
HAMILTON CLARK

Hamilton Clark Securities Company

Biorefineries – What is the endgame?

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Hamilton Clark Securities

- Investment banking, financial advisory firm established in 1990
- Focused exclusively on energy technology companies
- Offices in Washington, DC and Houston, TX
- Member FINRA and SIPC, SEC registered broker-dealer
- Completed over 70 advisory, M&A and institutional private placement assignments

TERRABON

Terrabon, Inc.

Series A
Convertible Preferred Stock

Strategic Investors

Valero Energy Corporation

WM Organic Growth, Inc.
(Subsidiary of Waste Management, Inc.)

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October 2009

Placement Agent

SunOpta BioProcess Inc.

has merged with

 **MASCOMA**

We initiated this merger and acted as exclusive
financial advisor to SunOpta BioProcess Inc.

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September 2010

Well discussed barriers to financing biorefineries

- Technology wrap
 - Yield, continuous production, MTBF, warranty
- EPC wrap
 - Cost, process yield, time, warranty
- Feedstock and cost volatility
 - Dedicated energy crops, ag residues, woody biomass, MSW
- Offtake and price volatility
 - Inability to hedge against feedstock cost
- Risk of regulatory change
 - RFS2 mandates, advanced biofuels credit, accelerated depreciation, RINs
- Structured finance
 - Difficult to structure around technology risk
- Acceptable cash flow, payback, IRR
- Other “Valley of Death” issues

Not as well discussed barriers

- Transportation fuels are not the same as electricity
 - PPAs are not a market mechanism
- Loan guarantee programs have a poor record with non-commercial technology
 - DOE focus on R&D
- DOE/USDA excellent grant and IBR program for advanced biofuels
 - But where are the companies now?
- EPA seems to have most of the clout under RFS2
 - EPA needs to lead with a high level, mandated RFS2 and high RIN prices
- DOD is the new player in the room
 - National security is a real issue, not the case with electricity, DOD can build plants
- OMB holds the checkbook
 - Solution needs to be deficit neutral
- Building commercial/demonstration plants is not the same as building pilot or commercial plants
 - Need scale, accept “gremlins”, develop the learning curve, debt financing

Biorefineries - endgame goals and strategies

- Goals:
 - RFS2 (500+ biorefineries, 40 MMGPY, \$8.00/gallon, \$320 MM each, \$168 B program)
 - 21 BGPY (1.4 MMBPD), \$140 MM/day trade benefit, \$51 B/year, \$510 B/10years
 - President Obama, March 30, *Georgetown University*, four biorefineries in construction
- Biofuels industry financed
 - AMRS, CDXS, GEVO, SZYM, KIOR aggregate IPO proceeds \$640 MM
- Oil and gas company financed
 - Some interest, *Valero/Darling* decision to finance on balance sheet, USG procurement
 - Poor history with prior alternative energy. *Exxon Colony Oil Shale*, \$5.5 billion (1984 dollars)
- Government assisted finance for commercial alternative energy plants
 - *US Synthetic Fuels Corporation*, 1980, \$88 billion legislation. Excellent vision, poor execution
- Government ownership without guaranty
 - *Tennessee Valley Authority*, 1930's sold USG bonds, 1959 not a GSE, 2010 revenue \$10.7 B
- Government investment and privatization
 - *South Africa Synthetic Oil Limited (SASOL)*, 2.5 BGY, NYSE:SSL, market cap \$31.7 billion
- Maybe a new public – private partnership (best of the best)
 - *US Advanced Biofuels Corporation?* Advanced biofuels, license and build commercial demonstration plants, privatize and sell off, deficit neutral, help mitigate barriers