

# Technical and Regulatory Aspects for Ethanol Marketplace Access



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Ethanol: Emerging Issues Forum

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# Building Ethanol Markets

- Identify new or expanding markets.
  - Commercial opportunities.
  - Policy opportunities.
- Learn the Technical aspects, fuel specifications, import details.
- Learn the Regulatory Framework.
- Identify the impediments, needed modifications for ethanol fuel blends to fit into landscape.
  - What fuel blend is the target?
    - Question: Brazil at 32%? China at 10%? Canada at 5%?
    - Answer: Canada target ended up being 10% to ensure a fungible fuel with U.S. even though the Clean Fuel Standard requires 5% renewable.
- Develop resources and initiate efforts to modify, address these impediments. Initiate change!
  - Resources can be research papers, educational seminars, trade associations, transportation/ logistics, retail stations, etc.

# The first lesson in motor fuel markets:

## #1. Motor Fuels are heavily regulated.

- There is great social and economic welfare dependence on motor fuels by governments and societies.
- There is also great harm to the environment from the development, transport, manufacturing and use of fossil fuels.

These two points are equally important.

Once you understand that, understanding how ethanol factors into social and environmental regulations created by fossil fuels will make this market development easier.

# Each Country: Motor Fuel Regulation

## Federal Regulation

- Performance (~EPA, NHTSA): ensure proper balance of composition, approval processes, use in engines.
- Environmental (~EPA): air quality (emissions) which includes VP, Sulfur and Benzene, etc. Also GHG, Cl.
- Commerce (~IRS, FTC): taxes, price disclosure, consumer equity, dispenser labeling.
- Safety (~OSHA, EPA): fire code, emergency response with a hazardous, flammable chemical.
- Permitting (~DOT for transport, EPA for emissions, OSHA for safety, Customs for import): proper transport, handling, storage and blending of ethanol.

## State Regulation

- Each state can have their own, unique requirements, specifications.
  - This happens in Canada, Mexico today.
  - Example: Vapor pressure regulation is by geography.
- Most states adopt model fuel specifications.
  - Method of sale, fire code.
  - Collection of motor fuel taxes.
    - Important revenue stream for governments.
  - Safety and security reasons.

# Building Resources for Market Development

- What is the local, national fuel specifications?
  - Organization such as: ASTM, ISO, CEN, NEN helpful?
- What is the regulation framework?
  - Organizations such as NFPA, UL, SAE helpful?
- What is the age/ technology of the spark ignition engines?  
Cars, motorcycles, off road?
- What are the current market conditions?
- What is the retail station configuration, construction?
- Who are our allies in each country?
- What government agencies...

We will leverage all of our experience and assets in the industry.



# Mexico: A New Market Example

- Background:
    - For nearly 80 years, Mexico has allowed only one oil company to procure, manufacture and distribute motor fuels in the country.
  - The Mexico government started an Energy Reform in 2013 to create a competitive market with new fuel supply/suppliers.
  - Mexico has significant air quality problems, supply problems, and has only used MTBE in the past.
- In order to legalize the use of ethanol, three major national laws had to be modified.
- Comision Reguladora de Energia's national hydrocarbon law. Prior to 2016: Ethanol was not allowed. Oct. 2016: 5.8%. June 2017: 10%v/v.
  - Department of Energy's (SENER) national biofuels law. A national specification had to be developed; allows DFE, Brazil Anhydrous.
  - Hacienda's tax code only allowed ethanol with less than 0.5% water content.

This took 3 years to complete.

# Major Opportunities for Ethanol

- Ethanol provides significant benefits to gasoline.
- Ethanol provides significant benefits to fuel supply.
- We need to be strategic with our time and resources.
- Keep in mind that the oil refiners have been at this market development for more than 10 years already...





**Thank you!**

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