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# Air Compliance News

## Seasoning Your Beef

When Penn State dairy scientist Alexander Hristov gave dairy cows an oregano-based supplement, it reduced their Methane emissions by 40%.\* Cattle belches contain Methane—a highly potent Greenhouse Gas (GHG). As a cattle farmer, I wondered if this would set the MACT (Maximum Achievable Control Technology) floor for the New Source Performance Standards that I may likely have to comply with someday for my beef herd.

Although Carbon Dioxide (CO<sub>2</sub>) usually gets the most attention as a GHG, Methane is over 20 times more effective in trapping heat in the atmosphere than CO<sub>2</sub> over a 100-year period. Cow digestion accounts for 75 percent of the Methane produced by animals. Bacteria in the animals' multiple stomachs help them to break down their food, but it also produce Methane. The cows then belch it into the atmosphere. When all of livestock's impacts are taken into account, this sector represents about 18% of worldwide GHG emissions—which by the way is more than the transportation sector.

My observations from this study include:

- The study did not release the amount of oregano required in the cattle feed to achieve the 40% Methane reduction; however, considering the number of cows worldwide, the oregano market can be expected to skyrocket in the coming years.
  - The improvement in the taste of beef from having been 'pre-seasoned' will result in a higher demand for beef, which will mean more beef production, more Methane production to overcome, and a larger oregano supply requirement.
  - The odd flavor of oregano in milk, however, will result in a lower demand for milk products, which will most likely be more than offset by the huge increase in beef cattle production for an overall net increase.
- Someday someone will develop a cattle belching 'scrubber' for use in reducing Methane emissions. This scrubber will be adapted to other animals (including humans), industrial facilities, and or mobile sources.

So if you have any cattle and you'd like to test their Methane emissions, or just talk 'cows', please feel free to give me a call.



Phil Billick | President

\* Penn State. "Unusual Feed Supplement Could Ease Gassy Cows, Reduce Their Greenhouse Gas Emissions." *ScienceDaily*, 8 September 2010

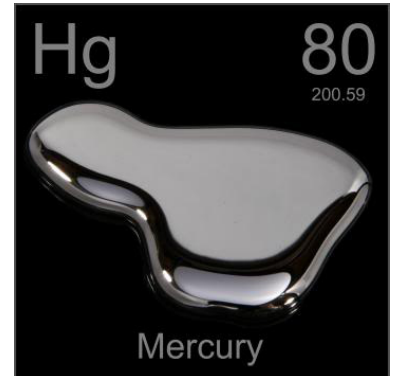
## EPA Proposes Cuts in Mercury from Sewage Sludge Incinerators

On September 30, 2010, EPA proposed new source performance standards (NSPS) and emission guidelines (EG) for new and existing sewage sludge incineration (SSI) units. The proposal would reduce emissions of air toxics and several of the common pollutants called criteria pollutants. The types of incinerators subject to the proposed standards are Multiple Hearth (MH) and Fluidized Bed (FB) Incinerators.

The proposed rules would establish opacity limits and emission limits for nine pollutants emitted from the regulated SSI units:

Mercury	Hydrogen Chloride	Dioxins/Furans
Lead	Particulate Matter	Nitrogen Oxides
Cadmium	Carbon Monoxide	Sulfur Dioxide

The proposed rules would reduce emissions of these pollutants by an estimated 6,330 tons per year (tpy), and may require approximately 196 of 218 SSI units to install one or more air pollution control devices including: activated carbon injection, fabric filters, or high efficiency scrubbers. The proposal also requires provisions for testing, monitoring, recordkeeping, reporting and operator training.



Comments may be submitted on this action for 30 days following publication of the proposed rule in the Federal Register. For more information, go to [www.epa.gov/ttn/oarpg/new.html](http://www.epa.gov/ttn/oarpg/new.html)

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## EPA Sets First National Limits to Reduce Mercury Emissions from Cement Plants

EPA issued final rules that will cut emissions of mercury, particle pollution and other pollutants from Portland cement manufacturing, the third-largest source of mercury air emissions in the United States.

This action sets the nation's first limits on mercury air emissions from existing cement kilns, strengthens the limits for new kilns, and sets emission limits that will reduce acid gases. This final action also limits particle pollution from new and existing kilns, and sets new-kiln limits for particle and smog-forming nitrogen oxides and sulfur dioxide.

When fully implemented in 2013, EPA estimates the annual emissions will be reduced:

Mercury	16,600 pounds or 92 percent
Total hydrocarbons	10,600 tons or 83 percent
Particulate Matter	11,500 tons or 92 percent
Acid gases (measured as hydrochloric acid)	5,800 tons or 97 percent
Sulfur dioxide (SO <sub>2</sub> )	110,000 tons or 78 percent
Nitrogen oxides (NO <sub>x</sub> )	6,600 tons or 5 percent

Mercury in the air eventually deposits into water, where it changes into methylmercury, a highly toxic form that builds up in fish. People are primarily exposed to mercury by eating contaminated fish.

For more information go to:  
[www.epa.gov/ttn/oarpg/t3pfpr.html](http://www.epa.gov/ttn/oarpg/t3pfpr.html)

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## EPA's Five Year Plan on Priorities



EPA has issued its fiscal year 2011 to 2015 strategic plan, which provides a blueprint for advancing EPA's mission and Administrator Lisa P. Jackson's priorities.

This plan presents five strategic goals for advancing the agency's environmental and human-health mission, accompanied by five cross-cutting fundamental strategies that seek to adapt the EPA's work inside and outside of the agency to meet the growing environmental protection needs of the day. The plan will guide the agency to foster a renewed commitment to new possibilities for achieving the vision of a cleaner, greener, and more sustainable environment.

The five-year plan includes new benchmarks that track progress against Administrator Jackson's seven priorities such as taking action to reduce emissions of greenhouse gases and adapt to climate change, protecting America's waters, increasing the use of smart growth and sustainable development strate-

gies in communities, building and maintaining strong state and tribal partnerships, working for environmental justice, and ensuring that chemical health and safety information is available to the public.

The five strategic goals for advancing the agency's environmental and human-health mission are:

- 1 | Taking action on climate change and improving air quality
- 2 | Protecting America's waters
- 3 | Cleaning up communities and advancing sustainable development
- 4 | Ensuring the safety of chemicals and preventing pollution
- 5 | Enforcing environmental laws

More information on the strategic plan:  
[www.epa.gov/ocfo/plan/plan.htm](http://www.epa.gov/ocfo/plan/plan.htm)

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## Carbon Management As A Strategic Priority

The latest report from the Carbon Disclosure Project indicates that firms are committed to deliver carbon reduction targets despite political uncertainty. The Carbon Disclosure Project is an independent not-for-profit organization holding the largest database of primary corporate climate change information in the world.



The Project's annual survey of the world's 500 largest firms shows that carbon management is steadily climbing the corporate agenda with 85% of respondents now having board-level or other executive-level responsibility for climate change – up from 68% last year.

The report found that companies reporting to the Carbon Disclosure Project see climate change as more of an opportunity than a risk, with 9 out of 10 firms identifying significant opportunities and fewer than 8 in 10 identifying significant risks. Companies invest in ways of securing energy supplies and “decarbonising” supply chains, as well as developing green products and services.

However, only 48% of the firms said they had managed to integrate climate change and carbon management into their group business strategy, and only 19% revealed significant emissions reductions, despite the increasing level of commitment from the board.

The Carbon Disclosure Project encourages firms to develop more products and services which help customers cut carbon emissions, and to increase energy efficiency in operations.

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## Women More Likely Than Men to Accept Global Warming

Women tend to believe the scientific consensus on global warming more than men, according to a study by a Michigan State University researcher, Aaron M. McCright.

The findings, published in the September issue of the journal *Population and Environment*, challenge common perceptions that men are more scientifically literate. 'Men still claim they have a better understanding of global warming than women, even though women's beliefs align much more closely with the scientific consensus,' said McCright, an associate professor with appointments in MSU's Department of Sociology, Lyman Briggs College and Environmental Science and Policy Program.

The study is one of the first to focus in-depth on how the genders think about climate change. The findings also reinforce past research that suggests women lack confidence in their science comprehension. 'Here is yet another study finding that women underestimate their scientific knowledge – a troubling pattern that inhibits many young women from pursuing scientific careers,' McCright said.

McCright analyzed eight years of data from Gallup's annual environment poll that asked fairly basic questions about climate change knowledge and concern. He said the gender divide on concern about climate change was not explained by the roles that men and women perform such as whether they were homemakers, parents or employed full time.

Instead, he said the gender divide likely is explained by 'gender socialization.' According to this theory, boys in the United States learn that masculinity emphasizes detachment, control and mastery. A feminine identity, on the other hand, stresses attachment, empathy and care – traits that may make it easier to feel concern about the potential dire consequences of global warming, McCright said.

'Women and men think about climate change differently,' he said. 'And when scientists or policy-makers are communicating about climate change with the general public, they should consider this rather than treating the public as one big monolithic audience.'



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[Click here to download a PDF of the entire report, "The Effects of Gender on Climate Change Knowledge and Concern in the American Public."](#)



## EPA Helps Launch Global Methane Initiative to Cut Greenhouse Gases

EPA and Mexico's Ministry of Environment along with thirty-six other countries, the European Commission, the Asian Development Bank and the Inter-American Development Bank launched a new Global Methane Initiative that urges stronger international action to address near-term climate change. The initiative expands on existing global efforts to reduce emissions of methane, while providing significant clean energy, human health, environmental and economic benefits. EPA Assistant Administrator for the Office of Air and Radiation, Gina McCarthy, represented the agency at the meetings that took place September 30 and October 1 in Mexico City.

The United States is pledging \$50 million over the next five years to the Global Methane Initiative and is seeking similar pledges from other developed countries, to support implementing methane emissions reduction projects and technologies. EPA estimates that an enhanced global effort to reduce methane emissions could achieve reductions of more than 1.5 billion metric tons of carbon dioxide equivalent – about the same as the annual emissions from more than 280 million cars.

For more information about the Global Methane Initiative, go to: [www.methanetomarkets.org/index.aspx](http://www.methanetomarkets.org/index.aspx)

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## Upcoming Events

### November 2-4, 2010

Symposium on Air Quality Measurement Methods and Technology, Los Angeles, CA. Go to [www.awma.org/events/view\\_event.html?typeid=1&id=124](http://www.awma.org/events/view_event.html?typeid=1&id=124) for more information.

### December 7-9, 2010

35th Annual A&WMA/EPA Information Exchange, Research Triangle Park, NC. For details, go to [www.awma.org/events/view\\_event.html?typeid=1&id=136](http://www.awma.org/events/view_event.html?typeid=1&id=136)

### March 29-30, 2011

MEC's 20th Annual Sustainability & EHS Symposium, Cincinnati, Ohio. For more information, go to [www.mecseminars.com/Programs/SustainabilityEHSSymposium.html](http://www.mecseminars.com/Programs/SustainabilityEHSSymposium.html)

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