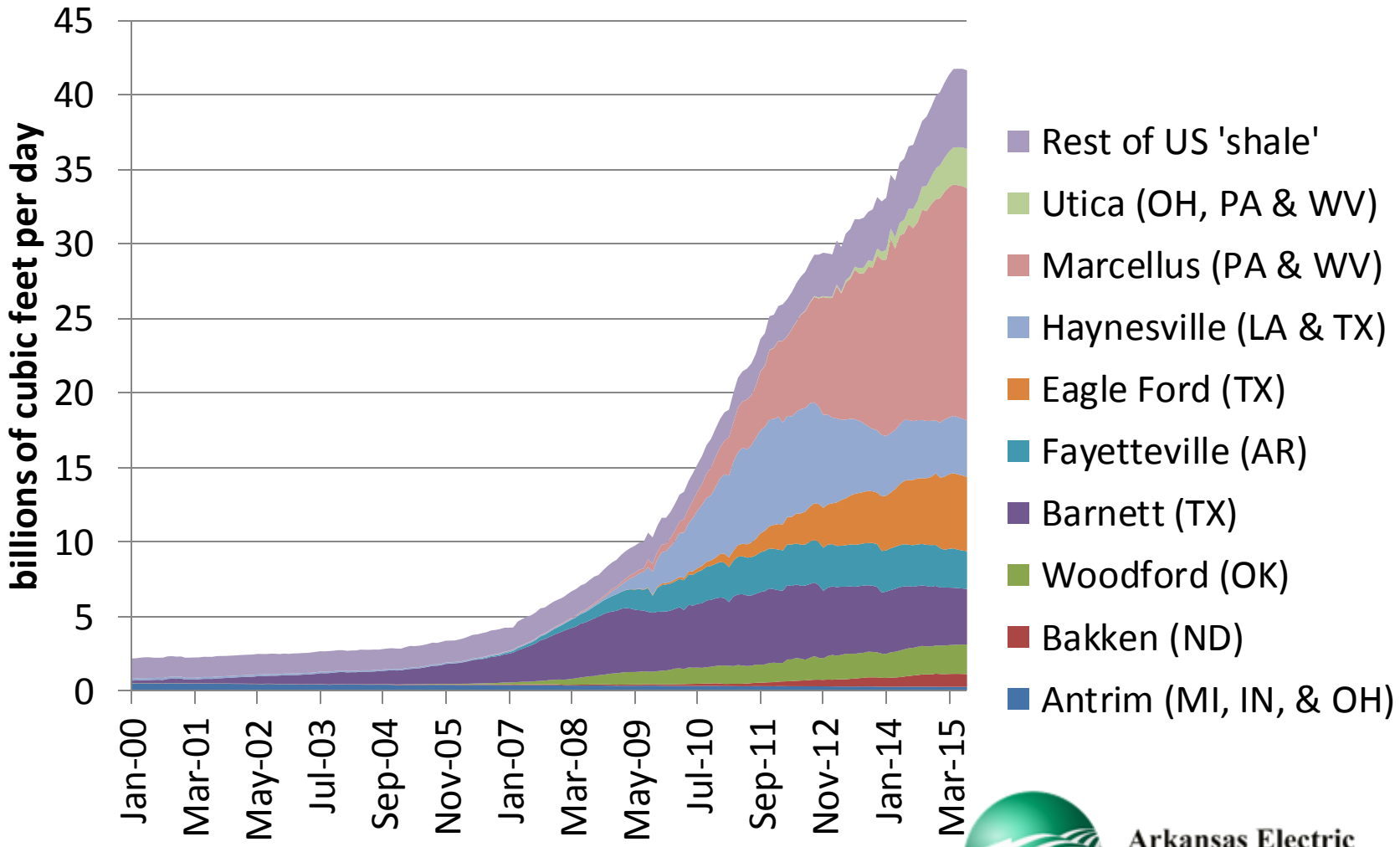


Source: Energy Information Administration based on data from various published studies.
Updated: May 9, 2011

Shale Gas Production



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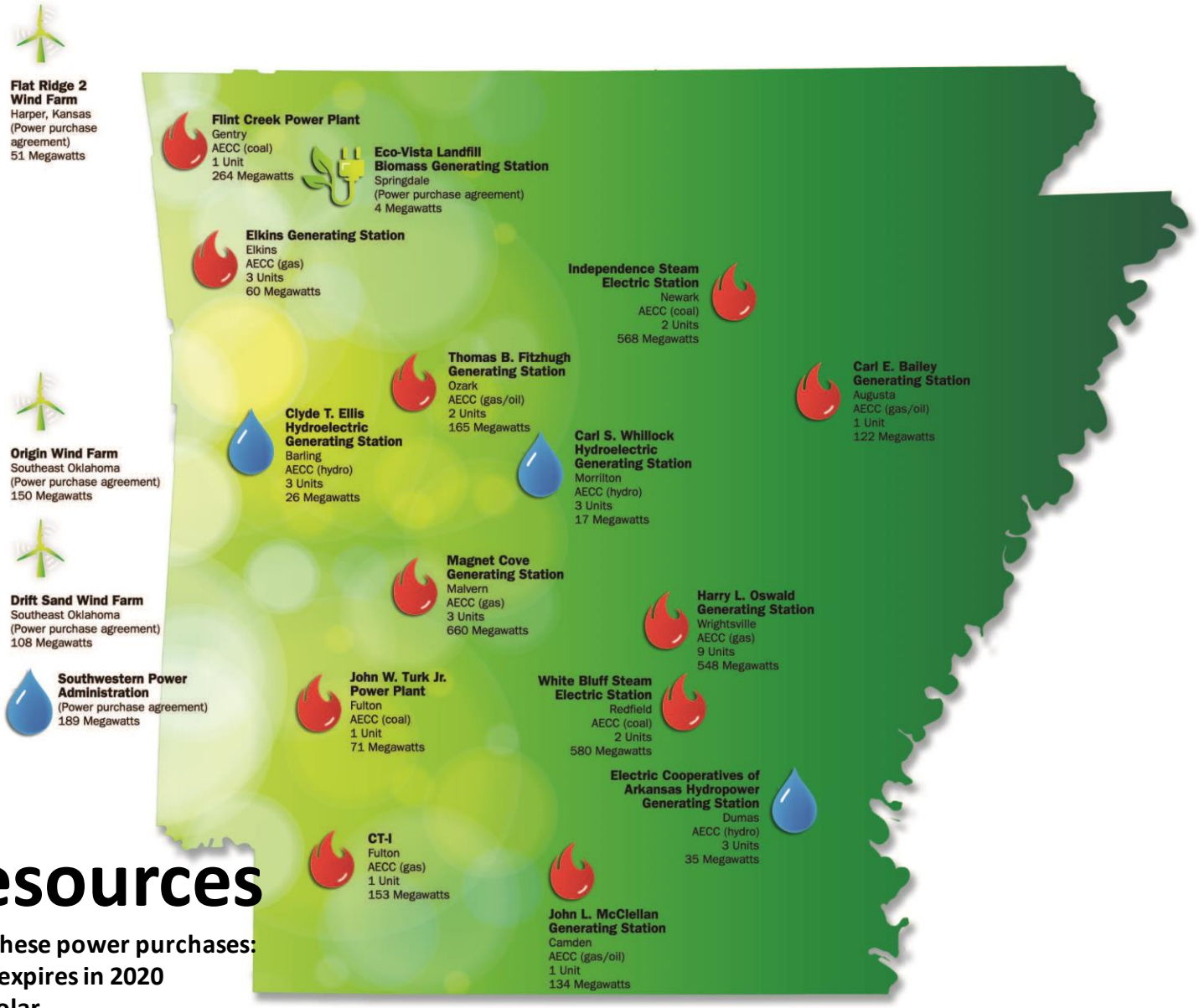
AECC Resources



Map does not include these power purchases:

150 MW NE Texas Gas, expires in 2020

12 MW Silicon Ranch Solar

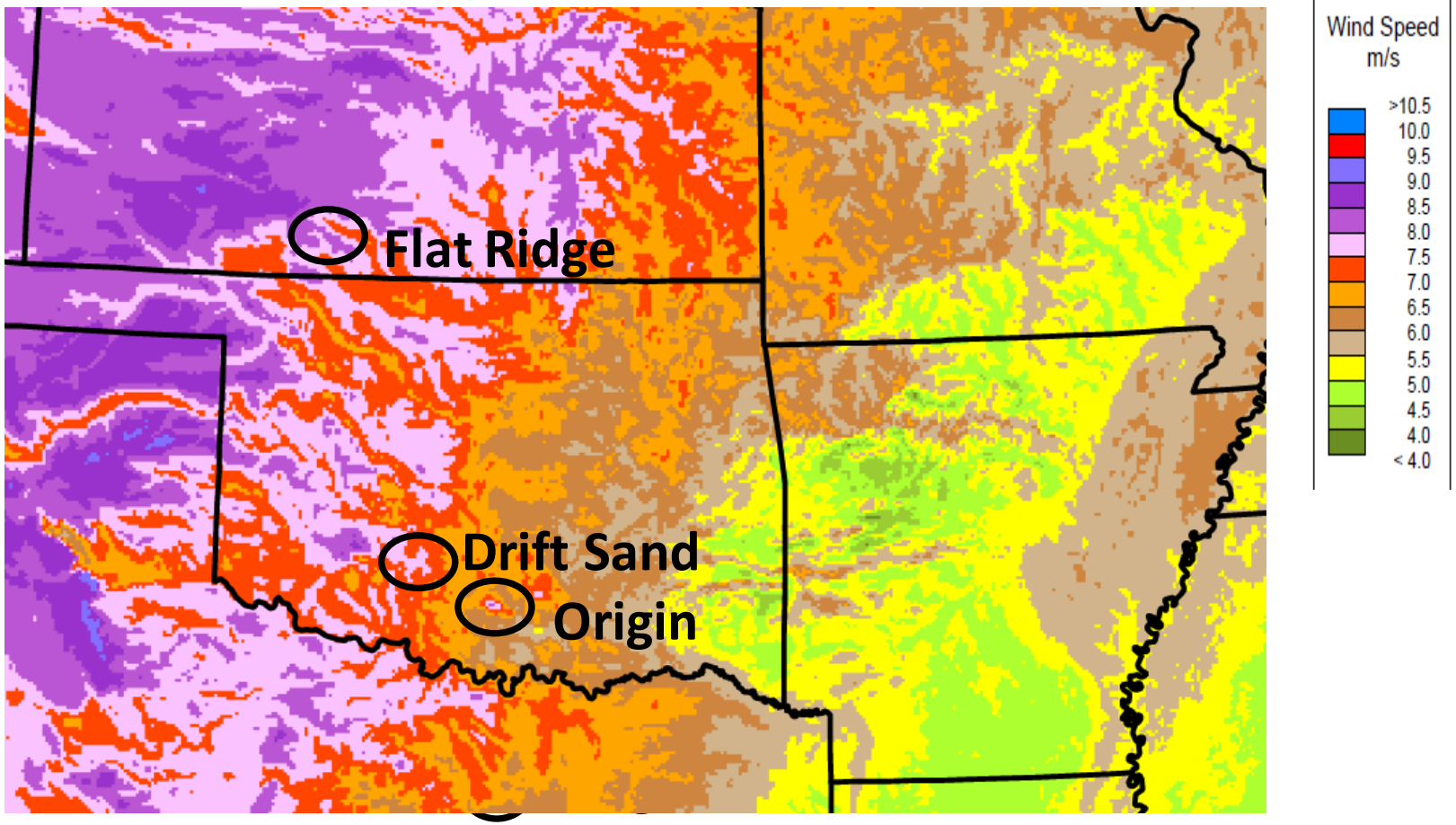
1 MW Ozarks ECC Solar

3.7 MW Augusta Hydro

1.5 MW Fort Smith Hydro

20 MW Osceola Plum Point Coal

Average Wind Speed at 80 Meters



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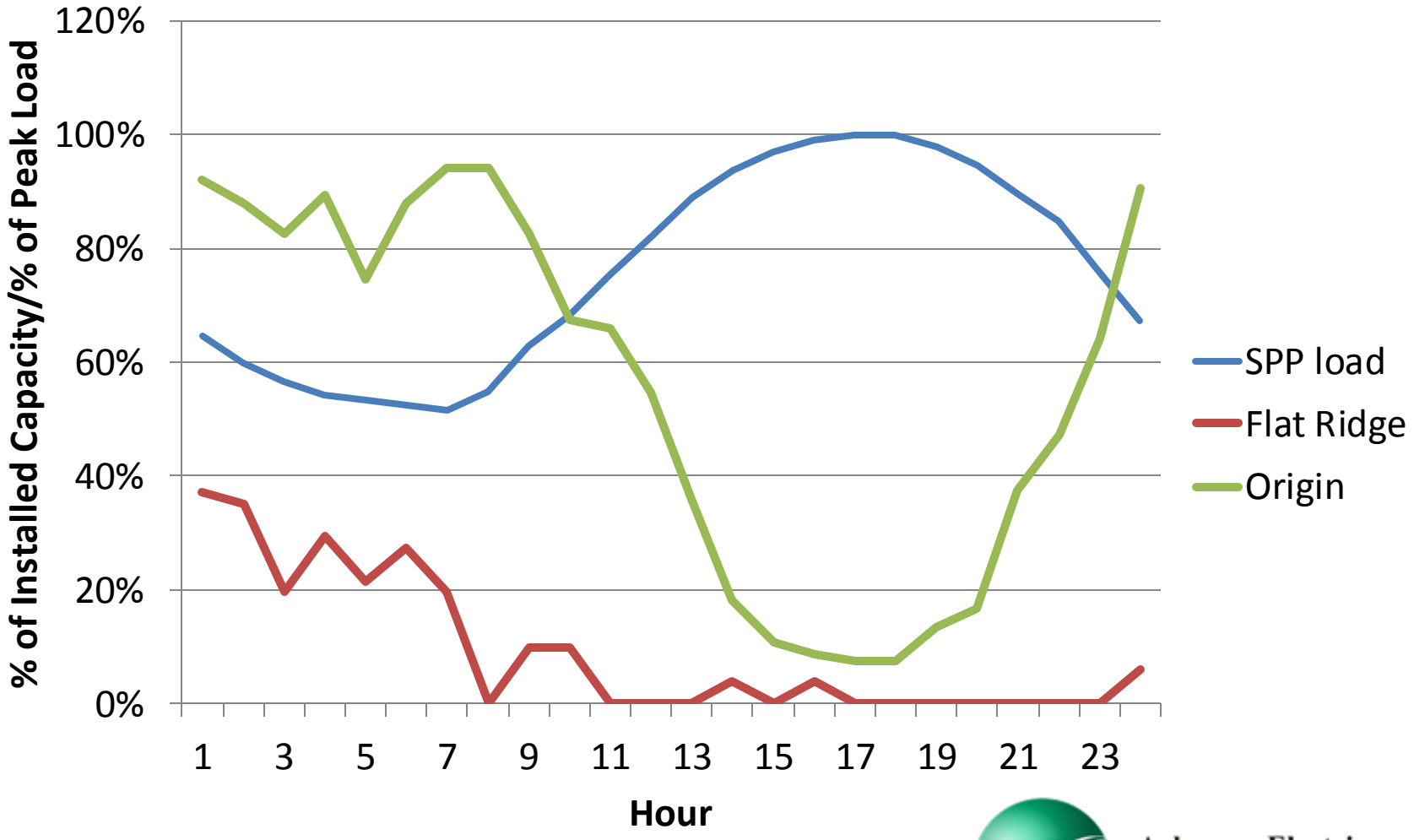
Wind Generation and Load; August 9, 2015



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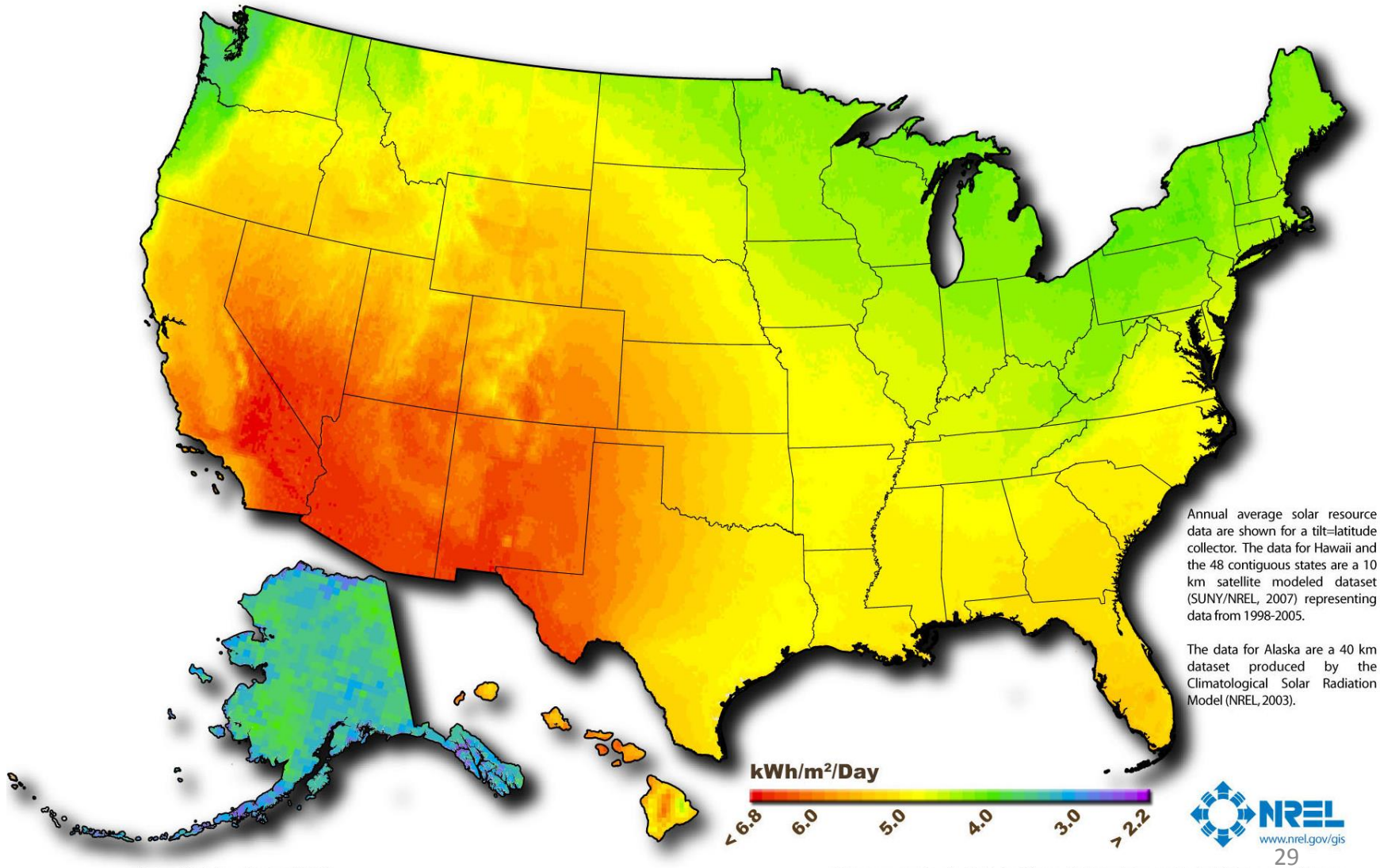
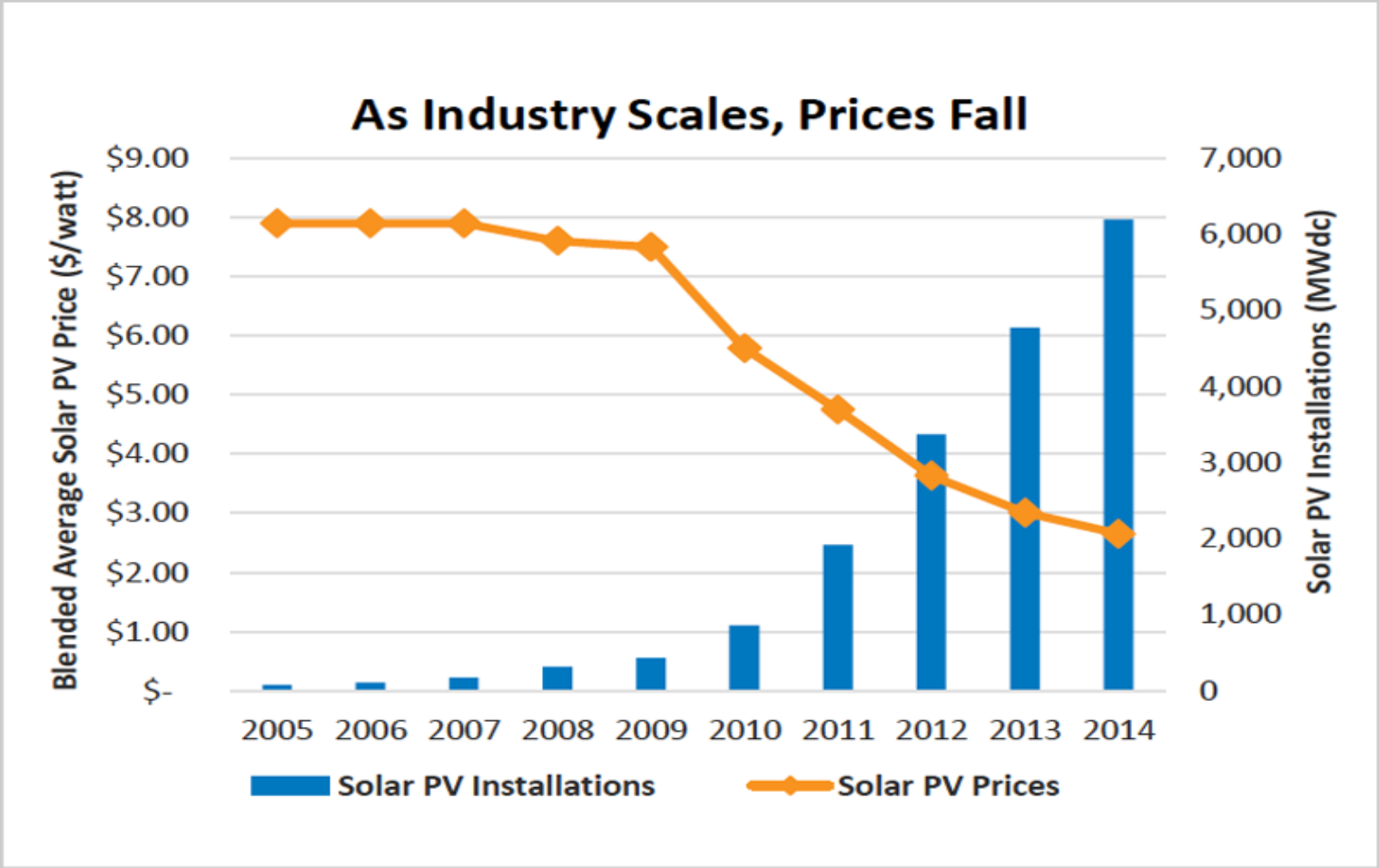
Solar PV Potential



Solar PV Potential

Year-to-date 07/15,
Solar provided .7% of US electricity



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Questions?

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