Update on the State of the Renewable Fuels Industry

NEW FUELS ALLIANCE

About the New Fuels Alliance

National Advocacy Group w/ Regional Affiliates
Focusing on Federal, CA and Northeast

Northeast Biofuels Collaborative
Mascoma, Verenium, Bodega Algae, BioEnergy International, Qteros, New Generation Biofuels, Agrivida, Interstate Biofuels

California Renewable Fuels Partnership
BlueFire Ethanol, Pacific Ethanol, Cilion, Altra Biofuels, VeraSun Energy, Verenium (CA)

Northeast Power Project
Working with power markets on feasibility of using bio-based products for power generation; applying Integrated Fuel Assessment Model (IFAM) for feasibility analysis

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Ethanol Market

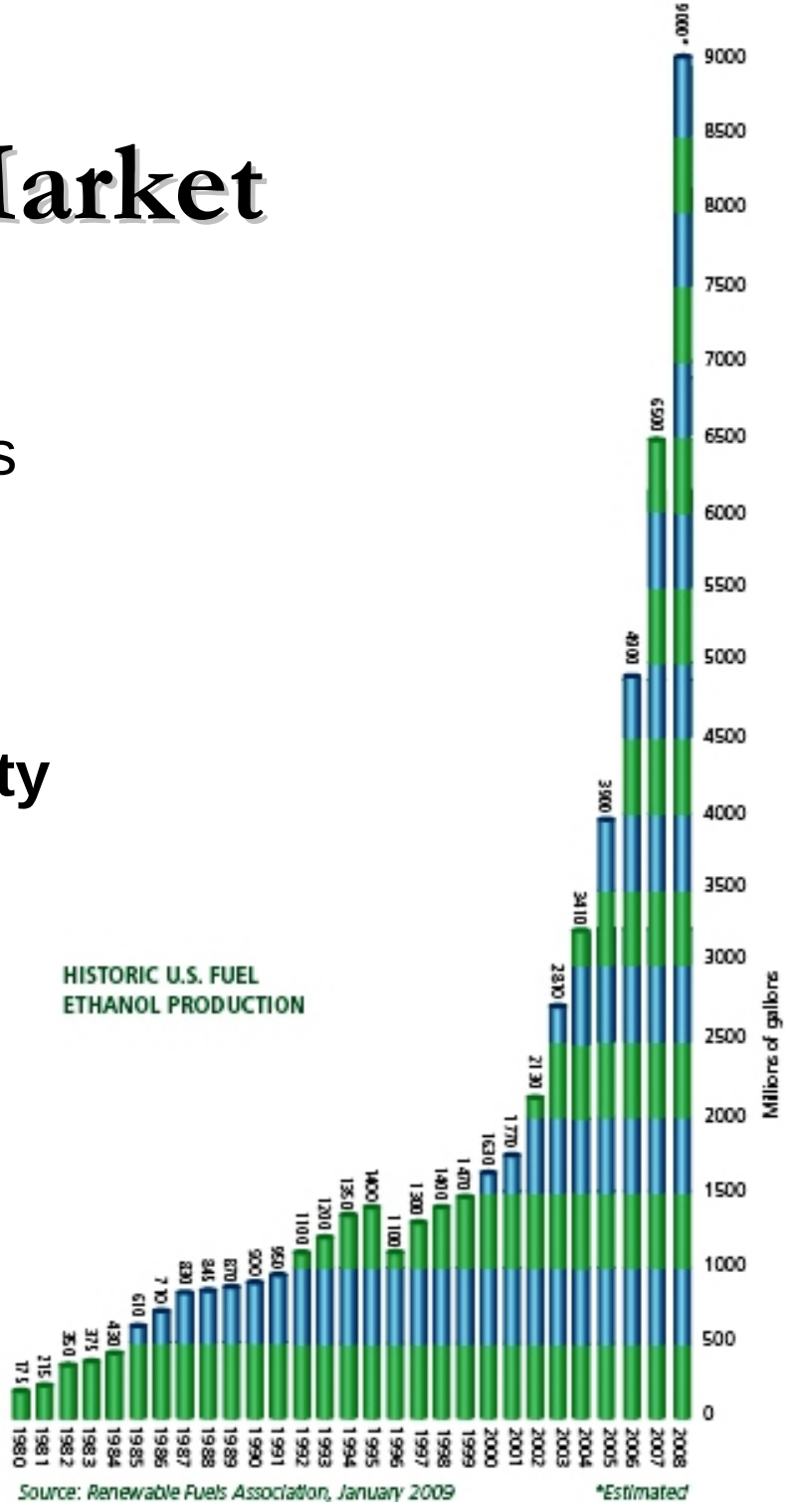
2008 Production / 2009 Estimate
9.2 billion gallons / 10.5 billion gallons

2008 Ethanol Imports
556 million gallons

Current Annual Production Capacity
12.4 billion gallons

Under Construction
2 billion gallons

Total Annual Operating Capacity
10.3 billion gallons at 170 locations



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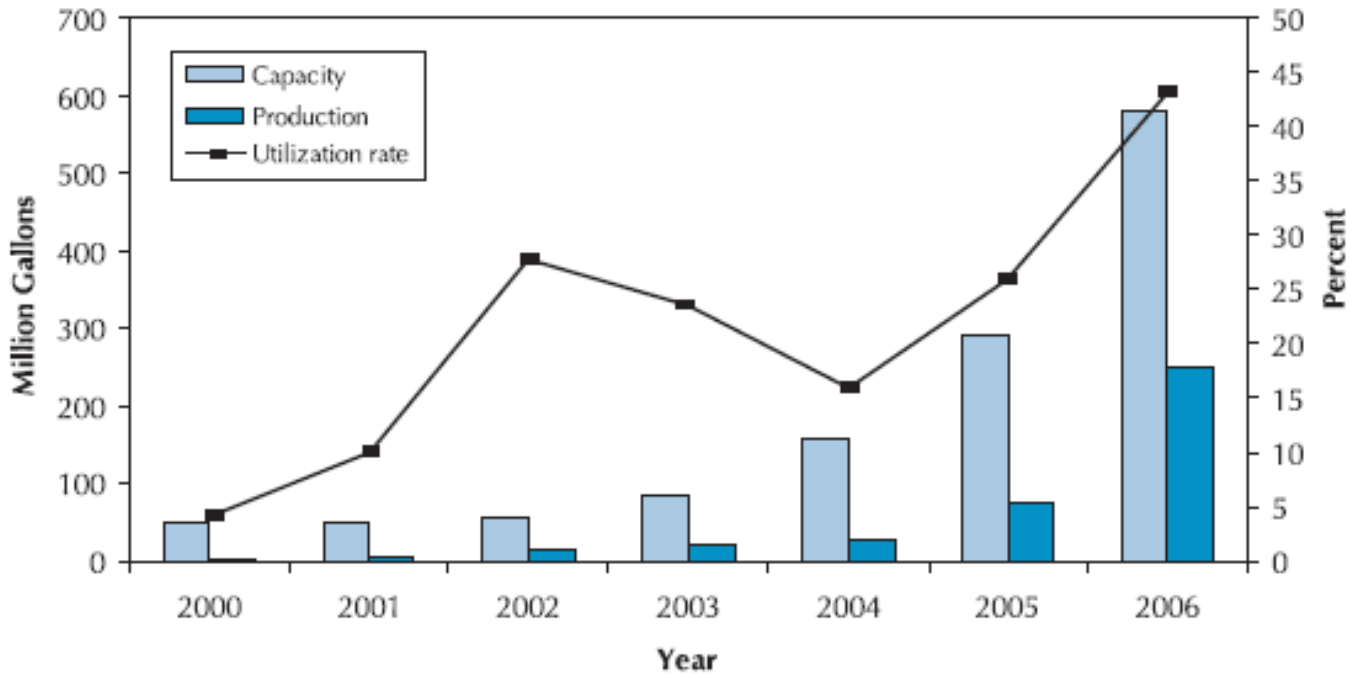
Biodiesel Market Snapshot



Source: National Biodiesel Board.
Note: Capacity given is on September 1 of each year.

Figure 1. U.S. biodiesel production and installed capacity for 2000 to 2006

"The market conditions are very, very tough right now," says Joe Jobe, head of the National Biodiesel Board in Jefferson City, Mo. Of the nation's 176 biodiesel operators, "it's very difficult to say how many of them are still operating." - Forbes Magazine, April 8, 2009

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U.S. Cellulosic Ethanol Projects
Under Development And Construction

1. Abengoa
Cornstover, wheat straw, milo stubble, switchgrass and other biomass.

2. Abengoa

3. AE Biofuels
Switchgrass, grass seed, grass straw and corn stalks.

4. Bluefire
Green waste, wood waste, and other cellulosic urban wastes.

5. Bluefire

6. California Ethanol + Power, LLC
Local Imperial Valley grown sugarcane facility powered by sugarcane bagasse.

7. Coskata
Any carbon-based feedstock, including biomass, municipal solid waste, bagasse, and other agricultural waste.

8. DuPont Danisco Cellulosic Ethanol LLC
Switchgrass, corn stover and corn cobs.

9. Ecofin, LLC
Corn cobs.

10. Flambeau River Biofuels LLC
Softwood chips, wood, and forest residues.

11. ICM Inc.
Switchgrass, forage, sorghum, stover.

12. Iogen Corp.
Agricultural residues including wheat straw, barley straw, corn stover, switchgrass and rice straw.

13. KL Process
Softwood, waste wood, including cardboard and paper.

14. Lignol Innovations
Woody biomass, agricultural residues, hardwood and softwood.

15. Mascoma
Lignocellulosic biomass, including switchgrass, paper sludge, and wood chips.

16. Mascoma
Consolidated bioprocessing refinery using bacteria to break down and ferment local wood chips

17. Newpage Corp.
Woody biomass, mill residues.

18. New Planet Energy
Municipal solid waste (MSW); unrecyclable paper; construction & demolition debris; tree, yard and vegetative waste; and energy crops.

19. Pacific Ethanol
Wheat straw, stover, and poplar residuals.

20. POET
Corn fiber, corn cobs and corn stalks.

21. POET

22. Range Fuels Inc.
Wood residues and wood-based energy crops, grasses and corn stover.

23. RSE Pulp & Chemical LLC
Woodchips (mixed hardwood).

24. Verenium
Sugarcane bagasse and specially bred energy cane.

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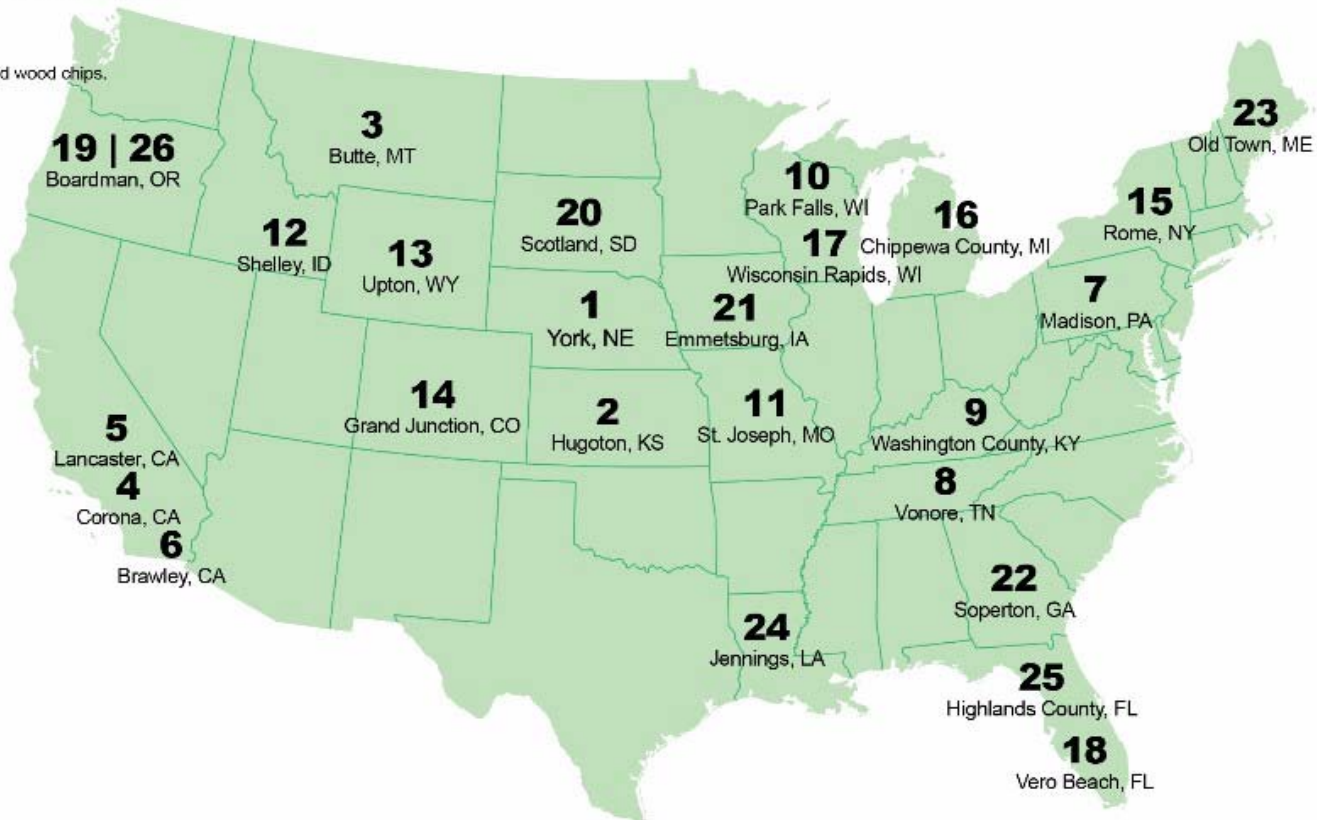
Sugarcane bagasse and specially bred energy cane.

26. ZeaChem
Poplar trees, sugar, and wood chips.



New Online Tool To Look At Advanced Biofuel Facilities

http://biofuels.abc-energy.at/demoplants/projects/mapindex

Problems For U.S. Biofuels Industry

Supply & Demand Equation Is Out of Whack
Over Supply / Impinged Demand (it is both)

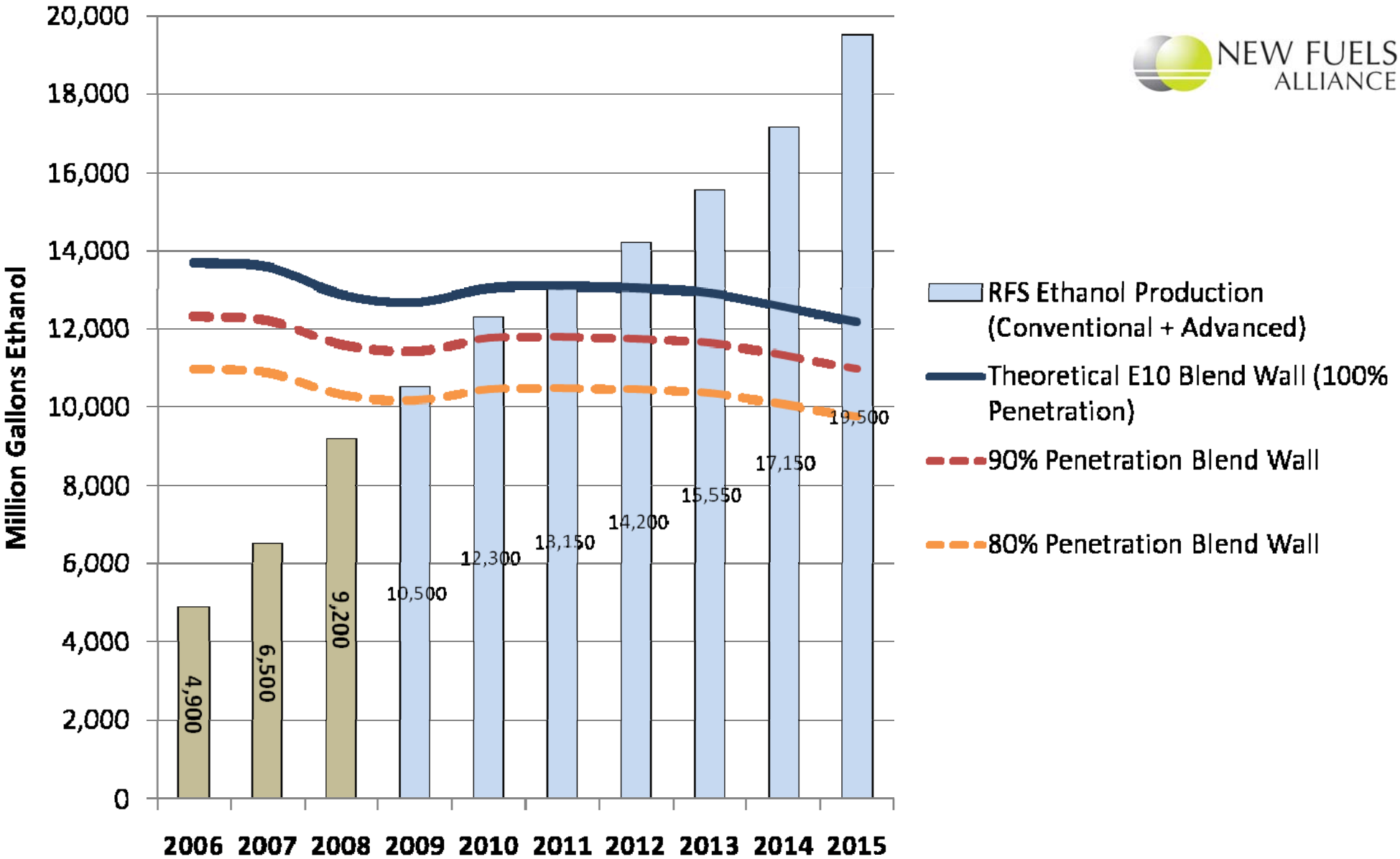
Plunging Fuel Prices vs. Easing Commodity Prices
Wholesale Gasoline Down ~ 70% in 6 months
Corn down ~ 29% in last 12 months; soybeans down 30%

Frozen Credit & Debt Financing
Renewable fuel facilities are project financed; debt is a reality

Constant Stream of Misinformation Slows Evolution
Food Versus Fuel; Indirect Land Use Change; Ag as Villain

Fundamentally Non-Competitive U.S. Fuels Markets
Blend wall due to vehicle warranties & regulations
Highly consolidated wholesale markets; market access issues

The E10 Blend Wall

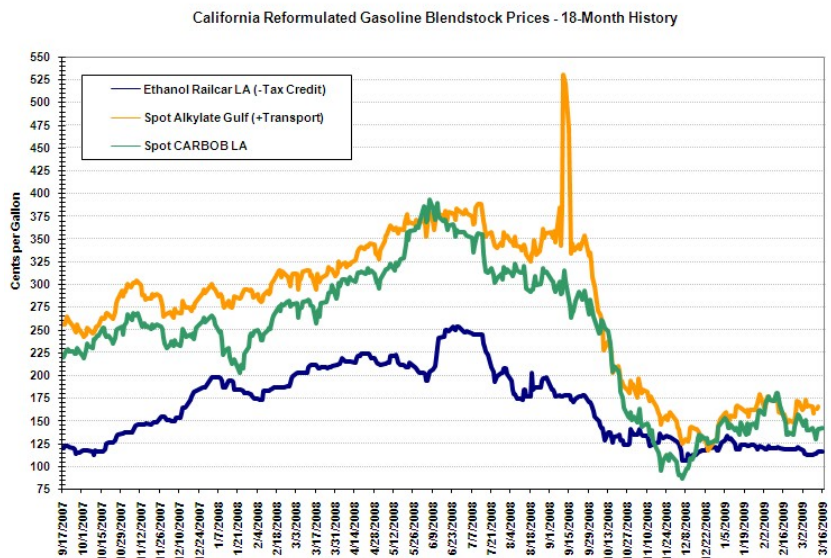


Notes: (1) Assumes undifferentiated biofuel will be ethanol in mid-term; (2) Does not account for small refiner exemption through 2010

Supply & Demand Situation

High Value Competitive Fuel
Affordable blendstock
Extends supply; CA produced

Oversupply Situation
Renewable fuel capacity is higher than regulated demand



Demand Is Artificially Depressed
Oil companies legally hold RINs and squeeze ethanol suppliers
Vehicle blend walls keep biofuels “in a box”
Regulations are not designed to facilitate change

Petroleum Dependence A Huge Problem, And yet …
Idling roughly 2 billion gallons of ethanol production nationally
Tens of millions of ethanol gallons idled in CA

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What Does Renewable Fuels Need

Let Renewable Fuels Out of the Box
Short Term: Increase blending allowance in conventional cars
Long Term: All vehicles should be FFV (+ hybrid + ??)

Let Biofuels Compete on Level Carbon Playing Field
Current LCFS proposal tilts playing field against biofuels

Facilitate Honest Debate About Concerns
Food Versus Fuel; Indirect Land Use Change; Ag as Villain
We need fact-driven analysis and discussion

Give the Industry A Chance to Innovate
Good current trends on energy use and other inputs
First generation solar and wind critical to second generation
Feedstock diversification already happening because of $

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