
Advanced Coal Workshop

Integrated Gasification Combined Cycle--

Financing the Next Generation of Coal Plants

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Historical Perspective

Last two power plant construction cycles ended poorly for the industry
1980's utility lead construction; ratings downgrades, disallowances, phase-ins, prudency reviews
Earlier this decade, merchant generator lead construction, ratings downgrades, bankruptcies, over building, change in laws and regulation, high natural gas prices, faulty demand forecasts.

Regulation is political as well as financial.

Regulation tends to discourage risk taking because it treats failures more harshly than it favours successes.

Traditional regulatory techniques are not well adapted to experimental techniques.

Major construction programs tend to weaken companies' credit profiles and equity performance.

Financial Market's Perception of IGCC

New, unproven technology with a limited track record to date

More capital intensive than gas combined cycle or conventional coal plants.

Attractive environmental characteristics when compared to conventional coal.

Hedge against more restrictive emissions regulations in the future.

Financial Return Expectations

- **Typical utility bondholders**
 - A/BBB bond ratings
 - 10 year-Treasuries + 100 basis points
 - 30 year-Treasuries + 125 basis points
- **High Yield bondholders**
 - BB rated
 - Treasuries + 200-250
 - B rated
 - Treasuries + 300-350
- **Equity Investors**
 - Utility Investors 10%-12% (Treasuries + 500-700 basis points)
 - Investors 12%-18% (Treasuries + 700-1300 basis points)

Regulated Utility

Easiest to finance due to institutional comfort with regulation.

Regulators can encourage or discourage the financial markets by their regulatory policies.

Positive Policies

- Prior review and approval
- Construction Work in Progress in the Rate Base

Negative Policies

- Post-completion prudency reviews
- Capitalization of AFUDC

Project Finance

Requirements for obtaining financing

Defined revenue source for life of financing (contract for output)

- This is the most critical condition

Operating and financial covenants; financial reserves

- Third-party financial and operating projections

Established construction and engineering firm with completion, performance and completion guarantees

Established operator

Established technology

Merchant Generator

Requirements for obtaining financing

Established financial track record

Significant, diversified operating assets

Lower bond rating, more equity or both

Unlikely that a merchant generator will build an IGCC today without a contract for the power, or a change in environmental laws limiting or taxing CO₂ emissions because of the cost disadvantage compared to conventional coal plant technology.

Financial Market Reaction

Rating Agencies

Negative reaction because credit typically deteriorates during major construction programs.

- Cash flow is typically impaired—
 - Increased debt and common stock issuance leads to higher capital payments (interest and dividends) while revenues don't increase commensurately.
- Increased risk that some part of the new investment will not be recovered through future revenues.
- Potential for start-up problems reducing future revenues.

Financial Market Reaction

Bondholders

Bondholder concerns are similar to the Rating Agencies.

- Ratings downgrades cost bondholders as bond prices decline.
- Increased supply of bonds widens spreads for a given name, reducing existing bond prices.

Financial Market Reaction

Common Stockholders

- Per share earnings growth often slows.
- Increased supply of shares can depress stock price.
- Dilution of earnings can be caused by increased common stock issuance.
- Increased risk of future earnings hits due to regulatory lag, disallowances, and phased in rates for utilities.
- Potential losses for poor operating performance or misjudged market demand for power for merchant generators.

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