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INDUSTRY UPDATES

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INDUSTRY UPDATES

OCS Litigation and NPR-A Rollback – Future Offshore and Onshore Leasing Possibilities for Federal Land

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Over the past several months, two developments have reshaped the outlook for oil and gas leasing opportunities on federal lands. First, federal courts have approved the Department of the Interior (DOI) Outer Continental Shelf (OCS) leasing program for 2024-2029 and limited the President's power to withdraw OCS lands from consideration for future leasing. Second, the Bureau of Land Management (BLM) has moved to unwind the 2024 National Petroleum Reserve in Alaska (NPR-A) Management and Protection Rule and, on October 22, issued a call for nominations for the first NPR-A lease sale since 2019.

Offshore: Federal Courts Direct OCS Leasing Expectations

On August 29, in *Healthy Gulf v. U.S. Department of the Interior*, No. 24-1024, slip op. (D.C. Cir. Aug. 29, 2025), the D.C. Circuit upheld the 2024-2029 National OCS Oil and Gas Leasing Program. Made effective on July 1, 2024, pursuant to the Outer Continental Shelf Lands Act (OCSLA) § 18, the program is DOI's five-year schedule for offshore leasing, allowing for up to three Gulf of Mexico sales in 2025, 2027, and 2029. The Circuit decision rejected program-stage challenges and confirmed the scheduled sales. Subsequently, on October 2, in *Louisiana v. Biden*, 2:25-cv-00071, slip op. (W.D. La. Oct. 2, 2025) (Cain, J.), the Western District of Louisiana granted summary judgment to coastal states and industry groups, declaring unlawful two January 6 memoranda that purported to withdraw hundreds of millions of OCS acres from oil and gas leasing in the Atlantic, Pacific, and Eastern Gulf of Mexico "for a time period without specific expiration." The court held that OCSLA § 12(a) authorizes presidential withdrawals from time to time but does not permit an incumbent President to bind successors with an indefinite, effectively permanent withdrawal without clear congressional authorization.

The *Biden* ruling does not add sales or impact the lands that the Bureau of Ocean Energy Management may lease under the current 2024-2029 program. However, the decision removes a barrier to areas that were otherwise fenced off indefinitely and keeps the door open for future program cycles to contemplate leasing those lands. In other words, while the current five-year program remains Gulf-focused, the *Biden* ruling limits future administrations that may attempt to freeze OCS leasing beyond a President's term.

Onshore: DOI Moves to Rescind the 2024 NPR-A Rule and Restart Leasing

On May 7, 2024, the BLM finalized the NPR-A Management and Protection Rule, which created a codified structure for identifying, designating, and managing "Special Areas" and other surface-resource protections across large portions of the 23-million-acre Alaskan reserve. In a significant pivot on June 3, 2025, the BLM proposed rescission of the 2024 rule, reasoning that rescission would better align with the Naval Petroleum Reserves Production Act's development mandate and remove regulatory friction that may impede exploration and leasing. The DOI and the BLM have since taken steps to translate policy into leasing activity. On October 22, the BLM published a call for nominations and comments for the 2025 NPR-A Oil and Gas Lease Sale, opening a 30-day window to identify tracts for the first NPR-A lease sale since 2019. The notice specified that nominations must be received by November 21, and anchored the offering to the areas designated for leasing under the December 2020 NPR-A Integrated Activity Plan.

Conclusion

Taken together, the D.C. Circuit's approval of the DOI leasing program, the Western District of Louisiana's curtailment of indefinite OCS withdrawals, the BLM's move to unwind the 2024 NPR-A rule, and the BLM call for nominations signal a shift toward expanded leasing opportunity on federal lands.

Texas Takes the Reins on Class VI Carbon Sequestration Wells

Logan Jones, McGinnis Lochridge

The EPA's November 2025 approval granting Texas primary enforcement authority over Class VI injection wells fundamentally changes who controls permitting of carbon capture and sequestration projects across the nation's largest oil and gas state. For the 64 pending permit applications now transferring from federal to state oversight, this should improve permitting timeliness and accelerate projects tied to 45Q tax credits. *See* Bipartisan Policy Ctr., *EPA Expansion of Class VI State Primacy Gives Carbon Storage A Boost*, (last visited Dec. 4, 2025) (noting 64 of 239 pending Class VI applications at EPA were for Texas wells as of September 2025); *see also* R.R. Comm'n of Tex., *Texas Granted Primacy Over Class VI Wells*, (last visited Dec. 4, 2025).

Texas became the sixth state to secure Class VI primacy, joining North Dakota, Wyoming, Louisiana, West Virginia, and Arizona. The Railroad Commission of Texas (RRC) assumed authority on December 15, 2025.

I. What Primacy Means Under Cooperative Federalism

"Primacy" is authority granted by the U.S. Environmental Protection Agency (EPA) to a state to administer and enforce a federal environmental program. Under the Safe Drinking Water Act (SDWA), a state assumes regulatory authority previously exercised by EPA while the federal government sets minimum standards.

Once primacy takes effect, operators apply exclusively to the state agency. The RRC becomes the permitting authority, compliance monitor, and enforcement lead. EPA retains oversight authority and can revoke primacy if Texas fails to enforce federal standards. *See* 40 C.F.R. § 145.33(a)(3).

Section 1422 of the SDWA requires states seeking primacy to meet an "at least as stringent" standard across site characterization, well construction, area of review modeling, monitoring, financial assurance, post-injection site care, and emergency response. *See* 42 U.S.C. § 300h-1; 40 C.F.R. § 145.11(b)(1). EPA conducts line-by-line regulatory comparisons.

II. Understanding Class VI Wells and the UIC Program

EPA regulates underground injection through the Underground Injection Control (UIC) program, authorized by the SDWA in 1974 to protect underground drinking water sources. Wells identified as Classes I through III handle industrial waste disposal, oil-and-gas-related injection (including enhanced recovery), and mineral extraction. *See* 40 C.F.R. § 144.6. Class IV wells—shallow hazardous waste injection into or above drinking water formations—are banned unless an injector obtains approval pursuant to 40 C.F.R. § 144.13(c). Class V covers non-hazardous injection. Class VI, added in 2010, addresses long-term geologic sequestration of carbon dioxide.

Class VI requirements are among the most stringent in the UIC program. *See* EPA, *Geologic Sequestration of Carbon Dioxide: Underground Injection Control (UIC) Program Class II Well Plugging, Post-Injection Site Care, and Site Closure Guidance* 8 (Dec. 2013). Because carbon dioxide is buoyant, mobile, and corrosive in the presence of water, and projects inject massive volumes intended to remain underground for centuries, regulations require advanced computational modeling to predict CO_2 plume migration, corrosion-resistant materials, continuous monitoring, and a default 50-year post-injection site care period. *See* EPA, *Class VI - Wells used for Geologic Sequestration of Carbon Dioxide*, (last visited Dec. 5, 2025).

III. How Texas Earned Primacy

Texas's path to primacy began in 2009 when the Legislature directed the state to pursue Class VI authority and established the legal framework for carbon dioxide storage. *See* S.B. 1387, 81st Leg., R.S. (Tex. 2009). The pivotal moment came in June 2021, when House Bill 1284 consolidated Class VI jurisdiction solely under the RRC—previously split between RRC and the Texas Commission on Environmental Quality—and mandated pursuit of primacy. Madeline Thomas, *New Legislation Signals Strong Support for Carbon Capture, Use, and Sequestration in Texas*, INST. FOR ENERGY L. (Nov. 2021).

Obtaining primacy required Texas to submit six core elements to EPA: a formal letter from Governor Abbott; a comprehensive program description; an Attorney General certification of adequate legal authority; a Memorandum of Agreement with EPA Region 6; copies of applicable statutes and regulations; and documentation of public participation. *See* 40 C.F.R. § 145.22(a) (2024); Class VI Primacy Application, 90 Fed. Reg. 88,620, 88,621 (Nov. 14, 2025).

Texas adopted comprehensive regulations at 16 Texas Administrative Code Chapter 5, which EPA determined meet or exceed all federal Class VI standards. EPA's review followed a four-phase process spanning three years, and culminated in proposed rulemaking that generated 7,534 public comments—overwhelmingly supportive before final approval in November 2025.

IV. Why Industry Should Pay Attention

The practical impact of Texas primacy centers on speed and certainty. EPA has issued only 11 Class VI permits nationwide since 2011, with applications historically taking more than two years. Carly Sowecke, P.G., *Class VI Well Permit Approvals Accelerate as States Gain Primacy*, TRIHYDRO (June 2025). As of late 2025, EPA had over 175 Class VI applications under review. *See id.* By contrast, North Dakota and Wyoming have nearly cut Class VI permit review timelines in half. *See* M. Benjamin Cowan, John K. Arnold & Rachael Beavers, *Locke Lord QuickStudy: CCS in Focus: Texas on Deck for Class VI Well Permitting Primacy*, TROUTMAN PEPPER LOCKE (Feb. 27, 2024).

For projects pursuing 45Q tax credits, timing is critical. The credits—worth up to $85 per metric ton for point-source capture and $180 per metric ton for direct air capture—require secure geologic storage, which in turn requires permitted Class VI wells. Emma Jones Fredrickson & Anna Littlefield, *Keeping Up with Carbon: Key Changes for 45Q Tax Credits Under "One Big Beautiful Bill Act" and Possible Impacts*, PAYNE INST. COMMENT. SERIES (Aug. 18, 2025). Projects must begin construction by year-end 2032, making permitting delays potentially fatal to project economics.

Texas also leads in announced CCS development. Occidental's Stratos facility in Ector County—the world's largest direct air capture plant, with a planned capacity of 500,000 tons annually—received EPA issued Class VI permits in April 2025. ExxonMobil's Houston CCS Hub envisions capturing 50 million metric tons annually by 2030 with at least 11 major industrial partners. The Environmental Integrity Project currently tracks 34 proposed carbon capture projects statewide.

V. Practical Takeaways for Operators and Legal Teams

Companies with pending EPA applications for Class VI wells in Texas should prepare for transfer to RRC jurisdiction. The transition requires no new application, but teams should familiarize themselves with RRC procedures and 16 TAC Chapter 5 requirements.

New projects should apply directly to RRC. The $50,000 application fee buys access to experienced reviewers with local geologic knowledge and shorter projected timelines.

In-house counsel should note one procedural difference: unlike EPA permits, suits for judicial review of RRC decisions do not automatically stay permit effectiveness. This shifts litigation risk calculations for both opponents and permit holders.

Finally, companies and counsel should monitor RRC's actual performance. Projected 12-month timelines are aspirational; the agency's first decisions will establish real-world benchmarks. Texas has staked enormous economic and political capital on CCS leadership—the RRC's execution will determine whether that investment pays off.

Proactive by Design: Strengthening Deals Through Early Environmental Due Diligence

Tim Sowecke, Win Colbert, Tim Jones, and Tyler Self,
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Environmental issues surface in far too many deals only after the business terms are locked in, diligence windows are closing, lenders start asking hard questions, and after the opportunity to meaningfully and more accurately allocate risk has slipped away. In today's regulatory and litigation environment, where Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") liability attaches broadly to owners and operators of contaminated properties, ubiquitous per- and polyfluoroalkyl substances ("PFAS") have become a routine part of due diligence, and legacy contamination can impair otherwise strong investments — a reactive approach to environmental review is not just inefficient, it is economically harmful.

Accordingly, deal teams should adopt front-loaded, systematized environmental risk management as a formalized component of due diligence. This includes robust ASTM-compliant investigations, strategic use of contractual protections, and targeted risk-transfer mechanisms that inform valuation and negotiations. Consistently, we see that proactive environmental risk assessment leads to stronger deals, clearer liability allocation, and far fewer near- or post-closing surprises.

Step One: Operationalize an Environmental Risk System Before the Deal Starts

Teams regularly engaged in the acquisition and sale of assets should adopt a simple, repeatable internal framework for environmental risk analysis before engaging in any specific transaction. This system should include triggers for when an ASTM-compliant Phase I Environmental Site Assessment should be conducted, what kinds of historical uses may trigger deeper inquiry, how the deal team will weigh investigation and cleanup costs during valuation, and what risk-transfer tools are available.

Importantly, the system should also detail how all environmental diligence will be routed through legal counsel to preserve privilege. While failure to maintain privilege may not have immediate impacts on the deal itself, it can create cascading issues in post-deal litigation or later environmental compliance scenarios. Establishing this type of formalized system will allow deal teams to avoid improvising, rushing, or ignoring environmental risk signals during the transaction itself while maintaining client privilege and confidentiality.

Step Two: Execute the System Through ASTM-Compliant Due Diligence

In order to better understand environmental due diligence, two foundational concepts are important: "All Appropriate Inquiries" ("AAI") and ASTM International, formerly known as American Society for Testing and Materials. AAI is the standard established under CERCLA that prospective purchasers must satisfy to preserve the ability to assert key defenses, including the bona fide prospective purchaser and innocent landowner liability defenses under CERCLA. ASTM is the technical body that develops the standards – specifically the Phase I Environmental Site Assessment standard (ASTM E1527-21) – that EPA has approved to meet AAI requirements. In sum, ASTM guides the environmental professional by establishing minimum standards for conducting the environmental investigation, and AAI guides the legal assessment of what is required to secure CERCLA protections for liabilities related to the presence of hazardous substances on a property.

Executing environmental due diligence under this framework should not be a ho-hum exercise. A Phase I conducted using ASTM E1527-21 is critical and involves far more than a site walk and file review. It requires a qualified Environmental Professional to analyze more than 50 years of historical use, inspect the property and its surroundings, review regulatory records and environmental liens, investigate potential off-site sources of contamination, and interview past and present operators. Depending on the circumstances, in today's regulatory landscape, it requires consideration of certain PFAS as a "recognized environmental condition" at some properties due to current or historic operations.

The Phase I is an investigative and due diligence tool. Its purpose is to identify potential hazardous substance releases or data gaps that cannot be resolved through non-intrusive means, *e.g.*, soil/water sampling. When those gaps exist, a Phase II investigation becomes a critical decision point. Although AAI does not expressly require sampling, CERCLA defenses and transaction certainty will usually require further investigation of potential contamination in the form of sampling and analysis. Targeted sampling for appropriate contaminants, *e.g.*, PFAS, chlorinated solvents, petroleum hydrocarbons, can eliminate or greatly reduce uncertainty related to environmental conditions and help to determine whether the deal is viable for the anticipated/expected purposes and cost, as well as where responsibility for further investigation and cleanup should lie.

Where contamination is confirmed, the parties can account for remediation plans, cost estimates, and regulatory pathways to cleanup or otherwise de-risk the property – all of which should *directly* inform negotiations.

Step Three: Allocating and Controlling Risk Through Transaction Documents

Once the facts are established through Phase I and possible further investigation, the transaction documents are critical for allocating pre- and post-closing risk. Representations and warranties addressing environmental compliance, historic releases, PFAS, underground storage tanks, and waste management practices become meaningful only when drafted in light of site-specific findings.

Indemnities, though unable to eliminate statutory CERCLA liability, are powerful tools for determining who should be responsible for cleanup as between the parties. Environmental escrows and holdbacks tied to investigation and remediation can be good tools for ensuring a buyer is not left holding an unexpected liability. Pollution insurance can also support risk allocation by providing coverage for pre-existing conditions, off-site migration, agency-directed cleanup, and long-tail liabilities. Additionally, the use of representations and warranties insurance can provide deals with an additional layer of security for assets that carry uncertain and risky liabilities.

Each of these tools is most effective when matched directly to the risks identified during diligence, rather than inserted reflexively at the end of negotiations where they can create friction, delay, or death of the deal.

Step Four: De-Risking Properties Post-Closing

For properties with known or suspected contamination, simply closing the deal should not be the end of the environmental story. Long-term de-risking requires a strategy that includes regulatory engagement, cleanup and remediation planning, and maintenance of engineering and institutional controls. State voluntary cleanup programs and brownfield programs can provide covenants-not-to-sue, defined cleanup endpoints, and long-term liability clarity. Ongoing stewardship measures will likely be necessary and budgeted, such as ongoing monitoring, maintaining soil "caps" or vapor mitigation systems, and honoring land-use restrictions. These considerations are especially important under CERCLA's broad liability scheme, where past owners and operators remain at risk even decades after their involvement.

Conclusion

Environmental due diligence in transactions should be neither peripheral nor surprising. Rather, environmental risks should be a knowable and quantifiable component of value and liability. By operationalizing a consistent internal system, executing ASTM-compliant diligence early, integrating findings into negotiations and allocation of risk, and committing to long-term stewardship where needed, deal teams move from reactive to proactive control, which results in fewer surprises and stronger deals.

Harnessing Hybrid Justice: Med-Arb and Arb-Med-Arb in Energy and Resource Extraction Disputes

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Introduction

Disputes in the energy and resource extraction sectors are not only legally complex, they can be operationally existential. These conflicts often arise in the context of long-term joint ventures, multi-jurisdictional regulatory regimes, EPC (engineering, procurement, construction), contractors, subcontractors and high-value infrastructure investments. The consequences of unresolved disputes can be catastrophic, including project delays, reputational damage, regulatory sanctions, and the collapse of commercial relationships and opportunities.

Traditional litigation and arbitration, while procedurally sound, are often ill-suited to the relational and temporal demands of these disputes. They are slow, adversarial, and structurally incapable of preserving the collaborative frameworks that underpin extractive projects. What is needed is a dispute resolution architecture that delivers enforceable outcomes while preserving relationships, managing risk, and maintaining operational continuity, all with speed and efficiency.

Hybrid alternative dispute resolution (ADR) mechanisms, specifically Mediation-Arbitration (Med-Arb) and Arbitration-Mediation-Arbitration (Arb-Med-Arb), can potentially offer precisely that architecture. These mechanisms blend the collaborative flexibility of mediation with the enforceable finality of arbitration. They enable parties to resolve disputes without restarting the process, while maintaining confidentiality and ensuring the agreement's enforceability. Institutional support for hybrid formats has somewhat matured in recent years, and real-world historical applications, such as the *Conoco Inc. v. Browning Ferris Industries* med-arb, can demonstrate the strategic value of hybrid dispute resolution mechanisms.

Hybrid Frameworks: Med-Arb and Arb-Med-Arb

Hybrid ADR mechanisms combine the strengths of mediation and arbitration into a single, integrated process. They are not procedural novelties; they are strategic tools that allow parties to resolve disputes with both flexibility and finality.

Med-Arb begins with mediation. If the parties settle, it may be converted into an arbitral award enforceable under the New York Convention. If mediation fails, the process transitions to arbitration, either before the same neutral (single-neutral Med-Arb) or a different arbitrator (dual-neutral Med-Arb).

Institutional support for Med-Arb is gaining traction in some institutions. For instance, the ADR Institute of Canada (ADRIC) *Med-Arb Rules* (2020) formally recognize single-neutral transitions in Med-Arb and provide procedural safeguards. Under the International Centre for Dispute Resolution (ICDR), parties must declare their willingness to mediate in the Notice of Arbitration (ICDR, 2021). ICDR Mediation Rule 14(e) permits the institution to attest that a settlement agreement was reached through mediation, thereby satisfying the evidentiary requirements of the *Singapore Convention on Mediation* (ICDR, 2021).

Arb-Med-Arb begins with arbitration. Once the tribunal is constituted and proceedings commence, the process is paused for mediation. If the parties reach a settlement, the tribunal records it as a consent award. If mediation fails, arbitration resumes without procedural disruption.

This model is formalized in the SIAC-SIMC Arb-Med-Arb Protocol (2014), which provides for arbitration under the Singapore International Arbitration Centre (SIAC) *Arbitration Rules*, mediation under the Singapore International Mediation Centre (SIMC) *Mediation Rules*, and settlement turned consent awards enforceable under the *New York Convention*.

McMillan (2016) reinforces this point, noting that parties often reach a productive negotiating posture only after arbitration has begun. His broader warning – that ambiguity in clause language can trigger jurisdictional disputes and enforcement risk – underscores the importance of procedural clarity in hybrid design. *See* J. McMillan, *Paving the Road to Arbitration With Good Intentions*, Magna Charta Magazine (2016).

Conoco Inc. v. Browning Ferris Industries

The Conoco dispute exemplifies the strategic use of both Med-Arb and Arb-Med-Arb. Conoco Inc. and Browning-Ferris Industries (BFI) found themselves locked in a deeply complex environmental liability dispute after hazardous chemicals were discovered leaching from a holding pond at a site previously operated by a disposal company. Conoco had dumped waste there years earlier, relying on the company's assurances that the site could safely contain the materials. That assurance proved to be incorrect. When environmental regulators later ordered a cleanup, the question became simple but loaded with financial risk: who should pay? BFI, having purchased the disposal company, denied any responsibility for its predecessor's representations, insisting that Conoco should have performed its own due diligence before disposing of the waste. Conoco countered that BFI acquired the company with eyes wide open and could not now escape the legacy obligations it had inherited.

The matter proceeded into litigation around 1987, and for three years the parties waded through sprawling discovery, spiralling costs, and increasing procedural chaos. Complex scientific issues, multiple experts, and the threat of third-party claims made the dispute difficult to manage. Key witnesses were aging, leaving, or turning hostile. Every additional month of litigation increased the risk profile for both sides. Eventually, even the lawyers agreed: this was a case that should not be allowed to age for another half-decade or more. As Conoco's former Vice-President and General Counsel, Allen Cleveland, pointedly warned, the dispute could easily drag out eight years or more.

Out of necessity, not optimism, the parties agreed to attempt a mediated resolution. Both arrived skeptical and posturing, each insisting it would ultimately prevail in court. It took several meetings before they accepted that mediation was at least worth trying. They jointly selected a seasoned neutral, an experienced litigator with no conflicts and enough bandwidth to manage an intensive process, who agreed to serve as mediator and recommended, up front, that if mediation stalled, the parties should commit to Final Offer Selection Arbitration (FOSA) as the fallback mechanism. Both sides accepted.

The mediation was disciplined and structured. Each party submitted a damages figure it believed was fair; the mediator methodically highlighted the strengths and weaknesses of each position, caucusing strategically and pushing the parties toward a more realistic assessment of risk. He imposed a strict timeline, insisting that every meeting conclude with a scheduled date and agenda for the next one. Over nine months, this cadence worked: most issues settled, and the once-massive gap between the parties' views on liability shrank to a 60/40 divide.

But that was as far as they could go. Neither party was prepared to concede the remaining slice of responsibility. The incentive to settle had collided with the limits of corporate pride and internal politics. So, as designed, they pivoted to the arbitration phase.

In Final Offer Selection Arbitration, each party submits its best and final proposal; the arbitrator must choose one—no modifications, no splitting the difference. It is an elegant pressure mechanism: the more extreme your final offer, the more likely the neutral is to pick the other side's. Both Conoco and BFI filed their final numbers. Counsel argued their positions for roughly one hour. Within a total of two hours, the mediator-turned-arbitrator made his decision.

The parties kept the selected offer confidential, but given the trajectory of the process, the outcome was a functional win-win: the case resolved in months rather than another decade; regulatory uncertainty was reduced; third-party litigation risks were curtailed; cleanup obligations were clarified; and the public interest, preventing further environmental harm, was protected.

This case remains a textbook example of how med-arb, and particularly final-offer selection, can break through hardened positions, contain escalating costs, and resolve high-stakes disputes that litigation simply cannot manage efficiently.

Further, while *Conoco* did not follow the exact Arb-Med-Arb protocol, its structure also somewhat mirrored the logic of Arb-Med-Arb. The parties began with a formal adjudicative posture (pursuing litigation), paused for mediation, and resumed with a binding decision (through a simplified arbitration) when mediation failed. A key difference over institutional Arb-Med-Arb was that the same neutral presided over both phases.

This sequencing flexibility addresses a core concern McMillan raises: that escalation clauses may inadvertently restrict access to justice or delay resolution when parties are not yet ready to engage in settlement dialogue. Hybrid mechanisms, by contrast, can allow procedural maturity, not chronological rigidity, to guide transitions.

Arb-Med-Arb is particularly well-suited to cross-border energy disputes, where parties may require a formal arbitration framework to trigger contractual obligations but still wish to preserve the option of settlement. The SIAC–SIMC model is increasingly being adopted in LNG, mining, and infrastructure contracts across the Asia-Pacific region. Hopefully, other organizations will adopt these hybrid options as well.

Of note, Med-Arb and Arb-Med-Arb are not interchangeable; they are distinct frameworks with different sequencing, neutral roles, and institutional implications. Med-Arb offers a linear progression from mediation to arbitration, often with a single neutral. Arb-Med-Arb begins with arbitration, pauses for mediation, and resumes if necessary, typically with separate neutrals. Both models are now institutionally supported, procedurally codified, and strategically validated by real-world cases. Each framework offers a different path to the same goal: resolving complex disputes with speed, integrity, and enforceability. The dispute's context, the parties' risk tolerance, and the institutional rules governing the process should guide the choice between them.

Strategic Benefits of Hybrid ADR in Energy and Resource Disputes

Hybrid ADR mechanisms offer a suite of strategic advantages that align with operational realities. In the energy and resource extraction context, these benefits take on heightened significance because the disputes occur within capital-intensive, long-horizon, technologically complex, and socially and environmentally sensitive project structures. This unique sectoral profile underscores the need for dispute mechanisms that can respond quickly, with nuance, flexibility, and enforceability. The strategic benefits of hybrid models can be viewed through four lenses: efficiency and cost control; relationship preservation; procedural flexibility; and enforceability.

Efficiency and Cost Control

Energy disputes are often protracted, with years of litigation yielding little progress. In *Conoco–BFI,* for example, the parties had spent three years in discovery and pre-trial maneuvering before shifting to a hybrid process. Once engaged, the dispute was resolved in under twelve months. The final arbitration hearing lasted just two hours, during which the neutral selected one party's final binding offer.

The efficiency advantages of hybrid ADR in energy and resource disputes arise from both structural and behavioural dynamics. Structurally, hybrid mechanisms eliminate the procedural discontinuity that typically accompanies sequential negotiation, mediation, and arbitration attempts. Instead of restarting each time a process fails, hybrid processes create a single, continuous dispute-resolution arc. This reduces transaction costs, accelerates issue crystallization, and prevents the "reset penalty" inherent in traditional litigation–mediation–litigation cycles.

Hybrid processes also alter party behaviour. Scholars of negotiation and behavioural economics note that parties often become more realistic in their assessments once they face a credible, imminent adjudicative endpoint. In the *Conoco–BFI* process, the existence of final offer arbitration exerted gravitational pressure on the parties to narrow their positions. This reflects a well-documented "moderation effect," where the risk of having one's extreme offer not selected as the binding outcome incentivizes parties to calibrate proposals toward the zone of reasonableness.

The *SIAC–SIMC Arb-Med-Arb Protocol* institutionalizes this efficiency dynamic by ensuring that arbitration begins promptly, building procedural momentum from the outset. Parties enter mediation with clearer issue definition, refined legal theories, and calibrated expectations—conditions that empirical studies show increase settlement likelihood. If mediation fails, the tribunal is ready to resume without delay, preserving the efficiencies already achieved.

On the Canadian front, the *ADRIC Med-Arb Rules (2020)* further enhance efficiency by standardizing transitions between mediation and arbitration, preventing delays caused by disputes over process sequencing, and enabling parties to design timelines that reflect project-critical priorities such as construction windows, regulatory deadlines, or seasonal access constraints in remote resource sites.

Efficiency in hybrid processes, therefore, arises not only from time savings but from the prevention of procedural entropy, the slow but relentless fragmentation of disputes into procedural, jurisdictional, and evidentiary battles. Hybrid ADR contains this entropy, channelling parties toward early issue narrowing and swift adjudication only where necessary.

Relationship Preservation

Extractive projects are built on long-term relationships between joint venture partners, contractors, subcontractors, regulators, and financiers. Traditional adversarial processes often destroy these relationships, even when legal claims are resolved.

Hybrid ADR embeds relational maintenance as a procedural norm rather than a last-minute gesture. Mediation occurs before parties become entrenched in the adversarial rhythms of arbitration. Even when mediation does not fully settle the dispute, as in *Conoco–BFI*, it frequently transforms the tone of engagement, reduces reputational escalation, and strengthens the relational scaffolding necessary for long-term cooperation.

ICDR Article 6 supports concurrent mediation during arbitration, reinforcing the institutional commitment to relationship preservation (ICDR, 2021). This is especially valuable in energy disputes where ongoing cooperation is essential to project viability.

The *SIAC–SIMC model* also underscores this relational orientation by introducing mediation mid-stream, after arbitration has clarified issues but before adjudication has irreversibly polarized positions. This sequencing aligns with empirical findings that parties are more willing to negotiate after they have had an opportunity to test their own and their counterpart's claims through structured pleadings. Far from being an interruption, mediation in Arb-Med-Arb functions as a relational recalibration point within the adjudicative cycle.

The *ADRIC Med-Arb Rules* also prioritize relationship preservation by requiring explicit consent for the mediator/arbitrator's role transition, promoting procedural transparency, and creating a safe, confidential environment for candid dialogue. This is especially important in relations where trust, procedural fairness, and respect are critical components of a sustainable dispute process.

McMillan's warnings about ambiguous escalation clauses are particularly salient in this context. Poorly drafted clauses can create dispute-about-dispute dynamics that damage commercial and community relationships more than the underlying issue. Hybrid ADR avoids these hazards by providing clarity, structure, and institutional governance, thereby reducing the possibility that procedural ambiguity will become a source of conflict itself.

Procedural Flexibility

Energy disputes frequently involve multi-layered, multi-party, and multi-jurisdictional issues. Procedural flexibility is therefore not a luxury; it can be a structural requirement. Hybrid ADR offers this flexibility in several dimensions. Hybrid ADR allows parties to tailor the process to the dispute's complexity, urgency, and relational dynamics. In *Conoco-BFI*, the neutral proposed final offer arbitration at the outset, and the parties consented. This proactive design ensured clarity, consent, and procedural integrity.

First, flexibility in *process sequencing*: Under the *SIAC–SIMC Arb-Med-Arb Protoco*l, parties begin with arbitration, shift to mediation as issues mature, and return to arbitration only if necessary. This dynamic sequencing mirrors real-world project rhythms where disputes crystallize over time as technical reports are issued, cost overruns are quantified, or environmental findings emerge.

Second, flexibility in *neutral configuration*: The *ADRIC Med-Arb Rules* allow single-neutral or dual-neutral structures, depending on the parties' preferences, the nature of the confidential information, and any cultural or political sensitivities. Single-neutral models offer continuity and efficiency; dual-neutral models provide a clearer wall between mediation confidentiality and adjudicative decision-making, valuable in high-profile or public-interest resource disputes.

Third, flexibility in *issue design*: Hybrid processes permit phased resolution of issues, such as liability first, quantum later; parallel technical mediation on engineering or environmental questions; and integration of expert evaluative processes. This aligns with the technical complexity of extractive industries, where disputes often hinge on issues such as reservoir characterization, seismic interpretation, tailings management, environmental impact assessment, or land-use impacts for example.

Fourth, flexibility in *decision formats*: Hybrid mechanisms allow final-offer arbitration, reasoned decisions, or accelerated determinations depending on the parties' risk tolerance and relational priorities. They are particularly well-suited to disputes involving cost allocations, operational responsibilities, or environmental remediation where the dispute narrows to a range-based numerical question.

Enforceability

Enforceability can be a cornerstone concern in energy disputes, especially where projects cross borders, involve state-owned enterprises, and require long-term capital commitments backed by assurances of legal stability. Hybrid ADR provides an exceptionally robust enforceability regime by bridging two of the most potent international enforcement instruments: the *New York Convention (1958)* and the *Singapore Convention on Mediation (2019)*.

Under traditional models, mediated settlements often lacked cross-border enforceability, limiting their utility in multinational energy projects. The *Singapore Convention* transformed this landscape by creating an international enforcement mechanism for mediated settlement agreements. However, the Convention requires that parties demonstrate the agreement resulted from mediation, an evidentiary requirement that not all institutions can satisfy.

The *ICDR's Mediation Rule 14(e)* solves this problem by enabling the institution to attest formally that a settlement resulted from mediation, satisfying the *Singapore Convention*. This transforms mediated outcomes from non-binding agreements into globally enforceable instruments.

Under the *SIAC–SIMC Protocol*, successful mediation results in a consent award issued by the SIAC tribunal. Consent awards benefit from the *New York Convention*'s near-global enforceability, giving energy companies, financiers, and state entities a level of confidence unmatched by conventional mediation.

In Canada, the *ADRIC Med-Arb Rules* allow mediated settlements to be converted directly into arbitral awards enforceable under provincial arbitration statutes, providing domestic enforceability with the possibility of international enforcement through the *New York Convention*.

Hybrid mechanisms also mitigate the risk that McMillan identifies: escalation clauses that inadvertently create jurisdictional hurdles or grounds for refusal of recognition under Article V of the New York Convention. On the other hand, because hybrid ADR structures mediation as part of an integrated procedure rather than a jurisdictional prerequisite, disputes about compliance with pre-arbitral steps are minimized. This reduces the risk that an award will be challenged on procedural grounds, a crucial safeguard in high-value resource disputes where enforcement certainty is essential to protect assets, maintain cash flow, and satisfy lenders and insurers.

Conclusion: Hybrid ADR as a Strategic Imperative Business Collaboration with Closure

Hybrid dispute resolution represents a paradigm shift in the management of energy and resource conflicts. Med-Arb and Arb-Med-Arb are not competing systems but complementary tools that respond to different procedural and relational needs. In domestic North American disputes, Med-Arb offers speed, flexibility, and cost control. For cross-border or multi-party projects, Arb-Med-Arb, exemplified by the *SIAC–SIMC model*, provides enforceability, neutrality, and international recognition.

The *Conoco Inc. v. Browning Ferris Industries* case illustrates this architecture in action. Faced with a stalled environmental dispute, the parties adopted a hybrid process led by a single neutral. Structured mediation narrowed the liability gap; final offer arbitration delivered a binding resolution.

These hybrid frameworks embody the principle of "collaboration with closure." They allow the industry to reconcile technical precision with human relationships, ensuring that the resolution of conflict advances rather than disrupts the shared goal of responsible resource development.

Bitcoin's Energy Frontier in 2025: Reshaping Markets and Legal Landscapes

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Energy Consumption

As the Bitcoin network continues to reshape energy and financial landscapes, this article provides a broad overview of its current energy consumption, Proof of Work consensus mechanism, federal and state policy developments, and related legal considerations. In September 2025, the Cambridge Centre for Alternative Finance estimates that Bitcoin mining consumes 211.58 terawatt-hours annually — roughly 0.83% of global electricity consumption, comparable to that of a small nation like Thailand or Vietnam. (*See* Cambridge Centre). These Bitcoin mining efforts utilize a diverse energy mix, with 52.4% from non-fossil fuel sources, including nuclear (9.8%) and renewables (42.6%) such as hydropower (23.4%), wind (15.4%), solar (3.2%), and other renewable sources (0.5%). Fossil fuels account for the other 47.6%, with natural gas leading all sources (38.2%), followed by coal (8.9%) and oil (0.5%). (*See* Cambridge Digital Mining Industry Report April 2025).

Proof of Work

Bitcoin's Proof of Work (PoW) consensus mechanism secures its blockchain by requiring miners to solve complex computational puzzles, an energy-intensive process, as described above, to validate transactions. Like gold mining, where extraction difficulty ensures scarcity and value despite price increases, PoW's substantial energy cost deters attacks and preserves network integrity while the current reward of 3.125 bitcoins to the miner successfully solving the puzzle associated with each block ensures a fixed supply regardless of Bitcoin's price (i.e., miners cannot produce more bitcoins when demand and price increase). Additionally, the hash rate, measuring total computational power securing the Bitcoin network, hit a record 1.12 billion terahashes per second (TH/s) on September 12 of this year. (*See* Bitcoin hash rate). Further, the degree of mining difficulty, which automatically readjusts roughly every two weeks so that a new block of transactions is created approximately every 10 minutes, reached 136.04 trillion TH/s at block 914,374, representing another record high and an increase of 7.62% over the preceding 90 days. *Id.* The increasing hash rate and degree of difficulty, combined with Bitcoin's supply cap of 21 million bitcoins by the year 2140, enforce finite issuance and enhance security, all based on the energy-dependent PoW structure.

Industry Applications

Bitcoin mining's energy consumption also creates opportunities by leveraging fossil fuels and alternative energy sources to address industry challenges. In the Permian Basin, miners convert flared gas into power, reducing emissions and monetizing stranded assets. One source estimates that using flared gas to power Bitcoin mining could represent a $16 billion market opportunity based on potential gas sales revenue. (*See* Energy from gas-flaring). Mining also supports grid stability due to Bitcoin's unique ability to scale its "load up or down in response to real-time grid signals…." (*See* Cambridge Digital Mining Industry Report April 2025). Further, the power purchase agreements utilized by Bitcoin miners often incentivize "miners to curtail operations and provide power to the grid when it is most needed." *Id.*

Policy Developments

Supported by such opportunities, the inherent integration of Bitcoin with energy markets is further driven by recent federal and state policies. On March 6, 2025, President Donald J. Trump signed an executive order establishing a federal Strategic Bitcoin Reserve, capitalizing it with approximately 200,000 bitcoins from U.S. Treasury forfeitures, to treat Bitcoin as a national reserve asset. (*See* U.S. Strategic Bitcoin Reserve). Texas, Arizona, and New Hampshire also created their own strategic Bitcoin reserves in 2025. (*See* State Bitcoin Reserves). Additionally, Sen. Cynthia Lummis (R-Wyo.) introduced the BITCOIN Act of 2025 (S.954) on March 11, 2025 which proposes that the U.S. Treasury establish a Bitcoin Purchase Program to acquire 200,000 bitcoins annually over five years for a total of one million bitcoins, held in a Strategic Bitcoin Reserve with a minimum 20-year holding period to minimize market disruption and enhance national financial strategy. This legislation has been referred to the Committee on Banking, Housing, and Urban Affairs. Similarly, in Appalachia, Sen. Jim Justice (R-W.Va.), a cosponsor of the BITCOIN Act of 2025, has become an outspoken proponent of Bitcoin, saying in a recent op-ed, "We [led] the world in flight [and] in the race to the moon, [and] now have worked to make America a leader in AI, and our mentality with Bitcoin should be no different. We need to show the world that we are the home of future financial innovation." (*See* From Coal to Crypto). These recent steps by elected officials underscore Bitcoin's emerging role as a scarce strategic asset in public financial systems and signal demand for reliable energy sources for Bitcoin mining operations that continuously secure the network.

Legal Roles

Given this energy-policy nexus, attorneys in the energy sector play a pivotal role in Bitcoin mining by facilitating partnerships and assisting in the development of mining operations. They draft gas supply contracts for miners using flared or stranded gas, ensuring producers monetize waste while meeting air quality regulations. Attorneys also structure power purchase and curtailment agreements for grid stability programs, securing the grid and revenue for clients. Further, emerging regulations, like the GENIUS Act of July 2025 (S.1582) (providing a regulatory framework for stablecoins) and state Bitcoin mining incentives like those in Wyoming, require expertise in compliance and tax structures. These legal services enable energy producers and Bitcoin miners to navigate environmental, contractual, and royalty issues, capitalizing on Bitcoin's continued growth and integration with energy infrastructure.

Transformative Potential

Bitcoin's Proof of Work model transforms energy into a decentralized, global, and permissionless financial network currently valued at $2.3 trillion. As with gold, its energy-intensive mining process ensures scarcity and value, but its digital nature enables instant, borderless transactions, surpassing gold's physical constraints. These benefits, rooted in the Proof of Work's reliance on energy, position Bitcoin as a transformative asset reshaping energy utilization and financial systems, with producers and attorneys supporting its integration.

The AI Boom Brings Opportunities to the Oil and Gas Industry - The History of Artificial Intelligence

Robert Royce, Janette Uribe, and Alex Love, Oliva Gibbs

While it feels like a relatively new development, the concept of artificial intelligence (AI) dates back decades. In 1950, computer scientist, Alan Turing, who is considered the "father of AI," published his seminal work, "Computing Machinery and Intelligence." (*History of AI: Timeline and the Future*, Maryville U. (May 19, 2023).) In this paper, Turing considered the question, "can machines think," claiming that there is no convincing argument that machines cannot think intelligently like humans. (Jet New, *A Summary of Alan Turing's Computing Machinery and Intelligence*, Medium (Aug. 12, 2020).) In 1956, John McCarthy, a professor at Dartmouth, organized a summer workshop to clarify and develop ideas about thinking machines. (*The Birth of Artificial Intelligence (AI) Research*, Lawrence Livermore Nat'l Lab., (last visited Aug. 29, 2025).) It was during this workshop that McCarthy coined the term "artificial intelligence." (*Id.*)

Over the past eight decades, AI development has made great strides. In the 1960s, George Devol, an American inventor, created the first industrial robot, *Unimate*. (Jeremy Norman, *George Devol Invests Unimate, the First Industrial Robot* (June 11, 2025).) Unimate was used by General Motors, transporting die castings from an assembly line and welding these parts on auto bodies. (*Id.*) In the mid-1960s, Joseph Weizenbaum, a computer scientist and professor at MIT, developed the ELIZA program, an early natural language processing program designed to mimic human-like conversation using pattern matching and substitution rules to generate responses. (*The Story of ELIZA: The AI That Fooled The World*, London Intercultural Acad., (last visited Aug. 29, 2025).) ELIZA was the foundation on which ChatGPT was built. ELIZA was limited in that it lacked human understanding and relied on pre-programmed responses. However, in the 1980s, Rollo Carpenter, an AI developer, created *Jabberwacky*, which was designed to learn from human input and could simulate natural human conversation. (*Id.*)

Today, with ChatGPT, Gemini, and Claude available, AI is more advanced than ever. AI model training currently involves adjusting billions of parameters through repeated computations that require immense processing power. (Mahmut Kandemir, *Why AI uses so much energy – and what we can do about it*, PennState Inst. of Energy & the Env't (Apr. 8, 2025).) The solution to this energy demand has been the expansion of AI data centers. An AI data center is a facility that houses the specific IT infrastructure needed to train, deploy, and deliver AI applications and services. (Alexandra Jonker & Alice Gomstyn, *What is an AI Data Center?*, IBM (Feb. 21, 2025).) AI data centers have advanced network and storage architectures and energy and cooling capabilities to handle AI workloads. (*Id.*) While the concept of AI data centers is not new, the proliferation of AI data centers has created a unique opportunity for the oil and gas industry.

Natural Gas and AI Data Centers

Natural gas is one of the most reliable sources of energy today, and the infrastructure necessary to produce and transport natural gas to power AI data centers is already in place. The federal government also provides tax incentives to producers of natural gas. Even so, there is still an obstacle that the natural gas industry faces to become the main source of power for AI data centers. To power AI data centers, natural gas needs to be converted to electricity by turbines, which are currently in short supply and very difficult to acquire.

The Process by Which Natural Gas Becomes Electricity

In general, natural gas is drilled, collected, and transported by pipelines to a treatment plant to remove water or waste and then sent to a power plant. (*How does natural gas become electricity?*, Williams, (last visited Aug. 29, 2025).)

At the power plant, the conversion process can take place by several different means including by using a boiler, combustion turbine, or both.

> When using a boiler, water is boiled creating steam that spins a turbine and generates electricity. When using a combustion turbine, pressurized gas turns the blades of a turbine connected to a generator. Magnets spin inside the generator creating an electric current. These methods can be used independently or together. In a combined cycle system, the energy created by one turbine generates more energy in another turbine. After one engine completes a conversion cycle, the heat exhaust is transferred through a heat exchanger. A second engine extracts energy from the heat to begin its own conversion cycle. (*Id.*)

After the electricity is created, it is sent through power lines to be used in our homes or for commercial, industrial, or transportation use. (*Id.*)

Natural Gas Pipelines and AI Data Centers

There are three types of natural gas pipelines: gathering, transmission, and distribution. (*Why Gas Pipelines are the Unsung Heroes of AI Data Center Expansion*, I/O Fund (Mar. 18, 2025).) Gathering pipelines transport the natural gas collected from the wellheads to a central collection point like a storage facility, a processing plant, or a transmission pipeline. (*Id.)* Transmission pipelines move high volumes of natural gas from the production and processing plants, storage facilities, and distribution centers. (*Id.*) Finally, distribution pipelines deliver natural gas to homes, businesses, and facilities. (*Id.*)

According to the O/I Fund, some of the largest AI data center projects are in regions with the densest natural gas transmission pipelines like Texas with over 58,500 miles of pipelines, Louisiana with over 18,900 miles of pipelines, and Oklahoma with over 18,500 miles of pipelines. (*Id.*)

In Abilene, Texas, Project Stargate is a $500 billion joint venture investment between Oracle, Softbank, and Open AI, building AI data centers that are each half a million square feet. (*Id.)* Project Stargate is planning to build ten buildings in the Abilene, Texas location. (*Id.*)

In Louisiana, Meta Platforms is constructing a 2GW+ AI data center. (*Id.)* "The $10 billion project will be built on 2,250 acres, housing 4 million square feet within nine buildings, slated to be almost the size of Manhattan. Entergy will spend $3.2 billion to build a 1.5GW gas plant on Franklin Farms as part of a co-location deal . . . or acquire another 1.5GW of solar power elsewhere to offset the carbon emissions." (*Id.*)

Finally, in Oklahoma, Core Scientific and AI hyperscaler CoreWeave are building a 100MW facility and Google has invested over $4.8 billion in its Mayes County, Oklahoma, data center campus, expanding it three times since 2007. (*Id.*)

Consequently, the high concentration of pipelines in these regions will give natural gas a competitive advantage in becoming the main source of power for these projects.

Governmental Incentives for Natural Gas

The federal administration has given natural gas companies an increasing free hand to expand their production and supply infrastructure. (Zachary Skidmore, *Welcome to Gas Land - how natural gas is powering the US AI boom*, Data Ctr. Dynamics (May 1, 2025).) This is good news for midstream companies responsible for transporting natural gas and working to meet the increasing demand of AI data centers.(*Id.*)

The legislation known as the One Big Beautiful Bill Act signed into law on July 4, 2025, by President Donald Trump, includes tax incentives favorable to the oil and gas industry. (Ed Crooks, *What the "big beautiful bill" means for US energy*, Wood Mackenzie (July 11, 2025).) A major incentive is lifting restrictions in the Inflation Reduction Act on tax deductions for intangible drilling costs – often between 60% and 80% of total costs. (*Id.*)

Can Turbine Supply Keep Up with the AI Boom?

"After years of flat or declining electricity demand, US utilities are projecting rapid growth driven by AI, electrification, and industrial expansion . . . nearly the equivalent of adding a new California, Texas, and New York to the bulk power system." (Jesse Cohen, Tyler Fitch & Lauren Shwisberg, *Gas Turbine Supply Constraints Threaten Grid Reliability; More Affordable Near-Term Solutions Can Help*, RMI (June 18, 2025).)

Today, the increased global demand for gas turbines is creating supply chain constraints. (*Id.*) The issue stems from the ability of the handful of suppliers of the turbines to keep up with demand. Currently, three companies will supply most of the current demand: GE Vernova, Siemens Energy, and Mitsubishi Power. (*Id.)* Due to increased demand, these companies have extended their delivery timelines. (*Id.)* "Mitsubishi states that turbines ordered today will not be delivered until 2028–2030. Siemens reports a record backlog of €131 billion (US$148 billion). And GE Vernova has announced new turbines will not be available until late 2028 at the earliest." (*Id.*) Thus, given the increasing demand for power consumption, if the supply for turbines does not increase, utilities facing delays in production might be unable to keep up with consumption. Additionally, costs for turbines available for purchase have increased, therefore, inadvertently costing the ratepayer more money. (*Id.*) However, alternatives can be used as near-term solutions, including: energy efficiency solutions, virtual power plants, grid-enhancing technologies, clean pre-powering, and hybrid "power couples" sited at existing fossil generator points of interconnection. (*Id.*) Therefore, despite the short supply of turbines, natural gas is well positioned to meet the current and future demand of AI data centers.

Carbon Capture and Sequestration (CCS) for Natural Gas-Powered AI Datacenters

I. Introduction

While natural gas-powered electricity is a key component to meet AI data centers' unprecedented demand for electricity, carbon emissions are a primary concern. Carbon capture and sequestration is paramount to curbing carbon emissions, but carbon capture and sequestration technologies face challenges as they increase project timelines, raise costs significantly, and are highly regulated by federal and state governments. However, regulatory and tax incentives from the federal government are reducing barriers to entry, making gas-powered electricity generation a more attractive option for private sector actors to meet the energy demands of AI data centers.

II. Background

Carbon capture and sequestration (CCS) technologies can capture up to 90-95% of CO_2 emissions from large natural gas-fired power plants. (*Carbon Capture for Natural Gas-Fired Power Generation*, Carbon Direct (Mar. 3, 2025).) The US electrical grid emits 340-420 kg CO_2e/MWh on average, but when gas-fired power plants are paired with CCS technology, a gas-powered plant emits 80-120 CO_2e/MWh on average. (*Id.*) While renewables and nuclear emit less CO_2, gas-powered plants paired with CCS are more dependable and flexible, and also more cost effective at $70-100/MWh compared to $77/MWh for nuclear and $87/MWh for solar. (*Id.*; *Is Nuclear Energy the Answer to AI Data Centers' Power Consumption?*, Goldman Sachs (Jan. 23, 2025).) Without CCS technology, gas-powered plants cost $37/MWh on average, but CCS is necessary for gas-powered plants to be environmentally sustainable on a large scale. Even at $70-100/MWh, gas-powered plants paired with CCS technology are fiscally competitive with nuclear ($77/MWh) and solar ($87/MWh). Moreover, scale and regulatory incentives will further reduce costs of gas-powered-CCS plants. (*See* Carbon Direct, *supra* note 36; Goldman Sachs, *supra* note 38.)

III. Regulatory Environment Ripe for Investment

Section 45Q Federal Tax Credits

Enacted in 2008, Treasury Regulation § 1.45Q (Section 45Q) incentivizes qualified facilities that capture and permanently sequester or utilize carbon emissions, including emissions from natural gas-fired power plants, through federal tax credits. (Treas. Reg. § 1.45Q, *et seq.* (2025).) Under Section 45Q, facilities must begin construction before January 1, 2033 to be eligible to claim tax credits for the 12-year period after the project is placed into service. (*Tax Credits Drive Carbon Capture Deployment in our Annual Energy Outlook*, U.S. Energy Info. Admin. (July 18, 2025).) Specifically, for natural gas-fired power plants, the facility must capture at least 18,750 metric tons per year of carbon emissions, with equipment designed to capture at least 75% of baseline emissions, to qualify for Section 45Q tax credits. (*Credit for Carbon Oxide Sequestration*, Internal Revenue Serv. (last updated May 29, 2025).)

As previously mentioned, enacted in July 2025, the One Big Beautiful Bill Act (OBBBA) modified the structure of Section 45Q tax credits to increase their value for carbon capture developers. Under OBBBA, there is one credit value for projects capturing carbon dioxide from industrial and power facilities ($85 per metric ton) and one value for direct air capture projects ($180 per metric ton), representing the maximum value of carbon credits under prior iterations of Section 45Q. (*Fact Sheet: The One Big Beautiful Bill Act of 2025*, Carbon Capture Coal. (June 2025).) Previously, the value of Section 45Q tax credits depended on the end-use of the captured carbon, so tax credits for capturing carbon from industrial and power facilities varied from $60 to $85 per metric ton and tax credits for direct air capture projects varied from $130 to $180 per metric ton. (*Id.*) Further under OBBBA, Section 45Q tax credits are available as a direct payment or transferable to a third party, allowing developers to receive either a direct refund or to monetize their credits via sale. (*Senate Passes Budget Reconciliation Package, Retains Mission-Critical Elements of Federal Section 45Q Tax Credit*, Carbon Capture Coal. (July 1, 2025).) Finally, unlike previous iterations of Section 45Q, OBBBA adjusts Section 45Q tax credits for inflation beginning in 2027 so that the credits do not lose value over time. (*U. S. Preserves and Increases 45Q Credit in "One Big Beautiful Bill Act"*, Global CCS Inst. (July 8, 2025).) Overall, OBBBA makes Section 45Q tax credits for CCS projects more valuable than ever before.

State Primacy

Currently, the most stringent regulatory hurdle for CCS – Class VI well permits – is at an all-time low. Carbon, including CO_2 emissions from gas-fired power plants, must be stored in a Class VI well, which is the most regulated classification of disposal well by the U.S. Environmental Protection Agency (EPA). (Carbon Direct, *supra* note 36.) The EPA must grant a state primacy over Class VI wells, meaning that the state has authority to regulate and permit Class VI wells under the EPA's requirements. (*See EPA Proposes to Approve Texas' Application to Administer Class VI Underground Injection Well Program*, U.S. Env't Prot. Agency (June 9, 2025).) To date, only Louisiana, North Dakota, West Virginia, and Wyoming have been granted primacy by the EPA – with Texas recently receiving primacy approval as well as discussed below – meaning these are the only states that can permit Class VI wells for carbon sequestration. (*Id.*)

As part of EPA's initiative surrounding CCS, the federal government has expedited the primacy application process. (*Id.*) In June 2025, the EPA proposed approval of Texas's application for primacy, meaning that the Texas Railroad Commission will be able to regulate and permit Class VI wells for carbon sequestration in the state, possibly as soon as December 2025. (*Texas Clears Penultimate Hurdle to Class VI Primacy: What it Means for CCS and State-Led Permitting, JD Supra (June 13, 2025).*) Final approval was granted on November 12, 2025. (RCC Announcement re: Texas Class VI Primacy Approval).

Texas primacy is a major development in CCS because captured carbon now can be sequestered in Texas, rather than having to be transported long distances to another state that has primacy. (*See Texas Clears Penultimate Hurdle to Class VI Primacy: What it Means for CCS and State-Led Permitting*). For natural gas-powered plants, the ability to sequester carbon much closer to the location of the plant itself would drastically decrease transportation costs. (Carbon Direct, *supra*) As result, Exxon, Oxy, and other supermajors in the oil and gas industry have recently announced construction projects for natural gas-powered plants in Texas, citing proximity to natural gas sources as a key factor; now, the ability also to sequester carbon in Texas provides another advantage for siting natural gas-powered plants in Texas. (*See Steel, Ammonia and AI? Oh my! What Can't Our CCS Help Decarbonize?*, ExxonMobil (Dec. 11, 2024); Carlos Nogueras Ramos & Alejandra Martinez, *Texas Oil and Gas Companies Want State Oversight for Carbon Dioxide Injection*, Tex. Trib. (Feb. 6, 2025); Carlos Nogueras Ramos, *Texas Energy Company Wins First-of-its-kind Permit to Suck Carbon Out of Air, Store Underground*, Tex. Trib. (Apr. 8, 2025).)

IV. Impact on AI Data Centers

The OBBBA's sweeping reforms to Section 45Q tax credits establish a uniform and substantially more valuable incentive framework for carbon capture, making gas-powered plants an attractive option to provide electricity to AI data centers. By integrating CCS technologies into data center infrastructure, operators and investors can maximize available federal carbon capture incentives, while simultaneously managing exposure to long-term cost and policy uncertainties.

As AI data center decarbonization becomes a strategic and regulatory imperative, pairing natural gas power with advanced CCS technologies offers robust, near-term solutions for emissions reduction, operational reliability, and flexible output capacity. The expansion of tax credits and regulatory incentives has tilted the financial equation toward aggressive adoption of natural gas-powered electricity generation, and CCS makes gas-powered plants environmentally sustainable for the future.

Opportunities for Oil and Gas Professionals

While most people associate the proliferation of AI data centers with major tech companies such as Amazon, Google, and Microsoft, behind the scenes, oil and gas professionals have, and will, play a vital role in ensuring the viability of these AI data centers. Landmen and attorneys are uniquely positioned to both leverage their current skillsets and develop new ones.

Traditionally, landmen have been crucial in the success of oil and gas operations. Their duties include negotiating leases with landowners, title research, regulatory compliance, and coordination between geologists, engineers, and other experts to support exploration and production efforts. Landmen are experts on the ground to ensure the success of oil and gas projects. This expertise will be valuable to tech companies when they are identifying potential sites for AI data centers. While AI and machine learning algorithms will play a significant role in site selection and data analysis because they can predict the best locations for energy projects by analyzing vast amounts of data, landmen can become subject matter experts on platforms such as *LandApp*, a tool developed by LandGate which provides analytics for renewable energy and data center developers. (Yoann Hispa, *The Modern Landman: Renewable Energy Prospecting*, Landgate (Jan. 16, 2025); Brooke Dudley, *Transforming Economic Development: Government Wins on LandApp in 2024*, LandApp (last updated June 5, 2025).)

Operating AI-driven data centers presents complex legal challenges and attorneys will be called upon to address those challenges. Attorneys will be asked to guide operators through energy procurement negotiations, environmental compliance, data security, and intellectual property protection. (Bray Dohrwardt, *The Intersection of Energy and AI: Legal Considerations for Data Centers in the Age of Machine Learning*, Avisen Legal (Jan. 16, 2025).)

Securing permits for energy infrastructure and facility expansions involves navigating local zoning laws, environmental impact assessments, and community engagement processes. (*Id.*) Legal disputes will likely arise when location regulations conflict with large-scale energy projects. (*Id.*) Proposed regulations could impose energy efficiency standards, carbon reporting requirements, or even limits on high-energy-consuming AI applications. (*Id.*) Attorneys should stay informed about emerging energy and AI regulations, as governments are beginning to scrutinize the energy impact of AI technologies. (*Id.*)

The proliferation of AI data centers across the country has created a unique opportunity for the oil and gas industry. Due to the immense energy required to power AI data centers, operators have turned to natural gas as an energy solution. This means that oil and gas professionals are uniquely positioned to leverage their ability to negotiate deeds and leases for the land on which AI data centers will be built and the natural gas operations that will power them. Finally, as the use of AI becomes more prevalent, so will legal disputes arising from environmental protection, data security, and intellectual property protection. As a result, attorneys will be called upon to provide guidance and expertise to help operators navigate these issues in an ever-changing environment.

IEL International Practice Committee Update

Luís Miranda, Miranda Alliance

Below is an update from the IEL International Practice Committee on recent developments in the oil and gas sector in Africa.

Angola

Technical Regulation of the Annual Hydrocarbon Production Plan Approved

Aiming to establish guidelines and procedures for the approval, execution, and revision of Annual Production Plans (*Planos Anuais de Produção* (“PAP”)) prepared by oil and gas operators, Executive Decree No. 687/25, of 27 August 2025, was recently published. This statute entered into force immediately upon publication.

Technical Regulation on the Estimates of Petroleum and Natural Gas Resources and Reserves Approved

To define the rules for preparing annual information on petroleum and natural gas resources and reserves, and to establish the procedures for its submission by petroleum operators and entities that provide certification services regarding the country’s resources and reserves, Executive Decree No. 688/25, of 27 August 2025, was recently approved. This statute, which entered into force on the date of its publication, also sets forth the criteria governing the estimates of hydrocarbon volumes, including their classification and categorization.

Technical Regulation on the Submission of Hydrocarbon Exploration and Production Data Approved

Considering the need to standardize, harmonize, and regulate the procedures that oil and gas operators must observe when submitting exploration and production data and information on hydrocarbons acquired and generated in carrying out petroleum operations in Angola, the Technical Regulation on the Submission of Hydrocarbon Exploration and Production Data was approved. Executive Decree No. 691/25, of 29 August 2025, entered into force on the date of its publication.

Gabon

Technical and Safety Standards and Protocols for LPG Cylinders are Adopted

The Minister of Petroleum has approved the technical specifications, identification requirements, and safety standards for the packaging and handling of LPG cylinders, which are now set out in Order No. 000031/MP/SG/DGAPG/DTD, of 20 January 2025. This Order applies to all distributors and filing centers operating in national territory. It mandates the use of internationally recognized manufacturing standards, precise marking for traceability, and routine safety inspections. Cylinders must be maintained in serviceable condition and requalified every five years up to a maximum service life of 25 years, after which they must be destroyed. The regulation also introduces strict conditions for LPG cylinder filling. Existing operators are given a 12-month period to become compliant. This regulation enhances consumer safety, enforces environmental protections, and ensures consistent standards across the LPG distribution chain.

Establishment of a Regulatory Framework for the Management of Used Oils

The Minister of Petroleum has issued Order No. 000029/MP/SG/DGAPG/DTD, of 20 January 2025, to establish the regulatory conditions for granting, renewing, suspending, and withdrawing authorizations for the transport, treatment and recovery of used oils in the country. This Order outlines the application process, sets a fee structure based on the type of company and activity, introduces criteria for the suspension and withdrawal of authorizations, and sets forth administrative fines for breaches. Companies already operating in the sector are given one year to ensure compliance with the new framework.

The After-Acquired Title Doctrine in Colorado and North Dakota

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Under the After-Acquired Title Doctrine, if a party owns a lesser interest in real property than it purports to convey in a deed, and that party later acquires an additional interest in that same real property, title to that additional interest vests in the grantee of the original deed. This article discusses statutes and jurisprudence pertaining to the After-Acquired Title Doctrine as adopted in Colorado and North Dakota.

I. The After-Acquired Title Doctrine in Colorado

The Colorado after-acquired title statute at C.R.S. § 38-30-104 provides as follows:

> If any person sells and conveys to another by deed or conveyance, purporting to convey an estate in fee simple absolute, any tract of land or real estate lying and being in this state, not being possessed of the legal estate or interest therein at the time of the sale and conveyance and, after such sale and conveyance, the vendor becomes possessed of and confirmed in the legal estate of the land or real estate so sold and conveyed, it shall be taken and held to be in trust and for the use of the grantee or vendee, and said conveyance shall be held and taken, and shall be as valid as if the grantor or vendor had the legal estate or interest at the time of said sale or conveyance.

C.R.S. § 38-30-113 (1) (c)-(d) provides that: (a) a deed for the conveyance of real property in a form similar to that set forth in the statute, which states that the grantor "sells and conveys" the property, without warranty language, has the same effect as a bargain and sale deed, and passes the grantor's after-acquired title; and (b) a deed for the conveyance of real property in a form similar to that set forth in the statute, which does not contain warranty language and states that the grantor "sells and quitclaims" the property, shall operate as a quitclaim deed and does not pass the grantor's after-acquired title.

C.R.S. § 38-30-113 suggests that the presence of quitclaim language in a deed may prevent the operation of after-acquired title, and indeed, there is some support in applicable jurisprudence for that proposition. Specifically, in *Premier Bank v. Bd. of Cty. Comm'rs of Bent*, 214 P.3d 574 (Colo. App. 2009), the Colorado Court of Appeals stated that because quitclaim deeds do not convey an interest in the land but instead convey only what the grantor may presently own, the After-Acquired Title Doctrine does not apply to such deeds. The more important issue to the court, however, was whether the deed at issue qualified as a conveyance of "fee simple absolute" under C.R.S. § 38-30-104. The court explained that a deed that conveys "the following real property," or some other description of the land, is more likely to be construed as a conveyance of fee simple absolute, than a conveyance of whatever interest the grantor may presently own.

A Colorado District Court also analyzed whether a fee simple absolute interest was conveyed for purposes of after-acquired title in *Todd Creek Farms, L.L.C. v. Alfis*, 2015 Colo. Dist. LEXIS 1634. Although that case is not an appellate decision with any precedential authority, it does shed light on how Colorado courts analyze after-acquired title issues. The deeds at issue in *Todd Creek* contained warranty language, but the court still held that the deeds did not pass an after-acquired mineral interest, since the deeds did not convey "fee simple absolute." The court's decision was based on the following factors: (a) the deeds conveyed the interests "of the grantor"; and (b) the habendum clauses of the deeds recited that the property conveyed may be encumbered by "easements, restrictions, [and] covenants and reservations of record, if any," and the recitation regarding the existence of such encumbrances meant that a fee simple absolute estate was not conveyed. The court's holding thus emphasizes the importance of analyzing the deed as a whole when determining if the same conveys after-acquired title.

Accordingly, whether a deed conveys after-acquired title in Colorado is not determined solely by whether a deed is titled a "quitclaim deed" or a "warranty deed." Rather, the most important factor in Colorado is whether the deed conveys an estate in "fee simple absolute," as contemplated by C.R.S. § 38-30-104.

II. The After-Acquired Title Doctrine in North Dakota

North Dakota's after-acquired title statute – N.D. Cent. Code § 47-10-15 – provides, in relevant part, as follows:

> When a person purports by proper instrument to convey real property in fee simple and subsequently acquires any title or claim of title to the real property, the real property passes by operation of law to the person to whom the property was conveyed or that person's successor. A quitclaim deed that includes the word "grant" in the words of conveyance, regardless of the words used to describe the interest in the real property being conveyed by the grantor, passes after-acquired title.

This statute emphasizes whether the deed conveys a "fee simple" interest, and whether the deed is a quitclaim deed that contains language of "grant."

In *Hall v. Malloy*, 862 N.W.2d 514 (N.D. 2015), the North Dakota Supreme Court analyzed whether a divorce judgment was effective to convey after-acquired title, when one of the parties to the judgment subsequently acquired an additional mineral interest. The court first determined that the judgment qualified as a "proper instrument" under N.D. Cent. Code § 47-10-15. The court stated that the conveying instrument, whether it is a divorce judgment or a quitclaim deed, must be construed as a whole to determine the parties' intent. The divorce judgment referred to a party's statement that he owned a specific number of net mineral acres in a tract, and the judgment provided that another party was to receive one-half of those mineral acres. The court reasoned that the language of the judgment was similar to language used in quitclaim deeds, inasmuch as the judgment conveyed what the grantor presently owned, rather than the land itself. The judgment did not grant or warrant the party's title to the mineral acres in fee simple. Therefore, the court held that the After-Acquired Title Doctrine did not apply to vest one of the parties to the judgment with a subsequently-acquired mineral interest.

Just as in Colorado, the question of whether a deed conveys after-acquired title in North Dakota is not determined solely by whether a deed is titled a "quitclaim deed" or a "warranty deed." Instead, N.D. Cent. Code, § 47-10-15 emphasizes the importance of the word "grant," and goes so far as to provide that the use of that word in a quitclaim deed will pass after-acquired title. However, a reviewing court would probably place more emphasis on whether the deed in question conveys a "fee simple" interest in the property, analyzing the document as a whole.

A Message from IEL

Registration is open for the 14th ITA-IEL-ICC Joint Conference on International Energy Arbitration, January 22-23, 2026 in Houston, TX; and IEL's 77th Annual Energy Law Conference, February 26-27, 2026 in Houston, TX. The Annual Conference is FREE for IEL Advisory Board Members (Advisory Board Members should register using the special link emailed to them). At the Conference Dinner (February 26 at Houston Racquet Club), the IEL Distinguished Leadership in Energy Award will be presented to Liam Mallon (President, Ret., ExxonMobil Upstream Corporation).

Mark your calendars for our other upcoming programs: the 9th National Young Energy Professionals Conference, April 22-23 in Austin, TX; and the 17th Appalachia Energy Law Conference, September 10 in Pittsburgh, PA.

MEMBERS IN THE NEWS

Chimdimma Onyedebelu has been promoted to Vice President, Commercial at the American Arbitration Association (AAA), leading the AAA's commercial business development across Texas, Louisiana, Oklahoma, Mississippi, and Alabama, and co-leads the AAA-ICDR's national energy sector team, working to deepen engagement with users and industry stakeholders across the US. Chi is a member of the IEL Young Energy Professionals Programs Subcommittee and is an IEL Advisory Board Member.

NEW MEMBERS

We are honored and excited to add the following companies and individuals to IEL's membership roster. Please join us in welcoming them to our organization!

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