



# Clean Air Act Regulations Impacting EGUs

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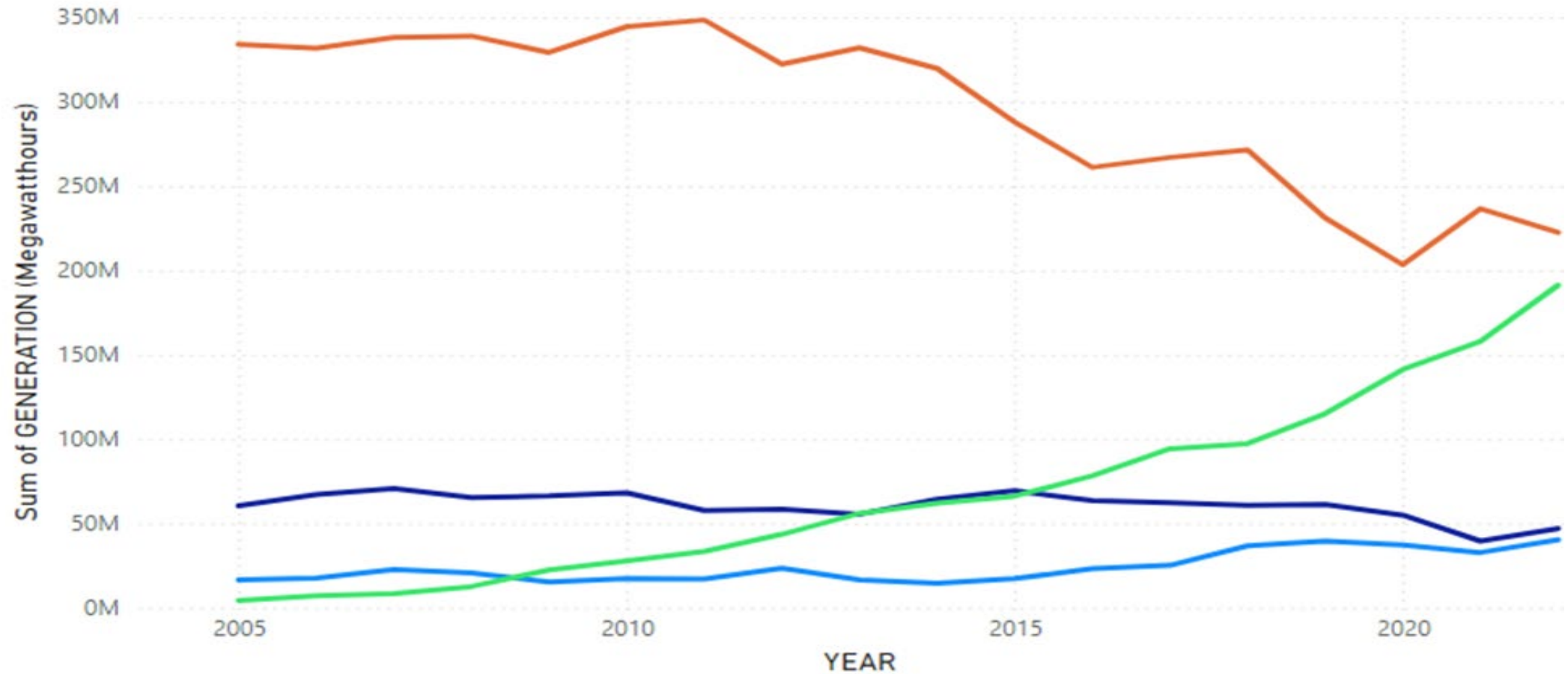
**Air Permitting and Planning Branch**

**U.S. EPA Region 7**

# Region 7 Generation Trends

Electric Generation by fuel for: IA, KS, MO, NE

ENERGY SOURCE ● Coal ● Natural Gas ● Nuclear ● Wind



# EPA Regulations Impacting EGUs

- Regional Haze: CAA Section 169A
- Good Neighbor Plan for 2015 Ozone NAAQS
- Mercury and Air Toxics Standards (MATS)
- Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants

# Regional Haze: CAA Section 169A

- The Clean Air Act (CAA) establishes a national visibility goal of eliminating existing and preventing future manmade visibility impairment in 156 “Class I” Federal areas (a set of national parks and wilderness areas managed by three federal agencies: National Park Service, U.S. Fish & Wildlife, and U.S. Forest Service) by 2064.
- EPA established regulations regarding regional haze in 1980, which were subsequently revised in 1999 (64 FR 35714) and 2017 (82 FR 3078).
- As a general matter, the Regional Haze Rule provides for multiple 10-year “planning periods” extending to 2064 and requires that air agencies submit SIP revisions to meet specific requirements associated with each planning period.
- For the first planning period (2000-2018), SIPs were required to address requirements associated with implementing Best Available Retrofit Technology, as defined in the CAA, as well as to demonstrate reasonable progress towards natural conditions.
  - EPA Region 7 approved all SIPs except for a remand action related to Long Term Strategy for Gerald Gentleman Station in Nebraska.
  - EPA Region 7 proposed a Federal Implementation Plan for Gerald Gentleman Station- published in the Federal Register on July 31, 2024.
- For the second planning period (2019-2028), SIPs are due in July 2021 and will focus only on reasonable progress
  - EPA Region 7 has disapproved Kansas.
  - EPA Region 7 has proposed disapproval for Missouri.
  - EPA Region 7 has proposed approval for Iowa.
  - EPA Region 7 has proposed no action taken action on Nebraska as it was submitted in August 2024.

# Good Neighbor Plan for 2015 Ozone NAAQS

- On October 1, 2015, EPA promulgated a new 8-hour ozone NAAQS of 70 parts per billion (ppb).
- 2015 ozone transport SIPs were due to EPA within 3 years. (October 1, 2018).
  - EPA has fully approved 25, fully disapproved 19, and partially approved and partially disapproved 2.
- On March 15, 2023, the U.S. Environmental Protection Agency (EPA) issued its final GNP, which secures significant reductions in ozone-forming emissions of nitrogen oxides (NOX) from power plants and industrial facilities.
- In response to judicial orders for certain states, EPA has stayed the GNP for those states. At present, the GNP requirements are in effect as to facilities in California, Illinois, Indiana, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, Virginia, and Wisconsin.
- On January 16, 2024, EPA proposed to partially approve and partially disapprove ozone transport SIP submissions from Arizona, Iowa, Kansas, New Mexico, and Tennessee.
- In addition, EPA is proposing Federal Implementation Plans (FIPs) which would include these states in the GNP. The FIPs would require fossil fuel-fired power plants in these five states to participate in a NOX emissions trading program beginning in 2025.
- Final disapproval of these SIP submissions establishes a 2-year deadline for EPA to promulgate FIPs for the affected states to address interstate transport of ozone, unless a state first submits and EPA approves a Good Neighbor SIP.
- States may choose to submit a revised state implementation plan at any time for EPA review, even after a FIP has been established for the state.

# Mercury and Air Toxics Standards (MATS)

- 2012 – EPA issued final MATS rule for coal- and oil-fired EGUs
  - Established standards to limit emissions of Hg; acid gas HAPs (HCl, hydrogen flouride); non-mercury HAPS (nickel, lead, chromium); and organic HAPs (formaldehyde, dioxins/furans)
  - 2021 industry-reported data shows MATS has driven large emission cuts in harmful toxic air pollutants
  - Within 8 years of promulgating standards under CAA section 112(d)(2), EPA was required to conduct a residual risk and technology review (RTR)
- April 24, 2023 – Published proposed revisions to MATS under CAA 112(d)(6) technology review
- April 25, 2024 – Final revisions to MATS rule announced
  - Particulate Matter (PM) standard used as a surrogate for non-mercury HAP metals, and compliance demonstration requirement:
    - Tighter filterable particulate matter (fPM) standard of **0.010 lb/MMBtu**
      - **July 8, 2027 Compliance date**
    - Requires all sources to use PM Continuous Emissions Monitoring Systems (CEMS) to demonstrate compliance
    - **July 8, 2027 Compliance date**
  - Mercury (Hg) standard for lignite-fired EGUs – *no sources in R7 affected*
    - Tighter Hg emission standard of **1.2 lb/Tbtu**
  - Removed startup definition #2 – *no sources in R7 affected*

# R7 MATS Affected Units

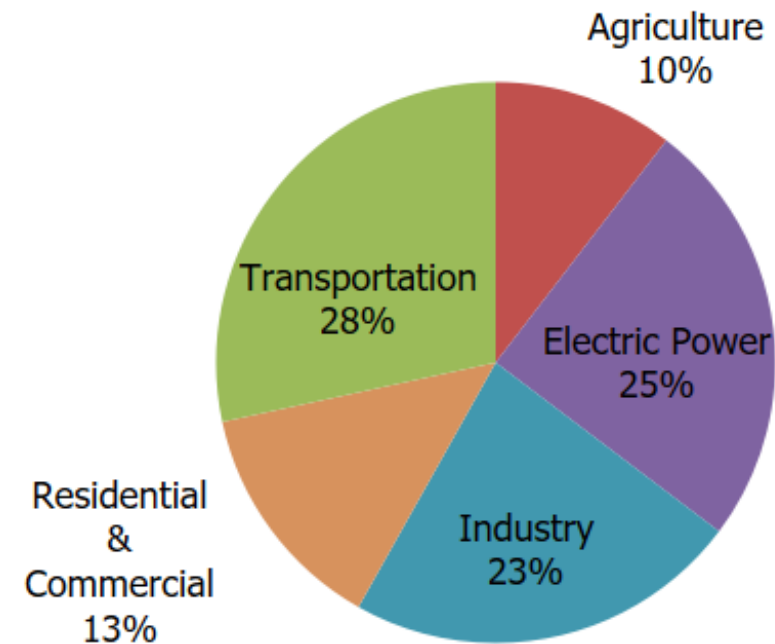
Iowa	9
Kansas	9
Missouri – delegated authority	19
Nebraska – delegated authority	12
<b>Total MATS Affected Units</b>	<b>49</b>

Total MATS affected units with PM CEMS	19
Total MATS affected units without PM CEMS	30
<b>Total MATS affected units</b>	<b>49</b>

# Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants

- ▶ On April 25, EPA issued final carbon pollution standards for power plants that will protect public health and reduce harmful pollutants.
- ▶ The **power sector is the largest stationary source of greenhouse gases (GHGs)**. In 2022, the sector emitted 25 percent of the overall domestic emissions.
- ▶ The rules address climate pollution from **existing coal-fired power plants**, which continue to be the largest source of greenhouse gas emissions from the power sector, and ensure that **new combustion turbines**, some of the largest new sources of CO<sub>2</sub> being built today, are constructed to minimize GHG emissions.

**Total U.S. Greenhouse Gas Emissions by Economic Sector in 2022**

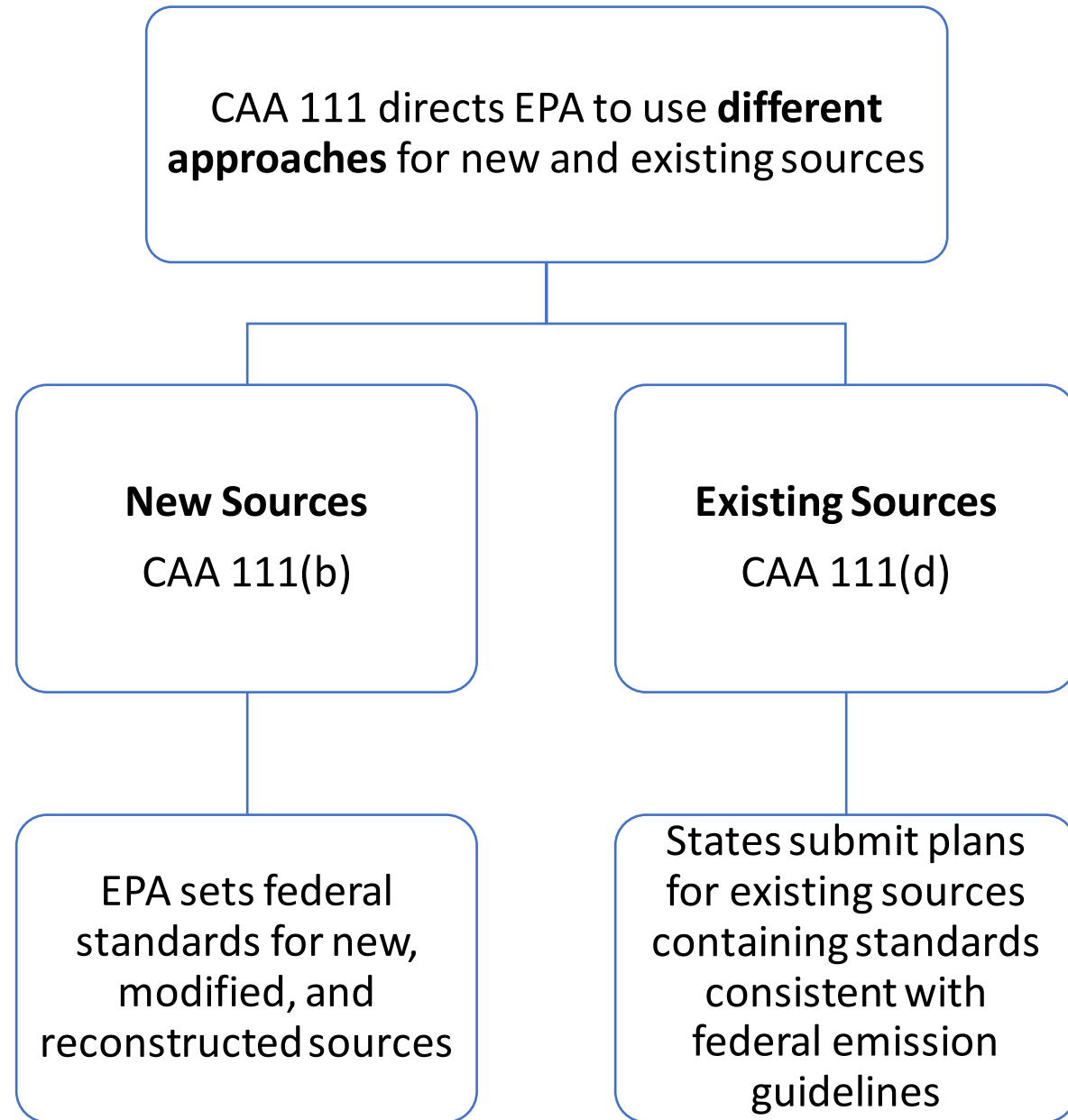


EPA (2024). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 U.S. Environmental Protection Agency, EPA 430R-24004. <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.



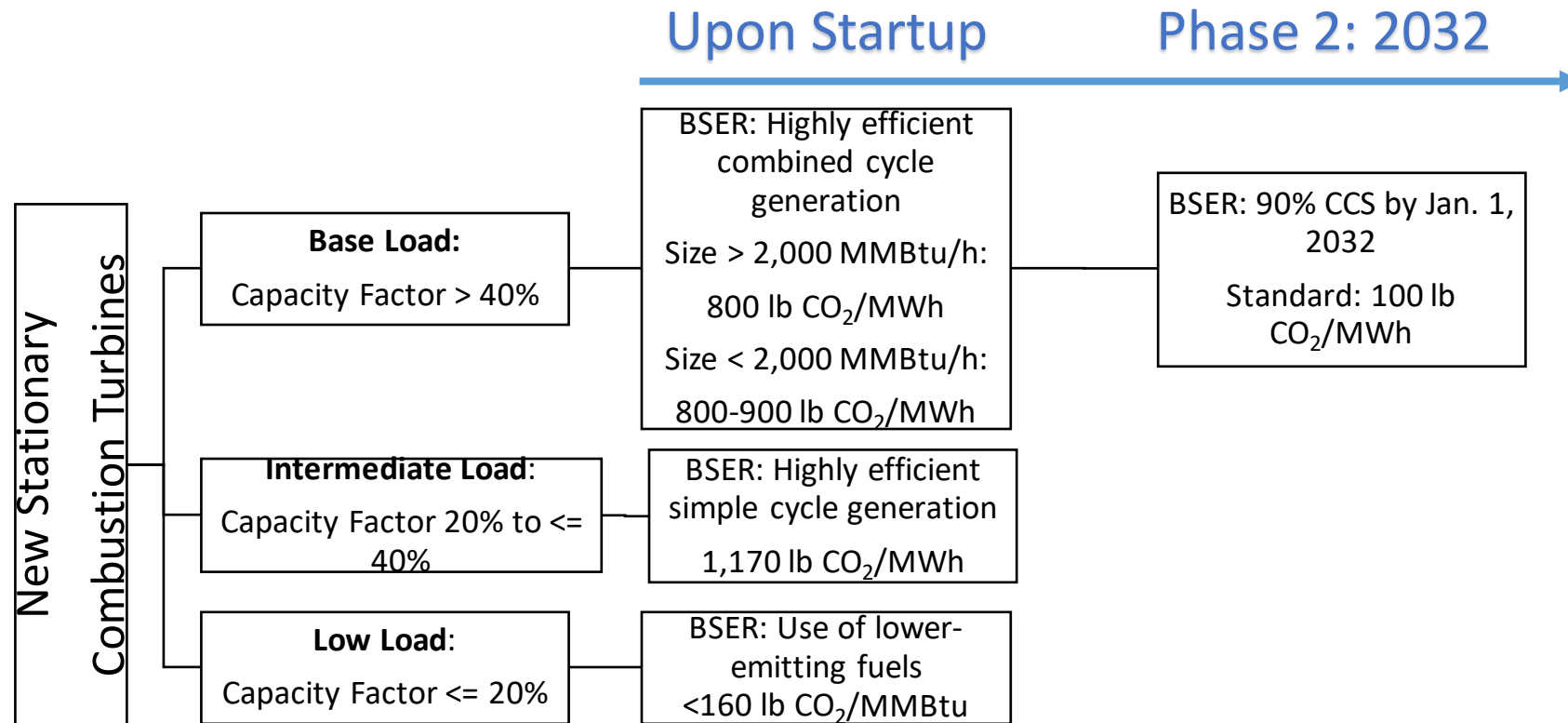
# Clean Air Act Section 111

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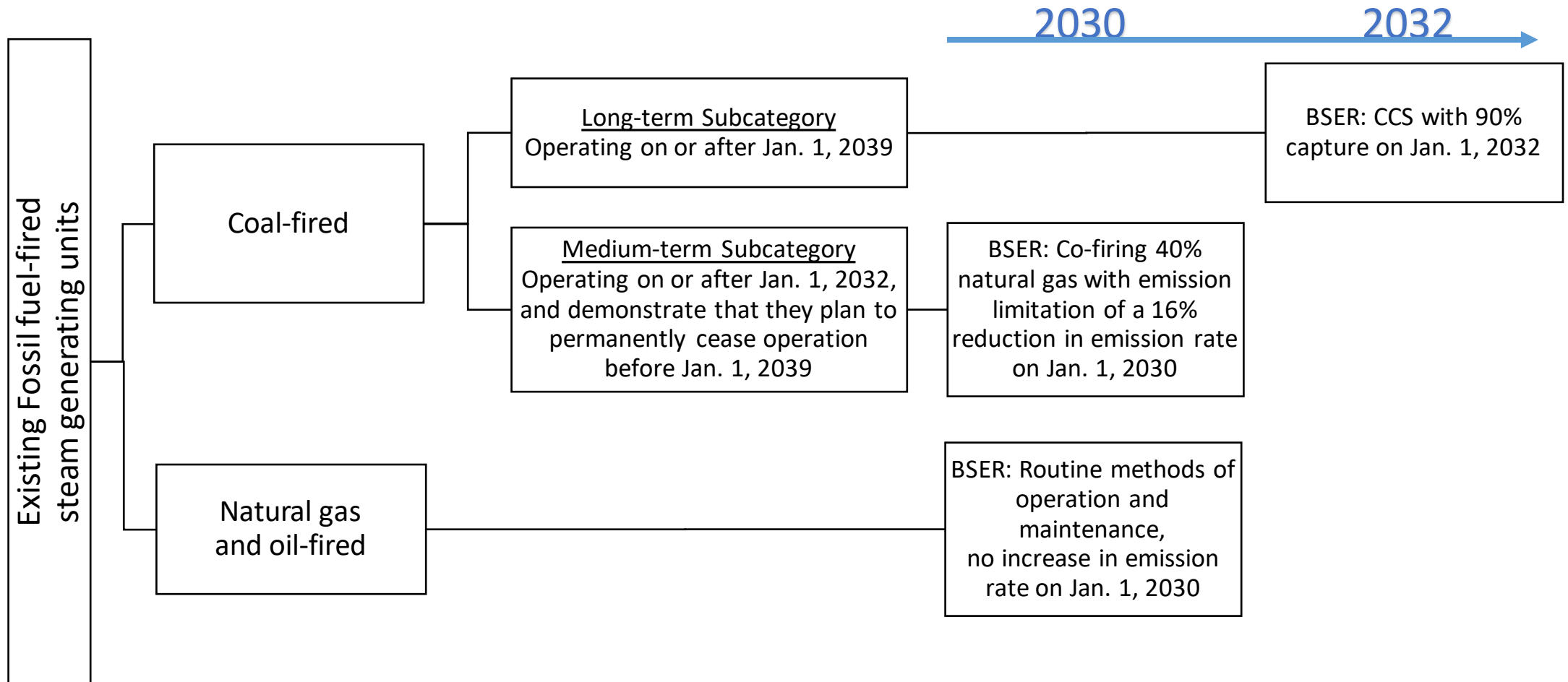
# Final Standards: New Stationary Combustion Turbines

- Standards effective from date of proposal publication (May 23, 2023)
- Three subcategories: base load, intermediate load, low load
- Standards are technology neutral, affected sources may comply with it by co-firing hydrogen



# Final EG for Existing Steam Generation Units

- Two subcategories for existing coal-fired units, depending on operating horizon: (1) Units operating on or after Jan. 1, 2039 and (2) Units that are operating on or after Jan. 1, 2032, and demonstrate they plan to permanently cease operation before Jan. 1, 2039
- Units that demonstrate they plan to permanently cease operations before Jan. 1, 2032 are not subject to these standards



# R7 State Plans and Engagement Efforts

- ▶ **May 9, 2026:** State plan submission deadline
- ▶ Requirements to help ensure meaningful engagement with affected stakeholders, including communities with EJ concerns, overburdened by pollution and climate change impacts, as well as the energy community and workers.
- ▶ R7 State engagement efforts related to 111d and state plan development:
  - **IA:** Engaging stakeholders but at very early stages
  - **KS:** TBD
  - **MO:** Engagement with stakeholders. Stakeholder meeting July 25, 2024 – EPA attending and presenting
  - **NE:** TBD

Iowa	15
Kansas	15
Missouri	21
Nebraska	16
<b>Total 111(d) Affected Units</b>	<b>67</b>

