

Change your subscriptions options anytime by emailing [marketing@datachem.com](mailto:marketing@datachem.com) and indicating monthly, quarterly or opt out.

## Coal-Fired Power Plants under Attack

Turn on the television and you're bound to hear an ad for cleaner energy. Fossil fuels have completely redefined society over the past one-hundred and fifty years. In the eighteenth century, the convenience, availability and efficiency of coal made it the fuel of choice. Coal quickly spread to power factories, farm equipment and locomotives across the United States. In 1880, a coal-fired steam engine powered the worlds first electric generator. Energy use doubled every 10 years from the early 1900's to the 1970's and coal continued to be a major source of energy for the United States during that time. The Environmental Protection Agency's Clean Air Act originated from the Air Pollution Control Act of 1955. The original act provided funds for research into air pollution. The Clean Air Act of 1963 was the first legislation that provided some level of pollution control. It mainly focused on interstate pollution contributions. The Clean Air Act of 1970 furthered the governments role in pollution control. Since then, the Clean Air Act of 1970 has experienced two significant amendments.

### Coal-Fired Power Plant Emissions

More than 50% of the energy generated in the United States comes from coal.

Coal-fired power plants contribute 59% of the sulfur dioxide emissions in the United States and 18% of the total nitrogen oxides.

Power plants release over 40% of the United States carbon dioxide emissions.

Power plants rank number two to automobiles as the largest contributor to nitrogen oxide emissions.

### National Ambient Air Quality Standards for Coal-Fired Power Plant Emissions:

**Sulfur Oxides—**  
an annual arithmetic mean of 0.03 ppm (80 µg/m<sup>3</sup>);  
a 24-hour level of 0.14 PPM (365 µg/m<sup>3</sup>);  
and a 3-hour level of 0.50 PPM (1300 µg/m<sup>3</sup>).

**Nitrogen Oxides—**  
an annual arithmetic mean of 0.053 ppm (100 µg/m<sup>3</sup>);

### Emissions for Coal-Fired Power Plants also Include:

Carbon Dioxides  
Methane  
Mercury

EPA settlement the owner / operator of a plant in St. Johns Arizona agreed to spend \$400 million in pollution controls. Ronald J. Tenpas, Assistant Attorney General for the Justice Department's Environment and Natural Resource Division has this to say regarding this latest settlement, "the reductions in harmful emissions secured by this settlement are substantial and will have a beneficial impact on air quality in Arizona and downwind areas."

For a full review of the latest settlement visit [www.epa.gov](http://www.epa.gov).

For a copy of the Environmental Protection Agency's Clean Air Act visit [www.epa.gov/air/caa/](http://www.epa.gov/air/caa/)

Energy use doubled every 10 years from the early 1900's to the 1970's and coal continued to be a major source of energy for the United States during that time. The Environmental Protection Agency's Clean Air Act originated from the Air Pollution Control Act of 1955. The original act provided funds for research into air pollution. The Clean Air Act of 1963 was the first legislation that provided some level of pollution control. It mainly focused on interstate pollution contributions. The Clean Air Act of 1970 furthered the governments role in pollution control. Since then, the Clean Air Act of 1970 has experienced two significant amendments.

A fair portion of government funding has gone into monitoring coal-fired power plants, researching alternative energies and enforcing current laws. The Department of Justice (DOJ) and the Environmental Protection Agency (EPA) have brought a number of civil complaints alleging violations of the Clean Air Act, specifically by coal-fired power plants. Since then, there have been fifteen coal-fired power plant settlements as a result of the DOJ's and EPA's efforts.

Although coal-fired power has the potential to release a heavy pollution burden into the environment technology exists to significantly decrease the level of pollutants that are released. In the latest DOJ /



Many coal-fired power plants are making changes to operate with an increase in environmental awareness.

## What goes down the drain comes out the faucet

Recently a report was published that identified sources of water contamination in several United States cities. During a five month inquiry the Associated Press discovered that prescription and over-the-counter drugs had been detected in over 24 major metropolitan areas. The amounts detected were extremely small, no where near a therapeutic dose. Drugs detected included anticonvulsants, anxiolytics, pain medications and antibiotics. It's suspected that drugs enter the water supply when the body eliminates un-metabolized portions of a drug however, there is another way in which drugs enter the water supply. Often times consumers are unsure of how to safely dispose of expired medications. Flushing medications is never a solution. Most local waste treatment facilities will gladly accept medications for safe disposal. Alternatively, medications can be crushed, sealed in a non-transparent container, and discarded in the trash. For the best way to dispose of medications in your cabinet please refer to your local waste treatment facility.

**Sensitivity and Simplicity**  
Contact Your Project Manager about the Advantages of using LC/MS for your Next Drug Screen Analysis!

## Analysis of the Month

### Metals

For the month of September DataChem is offering a discount on our **metals analysis using NIOSH 7300**. A panel of 27 elements for \$100, a single element for \$40, additional elements for \$15 each. For further details contact us at [info@datachem.com](mailto:info@datachem.com). For a complete list of our Salt Lake laboratories services visit [www.datachem.com](http://www.datachem.com)

To take advantage of the offer simply refer to the newsletter in your analytical request. Discount is only available at our Salt Lake facility.

Do you have a topic you would like to see covered? Email me at [bachtell@datachem.com](mailto:bachtell@datachem.com).

For more information on our services call 1-801-266-7700

email [bachtell@datachem.com](mailto:bachtell@datachem.com) to unsubscribe