

Despite popular belief, the world is not running out of oil, UW scientist says

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If you think the world is on the verge of running out of oil or other mineral resources, you've been taken in by the foremost of seven myths about resource geology, according to a University of Washington economic geologist.

"The most common question I get is, 'When are we going to run out of oil.' The correct response is, 'Never,'" said Eric Cheney. "It might be a heck of a lot more expensive than it is now, but there will always be some oil available at a price, perhaps \$10 to \$100 a gallon."

Changing economics, technological advances and efforts such as recycling and substitution make the world's mineral resources virtually infinite, said Cheney, a UW professor emeritus of Earth and space sciences. For instance, oil deposits unreachable 40 years ago can be tapped today using improved technology, and oil once too costly to extract from tar sands, organic matter or coal is now worth manufacturing. Though some resources might be costlier now, they still are needed.

"Mineral resources are vitally important to our industrial and service economy," he said.

Cheney will discuss myths about mineral resources Sunday during a talk at the Geological Society of America annual meeting, a presentation prepared in collaboration with Andrew Buddington of Spokane Community College.

It might seem that oil supplies are running low in a time when gasoline has reached \$3 a gallon. But Cheney – who has been on the UW faculty since 1964 and has consulted extensively for government and industry – notes that gas prices today, adjusted for inflation, are about what they were in the early 20th century. Today's prices seem inordinately high, he said, because crude oil was at an extremely low price, \$10 a barrel, just eight years ago and now fetches around \$58 a barrel and has been as high as \$78.

As major economies, such as those in China and India, develop and are on the verge of greater demand for mineral resources, he said, it is an opportune time for universities to train a new crop of resource geologists who can understand the challenges and help find solutions. He believes that popular but misguided notions about mineral resources might be hampering students from entering the field.

Other myths that he wants to dispel include:

-- Only basic extraction and processing costs affect economic geology. That fails to account for such costs as exploration, transportation, taxes and societal and environmental programs.

-- Production always damages the environment. Accidents do happen, Cheney said, but much of the perception is based on problems of the past and don't reflect current reality. "It's inevitable that there are going to be oil spills, just like there are traffic accidents on the freeway," he said. "We hope we can manage them, but nothing is risk free."

-- Mineral deposits are excessively profitable. Despite widely reported huge oil company profits in the last year, Cheney notes that as a percentage of company revenues oil profits lag far behind those of some major software and banking companies.

-- Transportation costs are trivial. In fact, the retail cost of building materials such as sand and gravel are largely driven by the cost of moving them from one place to another, particularly in crowded urban areas. Moving quarries and pits farther away from where people live only increases those costs.

-- Ore deposits are uniform. While a valued ore can be found in a large continuous deposit, often it is mixed with other kinds of minerals and extraction becomes more expensive.

-- Resources are randomly distributed and so, if human population encroaches, a mine or quarry should simply be able to relocate.

Cheney does not discount serious issues involved with the use of natural resources. For instance, continuing to burn fossil fuels will pump more carbon dioxide into Earth's atmosphere, adding to the already worsening greenhouse conditions. Those fuels still will be available to those who can afford the price. "We're still going to have to use fuels, but we have to manage that use better."

"The point is that we have to have members of the public who are not geologists and who know something about mineral resources. There are going to be some important policy decisions in the next decades, so we need to have some smart voters," he said. "We can start in colleges by dispelling myths in courses for students who are not going to become professional geoscientists."

Source: University of Washington

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