



LIABILITY (RISK) MANAGEMENT: Ensuring Financial Responsibility for GS

May 2008

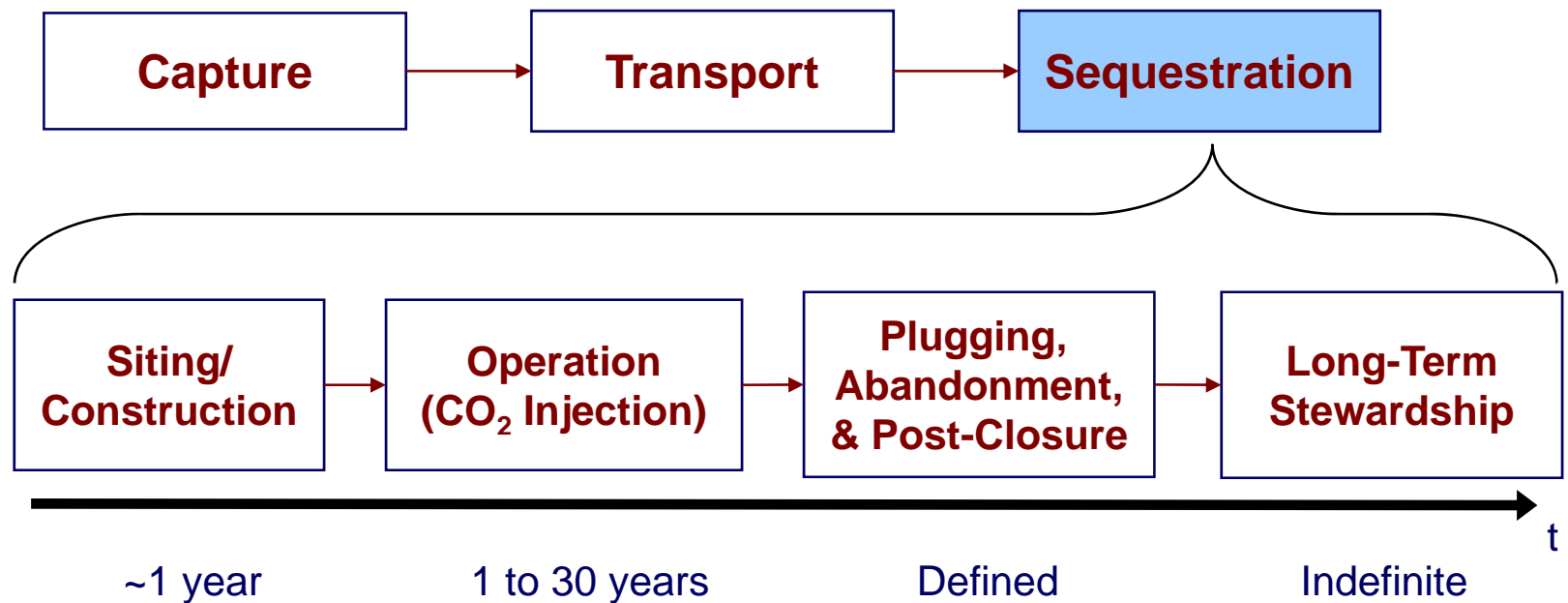
Chiara Trabucchi
Industrial Economics, Incorporated
ctrabucchi@indecon.com | 617.354.0074



Common Language? Are you Sure?

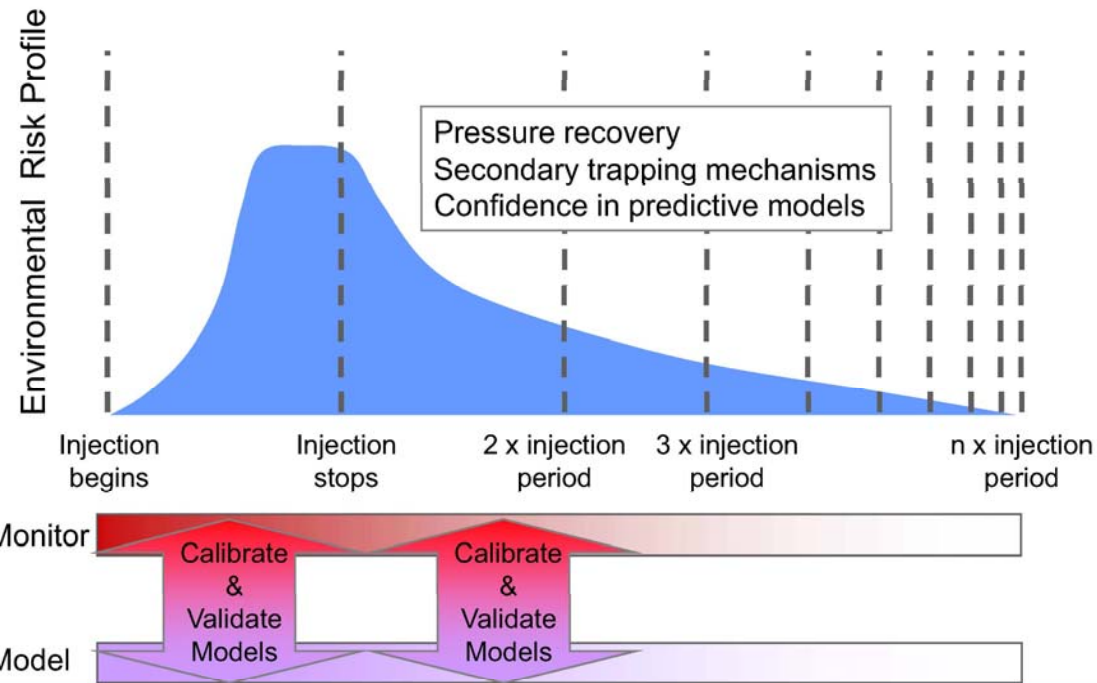
- **RISK** – Of what?
 - Non-performance / default? Underperformance? Defect? Other contractual liability? Tort Liability for Bodily Injury (BI), (first party) Property Damage (PD), Ecological / Natural Resource Damage? Endangered Species Issues?
 - **Moral Hazard** – Will the party be better off in the event of loss / failure? Is the party indifferent, and therefore won't try to prevent or mitigate certain losses?
- **FINANCIAL RESPONSIBILITY** – To whom, for what? When?
- **LIABILITY** – Statutory? Common law? Civil law jurisdiction?
- **HARM / INJURY** – BI or PD or other?
- **DAMAGES** – Nature? Type?
- **INDEMNITY** – Contractual? Governmental? First dollar? Excess of retained amount? Insurance? Public / Private?

GS Project Life Cycle



- Industry Sectors – Utility v. EOR/EGR
- Early movers (pilots) v. commercial-scale deployment
- Existing statutory implications – SDWA, CAA, RCRA, CERCLA

Risk Profile for GS Sites



Benson, 2007

- **Shape of the curve will vary by GS site**
- Early movers (pilots) will site in favorable zones
- **Liability frameworks** must balance incentives that foster early deployment with the potential for adverse site selection (with increasingly risky profiles) due to **moral hazard** as commercial-scale deployment evolves.



Liability

(Uncertainty of Interplay with Existing Statutes)

- **Numerous Potential Claimants, Causes of Action.**
 - Nuisance, trespass, negligence, other torts
 - Statutory liability (SDWA, CAA, RCRA, CERCLA, ESA; local statutes; potential “cap” of Cap-and-Trade)
 - Contractual and “New” Potential Carbon Market Exposures – required purchase of offsets, penalties / fines

- **Spans State & Federal Authority**
 - Jurisdiction, nature of the harm and attendant damages will interact to determine liability, compensability, and which (if any) party can transfer, release or assume liability.



Financial Responsibility (Certainty of a Sort...)

- An effective liability (risk management) framework will assure funds are available to pay for the necessary activity to:
 - **Minimize potential for releases** of the injectate from the containment zone over the long-term (post operational acts and confirmed stabilization); and
 - **Detect problems** before they adversely impact public welfare or the environment (MMV).
- **The remaining challenge?** Corrective (remedial) action, and to the extent necessary how damages will be redressed & up to what limit?

Liability (Risk) Management Options

Financial Responsibility Mechanisms	GS Project Phases		
	MMV (Injection / Operation)	Plugging, Abandonment & Post-Closure	Long-Term Stewardship (<u>after</u> prescribed post-closure)
1. Third-Party Instruments (Trust Funds, LOCs, Insurance, Bonds)	✓	✓	✓
2. Self-Insurance (Financial Test, Corporate Guarantee)	✓	✓	✗
3. Public/Private Hybrids <ul style="list-style-type: none"> ▶ Compensation Funds ▶ Risk Pooling Models 	✗	✗	✓



Notable Liability Frameworks:

Each Has Strengths and Weaknesses; Risk Profile is Key

<Public / Private Frameworks>

1957 | Price-Anderson
Nuclear Indemnity

1968 | NFIA
Indemnity/Risk Pool

2002 | SAFETY ACT
Risk/Litigation Management

<Compensation (Trust) Funds>

1974 | SDWA
UIC Program

1980/1986 | CERCLA/SARA
Superfund

1990 | TAPAA/OPA
OSLTF / TAPLF

2007 | IRGC / IOGCC
State Compensation Funds