

TEDX
The Endocrine Disruption Exchange

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RE: House Bill 17-1256, a Clarification of the Minimum Distance from which Certain Oil and Gas Facilities Must Be Located from Any School

Dear Representative Foote,

TEDX (The Endocrine Disruption Exchange), located in Paonia Colorado, is a non-profit 501(c)3 organization dedicated to compiling and disseminating technical information on chemicals that affect health and the environment. Our clientele includes all levels of government, academicians, small to large NGOs, and individuals involved in public health across the US and internationally. More information on the work of TEDX can be found at www.tedx.org.

Thank you for addressing the issue of setbacks from schools in Colorado. TEDX supports House Bill 17-1256 clarifying that the 1,000 ft setback regulation should be from the school property line rather than the school itself.

Increased air pollution from unconventional oil and gas development (UOG) is well-documented. Last month, the CDPHE released an Assessment of Potential Public Health Effects from Oil and Gas Operations in Colorado (CDPHE report). In it, they found multiple volatile organic compounds (VOCs) are released into the air in Colorado from UOG. However, the CDPHE report focused only on chemicals that were reported at least 50 percent of the time across the dataset evaluated. Because of this, it is possible that the CDPHE may underestimate the health risk by ignoring potentially harmful chemicals that were not detected as frequently in this particular data set.

CDPHE determined that because the subset of substances they did review did not exceed government safety levels that there is no risk to health from increased exposure to these chemicals. While government safety levels are an important source of information for risk estimates, they are not comprehensive. These tests do not consider impacts at low concentrations where potential endocrine disrupting effects could be determined. The endocrine system is responsible for hormone regulation including vital functions such as growth, metabolism, sexual development, and behavior. There is a large body of independent peer-reviewed published literature addressing health impacts from low level exposure to some of the identified VOCs that was not considered in this report. Also, there is a lack of research on the cumulative health hazards posed by exposure to chemical mixtures. Considering this, it is not possible to determine "acceptable" risk levels from exposure to the chemicals found near UOG.

The CDPHE report highlighted that diverse health effects across multiple organ systems have been investigated as being related to UOG. This report was limited to epidemiologic studies resulting in only 12 studies reviewed. However, focusing only on the epidemiologic data ignores a growing body of supporting evidence that suggests adverse effects on the hepatic, renal, metabolic, and endocrine systems. Including evidence from the more than 40 additional peer-reviewed studies evaluating experimental animal, observational animal, in vitro, and in silico

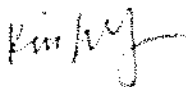
modeling data would have provided a more comprehensive assessment of the health risks associated with UOG. Furthermore, the CDPHE report concluded that there was insufficient evidence for 11 of the 27 health outcomes assessed. It is important to recognize that the absence of evidence does not indicate an absence of risk.

Determining a universally accepted setback distance may not be possible, but there are some additional things to consider. There are already over 28,000 Colorado children going to a school within one-half mile of a UOG well pad. This is a distance shown to have air pollutants tied to UOG so 1,000 ft is likely not protective enough. Children are especially vulnerable to respiratory effects from air pollution since their lungs do not fully mature until about age 18, their lung area is larger proportionally than adults, and they spend more time outdoors. Colorado needs to extend the setback protection to include playgrounds, sports fields, outdoor classrooms, and other areas within the school property boundary where increased exposure to air pollutants can occur. Chemical dispersion models from UOG sites show that dilution increases the further you travel from the source which can help decrease the risk of acute symptoms but may not be as effective in preventing chronic health effects. In sum, we support House Bill 17-1256 stating that new UOG activity must be located at least 1,000 ft from the school property line rather than the school building.

Sincerely,



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Executive Director, TEDX



Kim Schultz
Research Assistant, TEDX