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Promising Policy Framework to Solve Transportation Energy Challenges: Leading research institutions release findings on Low Carbon Fuel Standard
Capitol Hill briefing features scientists and business leaders

WASHINGTON — Rather than being a political football, fuels of the future will be cleaner, cheaper, and more “made in America” if the United States adopts a national Low Carbon Fuel Standard. That’s what scientists from six of the nation’s leading research institutions found in a series of studies released today at a bipartisan briefing on Capitol Hill.

“A national Low Carbon Fuel Standard is a promising framework to help solve the transportation energy challenges that have eluded us for several decades,” said Dr. Daniel Sperling, director of the Institute of Transportation Studies at the University of California, Davis. “Technologically, an LCFS is very doable. And it can help us address the complex choices with conventional oil, shale gas, oil sands, biofuels, and electric vehicles.”

Joining the scientists at the briefing were representatives of the automobile, electric utility, and biofuels industries.

Rather than government picking winners, a Low Carbon Fuel Standard (LCFS) is designed to reduce the amount of carbon in transportation fuels. It would require all energy companies to meet a common target for carbon intensity, but leave it up to the companies themselves to decide how to reach that goal. So, for example, an oil company might choose to diversify into electric or hydrogen fuels. Or it might add more low-carbon biofuels to its mix of offerings. Or it might buy credits from companies that specialize in low-carbon fuels, or that can lower the carbon intensity of their fuels more efficiently.

“An LCFS encourages innovation and diversity by harnessing market forces,” said Dr. Jonathan Rubin, professor of economics at the University of Maine. “These reports provide practical policy recommendations, and are designed to inject scientific information into the national conversation on a Low Carbon Fuel Standard.” The peer-reviewed reports will be published in The Energy Policy Journal’s special issue on Low Carbon Fuel Policy over the next several months.

Today’s reports are from the National LCFS Project—collaboration among researchers from six top U.S. institutions—each looking at a different aspect of how a Low Carbon Fuel Standard would affect America’s energy posture, national security, environment, and economy. The participating researchers are from Oak Ridge National Laboratory, the University of California, the University of Illinois, the University of Maine, Carnegie Mellon University, and the International Food Policy Research Institute.
Building on LCFS policies already adopted in Europe, British Columbia, and California, the researchers looked at potential costs and benefits of reducing the carbon intensity of transportation fuels by 10 to 15 percent by 2030. Researchers found an LCFS would buffer the economy against global oil price spikes, trim demand for petroleum, and lessen upward pressure on gas prices. It would also create fresh opportunities for new fuels to compete in the marketplace, save consumers money, reduce greenhouse gas emissions, and boost energy security.

“Our current energy posture has left America’s economy exposed to global oil price shocks and high oil import costs,” said energy security expert Paul Leiby of Oak Ridge National Laboratory. “An LCFS would substitute domestic resources like ethanol, natural gas, and electricity for imported oil, providing energy security savings up to $22 a barrel.”

The researchers say deep reductions in emissions from transportation over the medium term and long term could come from wider adoption of plug-in electric vehicles and fuel cell vehicles that run on hydrogen. Fuels from waste materials—from agricultural and forestry leftovers to municipal waste—are another important source of low-carbon fuel.

“A national Low Carbon Fuel Standard creates a strong market signal that attracts investment and spurs innovation in clean fuel technologies, increases consumption of clean fuels and lowers average consumer fuel prices, for a total savings of $411 billion by 2035 on fuel expenditures,” said Dr. Madhu Khanna, professor of economics at the University of Illinois, Urbana-Champaign’s Department of Agriculture and Consumer Economics.

The researchers found a national Low Carbon Fuel Standard would encourage farmers to grow crops that are especially suitable for conversion to fuel, rather than selling food crops into the biofuels market. That would ease pressure on food prices while giving farmers profitable options for degraded cropland.

“We have a big challenge that didn’t happen overnight, but these recommendations provide a framework for moving America toward a more sustainable transportation system. We look forward to spurring a national dialogue,” said Dr. Sonia Yeh, co-chair of the National LCFS Project.

To view the full report, go to NationalLCFSProject.ucdavis.edu.

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