

Holland+Knight

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- I. Successfully Developing a Gasification Facility in a Carbon Constrained Environment: A Case Study Approach.
 - A. Developing an IGCC Plant in a Deregulated Market- Using the Tenaska/Christian County Generation Example.
 - B. Siting an IGCC with CCS Capability – Using the FutureGen Example.
- II. CCS – State of the Law and Emerging Trends

**Developing an IGCC Plant in a Deregulated
Market –
Using the Tenaska/Christian County
Generation Example**

- AEP has received approval to construct a \$2.33 billion 629 MW IGCC plant in West Virginia. In order to make the plant financially viable, AEP has been seeking rate base assurances from Virginia and West Virginia (which has been formalized). If Virginia accepts its share (initial reports are that it will not), AEP will have essentially removed the financial risk of bringing the plant on line.
- Tenaska Inc. has secured a permit to built a \$2.5 billion 650 MW IGCC Plant in Taylorville, Illinois.
- Tenaska is unable to enter into a long term power contract with Illinois' two biggest utilities because the State's electricity market was deregulated in 1997.

- Project Finance is in limbo without long term contracts.
- Solution, a proposed Clean Coal Program Law that would allow Tenaska enter into long term agreements in the same manner as existed prior to deregulation of the wholesale market.
- The legislation would require the Illinois utilities to purchase a portion of their power from clean coal generators in a manner similar to what is required from renewable sources.
- The bill recently failed to gain enough support in the Illinois House for passage. Early reports are that heavy lobbying by Illinois' utilities doomed its chances.
- However, negotiations continue on a revised bill, focusing on environmental profile requirements and discussions regarding CCS.

- Summary of the Clean Coal Program Law (www.ilga.gov, Amendments 1 and 2 of SB1987)
 - Goal is to support the development of clean coal technologies that capture and sequester CO2.
 - The legislation will allow room for multiple baseload “clean coal” IGCC Plants to be constructed in Illinois.
 - The bill is further intended to benefit the “clean coal” SNG industry in Illinois.
 - To qualify as a “clean coal” facility under the bill you must use bituminous coal (i.e. Illinois Coal) as the primary feedstock and sequester between 50% and 90% of the CO2 emissions depending on type of facility and date of plant start-up.

- Creates a clean coal portfolio standard setting a statewide goal of having 25% of the electricity used in Illinois be generated by cost effective clean coal facilities.
- Bill requires Illinois' utilities to execute a power purchase agreement with the initial clean coal facility developed in the State (Tenaska) in order to jump start the process. By the third year of operation, this facility should be sequestering 50% of its CO2 emissions.
- Bill also contains incentives for natural gas suppliers to enter into contracts with "clean coal" SNG producers.
- No mention of liability management or property rights issues.

Siting an IGCC with CCS Capability –
Using the FutureGen Example

PRIMARY OBSTACLES

I. Lack of Liability Management Regime

- Sequestered CO2 will likely remain underground in some form for a period of hundreds if not thousands of years.
- No corporation can or will take on such long term liability.
- Solution, work with lawmakers to pass liability management legislation.
- Legislation on the federal level makes the most sense given the need for consistency across state lines.
- If you want to get something built in the near future with functioning CCS capability, you will need a state level solution.

II. Strategy for Passing Liability Management Legislation

- Education is key, nothing will get done unless legislators and the public are aware of the risks and benefits of the project.
- The education process was relatively easy in Illinois because of the extensive research and public outreach efforts involved with the NEPA process.
- Private developers and state policymakers/regulators should consider conducting public forums as well.

- Work with media outlets to generate positive coverage.
- Openness and transparency is crucial.
- The FutureGen EIV/EIS is a good reference manual for all future CCS projects.

(view EIV at www.futuregenalliance.org)

(view EIS at www.net/.doe.gov.technologies/coalpower/futuregen/eis/)

- Private for-profit ventures will be a tougher sell than FutureGen. However, given the significant private investment, job creation, advanced environmentally friendly technology, and the necessity for legislative action, passage is achievable.

III. Clear Title to Plant Site and Sequestration Reservoir

- Land use laws will vary from state to state, requiring careful research.
- A review of the final site selection report for the FutureGen Project (available at www.futuregenalliance.org) makes it plainly clear just how crucial property rights issues are to CCS projects.
- Given the importance of clear title to any major development project, developers must determine what, if any, condemnation powers will be available to benefit the project and what entity will be able to exercise them.

- Condemnation power is perhaps even more important with regard to CCS projects because the CO₂ plume will likely extend well beyond the plant site.
- Standard condemnation powers are often insufficient, as the process is relatively slow, posing a threat to the project timeline.

- Accordingly, “quick take” or “quick condemnation” powers are essential (quick take allows the condemning authority to immediately take possession of the property upon deposit of the estimated value of the property with the appropriate court, until the actual amount of compensation can be finalized).
- In most instances off-the shelf quick take authority will not exist and you will need to get it.
- Note: encroachment with natural gas storage sites is a potential red flag. These are likely governed by federal law which may preempt applicable state law (FERC determines natural gas pipeline siting and rates).

IV. Strategy for Passing Quick Take Legislation

- Eminent Domain is a hot button political issue, especially in light of the publicity surrounding the U.S. Supreme Court's ruling the case of *Kelo et. al. v. City of New London, et. al.* 545 U.S. 469 (2005).
- Legislative drafters must be well versed in the Court's instruction regarding the "public use" restriction contained in the 5th Amendment and existing state law.
- In order to pass such legislation it will be necessary to have the cooperation of groups likely to be impacted.

- With proper outreach and education, along with the promise of positive economic impact, passage is possible.
- Illinois has standing quick take authority for coal development projects – exercised at the discretion of DCEO.
- Developers will have to think twice about initiating projects in states lacking appropriate condemnation authority.

SECONDARY CONSIDERATIONS

V. Monitoring

- Both Illinois and Texas included language in their respective FutureGen legislation taking responsibility for long-term monitoring of the sequestered CO₂.
- Long term monitoring assistance is something that should be strongly considered by lawmakers since it benefits:

- (1) the state, assuming it is carrying some liability for the sequestered carbon;
- (2) the public at large, since the state will exist in perpetuity and has an interest in performing its work in an open and transparent manner;
- (3) the project, by removing a significant long-term cost burden; and
- (4) technology development, via long- term data gathering at multiple sites that will be publicly available.

VI. Permitting

- Illinois offered to streamline the permitting process for the FutureGen Alliance.
- This is essentially as far as you can go legislatively to address permitting issues.
- This subject should be revisited after CCS technology becomes proven.

VII. Public Participation with Project Financing

- Until CCS technology is mature, complete private funding of such operations is unlikely.
- Accordingly, successful CCS projects (at least in the near term) will likely require public support via a combination of federal, state and/or local loan guarantees, grants, and tax credits, etc.

- Illinois and other states have many programs targeted at coal and energy development. A complete list of Illinois' coal development and other programs can be found at www.commerce.state.il.us.
- If states want to actively promote CCS technology, incentive programs are likely a necessity.
- State incentives are mentioned prominently in the FutureGen site selection report with regard to both Illinois and Texas (available at www.futuregenalliance.org).

VIII. Ownership of Sequestered Carbon

- Both Illinois and Texas retained the right to potential financial benefits that may arise by ownership of FutureGen's sequestered CO₂.
- If the U.S. goes to a cap and trade system, tradable credits and/or offsets could become extremely valuable. CO₂ already has significant value for EOR purposes.
- Retaining ownership benefits can help sway skeptical legislators.

CCS

**State of the Law
and
Emerging Trends**

C02 Capture: Current law

- No existing legal requirement that new coal plants in the U.S. provide for C02 for capture and storage.
- Under Clean Air Act, CCS capability is not required as either “best available control technology” (new source review) or “lowest achievable emission rate” (prevention of significant deterioration).
- Post *Massachusetts v. EPA*, new attempts likely if not certain.

- In March 2007 the U.S. EPA issued draft guidance entitled, “Using the Class V Experimental Technology Well Classification for Pilot Geologic Sequestration Projects”. Applicable to FutureGen and other pilot geologic sequestration projects.
- In October of 2007 the U.S. EPA announced plans to develop regulations under SDWA UIC program for CCS. The proposal is expected in summer 2008.

- Title VII of the Energy Independence and Security Act of 2007 sets forth the DOE's near term requirements for CCS promotion. Does not address whether states or federal government will have authority to oversee long-term storage. Also contains provisions aimed at assisting R&D and demonstration programs.
- Model legal and regulatory regime for geologic storage drafted by Interstate Oil and Gas Compact Commission.
- Coalition for Commodity CO2 has also drafted model legislation including provisions for federal insurance of CCS operations.

- Wyoming has passed legislation aimed at promoting CCS (based on IOGCC model); leaves open several major issues including liability management. Other states drafting similar legislation.
- Lieberman – Warner Climate Security Act of 2008, Title X, Sec. 1035 is latest proposal on the federal level addressing CCS risk management. Calls for establishment of a task force to study – the financial implications of potential Federal assumption of liabilities with respect to closed geologic storage sites.
- Markey – Investing in Climate Action and Protection Act (“ICAP”). Bill seeks to establish a cap and trade system to reduce U.S. emissions of greenhouse gases. Would require all coal and pet coke fired electric generating units greater than 25 MW commencing construction starting in 2009 to achieve capture and sequestration of 85% of CO₂ emissions by 2016.

- Directs EPA to establish regulations for geologic sequestration and establishes a task force to study and report on potential models for Federal, State or private assumption of long term liability for stored CO₂.

Questions

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