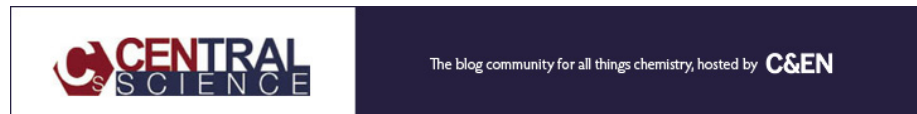


[Home](#) > [Volume 89 Issue 41](#) > Cellulosic Ethanol Production Lags


The blog community for all things chemistry, hosted by C&amp;EN

Volume 89 Issue 41 | October 10, 2011 | p. 12 | [News of The Week](#)

## Cellulosic Ethanol Production Lags

Biofuels: National Research Council questions government's output goals

By [Jeff Johnson](#)

**SHIMADZU UV-Vis**  
 Elevating Excellence in  
 UV-Vis Analyses  
 New Compact, Research-  
 Grade Spectrophotometers

### MOST POPULAR

[Viewed](#) [Commented](#) [Shared](#)
[Call In The Food Fixers \(2754 views\)](#)
[Novartis To Cut 2,000 Jobs \(1509 views\)](#)
[Alkaloid Acetylaranotin Made After 40-Year Quest \(1310 views\)](#)
[Good and Bad News About Fukushima's Impact On Ocean \(1077 views\)](#)
[DOE Loan Program Scrutinized \(993 views\)](#)

**SHIMADZU UV-Vis**  
 Elevating Excellence in  
 UV-Vis Analyses  
 New Compact, Research-  
 Grade Spectrophotometers

 Department: [Government & Policy](#) | Collection: [Green Chemistry](#)  
 Keywords: [corn](#), [biofuels](#), [cellulosic ethanol](#)

[+]Enlarge



Cellulosic ethanol output is far behind conventional corn-based ethanol production and is unlikely to catch up by 2022, the goal of RFS, says the NRC report.  
 Credit: Shutterstock

The U.S. is unlikely to reach cellulosic ethanol production mandates spelled out in the federal Renewable Fuel Standard (RFS), says a recent [report](#) by the National Research Council. The 423-page report also says a cloud of "uncertainty" surrounds environmental and economic benefits expected to spring from use of this biofuel.

"RFS may be an ineffective policy for reducing global greenhouse gas emissions," says Ingrid C. Burke, cochair of the NRC panel that issued the report and a botany professor at the University of Wyoming.

The aim of RFS was to encourage development of biofuels, lower dependence on foreign oil, and reduce greenhouse gas emissions. It mandates that by 2022 the U.S. must produce 16 billion gal of cellulosic biofuels, along with 15 billion gal of conventional corn-based ethanol, 1 billion gal of biodiesel, and 4 billion gal of advanced biofuels. Whereas production of conventional ethanol and biodiesel already exceeds the mandate, no commercial cellulosic biofuels plants exist and

technologies are only at demonstration scale.

This year, for instance, cellulosic biofuel output is likely to be 6.6 million gal, far below the RFS target for 2011 of 250 million gal, the report says.

The corn ethanol industry has been developing for 30 years, notes Wallace E. Tyner, panel cochair and Purdue University agricultural economics professor. "We have more than 200 corn ethanol plants producing more than 14 billion gal today," he says. "We have only 11 years to reach even higher numbers for cellulosic biofuels. We would need a build rate three times that of corn ethanol."

Only two commercial-scale cellulosic ethanol plants are currently in planning stages: an Abengoa Bioenergy Biomass plant in Kansas and an expansion of Poet's conventional ethanol plant in Iowa, Tyner adds. Both are just breaking ground.

Additionally, greenhouse gas reductions and environmental benefits expected through cellulosic ethanol production are highly uncertain, Burke notes. For instance, if native plants on uncultivated land or commodity crops are ripped out to grow new energy crops, she says, the one-time release of greenhouse gases from disturbed biomass and soil may exceed future reductions of greenhouse gases expected as a result of the shift from gasoline to biofuels. In some cases, she says, intense biofuels production can even increase air emissions and reduce water availability, although the exact impact is highly site specific.

The report warns of increased competition for land among energy and food crops, raising the price of grain, livestock feed, and other farm commodities.

The report is "too narrow" and doesn't reflect the evolving U.S. ethanol production, says Renewable Fuels Association Vice President Geoff Cooper. He adds that biofuels should be compared to what they will displace in the future, particularly "marginal sources of petroleum—shale oil and Canadian tar sands—that come with extreme environmental and economic costs."

However, the report underscores the need to reform RFS, says the Environmental Working Group, with the addition of "strict and enforceable environmental safeguards."

Chemical & Engineering News  
 ISSN 0009-2347  
 Copyright © 2011 American Chemical Society

[Leave A Comment](#)

Thank you for your comment. Your initial comment will be reviewed prior to appearing on the site. Please check back in a few minutes to see your post.

Name

Email Address(Required to comment)

[Submit Query](#)

**Chemical & Engineering News**

- [Home](#)
- [Magazine](#)
- [News](#)
- [Departments](#)
- [Collections](#)
- [Blogs](#)
- [Multimedia](#)
- [About](#)

- [Subscribe](#)
- [Advertise](#)
- [Contact](#)
- [Join ACS](#)



- [Help](#)
- [Sitemap](#)
- 

[Submit Query](#)

[Advanced Search](#)

**American Chemical Society**

- [ACS.org](#)
- [Journals](#)
- [CAS](#)

Copyright ©2011 American Chemical Society