

# NESCAUM LCFS Stakeholder Meeting

**What are the technical and economic prospects for lower-carbon fuels and in what timeframe?**

**Newark, NJ, 10-27-2009**

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**DuPont**



*The miracles of science™*

# Lower-Carbon Liquid Transportation Fuels

➤ **Liquid biofuels are the only near term solution.**

Less biofuels means more petroleum.

➤ **A LCFS done well with other policies:**

- Provides market demand.
- Encourages rapid development of high quality fuels.

➤ **A LCFS done wrong:**

- Impedes biofuels development.

➤ **Market uptake comes when the market wants the fuel because of:**

- Performance (energy density, infrastructure compatibility, blending limits, carbon intensity)
- Policy



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NEWS:

JUNE 2009

"Cobs to Switchgrass to Gasoline Parity", *Ethanol Producer Magazine* [MORE]

APRIL 2009

"Next-Generation Ethanol Projected at 100mg/y", *Biofuels International* [MORE]

APRIL 2009

"The Biofuel Bubble", *BusinessWeek* [MORE]

DID YOU KNOW:

In a carbon-constrained world, one of the surest ways to reduce the carbon footprint of industrial production is to use...



Butamax™  
Advanced  
Biofuels LLC

A joint venture between BP and DuPont



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Biofuel, reborn.  
Shaping the future of biofuels technology

The biobutanol advantage

Biobutanol has a number of significant advantages over ethanol:

- A higher energy density, which leads to 25% higher fuel economy (more miles per gallon).
- Can be blended into gasoline (petrol) at higher concentrations and used in existing vehicles and

Butamax™ technology

This joint venture between BP and DuPont will produce and market a next generation of biofuels to help meet increasing global demand for renewable transport fuels.

Watch the Butamax™ Advanced Biofuels video (Flash video, 12MB)

Fact sheets

Butamax™ Advanced Biofuels LLC fact sheet (PDF, 1.29MB)

Biobutanol. A more advanced Biofuel (PDF, 1.29MB)

Impact on agriculture fact sheet



# How an LCFS Can Impede Biofuel Development:

- **With a ‘threshold based’ GHG standard, lower-carbon biofuels are less incentivized.**

Market has no value for biofuels with GHG benefits beyond the standard.

- **Indirect land use considerations improperly applied to biofuels policies can chill investment.**

- There are legitimate concerns about future large scale biomass demands creating pressures for land use changes.
- Multiple policy responses exist and should be evaluated.
- Policy implemented should avoid harmful land use changes while advancing lower-carbon biofuels deployment.

# How an LCFS Can Speed Biofuel Development:

- **Need both regulatory stability/support and industry cooperation**
- **If policy wants better fuels, it will have to create greater market value for those fuels.**
- **Create greater market value for lower-carbon fuels by basing value on net GHG benefits, not a threshold**
  - Developers will develop fuels based on how the market values those fuels, and the LCFS impacts this.
- **Be Relevant, Rigorous, Accurate, Fair, Consistent, and Flexible!**

**Questions, now or later:**

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