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Low carbon fuel standard: California's new regulations are infeasible for gasoline and diesel

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For close to a year, the companies that provide California with gasoline and diesel have warned that the state's Low Carbon Fuel Standard is infeasible. A failure to recognize the implications of this warning risks potential fuel shortages and market disruptions in a few short years.

In response to these concerns, supporters of the standard argue the only thing making this regulation infeasible is the refusal of oil companies to invest sufficient dollars in the emerging fuels and technologies needed to make it work. This view was expressed with great clarity recently by venture capitalist Vinod Khosla who, perhaps inadvertently offered a compelling explanation why the low carbon standard cannot succeed.

Khosla admitted private sector investors are not flocking to invest in alternative technologies like cellulosic ethanol, and he criticized oil companies for not investing more. Without those technologies providing huge amounts of low-carbon alternatives to petroleum in a very short amount of time, the fuel standard cannot succeed.

When the standard was introduced in 2007, we were told it was a performance-based standard that would let the marketplace determine what fuels and technologies were best suited to lower California's collective carbon footprint.

Now we're being told the only hope for the LCFS is to compel some industries (oil companies) to invest in technologies they may not feel are economically viable or are incompatible with their long-term business objectives.

The problem is that no amount of money can change the laws of physics. Unlocking the secret to producing huge quantities of energy from things like wood chips and municipal waste has proved to be more difficult than imagined in 2007 when the standard was introduced. As the U.S. Energy Information Administration has reported, "Progress on the commercialization of cellulosic biofuels has been slower than envisioned in 2007."

There is no question wood chips and waste can be converted into fuels in a laboratory. The trick is making that conversion in volumes sufficient to supply the vast amounts of transportation fuel needed to keep California moving on a daily basis. The numbers are staggering.

Every day in California, we consume about 42 million gallons of gasoline, in addition to huge quantities of diesel and jet fuels. In order to reduce the carbon intensity of that fuel 10 percent by 2020, we need large quantities of low carbon biofuels like cellulosic ethanol. Neither corn ethanol nor ethanol from sugar cane have low enough carbon intensities to be useful in complying with the standard in the next few years.

For cellulosic ethanol to meet just one percent of California's demand for gasoline, annual production would have to increase to 153 million gallons a year in the next few years.

In 2012, according to the U.S. Environmental Protection Agency, the total amount of cellulosic ethanol produced in the United States was 20,069 gallons.

The math doesn't work, and no amount of investment dollars will change that. We need to go back to the drawing board and find better, more realistic ways of reducing carbon emissions from transportation fuels.

Catherine Reheis-Boyd is president of the Western States Petroleum Association. She wrote this for this newspaper.

