How To Survive
In A Competitive Fuel Market

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Fuel is a Commodity

• All fuels compete in a commodity market
• Judged on Value
• Renewables are no exception

Questions:
• How will you create value?
• How will your fuel compete?
Technology Development vs Market Development

• Just because a particular renewable fuel can be produced doesn’t mean it can be cost-effectively produced, or effectively marketed.

• Clean-technology companies often focus on technology solutions
  – This includes renewable fuels developers
  – But will the fuel itself be profitable?
Technology Development vs Market Development

• Not enough attention is paid to marketing & commercialization
  – How will the production \textit{technology} be marketed?
    • Who are the customers?
    • Who will build plants?
Technology Development vs Market Development

– How will that **renewable fuel** be successfully marketed?

– How will it remain competitive?
  • Who are the customers??
    – **Identify the value chain**
  • What motivates sales??
  • Are there supply chain or logistics challenges??
Technology & Market Viability

• Viability of technology is **important**
  – Will it work?
  – Does it offer a carbon reduction solution?
    • Has that been quantified?
  – Is it economically feasible?

• Marketability of fuel is **critical**
  – Is the fuel fungible?
  – Policy: are governmental incentives available?
  – Regulations: RFS and/or LCFS pathways?
  – Is the fuel competitive with petroleum counterpart?
    • Why is that important??
Technology Viability

• Does the production technology work?
  – Is it scalable?
  – Is the energy balance sustainable?

• What are the cap-ex costs for a facility?

• Are input costs realistic for a profitable business model?
  – Can they be controlled??
  – Can they be improved??

• How do incentives factor into the equation?
  – What happens when they go away??
Knowing The Fuel Markets

• Petroleum industry is entrenched
  – Sets bar for fuel values – Including renewables

• Policy & regulatory support is important
  – Incentives to support carbon reduction
  – Promote use of alternatives
  – BUT, do government regulations have unintended consequences??

• Renewables need to effectively compete
  – Pricing is always determined relative to petro fuels
Example:
California Biodiesel Market

• Biodiesel credits & incentives
  – $1.00/gallon blenders tax credit
  – $1.20/gallon RIN value (RFS2)
  – $1.35/gallon UCO value (LCFS)
  – $3.55/gallon total credits value

• Wholesale Diesel Value: $1.20
• Wholesale Biodiesel Value: $0.00
• Credits drive all low carbon diesel to California
Profitability In The Fuel Markets

• Remain focused on profitability
  – Who are the fuel customers?
  – What compels them to buy your fuel?
  – Fuel quality issues? Fungibility?

• Production costs

• Feedstock opportunities

• Grants / Incentives / Regulations / Mandates
  – For building a production facility
  – For using the fuel
Policy & Incentives

• Take advantage of favorable policies but plan your business as if they don’t exist!!
• Educate yourself
• Get to know your state and federal regulators and legislators
• Educate your customers
• Incentives can be cyclical
  – put money aside when times are good – you will need it when they are bad.
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