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Agricultural Outlook Forum

Presented: February 16, 2006

UPDATE ON ETHANOL PRODUCTION AND ITS IMPACT ON RURAL
ECONOMIC DEVELOPMENT

Larry Schafer
Vice President
Renewable Fuels Association

Today's U.S. Ethanol Industry

Fueling the Future



RFA Membership

- Ethanol Producers
- Associate members: industry suppliers and plants under construction
- Supporting members: plants under development, non-profits, academia and government entities

The Renewable Fuels Association: the “Voice of the Ethanol Industry”

- Established in 1981 as national trade assn. for U.S. ethanol industry
- Serves as vital link between industry and the federal government, advancing policies, regulations and research and development beneficial to the industry
- Work with state governments, agricultural organizations and environmentalists to expand marketplace opportunities

“America is Addicted to Oil”

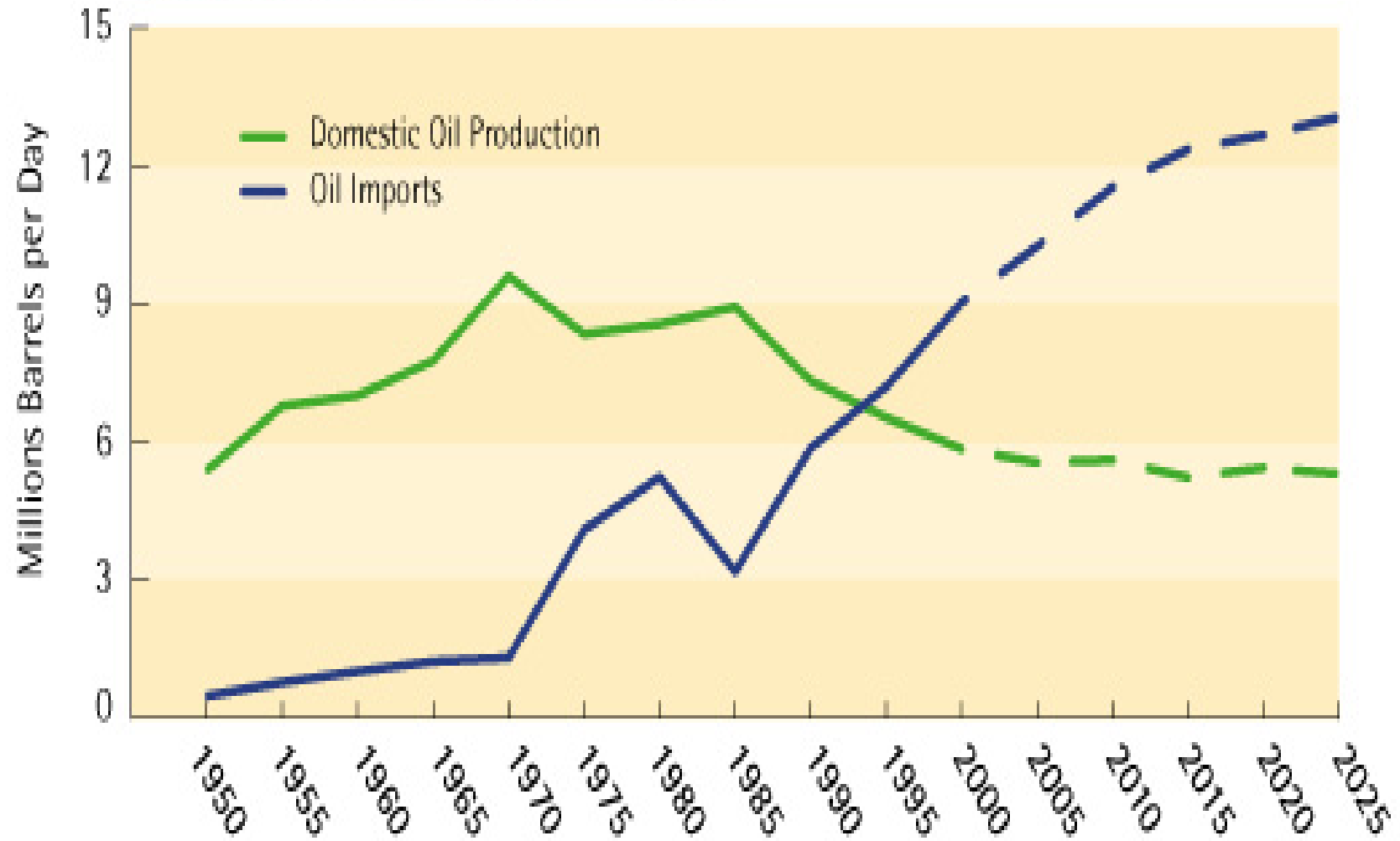
“Goal: to replace more than 75 percent of our oil imports from the Middle East by 2025”

George W. Bush

State of the Union, January 31, 2005



U.S. OIL PRODUCTION VS. IMPORTS



Source: U.S. Energy Information Administration

“America is Addicted to Oil”

How Much is 75% of Mideast Oil?

EIA = 2.3 million barrels/day (2025)

75% = 1.8 million barrels/day

approximately $\frac{1}{2}$ barrel of oil is refined into gasoline...

...so the goal is really about 1 million barrels/day

Today = 275,000 barrels ethanol per day

... with 130,000 barrels ethanol per day under construction



“America is Addicted to Oil”

EIA predicts \$56.97 barrel oil in 2030 and beyond ...

High oil prices create the appropriate environment for the enhanced use of alternative forms of energy.

Hydrogen is future alternative to Petroleum (2030)

Ethanol is the only global viable alternative to Petroleum



U.S. Ethanol Industry Today

■ Economic Development \ Energy Independence

- Annual production record in 2005 of 4.2 bgy
- 95 plants in 20 states with over 4.3 bgy capacity today (*Jan., 2006*) (*280,000 barrels per day*)
- 33 Plants under construction, combined w/ 8 expansions, will add 2.0 billion gallons of new production (*135,000 barrels per day*)
- Dozens of additional plants in various stages of development
- 3 percent of the U.S. gasoline market and blended into 30 percent of gasoline sold

■ Environmental Stewardship

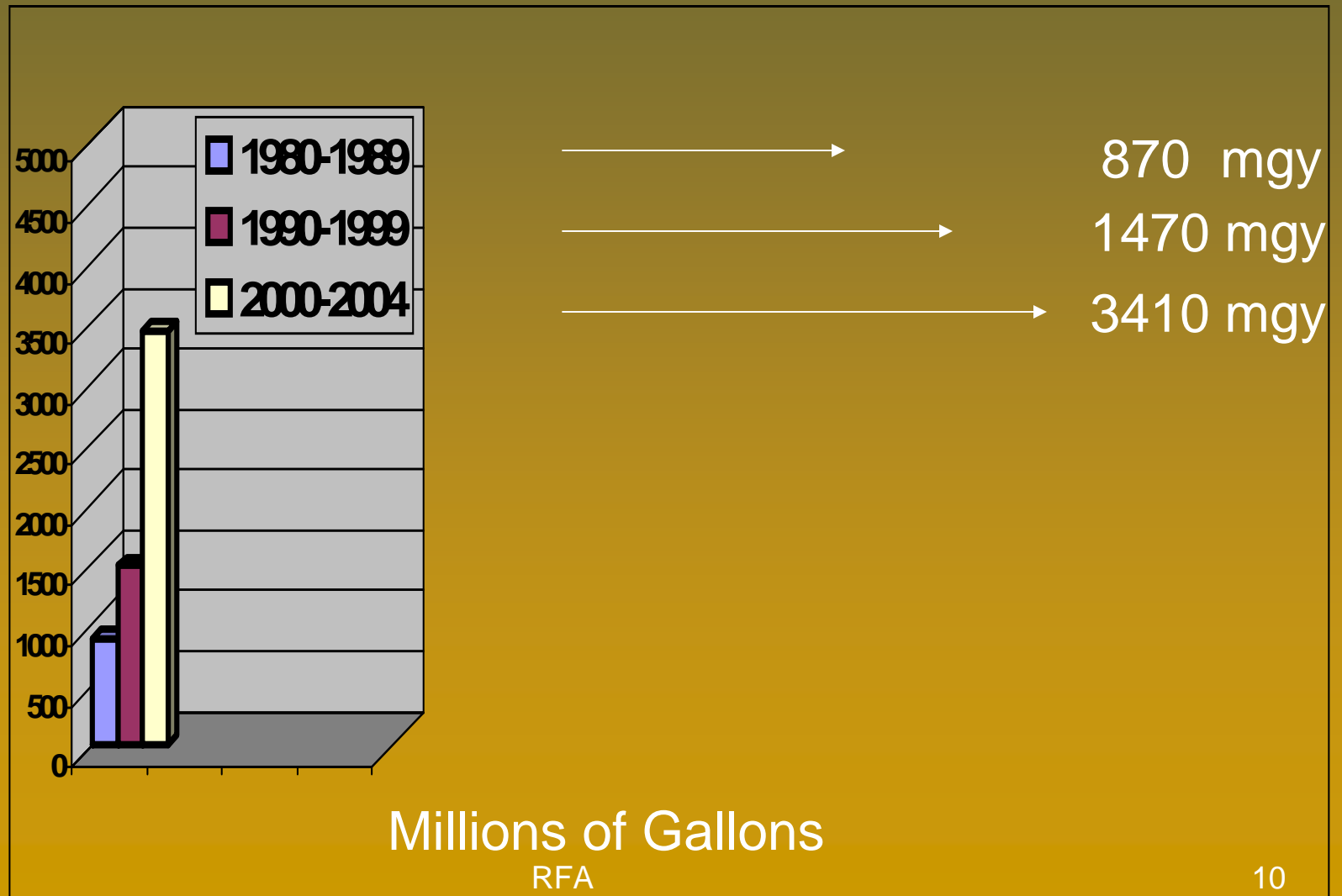
- Ethanol use in 2005 significantly reduced dangerous greenhouse gas emissions of 7.8 million tons or the equivalent of removing 1.18 million cars from American highways.

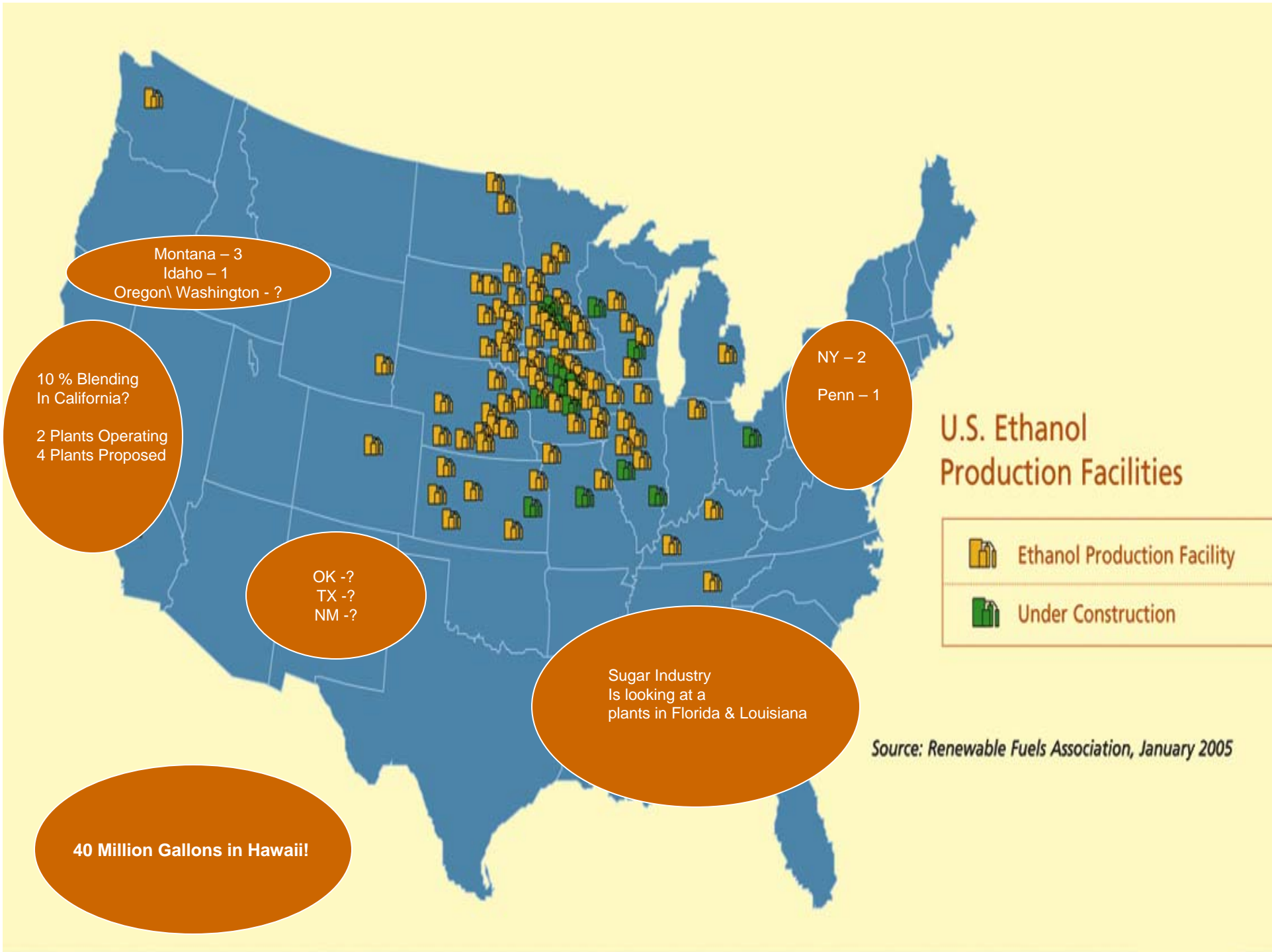
Farmers Leading the Fight for Energy Independence

- Rural Revitalization!
- 50% of the 95 current ethanol plants are owned by farmers
- Majority of ethanol plants under development are farmer-driven projects



Ethanol Growth By Decade





Montana – 3
 Idaho – 1
 Oregon\ Washington - ?

10 % Blending
 In California?
 2 Plants Operating
 4 Plants Proposed

NY – 2
 Penn – 1

OK -?
 TX -?
 NM -?

Sugar Industry
 Is looking at a
 plants in Florida & Louisiana

40 Million Gallons in Hawaii!

Renewable Fuels Standard (RFS)

RFS (bggy)

4.0 in 2006

4.7 in 2007

5.4 in 2008

6.1 in 2009

6.8 in 2010

7.4 in 2011

7.5 in 2012

41.9 = Total

2013+

- Proportional to renewable fuels/gasoline ratio
- Includes 250 mggy cellulose ethanol requirement

Renewable Fuels Standard (RFS)

“Revitalization of Rural America”

What is the Impact?

- 41.9 billion gallons of new renewable fuels
- 70 new bio-fuels refineries
- \$70 billion of *new* sales of renewable fuels
- \$40 billion of *new* sales of feed co-products
- \$6 billion of *new* construction
- Renewables will become 4.7% of the national fuel supply (today 2.7%).

Benefits of a 7.5 BG RFS by 2012 – Energy/Economy

- Improves energy security by reducing crude oil imports by 2.125 billion barrels through 2012.
- Grows the U.S. economy by reducing the outflow of \$ by \$64.1 billion through 2012.
- Boosts employment by creating as many as 234,840 new jobs throughout the U.S. economy.

Benefits of an 7.5 BGY RFS Rural/Ag

- Enhances rural economic develop by generating more than \$6 billion in new investment opportunities.
- Saves taxpayer money by reducing direct government payments to farmers
- Preserves family farms by increasing corn prices above baseline projections.

Benefits of an 7.5 BG RFS- Consumers/Enviro

- Adds nearly \$200 billion to GDP by 2012.
- Generates an additional \$43 billion of household income for all Americans by 2012.
- Reduces greenhouse gas emissions: in 2005, use of ethanol reduced GHG emissions by 7.83 mil tons (equivalent to removing 1.25 mil cars from the road);

Global Issues

- Worldwide Development of Renewables
- Today = 12.125 billion gallons
- 2010 projected to 17-20 billion gallons



Global Ethanol Industry Today

- Global Annual production record in 2005 of 12.125 bgy
 - USA 4.264
 - Brazil 4.227
 - China 1.004
 - India 0.449
 - France 0.240
 - Russia 0.198
 - Germany 0.114
 - South Africa 0.103
 - Spain 0.093
 - UK 0.092
 - Thailand 0.079
 - Ukraine 0.065
 - Canada 0.061
 - Many others

Total = 12.125 bgy.

Source: F.O. Licht

RFA

Ethanol Use Will Continue to Grow

- Despite question marks, for the foreseeable future, growing demand for ethanol appears to be a question of “how much” and “how fast” – not a question of “if.”
- Absolute growth is NOT a license to build any ethanol plant, anywhere.
 - Competitive Marketplace for site location
 - Low cost/efficient providers will prosper

Ethanol: Fueling the Future

Questions

Discussion

Contact Information:

Renewable Fuels Association

(202) 289-3835

Web site: www.ethanolRFA.org

