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COMMERCE

Audi's search for alternative fuels gets significant boost

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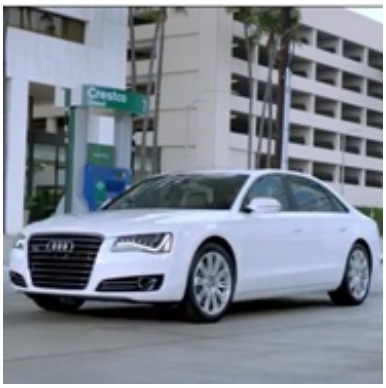


Audi A8 L TDI

By JOE MCCARTHY

German automaker Audi is trying in multiple ways to reduce green-house gas emissions, including with a form of ethanol created from recycled CO2.

Ethanol is traditionally made from corn and its "eco-friendly" status is questionable at best when considering its holistic journey from government incentives to harvest to use. Bioenergy company Joule Unlimited's ability to make essentially the same product from recycled CO2 is a dramatic departure from the status quo, and Audi's alignment with the company is a good sign for those concerned about climate change.

"Audi has been a very important champion for Joule," said Felicia S. Krupps, director of marketing communications at Joule Unlimited, Bedford, MA. "They have, in part, funded the work going on at our demonstration facility in Hobbs, NM, and they are also providing support in the way of fuel testing/validation and lifecycle analysis.

"As a world leader in the automotive sector, they bring considerable expertise and brand visibility to Joule," she said.

Clearing the air

Ethanol production is an enormous industry, and like all industries it has vested interests. Federal law requires fuel retailers to blend 13 billion gallons of ethanol into their gasoline per year and attractive incentives exist for farmers devoting land to ethanol production.

While the prospect of corn ethanol as an alternative to gasoline is a good idea in theory, in practice it loses its luster.

On the positive side, ethanol may limit to some extent the need to extract oil from the Earth.

Earth Hour promotion

However, oil companies have become far more aggressive in their extraction practices since ethanol hit the scene, simply because of global demand, so ethanol's potential effect here is muted.

Large-scale ethanol production calls for large-scale cultivation of corn on land that could instead contribute to the food supply. Obviously, a particular parcel of land can only have one use at time, so every acre of corn set aside for ethanol is one less acre for food production.

If ethanol made an impact at the pumps, its production could be justified, but the record is mixed.

The substance is less efficient than gasoline, so consumers have to burn more of it, emitting CO_2 in the process, to go the same distance as they would on gasoline.

Also, corn ethanol imposes more costs on consumers.

Joule recognized these problems and saw an eco-friendly opportunity that flips the old approach on its head.

Essentially, the company is able to create ethanol with recycled CO_2, non-potable water and sunlight. Joule captures industrial waste CO_2 that would otherwise become a green-house gas and turns it into fuel.

No farm land is needed for its method and no raw materials are used. Consequently, production costs are substantially less than that of corn ethanol.

Joule claims that it it can produce up to 25,000 gallons of ethanol per acre annually,

whereas the maximum potential for corn is 400 gallons per acre annually.

Embedded Video: https://www.youtube.com/embed/xrbXxyM8c-g

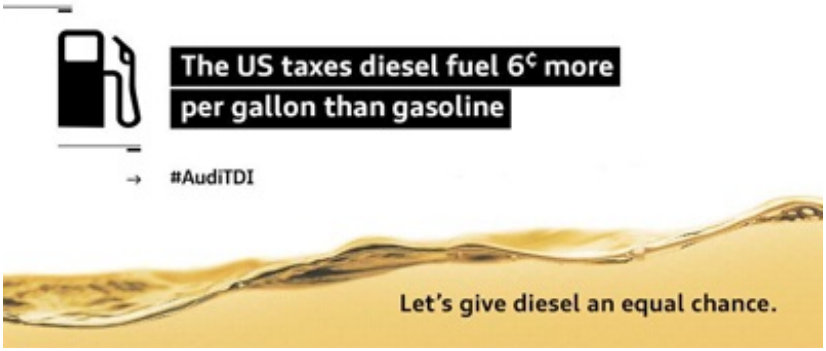
Joule Plant Overview

The fuel recently received approval from third-party testing and is on its way to obtain certification for commercial use in the United States and Europe. The company also recently received $40 million in funding.

Audi's alignment with Joule gives it a much-needed awareness boost and will help it travel through the regulation process.

The automaker first teamed with Joule in 2011 to accelerate the commercialization of CO2-neutral fuels through "fuel testing and validation, lifecycle analysis and support for Joule's production facility."

Audi is also helping Joule develop a diesel blend.



Audi diesel promotion

Different angles
Audi has presented itself as a fuel pioneer before.

Audi of America is fighting for a fair, country-wide reevaluation of diesel in the wake of its latest line of TDI vehicles through a series of multichannel campaigns.

The automaker's actions culminated Nov. 13 as it advocated for Audi Clean Diesel Day that tried to purge existing misconceptions about the fuel. By taking an at turns humorous and authoritative approach to the issue, the brand will likely be effective in its efforts to convert consumers over to diesel (see story).

Audi tries to pioneer in other progressive ways.

For example, the automaker is enlisting 12 United States undergraduates for a six-week practicum in the summer of 2014 to investigate how mobility will evolve in the coming decades.

Major cities around the world are experiencing increasing population density that place a strain on public and private resources, especially transportation. The U.S. undergraduates will explore ideas that address how automobiles will adapt to the stressed infrastructure

and shifting availability of resources (see story).

As with any groundbreaking technology, obstacles remain.

"The hurdle that we now face is scaling up our process to reach commercial levels," Ms. Krupps said. "But the product itself should face no hurdles because it will 'drop in' to existing fuel infrastructure."

Final Take

Joe McCarthy, staff reporter on Luxury Daily, New York

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