Today's U.S. Ethanol Industry

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Arlington, VA
March 28 2007

RFA
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U.S. Ethanol Industry Today

- Annual production capacity in 2006 of 5.3 bgy
  - Actual 2006 production of 4.9 bgy
  - 2006 demand of approx. 6 billion gallons
- 114 plants in 19 states with 5.6 bgy capacity today *(March 2007)*
- 80 plants under construction, combined with 8 expansions, will increase industry capacity by an additional 6 bgy *(March, 2007)*
- Dozens of additional plants in various stages of development

Today's Transportation Fuels

- Gasoline - 140 billion gallons
- Diesel - 45 billion gallons
- E85 – 50 million gallons

- Ethanol as an additive (E-10)
  - 5.6 billion gallons
  - Extends Gasoline – blended in 46% of gasoline
  - Adds 300,000 barrels of supply

RFS vs. RFA Projections

Year	RFS	RFA Projections
2006	4.0	5.3
2007	4.7	8.4
2008	5.4	11.1
2009	6.1	11.2 (1Q)
2010	6.8	
2011	7.4	
2012	7.5	

RFA Projections: Breakdown by Quarters

2007 (Millions of Gallons)

1Q:	671
2Q:	237
3Q:	814
4Q:	1354
Total:	3076

2008 (Millions of Gallons)

1Q	1362.5
2Q:	695
3Q:	610
4Q:	101
Total:	2768.5

2009 (Millions of Gallons)

1Q:	105

What's Leading Industry Growth?

- Renewable Fuels Standard
- Sustained high gas and oil prices
- State ethanol programs
- E-85 growth
- Concerns about MTBE contamination
- Need to expand U.S. fuel supply
- Environmentally-friendly profile

Nationwide Economic Benefits of Ethanol Demand in 2006

- Added $41.1 billion to gross output
- Created 160,231 jobs in all sectors of the economy
- Increased economic activity and new jobs from ethanol increased household income by $6.7 billion, money that flows directly into American consumers' pockets
- Contributed $2.7 billion of tax revenue for the Federal government and $2.3 billion for State and Local governments
- Reduced imports by 170 million barrels of oil, valued at $11.2 billion

Annual Local Economic Impact of a 100 mgy facility

- Spend an estimated $88.2 million for goods and services
- Use 36.4 million bushels of corn
- Operational spending will generate $406 million for the local economy
- Increase the size of the state economy by $223 million
- Generate nearly 1,600 new jobs
- Increase household income by more than $50 million

Source: "Contribution of the Ethanol Industry to the Economy of the United States," LECG, LLC, December 2006

Technology Moving Industry Forward

- Cutting edge technologies are reducing energy consumption, improving refinery efficiency, developing new co-products, using new feedstocks
  - Corn fractionation
    - Increases starch availability for ethanol production
    - Increases protein content of DDGS, improved flowability
  - Cold starch hydrolysis
    - Decreases energy use and production costs
  - Corn oil extraction
    - A dedicated crude oil source for biodiesel production
    - Higher protein feed content, improved flowability
  - Biomass Gasification
    - Energy source for both steam and power generation
    - Increases overall efficiency of energy generation while reducing emissions

What about Cellulosic Ethanol?

- **Technology and cost are limiting factors.**
- **Current technology for cellulosic ethanol is the acid hydrolysis process.**
  - Capital costs are almost 4 times that of dry mill ethanol.
  - Operating costs are 50% above corn dry mill costs.
- **Enzymatic process holds promise for lower costs, but is not yet commercialized.**
- **Cellulose ethanol will happen, but large scale production not likely in the near term.**
- **Cellulose ethanol expected to first be commercialized by current producers who have cellulosic feedstocks at their grain-based facilities.**

The Future is Now for Cellulose Ethanol

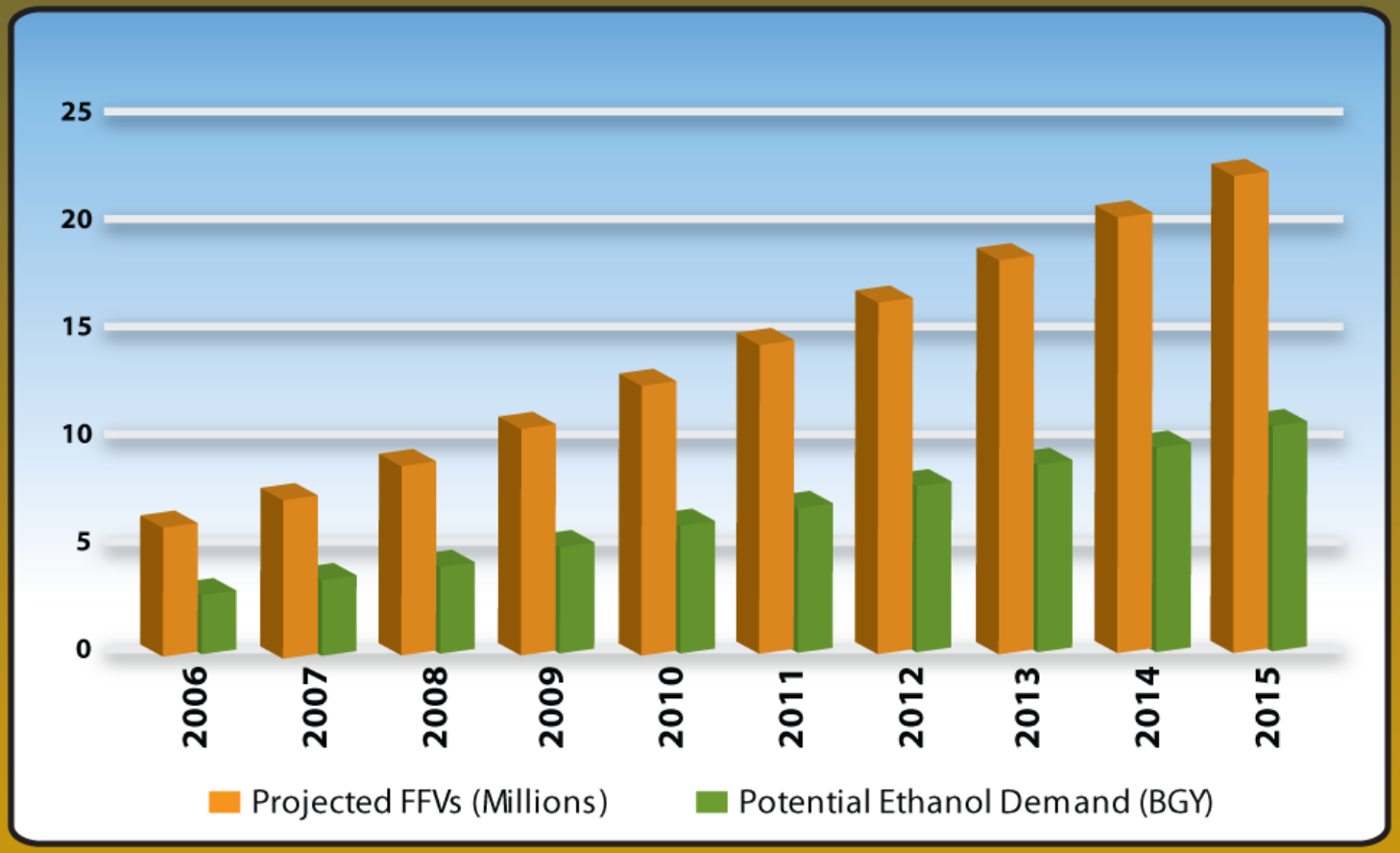
- **Abengoa BioEnergy**
  - 11.4 million gallon plant in Kansas using stover, wheat straw, milo stubble, switchgrass, and other feedstocks.
- **Alico, Inc.**
  - A 13 million gallon plant in LaBelle, Fl using gasification technology to process yard, wood, and vegetative wastes and eventually energycane.
- **Bluefire Ethanol**
  - A 19 million gallon plant located in southern California sited on a landfill to process sorted green waste and wood waste with acid.
- **Broin Companies**
  - A 125 mgy biorefinery planned in Emmetsburg, Iowa to process, corn, corn fiber and corn stover. 25% of the feedstock will be cellulose.
- **Iogen Biorefinery Partners**
  - 18 mgy ethanol facility in southeastern Idaho using enzymatic conversion technology to process wheat straw.
- **Range Fuels**
  - 40 million gallon plant in Georgia using thermal conversion technology to process wood waste and wood-based energy crops.

Is there an Ethanol Blend Wall?

- Ethanol is blended in 46% of the nation's fuel today
- Near Term Market Opportunities
  - California 10% blends
  - SE U.S.
  - Higher RFS?
- U.S. gasoline demand ~ 140 billion gpy
- When ethanol nears 14 bgy, new markets will be needed
- Longer Term Market Opportunities
  - Higher level blends?
  - E-85

U.S. FFVs Could Exceed 22 Million by 2015

Creating potential E-85 Demand in Excess of 11 BGY



(1) Currently 6.0 million flex fuel vehicles (FFVs); assumed growth of 1.4 million in 2007, 1.6 million in 2008, 1.8 million in 2009 and by 2.0 million per year after 2010 (2010 and beyond data according to public statements made by Ford, General Motors and Chrysler)

(2) Calculated assuming 600 gallons of E85 used each year per FFV. (Source: EIA projects 500 gallons of gasoline per year per vehicle assumes 20% mileage loss compared to conventional)

Ethanol Industry 2007 Legislative Priorities

- Maintain and Extend VEETC (Blenders' Tax Incentive)
  - Maintain and Extend Credit Offset (Secondary Tariff)
- Increase Ethanol Market Opportunities
  - Higher Ethanol Blend Levels
  - E-85
    - Optimized FFV & Infrastructure Incentives
- Cellulosic Ethanol Commercialization
  - Fully fund and/or increase funding for EPAct 2005 programs
  - Research & Development and Deployment and Commercialization
  - Grants and Loan Guarantees
  - Incentives
- RFS

Contact Information

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