

CORPORATE OVERVIEW

FORTRESS ENGINEERING LTD
Suite 208, 280 Midpark Way SE, Calgary, Alberta, Canada, T2X 1J6
T 403-538-5800 F 403-538-5801
www.fortresseng.ca



Our Mission

We seek to add value through **Innovation** and **Creativity**,
Aligning ourselves with our clients' goals.
Delivering services that meet their quality, schedules and cost objectives.



Our Service Offering

- Conceptual Project Development
- Project Cost Estimates
- Front End Engineering and Design (FEED)
- Multi-Disciplinary Engineering Services
- Process Design and Drafting
- Full Project Management
- Electrical Design
- Project Procurement Activities
- Regulatory Services
- Instrumentation & Control Systems: Design, Specification and Programming
- Quality Control / Health & Safety

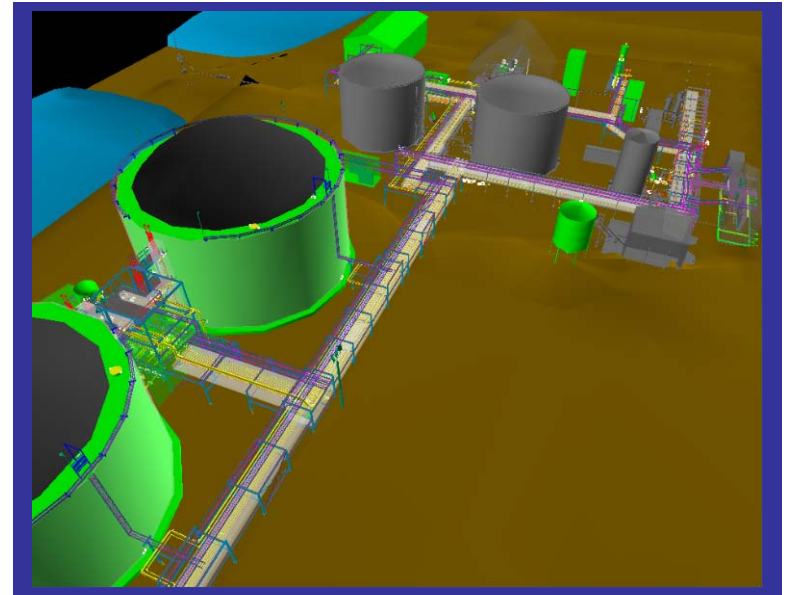
Multi-Disciplinary Engineering Services

- ▣ Process
- ▣ Civil/Structural
- ▣ Mechanical
- ▣ Electrical
- ▣ Control Systems
- ▣ Automation
- ▣ Instrumentation
- ▣ Process Debottlenecking
- ▣ Facility Commissioning



Process Design and Drafting Services

- Perform process design using 2-D or 3-D modeling
 - AutoCAD and CADWorx 3-D platforms
- Generation of mechanical piping specifications
- Material take-offs provided by the CADWorx AutoCAD software



Full Project Management

- Conceptual Design
- Schedule Development
- Project Feasibility Studies
- Cost Tracking and Control
- FEED Studies
- Project Development
- Design Basis Memorandum
- Full Project Delivery



Electrical Design

- Low, Med, High Voltage Electrical Systems
- Power Generation, Co-Generation Facilities
- Variable-Speed and/or Frequency Drives
- Motor Control Centre Design
- Single Line Development



- PLC / DCS / SIS Panel Design
- Power Load Studies
- Thermoelectric Applications
- Solar Power Applications

Project Procurement Activities



- Equipment RFQ's
- Freight Arrangements
- Supplier Bid Evaluations
- Logistics
- Equipment Purchasing
- Expediting

Regulatory / Environmental Services

- Permit Applications (ERCB, AUC & AENV)
- Flora and Fauna Studies
- Licensing
- Environmental Impact Studies
- Public Interface



Instrumentation & Control Systems



- PLC / SIS / DCS Programming
- HMI Programming and Integration
- SCADA
- Communications
 - Ethernet
 - Serial
 - Fiber-Optic
 - Common Industrial Protocols

Quality Control / Health & Safety



- Hazard Assessments (HAZOP/SIL)
- Operator Training
- Policies/Procedures
- Field/Shop Inspections
- Document Control

Our Areas of Expertise

- Oil and Gas Facility Projects
- Power Generation / Co-Generation Facilities
- Biogas Facilities
- BioRefinery / Ethanol Plant Design
- Biodiesel Facilities
- Gasification Projects
- Process Integration Studies / Energy Efficiency Projects
- Independent Technical Evaluations



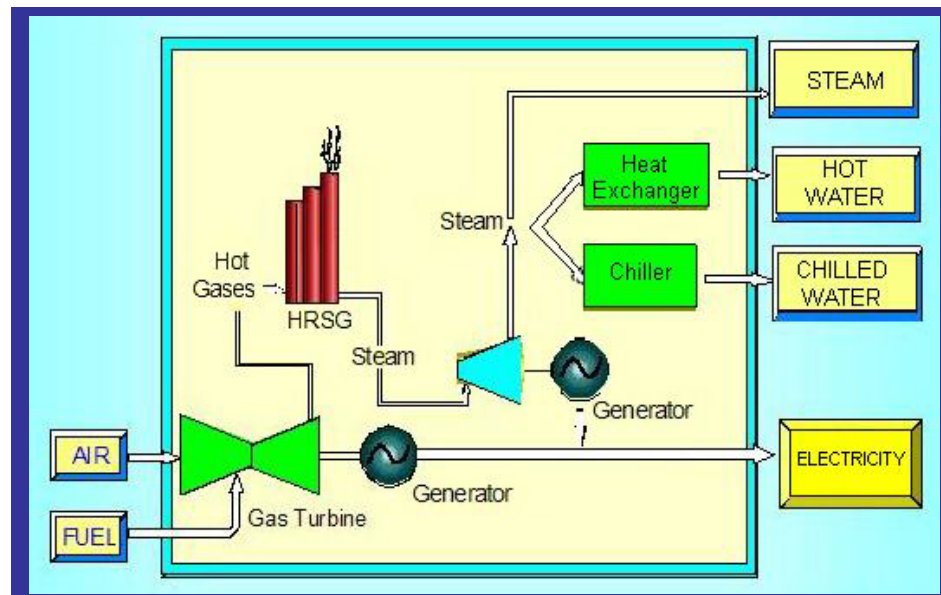
Oil and Gas Facility Project Work

- API Storage Tank Farm and Facilities
- Wellsite Development and Pipeline Gathering Systems
- Pipeline, Blending, Pumping, Custody Transfer
- Gas Processing, Compressor Stations
- Rail Delivery, Truck Loading/Unloading Facilities
- Oil and Gas Wellsite Facilities and Gathering Systems
- Product Treating, Dehydration, Filtration
- Product Storage - Bullets
- Flare Systems
- Firewater Pump Systems



Power Generation / Co-Generation Facilities

- Project Development and Conceptual Design
- Capital and Operating Cost Estimates
- Regulatory and Utility Applications
- Electrical Power System Design
- Waste Heat Recovery Systems
- Equipment Specification and Procurement
- Operator Training and Commissioning



Biogas Facilities

- Anaerobic digestion of waste (cattle manure, sewage, etc.) to produce biogas
- Biogas burned in boilers and co-generation equipment to product heat and power for adjacent biofuels plant
 - Manure-To-Power Facilities
- Can ensure self-sufficiency in utilities, offsetting the need for purchased gas and electricity



BioRefinery / Ethanol Plants



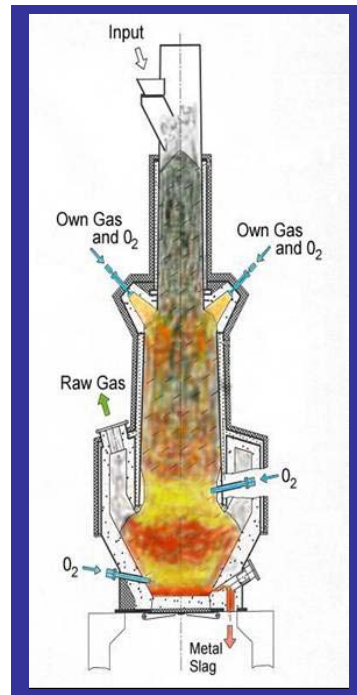
- Engineering of ethanol production facilities from a variety of feedstocks
- Full turnkey projects, from conception through to commissioning

Biodiesel Facilities

- Design of facilities to produce biodiesel from canola, waste cooking oils, algae
- Broad range of plant sizes, from small modularized skids to full scale plants



Gasification Projects



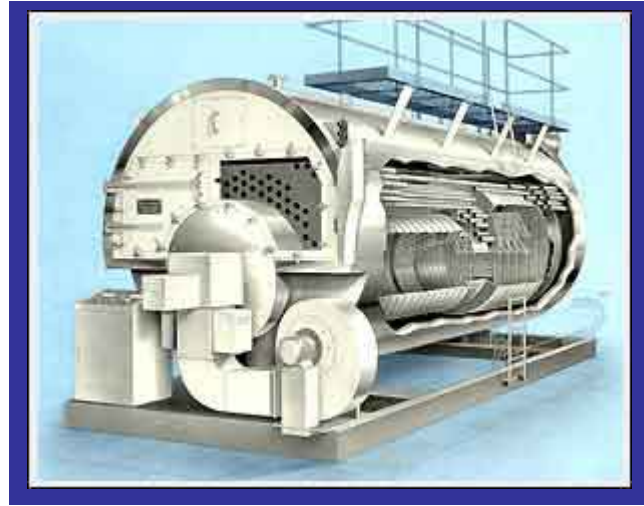
- Generation of synthetic gas (syngas) by reaction of carbonaceous materials e.g., coal, biomass, lumber and waste
- Syngas can be used in place of natural gas to generate electricity, or as a fuel for combustion engines

Process Integration Studies / Energy Efficiency

- Identify opportunities to reduce Gas and Electricity consumption
- Use Natural Resources Canada rebates to save clients up to \$50,000 on the cost of a study
- Studies completed to date have identified projects with average payback of only 1.8 years



Independent Technical Verifications



- New product analysis / performance verification
- Performance and efficiency confirmation of new electrical and mechanical devices