



Colorado State University



Western States Clean Power Plan Initiative



Convening state official, utilities, and other stakeholders from 13 Western states since June 2014

CNEE's goal is to support the development and implementation of approvable state plans

www.westernstate111dplans.org/

What is the Clean Power Plan?

- An EPA rule under Section 111(d) of the Clean Air Act that sets federally-enforceable limits on carbon dioxide emissions from existing fossil fuel power plants
- Each state must develop and implement a plan to meet the requirements of the rule and submit their plan to EPA for approval
- If a state's plan does not meet the requirements, EPA can issue a federal plan to regulate the power plants in that state.

Section 111(d)

- Complements the standards for new sources under Section 111(b)
- 111(d) standards must reflect emission reductions achievable through application of the “best system of emission reduction” (BSER)
- The “BSER” must be adequately demonstrated and cost-effective

Best System of Emission Reduction

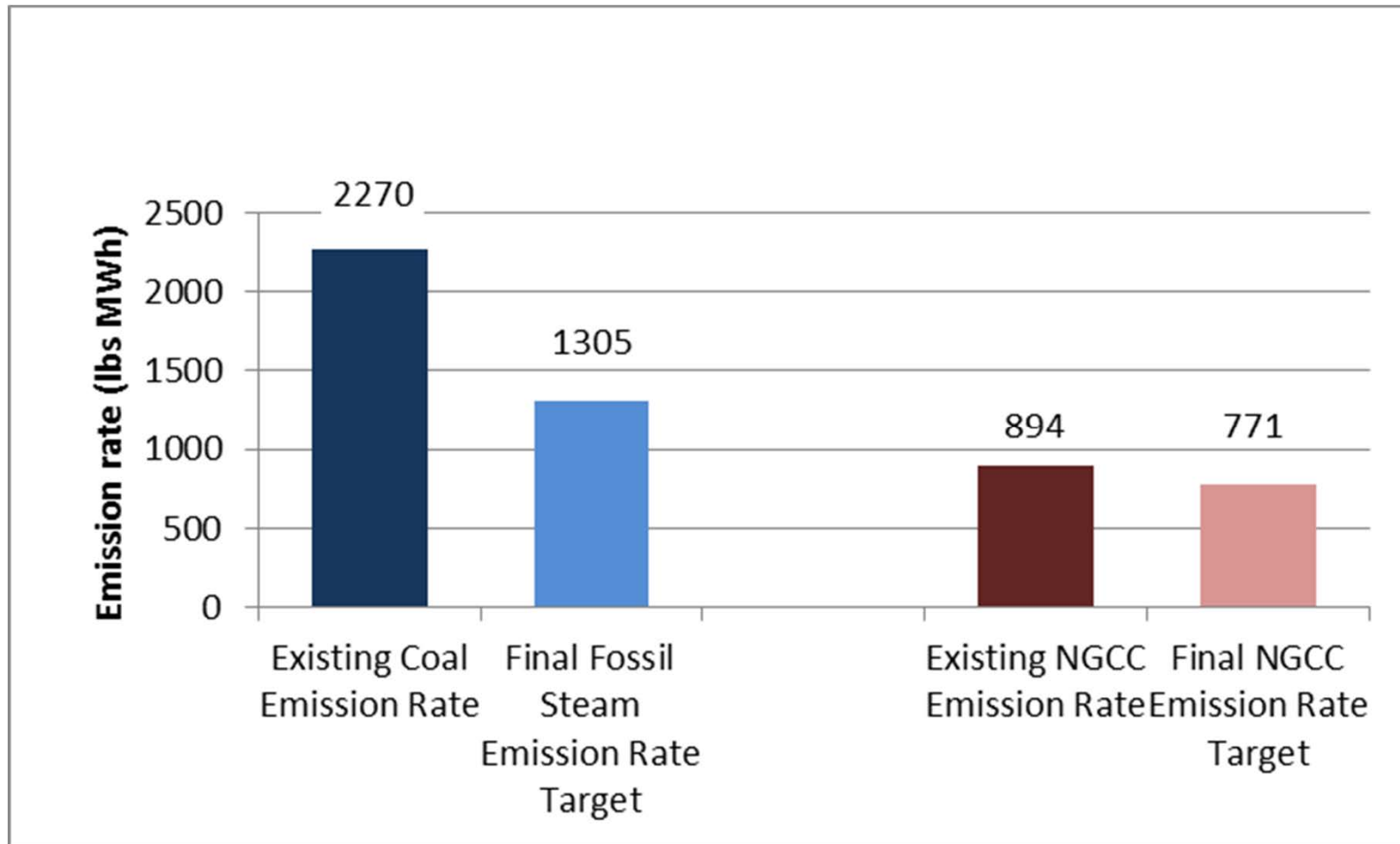
- BSER has typically been an “add-on” pollution control device
- No adequately demonstrated technology exists that can be cost-effectively installed at an existing power plant to reduce CO₂
- BSER for CO₂ from existing power plants on three “building blocks”
 1. make power plants more efficient
 2. re-dispatch generation from coal to existing natural gas plants
 3. add renewable energy to the grid

**Final Standard Expressed as an
Emission Performance Rate in # CO2 / MWHr**

National Standard: Applies to all existing power plants

Category	Final Standard (# CO2 / MWHr)
<i>Coal Plants</i>	1,305
<i>Natural Gas Plants</i>	771

How do current emission rates in the West compare to these new standards?

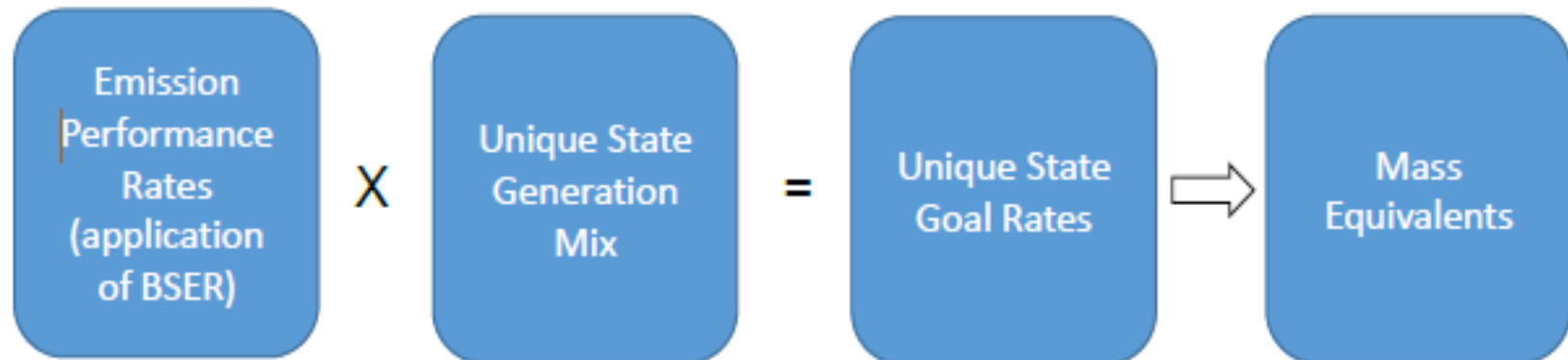


Emission Rate Credits (ERCs)

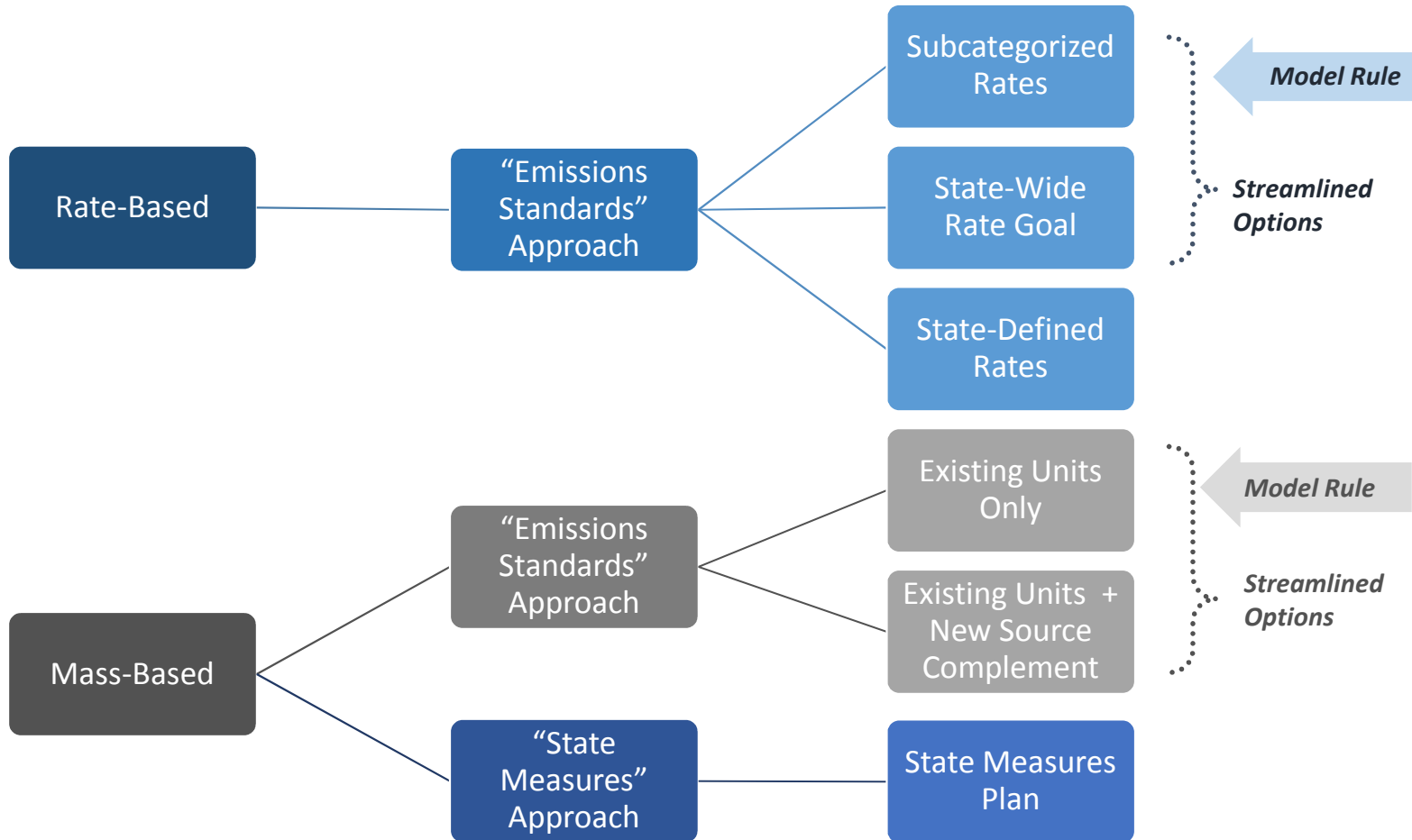
Eligible Resources	<ul style="list-style-type: none">• <i>New Renewable Energy</i>: wind, solar, geothermal, hydropower, biomass, wave & tidal• <i>Demand-Side Management</i>: zero-emitting actions that avoid electricity use• <i>Demand-Side Energy Efficiency</i>: measures that reduce electricity use in grid-connected buildings/equipment• <i>Transmission & Distribution</i> measures that improve efficiency• <i>Nuclear</i>: generation from new units and capacity uprates at existing units• <i>Combined Heat and Power</i> (with approved calculation method)
Resources NOT Eligible for Credits	<ul style="list-style-type: none">• New, modified, and reconstructed EGUs covered under 111(b)• Measures that reduce emissions outside the power sector• Existing (pre-2013) measures

Mass Based Compliance Option

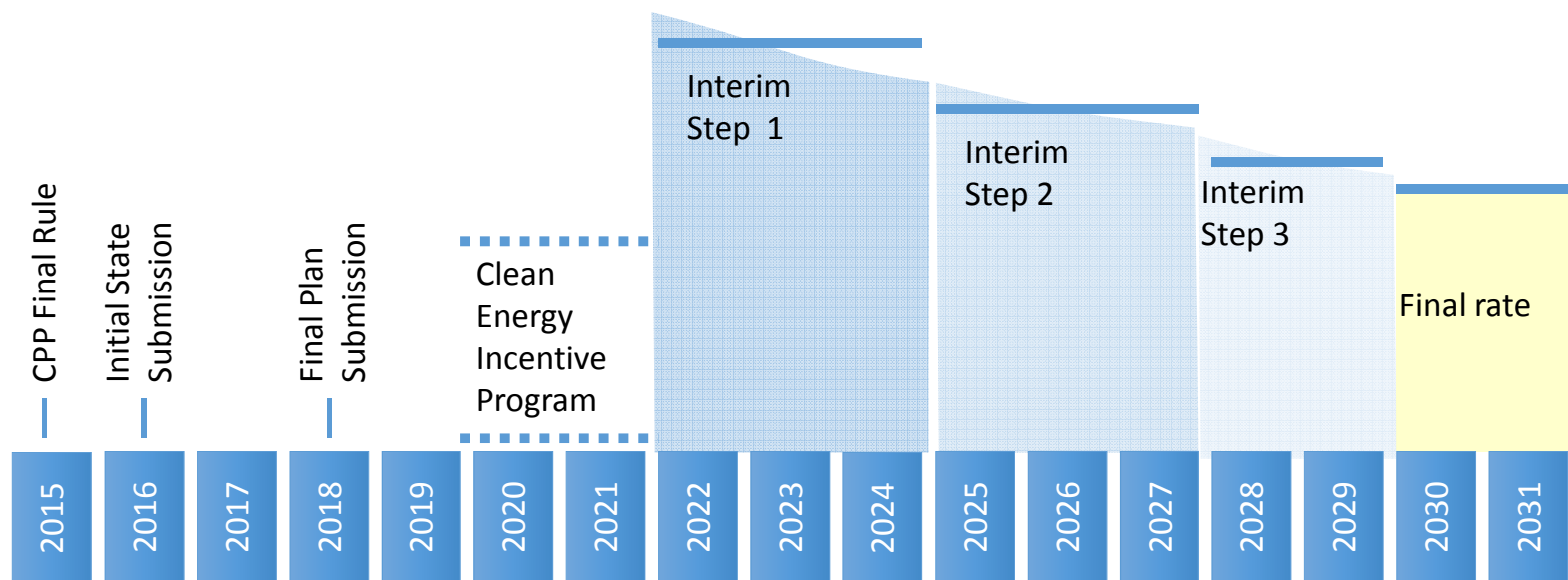
- Recognizing the complexity of the rate-based approach, EPA translated the emission rates into state emission budgets (tons CO2 per year)
- States have option to develop plans to comply on either a rate or mass basis
- Under mass, utilities show compliance by obtaining and then surrendering one allowance for each ton of CO2 emitted
- Utilities can trade with sources in the state or in other states (cap and trade)



State Plan Options



CPP Compliance Timeline

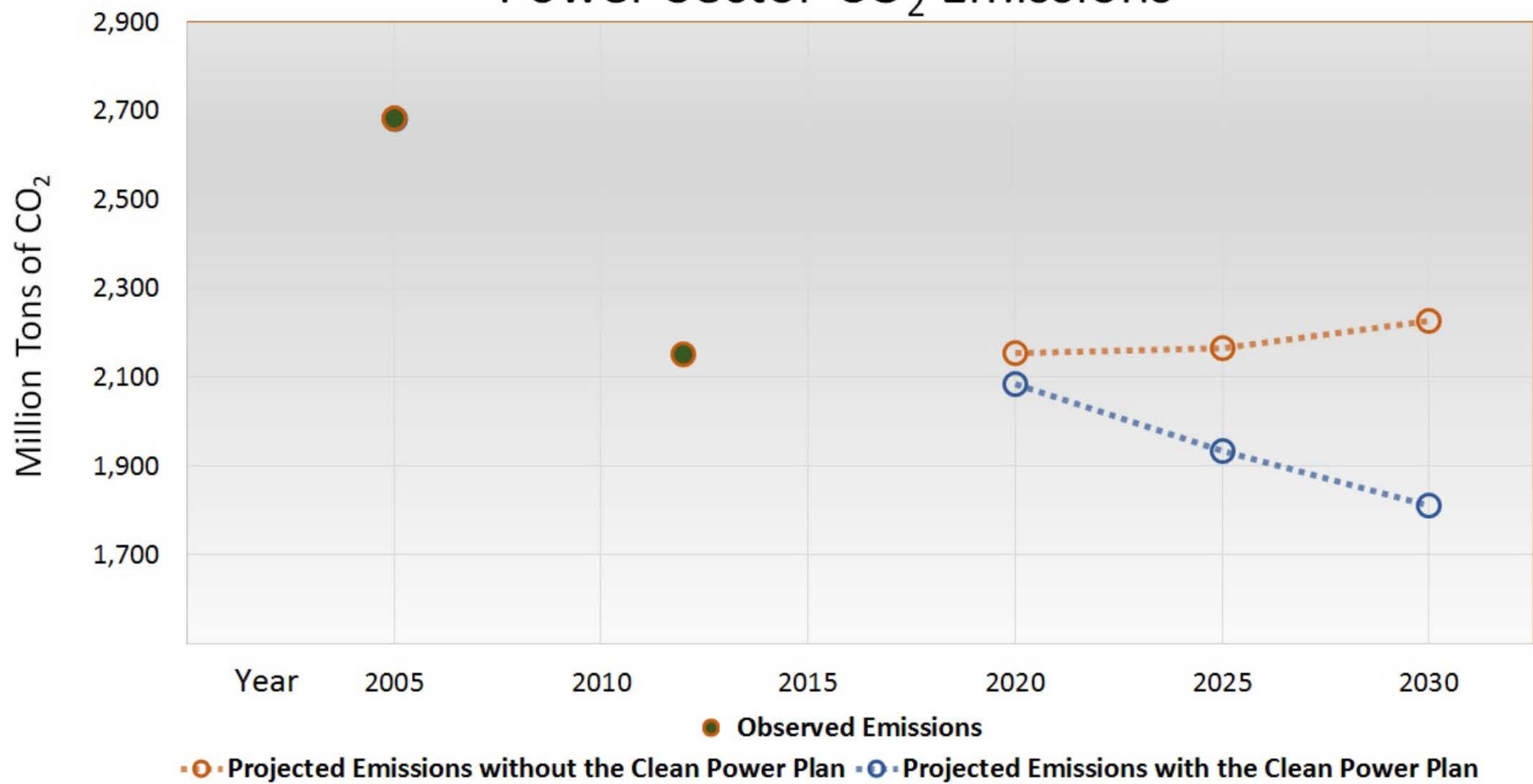


- US Supreme Court has put the rule on hold pending resolution of legal challenges

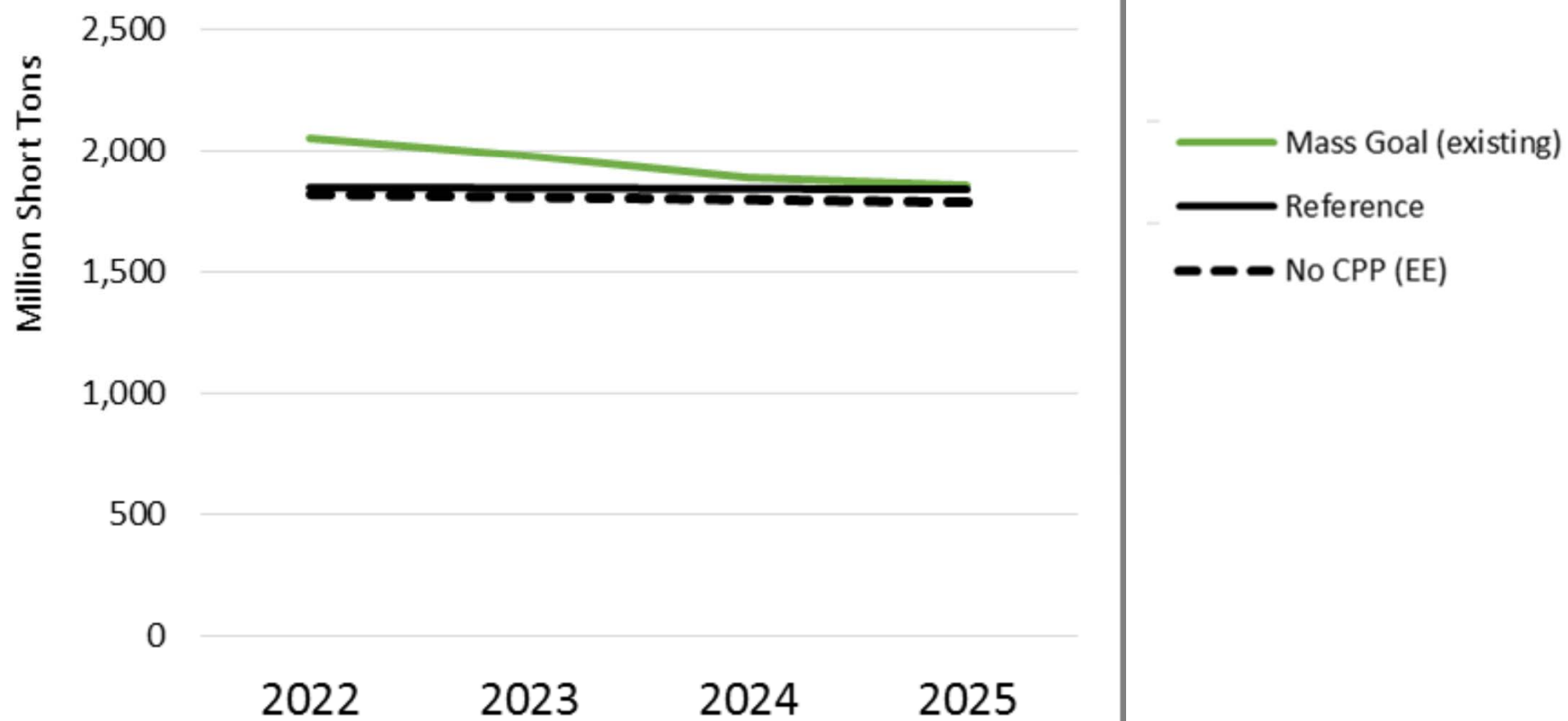
The Request for Stay

- Originally filed with DC Circuit, which denied
- Took request to SCOTUS, which issued the stay Feb 10, 2016
- In effect until:
 - SCOTUS denial of Certiorari, **or**
 - SCOTUS merits decision
- Unprecedented - in no other case has SCOTUS “granted a stay of a generally-applicable regulation pending initial judicial review in the court of appeals.”

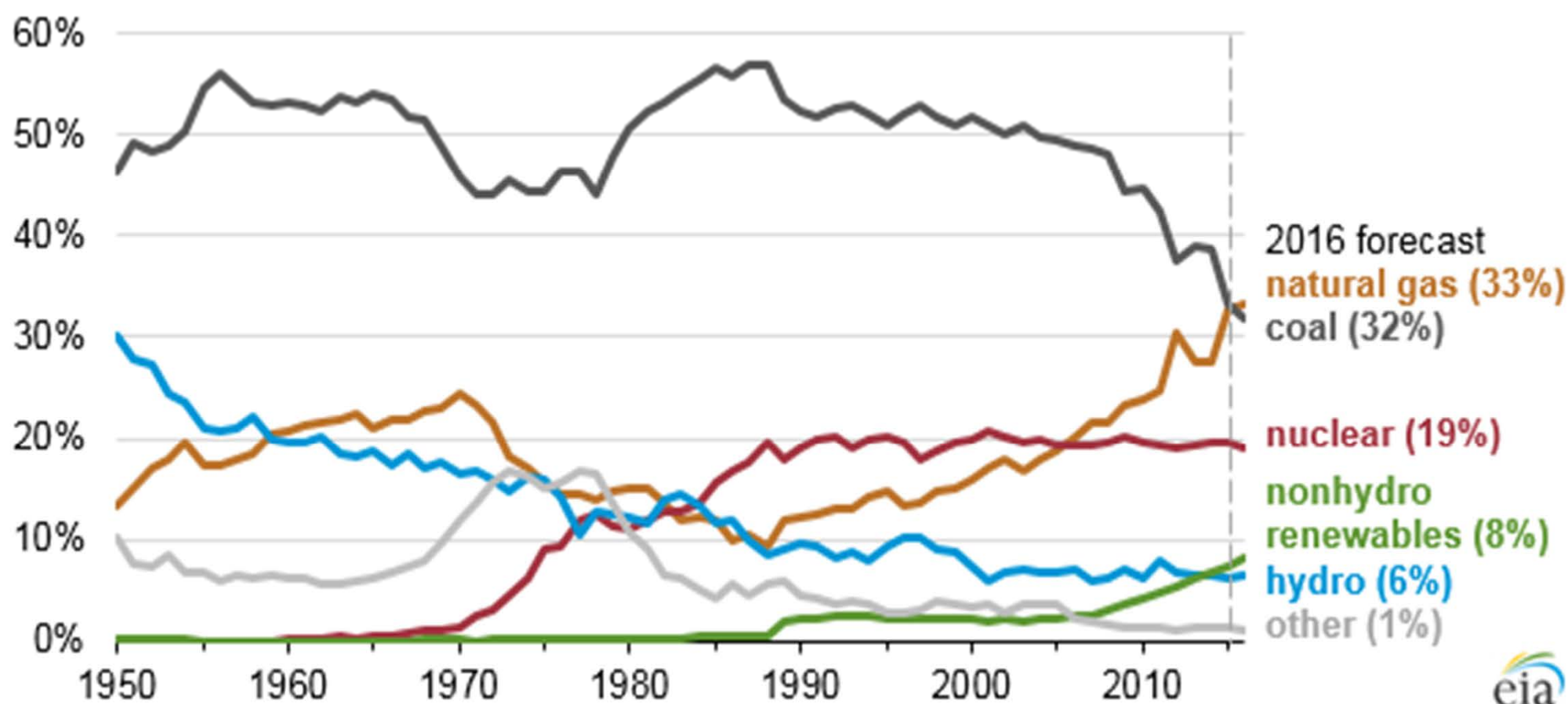
Power Sector CO₂ Emissions



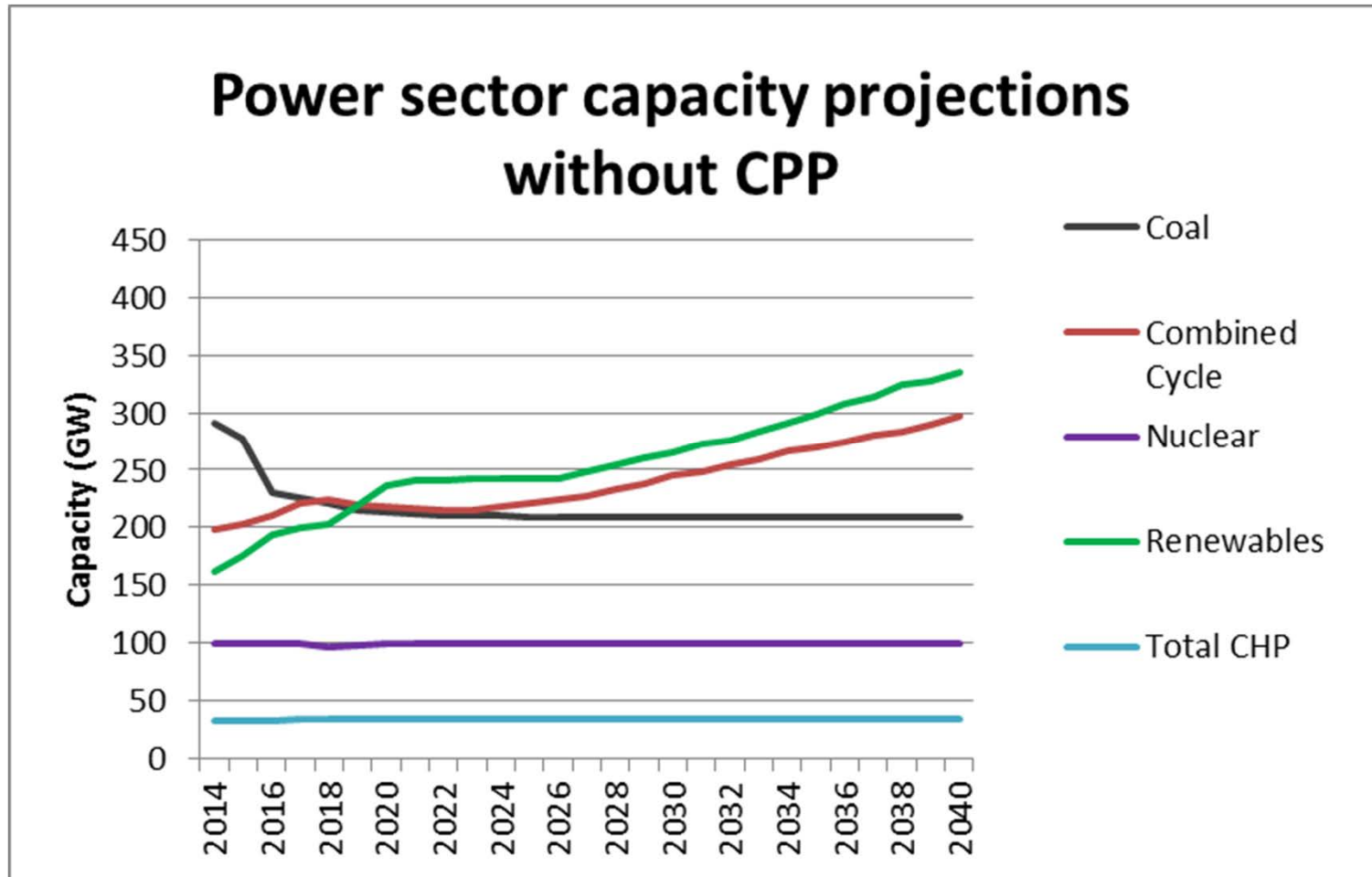
U.S. CO₂ for Existing Units



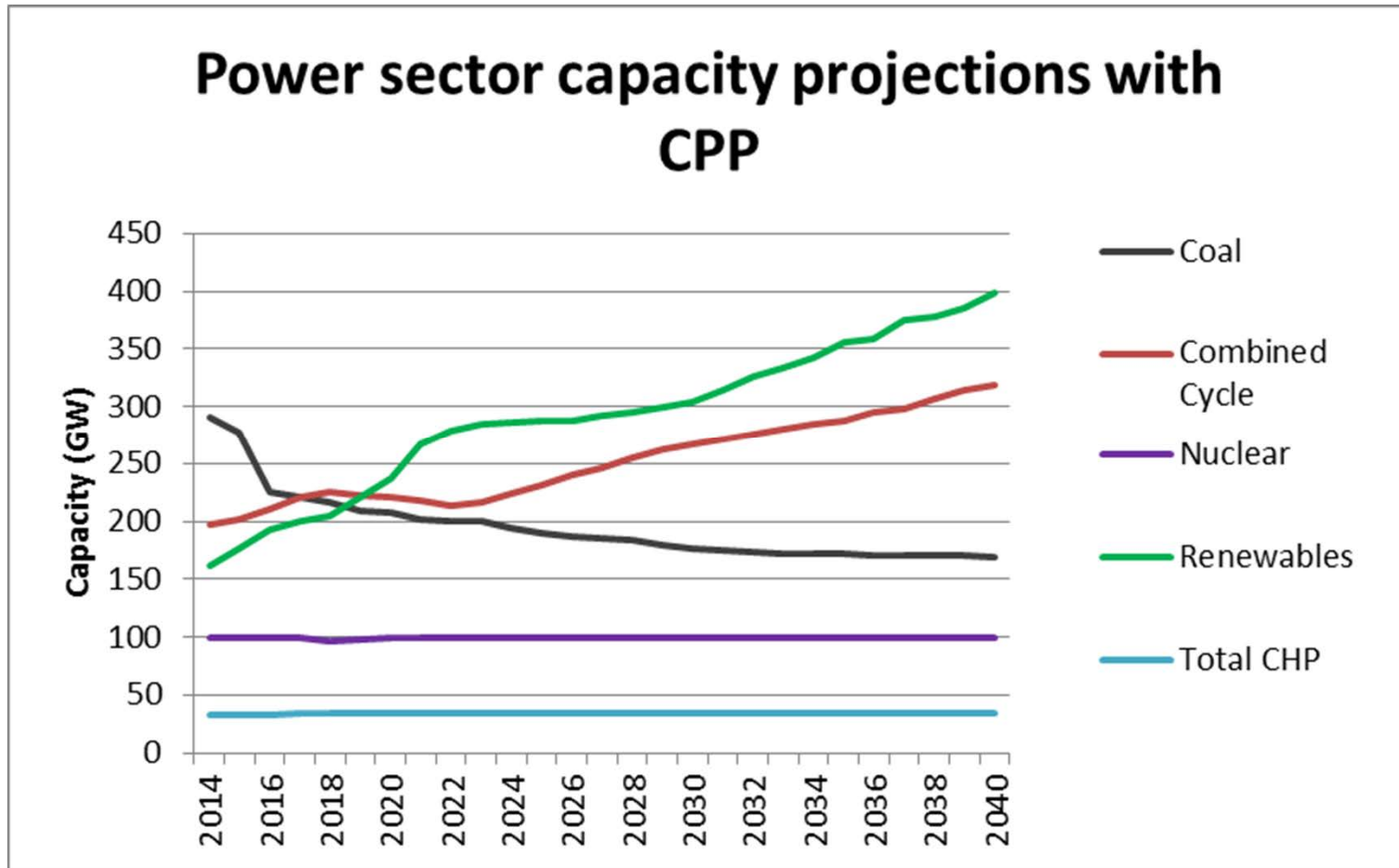
Annual share of total U.S. electricity generation by source (1950-2016)
percent of total

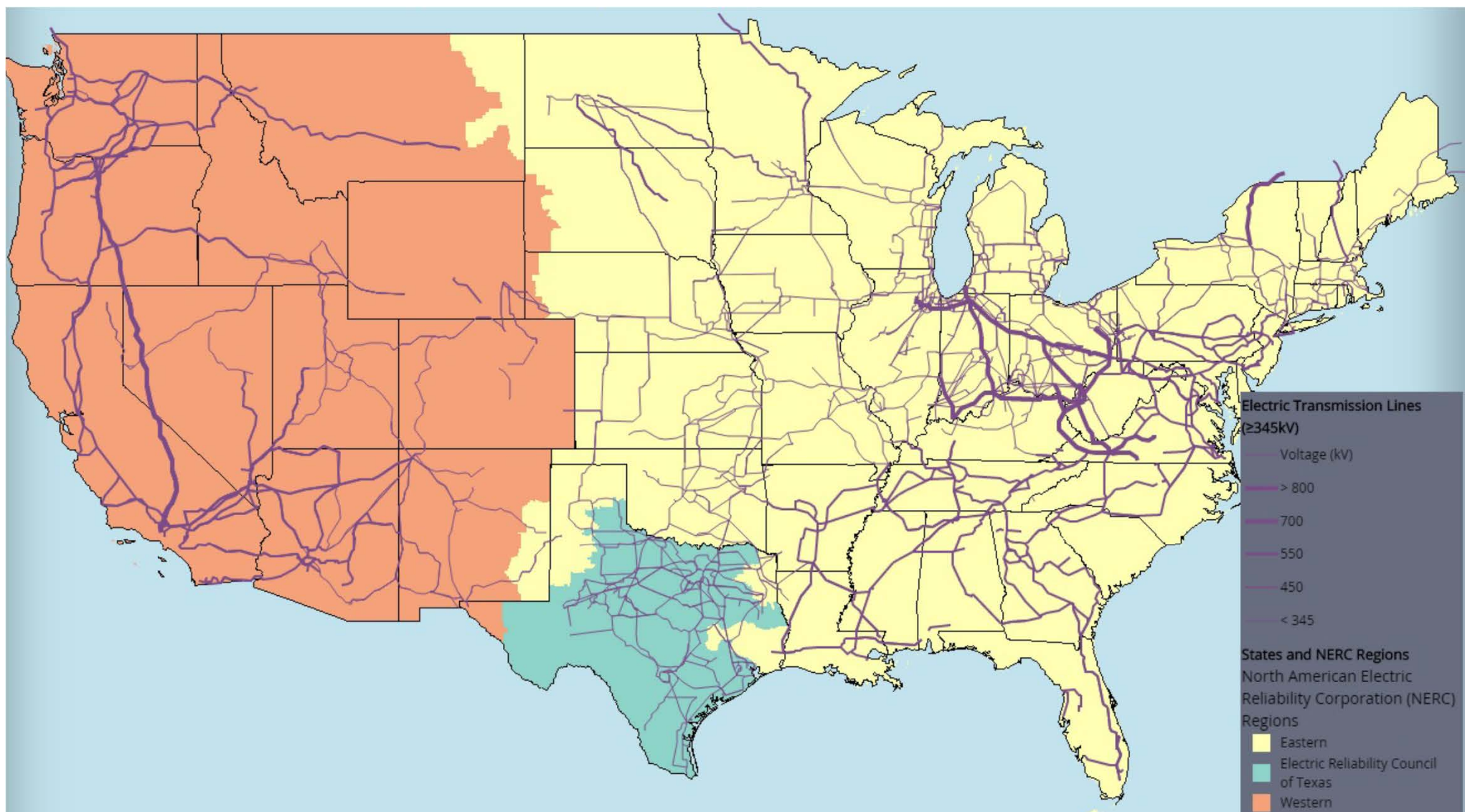


EIA 2016 Reference Case

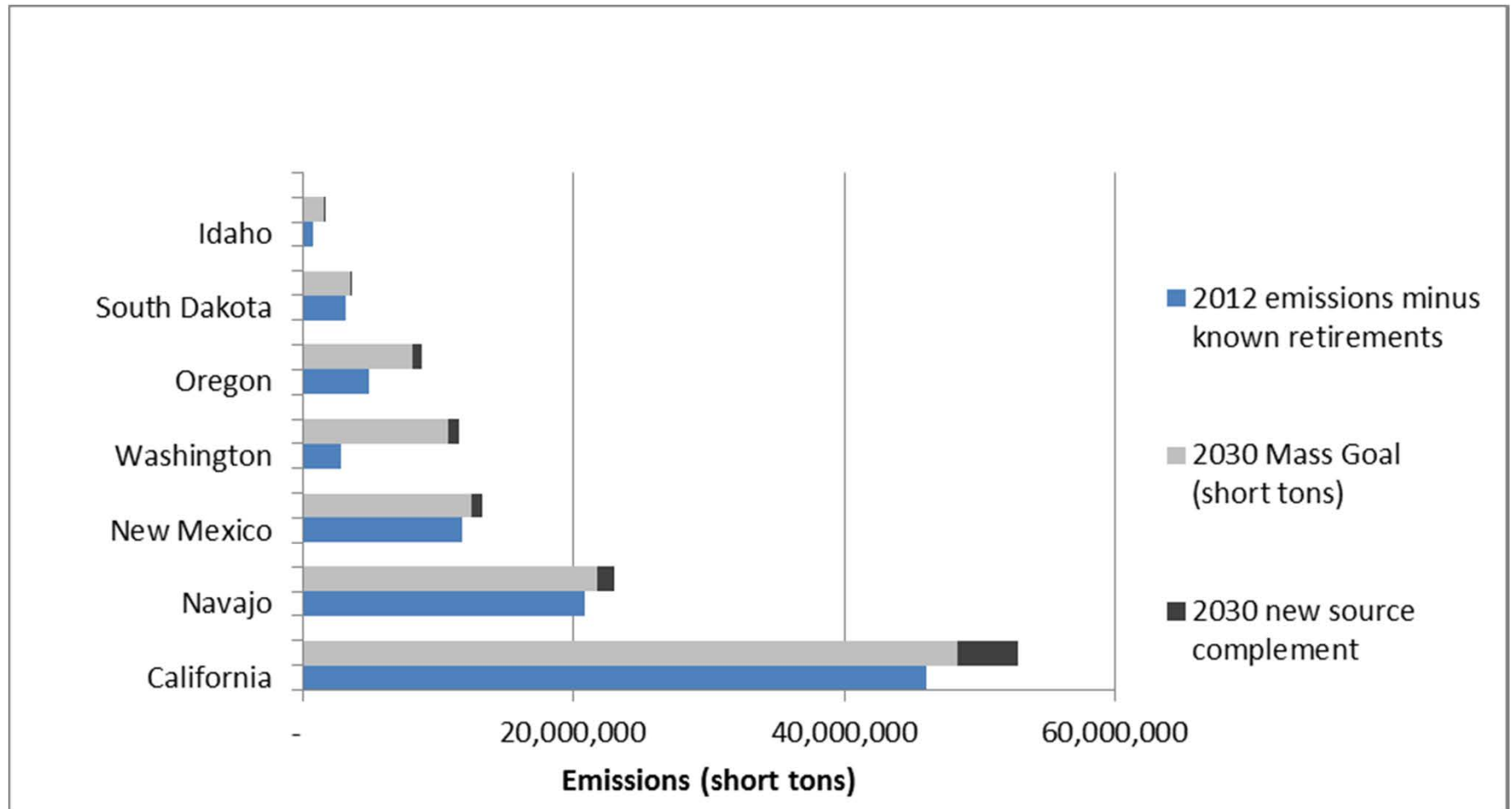


EIA 2016 Reference Case

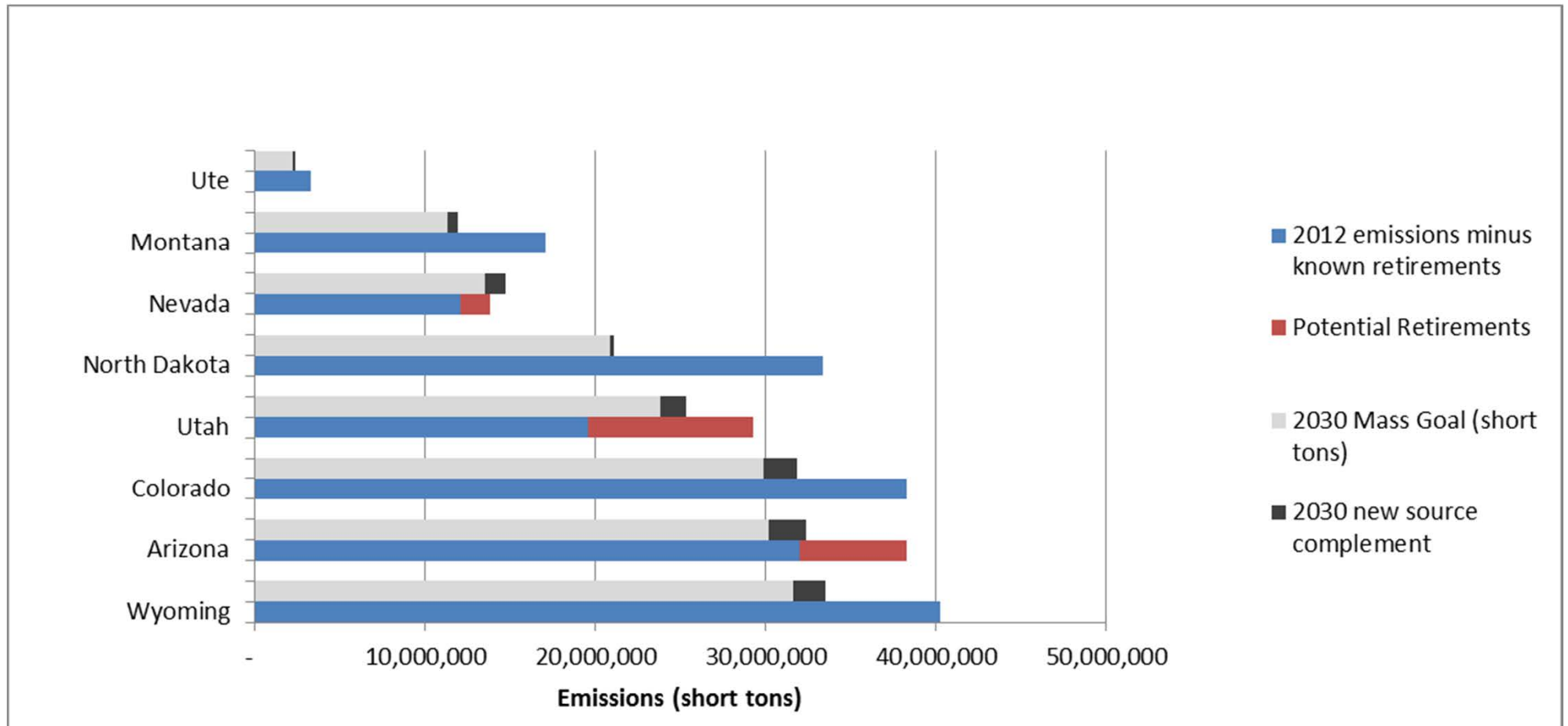




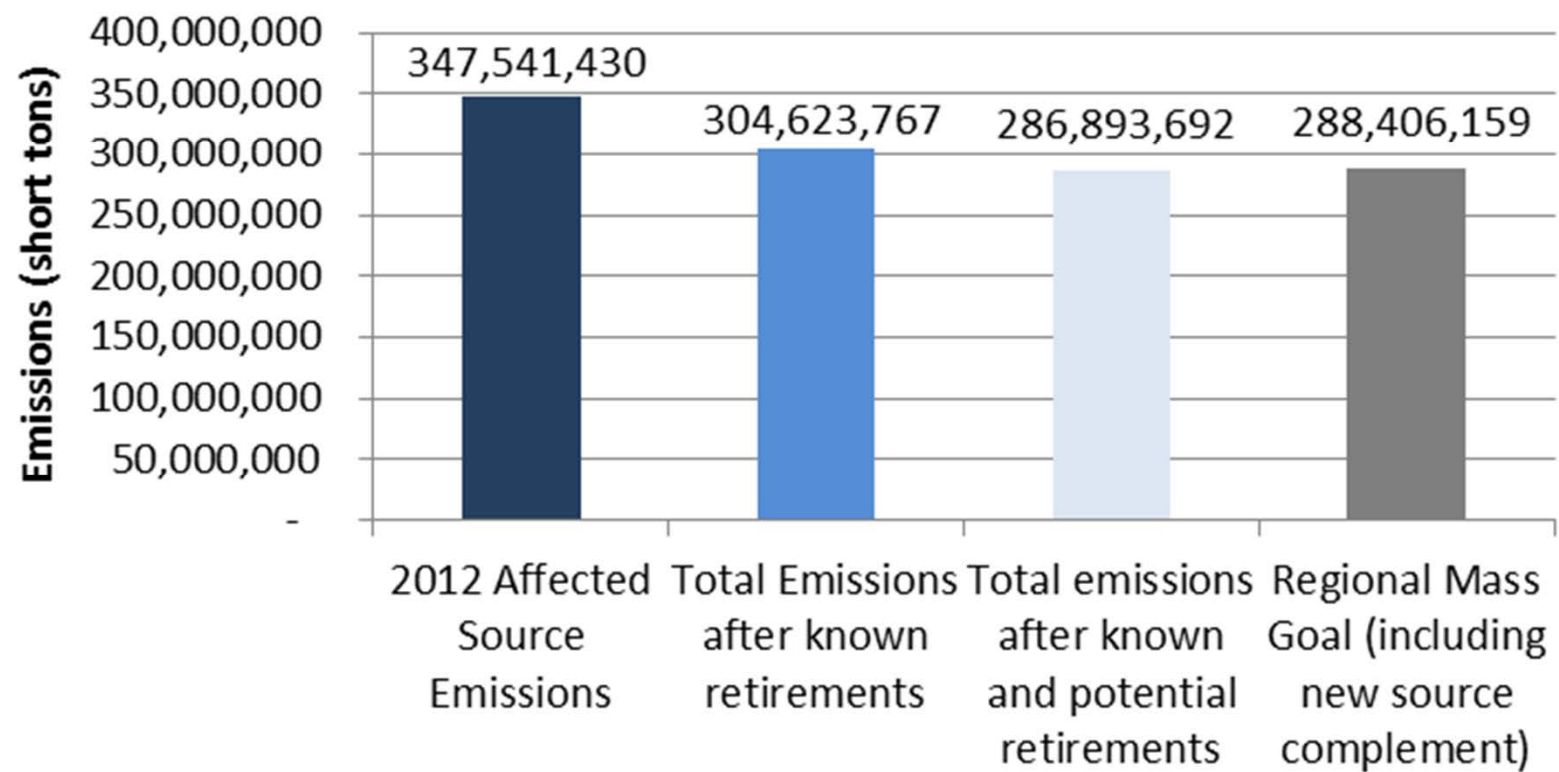
Some Western states in good shape after known retirements



Some Western states will still have a ways to go after known retirements



Total Emissions for 13 Western State



In service dates for existing coal plants in the West

