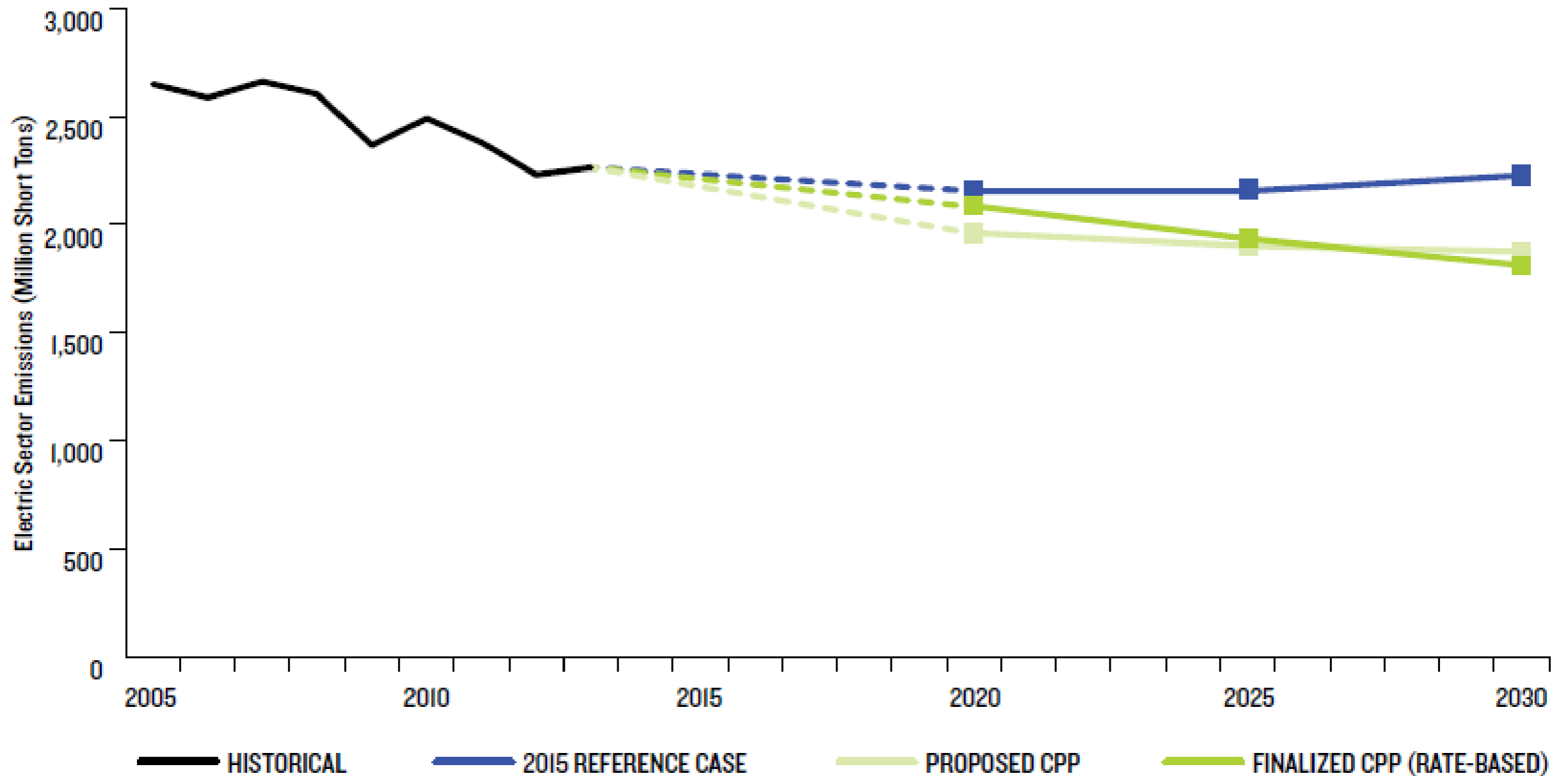

Mass-based Compliance Options

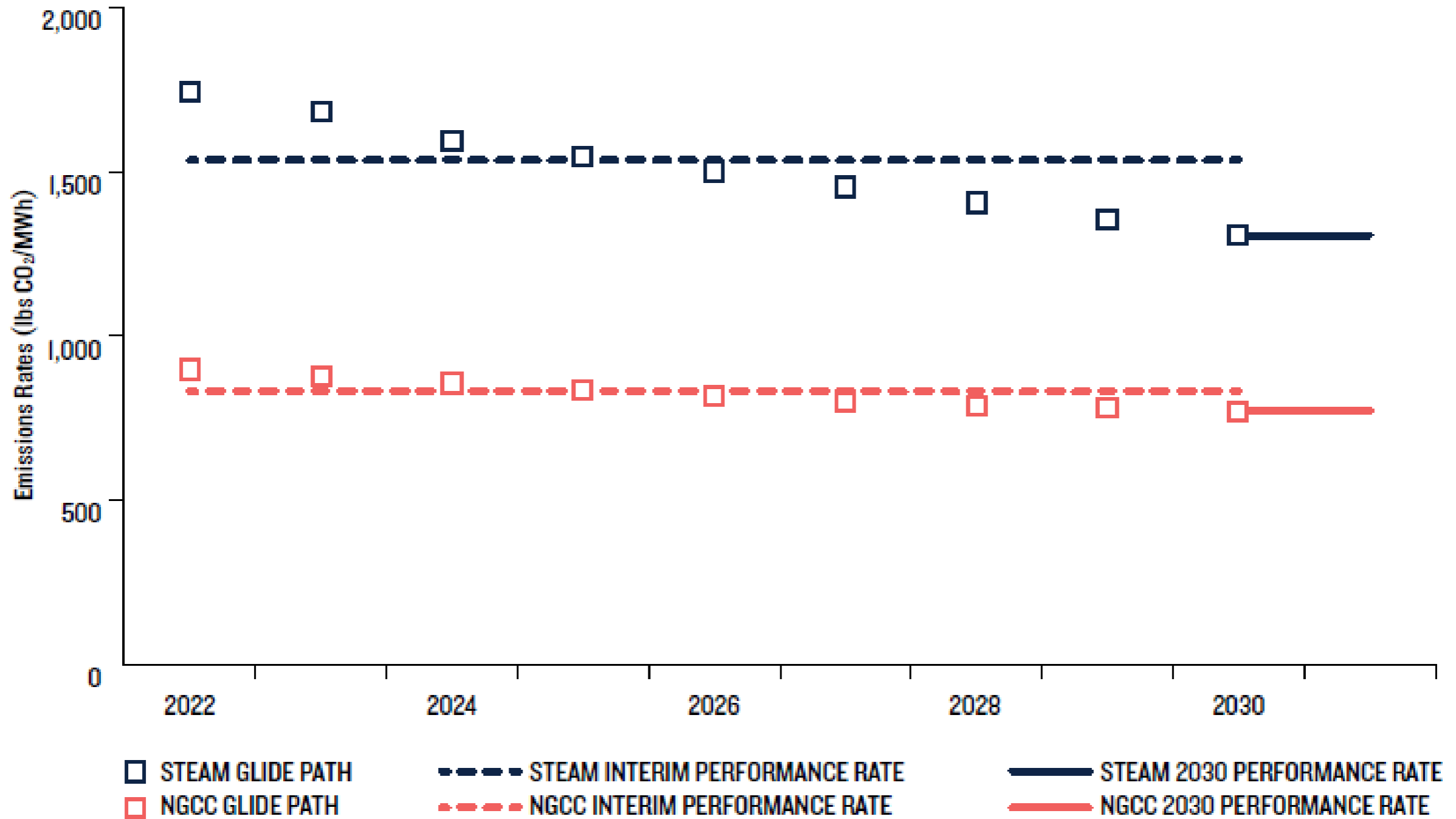


SEPTEMBER 2015

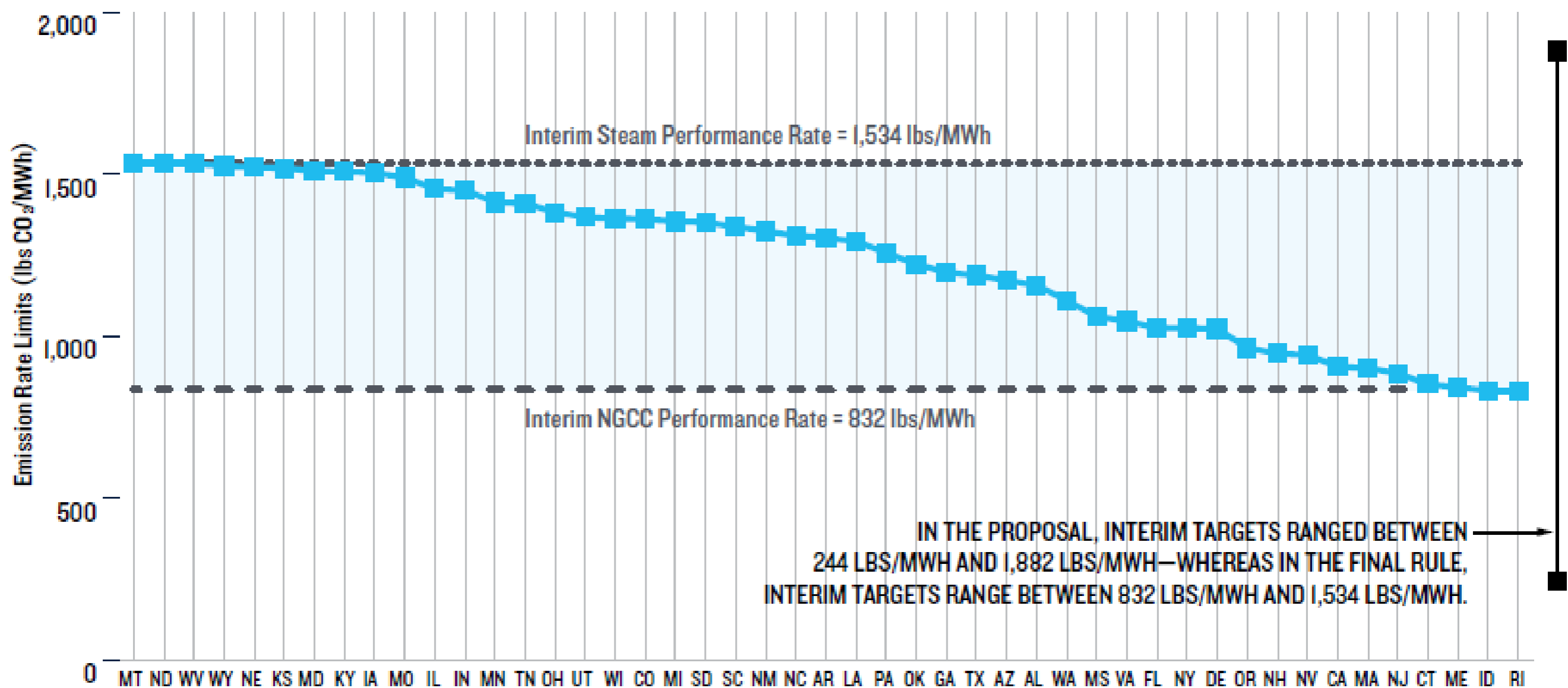
Projected National CO2 Emissions Under the CPP



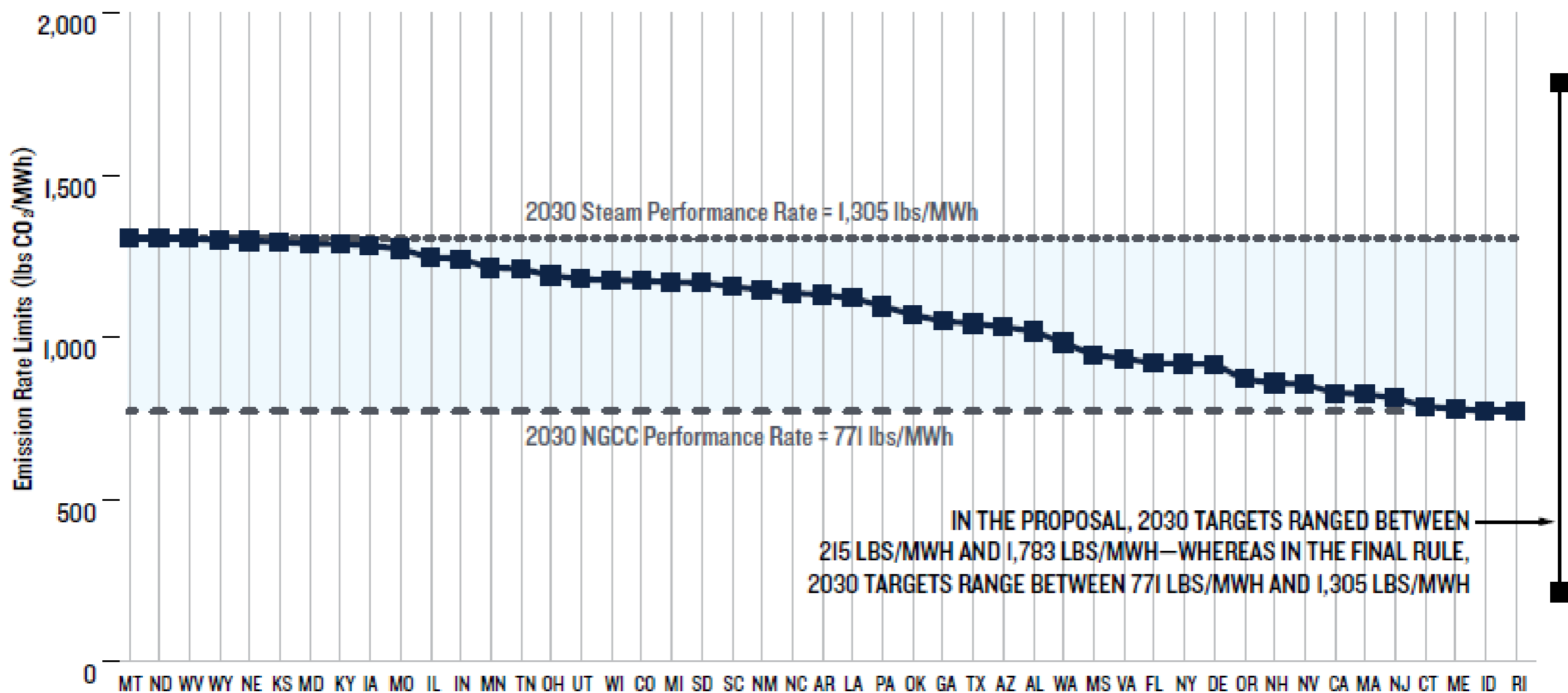
National Emissions Rate Limits by Power Plant Type



Interim Power Plant Limits by State, 2022-2029



Final Power Plant Limits by State in 2030



MASS-BASED COMPLIANCE STRATEGIES



Two “mass-based” plan options

1. “Existing Only”: Emission reduction limits only apply to existing (running or under construction in 2012) generators.
 - In this case, the state will need to include additional provisions that address “leakage”, or a shift of emissions from covered to uncovered (new) sources.

2. “Existing + New”: Emission reduction limits apply to both existing and new fossil generators.
 - EPA includes a “new source complement”, which provides states with additional emissions to meet forecasted increases in load demand.

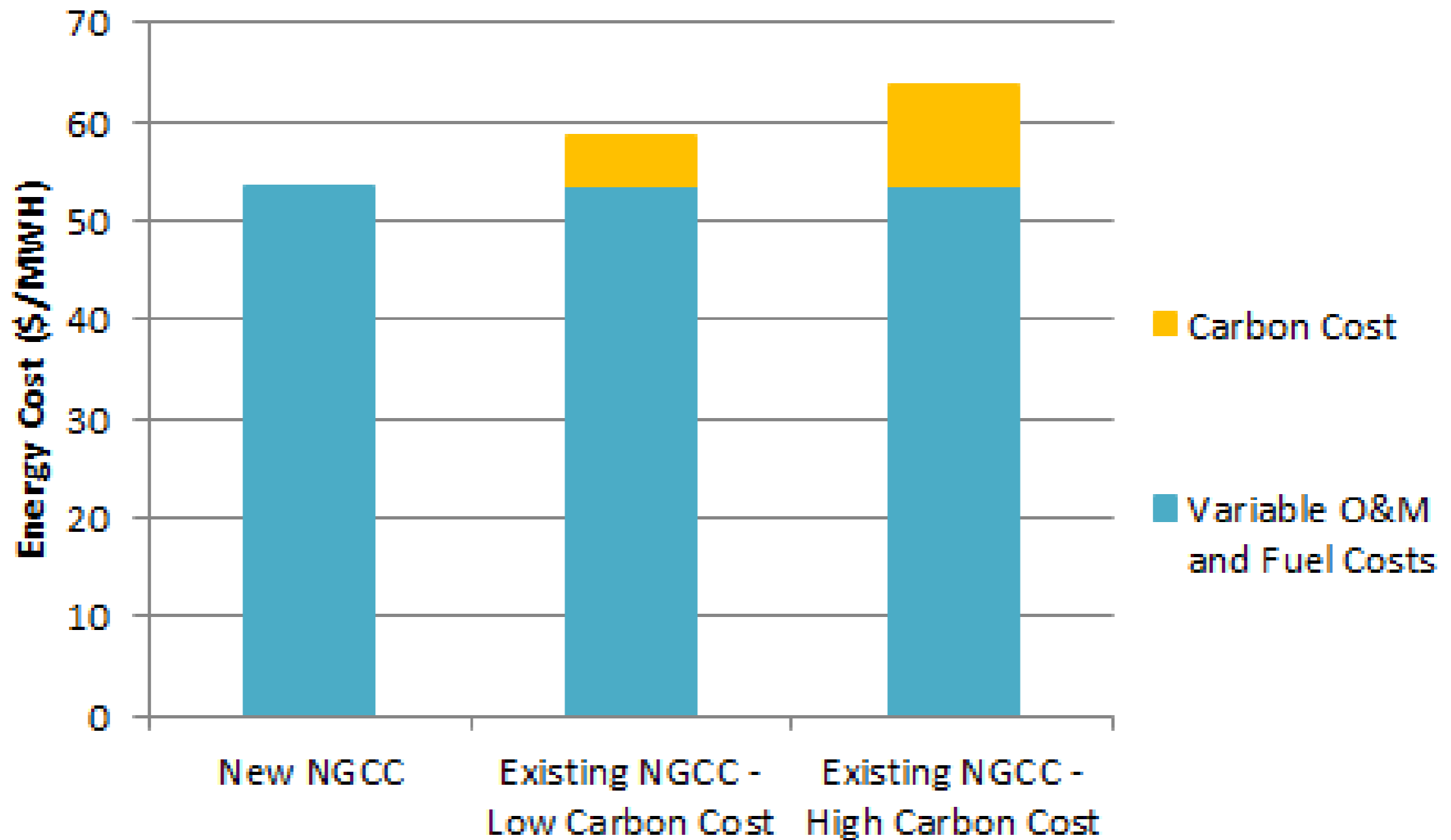
BENEFITS OF INCLUDING NEW SOURCES



Economic Benefits

- Including new sources creates a level “playing field” in the market.
- Allowance prices are considered a marginal cost in the wholesale power market. Affected sources must include these costs in their energy bids.
- Under “existing only,” new generators will not need to include allowance costs in their bid. This will allow new sources to bid lower than affected, existing sources.

Existing vs. New Sources in the Market

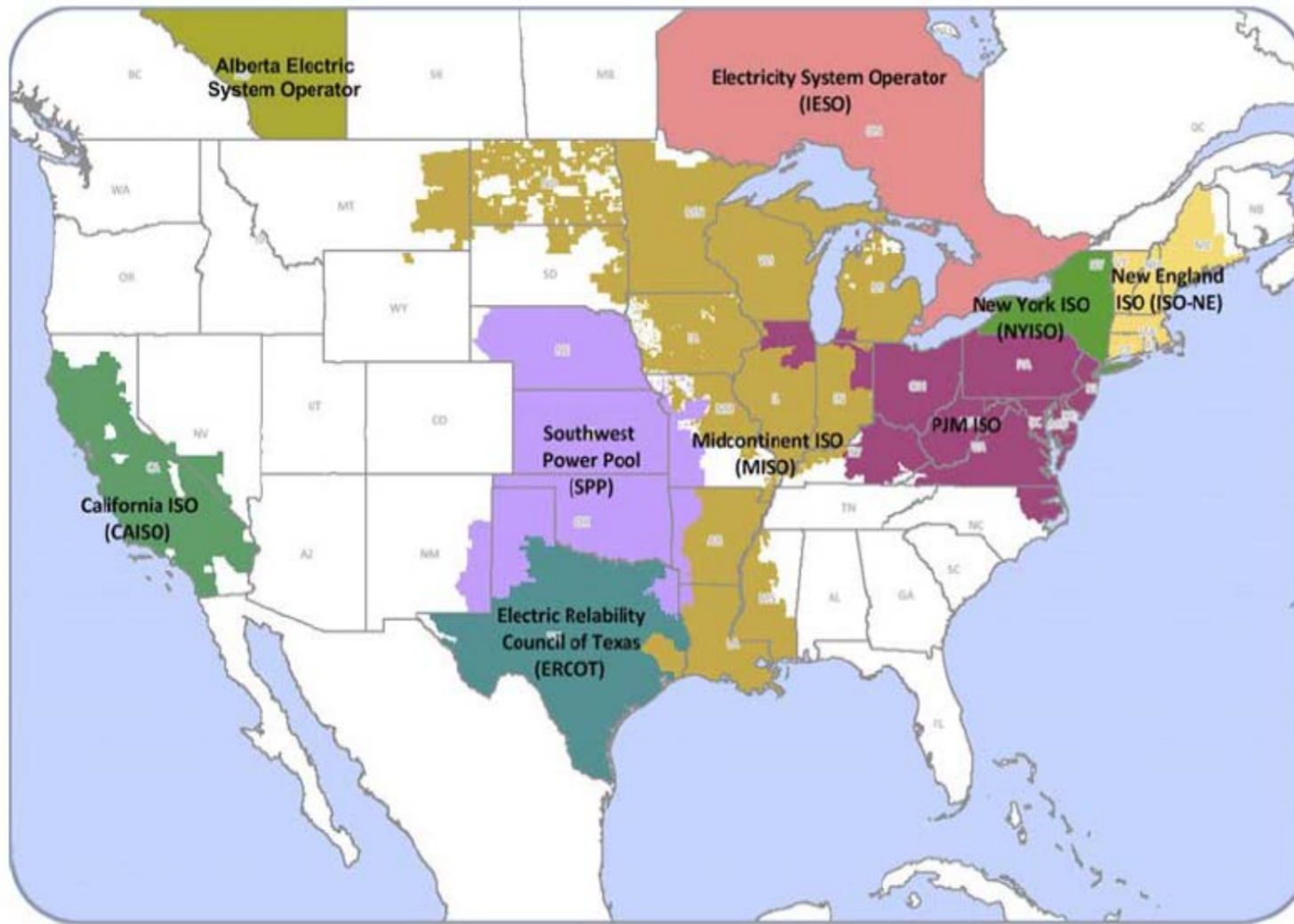


Potential Market Impacts

- Differential treatment of new and existing power plants could make some existing NGCC plants less competitive than new plants, despite the similar emissions profile.
- This differential could lead to unnecessary buildout of new fossil plants and potentially the retirement of existing NGCC.
- Including both existing and new units so that both are subject to the same carbon costs avoids these potential impacts.

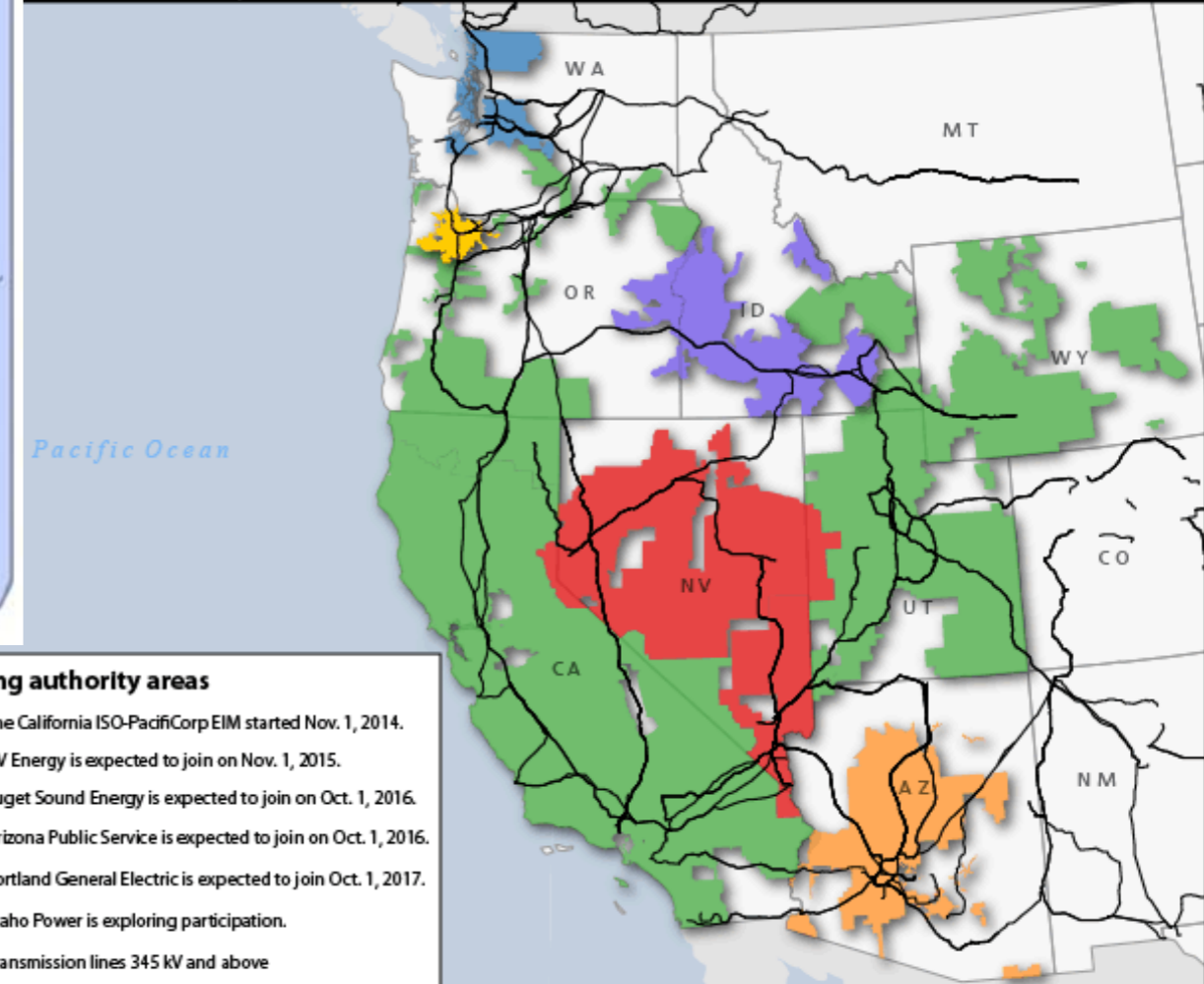
Goal: Fair & Competitive Energy Markets Across the U.S.

Current ISO/RTOs (FERC)



Western Development - EIM

regional energy imbalance market



Data as of Sept. 24, 2015.
Source: SNL Financial
Map credit: Alip Artates

Environmental Benefits

- Under an “existing-only” plan, affected sources may *shift* generation (and emissions) to non-covered fossil plants, instead of *reducing* total fossil emissions. Since new source emissions are not covered, total emissions may be higher than anticipated.
- EPA requires that state plans avoid “leakage” of generation from existing to new sources. These requirements are good but it is hard to capture all leakage and better to avoid leakage in the first place.
- Including new sources avoids leakage and ensures that power plants achieve reductions that are consistent with EPA’s “best system of emission reduction” and the established emission limits.

Strategic Benefits

- Existing plus new plans are more straightforward.
- States that choose an existing-only mass-based plan must include: requirements that address leakage, additional information and a demonstration that plans minimize leakage, or provide additional justification that leakage will not occur under the state plan.
- “Leakage provisions” could include instituting emission allowance set-asides for both new renewable generators and existing natural gas plants.
- New sources will become existing sources. When EPA updates the CPP standards (<8 years), new sources will transition to existing. Better to pull them in now.

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