Cygnet BioFuels

Cygnet BioFuels:
Integrated Energy Systems

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January 13, 2008

Myths and Realities of Biofuels

Realities

- Energy, Food, Water are interrelated
- Need “renewable” and “sustainable” energy sources
- From laboratory to commercialization: Long timeline, high capital cost.
- Time is short: Demand for energy, food and water are growing faster than our conservation measures.
- The Earth is 3% freshwater

Myths

- The price of oil is irrelevant
- Capital is easy to come by for the “right” project
- Water is not an issue
- There is free feedstock available
- Corn is a good feedstock
- Corn is a bad feedstock

There is no “one” technology

Challenges to Widespread Commercialization and Adoption

- Access to Capital
- Balance between feedstock costs and fuel price
- Navigating between the Ag, Bio and Refining worlds
- Market share and penetration
- New and alternative infrastructure
- People resist change-so change needs to be invisible to consumer
- Technology and business model scalability
- Fuels is a commodity business, technology is squeezed between two commodities (need two traders, next to a scientist)

A Global Crisis And The Cygnet Solution

Non-sustainable energy consumption and the resulting climate changes currently threaten our global economy. There is no single renewable technology that will solve our problem thus **the only solution** is to integrate energy systems.

- Individuals, communities, cities, states, nations need to be collaborate on energy production and conservation

- No scalable options currently available to create synergies among energy technologies

- Cygnet proposes integrating energy generation technologies through invention and collaboration to create these integrated energy systems.

Synergies with Other Power Sources

BioRefineries

- Feedstock Costs 60%
- Energy costs 20%
- Site and Facility costs 6%
- Labor costs 14%

Power Generation Plants

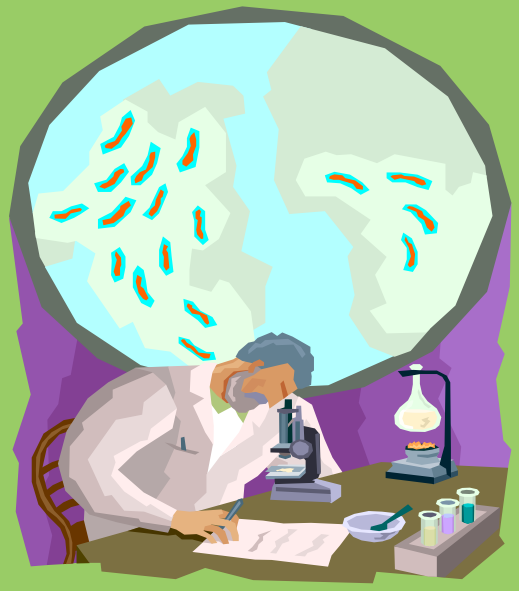
- Biomass, Solar, Wind to:
  - Steam
  - Electric
- Large Sites
- Skilled Workers

- This calls out for synergy with other power sources. Biofuels (hydrocarbons) can be a storage molecule for the energy created through wind, solar and geothermal.

- This looks like a Utility Company, not a biofuels company. The opportunity is Integrated Utility Parks.

Cygnet's Energy Strategy

- **We Own or Control Our Main Feedstock**
- We Develop Our Microbes
- We Convert and Conserve and Store Energy from the Sun in Our Integrated System
- We Believe in Partnership and Collaboration for a Recession Resistant Business Model



Cygnet's Solution

Cygnet BioFuels

Biomass and Fuel Systems
to Produce Fuel for Communities
Volume 1000- 1M gallons per year
Low energy
Low water
Local biomass

Cygnet
Bio-prospecting
Technology

Cygnet Biofuels
Systems
Manufacturing

The Cygnet Business Model

- Bioprospecting
  - Strain provider
  - Strain licensing (we retain assets most suitable for our needs)
  - Technology licensing
  - Royalties
  - Fee for Service
- Engineered Systems
  - Outsource Manufacturing (we retain equipment Royalties)
  - Distribution Royalties
  - License Royalties
  - Logistics consulting
  - Partners pay for infrastructure installation

We are Technology Experts

Energy is a Very Large Pie

Cygnet Business Development Strategy

- Partner Bioprospecting
- Create Phase I prototype with specific partners
- Distributed model for technology (Micro and Macro Refineries)
- Customer Builds Infrastructure
- Operating efficiency is Most Advanced Feature
- Extensive Partnering
- Sell technology
- Sell our logistics capabilities
- Economics are built around specific growth and development needs for municipalities, states and nations

Cygnet Financing Strategy

- Partner with Investor to create a system for a specific site.
- Non-dilutive funding
- Raise equity
- Begin early commercialization of strains, systems and logistics support
- Create partnerships with individuals, corporations and governments for specific feedstock and locations

Cygnet Product and Revenue Timeline

- Standard Track-3-5 years
  - Laboratory
  - Large bench
  - Pilot
  - Demo
  - Commercial
- Performance determined at Pilot
- Capital intensive track

- Cygnet Track 1-2 years
  - Selection of known technologies
  - Pilot integration with partner
  - Prototype installation and data collection at partner site
  - Outsource R&D
  - Scale up with specific partner
  - Distribution via partner
  - Replication at multiple sites
- By step two we know that the technology will perform
- Outsource for best use of capital

Why is now the time?

- We have a global crisis with no apparent single solution
- There is no “one technology”
- Integrating and distributing technologies takes time
- The positive effect to climate change takes time
- Energy dependency is not in any nations best interest
- We need water, food and energy to support our populations