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Producing advantaged biofuels for high efficiency engines

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The world desires both higher efficiency engines and lower Green-House Gas (GHG) emitting biofuels. To achieve these goals a large number of countries have passed provisions that require higher efficiency engines and lower GHG fuels. Unfortunately, these provisions have largely been developed independent of each other and can conflict with each other. For example, the requirement to blend in ethanol at the 10% level into gasoline in the US decreases the distance traveled per volume basis (km/l) in current spark ignition engine powered cars due to the lower energy content of ethanol. A better approach would be to develop biofuels that as a minimum maintain status quo with current gasoline, diesel and jet fuels but ideally allow for higher engine and thus vehicle efficiencies. This talk will discuss some possibilities for producing biofuels that look promising for being superior to current gasoline, diesel and jet fuels for use in the next generation of higher efficiency heavy duty engines.

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