



EPA Clean Power Plan

**New Jersey Clean Air Council Meeting
September 9, 2015**

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What Will I Address?

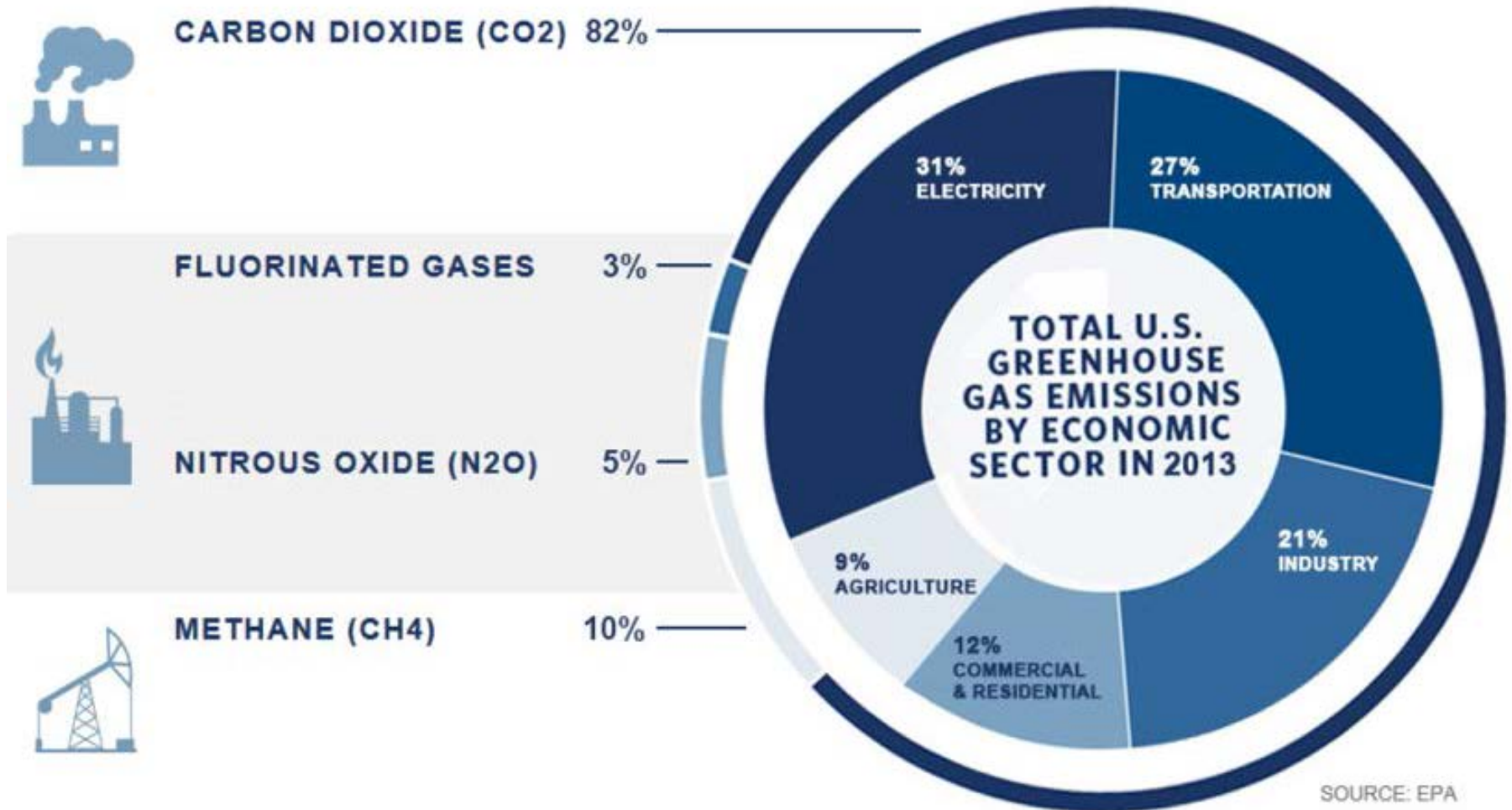
- Overview of the EPA Clean Power Plan
- New Jersey's CO₂ goals under the CPP
- Compliance options
- Timeline for implementation

EPA's August 3, 2015 Actions

EPA took three actions under the Clean Air Act to reduce carbon pollution from the power sector:

1. Carbon Pollution Standards – new, modified and reconstructed sources
2. Clean Power Plan – existing sources
3. Proposed Federal Implementation Plan (FIP) and model rule

Power Plants are the Single Largest Source of Carbon Pollution in the U.S.

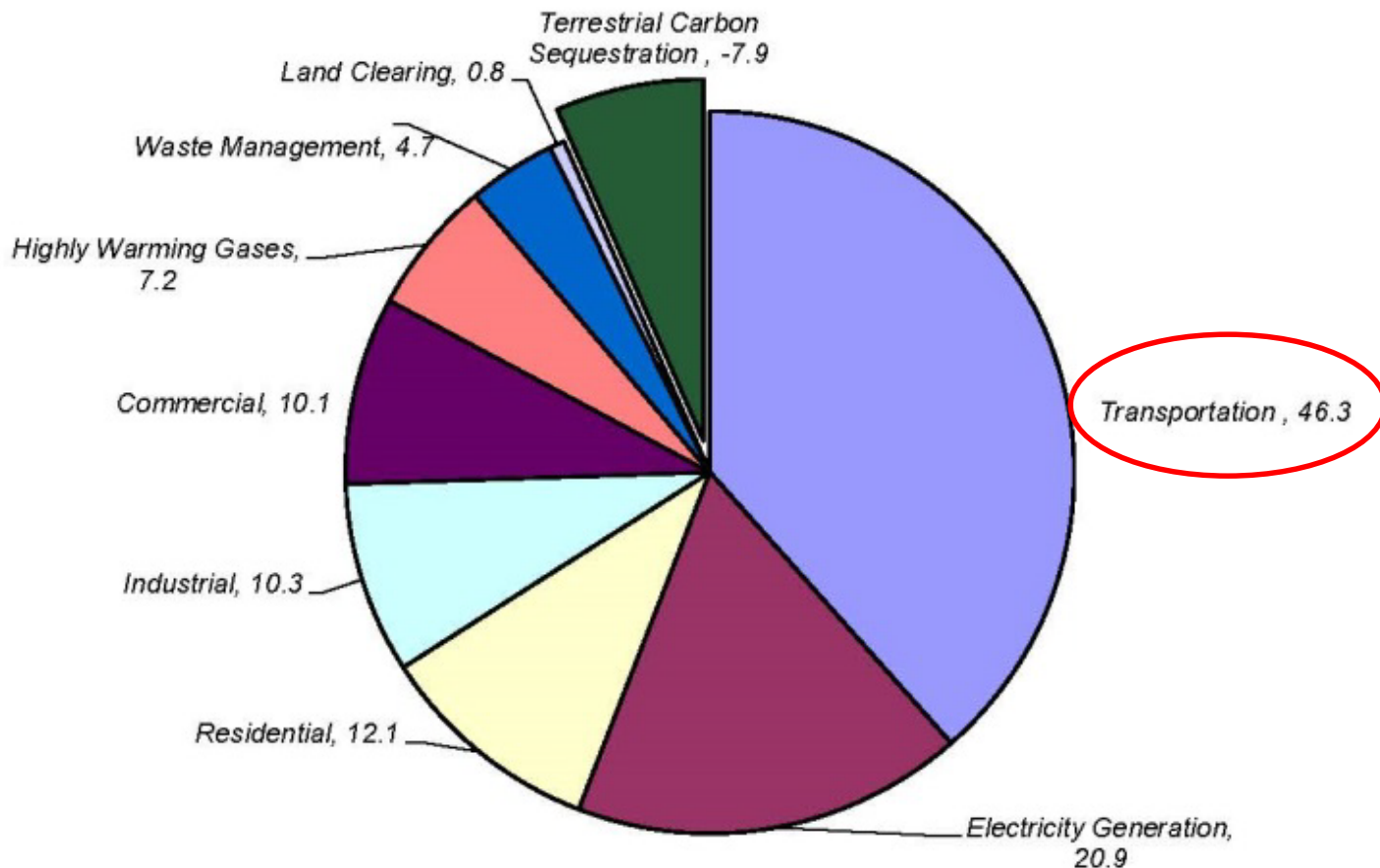


(In New Jersey, Transportation is the Largest Source of Carbon Pollution)

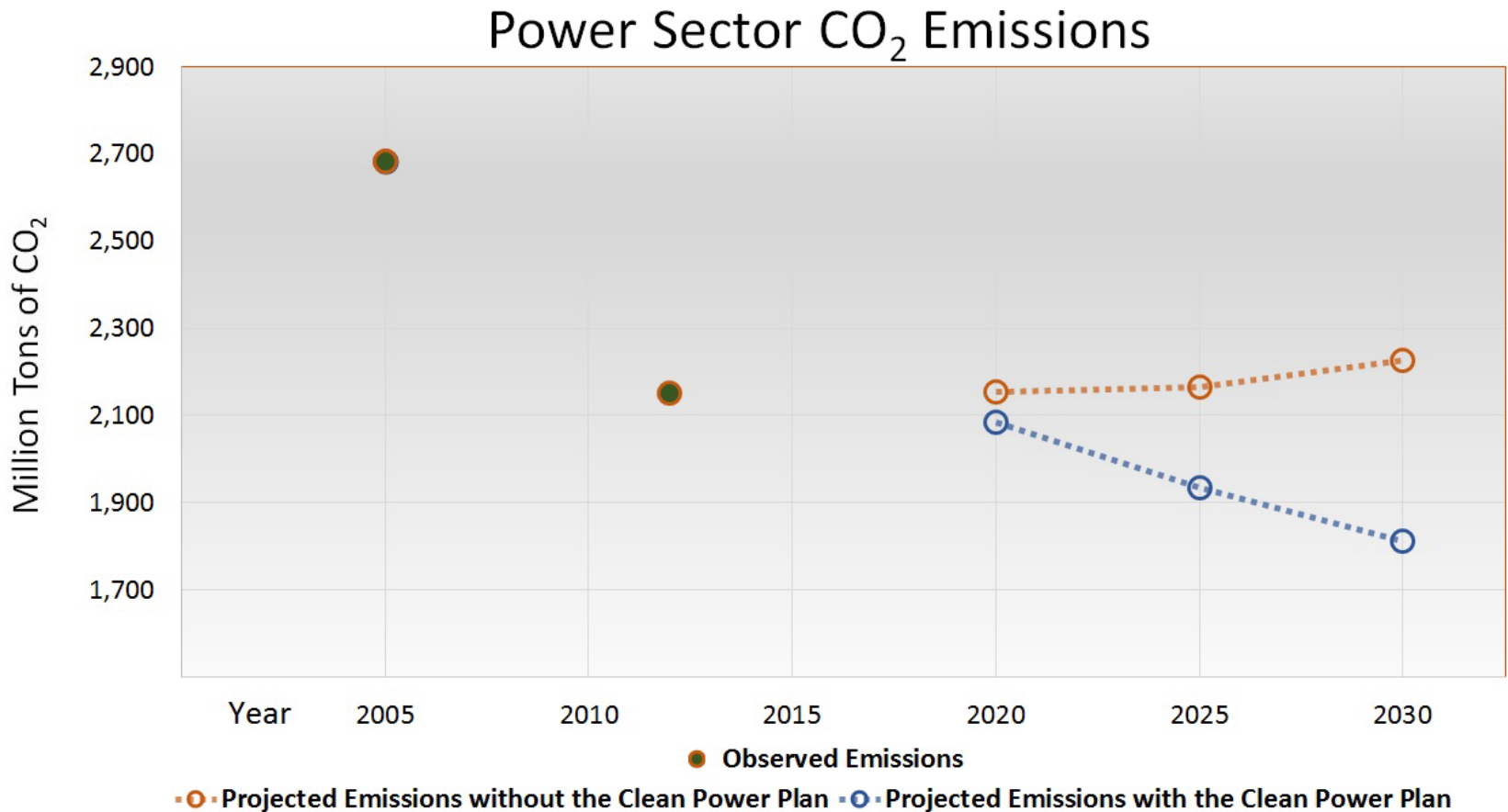
Estimated NJ Statewide Greenhouse Gas Emissions, 2012

(in million metric tons CO₂ equivalent, MMTCO₂e)

Total net emission 104.6 MMTCO₂e



Projected CO₂ Reductions by 2030



EPA estimates that by 2030, with the Clean Power Plan, carbon pollution from the power sector will be 32% below 2005 levels.

How Does the Clean Power Plan Work?

- EPA calculated a performance rate for fossil-fuel boilers (mostly coal), and a performance rate for natural gas combined cycle units assuming three “building blocks” are implemented.
 1. More efficient electric generation
 2. Switching electric generation from coal to existing natural gas combined cycle unit
 3. Use of renewable energy to replace fossil fuel generation.
- EPA prorated the performance rates into individual state goals—expressed in mass and rate – based on each state’s mix of power plants in 2012.

Regulated Facilities Under EPA Clean Air Act Section 111(d) – Clean Power Plan

Facility Name

Bayonne Plant Holdings
BL England
Bergen
Camden Plant Holding, LLC
Carneys Point
EF Kenilworth, Inc.
EFS Parlin Holdings LLC
Eagle Point Power Generation
Elmwood Park Power LLC
Essential Power Lakewood
Gilbert Generating Station
Hudson Generating Station
Linden Cogeneration Facility
Linden Generating Station
Logan Generating Plant
Mercer Generating Station
Newark Bay Cogen
Newark Energy Center
North Jersey Energy Assn
Pedricktown Cogeneration Plant
Red Oak Power LLC
Sewaren Generating Station
West Deptford Energy LLC
Woodbridge Energy Center

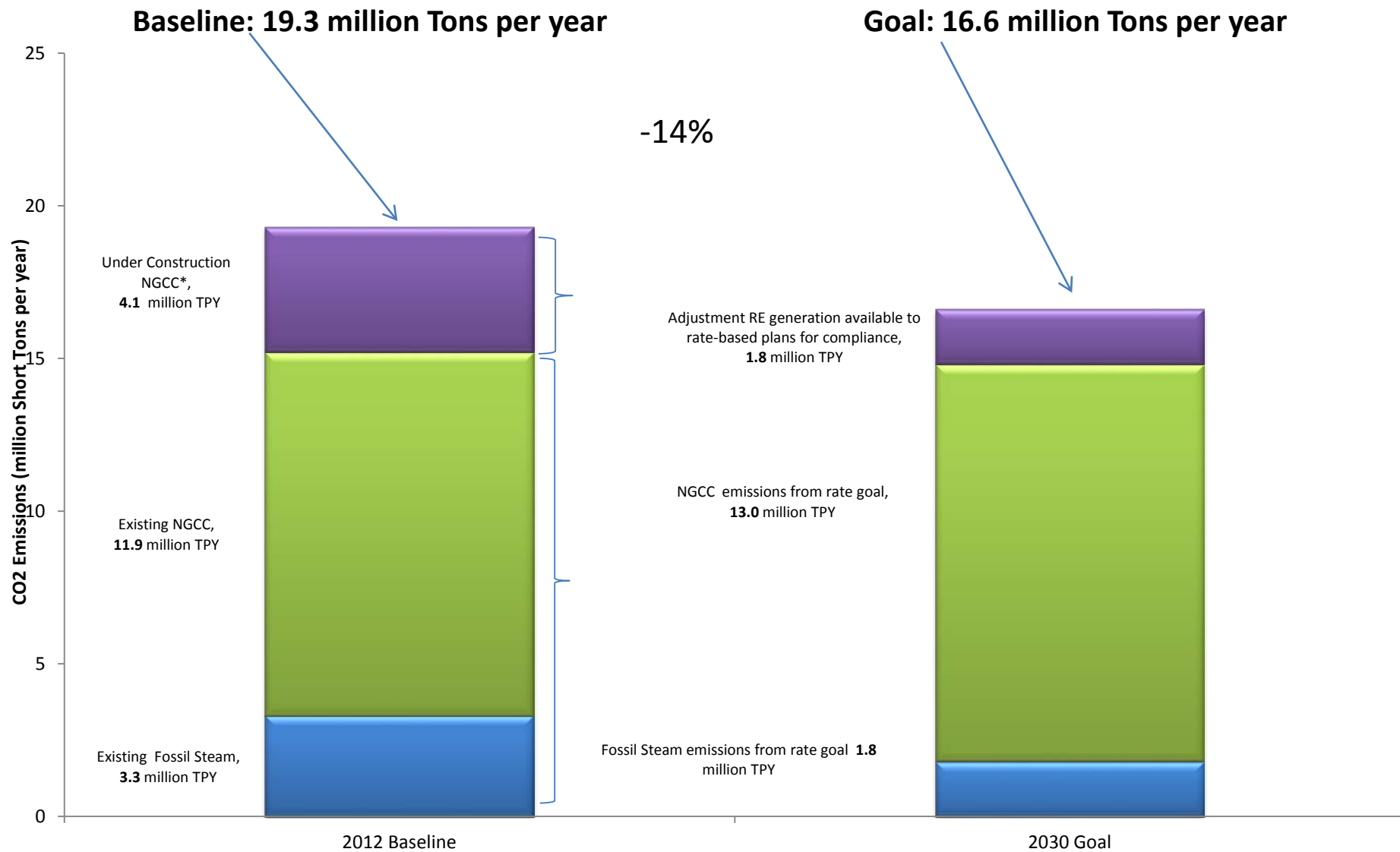
Unit Type

NGCC
Coal Boiler
NGCC
NGCC
Coal
NGCC
NGCC
NGCC
NGCC
Coal Boiler
NGCC
NGCC
Coal Boiler
“ “
NGCC
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“
“
Gas Boiler
NGCC
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Best System of Emission Reduction: 3 Building Blocks

Building Block	Strategy EPA Used to Calculate the State Goal	Maximum Flexibility: Examples of State Compliance Measures
1. Improved efficiency at power plants	Increasing the operational efficiency of existing coal-fired steam EGUs on average by a specified percentage, depending upon the region	-Boiler chemical cleaning -Cleaning air preheater coils -Equipment and software upgrades
2. Shifting generation from higher-emitting steam EGUS to lower-emitting natural gas power plants	Substituting increased generation from existing natural gas units for reduced generation at existing steam EGUs in specified amounts	Increase generation at existing NGCC units
3. Shifting generation to clean energy renewables	Substituting increased generation from new zero-emitting generating technologies for reduced generation at existing fossil fuel-fired EGUs in specified amounts	Increased generation from new renewable generating capacity, e.g., solar, wind, nuclear, and combined heat & power

CPP Mass-based Goal for New Jersey, Existing and Under Construction Units Regulated by 111(d)

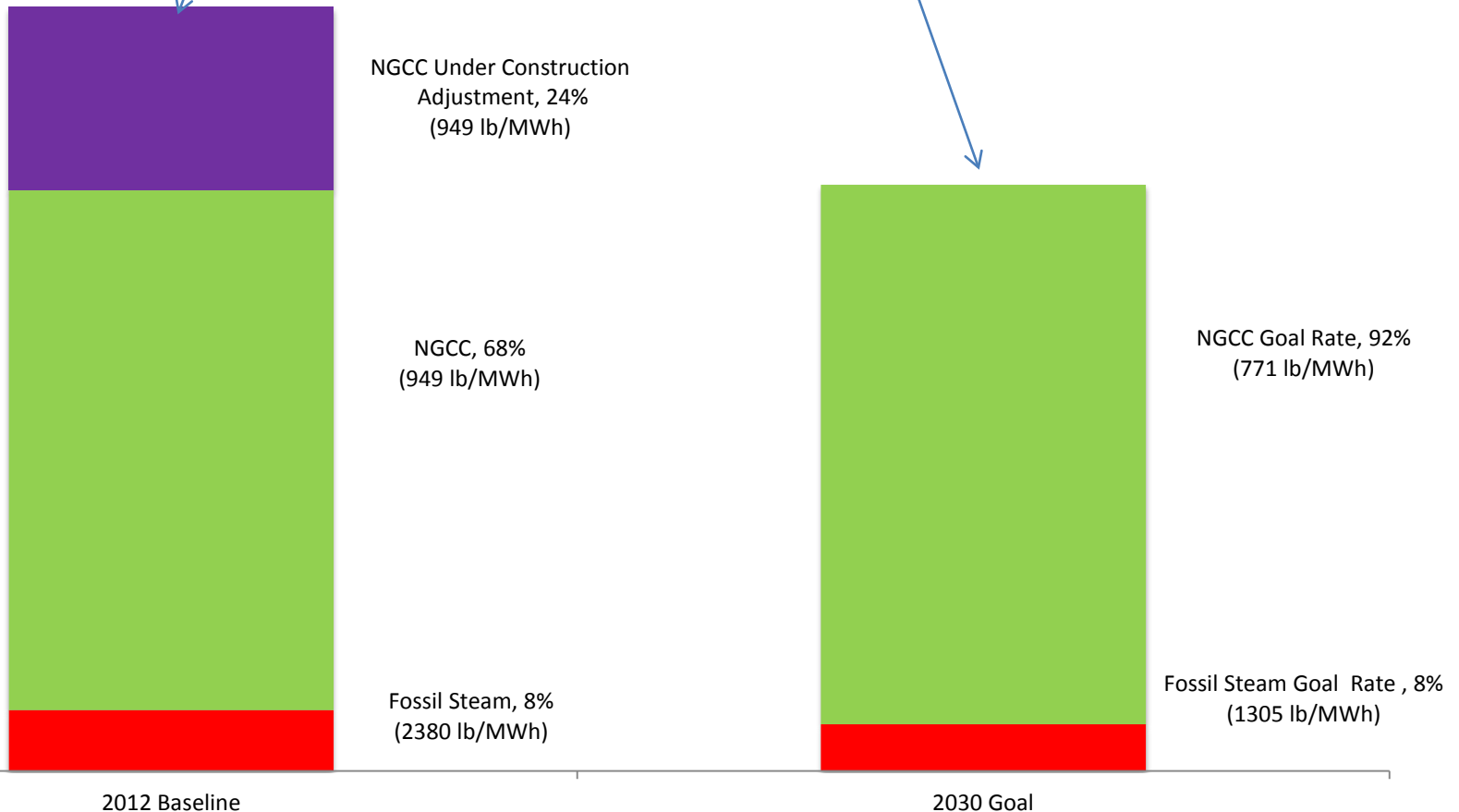


CPP Rate-based Goal for New Jersey

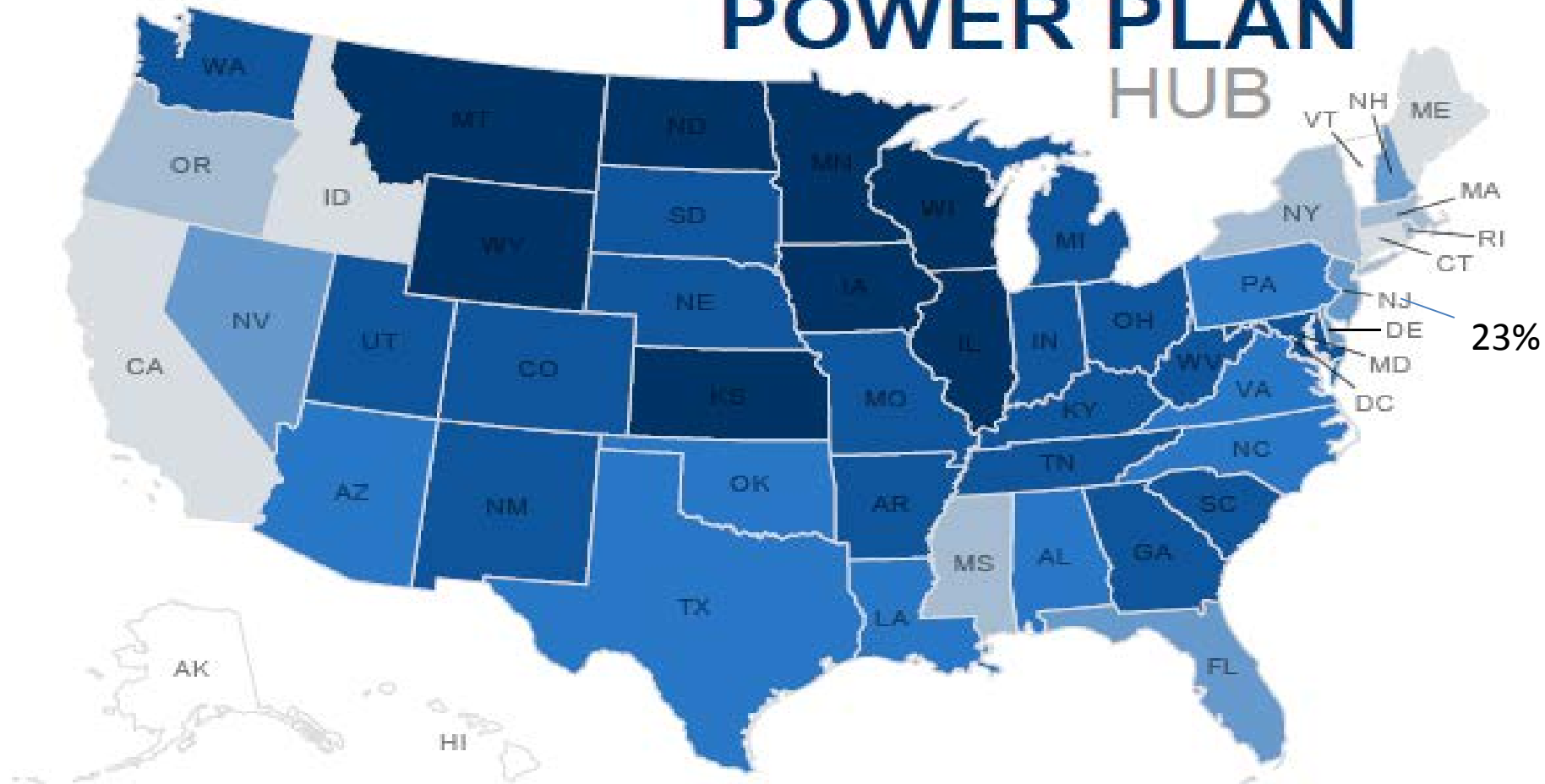
Baseline Rate: 1058 lb/MWh

Goal Rate: 812 lb/MWh

-23%



E&E's POWER PLAN HUB



Final Emissions Rate Reduction

7 - 14%



4 states

14 - 21%



5 states

21 - 27%



5 states

27 - 34%



8 states

34 - 41%



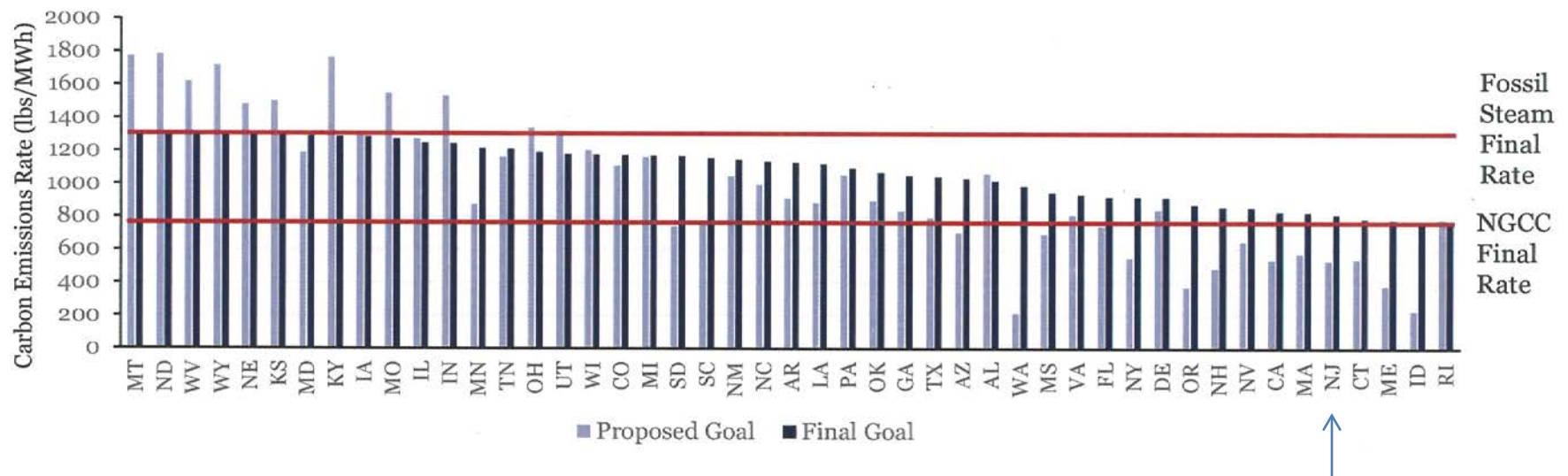
17 states

41 - 47%



8 states

Decreased Variability Between States (blended rate comparison)



- The final rate goals are much less variable across the country compared to the proposal
- 31 states have less stringent targets (16 have more stringent targets) compared to the proposal

Source: EPA Data File Goal Computation Appendix 1-5.

Compliance Options

Only post 2012 projects get compliance credits

- Renewable energy
 - Demand-side energy efficiency
 - Combined heat & power
 - Fuel switching to lower carbon fuels
 - Heat rate improvements
 - Nuclear generation (new & capacity uprates)
- Qualified biomass co-firing & repowering
 - Transmission & distribution improvements
 - Other if approved by EPA

Primary Regulatory Options

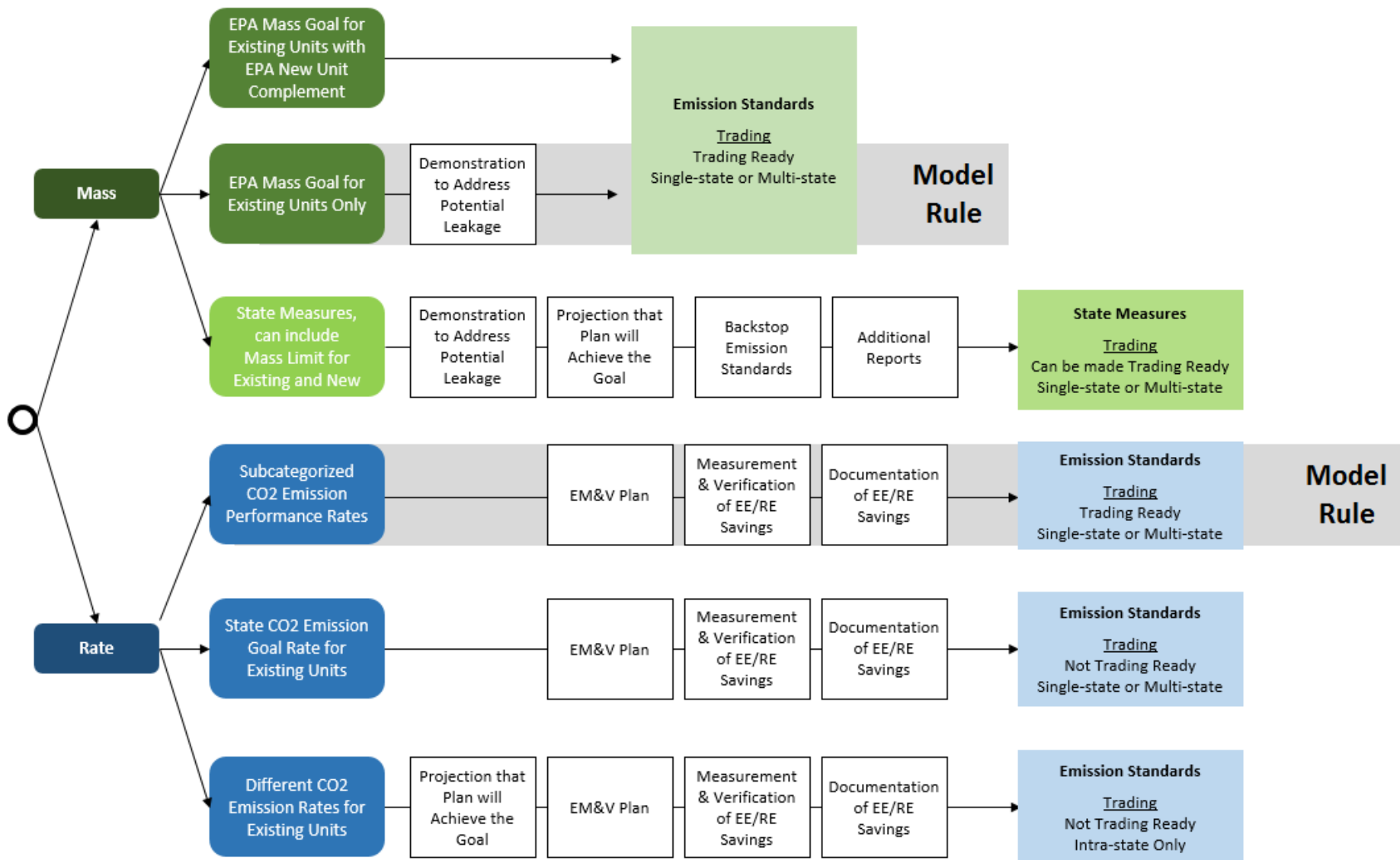
Performance rates were translated into roughly equivalent state goals in three forms:

1. Rate-based goal (pounds CO₂ per megawatt hour)
2. Mass-based goal (short tons of CO₂) for existing units
3. Mass-based goal with a new source component (short tons of CO₂)

Many compliance pathways to choose from

Type

Requirements, Plan Type & Trading Options



Clean Energy Incentive Program

The optional Clean Energy Incentive Program incentivizes action before the compliance period begins in 2022.

Solar or wind that:

- Begins *construction* after the state plan is submitted
- Generates metered MWh of electricity during 2020 or 2021

Energy Efficiency that:

- Is located in a “low income community”*
- Commences *operation* after the state plan is submitted
- Reduces MWh of demand during 2020 or 2021

* EPA is taking comment in the draft federal plan on what qualifies as a low-income community.

Clean Power Plan Timeline

Summer
2015

- August 3, 2015 - Final Clean Power Plan

1 Year

- September 6, 2016 – States make initial submittal with extension request or submit Final Plan

3 Years

- September 6, 2018 - States with extensions submit Final Plan

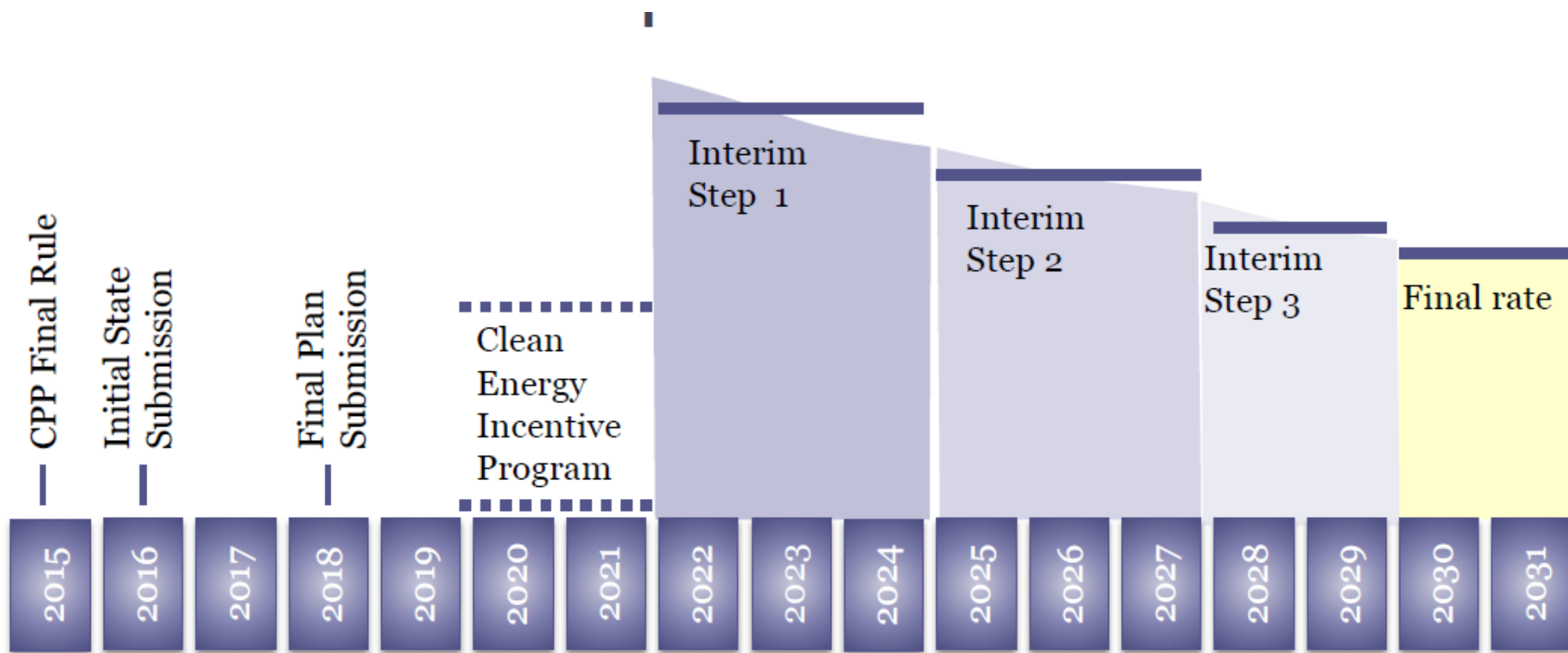
7 Years

- January 1, 2022 - Compliance period begins

15 Years

- January 1, 2030 - CO₂ Emission Goals met

Clean Power Plan Timeline – More Detail



- EPA is encouraging early action in 2020-2021
- Interim compliance period pushed back 2 years to 2022
- Three interim steps
- Two year compliance periods for final goal

Opportunities for Participation

- The Clean Power Plan requires meaningful engagement with stakeholders, during preparation of the initial state plan and the final state plan.
- New Jersey will hold a public hearing on the final state plan before submittal.

For Additional Information

- For more information and to access a copy of the rule, visit the **Clean Power Plan website**: <http://www2.epa.gov/carbon-pollution-standards>
- Through graphics and interactive maps, the **Story Map** presents key information about the final Clean Power Plan. See: <http://www2.epa.gov/cleanpowerplan>
- For additional resources to help states develop plans, visit the **CPP Toolbox for States**: <http://www2.epa.gov/cleanpowerplantoolbox>
- EPA provides **webinars** and **training** on CPP related topics at the air pollution control learning website. See: <http://www.apti-learn.net/lms/cpp/plan/>