



## Debunking Mercury's Myths

MYTHS	FACTS
<b>Emissions of mercury from U.S. power plants are small compared to global and natural sources.</b>	Electric power plants account for about 40% of U.S. man-made mercury emissions; a substantial portion of those emissions are deposited in the U.S. and U.S. coastal waters. A study funded by EPA concluded that even though U.S. power plants contribute only about 1% of the total mercury emitted globally, because of the enormous volume of commercial ocean fish consumed in the U.S., those consumers would receive a huge benefit in terms of avoided IQ loss as a result of strong mercury controls. The study found that almost 60% of the total IQ-loss that would be avoided by effective mercury reductions in the U.S. would be attributed to consumers of commercial fish. Another 8% of IQ-loss avoided would be attributed to consumers of non-commercial Atlantic Ocean and Gulf of Mexico fish. <sup>1</sup>
<b>Reducing U.S. emissions of mercury will only benefit people who eat lots of fish caught from U.S. rivers and lakes—not those who eat commercial ocean fish, like tuna.</b>	
<b>Mercury is emitted high into the atmosphere, and so a cap-and-trade system would not cause 'hot spots'.</b>	Not all mercury is emitted high into the atmosphere; of the three forms emitted—elemental, gas-phase and particle-bound mercury—the latter two, comprising 50% of all mercury emitted, are believed to deposit locally and regionally around the source. <sup>2</sup> Moreover, a study conducted by the Florida Dept. of Env'tl Protection modeled the contribution of local atmospheric mercury concentrations to measured mercury levels in fish. A correlation was found between levels of mercury found in locally caught fish and recently mandated emission reductions in local municipal and medical waste incinerators. At one location, 92% of the observed total mercury deposition could be accounted for by local sources. The study found that regional sources from the southeastern U.S. contributed only 5% of local deposition. <sup>3</sup> Another EPA study found an enormous regional mercury hotspot in the south Atlantic. <sup>4</sup> A cap-and-trade system of mercury control would accentuate these hotspots.
<b>Because there are natural sources of mercury emissions, there will always be mercury in the fish we eat.</b>	Emissions of mercury into the atmosphere from natural sources account for only about 30% of all emissions. <sup>5</sup> Moreover, the United States Geological Survey (USGS) has said that the mercury compound that is most toxic to humans—methylmercury—is more likely to be created where atmospheric mercury interacts with organic material, like the kind that is found in wetlands and shaded streams. As a result, smokestack emissions of mercury are more likely to form methylmercury because it is more widely distributed on air currents. <sup>6</sup>
<b>Reducing mercury sooner, and to a greater extent, than the cap-and-trade rule would require would be too expensive.</b>	The Institute for Clean Air Companies (ICAC) estimates that initial capital costs for activated carbon injection (ACI) technology at an existing plant would be 1.5 to 3 \$/kW. <sup>7</sup> For a 500 MW plant, this would be \$750,000 to \$1,500,000. Operation and maintenance costs would be roughly 0.01 to 0.12 cents per kWh. For a plant generating 3,000,000 MWh in a year, that would amount to about \$300,000 to \$3,600,000. Average increases in citizens' monthly utility bills would range from about \$0.01 to a little more than \$3.00 per month. <sup>8</sup>
<b>Mercury can't be removed from emissions at lignite-fired plants.</b>	Demonstration projects at North Dakota's Stanton and Leland Olds stations have shown that mercury emissions can be reduced by as much as 96% at plants burning lignite coal. <sup>9</sup>
<b>Reducing mercury emissions by the amount that environmentalists want would be impossible.</b>	Based on the results of full-scale demonstrations of ACI and other technologies, mercury reductions of up to 90% can be achieved for all coal types. <sup>10</sup> In any event, the Clean Air Act requires that technology-based emissions standards be determined through a rulemaking process—one that was not followed by EPA, which has attempted instead to remove power plants from the list of toxic sources without going through the required public-health review.
<b>Only pregnant women and children are at risk from eating fish that contains mercury.</b>	A number of studies have found an association between mercury concentrations and heart attacks in adults. In one of those studies, the authors reported a 69% greater risk of heart attack and a 93% greater risk of premature death in individuals with hair mercury concentrations of 2.0 ppm or more, compared with those with less than 2.0 ppm. <sup>11</sup>

<sup>1</sup> GLENN RICE & JAMES K. HAMMITT, NORTHEAST STATES FOR COORDINATED AIR USE MANAGEMENT, ECONOMIC VALUATION OF HUMAN HEALTH BENEFITS OF CONTROLLING MERCURY EMISSIONS FROM U.S. COAL-FIRED POWER PLANTS (2005) [hereinafter "Harvard/NESCAUM study"] at 64, 144, & 152 fig. 11.

<sup>2</sup> *Id.* at 5.

<sup>3</sup> FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, INTEGRATING ATMOSPHERIC MERCURY DEPOSITION WITH AQUATIC CYCLING IN SOUTH FLORIDA: AN APPROACH FOR CONDUCTING A TOTAL MAXIMUM DAILY LOAD ANALYSIS FOR AN ATMOSPHERICALLY DERIVED POLLUTANT (2003), at 56-57.

<sup>4</sup> DEBORA MARTIN & JOHN WILSON, OFFICE OF WETLANDS, OCEANS, & WATERSHEDS, U.S.E.P.A., BENEFITS OF REDUCING MERCURY IN SALTWATER ECOSYSTEMS: A CASE STUDY (2004), at 6 fig. 2-1.

<sup>5</sup> Harvard/NESCAUM study, *supra* note 1, at 2 tbl. 1.

<sup>6</sup> *Metal may pose higher risk for pristine waters*, in GREENWIRE, May 17, 2004.

<sup>7</sup> Letter from David C. Foerter, Institute of Clean Air Companies (ICAC), to Michael Leavitt, U.S.E.P.A., dated Jan. 3, 2005, at 5 tbl. 1.

<sup>8</sup> NATIONAL WILDLIFE FEDERATION, GETTING THE JOB DONE: AFFORDABLE MERCURY CONTROLS AT COAL-BURNING POWER PLANTS (2004), app. C at A-19.

<sup>9</sup> Sharon Sjostrom et al., *Full-Scale Evaluation of Mercury Control at Great River Energy's Stanton Generating Station Using Injected Sorbents and a Spray Dryer/Baghouse* (2002), at 11.

<sup>10</sup> Foerter, *supra* note 6, at 5 tbl. 1; Sjostrom, *supra* note 8, at 11.

<sup>11</sup> Harvard/NESCAUM study, *supra* note 1, at 37-48 (citing Salonen et al., *Mercury accumulation and accelerated progression of carotid atherosclerosis: A population-based prospective 4-year follow-up study in men in Eastern Finland*, 148 *Atherosclerosis* 265 (2000)).