

Alternative fuels may drain dwindling water supplies

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As the search for new fuels intensifies, researchers in Texas report that switching to certain alternative fuels to power cars, trucks, and SUVs may require the use of much more water than conventional petroleum-based gasoline and diesel. The findings suggest that producing alternative fuels could strain already limited water supplies in some regions of the country. Their study is scheduled for the October 15 issue of ACS' *Environmental Science & Technology*.

In the study, Carey King and Michael Webber point out that as the need for alternative transportation fuels increases, it is important to understand how fuels based on raw materials other than petroleum could affect other essential resources, such as water. While petroleum-based fuels have had a small impact on U.S. water reserves, alternative fuels could put a much larger dent in our water supply.

The scientists analyzed the amount of water withdrawn (used and returned directly to its source) and consumed (not directly returned to its source) during the production and use of different fuels. They found that vehicles running on electricity and hydrogen produced with electricity withdraw up to 20 times more water and consume more than five times more water than those using petroleum-based gasoline.

But not all fuels are created the same — hydrogen and electricity can also be derived from renewable energy sources that use no water, they note. The authors suggest that additional research could determine viable areas where fuels can be mined, farmed, refined, and consumed to

minimize regional impacts while maximizing water resource and energy sustainability.

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Source: ACS

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