Growing The Global Ethanol Market
The Importance Of Market Development And Partnerships In The APEC Region

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What Does The Current Situation Look Like?

While industry economics are tough, export outlook is promising

1. Export situation is better than expected – exports during first 7 months of 2016/17 are up 60% and shipments to 7 of top 10 markets are higher than a year ago. Full year exports expected to reach 4.2 billion liters. Biggest positive surprise is Brazil, Canada, India, Peru, Nigeria, and UAE – up sharply from last year’s pace. Biggest concern is China. Government has increased tariffs to 30-40% -- up from previous 5%. This is expected to sharply reduce or eliminate China’s imports from the U.S. and Brazil.

2. U.S. ethanol is competitive – recent spot prices at the Gulf averaging $.50-.80/gallon less than Brazilian product at Santos … and competitive against MTBE, aromatics, and gasoline itself. U.S. share of world ethanol exports is approaching 50% vs 22% for Brazil.

3. U.S. and Brazil have the capacity for continued export growth over next 5-10 years ... and will add more if the market demands it, especially in the U.S. However, Brazil's problem is that sugar prices are high and more cane going into that market vs ethanol. Will that continue?
Most major markets showing gains so far this year and exports should exceed 1.1 billion gallons and could set a new high. However, China market will be a problem due to recent tariff hike (to 30%).
So Far This Year, 7 Of The Top 10 Markets Are Up
But The Big Story In 2016/17 Is The Rise Of Brazil

Source: Global Agricultural Trade System
Worldwide Trade in Ethanol in 2016 Reaches 7.9 Billion Liters (or 2.1 Billion Gallons)

Source: Global Agricultural Trade System (UN Trade Data subset) and Global Trade Atlas, U.S. Grains Council – projections (p)
U.S. Share of World Exports Has Expanded To Roughly 48% vs Brazil’s 22%

Source: Global Agricultural Trade System (UN Trade Data subset) and Global Trade Atlas, U.S. Grains Council – projections (p)
Corn Prices Expected to Remain Competitive Against Sugar As Feedstock

U.S. Corn and World Sugar Prices and Projections

Source: 2016 USDA Baseline (corn) and OECD forecasts (raw sugar)
What Does The Future Hold For Energy Demand, Carbon Emissions, and Biofuels?

- **Global demand for energy will continue to rise, especially transportation fuel.**
  - Rising middle class households in emerging markets over next decade will sharply boost car ownership rates and kilometers driven

- **The mix of energy sources will change significantly**
  - Coal’s role will diminish, renewables will increase (for transportation fuel and electricity generation), and oil and gas combined will hold steady

- **Growth rate of carbon emissions will slow sharply**
  - But not by enough … without further policy changes.
  - Biofuels role in lowering carbon-intensity of transportation fuels SHOULD be greatly expanded … worldwide

Source: BP Global Energy Outlook, Global Energy Alliance, and U.S. Grains Council
Car Ownership Set to Surge in China and India, Boosting Fuel Demand & GHG Emissions

Potential New Markets Over 10 Years

• **Focus is on Asia Pacific region.** Ethanol usage is low, fuel consumption growth is the fastest in the world, and air quality problems are widespread and worsening, especially in China and India. USGC and its partners have active programs here.

• **Mitigating GHG emissions** has become increasingly important after COP-21 in Paris. This creates new opportunities for fuel ethanol, which reduces GHG emissions. However, many are concerned about the GHG profile of corn ethanol. New LCA from US Department of Agriculture shows big improvements in GHG profile of corn ethanol in past decade. Will exceed 50% reduction vs gasoline within five years.

• **Octane advantages of ethanol blending.** Gasoline refiners and blenders could benefit if they fully understood ethanol’s benefits. Widespread MTBE usage offers us opportunities to make inroads in oxygenate market if countries understood the threat to groundwater supplies. Displacing aromatics, which comprise 25-40% of gasoline, offers even bigger gains.

• **Strong global growth potential** for gasoline/ethanol blending over the next 5-10 years – with right policies in place that focus on usage – with a vital role for trade to stabilize supply.
How Will The U.S. Ethanol Industry Develop New Markets Abroad?

• Through a single, cooperative U.S. effort
• Increased cooperation with other nations efforts, including APEC
• Global Engagement – Focus on Priority Markets But Be Opportunistic
The Focus Of Our Market Development Efforts?  
*Building New Demand*

- The U.S. ethanol industry will work with interested countries to learn from our experiences and quickly and dramatically boost global blend rates of ethanol.

  - Focus is on working with other countries (industry and government) to develop proven policy supports, including enforced blending mandates and/or tax incentives.
  - Highlight the benefits to society that result from biofuels blending – GHG emissions reductions, air quality improvements, improved engine performance (octane advantages), and energy diversification. Also, rural economic development for those countries with competitively priced feedstock.
  - The positive role of trade – imports can help reach blending targets if domestic production lags or does not exist.
  - Assistance offered through joint bilateral B2B working groups, trade missions, reverse trade missions, and technical and policy workshops

- The main idea is to develop global biofuels alliances, not adversaries.
Best Prospects For New Demand Is In the Asia-Pacific (APEC) Region

5 Strategic Priorities
• China
• India
• Japan
• Mexico
• Canada

Other Markets
• Philippines
• Korea
• Taiwan
• Peru
• Colombia
Worldwide Engagement: Focused But Opportunistic
Recent and Upcoming Activities

1. **APEC policy workshops** in Thailand in February 2017 in and potentially Vietnam in August 2017. The focus is to share experiences and develop an APEC Roadmap of how to establish a viable ethanol industry in different economies. APEC insists on a role for regional trade.

2. **Market assessment missions** -- China, India, Japan, Korea, Taiwan, Vietnam, Peru, Colombia, Mexico, Canada. Persian Gulf and Indonesia missions coming … and maybe others. What about the EU?

3. **Reverse missions to the U.S.** – from Mexico, Philippines, Korea, Japan to visit entire ethanol supply chain and US labs (such as the DOE labs at Oakridge, Argonne, NREL).

4. **Bilateral Working Groups** established or being planned – India, China, Mexico, Peru. Will meet one or two times a year to discuss technical/policy related issues. Open to more if there is interest.

5. **Technical and Environmental Workshops** – Mexico, India, Korea, China, Japan, Peru, Colombia.

6. **Ethanol Summit of the Americas** – hosted by the U.S. ethanol industry. Part of the strategy to build alliances, not adversaries. Scheduled to be held in Houston in early October 2017. Every ethanol industry in the Western Hemisphere (associations, government, and industry) will be invited. Ethanol Summit of the Asia Pacific for 2018…
Closing Thoughts and Questions?