Session 3: Long-term stewardship & liability

Michael Dworkin, Institute for Energy and the Environment
Vermont Law School

Resolving the Legal and Regulatory Challenges to Geologic Sequestration of CO_2—A CCSReg Project Workshop

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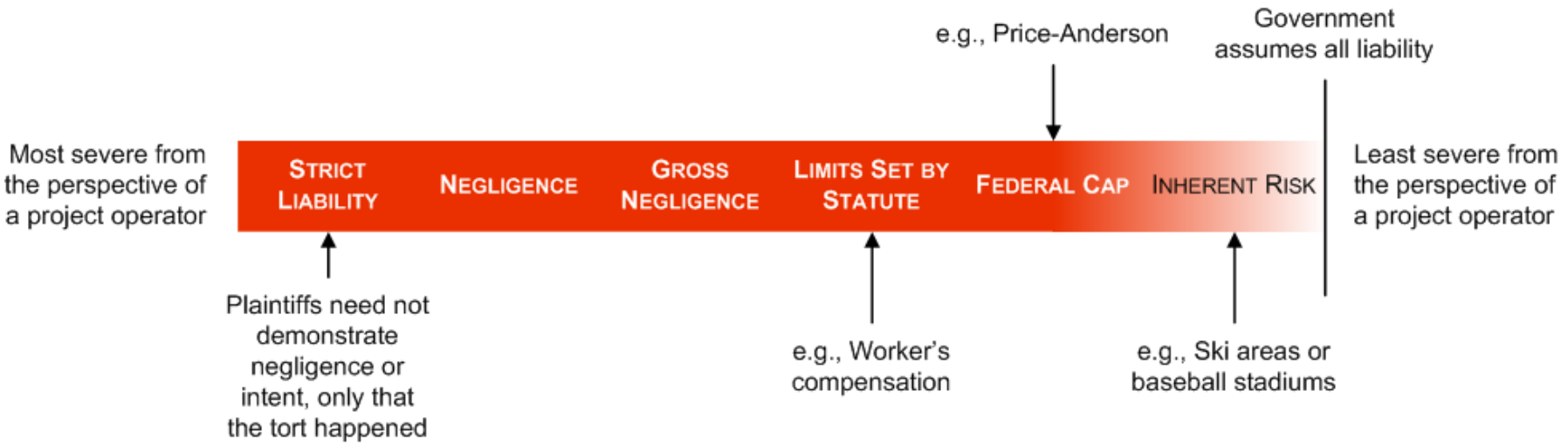
The liable party and the mechanism by which the liabilities are funded must be clear in advance

(We will return to this at the end of the presentation)



Long-term stewardship will require separate, unique liability regime

- Different risks would attend each phase of a CCS injection project
- Operating and injection phases would resemble known activities
  - Conventional liability schemes based in state tort law should suffice
- Long-term stewardship phase would present unique circumstances

Post-injection, liability for geologic storage projects can be broken into three categories

Calls of Liability	Definition	Examples
1. Site Management	Obligation to pay to post-closure site management	• Monitoring, verification, accounting and reporting • Remediation if needed
2. Tort Liability	Obligation to pay compensatory damages arising from harm or injury during long-term stewardship	• Impacts to USDW • Damage to mineral resources
3. Climate Liability	Obligation to submit allowances or to take other actions to compensate for leakage under a greenhouse gas emission reduction program	• Leakage of CO_2 to the atmosphere

Outline of the CCSReg proposal

- Operating Phase
  - Commercial GS projects remain subject to liability rules under otherwise applicable State and Federal law during the operational and immediate post-operational phase
  - Operating Projects will rely on the private insurance market, or mutual insurance, for risk management
- Stewardship Phase: FGSB
  - Federal Geologic Sequestration Board (FGSB) established to oversee long-term stewardship program for GS projects that have received certificate of closure
  - FGSB stewardship responsibilities can be delegated to state agencies
  - FGSB administers a trust fund that is financed by risk-based assessments on GS projects during their operating life

Outline of the CCSReg proposal (cont.)

- Stewardship Phase: Liability and Compensation
  - Certificate of closure is issued to closed-out GS project at such time as regulators determine that the project meets established standards and does not present unreasonable health, safety, or environmental risks.
  - Once certificate of closure is issued to a project, FGSB is responsible for civil claims during the stewardship phase (after project receives certificate of closure) and for any necessary remediation. Project operators and upstream entities no longer liable for civil claims, except in case of willful failure to comply with regulations or misrepresentation relating to certificate of closure.
  - Any necessary remediation and compensation payments during the stewardship phase are the responsibility of the FGSB, and would be disbursed from the trust fund.
- First-Mover Projects
  - A stop-gap federal indemnity program for the stewardship phase of the "first-mover" projects would also be established

Key Concepts:

The CCSReg proposal would release parties from most liability post-closure

- Closure would be denoted by issuance of a "certificate of closure." Per Sec. 401(b):
- "Certificate of closure" would mean a determination issued by the applicable regulatory authority with respect to a GS project
  - Would certify that the operator of the project has completed injection operations, well closure, and any required monitoring and remediation to ensure that any carbon dioxide injected into a geologic formation would not harm or present a risk to human health, safety, and the environment, including drinking water supplies

Key Concepts:

The proposal would create a new independent agency to manage post-closure liabilities

The Federal Geologic Sequestration Board (FGSB) would be an independent agency within the DOE, headed by a three member, presidentially appointed board

Functions	Powers
Establish standards for MMV and site remediation during long-term stewardship	Prescribe requirements for monitoring, inspect sites, and make reports as necessary to carry out their duties
Develop compensation standards, procedures, and schedules for determining the nature and amount of civil claims paid for damages	Commence a civil action against an operator for fees not paid
Establish amount of the risk based fee levied on GS projects	Bring an action against any person in U.S. District Court to enforce the provisions of the legislation, or rules and orders thereunder
Issue certificates of closure to GS projects	Seek civil penalties for violations of the act
Manage the Carbon Sequestration Trust Fund	

Key Concepts:

Liabilities would be funded by industry contributions to the Carbon Sequestration Trust Fund

Contributions would be defined on the basis of project risk, and are paid as a per ton fee. Per Sec. 403(c)(1):

(B) CRITERIA.—In establishing fees under subparagraph (A)(ii), the Board shall take into account –

(i) the estimated quantity of carbon dioxide to be injected annually into geologic formations by all operating commercial GS projects;

(ii) the risk of an incident resulting in liability;

(iii) the likely dollar value of any damages relating to an incident;

(iv) other factors relating to the risk of the GS project and associated geologic formation; and

(v) impact on commercial and economic viability of GS projects.

(C) CONSIDERATION OF PROJECT RISKS. —In establishing the amount of the fees under subparagraph (A)(ii), the Board shall,, to the extent practicable, use a fee system that is based on the level of risk associated with a specific geologic formation and project development plan and operator history, in order to provide an incentive for the selection and operation of the well-performing GS projects.

Key Concepts:

Post-closure, civil claims against a project would be paid from the trust fund per a compensation schedule

The FGSB would be tasked with developing a compensation schedule for harms that may arise from a geologic sequestration project. Per Sec. 405(a):

(3) COMPENSATION STANDARDS, PROCEDURES, AND SCHEDULES. —The Board shall by rule prescribe compensation standards, procedures, and schedules for determining the nature and amount of compensation that will be paid from the Trust Fund for civil claims for damage by the Board under this title. Rules written under this paragraph shall include procedures under which the Board will take any compensatory action required under section 503.

Key Concepts:

"First mover" projects would be handled separately

In the interest of getting as much experience as soon as possible with CCS, the CCSReg proposal would establish a "stop-gap" indemnity program (Sec. 406).

"First movers" would be the first 5-10 projects larger than 1Mt/y and would be eligible to receive indemnity if they:

1. Receive Federal funds to demonstrate GS; are properly permitted;
2. Are not injecting for the purposes of improving hydrocarbon recover (e.g., EOR, EGR); and
3. Agree to comply with special conditions imposed by the Secretary of the DOE.

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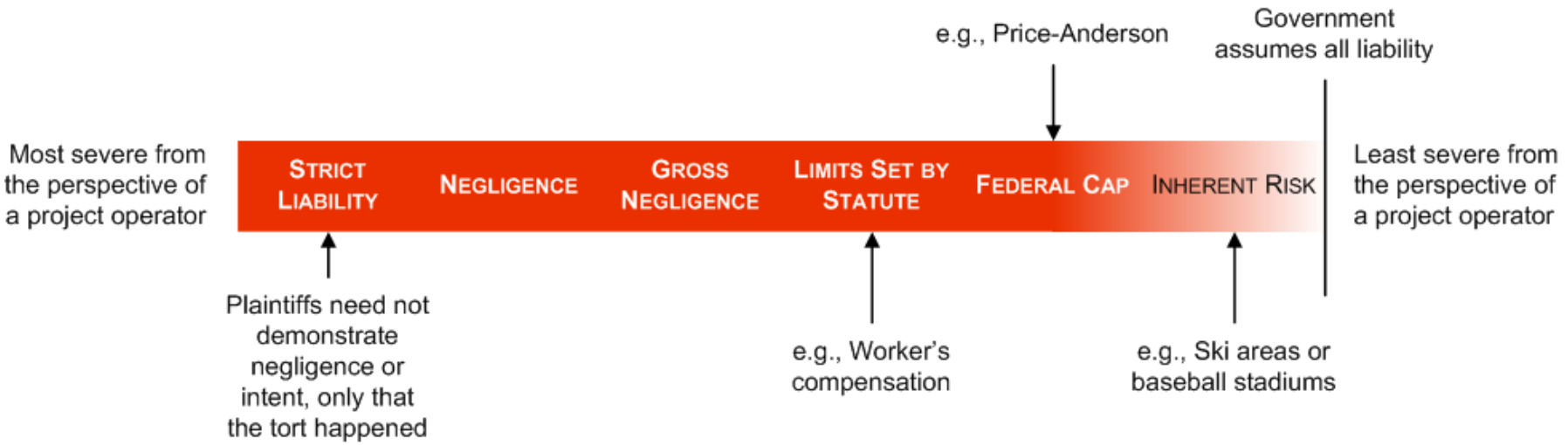

Questions for discussion

- Is commercial insurance sufficient for risk management in the operational phase?
- Are there any viable alternatives to a public assumption of liability in the stewardship phase?
- Would assuming a subset of liabilities, or a more stringent process for issuing closure certificates, reduce concerns over moral hazard?
- Are there alternatives to a Federal trust fund for the stewardship phase?
- What are the lessons of the Deepwater Horizon disaster and how do they relate to GS liability management; especially those re: inadequate pooled fund vs. judgment-proof operators?
- Would "residual liability" be a partial cure?
- *Does assumption that captured carbon is better in the ground rather than the air drive any decisions?*