



Advanced
Biofuels
Association

Advanced Biofuels Association

September 15, 2010

How to ReEnergize your Real Estate
Public Policy discussion

Washington, DC

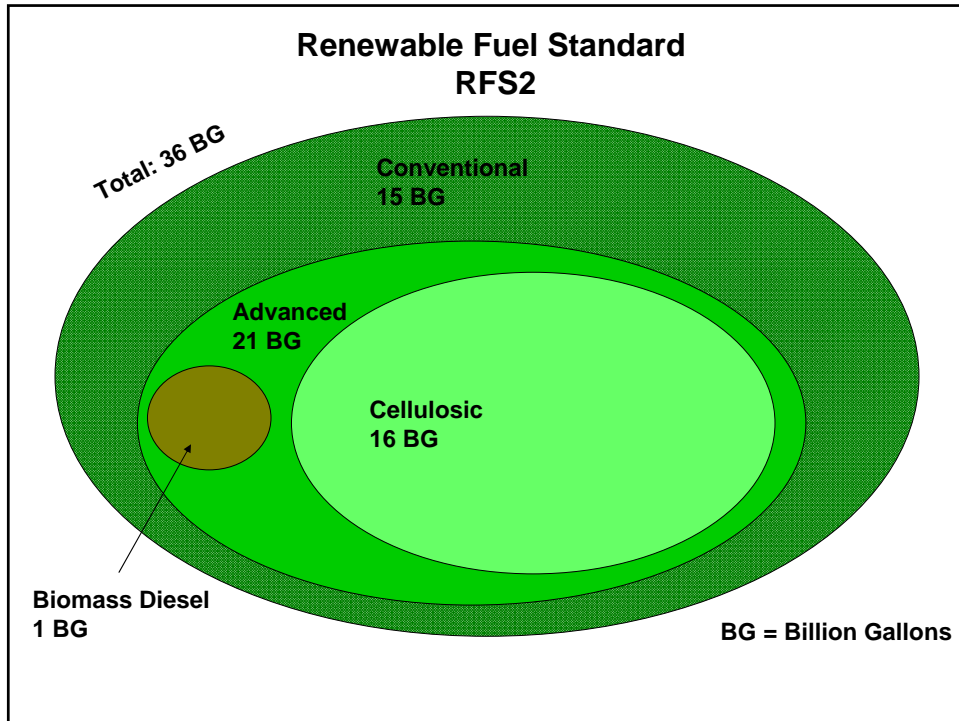
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President,
Advanced Biofuels Association &
Policy Director, Brownstein Hyatt Farber Schreck

Agenda

- 🔥 *Who is the ABFA and what do we support?*
- 🔥 *The RFS 2 Rule (what's the mandate?)*
- 🔥 *A comparison view of biofuels*
- 🔥 *Advancing Policy*





How to Think About Biofuels

<i>Technology</i>	<i>Feedstocks</i>	<i>Molecule</i>
<ul style="list-style-type: none"> • Gasification • Hydrolysis • Hydroprocessing • Synthetic Biology • Fermentation • Catalyst 	<ul style="list-style-type: none"> • Corn • Sugars • Wood • Grasses • Municipal Waste • Algae 	<ul style="list-style-type: none"> • Alcohol <ul style="list-style-type: none"> • Ethanol • Butinol • Ether <ul style="list-style-type: none"> • ETBE • MTBE • Ester <ul style="list-style-type: none"> • Biodiesel • Hydrocarbon <ul style="list-style-type: none"> • Diesel • Jet • Gasoline

Fuel Properties

- 🔥 *Energy Content*
- 🔥 *Environmentally Advantaged*
- 🔥 *Fungibility*
- 🔥 *Scalability*
- 🔥 *Economically Competitive*

Energy Content

<i>Products</i>	<i>MMBTU</i>	<i>ABFA Companies</i>
<ul style="list-style-type: none"> • Ethanol • Butanol • Diesel 	<ul style="list-style-type: none"> • 76,600 • 95,800 • 128,000-129,000 	<ul style="list-style-type: none"> • Osage, GeoSynFuels, Unica • GEVO, BP • Amyris, LS9, UOP, SunDrop, Rentech, Kern, Neste, Tyson, Elevance, NewGeneration, Viesel, Triton, SGC
<ul style="list-style-type: none"> • Gasoline 	<ul style="list-style-type: none"> • 114,000-116,000 	<ul style="list-style-type: none"> • Virent
<ul style="list-style-type: none"> • Jet Fuel 	<ul style="list-style-type: none"> • 124,150 	<ul style="list-style-type: none"> • Tyson, UOP, LS9, Rentech Solazyme, Amryis, Virent
<ul style="list-style-type: none"> • Oil feedstock 	<ul style="list-style-type: none"> • ? 	<ul style="list-style-type: none"> • Sapphire, Live Fuels, UOP, KiOR

Environmentally Advantaged

🔥 *Life Cycle Foot Print*

	<u>EPA Rule</u>	<u>EPA Best Result</u>
🔥 <i>Corn Ethanol</i>	20%	21%
🔥 <i>Soy Biodiesel</i>	50%	57%
🔥 <i>Sugarcane Ethanol</i>	50%	61%
🔥 <i>Cellulosic</i>	60%	92%
🔥 <i>Grease, Tallow Diesel</i>		80%

🔥 *Volatility of the Fuel*

🔥 *Habitat*

🔥 *Water Use*

🔥 *Other*

Fungability (*Drop in Fuels*)

🔥 *Changes to Infrastructure & the Distribution System*

🔥 *Vehicle Fleet Compatibility*

🔥 *Examples: Butanol, Hydrocarbon Biofuels such as Renewable Diesel*

Scalability

- 🔥 Capability for High Volume Production from Available Feedstocks*
- 🔥 Wide Spread Deployment of Technology*

Economically Advantaged

- 🔥 Competitively Priced within the Current Cost Structure of Oil Based Fuels*
 - 🔥 Hydrocarbons and Other Fuels*
 - 🔥 Renewable Fuels and Technologies*

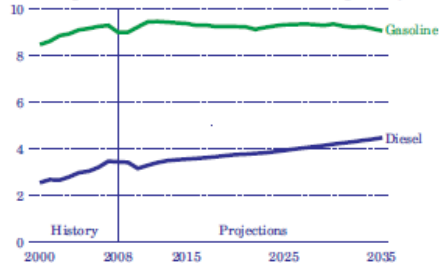
Advancing Policy

- ❖ *Advanced biofuels industry continues to need the strong policy signal of support from the federal government*
- ❖ *We need loan guarantee programs that WORK! Actually afford the parties to participate.*
- ❖ *All policies should be technology neutral and create a level playing field across technologies and energy applications*
- ❖ *We need to afford parity across the policy frame for all advanced biofuels. The same opportunity and the same amount of support (taxes, grants, and loans).*

Appendix

Refinery operations shift focus to diesel fuel production

Figure 85. U.S. motor gasoline and diesel fuel consumption, 2008-2035 (million barrels per day)



Near-term increase in refinery capacity leads to a lower utilization rate

Figure 86. U.S. refinery capacity, 1970-2035 (million barrels per day)

