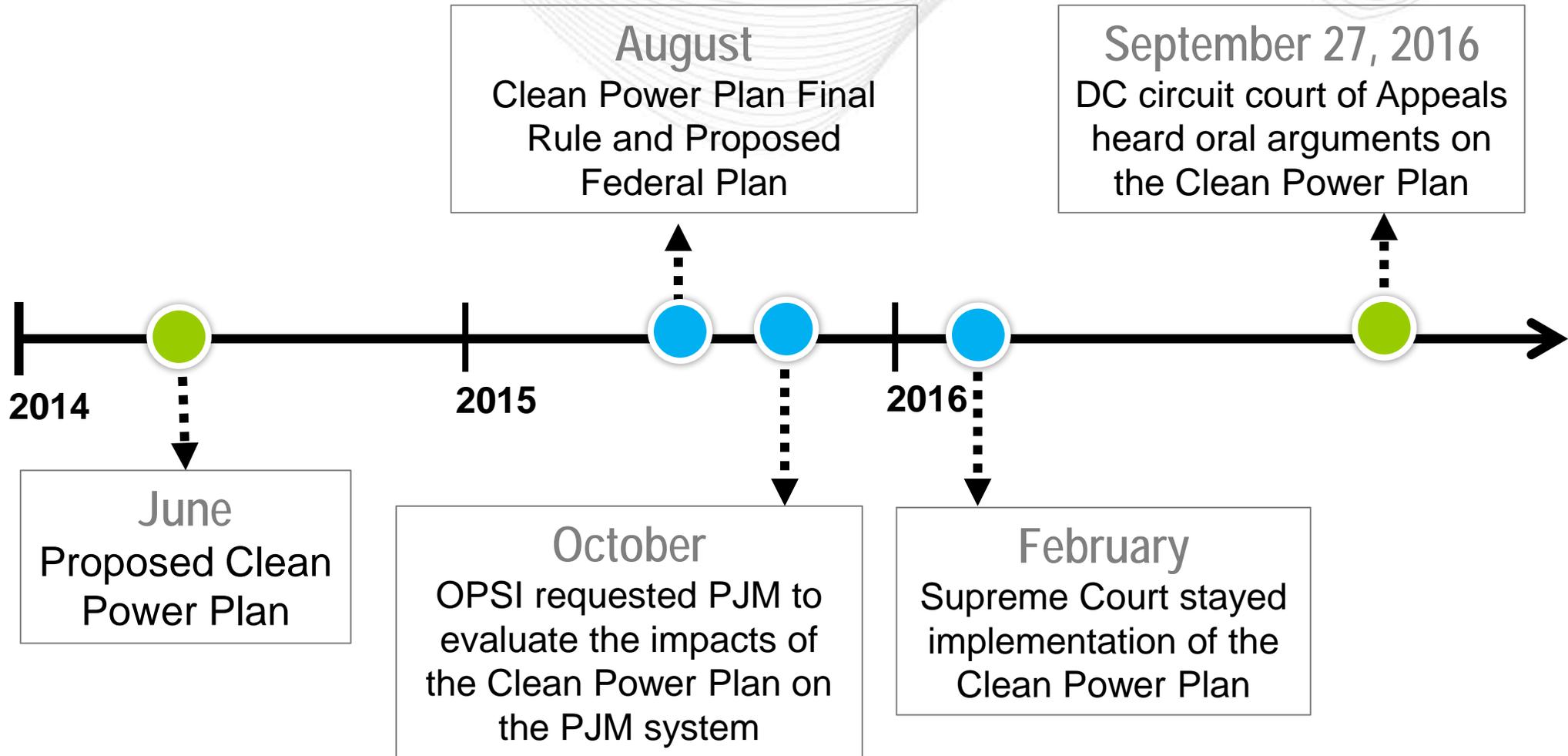




# The Clean Power Plan and PJM's Market Efficiency Planning Process

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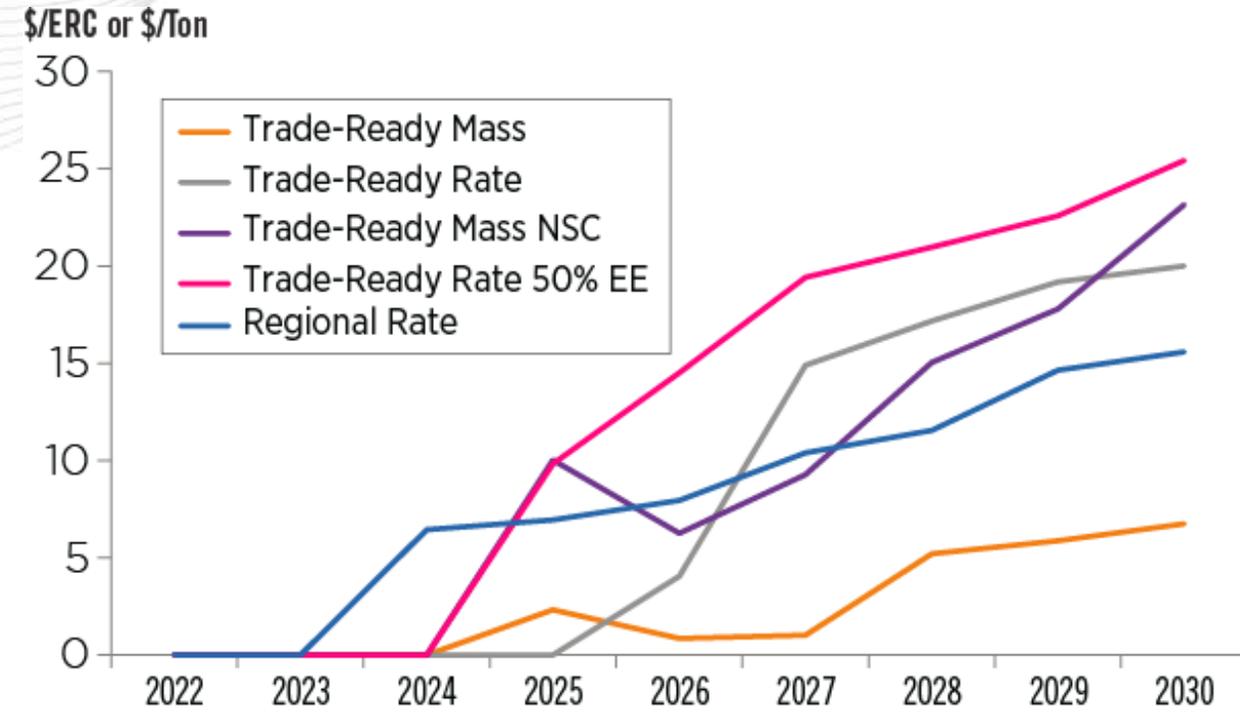
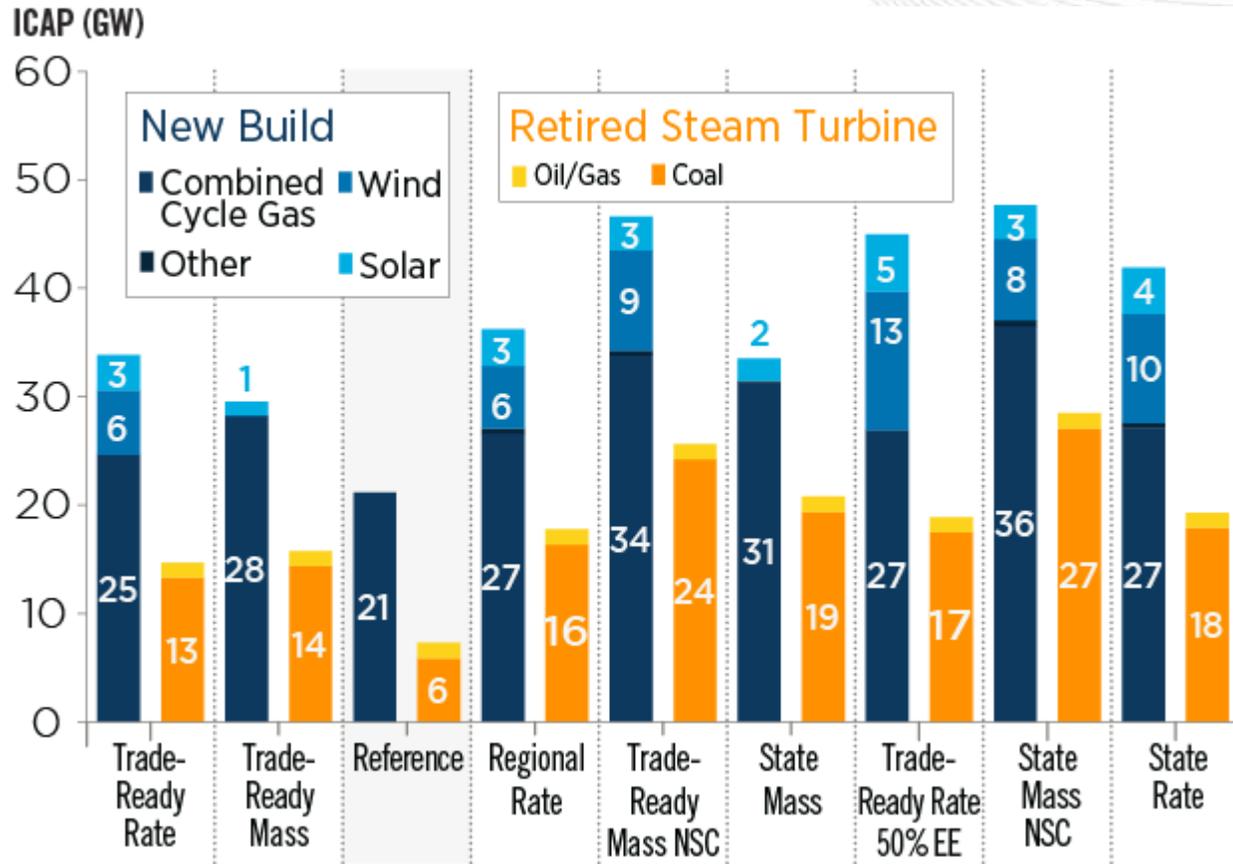
# Clean Power Plan Future Still to be Determined





# Clean Power Plan Analysis VS. Market Efficiency Model

	CPP Model	Market Efficiency Model
<b>Study Objectives</b>	<b>Minimize compliance and load cost but states have many other criteria for choosing a compliance path</b>	<b>Mitigate transmission congestion with project approval based on exceeding 1.25 Benefits-to-Cost Ratio</b>
<b>Fuels</b>	ABB Spring 2016 reference case	ABB Spring 2016 reference case
<b>Generator Operating Characteristics</b>	ABB Spring 2016 reference case	ABB Spring 2016 reference case
<b>Generator Retirements</b>	Announced and regulatory driven economic retirements	Announced retirements
<b>Thermal Generator Entrants</b>	Economic and planned under construction	FSA and ISA units
<b>Wind and Solar Entrants</b>	Planned and economic based on NREL technical sites	FSA and ISA units
<b>External World</b>	Injection and withdrawal model	PJM + neighbors economic interchange with hurdles



**Not shown:** State compliance pathways lead to a different CO<sub>2</sub> price by state. Some states' CO<sub>2</sub> prices are higher than the trade-ready price and others are lower.

State Compliance Choices will Drive Different Transmission Solutions to Address Reliability for Various Resource Futures

- CO<sub>2</sub> price curves from PJM CPP analysis are based on EPA's CO<sub>2</sub> targets for CPP compliance and are very sensitive to model assumptions
- Federal district court and ultimately supreme court decisions may change the rule's implementation
- States have seven different compliance pathways and their choices will have very different impacts on resource entry and exit
- Ultimately policy and regulatory framework to enforce CO<sub>2</sub> limits creates significant uncertainty for infrastructure planning within PJM's Market Efficiency base case development or for sensitivity analysis

Inadvisable at this Time to Incorporate CO<sub>2</sub> Prices into PJM's Market Efficiency Analysis