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## Cleaner Power Plants

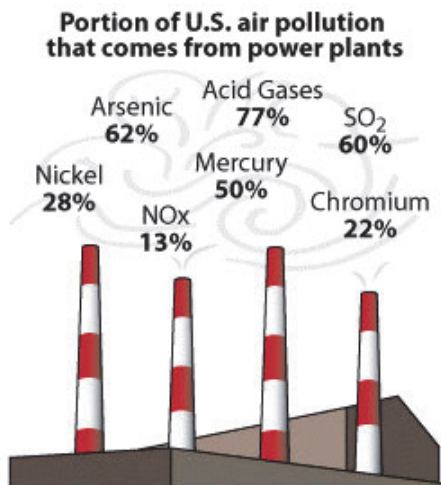
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On December 16, 2011, the Environmental Protection Agency (EPA) finalized the first national standards to reduce mercury and other toxic air pollution from coal- and oil-fired power plants. More than 20 years after the [1990 Clean Air Act Amendments](#), some power plants still do not control emissions of toxic pollutants, even though pollution control technology is widely available.



There are about **1,400** coal- and oil-fired electric generating units (EGUs) at **600** power plants covered by these standards. They emit harmful pollutants, including mercury, non-mercury metallic toxics, acid gases, and organic air toxics such as dioxin.

Power plants are currently the dominant emitters of mercury (**50 percent**), acid gases (over **75 percent**) and many toxic metals (**20-60 percent**) in the United States (see graphic at right).

While newer, and a significant percentage of older power plants already control their emissions of mercury, heavy metals, and acid gases, approximately **40 percent** of the current EGUs still do not have advanced pollution control equipment.

The other big sources of mercury have already reduced their emissions.

In 1990, three industry sectors made up approximately **two-thirds** of total U.S. mercury emissions: medical waste incinerators, municipal waste combustors, and power plants. The first two of these sectors have been subject to emissions standards for years and as a result have reduced their mercury emissions by more than **95 percent**. In addition, mercury standards for industries such as cement production, steel manufacturing and many others have reduced mercury emissions from these sources.

Sources of Mercury Emissions in the U.S.

Industrial Category	1990 Emissions tons per year (tpy)	2005 Emissions (tpy)	Percent Reduction
Power Plants	59	53	10%
Municipal Waste Combustors	57	2	96%
Medical Waste Incinerators	51	1	98%

The final rule establishes power plant emission standards for mercury, acid gases, and non-mercury metallic toxic pollutants which will result in:

- preventing about **90 percent** of the mercury in coal burned in power plants from being emitted to the air;
- reducing **88 percent** of acid gas emissions from power plants; and
- reducing **41 percent** of sulfur dioxide emissions from power plants beyond the reductions expected from the Cross State Air Pollution Rule.

**Controls to Meet Limits are Widely Available**

The Mercury and Air Toxics Standards provide regulatory certainty for power plants. Additionally, these standards level the playing field so that all plants will have to limit their emissions of mercury as newer plants already do.

Use of widely-available controls will reduce harmful air toxics and help modernize the aging fleet of power plants, many of which are over 50 years old.

Widely-available control technologies that reduce mercury and other air toxics

Pollutant Addressed	Existing Control Technologies to Address Toxic Pollutants
Mercury	Selective Catalytic Reduction (SCR )with Flue-gas Desulfurization (FGD), Activated Carbon Injection (ACI), ACI with Fabric Filter (FF) or Electrostatic Precipitators (ESP)
Non-mercury metals	FF, ESP
Dioxins & furans	Work Practice Standard ( inspection, adjustment, and/or maintenance and repairs to ensure optimal combustion)

Pollutant Addressed	Existing Control Technologies to Address Toxic Pollutants
Acid gases	FGD, Dry Sorbent Injection (DSI), DSI with FF or ESP
Sulfur dioxide	FGD, DSI

### Setting Emissions Limits for Toxic Air Pollutants

The MATS set standards for all Hazardous Air Pollutants (HAPs) emitted by coal- and oil-fired EGUs with a capacity of 25 megawatts or greater. These are called national emission standards for hazardous air pollutants (NESHAP), also known as maximum achievable control technology (MACT) standards. Coal- and/or oil-fired electric utilities emit many of the 187 hazardous air pollutants listed in the Clean Air Act.

Emissions standards set under the toxics program are federal air pollution limits that individual facilities must meet by a set date. MACT for new sources must be at least as stringent as the emission reduction achieved by the best performing similar source. Existing source MACT standards must be at least as stringent as the emission reductions achieved by the average of the top 12 percent best controlled sources. These standards must address all hazardous air pollutants emitted at a source category.

Setting a MACT standard is a two step process:

1. The “MACT floor” is established based on what is currently achieved by sources – costs may not be considered.
2. EPA may regulate “beyond the floor” where justified – costs and other issues must be considered.

### Power Plants Have Time to Meet the Standards

Existing sources generally will have up to 4 years if they need it to comply with MATS.

- This includes the 3 years provided to all sources by the Clean Air Act. EPA's analysis continues to demonstrate that this will be sufficient time for most, if not all, sources to comply.
- Under the Clean Air Act, state permitting authorities can also grant an additional year as needed for technology installation. EPA expects this option to be broadly available.

EPA is also providing a pathway for reliability critical units to obtain a schedule with up to an additional year to achieve compliance. This pathway is described in a separate [enforcement policy document](#). EPA believes there will be few, if any situations, in which this pathway will be needed.

In the unlikely event that there are other situations where sources cannot come into compliance on a timely basis, consistent with its longstanding historical practice under the Clean Air Act, EPA will address individual circumstances on a case-by-case basis, at the appropriate time, to determine the appropriate response and resolution.

### Reliable Energy

In EPA's 40-year history, the Clean Air Act has not impacted power companies' ability to keep the lights on in communities across the United States. EPA's analysis shows that the MATS rule and the Cross State Air Pollution Rule will not adversely affect resource adequacy in any region of the country. More information is available in [EPA's resource adequacy analysis](#).

A number of other analyses have reached conclusions consistent with EPA's, including a report from the [Department of Energy \(PDF\)](#) (41 pp, 1 M [About PDF](#)).

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