

Growing The Margins Energy Project Due Diligence

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The Bio Energy Opportunity

- Markets
 - Diverse opportunities for bio fuels
 - Pellets, bio oils etc
 - Well established markets
 - Europe in particular
- Bio mass feedstock supply seems infinitely large and readily available
- Several technologies to convert bio mass feedstock into bio fuels and bio energy
- How do we assess the viability of converting bio mass into bio energy?
- How do we capitalize on this opportunity?

Perform appropriate “due diligence” analysis

Relevant Considerations

- **Due Diligence in business model and relevant transactions**
- **Due Diligence in technologies and systems**
- **Due Diligence in regulatory impacts**

Business Model

Due Diligence in business model

- Products
- Markets
 - Sales and marketing strategies
 - Competition
- Raw material availability and supply
- Other relevant areas
 - Intellectual property
 - Real and personal property
 - Employee and labour laws, immigration
 - Insurance and liability issues
 - Legal and commercial agreements
- Technologies

Technologies

- Assessing alternative technologies and processes
 - Process validation assessments
 - System audits and validation of product conformance
 - Supplier quality
 - Assessment to validate product conformance and quality
 - Technical evaluation of system
 - Equipment specifications and certifications
 - Performance measurements
 - Evaluation of supplier
 - Company profile and stability
 - Technical proficiency
 - Support capabilities

- Selection of the most appropriate technology

Relevant Definitions

Due Diligence in business transactions

- The relevant areas of concern may include intellectual property, real and personal property, insurance and liability coverage, debt instrument review, employee benefits and labor matters, immigration, and international transactions, environmental requirements, legal and commercial agreements and financial disclosure.

For supplier quality engineering

- PVA (Process Validation Assessment) or System Audits with a certain standard of care.
- Due diligence in Supplier Quality is the effort made by a professional to validate conformance of product provided by the seller to the purchaser.

Environmental Due Diligence

- Phase I and Phase II Environmental site assessments.

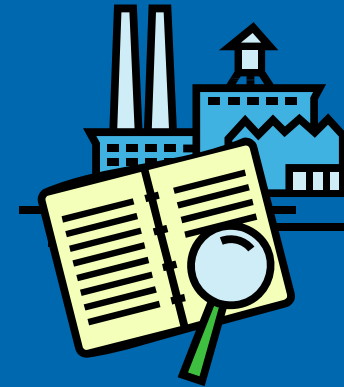


Tech Due Diligence

Evaluating the safety, reliability, and efficiency of processes and equipment.

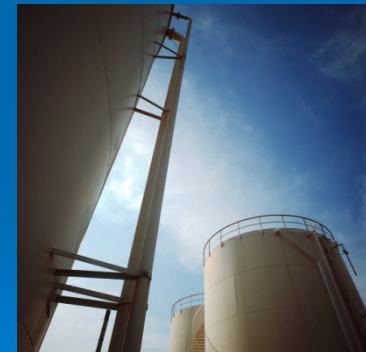
Engineers perform:

- Equipment inspection
- Evaluation of equipment:
 - design data, equipment footprint, clearance requirements
 - performance history,
 - system or equipment records
 - finite element analysis
- Non-destructive testing and metallurgical evaluation
- Fitness for service criteria – commissioning requirements
- Compliance checks to relevant standards
- MTBF, Fatigue / corrosion risks
- Expected Life evaluations
- Repairs and refurbishments needed to extend the life of the equipment
- Training and support requirements
- Operator work environment requirements



Equipment Supplier

- Company profile
- Equipment specifications and certifications
- Product Quality
- Reference customers
- Support capability
- Technical sophistication
- Market presence
- Financial stability



Regulatory considerations

➤ Environmental

- Inputs
- Processing
- outputs

➤ Hydrological

➤ Regulatory – (CSA, DOC, etc)

- Product specifications

➤ Site selection, building and external storage

- Phase 1 and phase 2 audits

➤ Quality control

- Quality standards current and proposed

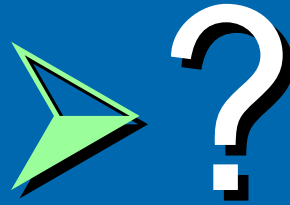


Business Model

- CapEx Model
- Cost model
- Revenue Model
- Financing requirements and Schedule
- Full financial model
- Proforma for investor recruitment
- Investor readiness assessment



Questions



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