

# Cross-State Air Pollution Rule (CSAPR)

How did we get here?  
Where are we going?



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# What comes to mind when you hear the word CSAPR?



# Presentation Overview

- ▶ How did we get here?
- ▶ History and background
- ▶ Who is affected
- ▶ Overall goals
- ▶ Where are we going?



# How Did We Get Here? (aka the problem)

Clean Air Act



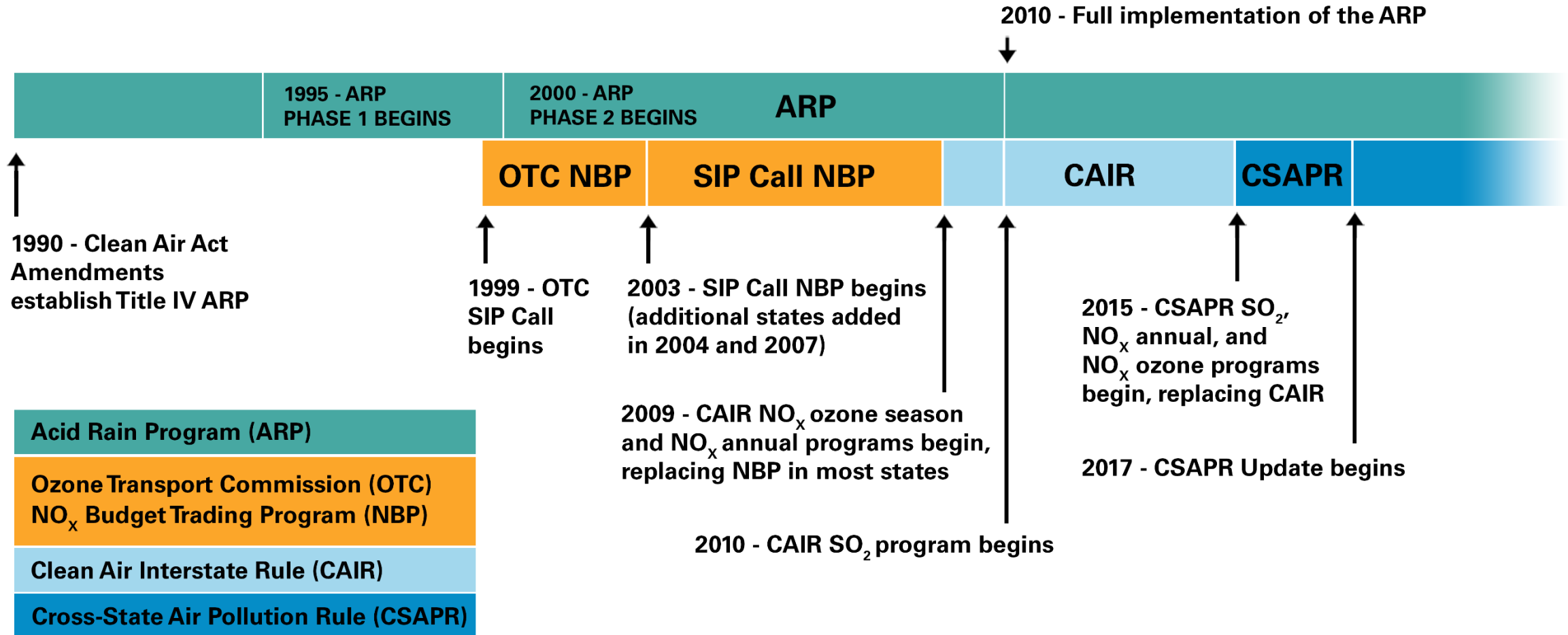
Grandfathering  
of existing  
power plants



Regulating air  
pollution from  
one state to  
another



# Timeline of EPA's efforts to regulate air pollution



Source: EPA, 2021

### **Acid Rain Program (1995 - Present)**

1. Established under Title IV – Acid Deposition Control.
2. It requires major emission reductions of SO<sub>2</sub> and NO<sub>x</sub>, the primary precursors of acid rain, from the power sector.
3. Although this program worked very well, it did not force a lot of controls as allowances were easier to get and inexpensive.

### **Ozone Transport Commission NO<sub>x</sub> Budget Program (1999 - 2002)**

1. An allowance trading program designed to reduce summertime NO<sub>x</sub> emissions from electric utilities and large industrial boilers in the northeast United States.
2. Targeted reduction of summertime NO<sub>x</sub> emissions regionwide to attain NAAQS for ground level ozone.

### **NO<sub>x</sub> Budget Trading Program (2003 - 2008)**

1. A cap and trade program created to reduce regional transport of NO<sub>x</sub> emissions from power plants and other large combustion sources in the eastern United States.
2. It was a central component of the NO<sub>x</sub> State Implementation Plan Call which was designed to reduce NO<sub>x</sub> emissions during the warm summer months, referred to as the 'Ozone Season'.

## **Clean Smokestacks Act, 2003**

1. It was introduced in the United States Congress to amend the Clean Air Act which requires the Administrator of EPA to promulgate regulations to achieve specified reductions in emissions of NO<sub>x</sub>, CO<sub>2</sub>, and mercury from power plants.

2. This Act was never passed by the US Congress.

## **Clean Air Interstate Rule (CAIR) (2005)**

1. It was designed to address interstate air pollution transport of soot (fine particulate matter) and smog (ozone).

2. It used a cap and trade system to reduce the target pollutants: SO<sub>2</sub> and NO<sub>x</sub>.

3. It required 28 eastern upwind states to make reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions.

## **Cross-State Air Pollution Rule (CSAPR) (2011)**

1. It was issued as a replacement regulation to CAIR following a court decision in 2008. EPA finalized it under the 'Good Neighbor' provisions of CAA.

2. It required 28 eastern upwind states to reduce power plant emissions that contribute to pollution from ozone and fine particulate matter in other downwind states.

3. Its implementation began on January 1, 2015.



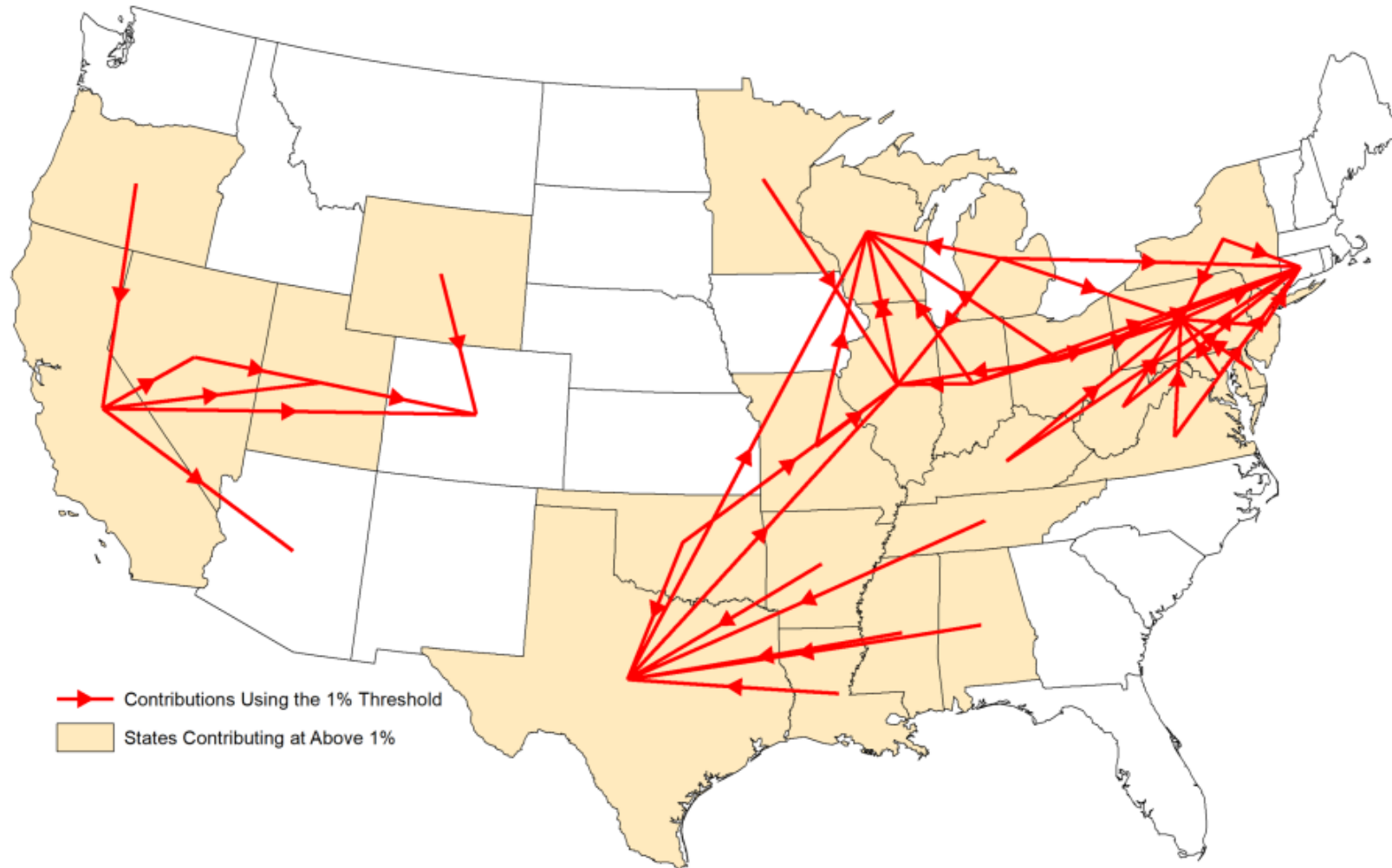
# CSAPR Framework

CSAPR provides a 4-step process to address interstate transport of certain air pollutants:

1. Identifying downwind receptors that are expected to have problems attaining or maintaining clean air standards (i.e., NAAQS)
2. Determining which upwind states contribute to these identified problems in amounts sufficient to “link” them to the downwind air quality problems;
3. Identifying upwind emissions that significantly contribute to nonattainment or interfere with maintenance of a standard by quantifying appropriate upwind emission reductions and assigning upwind responsibility among linked states; and
4. Reduce the identified upwind emissions via permanent and enforceable requirements (e.g., regional allowance trading programs).

Source: <https://www.epa.gov/csapr/overview-cross-state-air-pollution-rule-csapr>

# Upwind States Contributing Above 1% to Downwind States in 2023 for the 2015 Ozone NAAQS



Source: <https://www.epa.gov/csapri/good-neighbor-plan-2015-ozone-naaqs#maps>

# Phases of CSAPR – Key Dates

- ▶ **CSAPR 1** finalized on July 6, 2011
  - Limited interstate transport of emissions of NO<sub>x</sub> and SO<sub>2</sub>
- ▶ **CSAPR 2** update finalized on September 7, 2016
  - Revised ozone season NO<sub>x</sub> program
- ▶ **CSAPR 3** update finalized on March 15, 2021
  - Reduce NO<sub>x</sub> emissions from power plants in 22 states in eastern U.S.
  - Help downwind areas meet and maintain 2008 ozone air quality standard
- ▶ **Good Neighbor Plan** for 2015 Ozone NAAQS
  - Administrator signed a proposed Federal Implementation Plan (FIP) on February 28, 2022

# Good Neighbor Plan (Proposed Rule)

- ▶ Further limits NO<sub>x</sub> emissions from stationary sources
- ▶ Includes 4 western states (California, Nevada, Utah, and Wyoming) – brings the total to 26 states.
- ▶ The plan implements the 2015 ozone NAAQS (70 ppb)
- ▶ Non-Electric Generating Units (non-EGUs) will be subject to emission standards (not included in the trading program)
- ▶ Non-EGUs are being pulled into the rule for the first time.

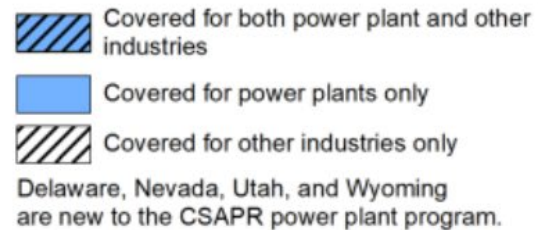
# Who Is Affected?

Legend:

- Covered for both power plant and other industries
- Covered for power plants only
- Covered for other industries only

Delaware, Nevada, Utah, and Wyoming are new to the CSAPR power plant program.

Source: <https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs#maps>



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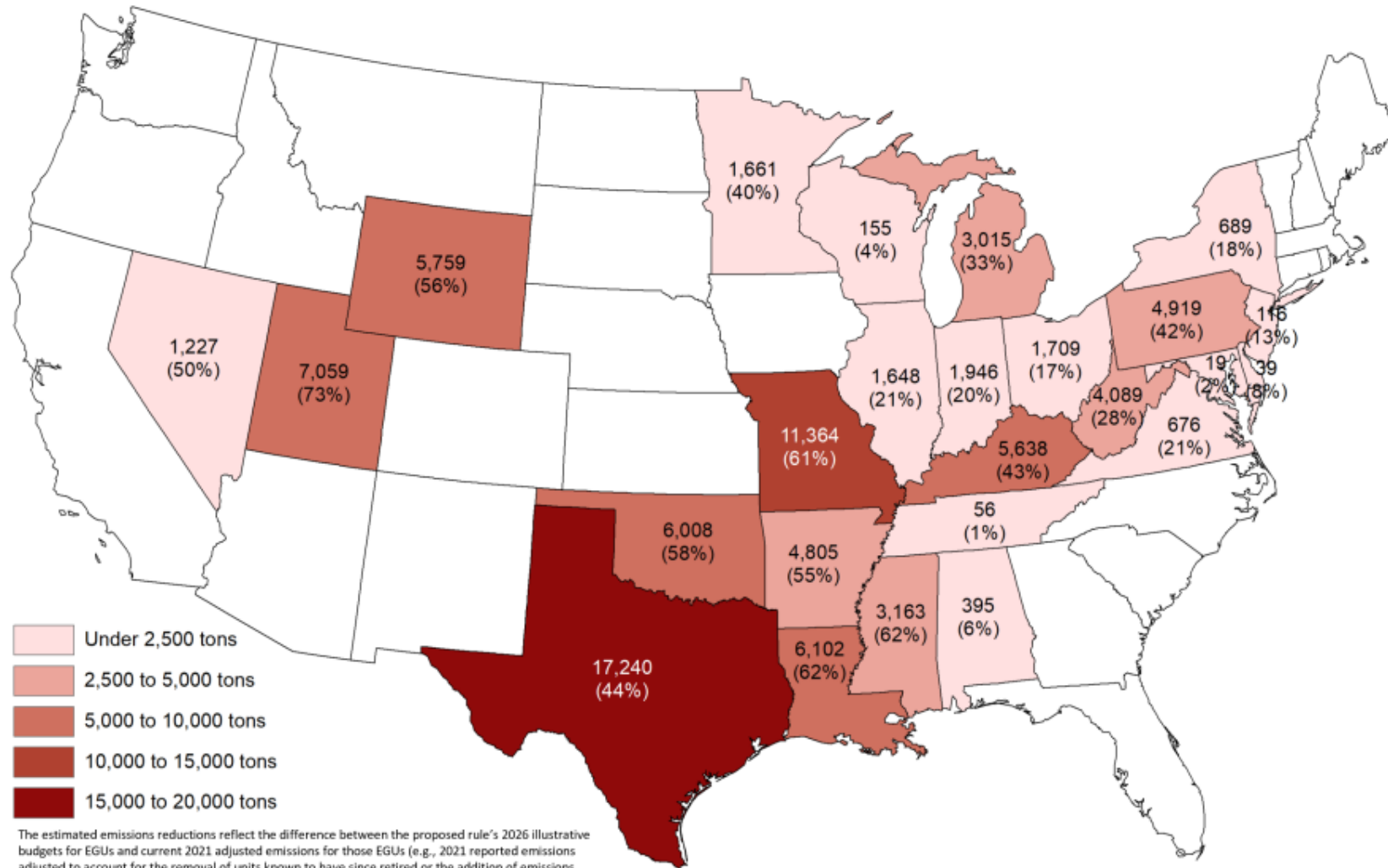
# Proposed Impact on Utility and Industrial Emissions

- ▶ Considerable increase in the cost of allowance from hundreds of dollars each to a few thousand dollars each for the new Group 3 program.
- ▶ Based on how efficiently emissions are controlled, allowance budgets will change dynamically each year.
- ▶ EGUs have set budgets.
  - This will make compliance challenging and complex to manage.
- ▶ Subject facilities may be required to install control systems to comply.
- ▶ Non-EGUs will need to take into consideration compliance limits as they are subject to emission standards (although not part of the trading program).

# Industrial Sources with Proposed NO<sub>x</sub> Emissions Limits

- ▶ Pipeline transportation of natural gas
- ▶ Kiln types in cement and concrete product manufacturing
- ▶ Iron and steel and ferroalloy emissions units
- ▶ Furnace unit types in glass and glass product manufacturing
- ▶ High-emitting equipment and large boilers in basic chemical manufacturing, petroleum and coal products manufacturing, and pulp, paper, and paperboard mills
- ▶ See full list of standards here: <https://www.epa.gov/csapr/summary-proposed-no-emission-limits-industrial-sources>

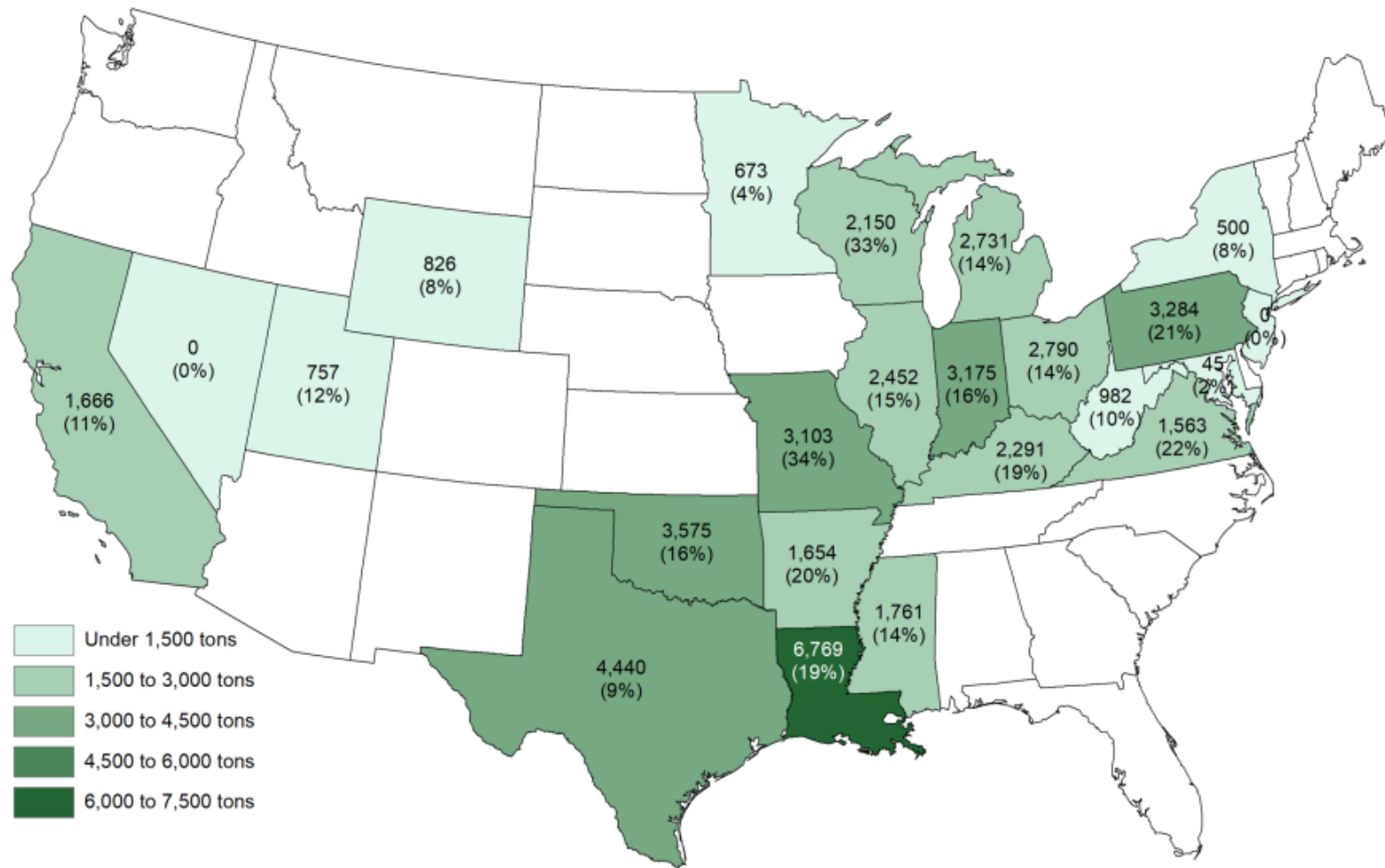
# EGU Reductions in 2026 Relative to 2021



The estimated emissions reductions reflect the difference between the proposed rule's 2026 illustrative budgets for EGUs and current 2021 adjusted emissions for those EGUs (e.g., 2021 reported emissions adjusted to account for the removal of units known to have since retired or the addition of emissions from under-construction new fossil plants). In other words, the estimated reductions reflect changes known to have happened and be happening in the power sector, as well as the impact of the proposed rule. Because these estimated reductions reflect the overall change from current levels of operation, they are higher, on average, than the values reflected in the regulatory impact analysis (emissions reductions relative to projected future levels of operation) and other communications materials for the proposal.

Source: <https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs#maps>

# Non-EGU Emissions Reductions in 2026 Relative to Pre-Proposal Levels



Source: <https://www.epa.gov/csapr/good-neighbor-plan-2015-ozone-naaqs#maps>

# Good Neighbor Plan Comments

- ▶ Comment period ended June 21, 2022
- ▶ 700+ comments
- ▶ Wide range of stakeholders: many for and against
- ▶ Those not in favor believe EPA failed to actively engage stakeholders and did not provide affected stakeholders sufficient time for comprehensive evaluation.
- ▶ Significant number of comments include utility and industrial sources that are new to this type of regulation.



# Litigation Concerns

## ► CSAPR

- EME Homer City Generation, L.P. vs. EPA (Ruling issued August 21, 2012).
- “[the] EPA may not force a State to eliminate more than its won ‘significant’ contribution to a downwind state’s non-attainment.”
- A lot of legal back and forth, but on July 28, 2015 the U.S. Court of Appeals for the D.C. Circuit court decision keeps CSAPR in place.

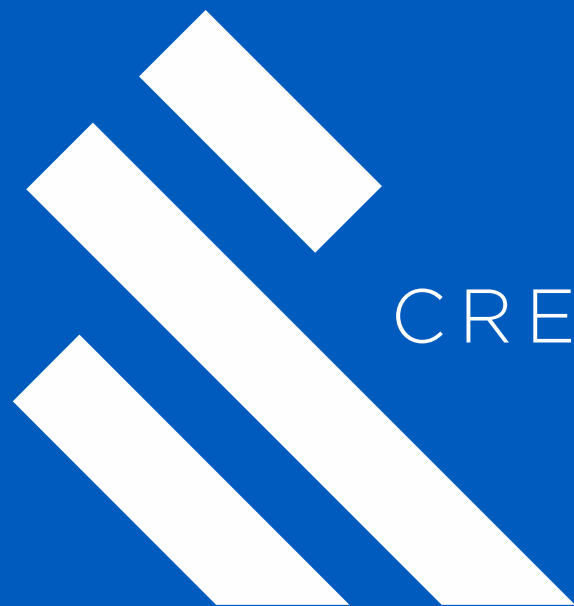
## ► Clean Power Plan

- West Virginia vs. EPA (Ruling issued June 30, 2022).
- Forcing power plants to shift generation to cleaner fuels or to renewables.
- Currently unknown if this ruling will impact CSAPR, more litigation will likely follow.

# Where are we going?

- ▶ The EPA will continue to implement and regulate interstate transport of air pollution.
- ▶ Will the Clean Air Act be amended?
- ▶ What items will be updated in the final rule?





CREATE AMAZING.