

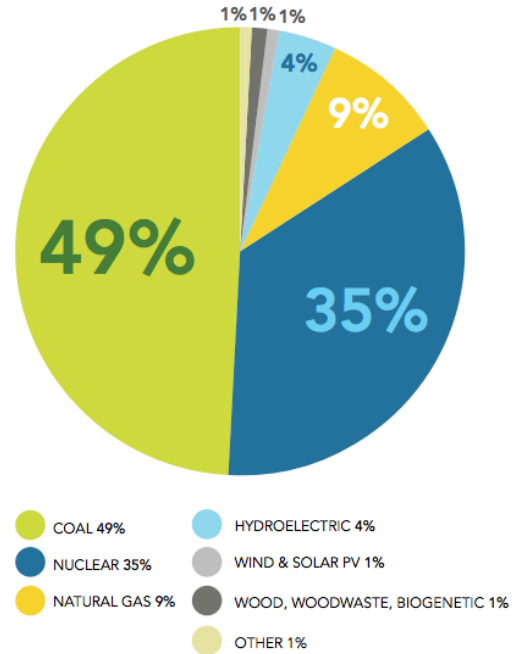
Energy Choices and Public Health

Everyone needs energy. Yet the ways we produce the energy we need and the ways we use energy have consequences for our health that are often overlooked.

Both the production of energy in Maryland and the use of energy in our homes, schools, businesses and public buildings release toxic substances into our air, water and soil, exposing people to pollution that causes disease.

As seen in the pie graph to the right, most of our energy in Maryland comes from the combustion of fossil fuels to heat/cool our homes, power equipment, and vehicles, which adds another layer of pollution.

MARYLAND ELECTRICITY GENERATION BY FUEL
SOURCE: U.S. ENERGY INFORMATION ADMINISTRATION (2011)



Energy & Health in Maryland: A Briefing for Health Advocates

The Maryland Environmental Health Network seeks to improve the health of Marylanders by minimizing exposures to environmental threats and toxic chemicals, through effective environmental legislation and institutional policies.

They authored and produced [a report](#) in November 2014 that found that there are significant health issues that are linked to how our society has chosen to generate energy.

Water and Soil Contamination

Fossil fuel extraction through [hydraulic fracturing](#) and coal mine tailings are two ways that fossil fuel extraction can contaminate our water and soil. [1]

For instance, contamination of drinking water from discharged fracking fluids threatened [Pittsburgh's water supply in 2009](#). Superfund sites and the Fukushima disaster are other high profile examples of soil and water contamination.

Air Pollution

Maryland's poor air quality persists even though we have adopted clean air laws and regulations.

As of December 2013, thirteen of Maryland's 24 jurisdictions were in non-attainment status for two

EPA "criteria air pollutants": ozone and particulate matter.

The Baltimore-Washington corridor ranks 8th in the American Lung Association's list of the most ozone polluted metro areas of the country in 2013.

- Cancer:** Cancer is the second leading cause of death in Maryland. An April 2014 article published in the American Journal of Preventive Medicine documented the positive association between childhood leukemia and exposure to traffic during the postnatal period, but not during the prenatal period.
- Cardiovascular Disease:** High blood pressure, stroke and heart attack have all been associated with poor air quality. The American Heart

Association characterized the pathophysiology of air pollution and heart disease in their updated statement in 2012. [4]

- **Respiratory Illness:** Asthma and Chronic Obstructive Pulmonary Disease (COPD) are two major respiratory diseases. Asthma is linked to air pollution; particulate matter, ground level ozone, nitrogen oxides and volatile organic compounds (VOCs) trigger symptoms. Vehicle exhaust contributes to high levels of asthma in urban areas.
- **Reproductive, Developmental and Birth Outcomes:** Epidemiological and animal studies show that there is a link between shorter gestation and the level of particulate matter, sulfur dioxide, nitrogen dioxide, and other nitrogen oxides in the ambient air. [5]
- **Mental Health and Social Impacts:** A growing body of research supports damaging effects of air pollution on the brain. Mental and social health impacts include depression, dementia, premature aging of the brain, social disruption from industrial operations, and impacts on community quality of life.
- **Life Expectancy:** A 2009 study found that life expectancy was increased by half a year for every decrease of 10 micrograms per cubic meter of PM2.5 and that reductions in air pollution resulted in an average 15% increase in life expectancy in the US.[6]

What Can I do to Help?

- Bike, walk or take public transportation in your daily travels as opposed to driving.
- Invest in clean energy options like solar and wind. Find out what an economical option is for you today at www.clearlyenergy.com
- Support current and future legislative initiatives that expand Maryland's renewable energy resources and energy efficient technologies

Resources for more information

- Climate Communication Consortium of Maryland: <http://www.climatemaryland.org/>
- Sierra Club Maryland: <http://maryland.sierraclub.org/>
- Maryland Environmental Health Network: <http://www.mdehn.org/reports/energyhealth/>
- Clean Air Partners: <http://www.mwcog.org/environment/air/partners/>
- Maryland Clean Cars Program: <http://www.mde.state.md.us/programs/Air/MobileSources/CleanCars/Pages/index.aspx>

References:

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2. American Lung Association. "State of the Air 2013." April 2013.
3. U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999–2010 Incidence and Mortality Web-based Report. Centers for Disease Control and Prevention & National Cancer Institute. 2013. 16Boothe, V. L., T.
4. Maryland Dept. of Health and Mental Hygiene. Chronic Disease in Maryland: Facts and Figures. March 2011
5. Collaborative on Health and the Environment. Preterm Delivery - Toxicant and Disease Database
6. Maryland Department of Health and Mental Hygiene. Chronic Disease in Maryland: Facts and Figures. 2011