Agenda
Chuck Davis – CEO, Drax Biomass International
JR Stone – Senior Vice President, Project Management

US Forest Resource

US Investment Objectives

Drax Biomass International

Gulf Cluster Investments

Options for Expansion
US Forest Resource

US has >750M acres of forest land

>35% of the landmass and 25% of global industrial wood production

US forests are growing

Protected by statutes, regulation and certification
- Designed to ensure forests continue to grow / flourish
- Best practices in forest management and sustainability

US Southeast – main point of focus

Favourable climate supports short timber rotation

Significant available volumes
- Current total harvest is 300Mt – 350Mt pa
- Forest residuals are underutilised
- Forest industry closures provide opportunity for new consumers

Straight forward commercial and regulatory environment

Sources:
Forest area – USGS National Land Cover Database 2001
Ownership – CBI Protected Areas Database, Version 4.0
US Investment Objectives

Main driver is to deliver secure and reliable pellet supply

Insights into technology and business
- Become better informed buyer
- Assist suppliers with technical issues
- Support production process development

Mobilise further capital for supply chain investment

Success requires control over the three key legs of the supply chain:

Fibre
- Abundant sustainable fibre resource

Manufacturing
- Development, design, construction and operation of facilities

Logistics
- Structured contracts for moving pellets to port storage
- Aggregation and loading onto ships
Drax Biomass International (DBI)

DBI established in December 2011

Strong team – local US expertise supplemented by Drax expatriations

Chuck Davis
CEO

Morgan Stanley
Verenium / BP
InterGen

Ken Budreau
SVP Development
GenPower
InterGen
Combustion Engineering

JR Stone
SVP Construction
Lincoln Renewable Energy
Horizon Wind
URS Corporation

Steve Drayton
SVP Engineering, Operations & Safety
Drax Power

Evie Wheeler
VP Human Resources
Blu Homes, Inc.
D.F Murphy Ins
Sigma Systems

James Dix
SVP Finance
Haven Power
Deloitte

Janet Gallagher
SVP Legal
Verenium
SCS Energy
InterGen
Gulf Cluster Investments

Two 450kt pa pellet plants
Amite (Mississippi)
Morehouse (Louisiana)
Baton Rouge Port facility
Up to 3Mt pa throughput
80kt storage

Rationale:
Abundant fibre supply
Access to deep water port
Transportation interconnections
Supportive local authorities
Fibre – Sources

Fibre requirement

Each plant requires c.1Mt pa
• Forest / mill residues, thinnings, tree tops and limbs – lower value fibre

Sustainable sources

Plum Creek
• 770kt pa
• 10-year contract

Regional providers
• >80% forests in the South East held by small forest owners
  - Active timber markets provide economic incentives for landowners to grow a wood crop
• Portfolio of medium-term contracts (3–5 year) and short-term agreements (1 year or less)

Plum Creek is one of the largest landowners in the US
Approximately 6.4 million acres of timberlands
Managed following sustainable forestry practices

Contributing to the revival of the forest products industry

“Woody biomass provides a reliable energy source while providing an opportunity for my state, among others in the Southeastern US, to put people back to work”

Georgia Governor, Nathan Deal

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Fibre – Amite

5M forested acres within the catchment area\(^{(1)}\)
- Covering 56% of the landscape

Total forest growth is 21.9Mt pa\(^{(2)}\)
- Total drain is 8.8Mt pa
- Growth to drain ratio\(^{(3)}\) = 2.5

Generates 4.4Mt pa of forest residues
- Low to no utilisation

Sited near closed forest products facilities
- GP Gloster plywood plant; IP Natchez pulpmill
- Available workforce for plant operations and logging revival

Feedstock costs relatively low and stable compared to other parts of US South

Supply chain well developed to produce pulpwood

Need to develop residuals supply chain

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(1) Catchment area radius is c.50 miles, or 5m acres
(2) Source: USDA FIA
(3) Growth to drain ratio = growth / drain
(4) Town of Gloster, Amite County (Mississippi)
Fibre – Morehouse

5M forested acres within the catchment\(^{(1)}\) area
- Covering 50% of the landscape

Total forest growth is 21.7Mt pa\(^{(2)}\)
- Total drain is 14.8Mt pa
- Growth to drain ratio\(^{(3)}\) = 1.5

Generates 4.4Mt pa forest residues
- Low utilisation c.10%

Sited near closed forest products facility
- IP Bastrop paper mill
- Available workforce for plant operations and logging expansion

Feedstock costs are relatively low and stable compared to other parts of US South

Supply chain well developed to produce pulpwood

Supply chain for residuals in place and will expand

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\(^{(1)}\) Catchment area radius is c.50 miles, or 5m acres
\(^{(2)}\) Source: USDA FIA
\(^{(3)}\) Growth to drain ratio = Growth / Drain
\(^{(4)}\) Town of Beekman, Morehouse Parish (Louisiana)
Operational Readiness

**Recruitment**
- Key management hired
- Currently 38; moving to c.130 in spring 2014

**Detailed operational planning**
- Development of operational / maintenance manuals

**Training**
- Safety
- Equipment / task specific
- Maintenance
- OEM service contracts
- Major maintenance support
- IT / ERP systems
- Inventory control

*Amite Pellet Plant – Site Section*
Manufacturing Process

Enhanced features

Basic plant features

Green size (chip to <5mm)
Dry (moisture from c.50% to c.8%)
Dry size (0.5mm to 4mm)
Inject water and pelletise

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Storage and Loading

Aggregate up to 80kt
Through rail and truck dumpers

Store pellets in climate controlled environment
With appropriate fire management systems

Rapidly load onto ships up to 65kt
1,200t/hr
Safety, Engineering and Procurement

Safety – principal focus

Experienced safety team supported by Drax UK expertise
• Working closely with contractors / sub-contractors

Engineering – plants built using industry-leading capability and lessons learned

Drax pellet plant experience
• Process design
• Equipment vendors
• Pellet quality
• Material handling

Mid-South Engineering Experience

Strong field team

Equipment and technology

Pellet plants – same vendors for both: cost-effective procurement and consistency
• Construction, operations, maintenance

Storage and loading based on Drax UK experience
• Dome Technologies – supplier to Drax in the UK
Construction Contracts

Manufacturing

**Haskell Companies**
- Headquartered in Jacksonville, Florida
- Providing design, construction and operations services to a range of industries
- Privately held
- Revenue – $568m (2012)
- 105th – Engineering News-Record (ENR) Top 400 Contractors

**Fixed price contract**
- Date certain
- Performance guarantees

Storage and Loading

**Gray Construction**
- Headquartered in Lexington, Kentucky
- Design-build contractor offering architecture, engineering and construction services to domestic and international companies
- Privately held
- Revenue – $484m (2012)
- 126th – ENR Top 400 Contractors

**Fixed price contract**
- Date certain
- Performance guarantees
Consolidated Schedule

Capital investments progressing on schedule and budget

Targeting commercial operations: Amite and Baton Rouge Q1 2015, Morehouse Q2 2015

Full capacity: 6 months after commercial operations begin

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<th>Gulf Cluster Investments</th>
<th>2013</th>
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Amite – Progress
Morehouse – Progress
Baton Rouge – Progress
Construction Summary

Construction progress to date

- Site clearing
- Grading
- Storm water management systems
- Foundations

Near-term activities

- Dryer equipment
- Site access

Construction is on schedule and budget
Options for Expansion

Gulf Cluster

Assessing opportunity for expanding manufacturing capacity in region
  • Scale improves economics for region and port facility

Opportunity to purchase pellets on a delivered basis

East Coast

Performed extensive analysis of potential East Coast ports and manufacturing sites

Developing options for manufacturing capacity and port facilities

Expansion focused on aggregation potential
Summary

Strong team
Local expertise supplemented by Drax expatriations

Good locations
Abundant fibre and efficient logistics

Robust contracts
Capped price, date certain with performance guarantees

Execution on track
Evaluating options for expansion

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