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Reducing risks for carbon capture and storage projects

A planning guide for risk professionals

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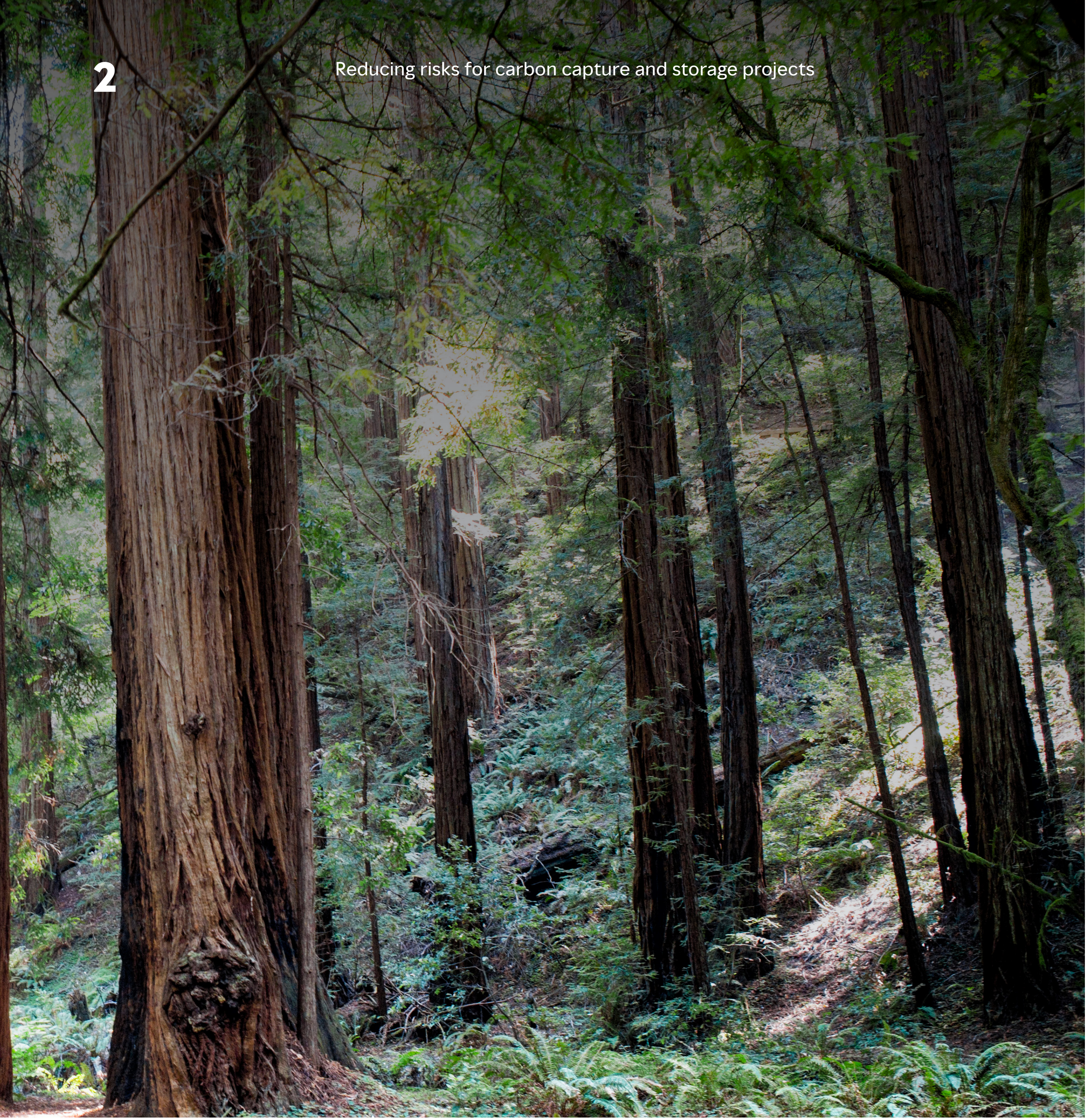

Carbon capture and storage projects: Rising demand

Increased focus on environmental, social, and governance (ESG) issues and efforts to reduce carbon emissions are leading to accelerated interest in safely capturing and storing carbon dioxide (CO_2).

Carbon capture and storage (CCS) describes the process of separating and capturing CO_2 that is emitted during a variety of industrial practices. During CCS, CO_2 is captured before it is released into the air, then liquefied and permanently stored in specialized underground formations.

As efforts to decarbonize continue, demand for CCS projects is growing. Plans for more than 100 new carbon capture and storage facilities were announced in 2021, and the global market for CCS is projected to reach $4.9 billion by 2026.

While CCS projects bring multiple opportunities for organizations, they are also fraught with new risks, ranging from the inadvertent release of captured CO_2 to securing necessary funding for proper decommissioning of the CCS plant. Unless these challenges are addressed in a timely and effective manner through mitigation tactics and insurance solutions, investors and developers risk forfeiting the substantial tax credits that help to make these projects financially feasible.

Identifying major risks for CCS projects

Developers and investors are continuing to build CCS facilities. But as interest in permanent storage of CO2 increases, there are concerns about multiple issues, including:

RISK #1: POTENTIAL DAMAGE OR DELAYS DURING THE CONSTRUCTION PHASE

Many CCS projects are built adjacent to an existing and operational plant, with the intention of capturing CO2 from that source. Building a new facility comes with multiple risks, including potential damage to the existing plant.

Further, incidents and other challenges — such as supply chain issues — can cause delays in the construction phase, pushing back the project start date. This can lead to a loss of income from tax credits, which can be the primary financing mechanism behind these projects.

Many construction-phase risks can be insured through a builders' risk policy or liability insurance. Project developers should also look at coverage for natural catastrophes — such as windstorms, earthquakes, or floods — that could damage their development or delay construction.

Surety funds can be used to provide assurance that funds will be available to pay a claimant or address an incident. Similarly, to assuage investor concerns, efficacy insurance can help investors recoup their investment in case a new technology does not work as planned.

RISK #2: DECOMMISSIONING ASSURANCE

Regulators typically require project investors and developers to take proactive measures to ensure CO2 storage sites and injection wells are properly decommissioned. As part of the permitting process, developers are usually required to demonstrate they have the financial means to decommission and monitor a site, ensure that it remains stable, and address any CO2 leaks.

This requirement is often addressed through the use of a surety bond that provides economic efficiency at a relatively low frictional cost. Decommissioning trusts can also be used to reduce frictional costs over time, and can be funded over the project's lifecycle through the allocation of a fraction of proceeds. As the trust is funded, the surety bond limit can be reduced.

Because requirements vary by state, developers may find it difficult to understand and follow the complex array of state requirements and ascertain what amount of financial assurance is adequate to secure project decommissioning. Experienced advisors can help you navigate these state regulations and identify specific requirements.

RISK #3: ENVIRONMENTAL RISKS

Implementing a CCS project requires a careful review of risk management and insurance plans to ensure that projects comply with environmental regulations. Operating a CCS facility typically requires a Class VI license from the Environmental Protection Agency (EPA), which has oversight over these projects, except in states that have been granted approval to exercise primary jurisdiction. In order to secure the license, project developers need to provide detailed information about the technical elements of the project, the way different risks will be insured, and demonstrate a financial assurance plan for the plant.

A traditional pollution legal liability policy — that will typically cover cleanup and third-party liability — likely does not consider CO2 as a pollutant and would therefore need to be modified to provide coverage for the escape of sufficient quantities of CO2.

No two CCS operations are the same; therefore, the policy wording and limits tend to differ. Environmental specialists can help you understand regulatory requirements, identify the types of policies that address your needs, and work with your insurers to negotiate applicable limits and terms of coverage.

RISK #4: POTENTIAL LOSS OF TAX CREDITS

CCS projects require substantial investment. The CO2 sequestration tax credit — section 45Q — bolsters the economics of CCS projects. Obtaining the 45Q tax credit is also dependent on securing a Class VI license.

Securing and retaining tax credits through the lifecycle of a CCS project — typically 20 operating years or more, plus care and monitoring of a decommissioned site — is critical for developers and operators. Because tax credits are generally the main financing mechanism for CCS projects, a potential recapture or delay could threaten the financial stability of the project.

While substantial tax credits are typically available once the CO2 is safely sequestered in the ground, an incident that leads to CO2 escape could lead to a stipulated portion of already paid credits being recaptured.

A holistic insurance program that includes coverage for the 45Q tax credit can help offset the costs of a potential loss of tax credit. Financing parties may also require tax credit insurance as a condition to their funding.

Helping you mitigate your risks

Aside from securing effective insurance solutions, developers can protect the financial stability of a CCS project by implementing risk mitigation techniques during a project's construction, operation, and decommissioning phases.

Marsh's team can help you identify, understand, and address your exposures. Our multidisciplinary team of specialists, spanning tax, environmental, surety, engineering, and project risk, can holistically review your engineering and risk management plans to identify your exposures and develop a risk mitigation strategy based on your project's location and CCS operation.

Among other areas, our team can support you by:

- Assisting during underwriting meetings to explain your project plan and help to build an appropriate insurance program suited to your risk profile that meets regulatory and financing requirements.
- Helping you develop a project risk management plan that includes an overview of risk management procedures and a plan for addressing third-party claims or first-party losses during construction, operation, and post-closure.
- Facilitating the establishment of a risk register, allowing you to prioritize different risks and establish mitigation strategies for those that are identified as significant.
- Supporting with a subcontractor analysis that checks subcontractors' financial stability and track record.
- Providing guidance on potential supply chain interruption and delays, and offering you alternatives in the case of a crisis that affects needed supplies.
- Assisting with the application process for Class VI permits, including helping you complete the required regulatory forms.
- Determining the amount of funds required to decommission the site and the best way to secure the amount.

With the help of an experienced team of advisors, energy developers can better manage volatility and reduce their total cost of risk for CCS projects.

About Marsh

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