

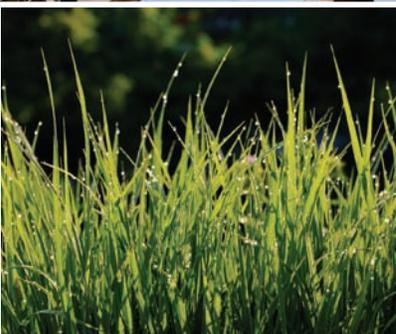


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FACT SHEET

How the **BILLION GALLON CHALLENGE** Can Get Cellulosic Biofuels Off the Ground

New policies are needed to realize the promise of clean cellulosic biofuels



Cellulosic biofuels promise to be an abundant source of domestic energy that could reduce U.S. oil dependence and curb global warming pollution from transportation. Unfortunately, cellulosic biofuels are falling far short of government targets, making it clear that existing policies are not working. Turbulent financial markets, uncertainty about fuel prices, and the risks of being the first with new technology have prevented cellulosic biofuel ventures from securing financing for commercial-scale production. A renewed focus on capital investment and commercialization is needed to jump-start the cellulosic biofuels industry.

Cellulosic Biofuels Production Is Falling Short of Government Mandates

The national Renewable Fuel Standard (RFS) requires that the United States' annual consumption of cellulosic biofuels reach 16 billion gallons by 2022. But given the lack of financing for increased production capacity, cellulosic biofuels production is falling far behind its targets. In recognition of the shortfall, the U.S. Environmental Protection Agency lowered the 2010 requirement from 100 million gallons to just 6.5 million gallons. The Energy Information Administration (EIA) forecasts that under current policies the annual production of cellulosic biofuels will not exceed 1 billion gallons until 2017—a delay of four years. The EIA also forecasts a shortfall of more than 10 billion gallons of cellulosic biofuels in 2022. To meet the goals of the RFS and realize the economic and environmental benefits of cellulosic biofuels, it is clear that new policies must be adopted.

Reform Policies to Promote Investment in Cellulosic Biofuels Production

Cellulosic biofuels qualify for a tax credit of \$1.01, or \$0.56 more than conventional ethanol (primarily from corn). Cellulosic biofuels producers are also eligible for loan guarantees and grants. But in the difficult investment

environment of the last few years, entrepreneurs have been largely unable to take advantage of these programs, which are more effective at providing support for mature industries with extensive production experience at commercial scale. In tailoring its support structure to promote cellulosic biofuels, government should address the additional risks and high initial capital costs borne by the first companies to build commercial-scale production facilities.

The Billion Gallon Challenge: Launching a Commercial Cellulosic Biofuels Industry

Getting the first billion gallons of capacity into production promptly is key to getting cellulosic biofuels back on track. One or two commercial-scale facilities will not be sufficient to make progress on the broad variety of sustainable and regionally appropriate feedstocks, or to develop the different conversion technologies. Some 10 to 20 commercial-scale facilities, with a combined capacity of 1 billion gallons a year, are needed to take advantage of the diverse opportunities in different regions of the country. Farmers, foresters, engineers, scientists, and operators are ready to make cellulosic biofuels a reality. Constructing the 10 to 20 pioneering facilities across the country is the key to launching a commercial cellulosic biofuels industry.

THE BILLION GALLON CHALLENGE

The program has two major components:

- ✓ An investment tax credit of 30 percent for the first billion gallons of capacity, which will be reduced to 24 percent for the second billion, to 18 percent for the third billion, and so forth.
- ✓ Loan guarantees for the first billion gallons, phasing out rapidly as the technology is proven.

Benefits of THE BILLION GALLON CHALLENGE

The benefits of getting cellulosic biofuel production to RFS-mandated levels by 2022 include:

- ✓ A new industry that produces clean fuels and provides good jobs
- ✓ 16 billion gallons of cellulosic biofuels (versus 5.5 billion under the current EIA forecast)
- ✓ 7 billion gallons of gasoline consumption displaced
- ✓ 45 million metric tons of global warming pollution avoided

Right now, the biggest obstacle to producing the first billion gallons is access to investment capital. To address this problem and support deployment of the needed technology, we propose a package of capital-support programs for the first billion gallons of capacity—the Billion Gallon Challenge—which includes a 30-percent investment tax credit and loan guarantees to help pioneering investors bear the costs that come with going first. This support would be phased out as the industry grows, with the tax credit being reduced 6 percent for each additional billion gallons of capacity.

The Billion Gallon Challenge Saves Taxpayer Dollars, Creates Jobs, Delivers Oil Savings, and Reduces Global Warming Pollution

Prudent Use of Taxpayer Dollars. The cost of supporting the first billion gallons of cellulosic biofuel would be about \$4 billion spread over four years or more. This one-time cost compares with the more than \$6 billion spent every year on current tax credits for well-established biofuels. The cost of the Billion Gallon Challenge would be about one-quarter of the savings from reforming the current production tax credits (see the UCS fact sheet “A Better Biofuels Tax Policy”).

A New Industry and New Jobs. The cellulosic biofuels industry would mean new jobs not just at production facilities but also on the farms and forests all over the country that supply sustainable biomass feedstocks. Moreover, by targeting a new industry for government investments, we would be providing the private sector with valuable information about the cost-effectiveness and technical challenges of the various cellulosic biofuel technologies. This information would help guide investor decisions for taking the industry from a capacity of 1 billion gallons to 16 billion gallons in 2022 and beyond.

Oil Savings. The Billion Gallon Challenge can help us get the RFS back on track by 2022. Making up the shortfall between the EIA forecast and the RFS mandate by 2022 will produce enough additional biofuel to shift 15 million of today’s cars and trucks to E85 made from clean, sustainable cellulosic biofuel, representing savings of about 7 billion gallons of gasoline.

Reduced Global Warming Pollution. Because the global warming emissions from cellulosic biofuels are at least 60 percent lower than the emissions of gasoline, making up the shortfalls between the EIA projections and RFS mandates would reduce global warming emissions by 45 million metric tons a year in 2022. This would be equivalent to taking some 7 million of today’s cars and light trucks off the road that year.

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