

# Opportunities of Federal Renewable Fuels Standards

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# Renewable Fuel Standard Program

- Congress had originally passed a Clean Air Act (CAA) which was later amended by section 1501 of the Energy Policy Act of 2005.
- The Renewable Fuel Standard (RFS) is a provision of the US Energy Policy Act of 2005.
- It mandated that 7.5 billion gallons of renewable fuels be used by 2012.

# Renewable Fuel Standard Program

- Congress later required the EPA to promulgate regulations implementing a renewable fuels program.
- These are commonly referred to as the Renewable Fuels standards (RFS)
- Original requirements were for the fuel sector to blend in 4 BGPY in 2006 to 7.5 BGPY in 2012.

# Renewable Fuel Standard Program

- In 2007, President Bush signed the Energy Independence and Security Act (EISA)
- This is referred to as the RFS-2
- This act further increased the amounts of renewable fuels to be blended into the nation's fuel supplies and to ensure that gasoline sold in the US contained a minimum volume of renewable fuel.

# Renewable Fuel Standard Program

- The intent was to also decrease the amount of pollutants and greenhouse gas emissions. (GHG's)
- Additionally, the EPA estimated the use of renewable fuels would increase net farm income from the use of corn and soybeans as a source of feedstocks.
- However, agribusiness sectors dealing with animal production rather than grain production are struggling to cope with the higher costs of grain.

# Renewable Fuel Standard Program

- The RFS-2 included 5 specific changes to the original RFS program
  1. Increased mandates to 36 billion gallons of renewable fuel by 2022
  2. Inclusion of non-road gasoline and diesel
  3. Inclusion of 3 new categories; advanced biofuels, biomass-based diesel, and cellulosic biofuels.

# Renewable Fuel Standard Program

4. Lifecycle greenhouse gases (GHG's) performance threshold standards must be applied to each renewable fuel category.
5. The definition of renewable fuel feedstock has changed, limiting crops and crop residues used to make renewable fuel to those from lands not cleared or cultivated at any time prior to the enactment of the EISA, actively managed or fallow and non forested. (NBB 7/16/2008)

# New Fuels Category

- Advanced Biofuels, biomass-based diesel, and cellulosic biofuels
- All of these categories are related.
- All must come from low nutrient input and high yield/acre output.
- All must come from non food producing land.
- Can be derived from agricultural and/or municipal wastes.

# New Fuels Category

- Examples are; Ethanol derived from cellulose, hemicellulose, or lignin.
- Ethanol derived from sugar or starch (other than corn starch).
- Ethanol derived from waste materials which may include crop residue, other vegetative waste material, food waste and yard waste.
- Biomass-based biodiesel

# New Fuels Category

- Biogas (including landfill gas and sewage waste treatment gas) produced through the conversion of organic matter to renewable biomass.
- Butanol or other alcohols produced through the conversion of organic matter from renewable biomass.
- Any other fuel derived from cellulosic biomass.

# New Fuels Category

- The new fuels definition does not care what the fuels are used for.
- For example, they can be used for transportation or may be used to in generators to produce electricity, or can be used to cook foods or heat homes.

# New Fuels Category

- Challenges to achieving these goals include:
- Overcoming biomass recalcitrance.
- Logistics of transporting raw feedstocks and finished products.
- Providing fair prices for crops or agricultural residues.
- Tailoring crops to meet specific environments and cultures.

# Renewable Fuel Standard Program

- More information can be found at:
- [http://www.epa.gov/OMS/renewablefuels/#  
regulations](http://www.epa.gov/OMS/renewablefuels/#regulations)
- [http://www.epa.gov/OMS/renewablefuels/4  
20f09023.htm](http://www.epa.gov/OMS/renewablefuels/420f09023.htm)

# Exemptions and Waivers...

- Pig growers and turkey growers rely on corn for their feed.
- The price of corn has gone from \$2.60/bu to over \$7.00/bu in 2008.
- Other factors such as flooding, weak dollar leading to more exports, blenders credits, tax incentives for ethanol production have caused hardships for animal producers.

# Exemptions and Waivers...

- In response to those seeking exemptions and relief from the RFS, the EPA has been reluctant to grant relief.
- The criteria for waivers is proof of severe economic harm, severe environmental harm, or there is an insufficient supply of domestic renewable energy.
- Texas was the only state that sought a waiver to the RFS.

# Opportunities

- Over the next 5 years, the RFS-2 program mandates that renewable fuels will be blended into the nations fuel supplies.
- 2010 requires 12.95 BGPY
- 2011 requires 13.95 BGPY
- 2012 requires 15.2 BGPY
- 2013 requires 16.55 BGPY
- 2014 requires 18.15 BGPY

# Proposed Standards for 2010

Cellulosic Biofuel	0.06%
Biomass-based diesel (75 BGPY used annually)	0.71%
Advanced Biofuel	0.59%
Renewable Fuel (140 BGPY gasoline used annually)	8.01%

# Opportunities

- The sources of renewable fuels will include agribusinesses, processors, and producers.
- Yearly increases will amount to greater than 1 billion gallons of new markets each year for the next 13 years.
- Any business involved in reduction of GHG's will benefit.

# Opportunities

- Land owners could benefit by leasing out their land.
- Transporting the raw materials will be an opportunity.
- Construction of new plants will grow.
- Building industry will have new opportunities.

# Conclusion

- Any related business to the production of renewable fuels can benefit from RFS-2.
- There will be some businesses that may suffer from RFS-2. These may include animal growers and plants that formerly relied on corn and soybeans as a feedstock for their fuels.
- Waivers from the RFS-2 program will be difficult to obtain from the EPA.