

# RISK YOU CAN'T SEE, COVER YOU CAN USE: INSURANCE SOLUTIONS FOR VAPOUR INTRUSION



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# Agenda

- What is Steamboat?
- Vapour Intrusion - Liability
- Vapour Intrusion – Insurance
- Vapour Intrusion – Claims Scenarios
- Risk Transfer Strategies
- Final Thoughts

# What is Steamboat?

We focus on environmental risk from a liability and financial perspective. We work with engineers, lenders, and property owners to identify where technical uncertainty can translate into real-world liability, and then structure insurance solutions that transfer that risk.

Our role isn't to replace engineering or regulatory oversight—it's to complement it by ensuring that when something doesn't go as planned, there is financial protection in place.

# How might we help?

Engineers / Consultants	Property Owners	Regulators
<ul style="list-style-type: none"><li>- Prof. Liability risk</li><li>- Tech. defensibility</li></ul> <p>We help translate your technical work into insurable risk. We remove uncertainty in modelling, design assumptions, or mitigation performance (via insurance).</p> <p><i>We protect you when the model doesn't behave the way reality does*</i></p>	<ul style="list-style-type: none"><li>- Financial risk</li><li>- Project viability</li><li>- Unknowns</li></ul> <p>We help quantify and transfer environmental risks that can otherwise derail projects or create major cost overruns.</p> <p><i>We make complicated environmental risk financeable*</i></p>	<ul style="list-style-type: none"><li>- Compliance</li><li>- Long-term site management</li><li>- Responsible risk allocation</li></ul> <p>We support responsible site management by ensuring environmental risks are accounted for, and long-term operation and monitoring commitments are met.</p> <p><i>We support accountability and long-term stewardship*</i></p>

# Vapour Intrusion – what worries me?

## Insurance Lens

↑ regulatory scrutiny

↓ action levels

Long-term Liability (10+ years)

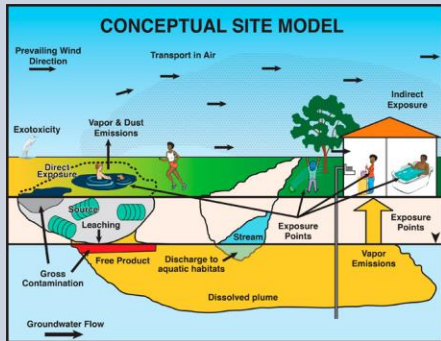
*not a technical issue, it's a challenging liability problem*

# Where does *Liability* come from?

Engineers / Consultants

*Small technical assumptions can create significant and long-term vapour intrusion liability.  
This liability often sits directly with the consultant*

## Site Assessment Risk

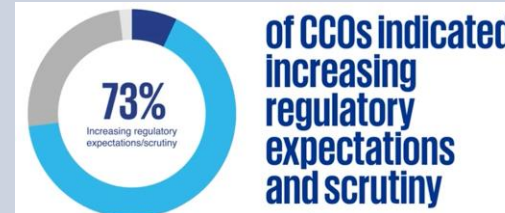


## Design/ Con./ O&M Risk

### Lifecycle of VI Risk

- | Site assessment  | Design   | Construction / Implementation  | Post-completion  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>• Incomplete conceptual site models</li> <li>• Failure to identify preferential pathways</li> <li>• Incorrect soil gas assumptions</li> </ul> | <ul style="list-style-type: none"> <li>• Under-designed mitigation systems</li> <li>• Over-reliance on attenuation assumptions</li> <li>• Failure to account for building variability</li> </ul> | <ul style="list-style-type: none"> <li>• Improper installation</li> <li>• Commissioning failures</li> <li>• Contractor errors</li> </ul> | <ul style="list-style-type: none"> <li>• System underperformance</li> <li>• Monitoring failures</li> <li>• Changing site conditions</li> </ul> |

## Regulatory Expectations



## Liability is Asymmetric



Fees (\$K)



Claims (\$M)

*Risk comes from reasonable but wrong technical conclusions = negligence, breach of contract, failure to meet standard of care*

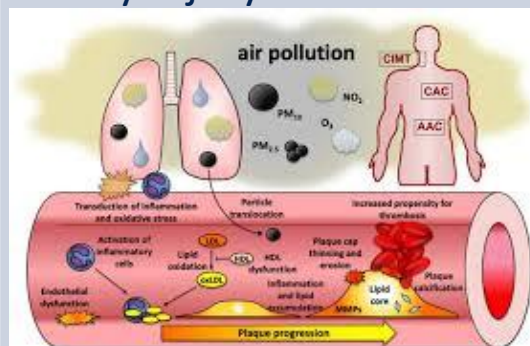
# Types of *Liability*

## Engineers / Consultants

### Professional Negligence



### Pollution Liability – Bodily Injury



### Contractual Liability



### Regulatory Liability



# Vapour Intrusion – MIND THE GAP

## Insurance Lens

CGL Policy → POLLUTION EXCLUSION, PFAS EXCLUSION,  
ACM/LBP EXCLUSION, E&O EXCLUSION.

E&O Policy → POLLUTION EXCLUSION (50%)



# Vapour Intrusion – Modern Solutions

Insurance Lens		
CGL Policy	CPL Policy	Professional
Covers BI/PD liabilities arising from “your work”	Covers <b>Cleanup</b> /BI/PD liabilities arising from “your work”+pollution	Covers “financial loss” arising out of wrongful act
<u>Example:</u> Striking water line/damaging client’s property during PII ESA	<u>Example</u> Striking an UST during PII ESA	<u>Example</u> You cleared drilling location and instructed drillers who then hit water line/UST
Exclusion – if above causes pollution	Exclusion – if above does not cause pollution	

*Try to ensure all three covers w/ one carrier*

*Alternatively – ensure no pollution exclusion re Professional and clear allocation between CPL/CGL*

# Vapour Intrusion – Advanced Solutions

Seek out combined Environmental Consultant Policies (CPL + E&O)  
Consider Project-specific Policies

Ensure your carrier understands / covers:  
Modelling errors (including modelling software), design failure, and mitigation underperformance

Think carefully about buying: rectification cover, protective covers (sub-designer/contractor), and completed operations cover

# Claim Scenario #1

- 2013 Phase II ESA
- cis-1,2-DCE @4.6  $\mu\text{g/L}$
  - TCE @2.6  $\mu\text{g/L}$
  - VC @0.52  $\mu\text{g/L}$



VI Assessment

## Claim Scenario #2

**MITIGATION SYSTEM FAILS POST-  
CONSTRUCTION/ START-UP**

# Claim Scenario #3

**BROWNFIELD REDEVELOPMENT  
DISPUTE**

# Risk Transfer Strategies

## Engineering Best Practices

1. Follow Standards (when available)
2. Follow Best Practice/Guidelines (when available)
3. Ensure QA/QC (e.g., peer review, multiple internal approvals)

## Contracts

1. Define “standard of care” by referencing standards, best practice/guidelines.
2. Use “reasonable” limit of liability language.
3. Ensure “scope of work” and “deliverables” are clearly defined.

***Insurance does not replace good engineering/contracts – but it protects when these fail***

# Risk Transfer Strategies

Think about project specific insurance for large/complex VI work  
(protects owner and consultant, avoids conflict – at a cost)

Get to know your underwriter  
start your renewal meeting with: “tell me what my firm does?”

# FINAL THOUGHTS

VI risk is increasing in complexity and severity

Liability expands faster than technical standards

Insurance is a **critical**, but often **ignored**, tool

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