

## PROTECTING ENVIRONMENTAL QUALITY AND HEALTH

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The Arizona Public Health Association (AZPHA) supports environmental policies that safeguard public health. This requires laws, funding and infrastructure that promote environmental quality. We are especially concerned about protecting the health of children, who are more vulnerable than adults to the effects of pollution.

**Air Quality and Health:** The Phoenix metro area was listed as a “serious non-attainment area” by the Environmental Protection Administration (EPA) in 1996 and has implemented many measures to bring the region into compliance. However, exposure to continued air pollution in urban areas is an ongoing problem and worsens the health of people with heart and lung diseases. Arizona has the 4th highest asthma prevalence in the US.<sup>1</sup> The costs related to uncontrolled air pollution include poor health, limitation of physical activity, medical expenses, avoidable hospitalizations, lost work days, school absenteeism, and even death. The most important components of air pollution include:<sup>2</sup>

Carbon Monoxide: exposure impairs brain function and aggravates heart problems. This odorless, colorless gas, formed as a byproduct of incomplete combustion, is more prevalent as an air pollutant in winter months. This EPA standard has been met. Ozone: exposure irritates airways, causes coughing, nausea, chest pain, and headaches; aggravates asthma, bronchitis and emphysema. Motor vehicle exhaust, industrial emissions, gasoline vapors, chemical solvents and natural sources emit oxides of nitrogen and volatile organic compounds which combine in sunlight to create ozone. In Maricopa County, the 1-hour EPA standard has been met, but not the new 8-hour standard.<sup>3</sup> Particulates (PM<sub>10</sub> and PM<sub>2.5</sub>): exposure irritates membranes of the airways, aggravates heart and lung diseases, impairs immunity, triggers cancerous growths and lead to premature death. Fugitive dust from traffic on paved and unpaved roads, construction, agriculture and disturbed vacant land causes over 80% of PM<sub>10</sub> pollution in the Phoenix metropolitan area. Maricopa County continues to exceed EPA standards for PM<sub>10</sub>, which could lead to Federal sanctions and loss of funding. Fine particulates, called PM<sub>2.5</sub>, are mainly produced from vehicle exhaust. The PM<sub>2.5</sub> standard has been met in Maricopa County.<sup>3</sup> Hazardous, or Toxic, Air Pollutants (HAPs): exposure causes increased risk of cancer and damage to the reproductive, neurological, respiratory and immune systems as well as developmental abnormalities. Federal EPA standards list 188 toxic HAPs produced by vehicle emissions, manufacturing, refining, building materials, solvents and natural sources such as volcanos or forest fires. Arizona has not developed regulations to implement a 13-year old law to control HAPs.

### ***Therefore be it resolved that AZPHA support policies to:***

- Enforce requirements to limit and control emissions of particulates, carbon monoxide, volatile organic compounds, nitrous oxides and hazardous air pollutants.
- Enforce air quality control measures in the State Implementation Plans (SIPS) submitted to EPA
- Provide funds and incentives for measures which reduce air pollutants
- Implement cleaner-burning fuels
- Retrofit or replace outdated diesel equipment and passenger vehicles
- Implement the new law requiring schools to meet national ventilation design and construction standards
- Enforce existing ordinances that limit idling of trucks and buses; promote statewide legislation to require diesel trucks and buses to idle no longer than 3 consecutive minutes
- Mandate school districts to reduce school bus idling to reduce children’s exposure to dangerous diesel exhaust
- Strengthen statutory authority of the Arizona Department of Health Services and the Arizona Department of Environmental Quality to regulate air pollution
- Assure sufficient state and local funding to accomplish the above

**Water Quality and Health:** EPA sets maximum allowable levels for contaminants in drinking water. Violations may be under-reported because some systems fail to fully monitor or report their results. Each year several Arizona water systems report health violations. While some are corrected in a few days, a number of water systems have ongoing violations for several years. Types of contamination include:<sup>2</sup>

*Chemicals* such as tetrachloro- and trichloroethylene (PCE and TCE): these chemicals, which cause cancer, respiratory disease and liver damage, have contaminated aquifers in Maricopa County. As a result, wells have been closed in West Phoenix and water supplied to thousands of homes in the Northeast Valley must be stripped of the pollutants before being delivered for drinking. *Arsenic, Mercury, Lead and Copper:* all of these substances are toxic. Arsenic occurs naturally in ground water in some parts of the state. Mercury is discharged into lakes and rivers from coal-burning power plants and is found in freshwater fish. Lead, which leaches from old water pipes and solder, affects brain development in children. Copper may be found downstream from mines. *Microbial contaminants:* two children died from water contamination by pathogenic amoeba in a Phoenix area water district. Coliform bacteria from sewage and livestock manures can lead to dangerous infections and must be controlled by rigorous enforcement of sanitary codes to prevent seepage into drinking water supplies.

***Therefore be it resolved that AZPHA support policies to:***

- Strictly enforce EPA clean drinking water standards
- Protect aquifers and drinking water supplies from contamination
- Regulate the amount of effluent disposal by homes and businesses
- Provide adequate enforcement of standards for wells, drinking water systems and sanitary septic systems
- Support local, state and national efforts to prevent, control and remedy environmental pollution

**Precautionary Principle:** Prevention of injury and disease is the basic cornerstone of public health policy. Current environmental regulations are largely aimed at controlling pollution rather than preventing the use, production or release of toxic materials. Many products, technologies and substances are considered safe until proven harmful. Agency policies often fail to address the unique susceptibility to environmental contaminants that may occur among fetuses, children, immune-suppressed individuals and other sensitive populations. The lack of scientific certainty<sup>5</sup> may be related to lack of data, failure to examine complex systems or ignorance about what effects to study.

The Rio Declaration on Environment and Development (July 14, 1992) has been signed by the US and widely adopted by the European Union. This document states: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation, a statement known as the 'Precautionary Principle.'<sup>5</sup>

***Therefore be it resolved that AZPHA support policies which:***

- Promote the 'Precautionary Principle:' When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.

**Infrastructure and Funding:** The statutory mission of the Arizona Department of Environmental Quality and environmental services in each county is to protect the public by providing assessment, planning, permitting, monitoring, reporting and enforcement.

***Therefore be it resolved that AZPHA support policies to:***

- Provide an adequate legal framework to support the mission of environmental protection
- Assure sufficient state and local funding to support the infrastructure and essential services of state and local environmental agencies

References:

1. Asthma: BRFSS 2002: Table L1: Self- Reported Lifetime Asthma Prevalence Rate (Percent) and Prevalence (Number) by State or Territory. US Centers for Disease Control.
2. [www.cdc.gov/brfss/02/lifetime/tableL1.htm](http://www.cdc.gov/brfss/02/lifetime/tableL1.htm)
3. America's Children and the Environment: Measures of Contaminants, Body Burdens, and Illness. Second Edition. The United States Environmental Protection Agency, February 2003.
4. Lindy Bauer, Maricopa Association of Governments. Personal communication.
5. The Precautionary Principle and Children's Health. American Public Health Association Resolution 2000-11.

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