

BIOFUELS

The transportation sector accounts for 71 percent of U.S. oil use and is 93 percent dependent on petroleum. This creates overdependence on a single volatile energy source as well as pollution—for example, the transportation sector is responsible for about one-third of U.S. carbon emissions. Emerging forms of biofuel could become low-pollution, domestic sources of transportation energy. But to deliver those benefits, they must avoid competing with food-producing land or degrading the environment or they will cause more harm than good.

I. PRIMARY STATUTES AND EXECUTIVE ORDERS

■ RENEWABLE FUEL STANDARD

Enacted in 2005 as part of the Energy Policy Act, the Renewable Fuel Standard (RFS) is the nation's primary renewable fuel policy. It requires conventional fuel refiners to meet annual targets for renewable fuels. The RFS was amended in 2007 to require 36 billion gallons of biofuel to be used throughout the nation's transportation fuel supply by 2022. The RFS sets different volume requirements for different classes of biofuel: conventional, advanced, and cellulosic. Each type of biofuel must also achieve specific greenhouse gas reductions relative to conventional fuels. Conventional ethanol (such as corn ethanol) from new facilities must be 20 percent better than conventional petroleum fuel on a greenhouse gas basis, although much ethanol was grandfathered from meeting this requirement. Advanced biofuel must achieve a 50 percent reduction relative to petroleum while cellulosic biofuel must achieve a 60 percent greenhouse gas reduction. Finally, the program contains critical land protections that are intended to prevent sensitive habitats from being converted to feedstock production.

■ THE CELLULOSIC BIOFUEL PRODUCER TAX CREDIT

Created in 2009, the Cellulosic Biofuel Producer Tax Credit provides producers with a \$1.01 tax credit per gallon of cellulosic biofuel. The statute defines "cellulosic biofuel" as a liquid fuel that is produced from specific types of cellulose like those from grasses, woods and crop residues. In early 2013, the credit was amended to include algal fuels as well. This incentive encourages investment in potentially low carbon alternatives to oil. The tax credit's value is determined by a company's production volume.

■ RESEARCH AND DEVELOPMENT

The Department of Energy funds research into the development of sustainable biofuels.



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II. POSITIVE EFFECTS OF EXISTING LAW

Together, this legislative framework has driven significant interest in alternative fuels.

- Despite the deep global recession, there are now cellulosic biofuel facilities and projects under development in over 20 states, representing billions in investment.
- A recent report by Environmental Entrepreneurs predicts that the market will achieve between 1.6 billion and 2.6 billion gallons of advanced biofuels by 2015.
- The RFS is widely credited within the biofuel industry as being the primary driver of these investments, which lower global warming pollution, create jobs and improve the trade balance by bringing to market domestic alternatives to oil.

III. MAJOR CONCERNS

■ RISKS OF POORLY SOURCED BIOFUEL

Feedstocks such as invasive species or those grown in sensitive habitats will have unacceptable ecological and climate impacts.

■ IMPACTS OF CONVENTIONAL ETHANOL

There has been a significant shift in farm acres to continuous corn production with impacts on habitat, water quality and soil erosion. Diverting grains or food producing lands from food markets to fuel production could also raise food and feed prices in the United States and elsewhere.

IV. UPCOMING ISSUES

■ LEGISLATIVE THREATS

There is mounting pressure to repeal the Renewable Fuel Standard or to weaken its environmental requirements. NRDC opposes these changes, which would slow the development and use of biofuels and introduce substantial environmental risk. However, the specifics of the RFS should be reviewed periodically as advanced and cellulosic biofuels develop and as the extent of detrimental impacts of conventional corn ethanol become increasingly understood.

■ THE NATIONAL DEFENSE AUTHORIZATION ACT

The Defense Department is one of the nation's largest fuel users. The Pentagon has been trying to encourage the development of biofuels so that the military can have more options for fueling its operations. In the last Congress, the Senate defeated efforts to block the military from purchasing biofuels or helping to fund biorefineries. The issue could arise again in this Congress.

■ TAX REFORM

The Cellulosic Biofuel Producer Tax Credit could be reconsidered as part of an overall tax reform effort. NRDC believes that, ideally, this incentive would be amended so that it calibrates incentive payments to environmental performance. If that is not possible, however, it should continue.