

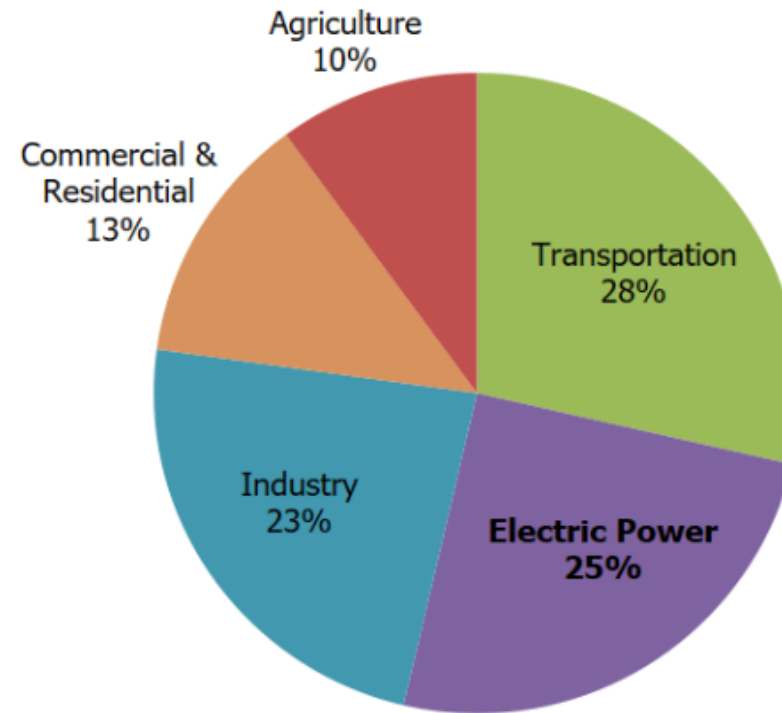
US Regulatory Update for CIMAC WG5

31May2023

EPA Proposed Rule Background

- In 2021, the power sector was the largest stationary source of greenhouse gases (GHGs), emitting 25 percent of the overall domestic emissions

**Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2021**



U.S. Environmental Protection Agency (2023). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021

- On May 11, 2023, EPA issued proposed Clean Air Act emission limits and guidelines for carbon dioxide (CO₂) from fossil fuel-fired power plants based on cost-effective and available control technologies.
- The technology-based standards EPA is proposing to include:
 - Strengthening the current New Source Performance Standards (NSPS) for newly built fossil fuel-fired stationary combustion turbines (generally natural gas-fired)
 - Establishing emission guidelines for states to follow in limiting carbon pollution from existing fossil fuel-fired steam generating EGUs (including coal, oil and natural gas-fired units)
 - Establishing emission guidelines for large, frequently used existing fossil fuel-fired stationary combustion turbines (generally natural gas-fired)

- In developing these proposed carbon pollution standards, EPA considered a range of technologies including:
 - CCS (carbon capture and storage)
 - Utilizing low-GHG hydrogen
 - Adopting highly efficient generation technologies
- New proposed standards for new natural gas fired power plants would avoid more than 600 million metric tons of CO₂ pollution
- EPA is simultaneously proposing to repeal the Affordable Clean Energy (ACE) rule.

- EPA included a proposed definition of low-GHG hydrogen to ensure co-firing achieves the maximum possible overall emissions reductions.
- Low-GHG hydrogen is defined in this proposal as hydrogen produced with less than 0.45 kilograms of CO₂ equivalent overall emissions per kilogram of hydrogen (kgCO₂-e/kgH₂) from from “well to gate” (meaning from input feedstock extraction to the exit gate of the hydrogen production facility).
- This is consistent with Congress’ definition of the lowest GHG hydrogen tier identified for the highest tax credits in the Inflation Reduction Act.

Emissions Changes – Benefits and Costs

- Aggregate emission cuts from 2028-2042 •
 - Proposals would cut 617 million metric tons of CO₂ through 2042 along with tens of thousands of tons of PM_{2.5}, SO₂, and NO_x – harmful air pollutants that are known to endanger public health.
 - Estimates do not include the impact of the proposed requirements for existing gas-fired combustion turbines. A separate EPA analysis of these proposed requirements estimates they would reduce between 214 and 407 million metric tons of CO₂ cumulatively between 2028 and 2042.
- Annual emissions changes
 - In 2030, the power sector would emit:
 - 89 million metric tons less CO₂
 - 64,000 tons less annual NO_x
 - 107,000 tons less SO₂
 - 6,000 tons less direct PM_{2.5}

■ Health Benefits

- Estimated health benefits in 2030 would be at least \$6.5 billion and could be as much as \$14 billion
- In 2030 alone, the health benefits include:
 - Approximately 1,300 avoided premature deaths
 - More than 800 avoided hospital and emergency room visits
 - Approximately 2,000 avoided cases of asthma onset and 300,000+ avoided cases of asthma symptoms
 - 38,000 avoided school absence days and more than 66,000 lost work days

How to Get More Information

- EPA will hold virtual public hearings. Details will be announced at their “Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants” site
 - <https://www.epa.gov/stationary-sources-air-pollution/greenhouse-gas-standards-and-guidelines-fossil-fuel-fired-power>
- EPA will take comment on these proposals
 - Up to 60 days after publication in Federal Register.
 - EPA will make additional information available on their website
 - EPA will host virtual trainings to provide information about the proposal and participating in comment process on June 6 and 7
 - Reference Docket ID No. EPA-HQ-OAR-2023-0072 for comments
- Useful links:
 - <https://www.epa.gov/newsreleases/epa-proposes-new-carbon-pollution-standards-fossil-fuel-fired-power-plants-tackle>

Presenter Information

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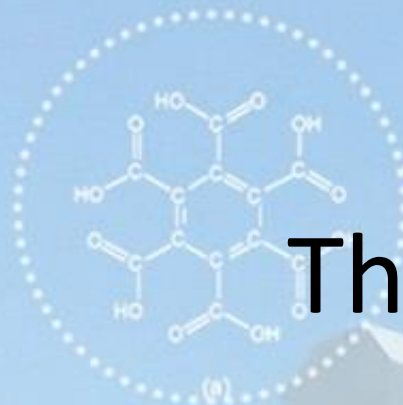
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Thank you for your attention!