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Jack M. Stewart: Caution needed on road to new fuels

By Jack M. Stewart - Special to The Bee

California is embarked on a grand new experiment with our state's already tight gasoline supplies. If done correctly, this bold initiative could break new ground in attacking global warming. If done badly, it poses significant risks for everyone who fills a fuel tank with gasoline.

California already requires that drivers fill up with the cleanest gasoline in the world, which costs consumers more but provides important air-quality benefits. Now the state is implementing a new standard for gasoline designed to reduce greenhouse gas emissions – a primary cause of global warming – by 10 million to 20 million metric tons by 2020. It's an important part of the state's efforts to curb global warming, because vehicles generate a large portion of the greenhouse gas emissions in California.

The challenge will be to meet the state's new low-carbon gasoline goals while at the same time assuring adequate, reliable and affordable supplies of transportation fuels for California consumers. Key to success will be utilizing the best minds from government, academia, industry and environmental groups to answer the many questions that exist.

Foremost among these questions is how to develop a "life-cycle analysis" to measure the greenhouse gas emissions from biofuels, clean diesel fuels, hybrids, hydrogen and other potential low-carbon fuels. The California Air Resources Board is relying on scientists from the University of California to build this life-cycle analysis.

Some of their early results have been surprising. For example, the UC scientists reported on preliminary studies that found corn-based ethanol produces six times more greenhouse gas emissions than gasoline. The other concern about corn-based ethanol is the impact on food prices. Diverting corn to fuel production has driven up the cost of food since corn is a key component of many foods and meats.

There is some good news for biofuels. Second-generation ethanol made from waste byproducts like rice stubble produce far less carbon emissions. Unfortunately, these second-generation ethanols are still in the laboratory and aren't ready for commercial use. In past major fuel formulations, the Air Resources Board started with a fuel that had been proved in the laboratory and/or in the marketplace. In contrast, even though many companies are investing billions of dollars to make cellulosic ethanol, the product has yet to be proved in the laboratory, and there is no reliable means of knowing when cellulosic ethanol will be commercially viable, whether there will be enough to supply the marketplace and at what cost.

In addition to biofuels such as ethanol, clean diesel fuel is an alternative that should be considered in California. Europe is headed in the direction of encouraging more

passenger vehicles that run on clean diesel fuel because they are more fuel efficient and thus produce fewer greenhouse gas emissions. Clean diesel fuel and engines eliminate a majority of the tailpipe emissions and emit far less particulate matter than natural gas vehicles.

The biggest question for California motorists will be, "So what's this new gasoline going to cost?" There will likely be increased fuel costs no matter what. However, there is a real threat that if the Air Resources Board moves too quickly or without adequate review, the impact on the state's fuel supplies could be dramatic and the costs to consumers very significant. At fuel prices already well above \$3 a gallon, the last thing California needs is even higher gasoline prices.

Our state's Air Resources Board has considerable experience managing the uncertainties and questions of implementing complex regulations such as this. We've been impressed with the scientific expertise they've brought to the table. They also are asking many of the tough questions about the impacts of the standard on fuel supply, prices and consumers. We strongly encourage the Air Resources Board to establish milestones for program review and midcourse corrections to ensure that this new fuel meets the goal of reducing greenhouse gas emissions while assuring reliable and affordable supplies of gasoline to California's consumers.