



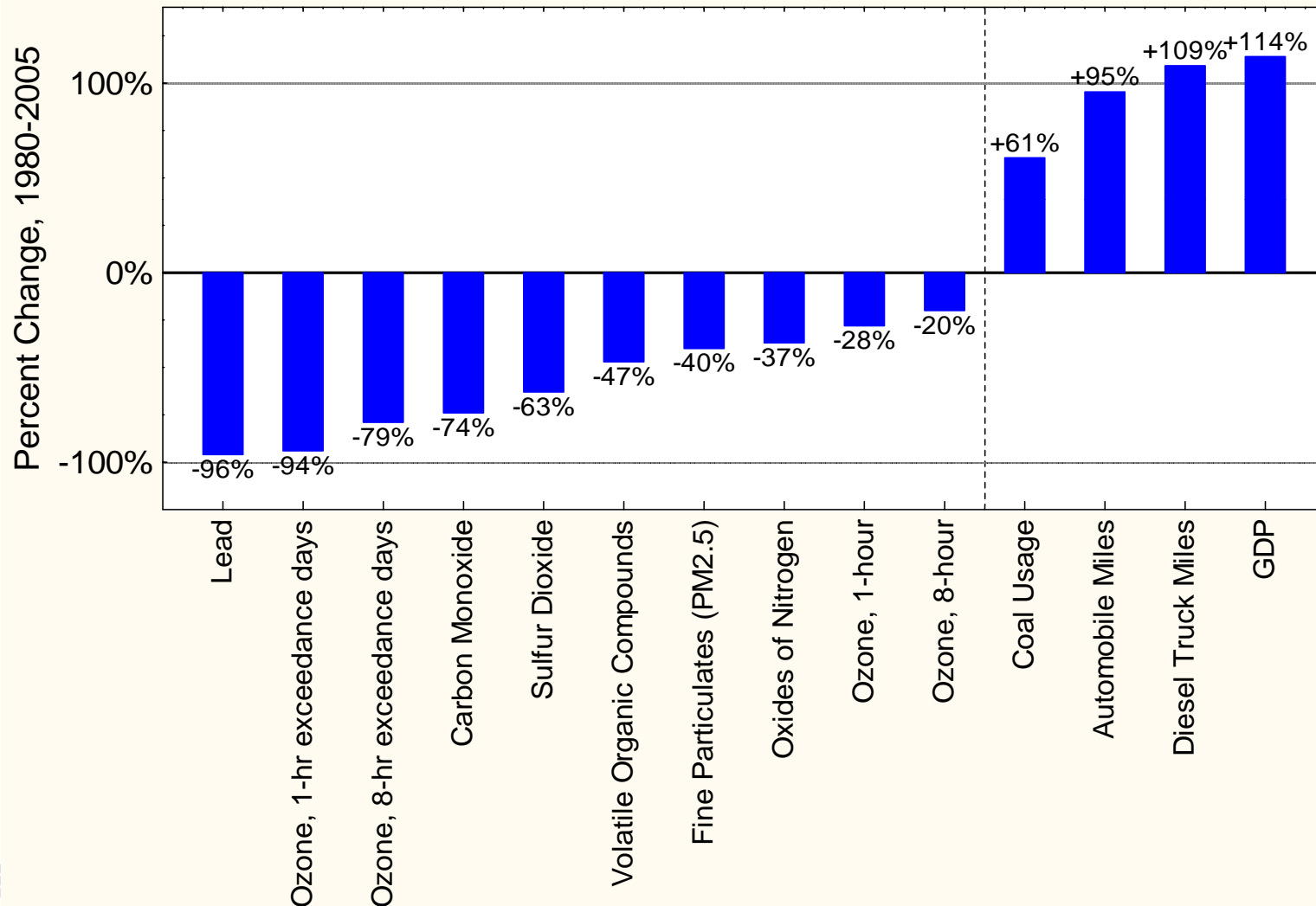
Energy and Air Pollution in Texas

Joel Schwartz
Visiting Fellow
American Enterprise Institute

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More Driving, More Energy...Less Pollution

Change in National-Average Air Pollution vs. Change in “Polluting” Activities, 1980-2005



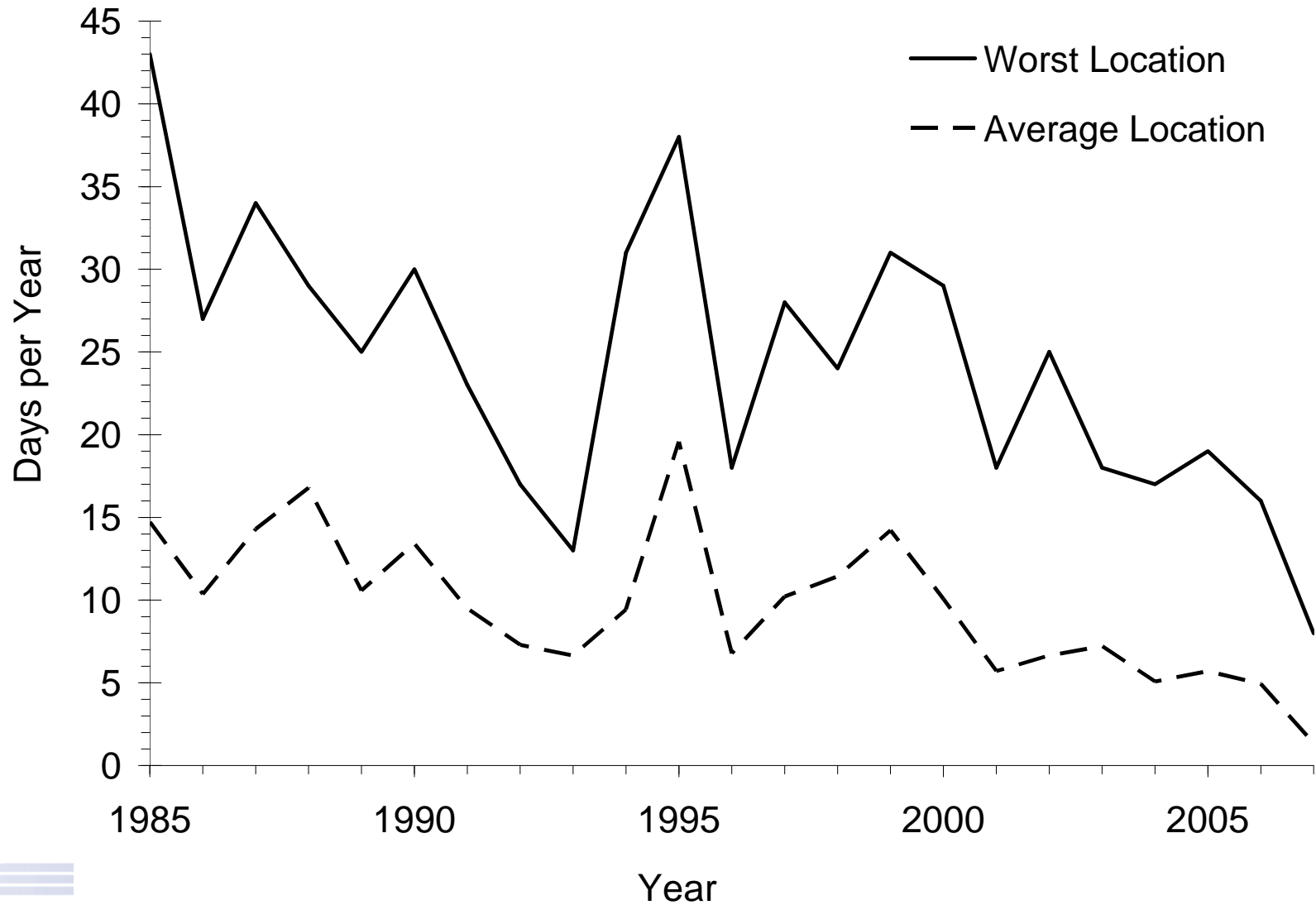
Less Air Pollution...More Alarmism

Activists and journalists create false appearance of worsening air pollution

- “Smog is out of control in almost all of our major cities,” Sierra Club, *Clearing the Air with Transit Spending*, 2001
- “Darkening Skies” — Title of Public Interest Research Group report, 2002
- “Sprawl and higher-emitting SUVs are proliferating faster than technological fixes can keep up.” Smart-Growth America, *Atlanta Journal-Constitution*, 9/1/2003
- “It might be a good idea to breathe now, while you still can,” Paul Krugman, *New York Times*, 11/26/2002
- “More highways, More Pollution” — Title of Surface Transportation Policy Project report, 2004

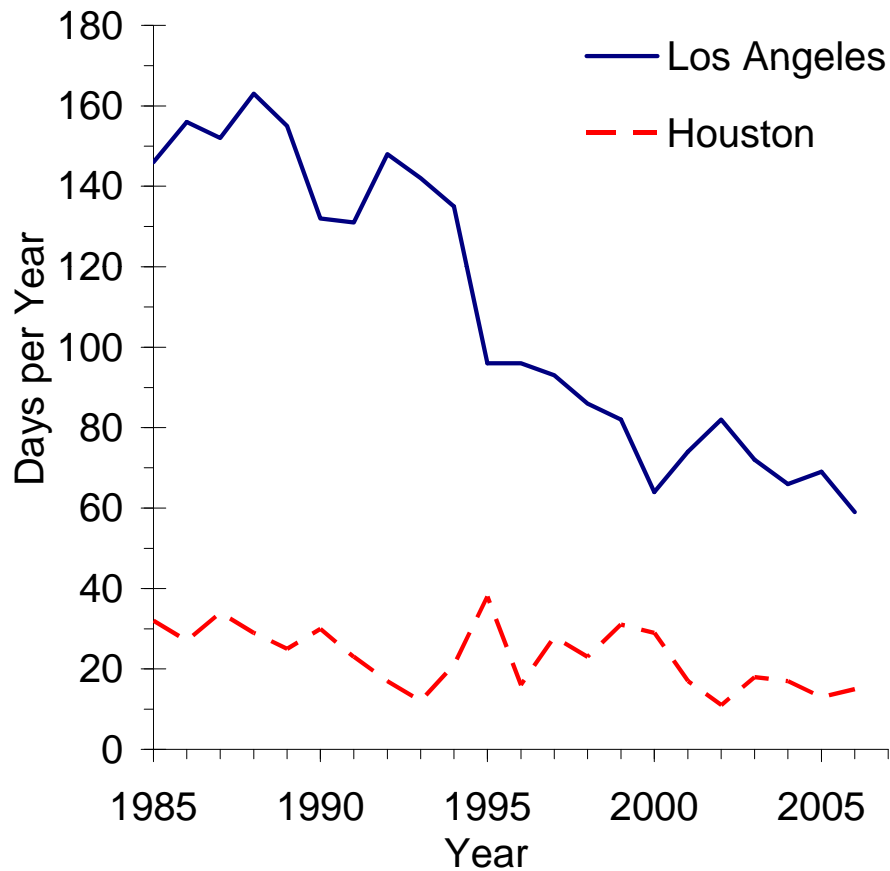
Long-Term Texas Ozone Trend

Days per Year Exceeding 8-hour Ozone Std.

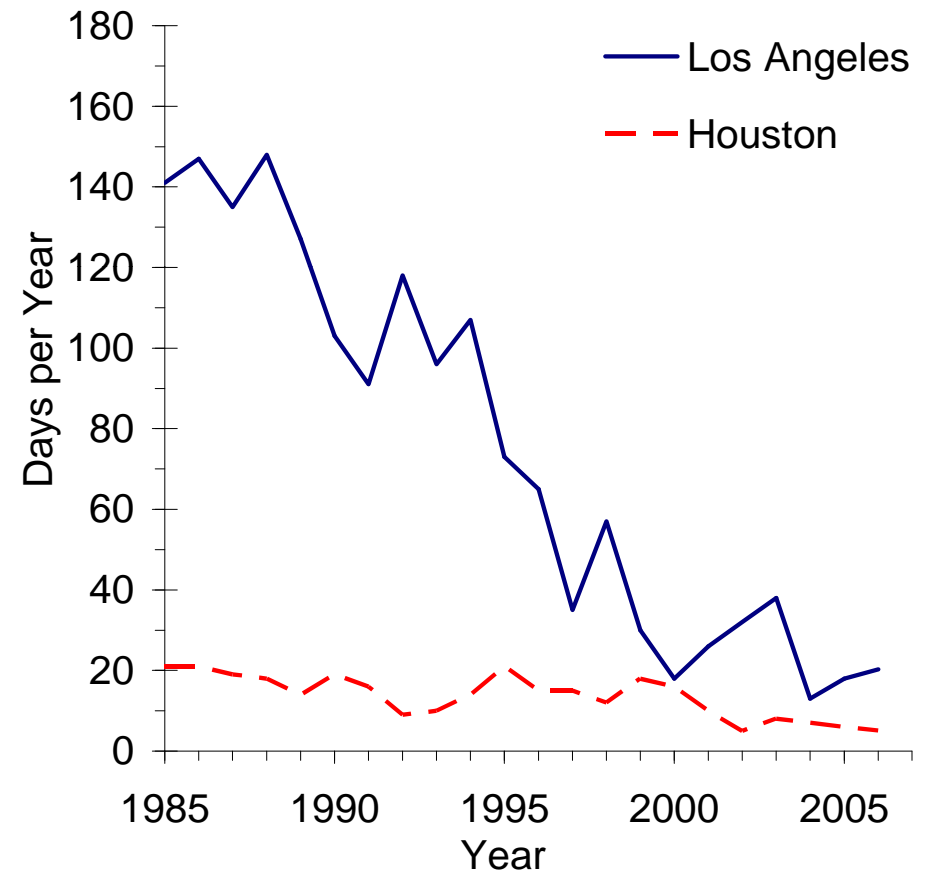


Houston Never Beat LA on Smog

8-hour ozone exceedance days

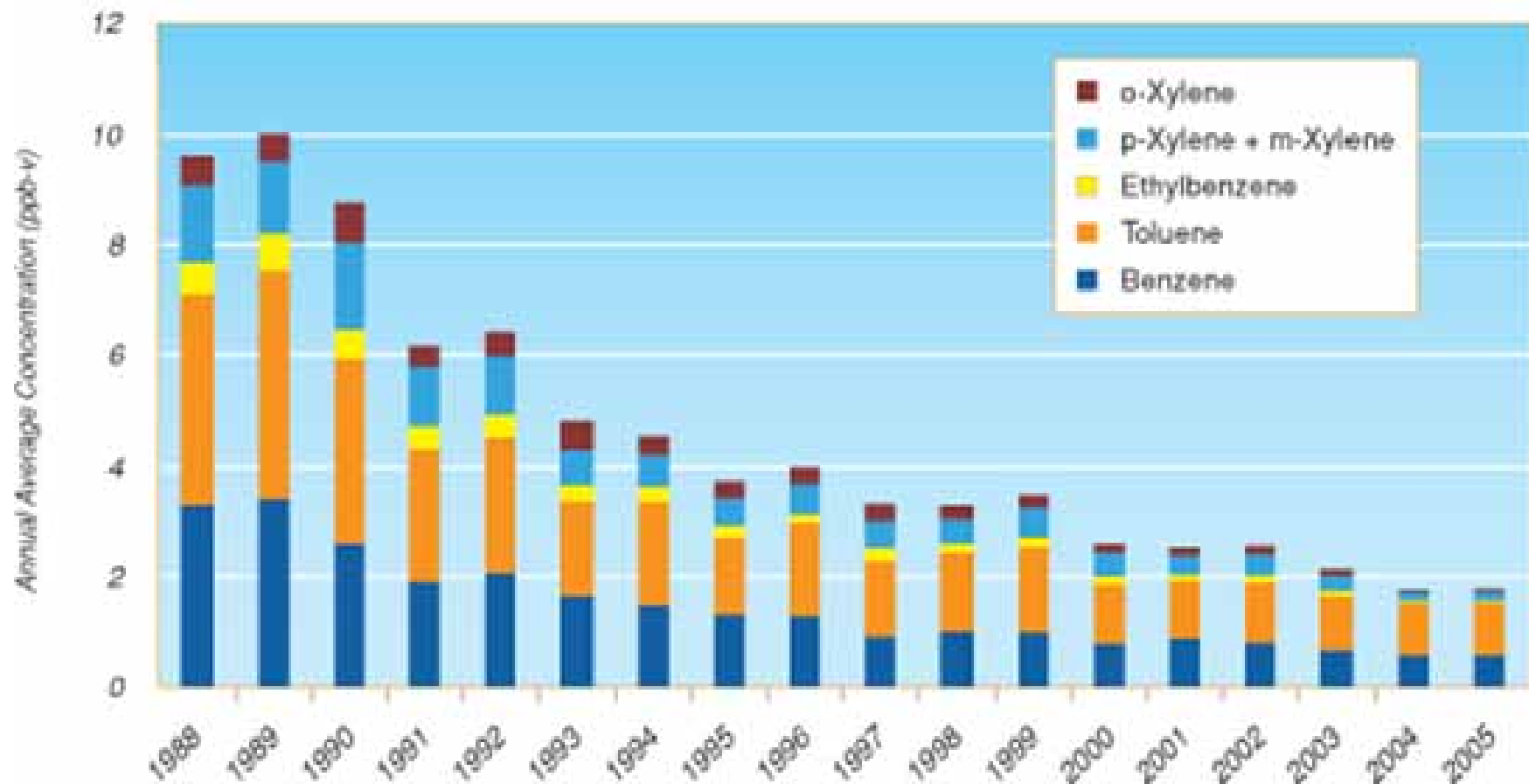


1-hour ozone exceedance days

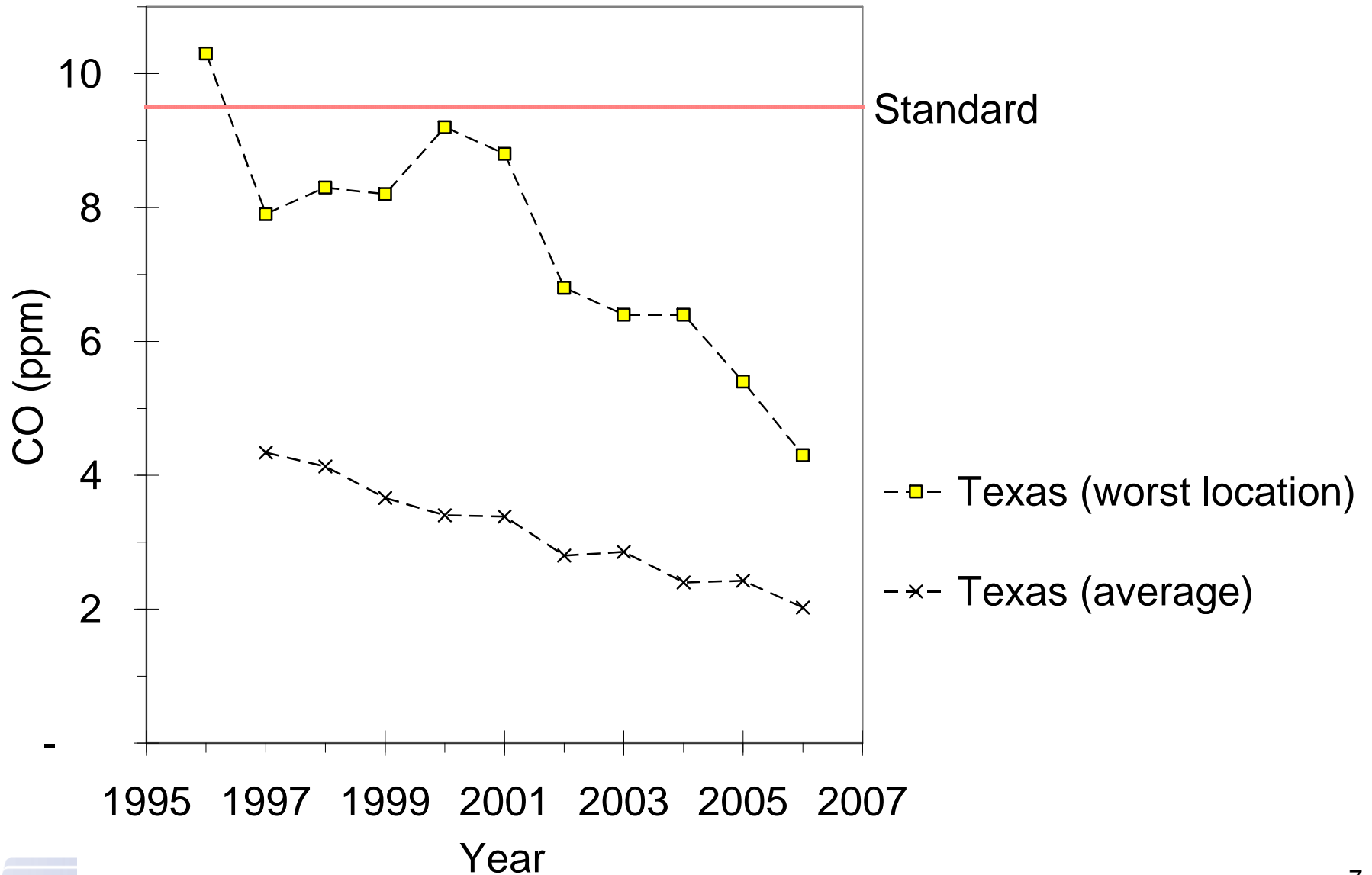


Houston VOC levels, 1988-2005

*Annual Average Trends for BTEX
for HRM Network from 1988 through 2005*

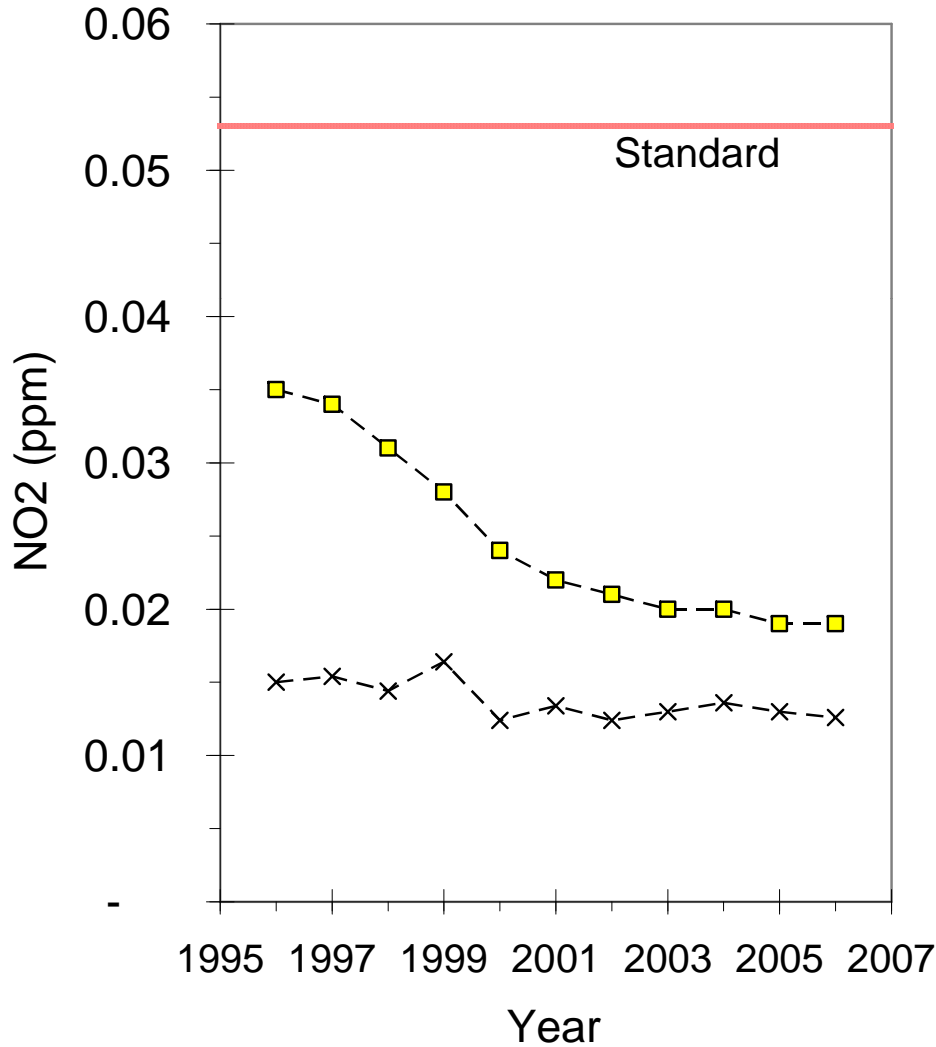


Carbon Monoxide (mainly from cars)

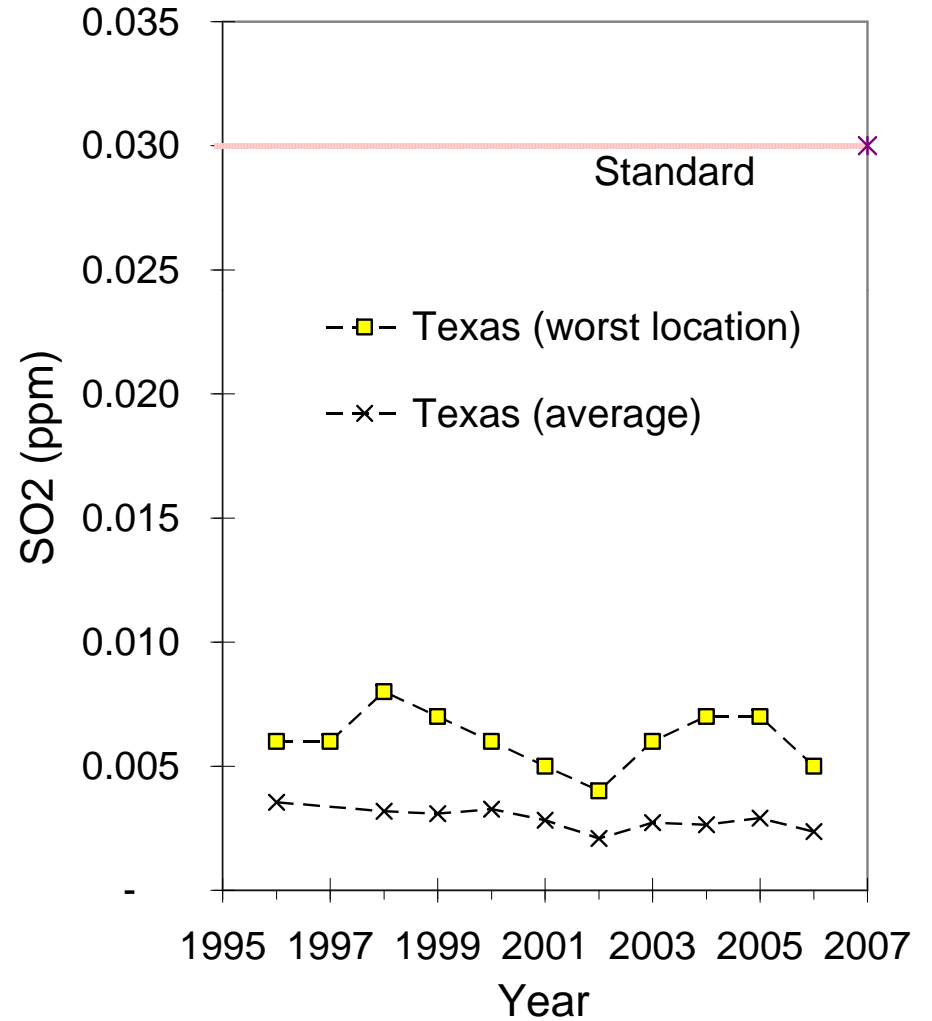


NO2 (vehicles, power plants); SO2 (coal)

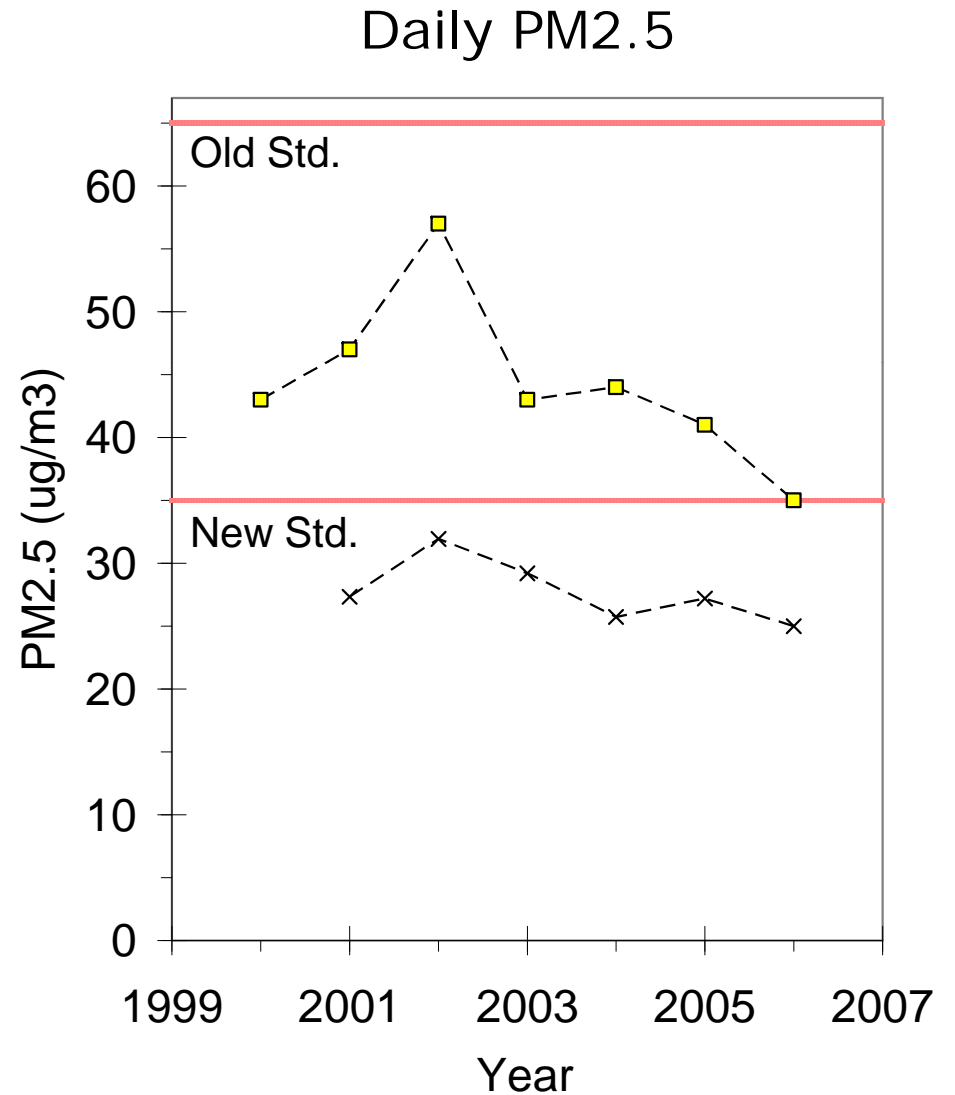
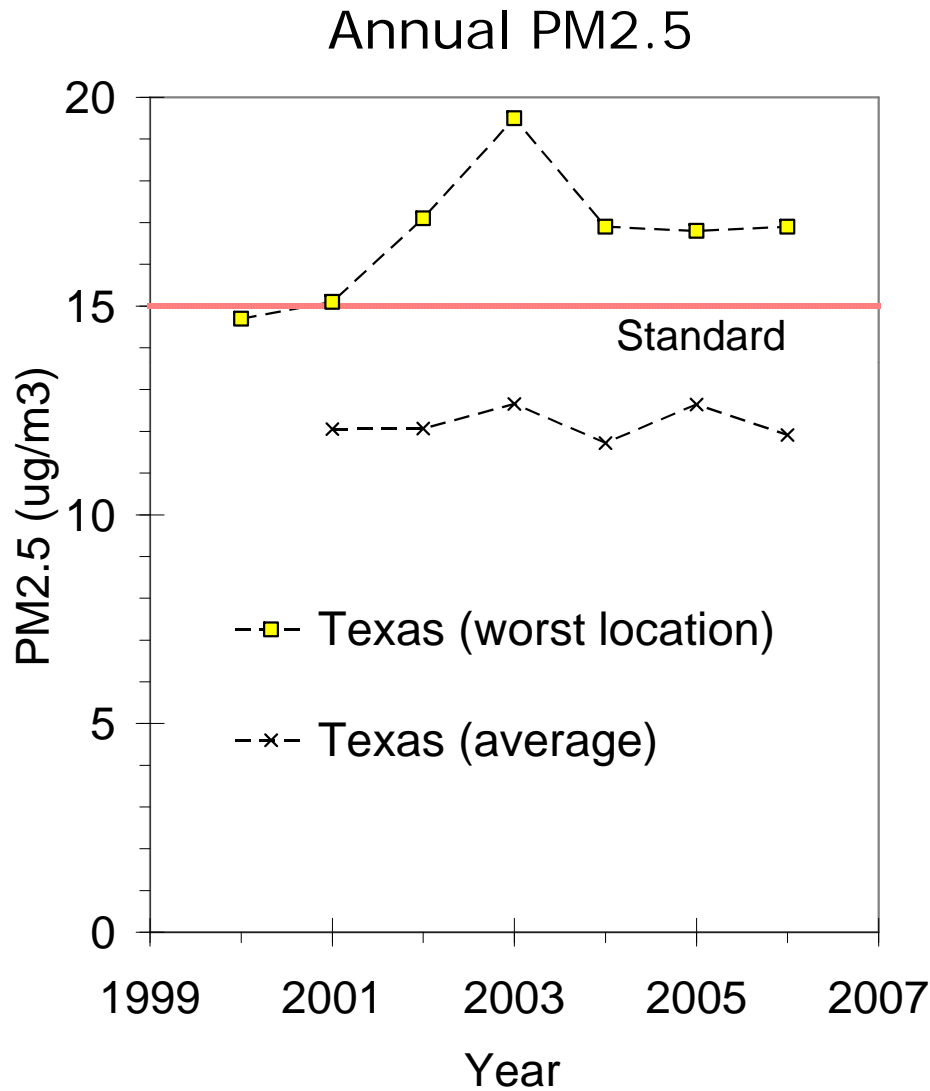
Nitrogen Dioxide



Sulfur Dioxide



Fine Particulate Matter (PM2.5)



Air pollution will continue to decline

- Standards for new motor vehicles will eliminate more than 80% of vehicle NO_x, VOC and PM, even after accounting for growth in driving
- Clean Air Interstate Rule (CAIR) will eliminate more than 70% of SO₂ and more than 50% of NO_x during the next two decades
- MACT rules eliminate most emissions from a wide range of industrial sources
- Overall, existing requirements will eliminate at least 70%-80% of remaining air pollution during next 20 years or so

Ozone is main air quality challenge for Texas

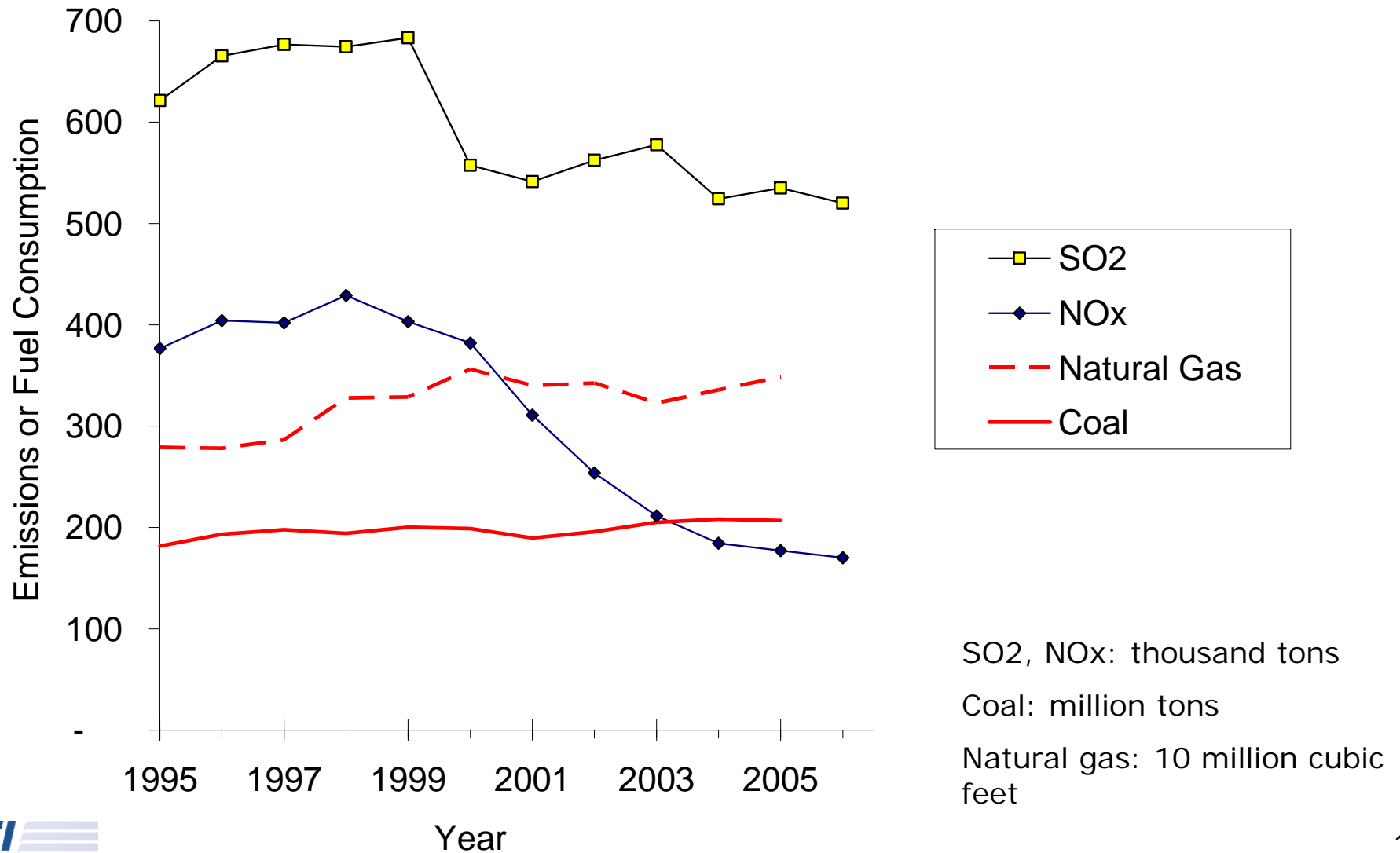
- Whole state complies with federal standards for CO, NO₂, SO₂, and lead
- Near full compliance for fine particulate matter (PM_{2.5})
 - Soot and sulfate will continue to drop
- Several metropolitan areas violate 8-hour ozone standard
 - Ozone-forming emissions will continue to drop, however...
 - EPA will adopt a tougher ozone standard next year, and will begin enforcing it around 2011
 - New standard may be difficult to meet, even with large NO_x and VOC reductions

Texas can have both cleaner air and affordable energy

- Opponents of inexpensive energy have created a false dichotomy. They would have Texans believe that more fossil-fuel energy, and particularly more coal-based energy, necessarily means more air pollution.
- This hasn't been true in the past and it will not be true in the future. Texans can continue to meet their electricity needs by the most cost-effective means available, while at the same time continuing to reduce air pollution.

Texas: More Fossil Fuel Energy...Less Pollution

Power plant SO₂, NO_x emissions vs. Coal, natural gas burned



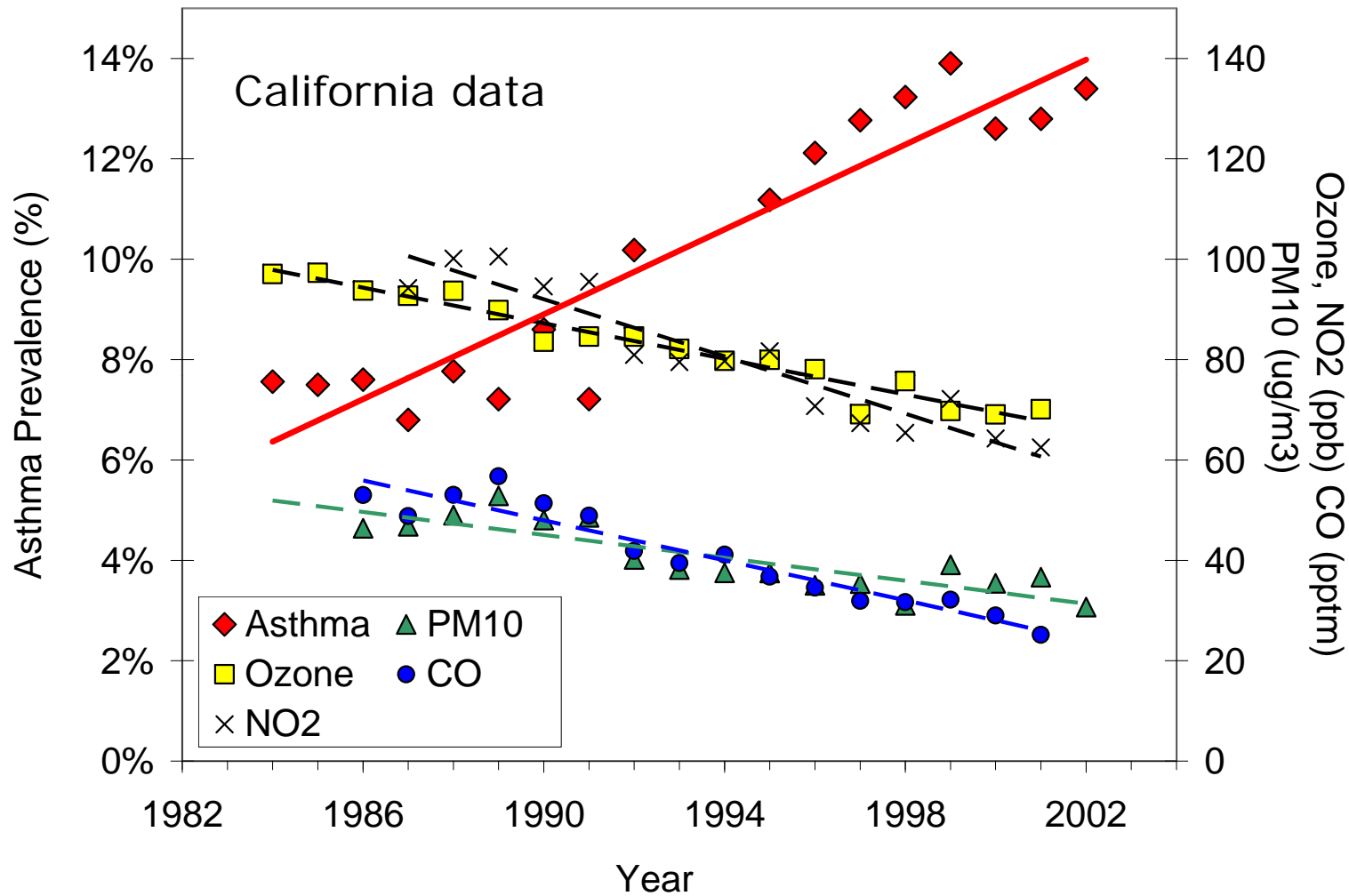
Whether Texas chooses coal or alternatives, the effect on air quality will be small—the real issue is cost

- Power plants account for only about 13% of NO_x and virtually no VOC
- Clean Air Interstate Rule will eliminate most NO_x, SO₂, and mercury during the next decade
 - CAIR caps remain in place regardless of how much coal is burned for energy
- Regardless of federal requirements, Texans can choose just about whatever level they want for NO_x emission from coal plants
 - Tradeoff: Lower emissions means higher electricity costs; but even with more stringent pollution controls, coal is likely to be cheaper than alternatives
- The real choice isn't about air quality, but about how much Texans will have to pay for their electricity. Banning new coal plants likely means higher electricity costs.

What about air pollution and health?

- Activists and journalists create the impression that current air quality is a serious threat to health and that adding coal plants will only make a bad situation worse.
- In fact, air pollution is already a minor factor in people's health and adding additional coal-fired power has no health implications.

Declining Air Pollution, Rising Asthma



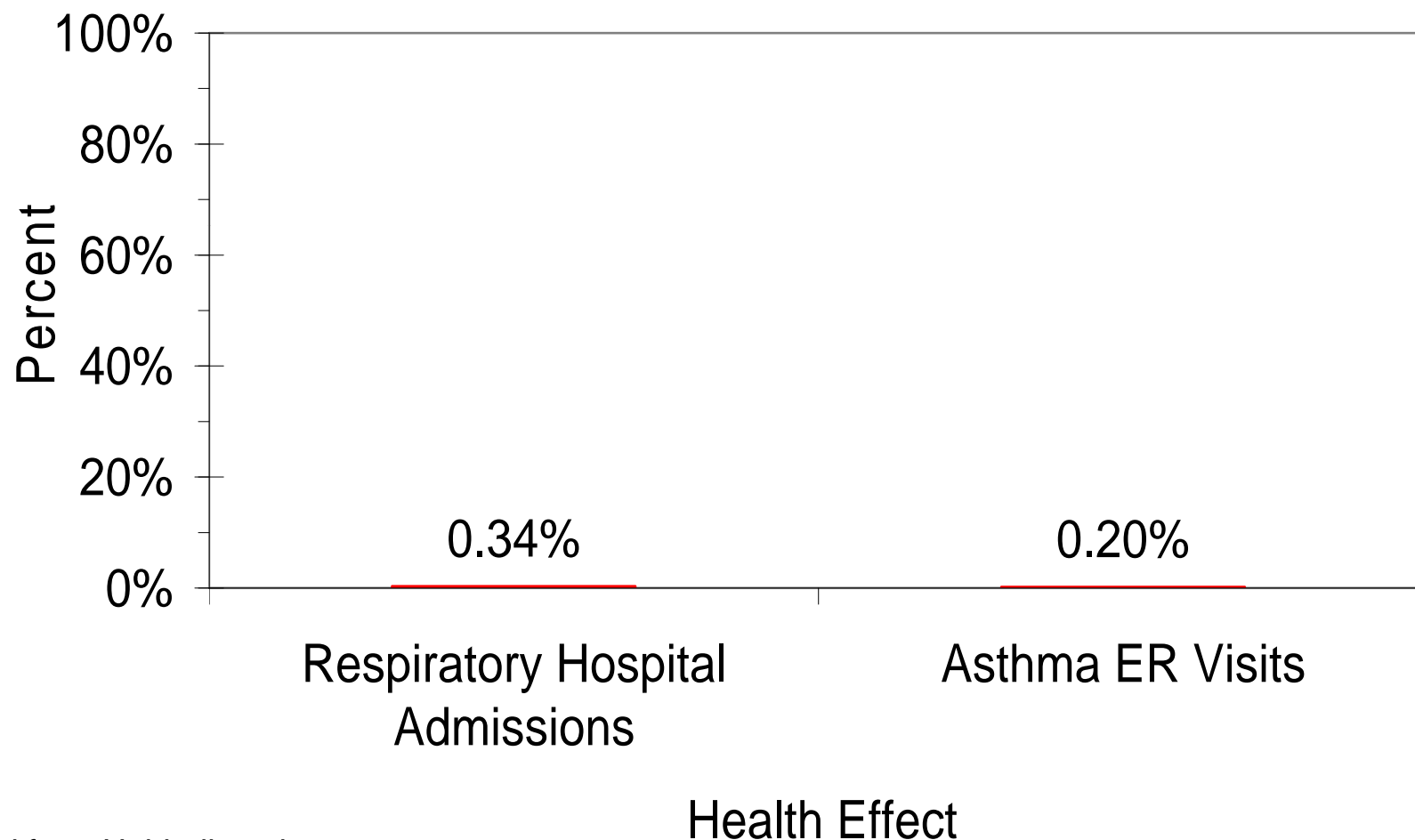
“And growing numbers of residents are plainly suffering from all the smog. The [San Joaquin] valley has some of the nation's highest rates of childhood asthma.” *Washington Post*, 2/16/03

Power plant particulate matter is mainly ammonium sulfate, which is not toxic

- “The objective of this study was...to investigate the response of asthmatic subjects who were 60 to 75 y of age to inhaled sulfuric acid...Each subject was exposed to clean air, **an inert ammonium sulfate aerosol**, or 70 micrograms/m³ sulfuric acid.”
 - J. Koenig et al., “Respiratory effects of inhaled sulfuric acid on senior asthmatics and nonasthmatics,” *Archives of Environmental Health*, 1993, 48(3), 171-175
- Asthma inhaler medications are delivered in the form of sulfate aerosols
- Coal-fired power plants also contribute small amounts of ammonium nitrate particulate, which also is not toxic
- Environmental activists claim “pollution from coal plants shortens the lives of 1,160 Texans each year” (www.stopthecoalplant.org).
 - Because sulfate and nitrate particulates are not toxic, the anti-coal campaign is based on false premises

EPA predicts tiny benefits from reducing ozone

EPA estimate of percent of acute health effects avoided by going from 2002 ozone to full national 8-hour ozone attainment

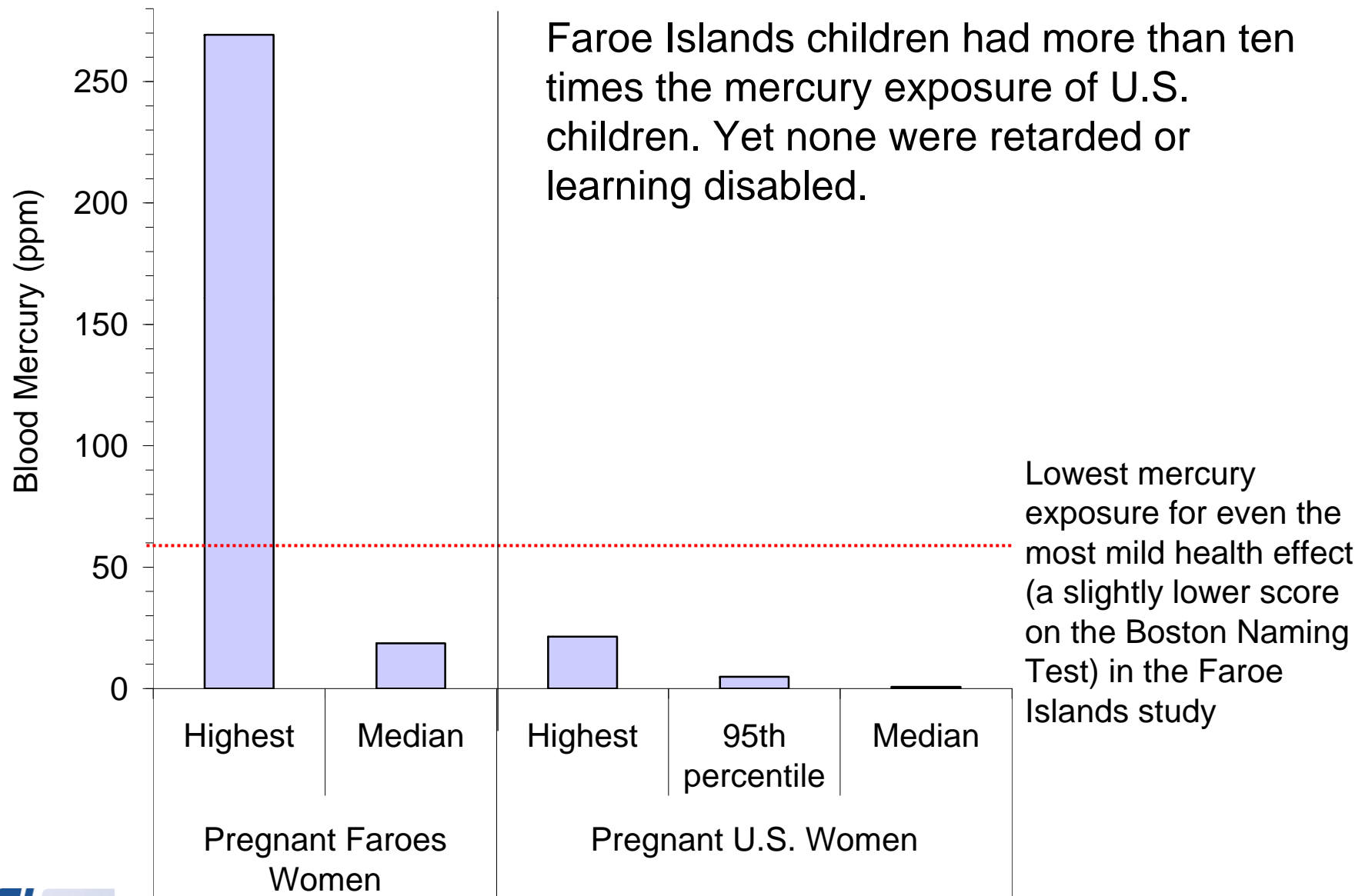


Calculated from Hubbell et al.,
Environmental Health Perspectives,
January 2005

Mercury Hysteria

- Coal-burning is the largest source of mercury emissions in the U.S.
 - Because all the really large sources of mercury—waste incineration and ore processing—have been virtually eliminated. U.S. mercury emissions have declined about 80%-90% since the 1980s.
 - U.S. mercury emissions account for only about 25%-32% of mercury deposition in the U.S. The rest comes from other countries and natural emissions.
- Environmentalists pillory Texas for being the nation's largest mercury emitter. But this is mainly a function of being a large state. Texas is 22nd out of the 50 states in per-capita mercury emissions.
- Environmentalists' claims about mercury verge on the hysterical. “[Mercury] contaminates fish and leads to permanent brain damage in exposed children.” – SEED Coalition
 - There is no doubt that mercury is toxic when ingested in sufficient quantities. But Americans' mercury exposures are nowhere close to a level that could cause brain damage.

Faroe Islands children were not “brain damaged” despite much higher mercury exposures than U.S.

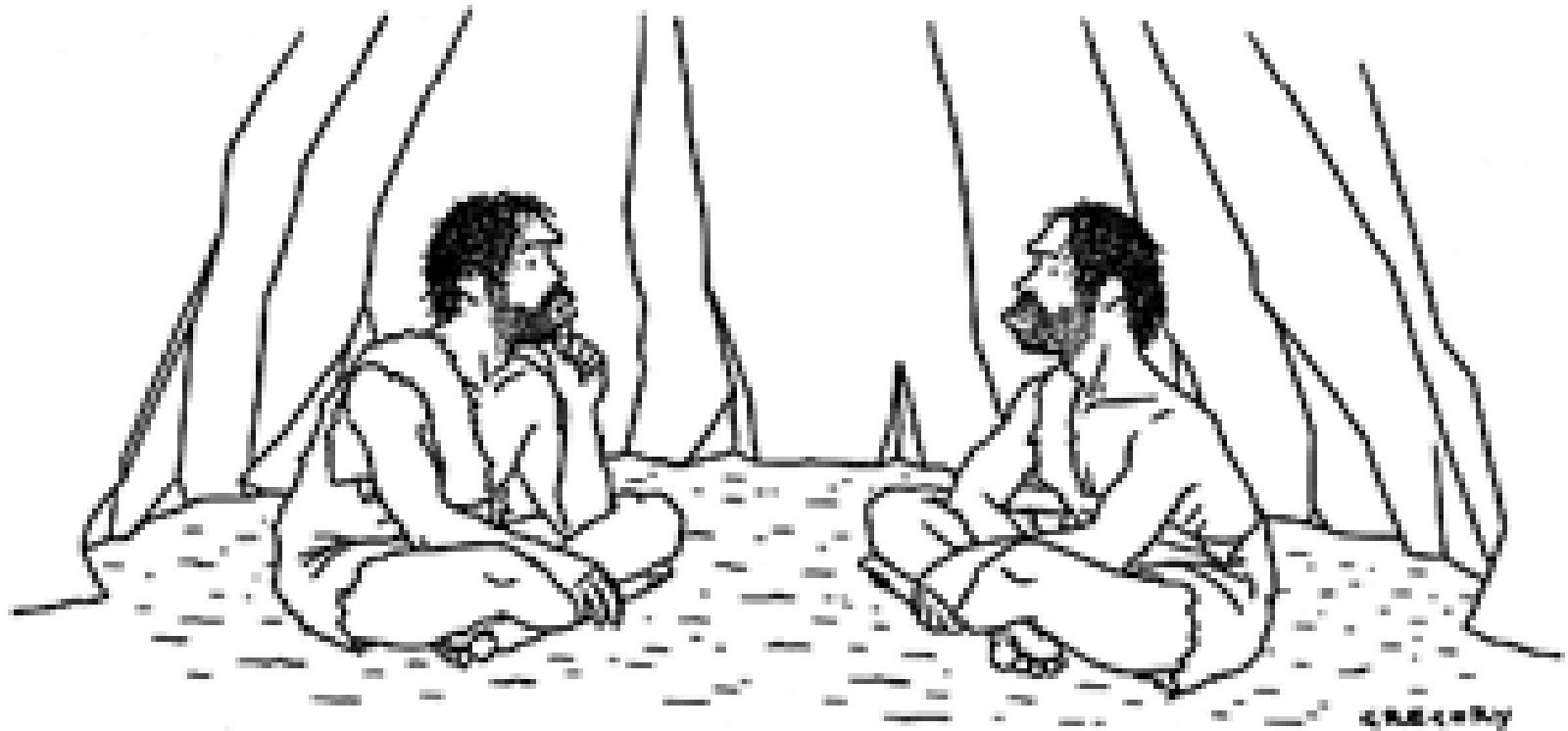


The Choice

Clean air and expensive electricity

or

Clean air and cheap electricity



“Something’s just not right—our air is clean, our water is pure, we all get plenty of exercise, everything we eat is organic and free-range, and yet nobody lives past thirty.”

The Tyranny of Good Intentions

Virtue is more to be feared than vice, because its excesses are not subject to the regulation of conscience.

— Adam Smith

Of all tyrannies, a tyranny exercised for the good of its victims may be the most oppressive...those who torment us for our own good will torment us without end, for they do so with the approval of their own conscience.

— C. S. Lewis

Contact information

- joel@joelschwartz.com
- www.aei.org
- www.joelschwartz.com