

CCS in the Checkerboard West— Lessons on How to Move with the Federal Government on the Board

Andrew C. Emrich*
Holland & Hart
Denver, Colorado

Elisabeth Takeuchi**
Maynes, Bradford, Shipp, and Sheftel LLP
Denver, Colorado

*With an introduction by Tara Righetti****

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* Andrew Emrich is a partner with Holland & Hart, LLP located in Denver, CO. He offers special thanks to Kirk Bowersox at Holland & Hart LLP for his assistance with Parts II and III.

** Elisabeth Takeuchi is a partner with Maynes Bradford Shipp & Sheftel, LLP located in Denver, CO. She offers special thanks to Thomas H. Shipp, Esq., Alicia M. Garcia, Esq., and Molly McElroy at Maynes Bradford Shipp & Sheftel, LLP for their assistance with Part IV.

*** Tara Righetti is the Occidental Chair of Energy and Environmental Policy at the University of Wyoming. Colton Edwards, University of Wyoming J.D. Candidate 2024 provided editorial and research support of this manuscript.

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I. INTRODUCTION

Geologic carbon sequestration—the process of securely and permanently injecting captured carbon dioxide into the subsurface for disposal—is critical to numerous technologies to decarbonize the electricity, fuels, and industrial sectors.¹ Blue hydrogen, ethanol production, fossil fired electricity generation, and manufacturing of products like aluminum, steel, cement, and fertilizer all depend on the capture and sequestration of emissions to be low or zero carbon.² It is also critical for direct air capture—a key part of the United States’ climate strategy as effected by the Bipartisan Infrastructure Law and the Inflation Reduction Act, whereby carbon is captured directly from the atmosphere and injected underground.³ In fact, both national⁴ and international⁵ mitigation

¹ U.S. DEP’T OF ENERGY, DOE/EE-2635, INDUSTRIAL DECARBONIZATION ROADMAP (2022).

² *Id.*

³ Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, § 40308, 135 Stat. 429 (2021); Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 13104, 136 Stat. 1818.

⁴ *Fifth National Climate Assessment*, U.S. GLOBAL CLIMATE CHANGE RESEARCH PROGRAM, ch. 32, fig. 32.22, <https://nca2023.globalchange.gov/chapter/32/> (last visited Feb. 12, 2024); U.S. DEP’T OF STATE & U.S. EXECUTIVE OFFICE OF THE PRESIDENT, THE LONG-TERM STRATEGY OF THE UNITED

pathways consistent with maintaining global temperatures at or below 1.5 degrees Celsius above pre-industrial levels involve use of carbon capture and sequestration (CCS) to some extent by 2030.

Consistent with CCS's pivotal role in climate mitigation and the commitments made pursuant to the Paris Agreement, numerous mandates and incentives are likely to result in a rapid expansion of geologic sequestration in the United States. In 2022, with the passage of the Inflation Reduction Act, Congress amended the 45Q credit to increase the value of tax credits available for sequestration.⁶ The amended credit was designed to cover the cost of capture, transport, and storage and to encourage investments in CCS.⁷ State level credits such as California's low carbon fuel standard provide an additional financial incentive for some alternative fuel projects.⁸ Since these changes were enacted interest in sequestration projects has significantly increased with more than 63 permits filed and under review at the Environmental Protection Agency (EPA) as of December 2023.⁹

At the same time, sequestration may be encouraged through emissions reduction mandates, climate disclosure rules, or trade policy. In the electricity generation sector, draft rules proposed by the EPA would require CCS for new and existing fossil fired generation sources as a best system of emissions reduction.¹⁰ More broadly however, firms will be expected to track and report their scope 3 emissions, thus putting pressure on companies to reduce emissions in the supply chain. Expected new climate disclosure rules from the SEC would further require firms to track and report scope 3 emissions.¹¹ Moreover, as the European Commission has moved to address carbon leakage through more stringent carbon accounting rules requiring disclosure of scope 3 emissions¹² and trade tariffs such as the EU Carbon Border Adjustment Mecha-

STATES: PATHWAYS TO NET-ZERO GREENHOUSE GAS EMISSIONS BY 2050 (2021), https://unfccc.int/sites/default/files/resource/US_accessibleLTS2021.pdf.

⁵ IPCC, *Summary for Policymakers, in CLIMATE CHANGE 2022: MITIGATION OF CLIMATE CHANGE. CONTRIBUTION OF WORKING GROUP III TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE* (Priyadarshi R. Shukla et al. eds., 2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf.

⁶ Inflation Reduction Act of 2022, *supra* note 3, § 13104.

⁷ Cong. Research Serv., *The Section 45Q Tax Credit for Carbon Sequestration* (2023), <https://crsreports.congress.gov/product/pdf/IF/IF11455/4>.

⁸ B. GROVE & G. PERIDAS, *SHARING THE BENEFITS: HOW THE ECONOMICS OF CARBON CAPTURE AND STORAGE PROJECTS IN CALIFORNIA CAN SERVE COMMUNITIES, THE ECONOMY, AND THE CLIMATE* (2023), <https://gs.llnl.gov/sites/gf/files/2023-06/ca-ccs-economic-study-report-v06.pdf>.

⁹ EPA, *Current Class VI Projects Under Review at EPA* (Jan. 8, 2024), <https://www.epa.gov/uic/current-class-vi-projects-under-review-epa>. This count does not include those applications under review by states with primacy over their Class VI program.

¹⁰ EPA, *New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule*, 88 Fed. Reg. 80,682 (Nov. 20, 2023).

¹¹ *The Enhancement and Standardization of Climate-Related Disclosures for Investors*, 87 Fed. Reg. 21,334 (proposed Apr. 11, 2022) (to be codified at 17 C.F.R. 210, 229, 232, 239, and 249).

¹² European Comm'n, *Proposal for a Decision of the European Parliament and of the Council amending Directive 2013/34/EU as regards the time limits for the adoption of sustainability report-*

nism,¹³ American firms will feel pressure to reduce the carbon intensity of their exports.

Realizing these projects at scale, however, will require tremendous resources in land. This includes both subsurface reservoir capacity (pore space) to hold the injected carbon dioxide; surface land for pipelines, well locations, compressors, monitoring wells, and other facilities; and access to existing wellbores for corrective action. A much greater area will be impacted by fluid displacement and pressure changes. For example, according to one Class VI permit, the estimated footprint of one property estimated to store 25.4 million metric tons of CO₂ comprises 10,728 acres.¹⁴ However, the area of review, which is the area where pressure changes could cause damage to an underground source of drinking water, is more than an order of magnitude larger at 162,233 acres.¹⁵

As with other energy projects, a sequestration project developer must acquire the property rights necessary for the project. This requires identifying the owner of the surface and subsurface real property necessary for the project and negotiating for rights of access and use.¹⁶ Because of the newness of sequestration projects and the lack of established norms and procedures information and transactional costs may be higher. Landowners may be concerned about environmental risks, skeptical of the viability of projects, or hesitant to be locked into economic terms while the market for injection rights is still developing. Resource fragmentation—both physically and administratively—may pose other challenges by introducing uncertainty as to how rights can be obtained and whether a project developer can acquire enough contiguous land for the project to move forward. This may be especially challenging in western projects, which are likely to include a combination of private, state, tribal, and federal lands as well as split estates of various configurations.

Although Congress has enacted numerous policies to encourage carbon sequestration, it has not yet passed legislation related to use of federal land. As a result, federal land management agencies have been evaluating whether and how they can authorize use of federal land for carbon storage. These efforts are further complicated as administration of federal lands may also be divided among numerous administrative units such as the Bureau of Land Management (BLM), Forest Service, Department of Defense, and Fish and Wildlife Service—each with its own processes and rules. Some agencies have directly addressed how to acquire pore space through rulemaking or guidance.

ing standards for certain sectors and for certain third-country undertakings, COM/2023/596 final (Oct. 17, 2023), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52023PC0596>.

¹³ European Comm'n, Guidance Document on CBAM Implementation for Importers of Goods into the EU 92 (Dec. 13, 2023), <https://taxation-customs.ec.europa.eu/system/files/2023-12/Guidance%20document%20on%20CBAM%20implementation%20for%20importers%20of%20goods%20into%20the%20EU.pdf>.

¹⁴ Wyoming Dep't of Env'tl. Quality, Class VI Permit for Frontier Carbon Solutions (Dec. 14, 2023) (on file with author).

¹⁵ *Id.*

¹⁶ Ky. Rev. Stat. § 353.806; Joseph A. Schremmer, *Pore Space Property*, 2021 UTAH L. REV. 1 (2021).

For example, the BLM recently issued guidance indicating that it intended to use its authority under Title V of the Federal Land Policy Management Act (FLPMA) to issue rights-of-way (ROWs) for sequestration.¹⁷ Separately, the Forest Service has promulgated draft rules amending its initial screening criteria to allow the agency to review applications for special use permits that would authorize permanent sequestration.¹⁸ Yet, in many other cases, specific guidance is lacking. In these scenarios, project developers will need to work with land managers to determine how to work within established frameworks that are not specific to sequestration. If these frameworks do not provide sufficient authority to land managers to act, legislation or rulemaking may be needed.

Sequestration projects in the western United States may also include tribal lands. These lands have their own checkerboard of tribal trust land, fee land, and trust land for individual tribal members. Each of these land categories presents novel questions regarding ownership and administration. While general frameworks related to federal trust obligation and rights of way may have applicability, there is no single governing policy for CCS on tribal lands. Unpacking usage of tribal lands for sequestration therefore requires an exploration of general principles of federal Indian law, an examination of specific agreements and granting instruments, and foremost an assessment of willingness among tribes to open their lands for sequestration. Even off tribal lands, regulatory and land management agencies may still have duties of consultation. While development of guidance could be instructive, projects on tribal lands are more likely to be developed through bespoke approaches developed in collaboration with tribes.

This paper evaluates the existing frameworks to develop sequestration projects in federal and tribal lands. Part II begins with an overview of the existing guidance regarding acquisition of ROWs on lands managed by the BLM and the Forest Service, including forms, valuations for rentals, and competitive and non-competitive processes under each agency's regulations. Part III considers issues including compliance with the National Environmental Policy Act (NEPA) and compatibility with resource management plans. Part IV provides an overview of the use of tribal lands for CCS including pore space ownership, authority, and procedures. Part V concludes with suggestions for how project developers can work with federal and tribal land managers to identify solutions within existing legal frameworks and makes suggestions as to where rulemaking or legislation may be needed.

¹⁷ BLM, INSTRUCTION MEMORANDUM No. 2022-041, NATIONAL POLICY FOR THE RIGHT-OF-WAY AUTHORIZATIONS NECESSARY FOR SITE CHARACTERIZATION, CAPTURE, TRANSPORTATION, INJECTION, AND PERMANENT GEOLOGIC SEQUESTRATION OF CARBON DIOXIDE IN CONNECTION WITH CARBON SEQUESTRATION PROJECTS (JUNE 8, 2022), <https://www.blm.gov/policy/im-2022-041> [hereinafter IM 2022-041].

¹⁸ Land Uses; Special Uses; Carbon Capture and Storage Exemption, 88 Fed. Reg. 75,530 (proposed Nov. 3, 2023) (to be codified at 36 C.F.R. 251) [hereinafter Forest Service Proposed Rule].

II. OBTAINING AN AUTHORIZATION TO SEQUESTER CO₂ ON FEDERAL LANDS

America's two largest federal land management agencies—the BLM and the Forest Service—have both publicly indicated their support for geologic sequestration in pore space on federal lands within their jurisdictions. While neither agency has specific regulations governing CCS, each agency has broad authority under FLPMA and other statutes to authorize a diverse array of uses of federal lands under the agency's respective management authority. Likewise, each agency has promulgated regulations under FLPMA that set forth the process for obtaining a FLPMA ROW grant on each agency's lands. The BLM and the Forest Service have both directed interested parties to submit applications for CCS projects under these existing regulations.

Through IM 2022-041, the BLM has elected to authorize the use of federal pore space for CCS projects on BLM lands through its FLPMA Title V ROW authority.¹⁹ Title V of FLPMA provides BLM with authority to grant, issue, or renew ROWs over, upon, under, or through public lands.²⁰ Pursuant to Section 1761 of FLPMA, the BLM is:

Authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for— . . . (2) pipelines and other systems for the transportation or distribution of liquids and gases, other than water and other than oil, natural gas, synthetic liquid or gaseous fuels, or any refined product produced therefrom, and for storage and terminal facilities in connection therewith; . . . or (7) such other necessary transportation or other systems or facilities which are in the public interest and which require rights-of-way over, upon, under, or through such lands.²¹

In general, FLPMA Title V authorizes all ROWs on public lands except for oil and natural gas pipelines, which are covered by the federal Mineral Leasing Act (MLA).²² The BLM defines a "right-of-way" to mean "the public lands that the BLM authorizes a holder to use or occupy under a particular grant or lease." 43 C.F.R. § 2801.5(b).

IM 2022-041 explains that FLPMA Title V and the BLM's implementing regulations "authorize the BLM to issue ROWs to geologically sequester CO₂ in federal pore space, including for necessary physical infrastructure and for the use and occupancy of the pore space itself."²³ The IM sets forth the general process for applying for and obtaining a ROW grant to inject and store CO₂ in federal pore space, including the preferred term of such grants (30 years), the need for stipulations to avoid interference with operations authorized under the MLA, and filing and environmental compliance requirements.²⁴ The BLM will use its general FLPMA ROW regulations for processing and approving applications for CCS.²⁵

¹⁹ IM 2022-041, *supra* note 17.

²⁰ 43 U.S.C. §§ 1761–1771.

²¹ *Id.* § 1761(a).

²² See 43 C.F.R. § 2801.6(b) (scope of regulations).

²³ IM 2022-041, *supra* note 17.

²⁴ *Id.*

²⁵ *Id.* (citing 43 C.F.R. pt. 2800).

As of this writing, the Forest Service has not issued its own administrative guidance articulating how geologic sequestration will be authorized on Forest Service lands. The Forest Service has, however, proposed an amendment to its special use regulations to remove an existing screening provision that currently prohibits the authorization of any project that constitutes an “exclusive and perpetual use and occupancy” of National Forest System lands.²⁶ Because permanent sequestration of CO₂ would arguably constitute both an “exclusive” and a “perpetual” use of federal pore space, the Service concluded that this screening criteria needed to be amended in order to allow the Service to even process applications for CO₂ sequestration.²⁷

The Forest Service’s proposed rule, if adopted as a final rule, would not of itself authorize CCS projects on Forest Service lands. It would, however, allow “the Forest Service to review proposals and applications for carbon capture and storage and to authorize proposed carbon capture and storage on NFS lands if, where, and as deemed appropriate by the Agency.”²⁸ The Forest Service has made clear that once its regulations are amended to remove its prohibition on “exclusive use” for CO₂ storage, the Service believes it otherwise has the authority under its general special use regulations to authorize carbon sequestration projects on Forest Service lands.²⁹ As the Service explained, “[a]uthorizing carbon capture and storage on NFS lands would support the Administration’s goal to reduce greenhouse gas emissions by 50% below the 2005 levels by 2030.”³⁰

Now that the BLM and the Forest Service have clarified that they intend to address CCS applications under their existing regulations (or, the case of the Forest Service, slightly modified regulations) rather than waiting to promulgate regulations specific to geologic sequestration, a number of questions have arisen regarding how each agency will address a number of key implementing questions related to CCS projects. This section highlights how each agency is expected to process applications for CCS projects under its existing regulations and identifies several questions that require further guidance from the agencies.

A. *Competitive vs. Non-Competitive Pore Space ROW Grants*

1. BLM

As noted in IM 2022-041, the BLM is empowered under its current regulations to offer pore space ROWs on a competitive basis “[i]f BLM determines that a competitive interest exists for use of a specific area for CO₂ sequestration.”³¹ To answer this question, the BLM must first determine whether “there

²⁶ Forest Service Proposed Rule, *supra* note 18, at 75,530.

²⁷ *Id.* at 75,530.

²⁸ *Id.* at 75,530–31.

²⁹ *Id.* at 75,531.

³⁰ *Id.* at 75,531.

³¹ IM 2022-041, *supra* note 17 (referencing 43 C.F.R. § 2904.23).

are two or more competing applications for the same facility or system.”³² The BLM defines the term “facility” as “an improvement or structure, whether existing or planned, that is or would be controlled by the grant or lease holder within a right-of-way.”³³

The term “system” is not separately defined in the BLM’s FLPMA ROW regulations. The BLM does, however, provide examples of “systems and facilities” in its regulation explaining when a ROW is required.³⁴ These include:

(2) Pipelines and other systems for transporting or distributing liquids and gases other than water and other than oil, natural gas, synthetic liquid or gaseous fuels, or any refined products from them, *or for storage and terminal facilities used in connection with them*; [and]

(7) Such other necessary transportation or other systems or facilities . . . which are in the public interest and require rights-of-way.³⁵

Federal pore space could presumably be considered a “storage a terminal facilit[y]” used in connection with a pipeline or other transportation system³⁶ or more generally an “other facilit[y] which is in the public interest.”³⁷

In any event, considering IM 2022-041’s reliance on 43 C.F.R. § 2804.23 as the basis for a competitive process for pore space ROW acquisition, it appears the BLM understands that a “facility”—and perhaps even a “system”—would include a “specific area for CO₂ sequestration,” i.e., the specific pore space where the CO₂ will be permanently stored. Once the BLM has determined that it has received two or more competing applications for the same “facility” or “system,” it must next “determine[s] whether the applications are compatible in a single right-of-way system or are competing applications for the same system.”³⁸

Current regulations appear to provide the BLM with considerable discretion in determining whether competitive interest exists for any particular pore space. For example, it seems likely that any two (or more) applications for pore space under specific surface tract(s) would each also include other federal tracts that are not the same as those contained in the other application. Under this scenario, the BLM would appear to have the discretion to conclude that the two applications are not for the same “facility” or “system” given the different sizes of the two proposed pore spaces. Similarly, if two ROW applicants sought permission to store CO₂ under different injection zones (e.g., different formations) under the same surface parcel(s), the BLM may conclude that these applications are not “competing applications for the same system,” or even that the two applications are “compatible in a single right-of-way system.”³⁹

³² 43 C.F.R. § 2804.23(a).

³³ *Id.* § 2801.5(b) (definition of “facility”).

³⁴ *Id.* § 2801.9(a).

³⁵ *Id.* § 2801.9(a)(2), (7) (emphasis added).

³⁶ *Id.* § 2801.0(a)(2).

³⁷ *Id.* § 2801.9(a)(7).

³⁸ *Id.* § 2804.23(b).

³⁹ *Id.*

Finally, the BLM may use other screening criteria to assess the viability of each of the multiple applications for the same pore space to determine whether true competition exists between the applications. By way of example, in order to hold a FLPMA ROW grant, an applicant must be “[t]echnically and financially able to construct, operate, maintain, and terminate the use of the public lands [the applicant] are applying for.”⁴⁰ In order to make this initial showing, each “completed application” must contain “a statement of [the applicant’s] financial and technical capability to construct, operate, maintain, and terminate the project.”⁴¹ Because CCS projects of any size are likely to require significant financial investment and technical expertise, the BLM may determine that an applicant for a particular pore space lacks the financial wherewithal or technical expertise to develop a proposed sequestration project that might otherwise compete with another application for the same pore space.

If the BLM determines that there is competition for the same facility or system for CO₂ sequestration, it will issue a bid announcement in the Federal Register that sets forth the procedures for a competitive bid.⁴² The BLM also retains the discretion to offer any particular lands for competitive bid process “on [its] own initiative.”⁴³ When the BLM notifies a ROW applicant that the agency has received its application, the BLM will also inform the applicant of any other ROW applications that involve any part of the lands requested.⁴⁴ Finally, once the BLM accepts a ROW application, plan of development, and cost recovery agreement, it will not offer that requested pore space by competitive bid.⁴⁵

2. Forest Service

The Forest Service has clarified that applications for CCS would be processed under the Service’s existing special use regulations.⁴⁶ Except for certain enumerated authorizations (e.g., roads, grazing, timber, and minerals), “[a]ll uses of National Forest System lands, improvements, and resources, . . . are designated ‘special uses.’”⁴⁷ Moreover, “[b]efore conducting a special use, individuals or entities must submit a proposal to the authorized officer and must obtain a special use authorization from the authorized officer.”⁴⁸ A “special use authorization” is defined as “a written permit, term permit, lease, or easement that authorizes use or occupancy of National Forest System lands

⁴⁰ *Id.* § 2803.10(b).

⁴¹ *Id.* § 2804.12(a)(5).

⁴² *Id.* § 2804.23(c).

⁴³ *Id.*

⁴⁴ *Id.* § 2804.25(a)(2).

⁴⁵ *Id.* § 2804.23(c).

⁴⁶ 88 Fed. Reg. 75,530.

⁴⁷ 36 C.F.R. § 251.50.

⁴⁸ *Id.* § 251.50(a). Certain minor uses—such as noncommercial recreational use and travel across Forest System roads—are not subject to the special use requirements. *Id.* § 251.50(c)–(e). However, none of those exceptions applies to carbon sequestration.

and specifies the terms and conditions under which the use or occupancy may occur.”⁴⁹

The Forest Service regulations governing special use authorizations are set forth at 36 C.F.R. Part 251, Subpart B. The 14 specific authorities by which the Forest Service may issue special use authorizations for National Forest System land are listed in 36 C.F.R. § 251.53. Included in this authority are permits, leases, and easements for ROWs under FLPMA Title V.⁵⁰ Mirroring the BLM’s FLPMA ROW regulations, the specific ROW authorized under the Forest Service’s special use regulations include:

- (2) Pipelines and other systems for the transportation or distribution of liquids and gases, other than water and other than oil, natural gas, synthetic liquid or gaseous fuels, or any refined product produced therefrom, and for storage and terminal facilities in connection therewith; . . . (7) Such other necessary transportation or other systems or facilities which are in the public interest and which require rights-of-way over, upon, under, or through National Forest System lands,⁵¹

Permits, term permits, and easements in the National Grasslands are also issued as special use authorizations.⁵² Therefore, the same special use rules would apply to the authorization of geologic sequestration on National Forests or National Grasslands.

Existing regulations provide limited guidance for how the Service determines and processes competitive bidding for special use authorizations. Buried in the Service’s “cost recovery” regulation⁵³ is a provision that provides “[w]hen there is one or more unsolicited proposals and the authorized officer determines that competitive interest exists, the agency shall issue a prospectus. All proposals accepted pursuant to that solicitation shall be processed as applications.”⁵⁴

The Forest Service Handbook and Manual provide additional guidance on how the competitive bidding process would work. Under the Handbook, a proposal that has passed the initial screening process shall proceed to the second-level screening “unless the proposal is for a commercial activity for which there may be a competitive interest.”⁵⁵

The Handbook in turn references the Forest Service Manual for guidance on preparation of a “prospectus” to determine whether competitive interest exists for certain authorizations.⁵⁶ It is unclear under the Forest Service Manual whether the Forest Service should issue a prospectus to assess the competitive interest in a special use such as geologic sequestration as the Manual’s discussion of competitive interest is focused on “concession special uses.”⁵⁷ Assuming it follows the process for “concession special uses” in its Manual,

⁴⁹ *Id.* § 251.51 (definition of “special use authorization”).

⁵⁰ *See id.* § 251.53(l).

⁵¹ *Id.*

⁵² *Id.* § 251.53(f).

⁵³ *Id.* § 251.58.

⁵⁴ *Id.* § 251.58(c)(3)(ii).

⁵⁵ FSH 2709.11, ch. 10, § 12.3-1 [hereinafter USFS Special Uses Handbook].

⁵⁶ FSM 2712.1.

⁵⁷ *Id.*

the Forest Service would first issue a public notice to determine the existence of a competitive interest before preparing a prospectus that sets forth the detailed process for soliciting competitive bids.⁵⁸

B. Forms for ROW Applications

1. BLM

Applicants for a pore space ROW on BLM lands are generally required to submit their applications on the BLM's Standard Form 299 (SF-299).⁵⁹ Each SF-299 application must include the following information: (1) a description of the project and the scope of the facilities; (2) the estimated schedule for constructing, operating, maintaining, and terminating the project; (3) the estimated life of the project and the proposed construction and reclamation techniques; (4) a map of the project, showing its proposed location and existing facilities adjacent to the proposal; (5) a statement of the applicant's financial and technical capability to construct, operate, maintain, and terminate the project; (6) any plans, contracts, agreements, or other information concerning the applicant's use of the ROW and its effect on competition; (7) a statement certifying that the applicant is of legal age, is authorized to do business in the state(s) where the ROW will be located, and is submitting correct information in the ROW application; and (8) the schedule for the submission of a Plan of Development (POD) conforming to a standard BLM template.⁶⁰

IM 2022-041 notes that the BLM will typically require applicants for sequestration projects to submit an approved POD along with the initial SF-299 application.⁶¹ In practice, however, a detailed POD will often be provided to the BLM later in the application process. Some local BLM offices have developed their own informal POD templates for ROWs that are tailored to address the unique nature and sequencing of CO₂ sequestration projects. These templates may ask the ROW applicant to focus its initial planning efforts on the characteristics of subsurface CO₂ injection and storage while deferring detail of the surface infrastructure until more information is known about the project. This phased planning is consistent with the BLM's regulations, which only require an applicant to provide "a schedule for the submission of a POD" (rather than a completed POD) as part of the initial SF-299 application.⁶²

Finally, an applicant is not required to submit a SF-299 when the BLM has decided to issue the lands competitively and the applicant has already submitted an application for the facility or system.⁶³ That said, unless and until the BLM decides to offer a specific area of pore space for competitive auction on its own initiative rather than in response to competing applications for the

⁵⁸ *Id.*

⁵⁹ IM 2022-041, *supra* note 17; 43 C.F.R. § 2804.12(a).

⁶⁰ 43 C.F.R. § 2804.12(a).

⁶¹ IM 2022-041, *supra* note 17.

⁶² 43 C.F.R. § 2804.12(a)(8); *see also id.* § 2804.25(c) (noting that BLM may, after reviewing the initial SF-299 application, require the applicant "to submit additional information necessary to process the application," including a detailed POD).

⁶³ *Id.* § 2804.24(a).

same lands, applications for federal pore space will almost always be initiated through an applicant's submittal of an SF-299.

2. Forest Service

Under Forest Service regulations, applicants for special use authorizations are not required to use a specific form to initiate a request for a special use authorization. Rather, these regulations broadly require that “[p]roposals for special uses must be filed in writing with or presented orally to the District Ranger or Forest Supervisor having jurisdiction over the affected land.”⁶⁴ However, the Forest Service Handbook encourages applicants to use an SF-299 form for most special use applications.⁶⁵ Similarly, Forest Service includes the SF-299 form on its website and provides specific links for this form for special use applications.⁶⁶

Forest Service rules require applicants for special uses to contact the responsible Forest Service office “as early as possible in advance of the proposed use.”⁶⁷ Applications must contain the required information as outlined in Section 251.54(d), including a project description as well as evidence of technical and financial capability.⁶⁸ In addition to the application form (e.g., SF-299), the Service may also “require any other information and data necessary to determine feasibility of a project or activity proposed; compliance with applicable laws, regulations, and orders; compliance with requirements for associated clearances, certificates, permits, or licenses; and suitable terms and conditions to be included in the authorization.”⁶⁹

Once a special use authorization is requested, the proposal must go through an initial screening and a second-level screening process.

a. Initial Screening

As part of the initial preapplication screening process, the Forest Service is required to ensure that any proposal for a special use authorization satisfies each of the following criteria:

- (i) The proposed use is consistent with the laws, regulations, orders, and policies establishing or governing National Forest System lands, with other applicable federal law, and with applicable state and local health and sanitation laws.
- (ii) The proposed use is consistent or can be made consistent with standards and guidelines in the applicable forest land and resource management plan prepared under the National Forest Management Act and 36 CFR part 219.
- (iii) The proposed use will not pose a serious or substantial risk to public health or safety.

⁶⁴ *Id.* § 251.51(b).

⁶⁵ USFS Special Uses Handbook, *supra* note 55, at ch. 10.

⁶⁶ See *Special Uses-Forms*, U.S. FOREST SERV., https://www.fs.usda.gov/specialuses/special_forms.shtml (last updated Sept. 6, 2022).

⁶⁷ 36 C.F.R. § 251.54(a).

⁶⁸ *Id.* § 251.54(b), (d).

⁶⁹ *Id.* § 251.54(d)(5).

- (iv) . . . [T]he proposed use will not create an exclusive or perpetual right of use or occupancy.
- (v) The proposed use will not unreasonably conflict or interfere with administrative use by the Forest Service, other scheduled or authorized existing uses of the National Forest System, or use of adjacent non-National Forest System lands.
- (vi) The proponent does not have any delinquent debt owed to the Forest Service under terms and conditions of a prior or existing authorization, unless such debt results from a decision on an administrative appeal or from a fee review and the proponent is current with the payment schedule.
- (vii) The proposed use does not involve gambling or providing of sexually oriented commercial services, even if permitted under State law.
- (viii) The proposed use does not involve military or paramilitary training or exercises by private organizations or individuals, unless such training or exercises are federally funded.
- (ix) The proposed use does not involve disposal of solid waste or disposal of radioactive or other hazardous substances.⁷⁰

Should any proposed use not meet any of the minimum requirements, the proposal “shall not receive further evaluation and processing” from the Forest Service.⁷¹ Moreover, a Forest Service finding that a proposal fails to meet the initial screening criteria is not subject to administrative appeal.⁷²

Two of these initial screening criteria pose potential concerns for CCS projects. First, as noted above, the initial preapplication screening includes a requirement that “[t]he proposed use will not create an exclusive or perpetual right of use or occupancy.”⁷³ Given the permanent nature of geologic sequestration as well as the need for exclusive control of the storage reservoir, there is potential that the Forest Service could reject an application on the basis that it would be both “perpetual” and “exclusive.”

Neither the term “exclusive” nor “perpetual” is defined in the Forest Service’s regulations. When it promulgated the rule establishing the screening criteria for special use authorizations, the Forest Service stated the “exclusive and perpetual” requirement “would be added to the rules to make clear what has been the longstanding congressional and administrative policy on occupancy and use – that a use authorization issued by the Forest Service, acting on behalf of the public, does not grant a permittee exclusive or perpetual right of occupancy of lands owned by the public.”⁷⁴ It also noted that “[a]ll standard clauses included in permits establish that uses are not exclusive (Forest Service Handbook 2709.11, Special Uses Handbook, Chapter 50 – Terms and Conditions).”⁷⁵ For this reason, the Forest Service rejected a suggestion that utility companies seeking ROWs across forest lands be exempted from the requirements.⁷⁶

⁷⁰ *Id.* § 251.54(e)(1).

⁷¹ *Id.* § 251.54(e)(2).

⁷² Forest Service Handbook 2709.11.

⁷³ 36 C.F.R. § 251.54(e)(1)(iv).

⁷⁴ 57 Fed. Reg. 36,618.

⁷⁵ *Id.*

⁷⁶ 63 Fed. Reg. 65,950, 65,955.

As noted above, the Forest Service recently proposed to amend its special use regulations to allow the authorization of carbon capture and storage even through such use would normally constitute the “exclusive use and occupancy” of Forest Service lands. The Forest Service has offered the following proposed revision to its initial screening criteria in § 251.54(e)(1):

(iv) The proposed use will not create an exclusive or perpetual right of use or occupancy, provided that the Forest Service may authorize exclusive and perpetual use and occupancy for carbon capture and storage in subsurface pore spaces.⁷⁷

The Forest Service has also proposed to amend its definitions in 36 C.F.R. § 251.51 by defining “Carbon capture and storage” as “the capture, transportation, injection, and storage of carbon dioxide in subsurface pore spaces in such manner as to qualify the carbon dioxide stream for the exclusion from classification as a “hazardous waste” pursuant to EPA regulations at 40 CFR 261.4(h).”⁷⁸

A second initial screening criterion that may be a potential obstacle for sequestering CO₂ on the Forest Service lands is the requirement that “[t]he proposed use does not involve disposal of *solid waste* or disposal of radioactive or *other hazardous substances*.”⁷⁹ When promulgating this screening restriction, the Forest Service explained that “these prohibitions on solid waste or hazardous material disposal respond to the liability risks to the federal government associated with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act.”⁸⁰

The EPA has conditionally excluded certain CO₂ streams injected into Class VI wells from the definition of “hazardous waste” under the Resource Conservation and Recovery Act (RCRA).⁸¹ However, the EPA still generally classifies CO₂ streams injected into Class VI wells as “solid waste” under RCRA.⁸² RCRA defines “solid waste” as “any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations.”⁸³ Given the EPA’s authority over RCRA and the purpose for which the regulation was promulgated it seems likely that the Forest Ser-

⁷⁷ 88 Fed. Reg. 75,530, 75,532 (proposed revision emphasized).

⁷⁸ *Id.*

⁷⁹ 36 C.F.R. § 251.54(e)(1)(ix) (emphasis added).

⁸⁰ 57 Fed. Reg. 36,618.

⁸¹ 40 C.F.R. § 261.4(h). In order to qualify for the exclusion, CO₂ streams must be (1) transported in compliance with applicable Department of Transportation requirements, (2) injected in compliance with the applicable requirements for UIC Class VI wells, (3) may not be mixed with or otherwise co-injected with other hazardous wastes, and (4) the generators and UIC Class VI well owners or operators must sign a certification statement that the conditions of the exclusion were met. *Id.*

⁸² 79 Fed. Reg. 350. While this determination was challenged, the U.S. Court of Appeals for the D.C. Circuit ultimately dismissed the petitions for review due to lack of standing. *Carbon Sequestration Council & S. Co. Servs. v. EPA*, 787 F.3d 1129, 1142 (D.C. Cir. 2015).

⁸³ 42 U.S.C. § 6903(27) (emphasis added).

vice would similarly classify CO₂ as “solid waste” under its own special use regulations.⁸⁴

In its recently issued proposed rule, the Forest Service has not proposed to amend its initial screening criteria to address the prohibition on the disposal of solid waste on Forest Service lands. In their public comment letters on the proposed rule, several commenters suggested that the Service make this additional revision to its special use regulations.

b. Second Level Screening

If a special use proposal satisfies all nine of the initial screening criteria, the Forest Service must conduct a second level of screening in which the agency “shall reject any proposal, including a proposal for commercial group uses, if, upon further consideration, the officer determines that:

- (i) The proposed use would be inconsistent or incompatible with the purposes for which the lands are managed, or with other uses; or
- (ii) The proposed use would not be in the public interest; or
- (iii) The proponent is not qualified; or
- (iv) The proponent does not or cannot demonstrate technical or economic feasibility of the proposed use or the financial or technical capability to undertake the use and to fully comply with the terms and conditions of the authorization; or
- (v) There is no person or entity authorized to sign a special use authorization and/or there is no person or entity willing to accept responsibility for adherence to the terms and conditions of the authorization.⁸⁵

Any proposed use that cannot meet these second-level screening criteria will be rejected and therefore “does not require environmental analysis and documentation.”⁸⁶ If all the second-level screening criteria are met, the Forest Service shall notify the proponent that the Agency is prepared to accept a written formal application for further evaluation.⁸⁷

C. Acceptance of Special Uses Application

Once the proposed use passes initial and second-level screening, the Forest Service will accept a formal application and conduct its evaluation of the proposal, including an environmental review pursuant to the NEPA.⁸⁸ The Forest Service is authorized to request additional information as necessary from the applicant to obtain a full description of the proposed use and its effect.⁸⁹

The Forest Service is required to provide the public and other government agencies with adequate notice and an opportunity to comment on special use requests.⁹⁰ Based on evaluation of the information provided by the applicant

⁸⁴ See 36 C.F.R. § 251.54(e)(1)(ix).

⁸⁵ *Id.* § 251.54(e)(5).

⁸⁶ *Id.* § 251.54(e)(6).

⁸⁷ *Id.* § 251.54(g)(1).

⁸⁸ *Id.* § 251.54(g)(2).

⁸⁹ *Id.*

⁹⁰ *Id.* § 251.54(g)(2)(ii).

and other relevant information such as environmental findings, the authorized officer shall make a final decision on whether to approve, deny, or approve with modifications the proposed use.⁹¹

D. Valuation

1. BLM

The BLM's regulations do not contain a valuation or compensation structure for the geologic sequestration of CO₂ in federal pore space. Instead, IM 2022-041 advises the BLM to "determine an appropriate charge in consultation with the Appraisal and Valuation Services Office (AVSO) for injecting actual amounts of CO₂ for sequestration into federal pore space and use and occupancy of the pore space, as appropriate, on a per unit basis."⁹² Given the lack of regulatory guidance, the BLM may develop a "per unit" injection fee on a project-by-project basis.

Under existing regulations, each ROW grantee "must pay in advance a rent BLM establishes on sound business management principles and, as far as practical and feasible, using comparable commercial practices."⁹³ IM 2022-041 indicates that the BLM will use "an appraisal, market study, or appropriate schedule" to determine the appropriate rental rate for the permanent storage of sequestered CO₂.⁹⁴ The BLM is permitted to collect an estimated rental payment before it issues a ROW grant and set the actual rent once it has completed its valuation assessment.⁹⁵ Once BLM sets the final rent for the ROW, the grantee is liable for any underpayment and will receive a credit for any overpayment.⁹⁶ As with the per-unit injection fee, the BLM will coordinate with the AVSO to complete the appropriate appraisals or valuations to determine the appropriate rent for CCS projects.

2. Forest Service

Forest Service regulations require an applicant to pay "an annual rental fee as determined by the authorized officer" before a special use authorization is issued.⁹⁷ This annual rental must be based on "the fair market value of the rights and privileges authorized, as determined by appraisal or other sound business management principles."⁹⁸ "Sound business management principles" is defined as "accepted industry practices or methods or establishing fees and charges that are used or applied by the Forest Service to help establish the appropriate charge for a special use. Examples of such practices include, but are not limited to, appraisals, fee schedules, competitive bidding, negotiation

⁹¹ *Id.* § 251.54(g)(4).

⁹² IM 2022-043.

⁹³ 43 C.F.R. § 2806.10(a).

⁹⁴ IM 2022-043.

⁹⁵ 43 C.F.R. § 2806.16; IM 2022-043.

⁹⁶ *Id.*

⁹⁷ 36 C.F.R. § 251.57(a).

⁹⁸ *Id.* § 251.57(b).

of fees, and application of other economic factors, such as cost efficiency, supply and demand, and administrative costs.”⁹⁹

The Forest Service’s Special Uses Handbook suggests several methods for determining fair market value for special use authorizations, including appraisal, rental comparison (where there is a clearly established rental market for similar uses), and direct sales comparison (if market rental data is unavailable, insufficient, or inadequate).¹⁰⁰ The Service and applicants of special use authorizations are directed to a different section of the Forest Service’s Handbook for guidance on preparing appraisals and assessing rental comparisons.¹⁰¹

III. MANAGEMENT PLAN CONFORMANCE AND NEPA COMPLIANCE

A. BLM

Under FLPMA, the BLM is required to prepare and manage public lands through land use plans, known as resource management plans (RMPs).¹⁰² When reviewing a ROW application, the BLM will need to determine whether the proposed land use (geologic sequestration of CO₂) conforms to the current RMP(s) covering the applicable lands.¹⁰³ If the proposed action is not in conformance with the current RMP(s) (and warrants further consideration before a plan revision is scheduled), the BLM may amend the RMP subject to specific regulatory procedures.¹⁰⁴ Plan amendments are subject to the public participation and notice requirements in Section 1610.2 as well as coordination with other federal agencies, state and local governments, and Indian tribes.¹⁰⁵ The RMP amendment process may be done concurrently with the BLM’s review of a lease application pursuant to FLPMA Title V.

In order to authorize a federal lease for geologic sequestration, the BLM will also need to comply with the requirements of NEPA.¹⁰⁶ NEPA is a procedural statute that “prescribes the necessary process” by which federal agencies must “take a ‘hard look’ at the environmental consequences of the proposed courses of action.”¹⁰⁷ NEPA is triggered by a proposal for federal major action, including a specific project approval, and requires an assessment of the environmental impacts of an agency’s proposed action.¹⁰⁸

Depending on the impact of the federal action, an agency will either prepare an environmental assessment (EA) or a more comprehensive environmental impact statement (EIS) for actions with a significant environmental

⁹⁹ 35 C.F.R. § 251.51 (definition of “sound business management principles”).

¹⁰⁰ USFS Special Uses Handbook, *supra* note 55, at ch. 30, § 31.1.

¹⁰¹ FSH 5409.12, ch. 50.

¹⁰² 43 U.S.C. §§ 1712, 1732; 43 C.F.R. subpt. 1610.

¹⁰³ 43 C.F.R. § 1610.5-3.

¹⁰⁴ *See id.* § 1610.5-5.

¹⁰⁵ *Id.*

¹⁰⁶ 42 U.S.C. §§ 4321 et seq.

¹⁰⁷ *Utahns v. U.S. Dep’t of Transp.*, 305 F.3d 1152, 1162–63 (10th Cir. 2002).

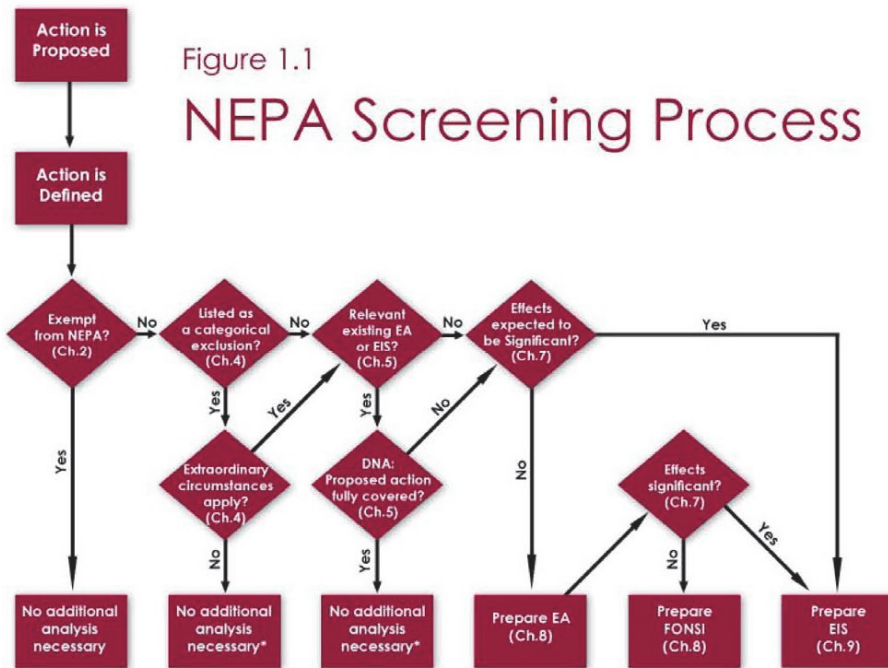
¹⁰⁸ *See* 40 C.F.R. §§ 1501.1, 1508.1(q) (defining major federal action).

effect. The preparation of an EIS is a substantial undertaking, which also provides an opportunity for public participation and interagency cooperation. An EIS is initiated with a scoping process and publication of a notice of intent.¹⁰⁹

Preparation of an EIS is a two-step process, with a draft EIS made available for public comment followed by a final EIS addressing issues raised by the comments.¹¹⁰ An EIS must be supplemented when the agency makes substantial changes to the proposed action or where significant new circumstances or information relevant to environmental concerns arise.¹¹¹

The BLM’s NEPA Handbook offers the following decision matrix to assist the agency (and project applicants) in determining the proper level of NEPA compliance for a proposed action:¹¹²

Figure 1.1 NEPA Screening Process



* See Chapters 4 and 5 for documentation requirements.

An amendment to the RMP is made following the BLM’s compliance with NEPA, including the preparation of an EA, or if necessary, an EIS.¹¹³ The BLM may use the same NEPA analysis to review the effects of the proposed pore space lease and the proposed RMP amendment.¹¹⁴

¹⁰⁹ *Id.* § 1501.9.

¹¹⁰ *Id.* § 1502.9.

¹¹¹ *Id.*

¹¹² BLM Handbook 1790-1 § 1 Fig. 1.1.

¹¹³ 43 C.F.R. § 1610.5-5.

¹¹⁴ *Id.*

B. Forest Service

The National Forest Management Act establishes a two-step procedure for managing National Forest System lands. First, the United States Forest Service must develop, maintain, and, as appropriate, revise land and resource management plans that provide a framework for how and where certain activities can occur in national forests.¹¹⁵ Second, the Forest Service must ensure that all authorizations for the use and occupancy of National Forest System lands are consistent with the land and resource management plans.¹¹⁶ A land management plan may be amended at any time.¹¹⁷

Once it receives an application for a special use authorization, the Forest Service will determine whether the proposed land use (geologic sequestration of CO₂) conforms to the current land and resource management plan covering the applicable lands.¹¹⁸ If the proposed action is not in conformance with the current land and resource management plan, the Forest Service may amend the plan.¹¹⁹ When a plan amendment is made together with, and only applies to, a project decision, the analysis prepared for the project may serve as the documentation for the preliminary identification of the need to change the plan.¹²⁰

Amendments are subject to the public participation requirements in 36 C.F.R. § 219.4 and the notice requirements in § 219.16.¹²¹ An amendment to the land management plan is made consistent with the Forest Service NEPA procedures, including the preparation of an EA, or if necessary, an EIS.¹²² The land use planning process used by the Forest Service is modeled after the BLM planning process and is generally very similar.

Once a special use proposal satisfies the Forest Service's second-level screening and the Service formally accepts a written special use application, the authorized officer evaluates "the proposed use for the requested site, including the effects on the environment."¹²³ It is at this stage that an application is considered a "proposed action" for purposes of the Forest Service's formal NEPA review.¹²⁴ The Forest Service must then conduct an environmental analysis "pursuant to NEPA to determine the effect the proposed use may have on the natural and human environment."¹²⁵

¹¹⁵ 16 U.S.C. § 1604(a).

¹¹⁶ *Id.* § 1604(i).

¹¹⁷ 36 C.F.R. § 219.13(a).

¹¹⁸ *Id.* § 251.54(e)(1)(ii).

¹¹⁹ *Id.* § 219.15(c).

¹²⁰ *Id.* § 219.13(b)(1).

¹²¹ *Id.* § 219.13(b)(2).

¹²² *Id.* § 219.13(b)(3).

¹²³ *Id.* § 251.54(g)(2)(i).

¹²⁴ USFS Special Uses Handbook, *supra* note 55, at ch. 10, § 12.5

¹²⁵ *Id.* at ch. 10, § 12.52-1.

IV. USE OF TRIBAL LAND FOR CCS

The law and policy regarding geologic CCS is still evolving with respect to activities taking place, or that have yet to take place, in Indian Country.¹²⁶ There are, however, existing models for the regulation and administration of natural resource projects on tribal lands that developers of CCS projects will likely encounter. Congress has given different administrative agencies within the federal government, whether operating through the Secretary of the Interior, the Bureau of Indian Affairs (BIA), the BLM, the EPA, or other federal agencies, primary regulatory authority for activities occurring on Indian lands, unless Congress has delegated its power to a tribe (or on the rare occasion to a state) or acknowledged a tribe's inherent authority to regulate its internal affairs. The Commerce Clause of the U.S. Constitution reserves to Congress the exclusive power "to regulate commerce . . . with the Indian Tribes"¹²⁷ and, as federal Indian law has developed through U.S. history, the Commerce Clause has been the foundational basis for the federal government's exercise of plenary power over Indian affairs, whether or not certain matters are strictly related to commerce.¹²⁸ The federal government's exercise of its plenary power over tribal affairs has developed through legislation and judicial opinion over many decades, and developers of CCS projects that take place on or near Indian lands should be aware of the federal agencies, existing regulations, and tribal roles they are likely to encounter.

A. *Historical Background – The Federal Government and Indian Country*

Developers of natural resources who find that their project impacts the interests of an Indian tribe or the geographical territories of an Indian tribe will encounter legal concepts that pre-date the European colonial presence in America and which have evolved since the Nation's founding. Federal Indian Law,¹²⁹ as the term is used by practitioners, is rooted in principles of international law, treaties with Indian tribes, federal statutes and regulations, execu-

¹²⁶ The term "Indian Country" is defined in 18 U.S.C. § 1151 as (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including ROWs running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including ROWs running through the same. Several federal statutes incorporate this definition by specific reference, but the term is often used more broadly in other contexts. The term "Indian" is used herein to be consistent with the field of law, though the terms "Native American" and "Indigenous" are also used and may be preferable.

¹²⁷ U.S. CONST. art. I, § 2, cl. 3 (the "Commerce Clause").

¹²⁸ See COHEN'S HANDBOOK OF FEDERAL INDIAN LAW, foreword *What is Federal Indian Law?* (Nell Jessup Newton et al. eds., 2012) [hereinafter COHEN]; see also *Cotton Petroleum Corp. v. New Mexico*, 490 U.S. 163, 192 (1989).

¹²⁹ "Federal Indian Law" or "Indian Law" refers to the body of federal law governing the authority of Indian tribal nations in the U.S. Federal Indian Law is the mechanism for mediating the resulting intergovernmental relationships among the Indian Nations, the United States, and States of the Union. See COHEN, *supra* note 128, at foreword.

tive orders, and judicial opinions.¹³⁰ While CCS project developers should be aware of the interplay with state law and the application of tribal law on Indian lands, federal law is the predominant source of authority. A brief review of the historical background of the federal government in Indian Country explains why this is the case.

The regulatory framework for the development of natural resources in Indian Country has been shaped by the evolving eras of federal policy with respect to Indian peoples and their lands. The eras of Indian policy in the U.S. are often divided as follows:¹³¹

- (i) Pre-Constitutional/Colonial to Early 1800s;
- (ii) Removal/Establishment of Reservations (1820s to 1880s);
- (iii) Allotments and Attempted Assimilation (1880s to 1934);
- (iv) Reorganization (1934 to 1950s);
- (v) Termination and Relocation (1950s to 1960s);
- (vi) Self-Determination Era (1968 to the Present)

While policy is continually developing,¹³² each of these eras provided foundational concepts that underpin the present-day regulatory framework.

1. Pre-Constitutional/Colonial to Early 1800s

Early European policies and practices on colonization were derived from various Christian doctrines on natural law; in particular, the justification of the use of force against non-Christian peoples.¹³³ Humanist philosophy led by scholars in the 1500s departed from this early rationale for the treatment of aboriginal people in the Americas. Spanish law, in particular, during its conquests in the Americas, provided legal concepts, traces of which are still found in Indian law tenets today. For example, those themes are found in the principle that the consent of Indian tribes was required before Europeans could legally acquire Indian lands; the rejection of the idea that Indians had no rights of ownership because they were non-Christians; the concept that “discovery” of Indian lands alone did not confer title on the Spanish; and the idea that acquisition of Indian lands was a governmental matter not to be left to individual colonists.¹³⁴ While these principles were a significant departure from early philosophy, colonizing powers found other justifications by which Europeans might assert political authority over Indigenous people, such as the idea that Europe-

¹³⁰ *Id.*

¹³¹ See WILLIAM C. CANBY, JR., *AMERICAN INDIAN LAW IN A NUTSHELL* 15–37 (7th ed. 2020).

¹³² COHEN, *supra* note 128, § 1.02 at 8. (“Despite the appealing tidiness of this six-era analysis, there never has been a single, clearly articulated American Indian policy at any given time. Shifting Indian policies mirrored the current felt needs of all participants, particularly the most outspoken non-Indians’ definition of the “Indian problem.”)

¹³³ See COHEN, *supra* note 128, § 1.02 (discussing the papal right declared in the thirteenth century by Pope Innocent IV).

¹³⁴ *Id.* § 1.02 at 9 (citing Franciscus de Victoria, *DE INDIS ET DE IURE BELLI RELECTIONES* 127–28 (Ernest Nys ed., J. Bate trans., Carnegie Institution 1917) (1557)).

an colonization could prevent tyranny by non-Christian oppressors against Christian Indigenous people, or project the interests of Indigenous people when they could not protect their interests themselves.¹³⁵ These principles are early examples of a reservation of authority to a single governmental power over interaction with Indigenous peoples.

English colonists justified the claim to title of lands in North America with a need to prevent encroachment by competing European countries.¹³⁶ English colonists were encouraged to make treaties with Indian people; however, the British Crown reserved ultimate authority over Indian relations.¹³⁷ After the American Revolution, initial constitutional proposals did not include any provisions for centralized authority over Indian affairs until, in 1787, when James Madison argued that a provision for federal authority over Indians was necessary to prevent encroachments on federal authority, noting instances in which states had entered into treaties and wars with Indian people.¹³⁸ Madison's proposals were ultimately included in what is now known as the Commerce Clause; Article I, Section 8 of the U.S. Constitution.¹³⁹ With the federal government established as having plenary power over the regulation of commerce with Indian tribes, the negotiation of treaties with Indian tribes concluded and the U.S. approach to Indian affairs focused on the interpretation and enforcement of existing treaties.¹⁴⁰ Congress subsequently passed a series of trade acts, known as the Non-Intercourse Acts, which further consolidated federal authority over Indian affairs; separated Indians and non-Indians for purposes of land acquisition and use; and subjected interactions between the two groups to federal control.¹⁴¹

2. Removal/Establishment of Reservations (1820s to 1880s)

As conflict became common between Indian and non-Indian populations, and demand by non-Indians for more land grew, the idea that "removal" of Indians to territories beyond the Mississippi gained popularity.¹⁴² With an increasing desire by non-Indians and states to extinguish tribal title to land in the background, a series of Supreme Court cases known as the Marshall Trilogy formulated legal doctrines that lasted into the 20th century.¹⁴³ The Supreme

¹³⁵ *Id.* § 1.02 at 10–12.

¹³⁶ See *Worcester v. Georgia*, 31 U.S. 515, 544 (1832).

¹³⁷ See COHEN, *supra* note 128, § 1.03; see also Robert N. Clinton, *The Dormant Indian Commerce Clause*, 27 CONN. L. REV. 1055, 1066–69 (1995).

¹³⁸ See COHEN, *supra* note 128, § 1.03 at 23 (citing the records of the Federal Convention of 1787, at 316 (Max Farrand, ed., Yale Univ. Press 1911) (June 11, 1787)).

¹³⁹ *Id.*

¹⁴⁰ Although canons of construction favorable to Indian tribes developed during the period of treaty making under which treaties "must be construed as tribes understood them and ambiguities must be construed in favor of Indians," the federal government has not always been able or willing to prevent states and individual non-Indians from violating Indian treaty rights. See COHEN, *supra* note 128, § 1.03 at 24.

¹⁴¹ CANBY, *supra* note 131, at 15.

¹⁴² See COHEN, *supra* note 128, § 1.03[4][a].

¹⁴³ So named for Chief Justice John Marshall.

Court held in *Johnson v. M'Intosh* that the federal government has the exclusive right to negotiate the transfer of land away from Indian tribes and espoused the idea that tribes did not own their land but instead had a right of occupancy.¹⁴⁴ In *Cherokee Nation v. Georgia*, the Supreme Court held that the Cherokee Nation did not have standing to sue the federal government because it was not a sovereign nation and was, instead, a "domestic dependent nation," with the relationship of the federal government to an Indian tribe as that of a "guardian to its ward."¹⁴⁵ This case gave rise to what is known as the Trust Relationship between the federal government and Indian tribes, the nature of which has been inspected through decades of judicial opinion.¹⁴⁶ In the case of *Worcester v. Georgia*, the Supreme Court held that state laws have no force in Indian lands because the U.S. Constitution gives Congress the exclusive authority to regulate Indian affairs.¹⁴⁷ Although these decisions, particularly *Worcester*, did not promote complete dispossession of Indians from Indian lands, they formed the foundation for relocation policies that were "voluntary in name but coercive in fact."¹⁴⁸ With the relocation of Indian populations west of the Mississippi, the federal government restricted tribes to specifically defined reservations of land, held in trust for the benefit of the tribes, and statutorily determined in 1871 that no tribe would thereafter be recognized as an independent nation with which the United States could make treaties.¹⁴⁹ This era ended the period of treaty-making in which tribes were previously regarded as sovereigns.

3. Allotment and Attempted Assimilation (1880s to 1934)

The practice of relocating Indian tribes to reservations was disastrous for Indian people, leading to widespread poverty and hardship, and was frustrating to non-Indian settlers who wanted access to unavailable reservation land.¹⁵⁰ These developments led to the passage of the General Allotment Act, also known as the Dawes Act.¹⁵¹ The General Allotment Act authorized special agents, appointed by the President, to grant 160 acres of Indian reservation land to each head of an Indian family, and 80 acres to other Indian individuals, with such land to be owned by the United States in trust for 25 years, after which the land would be conveyed to the Indian allottee in fee, free of encumbrances, ending the government's trust responsibility with respect to the land conveyed.¹⁵² Proponents of this approach believed that individual Indians would prosper with such a grant of land, would learn farming and husbandry, and would eventually assimilate into mainstream American culture, with tribes

¹⁴⁴ 21 U.S. 543 (1832).

¹⁴⁵ 30 U.S. 1 (1831).

¹⁴⁶ See generally MATTHEW L.M. FLETCHER, PRINCIPLES OF FEDERAL INDIAN LAW § 5.2 (2017).

¹⁴⁷ 31 U.S. 515 (1832).

¹⁴⁸ CANBY, *supra* note 131, at 21.

¹⁴⁹ 25 U.S.C. § 71.

¹⁵⁰ See COHEN, *supra* note 128, § 1.06[a], [b].

¹⁵¹ 24 Stat. 388.

¹⁵² *Id.* at 389.

as governing or organizational entities eventually dissolving.¹⁵³ The General Allotment Act provided that allottees, upon receiving their allotment, and any Indian who has “voluntarily taken up . . . his residence separate and apart from any tribe of Indians therein, and has adopted the habits of civilized life” became United States citizens.¹⁵⁴ The Act further authorized the Secretary of the Interior to negotiate with the tribes “for the purchase and release by said tribe, in conformity with the treaty or statute under which such reservation is held, such portions of its reservation not allotted as such tribe shall, from time to time, consent to sell” and that all land suited to agriculture so released by the tribes would be held by the United States for disposition to settlers in tracts of up to 160 acres per person.¹⁵⁵ After the 25 year trust period, many allottees found themselves subject to state taxation and forced sale of allotted lands for non-payment, or, if empowered to sell the unencumbered land, having negotiated sale of the land to non-Indian purchasers, frequently on disadvantageous terms.¹⁵⁶ As a result of the General Allotment Act, the total amount of Indian-held land decreased from 138 million acres in 1887 to 48 million acres in 1934 with the original goals of the Act unaccomplished.¹⁵⁷ Near the end of this period, Congress passed the Citizenship Act of 1924, automatically making all Indians born within U.S. territory American citizens if they had not become citizens through the allotment process.¹⁵⁸ The passing of Indian lands out of trust during this period is one of the main reasons why fee lands are often adjacent to trust lands within the exterior boundaries of an Indian reservation in “checkerboard” patterns seen on present day maps of tribal land.

4. Reorganization (1934 to 1950s)

Assimilation policies gave way to a period of relative tolerance, respect for traditional Indian culture, legislative protections for Indian rights, and a halt to Indian land loss.¹⁵⁹ Indian advocates spoke out against allotment and assimilation policies and argued against proposals to further reduce Indian lands.¹⁶⁰ One of the most influential studies, titled “The Problem of Indian Administration” and known more commonly as the Merriam Report, made public the harsh living conditions of Indian people and promoted an Indian policy that would protect rather than eliminate Indian tribes.¹⁶¹ After his election in 1932, Franklin Roosevelt appointed John Collier, an advocate of Indian rights, as the Commissioner of Indian Affairs. The Administration advanced the trends promoted by the Merriam Report and ended the practice of issuing fee patents to

¹⁵³ CANBY, *supra* note 131, at 24–25.

¹⁵⁴ 24 Stat. 388, 390.

¹⁵⁵ *Id.*

¹⁵⁶ CANBY, *supra* note 131, at 26.

¹⁵⁷ *Id.*

¹⁵⁸ 43 Stat. 253.

¹⁵⁹ See generally COHEN, *supra* note 128, § 1.05.

¹⁶⁰ *Id.*

¹⁶¹ THE INSTITUTE FOR GOVERNMENT RESEARCH, THE PROBLEM OF INDIAN ADMINISTRATION (Lewis Merriam ed., Johns Hopkins Press 1928).

Indian lands, permanently ending the allotment process.¹⁶² Under the Indian Reorganization Act of 1934 (IRA), Indian tribes could organize and adopt constitutions for self-government, subject to the approval of the Secretary of the Interior, and could receive from the Secretary of the Interior a charter of incorporation, subject to ratification by a majority of tribal members.¹⁶³ Section 16 of the IRA authorizes the adoption of tribal constitutions and authorizes such constitutions to vest in the tribe or its tribal council the right to prevent the sale, disposition, lease, or encumbrance of tribal lands, interests in lands, or other tribal assets without the consent of the tribe; and to negotiate with the federal, state, and local governments.¹⁶⁴ Further, the IRA confirmed that each Indian tribe shall retain inherent sovereign power to adopt governing documents.¹⁶⁵

5. Termination and Relocation (1950s to 1960s)

In 1953, Congress adopted a policy of terminating the special relationship between the federal government and Indian tribes, making Indian people “within the territorial limits of the United States subject to the same laws and entitled to the same privileges and responsibilities as are applicable to other citizens of the United States” and ending their status as wards of the United States.¹⁶⁶ The status of several tribes, including the Klamath Tribes of Oregon and the Menominee Tribe of Wisconsin, was terminated and their lands were sold and converted to private ownership, subjecting them to state law.¹⁶⁷ In response to high unemployment, the BIA implemented a program of offering Indian individuals grants to relocate to metropolitan areas in search of work, often leading to continuing unemployment compounded by the trauma of being dislocated from ancestral homelands.¹⁶⁸ During this period, Congress adopted Public Law 83-280 (commonly referred to as Public Law 280), extending state civil and criminal jurisdiction to Indian lands in California, Nebraska, Minnesota, Oregon, and Wisconsin and others by statute or state constitutional amendment.¹⁶⁹ Although this led to the application of state law to Indian lands and people in several contexts, it did not sever the federal trust relationship. Public Law 280 withheld any grant to the states to tax Indian properties held in trust or to interfere with treaty rights and was later held not to have conferred general regulatory power within Indian Country.¹⁷⁰ The expense re-

¹⁶² COHEN, *supra* note 128, § 1.05 at 80.

¹⁶³ 25 U.S.C. §§ 5101 et seq. (2024) (formerly codified at 25 U.S.C. §§ 461 et seq. (1934)). Section 16 of the IRA authorized the adoption of constitutions and bylaws, Section 17 authorized the Secretary of the Interior to issue corporate charters, subject to ratification by a majority of tribal members—occasionally referred to as “Section 17 Corporations.”

¹⁶⁴ 25 U.S.C. § 5123(e).

¹⁶⁵ *Id.* § 5123(h).

¹⁶⁶ CONCURRENT RESOLUTION OF AUGUST 1, 1953, 67 Stat. B132 (1953); see generally CANBY, *supra* note 131, at ch. 2, Sec. G.

¹⁶⁷ See CANBY, *supra* note 131, at ch. 3, Sec. E.

¹⁶⁸ *Id.* at ch. 2, Sec. G.

¹⁶⁹ Pub. L. 83-280, 67 Stat. 588 (1953).

¹⁷⁰ *Bryan v. Itasca Cnty.*, 426 U.S. 373 (1976).

lated to enforcement responsibilities along with the lack of taxing power led to a reluctance on the part of many states to press for general jurisdiction, despite the policy goals of this time.¹⁷¹

6. Self-Determination Era (1968 to the Present)

In 1968 Congress enacted the Indian Civil Rights Act (ICRA), which imposed upon tribal governments restraints very similar to those imposed upon the federal government found in the Bill of Rights.¹⁷² The ICRA recognized the continued existence of tribal governments as opposed to anticipating their disappearances under the previous termination policies, and also contained an amendment to Public Law 280 ending the ability of states to assume civil and criminal jurisdiction over Indian land and people without tribal consent.¹⁷³ In 1970 President Nixon issued a statement on Indian affairs that provides guidelines for present-day Indian policy, which declared the policy of termination to have been a failure, reaffirmed the federal trust responsibility, and called for legislation permitting tribes to manage their affairs with a maximum degree of autonomy.¹⁷⁴ Under the new policy direction, Congress enacted several laws to aid Indian tribes in managing their own affairs, including the Indian Self-Determination and Education Assistance Act (Self-Determination Act).¹⁷⁵ The Self-Determination Act authorized the Secretary of Indian Affairs and the Secretary of Health, Education, and Welfare to enter into contracts under which tribes could assume responsibility, using federal funds, to carry out the administration of federal Indian programs.¹⁷⁶ This period ended the assimilationist views of prior eras and reaffirmed the trust relationship between the federal government and tribes.¹⁷⁷

B. *Property Interests in Indian Country – The On-Reservation Checkerboard*

As a result of the historical eras described above, much of Indian Country comprises land owned in trust by the U.S. government—approximately 56 million acres—for the benefit of various tribes and Indian individuals.¹⁷⁸ In addition to land owned in trust by the United States government for the benefit of the tribe, there may be allotted trust land, assigned trust land, fee land, or other designations. With respect to on-reservation Indian lands, this “checkerboard” pattern of ownership leads to complex jurisdictional issues for the use of natural resources.

¹⁷¹ See CANBY, *supra* note 131, at ch. 2, Sec. G.

¹⁷² 25 U.S.C. §§ 1301–1305.

¹⁷³ *Id.* §§ 1321–1322, 1326.

¹⁷⁴ President Richard M. Nixon Special Message to Congress on Indian Affairs (July 8, 1970), 116 Cong. Rec. 23258.

¹⁷⁵ 25 U.S.C. §§ 450 et seq.

¹⁷⁶ *Id.* § 5321(a)(1).

¹⁷⁷ See CANBY, *supra* note 131, at ch. 2, Sec. H.

¹⁷⁸ *Native American Ownership and Governance of Natural Resources*, U.S. DEP’T OF INTERIOR, OFFICE OF NAT. RES. REVENUE (Feb. 10, 2024), <https://revenue.data.doi.gov/how-revenue-works/native-american-ownership-governance/>.

1. Trust Land

Indian lands reserved for the use of Indian tribes is held in trust by the federal government and beneficial title is vested with the tribe, held in common for the benefit of all living members of the tribe.¹⁷⁹ The nature of the trust relationship and whether the courts are willing to enforce certain fiduciary duties has changed over time with case law providing ever-changing interpretations of the meaning of the trust relationship.¹⁸⁰ As the trustee of Indian lands, the federal government carries out its trust obligation through its various agencies and officials, as discussed generally in this Section IV. Most often, the federal government carries out its trust responsibilities through the BIA, housed within the Department of the Interior, which is responsible for managing trust resources, including mineral resources of the tribe.¹⁸¹ Projects that cross tribal trust land may require consultation with or approval from tribal governments, and the BIA will play a critical role in approving leases, ROWs, and other transactions, as discussed herein.

2. Allotted Trust Land

The General Allotment Act conveyed portions of Indian land to individual Indians, subject to certain described restrictions on encumbrance and alienation generally lasting 25 years.¹⁸² The IRA ended the practice of allotment and extended the trust period indefinitely (until Congress provided otherwise) for allotments that had not converted to fee land at the time of enactment.¹⁸³ In this way, allotted lands within Indian reservations today are held in trust for the benefit of the allottee (or in “restricted status”) and transactions encumbering those lands require the approval of the BIA in the manner set forth for trust lands.

3. Assignments of Trust Land

Tribal governments may choose to assign portions of tribal trust land to individual tribal members as a temporary possessory interest or use privilege; however, the BIA does not recognize assignments as individual trust interests that can be conveyed or as encumbrances on tribal trust land; the assignee only has the privileges that the tribe allows through the particular terms of assignment¹⁸⁴ The BIA does not approve assignments of tribal land and assignments are not treated as title documents. Nevertheless, project developers

¹⁷⁹ *Pawnee v. United States*, 830 F.2d 187, 190–91 (Fed. Cir. 1987).

¹⁸⁰ *United States v. Kagama*, 118 U.S. 375, 384–85 (1886) (defining certain crimes committed in Indian Country as federal crimes and describing the federal government’s duty of protection over Indian tribes on the basis of the tribes’ broad dependence on the federal government for their rights; receiving no protection from the states and owing the states no allegiance).

¹⁸¹ See 25 C.F.R. Parts 162, 169, 200, 211, 212, 225 (2024).

¹⁸² 24 Stat. 388, 389 (1887).

¹⁸³ 25 U.S.C. §§ 461–465.

¹⁸⁴ DEP’T OF THE INTERIOR BUREAU OF INDIAN AFFAIRS, INDIAN AFFAIRS MANUAL, Ch. 10 Part 51, §§ 1.1, 1.3 (2008).

may encounter tribal trust land that is the subject of an assignment to an individual tribal member, and the BIA and the tribe may take this into account when reviewing and considering approval of any transaction involving assigned land.

4. Fee Land

The General Allotment Act conveyed portions of Indian land to individual Indians, subject to certain described restrictions generally lasting 25 years, after which period the trust relationship concluded and the land became freely alienable fee land leading to the presence of parcels held in fee within the boundaries of an Indian reservation.¹⁸⁵ Additionally, the passage of the Burke Act in 1906 amended the General Allotment Act and allowed the Secretary of the Interior to issue fee patents to Indian allottees designated as “competent and capable of managing his or her affairs” prior to the expiration of the 25-year period, with or without the consent of the Indian allottee,¹⁸⁶ and as a result, increased the amount of alienable fee land found within the boundaries of many Indian reservations. Following the completion of the allotment process, the remaining lands within a reservation were generally opened for non-Indian homesteading under the applicable general land laws addressing the patenting of public lands.

5. Split Estates

As a result of the various homestead patents issued by the federal government to non-Indian settlers, substantial portions of reservation lands involve split estates in which non-Indians may own the surface but a tribe is the beneficial owner of oil and gas, coal, or other minerals. In other situations, non-Indian mineral estates are adjacent to tribal mineral estates and the activities may impact tribal interests. Split estate ownership patterns have significant implications when considering surface and sub-surface development, whether in terms of jurisdictional issues or questions of ownership rights as discussed in further detail below.

C. Mineral Development and Surface Use on Indian Lands

An overview of the laws under which Indian tribes and private parties have developed mineral resources and in particular the laws under which they have managed surface uses and ROWs on Indian lands will provide CCS project developers with an introduction to the existing legal framework involved in the development of Indian lands. With respect to mineral development, Congress has exercised its power under the Commerce Clause by passing numerous laws allowing for the use and development of tribal lands. Early laws following the end of the treaty-making period rarely called for tribal involvement, but

¹⁸⁵ 24 Stat. 388, 389 (1887).

¹⁸⁶ 34 Stat. 182 (1906).

laws enacted after the passage of the IRA require tribal consent.¹⁸⁷ With respect to questions of surface use related to natural resource development, the Long-Term Leasing Act of 1955 will govern land use permits and surface leases across tribal land, and the General Right-of-Way Act of 1948 will apply to the installation of pipelines, roadways, power lines, and communication lines that may be needed in connection with CCS projects.

1. Indian Mineral Leasing Act of 1938

Congress passed the Indian Mineral Leasing Act (IMLA) in 1938, repealing prior inconsistent laws, and providing for the first time a uniform legal structure for the leasing of tribal lands for mineral development.¹⁸⁸ Consistent with goals of the IRA to strengthen the role of tribal governments, the IMLA required the consent of the tribe and the approval of the Secretary of the Interior for all leases of tribal land.¹⁸⁹ All leases issued under the act were given a term “not to exceed ten years” and as long thereafter as “minerals are produced in paying quantities.”¹⁹⁰ The IMLA provided for a competitive bidding process to be overseen by the Secretary of the Interior, for operations under approved leases to be subject to rules promulgated by the Secretary of the Interior, and the leases required the allowance of inspections by tribes as well as Department of the Interior representatives to inspect the leased premises.¹⁹¹ Although the IMLA provided consistency in the process of mineral leasing on tribal lands, IMLA form leases had no mechanism through which Indian tribes could share in the profits generated; advance rent payments could be deducted from royalties; and royalty mismanagement went largely unaddressed.¹⁹² Because an IMLA lease will remain active as long as minerals are produced in paying quantities, there are still active leases of tribal lands currently governed by the IMLA today. But because of the inflexibility of the lease terms, the inability of tribes to participate in development and management decisions, and the history of royalty mismanagement, many tribes discontinued leasing activities under this law.¹⁹³

2. Indian Mineral Development Act of 1982

In order to provide tribes with greater flexibility in developing tribal minerals than was possible under the IMLA and to maximize financial benefits to tribes, Congress passed the Indian Mineral Development Act of 1982

¹⁸⁷ See generally COHEN, *supra* note 128, §§ 17.01–17.04; see also Thomas H. Shippy & Lynn H. Slade, *Tribal Energy and Mineral Resource Development*, 2017 NO. 4 RMMLF-INST 7 (2017).

¹⁸⁸ 25 U.S.C. § 396(a)–(g); see also 25 C.F.R. § 211; see generally COHEN, *supra* note 128, § 17.03[2].

¹⁸⁹ 25 U.S.C. § 396(a).

¹⁹⁰ *Id.*

¹⁹¹ See 25 U.S.C. § 396(b), (d); 25 C.F.R. § 211.46.

¹⁹² See COHEN, *supra* note 128, § 17.03 [2][a].

¹⁹³ *Id.* (discussing the announcement by many tribes of a hiatus on mineral development in the 1970s through the 1990s based on growing dissatisfaction with IMLA leasing).

(IMDA).¹⁹⁴ The IMDA authorizes any Indian tribe, subject to secretarial approval, to enter into joint ventures, operating agreements, production sharing agreements, leases, managerial and service agreements, and other agreements, without prescribing any particular form of agreement.¹⁹⁵ Prior to the approval of a lease under the IMDA, the Secretary of the Interior is required to determine that the proposed agreement is in the best interests of the Indian tribe, considering the potential economic returns and environmental, social, and cultural effects on the tribe.¹⁹⁶ The Secretary is also directed to provide advice to tribes during the negotiation of minerals agreements, consulting with federal officials as needed or funding the use of independent assistance.¹⁹⁷ Under IMDA agreements, tribes have greater control over initial decision making with respect to mineral leasing and greater control of the development process. The increased involvement requires tribes to become sophisticated managers of the mineral development on their lands while still being able to rely on federal government to carry out its trust responsibilities and protect the tribe in the event a mineral agreement violates the terms of the IMDA.¹⁹⁸

3. Surface Leasing on Indian Lands

The Indian Long-Term Leasing Act of 1955 governs surface leasing of Indian lands.¹⁹⁹ The Long-Term Leasing Act authorizes the lease of tribal trust lands or individually-owned restricted land, for public, religious, educational, recreational, residential, and business purposes, including for the development or utilization of natural resources.²⁰⁰ The statute sets a general term for non-grazing leases of up to 25 years, but also authorizes leases of up to 99 years for lands within approximately 40 listed Indian reservations, with all leases being renewable in accordance with statutory provisions.²⁰¹ Almost all surface leases issued by tribes have required approval by the Secretary of the Interior, subject to certain exceptions: the Navajo Nation Trust Leasing Act of 2000 authorizes the Navajo Nation to issue surface leases without secretarial approval when issued pursuant to Navajo Nation leasing regulations approved by the Secretary of the Interior,²⁰² and the Helping Expedite Affordable and Responsible Tribal Home Ownership Act of 2012 (HEARTH Act) followed the Navajo Nation Trust Leasing Act model and authorizes other tribes to manage surface leasing under tribal laws when such laws are approved by the Secretary of the Interior.

¹⁹⁴ 25 U.S.C. §§ 2101–2108; see also *Quantum Exploration, Inc. v. Clark*, 780 F.2d 1457 (9th Cir. 1986) (holding a proposed joint venture agreement was unilaterally rescindable by tribe prior to approval by the Secretary of the Interior pursuant to the IMDA).

¹⁹⁵ 25 U.S.C. § 2102(a); 25 C.F.R. § 225.21(b).

¹⁹⁶ 25 U.S.C. § 2103(b).

¹⁹⁷ 25 C.F.R. § 225.3; see also *Quantum Exploration*, 780 F.2d at 1460–61.

¹⁹⁸ 25 U.S.C. § 2103(e).

¹⁹⁹ *Id.* § 415.

²⁰⁰ *Id.* § 415(a).

²⁰¹ *Id.*

²⁰² Pub. L. No. 106-568.

Secretarial and tribal approvals will generally both be required for third party surface leases of Indian lands unless the lease is to be granted pursuant to one of several laws eliminating the need for secretarial approval. Section 17 of the IRA authorizes the Secretary of the Interior to issue a corporate charter to tribes, ratified by a tribe's governing body, that gives the incorporated tribal body the authority to purchase and dispose of property, real and personal; provided, however, that no authority was granted to "sell, mortgage, or lease for a period exceeding twenty-five years any trust or restricted lands included in the limits of the reservation."²⁰³ While structured as a limitation, Section 17 of the IRA does provide the power for a Section 17 corporation to lease tribal trust lands to third parties without secretarial approval, subject to the limitation. The Navajo Nation Trust Leasing Act of 2000 authorizes the Navajo Nation to enter into surface leases without secretarial approval, subject to durational limits and certain recording requirements.²⁰⁴ In 2005, Congress passed the Indian Tribal Energy Development and Self-Determination Act (ITEDSA) authorizing tribes to enter into energy-related mineral leases and associated transactions without the approval of the Secretary of the Interior upon the execution of a Tribal Energy Resource Agreement (TERA) between the Secretary and a tribe, provided that the Secretary has determined the tribe has sufficient capacity to regulate the tribe's energy development.²⁰⁵ Under this act, a tribe may grant energy-related mineral leases with primary terms not to exceed ten years, and enter into energy-related business agreements with terms not to exceed thirty years, and issue ROWs for pipelines not to exceed thirty years, across tribal lands.²⁰⁶ However, due to the complexity of the TERA provisions and the unfunded cost of TERA administration, no tribe has entered into a TERA with the Secretary.²⁰⁷ The HEARTH Act of 2012 extended to other tribes the same option of surface leasing under tribal laws and procedures as set forth in the Navajo Nation Trust Leasing Act of 2000 (and like the Navajo Nation Trust Leasing Act, it does not apply to mineral leases or to allotted lands).²⁰⁸ Because participation under the HEARTH Act is optional, however, and the process of developing tribal leasing laws and obtaining secretarial approval of those laws is an imposing task, not every tribe encountered in the development of a CCS project will have obtained the authority to issue surface leases without secretarial approval.²⁰⁹

²⁰³ 25 U.S.C. § 5124.

²⁰⁴ *Id.* § 415(e).

²⁰⁵ *Id.* § 3504.

²⁰⁶ *Id.*

²⁰⁷ See Shippy & Slade, *supra* note 187, at 16.

²⁰⁸ 25 U.S.C. § 415(h).

²⁰⁹ U.S. Dep't of the Interior, Approved HEARTH Act Regulations, <https://www.bia.gov/service/HEARTH-Act/approved-regulations> (more than 100 tribes have received approval of business leasing codes, as opposed to residential or agricultural leasing codes, since the adoption of the HEARTH Act).

4. Rights-of-Way on Indian Lands

Obtaining ROWs for the installation of pipelines and other infrastructure is likely to be an important component of any CCS project. With respect to Indian trust lands, Congress passed a comprehensive ROW statute known as the General Right-of-Way Act of 1948.²¹⁰ The General Right-of-Way Act specifically preserved all existing statutory authority that empowered the Secretary of the Interior to grant ROWs over Indian lands, such as that found in the Federal Power Act.²¹¹ The General Right-of-Way Act clarified the question of whether tribal consent to ROWs would be required by providing that no grant of a ROW over and across any lands belonging to a tribe organized under the IRA shall be made without the consent of the proper tribal officials.²¹² The administrative procedures and requirements under which ROWs are granted by the BIA under the General Right-of-Way Act are set forth in 25 C.F.R. Part 169.

5. Energy Policy Act of 2005 and Carbon Sequestration

In addition to ITEDSA as discussed above, the Energy Policy Act of 2005 (for purposes of this section, the “Act”) provided comprehensive legislation related to energy production in the United States, including energy efficiency; renewable energy; oil, gas and coal development; nuclear matters, motor vehicle issues, hydrogen power, hydropower and geothermal energy, electricity, tax incentives, climate change technology and also addresses certain tribal energy matters.²¹³ With respect to carbon sequestration, the Act contains a directive for the Director of the Office of Indian Energy Policy and Programs to develop a program to support and implement research projects that provide Indian tribes with opportunities to participate in carbon sequestration practices on Indian land, including geologic sequestration.²¹⁴ The Act calls for research and other projects to be (i) carried out in coordination with those conducted by the Department of Energy; (ii) conducted to determine methods consistent with existing standardized measurement protocols to account and report the quantity of carbon dioxide or other greenhouse gases sequestered in projects that may be implemented on Indian land; and (iii) reviewed periodically to collect and distribute to Indian tribes information on carbon sequestration practices that will increase the sequestration of carbon without threatening the social and economic well-being of Indian tribes.²¹⁵ The Office of Indian Energy provides funding, technical assistance, and coordination support for sequestration projects involving Indian tribes, but, as of this writing, geologic sequestration projects have yet to get underway as part of the Act’s directives.²¹⁶

²¹⁰ 25 U.S.C. §§ 323–328.

²¹¹ *Id.* § 326.

²¹² *Id.* § 324.

²¹³ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594; see Pub. L. No. 109-58, §§ 501–506 (Title V – Indian Energy).

²¹⁴ 25 U.S.C. § 3502(b)(4)(A).

²¹⁵ *Id.* § 3502(b)(4)(B)(i).

²¹⁶ U.S. Dep’t of Energy, Office of Indian Energy, Tribal Energy Projects Database, <https://www.energy.gov/indianenergy/tribal-energy-projects-database>.

D. Applicability of State Law in Indian Country

As a general rule, state law is preempted by federal law in Indian Country and is generally not applicable to Indian affairs within the territory of an Indian tribe, absent the consent of Congress.²¹⁷ A tribe's inherent authority over its territory has been recognized by courts to extend to both members and non-members when conducting activities on Indian land or activities that affect tribal interests.²¹⁸ A tribe's power to regulate the activity of non-members on non-Indian land located within the boundaries of a reservation is, however, limited.²¹⁹ In *Montana v. United States*, the Supreme Court held that the Crow Tribe had no jurisdiction over the hunting and fishing activities of non-Indians on non-Indian fee land within the reservation because those activities posed no threat to a substantial tribal interest.²²⁰ The Supreme Court outlined a test to be applied in the evaluation of a tribe's assertion of regulatory authority over non-Indians on non-Indian fee lands, stating that a tribe may (1) regulate, through taxation, licensing, or other means the activities of non-members who enter into consensual relationships with the tribe or its members, through commercial dealing, contracts, leases or other arrangements; and (2) may exercise civil authority over the conduct of non-Indians on fee lands when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health and welfare of the tribe.²²¹ Subsequent case law has evaluated and refined the parameters of these "Montana exceptions," but the case and its test still provide a general framework for analyzing to a tribe's regulatory authority over non-members on fee lands.²²² With respect to state regulation of non-Indian activity on Indian lands, the general rule is found in the Supreme Court's decision in *Williams v. Lee*, holding that absent acts of Congress that would preempt the application of state law, state law may apply unless the application of state law will unlawfully infringe on the "right of reservation Indians to make their own laws and be ruled by them."²²³ Even if the application of state law passes the preemption and infringement tests of *Montana* and *Williams*, it will not automatically be held to apply; the absence of tribal law may also be a barrier to the application of state law in some circumstances.²²⁴

²¹⁷ See *Worcester v. Georgia*, 31 U.S. 515, 562–63 (1832); see also COHEN, *supra* note 128, § 6.01[2].

²¹⁸ See *United States v. Wheeler*, 435 U.S. 313, 323 (1978) (observing that Indian tribes "possess those aspects of sovereignty not withdrawn by treaty or statute, or by implication as a necessary result of their dependent status."); see also *Washington v. Confederated Tribes of the Colville Indian Reservation*, 447 U.S. 134 (1980) (affirming tribal power to tax non-Indians entering on the reservation to engage in economic activity).

²¹⁹ See COHEN, *supra* note 128, § 6.02[2][b].

²²⁰ 450 U.S. 544, 566–67 (1981).

²²¹ *Id.* at 565–66.

²²² See generally COHEN, *supra* note 128, § 6.02.

²²³ 358 U.S. 217, 220 (1959).

²²⁴ See *Three Affiliated Tribes of the Fort Berthold Reservation v. Wold Eng'g, P.C.*, 467 U.S. 138 (1984) (holding that a tribe's decision not to assert jurisdiction over suits against non-Indians and the tribe's desire to invoke state court jurisdiction weighed in favor of the application of state authority).

Because of the complexity of determining state and tribal jurisdiction over the varying combinations of Indian and non-Indian persons acting on trust lands or fee lands within Indian Country, states and tribes may decide to enter into cooperative agreements or compacts coordinating the exercise of authority, sharing resources and administrative duties, and these agreements have been upheld as valid when they do not alter jurisdiction and simply facilitate the exercise of power by each party.²²⁵

E. Pore Space Ownership on Indian Lands

Analysis of pore space ownership usually starts with a reference to the common-law maxim that owners of property in fee simple own the tract *ad coelum et ad inferos*—from the heavens to the depths—and based on this maxim such fee owners would likely be able to claim ownership of the subsurface pore space.²²⁶ The Supreme Court has, however, rejected the maxim, describing it as an ancient doctrine that has “no place in the modern world.”²²⁷ With respect to subsurface ownership, pore space rights have become a matter of state law focusing on whether the pore space belongs to the surface owner or the mineral owner. While the law of pore space ownership in several states has developed through judicial opinion, other states have addressed the question through legislation.²²⁸ These statutes mirror the growing body of state case law that suggests the use of geologic pore space is not associated with the mineral estate as the pore space represents the absence of minerals, and instead the pore space and rights to its use belong to the surface owner (known as the “American rule,” as opposed to English courts, which have reached opposite conclusion).²²⁹ As state law does not apply to on-reservation Indian lands, the question of pore space ownership requires analysis of federal law and the documents by which land and natural resources were conveyed and interests reserved.

The creation of split estates in much of the west, and on Indian lands in particular, often results from federal land disposition. For example, approximately 70 million acres of land was patented under the Stock-Raising Homestead Act of 1916 (SRHA), which reserved the ownership of coal and other minerals to the federal government.²³⁰ In *Watt v. Western Nuclear, Inc.*, the Su-

²²⁵ See, e.g., *State v. Manypenny*, 682 N.W.2d 143 (Minn. 2004); see generally COHEN, *supra* note 128, § 6.05.

²²⁶ See *Ad coelum doctrine*, BLACK'S LAW DICTIONARY (5th ed. 1982).

²²⁷ See *United States v. Causby*, 328 U.S. 256, 261 (1946) (rejecting the *ad coelum* doctrine with regard to airplane travel above property).

²²⁸ See Mont. Code Ann. § 82-11-180 (presumption of surface owner rights in the absence of deed language or severance documents stating otherwise); N.D. Cent. Code § 47-31-03 (vesting title to pore space in the owner of the overlying surface estate); 60 Okla. Stat. § 6 (pore space declared the property of the surface owner until title to the pore space or rights therein are separately transferred); Wyo. Stat. § 34-1-152(A) (vesting ownership of all pore space in all strata below the surface lands and waters of the state in “the several owners of the surface above the strata”).

²²⁹ See Mathew J. Lepore & Derek L. Turner, *Legislating Carbon Sequestration: Pore Space Ownership and Other Policy Considerations*, 40 COLO. LAW 61 (2011).

²³⁰ 43 U.S.C. § 299(a).

preme Court analyzed the nature of the SRHA's mineral reservation with particular attention paid to Congress's understanding that the surface of SRHA lands would be used for ranching and farming; that the mineral reservation of the SRHA is properly interpreted to include substances that are mineral in character and can be used for commercial purposes; and that there is no reason to suppose such substances, gravel in the case at issue, were intended to be included in the surface estate.²³¹ Although the case law is not settled, the *Western Nuclear* case has provided support for some analysts to conclude that the United States likely owns the pore space under land conveyed by patent through the SRHA because of the court's broad interpretation of the reservation in the SRHA.²³²

In a case involving tribal interests, the Supreme Court in *Amoco Production Co. v. Southern Ute Indian Tribe* was presented with a question of patents issued to western settlers pursuant to the Coal Lands Acts of 1909 and 1910, conveying the land and everything in it except the "coal," which was reserved to the United States.²³³ The patented lands included reservation lands previously owned beneficially by the Tribe deemed surplus and made available for homesteading by the United States following the allotment process; then, in 1938, the United States restored beneficial ownership to the Tribe, held in trust by the U.S. government, the undisposed reservation lands and interests still owned by the federal government, including the reserved coal estates in lands patented under the 1909 and 1910 Acts.²³⁴ The district court held that the plain meaning of the term "coal" in the 1909 and 1910 Acts is a solid rock substance that does not include CBM gas, but, in reversing, the U.S. Court of Appeals for the Tenth Circuit found the term ambiguous, and invoked the canon that ambiguities in land grants should be resolved in favor of the sovereign, concluding that the coal reservation did encompass the CBM gas.²³⁵ The Supreme Court, by contrast, did not find this particular canon of construction persuasive and focused its analysis not on current scientific knowledge, that CBM gas is a constituent of coal, but on whether Congress regarded it as such in 1909 and 1910, ultimately concluding that common understanding of coal at that time would not have encompassed CBM gas and reversing the Tenth Circuit decision.²³⁶ In contrast with *Western Nuclear's* broad interpretation of the

²³¹ 462 U.S. 36, 53 (1983) (Holding that gravel found on lands patented under the SRHA is a mineral reserved to the United States within the meaning of § 9 of the SRHA. The four-part test established by *Western Nuclear* holds that an SRHA mineral reservation includes "substances that are mineral in character . . . , that can be removed from the soil, that can be used for commercial purposes, and that there is no reason to suppose were intended to be included in the surface estate.").

²³² *Id.* at 59; see generally Kevin L. Doran & Angila Cifor, *Does the Federal Government Own the Pore Space Under Private Lands in the West? Implications of the Stock-Raising Homestead Act of 1916 for Geologic Storage of Carbon Dioxide*, ToJCL.Doran.doc (2012) <https://law.lclark.edu/live/files/11617-422doranpdf>.

²³³ 526 U.S. 865 (1999) (holding that the reservation of coal in patents issued under the Coal Lands Acts of 1909 and 1910 did not include methane gas embedded in coal).

²³⁴ *Id.*

²³⁵ *Southern Ute Indian Tribe v. Amoco Prod. Co.*, 151 F.3d 1251, 1266 (10th Cir. 1998).

²³⁶ *Amoco Prod. Co.*, 526 U.S. at 874.

reservation of rights to the U.S. Government under the SRHA, the *Amoco* decision supports the view that a reservation of trust minerals either does not reserve pore space ownership or does not serve as a complete bar to a surface owner's right to use pore space in lands patented under the Coal Lands Acts.

In a set of cases inspecting the rights of surface owners who obtained land through a land patent, the Tenth Circuit provided further guidance on how to evaluate the scope of a mineral reservation to the federal government held in trust for a tribe.²³⁷ In 1999 in *United States v. Hess (Hess I)*, the Tenth Circuit reviewed a ruling in which United States had obtained a quiet title decree to ownership of gravel located on land obtained by landowners through an exchange land patent issued pursuant to the IRA, reserving "all minerals" in trust for the Southern Ute Indian Tribe.²³⁸ In its evaluation, the appellate panel first examined the intent of Congress at the time the land patent was issued. Unlike the intent expressed in connection with the SRHA, to encourage settlement with a focus on encouraging the surface uses of farming and grazing, the court described the intent of Congress under the IRA as reflective of the shift from Indian land allotment and assimilation era to one of restoration of tribal ownership and, when issuing exchange patents to consolidate Indian lands, like the one in question, the court noted that the only other relevant condition imposed by Congress was a requirement that the exchanged lands be of "equal value."²³⁹ The court compared the congressional intent found in connection with the IRA to be similar to that when passing the Taylor Grazing Act of 1934—to issue exchange patents for land of equal value to achieve the purposes of the act—but noting that the Taylor Grazing Act specifically required that mineral values be considered when determining value (no such requirement being found in the SRHA or IRA).²⁴⁰ The court held that *Western Nuclear* could not be relied on when determining whether gravel is a "mineral," and noted the lack of congressional intent expressed in the IRA with respect to the valuation of minerals. Accordingly, at least in the context of these exchange patents involving lands on an Indian reservation, the court determined that the "content of federal law should be determined by incorporation of state law."²⁴¹

The opinion that state law should be applied to the question of whether gravel was reserved to the federal government under a federal land exchange patent was, perhaps, unexpected. The court quoted the U.S. Supreme Court's decision in *Wilson v. Omaha Indian Tribe* in which it explained that

controversies . . . governed by federal law do not inevitably require resort to uniform federal rules. . . . Whether to adopt state law or to fashion a nationwide federal rule is a matter of judicial policy "dependent upon a variety of considerations always relevant to the nature of the specific governmental interests and to the effects upon them of applying state law."²⁴²

²³⁷ *United States v. Hess*, 194 F.3d 1164 (10th Cir. 1999) [hereinafter *Hess I*]; *U.S. ex rel. S. Ute Indian Tribe v. Hess*, 348 F.3d 1237 (10th Cir. 2003) [hereinafter *Hess II*].

²³⁸ *Hess I*, 194 F.3d at 1166–67.

²³⁹ *Id.* at 1167.

²⁴⁰ *Id.* at 1171.

²⁴¹ *Id.* at 1173.

²⁴² *Id.* (quoting *Wilson v. Omaha Indian Tribe*, 442 U.S. 653, 671–72 (1999)).

In deciding *Hess I*, the court determined that state law could be applied when (1) there is no strong need for a nationally uniform body of law to apply in comparable situations, and (2) the application of state law would not frustrate federal purposes. The case was remanded to the district court for examination of Colorado law and evaluation of extrinsic evidence on the parties' intent and conditions at the time of the exchange.²⁴³ On remand, the district court again held for the United States and the Hess family appealed.²⁴⁴ The Tenth Circuit in *Hess II* found that the district court erred in its consideration and lack of application of Colorado law in deciding whether "all minerals" included gravel.²⁴⁵ In *Hess II*, the court explained that "the mere fact that the United States will not prevail in the face of an otherwise neutral state rule for decision is not enough to establish that a rule is "hostile" to the federal government's interests."²⁴⁶ And, looking to Colorado case law, the court determined that a reservation of minerals included gravel (1) when the surface of the land as well as the sub-surface was primarily made of sand and gravel and that separating the gravel would essentially have nullified the intent of the conveyance, or (2) where gravel underlies the topsoil of the entire property and the reservation and extraction of gravel could result in the destruction of the surface and destroy its usefulness.²⁴⁷ With additional support from valuation experts, the court also found that the intent of the parties was not likely to have included gravel in the mineral reservation.²⁴⁸

There is no single federal law clarifying the U.S. government's ownership, whether in trust for an Indian tribe or otherwise, or a tribe's ownership of sub-surface pore space, but in establishing such rights, courts are likely to perform analyses similar to those described above: carefully inspecting congressional intent of the statutes authorizing conveyance and potentially borrowing state law in the determination.

F. Environmental Regulation on Indian Lands

Tribes have both inherent authority to regulate activities that affect their territories based on their inherent sovereign powers and authority as delegated by the federal government. As to both environmental and non-environmental regulatory jurisdiction, tribes may exercise aspects of sovereignty that have not been removed by treaty, statute, or implication as a necessary result of their dependent status.²⁴⁹ When not limited by federal law, a tribe's inherent sovereign authority is the basis for tribal regulation of tribal health, welfare, and environmental matters on Indian lands.²⁵⁰ And while tribes may develop a body of tribal environmental laws where authority has not been displaced by

²⁴³ *Id.* at 1174.

²⁴⁴ *Hess II*, 348 F.3d at 1239.

²⁴⁵ *Id.* at 1243.

²⁴⁶ *Id.* at 1246.

²⁴⁷ *Id.* at 1244–45.

²⁴⁸ *Id.* at 1247–49.

²⁴⁹ *United States v. Wheeler*, 435 U.S. 313, 323 (1978).

²⁵⁰ See COHEN, *supra* note 128, § 10.01[1].

federal law, many tribes are regulating environmental matters in their territories by administering federal statutory programs and enforcing federal standards.²⁵¹

Generally speaking, environmental laws apply to Indian lands unless they interfere with tribal self-government or conflict with treaty or statutory rights.²⁵² The EPA is the federal agency responsible for environmental regulation within tribal territories and, since its establishment in 1970, the EPA has recognized that tribes have a primary role in protecting the environment within their territories.²⁵³ The majority of federal environmental laws currently contain provisions that specifically address the role of Indian tribes in administering programs on Indian lands; however, case law suggests that federal environmental laws apply on Indian lands even without such statutory provisions. The Tenth Circuit held, in *Phillips Petroleum Co. v. EPA*, that the Safe Drinking Water Act (SDWA) applies to activities within the Osage Reservation because Congress intended nation-wide protection and the statute did not conflict with tribal statutory or treaty rights.²⁵⁴ Additionally, the EPA has the authority to exercise regulatory authority on Indian lands when an environmental statute does not specifically grant a role to Indian tribes, and will act when tribes are authorized but have yet to carry out that role.²⁵⁵ Whether a project developer in Indian Country will encounter the EPA as the primary regulatory authority or a tribal department will likely be different from one tribal territory to the next and will be evolving relative to the tribe's resources.

1. Tribes as Regulators

As noted above, many tribes regulate environmental matters in their territories by administering federal programs and standards as specifically delegated by Congress. Without this delegation, however, the subject of whether a tribe's inherent authority extends to the activities of non-Indians on Indian lands has been the subject of numerous judicial opinions. In *Montana v. United States*, the Supreme Court analyzed whether the Crow Nation had been divested of its inherent sovereignty to regulate the hunting and fishing activities of non-Indians owning fee land within reservation boundaries.²⁵⁶ Although the

²⁵¹ See *id.* § 10.01[2][b].

²⁵² See *Donovan v. Cour d'Alene Tribal Farm*, 751 F.2d 1113, 1116 (9th Cir. 1985).

²⁵³ See EPA, EPA Policy for the Administration of Environmental Programs on Indian Reservations (1984), <https://www.epa.gov/sites/default/files/2015-04/documents/indian-policy-84.pdf>; see also COHEN, *supra* note 128, § 10.02[1].

²⁵⁴ 803 F.2d 545, 557 (10th Cir. 1986).

²⁵⁵ See *Wash. Dep't of Ecology v. EPA*, 752 F.2d 1465 (9th Cir. 1985) (EPA held responsible for implementing resource conservation standards on reservation lands); see also EPA, EPA Policy for the Administration of Environmental Programs on Indian Reservations (1984), <https://www.epa.gov/sites/default/files/2015-04/documents/indian-policy-84.pdf>.

²⁵⁶ 450 U.S. 544, 564 (1981) (holding that a tribe's attempted exercise of power beyond what is necessary for purposes of self-government is inconsistent with the dependent status of tribes); see also *Strate v. A-1 Contractors*, 520 U.S. 438 (1997) (holding that the tribal courts of the Three Affiliated Tribes of the Fort Berthold Reservation did not have authority over personal injury actions against non-tribal member defendants in an accident occurring on a portion of a public highway maintained by the State under a federally granted ROW over Indian reservation land, but

court acknowledged a general divestiture of tribal authority over non-Indians on fee land, it held that tribes may regulate such activities under two circumstances known as the “Montana exceptions”: first, tribes may regulate the activities of individuals who enter into “consensual relationships with the tribe or its members,” and second, tribes may assert civil authority over the conduct of non-Indians when that conduct threatens or has a direct effect on the political integrity, economic security, or health or welfare of the tribe.²⁵⁷ Based on their inherent authority, tribes may enact tribal codes, require tribal permits, impose penalties, and pursue enforcement actions in tribal court and, through the Montana exceptions, these tribal regulations may be applicable to tribal member and non-members alike.²⁵⁸ In carrying out federal programs on Indian lands, tribes may apply for “treatment as a state” and directly manage the implementation of the program.

2. Tribal Primacy

Federal environmental laws establish minimum standards for the nation as a whole and provide mechanisms for a state or tribe to become the primary regulatory authority (to apply for “primacy”) with respect to a particular federal program within that state or tribe’s boundaries. A tribe seeking primacy with respect to a particular federal program must apply for “treatment as a state” (TAS status). The Clean Water Act, the Clean Air Act, and the SDWA each provide for TAS status if a tribe can demonstrate, under each, (1) that the tribe is federally recognized, (2) that it has a governing body exercising substantial governmental powers, and (3) that it is reasonably capable of carrying out the functions of the program it seeks to administer.²⁵⁹ Because geologic sequestration will be subject underground injection control (UIC) programs as potentially administered by a tribe, the following is a summary of tribal primacy with respect to the SDWA.

Since 1986, the SDWA has authorized tribes to seek primary responsibility for public water systems and UIC programs.²⁶⁰ Tribes may obtain TAS status under the SDWA if they meet the criteria similarly required under the Clean Water Act and Clean Air Act: that they are federally recognized, that they maintain a government exercising substantial duties and powers, that they are reasonably capable of carrying out the functions of the particular program, and, for purposes of the SDWA, that the functions of the program be “within the area of the Tribal Government’s jurisdiction.”²⁶¹ Unlike the Clean Water Act and Clean Air Act, the EPA does not consider the SDWA as a delegation of federal power

expressing no view on the governing law when an accident occurs on a tribal road within a reservation).

²⁵⁷ *Montana*, 450 U.S. at 566.

²⁵⁸ See COHEN, *supra* note 128, § 10.01[1].

²⁵⁹ See 33 U.S.C. § 1377 (provisions regarding Indian tribes under the Clean Water Act); 42 U.S.C. § 7601(d) (tribal authority provisions of the Clean Air Act); 42 U.S.C. § 300j-11 (provisions regarding Indian tribes under the SDWA).

²⁶⁰ 42 U.S.C. §§ 300f et seq.

²⁶¹ *Id.* § 300j-11(b)(1).

to the tribes, granting TAS status when a tribe can demonstrate inherent governmental authority to regulate.²⁶²

For underground UIC programs under the SDWA, the EPA has been directed to provide a control program on Indian lands if one has not been implemented by a tribe.²⁶³ In response to this directive, the EPA has applied the federal UIC program to all Indian lands located in states that have taken primacy, and, when requested by a tribe, will promulgate a specialized federal program tailored to specific tribal needs.²⁶⁴ States and tribes may apply for UIC program primacy with respect to all well classes; for classes I–V only; or for a Class VI program alone.²⁶⁵ Currently, the EPA has approved UIC primacy programs for multiple well classes in thirty-one states and three territories.²⁶⁶ Seven states and two tribes (the Navajo Nation and the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation) have approved primacy programs for Class II wells only.²⁶⁷

If approved for primacy of a Class VI UIC program, as necessary for the operation of carbon dioxide injection wells, tribes and states become responsible for all program activities, including the establishment of a well inventory, reviewing permit applications and issuing permits for injection wells, performing inspections, ensuring compliance with permit requirements and potentially assisting operators in returning the wells to compliance, and taking enforcement action.²⁶⁸ Currently, only two states have obtained primacy for a Class VI UIC program, and the EPA implements the Class VI program for all other states, territories, and tribes.²⁶⁹ As of this writing, no tribes have obtained pri-

²⁶² 53 Fed. Reg. 37,396, 37,399–400 (1988); see also 59 Fed. Reg. 64,339, 64,341 (1994) (discontinuing the use of the term “treatment as a state” in regulations related to a newer streamlined review process but recognizing that the term is still used in statute); 40 C.F.R. § 142.76 (if the EPA has previously determined that a tribe has met the prerequisites that make it eligible for TAS status under the Clean Water Act, the tribe need only provide information unique to the Public Water System program).

²⁶³ 42 U.S.C. § 300h-1(e) (if an applicable UIC program does not exist, the EPA shall prescribe such a program consistent with the minimum requirements for state UIC programs, unless the tribe first obtains approval to assume primary enforcement responsibility. Until an Indian tribe assumes primary enforcement responsibility, the current applicable EPA UIC program will apply.).

²⁶⁴ See 53 Fed. Reg. 43,084 (1988); see also 53 Fed. Reg. 43,096 (1988); see generally COHEN, *supra* note 128, § 10.03[3].

²⁶⁵ See 40 C.F.R. §§ 145.22, 145.52; see also EPA, *What is UIC primary enforcement responsibility (primacy)?*, <https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program-0>.

²⁶⁶ See EPA, *What states, territories, and tribes have primacy?*, <https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program-0>.

²⁶⁷ *Id.*

²⁶⁸ See EPA, *Class VI – Wells Used for Geologic Sequestration of Carbon Dioxide*, <https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-carbon-dioxide#authorities>.

²⁶⁹ See 83 Fed. Reg. 17,758 (State of North Dakota Underground Injection Control Program; Class VI Primacy Approval, 2018); 85 Fed. Reg. 64,053 (Wyoming Underground Injection Control Program; Class VI Primacy, 2020); see also EPA, *States’, Tribes’, and Territories’ Responsibility for the UIC Program*, https://www.epa.gov/system/files/documents/2021-11/states-tribes-and-territories-responsibility-for-the-uic-program_revised18nov2021-.pdf.

macy for Class VI programs, nor are any tribal applications pending.²⁷⁰ Section 40306 of the Infrastructure Investment and Jobs Act of 2021 (IIJA) authorized a \$50 million Class VI grant program, directing the EPA to award grants to states, territories, and tribes to be used to defray expenses related to the establishment and operation of a Class VI program.²⁷¹ From September 26 to November 24, 2022, the EPA sought tribal comments and consultation regarding the grant program, sending letters to tribal leaders of all federally recognized tribes, providing background information about the grant program and hosting webinars in which tribal representatives could submit verbal and written comments and questions.²⁷² Interest from tribal representatives was mixed, with at least one representative communicating interest in to preventing Class VI UIC wells from being constructed on reservation land.²⁷³ Concern regarding safety and the impact of Class VI injection wells on the reservation environment are understandably expected; however, a tribe's decision to pursue Class VI primacy will likely involve considerations of self-determination and an evaluation of the ability and desire to exercise sovereign power by establishing and enforcing regulations within their jurisdiction as observed among the various tribes currently implementing other environmental programs.²⁷⁴

3. Tribal Consultation – EPA

Developers of CCS projects should be aware that, even if the EPA is implementing an environmental program on Indian lands and the tribe itself is not the administrator of environmental standards, a tribe will still be involved in the EPA's activity with respect to a proposed project. The EPA will consult, on a

²⁷⁰ See EPA, *What states, territories, and tribes are currently in the primacy application or program revision process?*, <https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program-0>.

²⁷¹ See 135 Stat. 429, § 40306 (2021); see also EPA, *Tribal Consultation and Coordination Plan: Establishment of the Infrastructure Investment and Jobs Act (IIJA), Section 40306 Underground Injection Control (UIC) Class VI Grant Program*, file:///C:/Users/Administrator/Downloads/UIC%20Class%20VI%20Grant%20Tribal%20Consultation%20Plan%20508.pdf

²⁷² See EPA, *Infrastructure Investment and Jobs Act of 2021 Section 40306 Underground Injection Control (UIC) Class VI Grant Program September 26, 2022 to November 24, 2022 Consultation Summary* ("EPA Question: Is your tribe interested in pursuing Class VI primacy? If so, what level of familiarity does your tribe have with the program? Tribal Responses: Responses varied between tribes. Several tribes were only seeking information. Some tribes were interested in exploring Class VI primacy. One tribe noted that they were aware of at least on company interested in constructing a Class VI well on tribal land. Finally, one tribe stated that they were not interested in Class VI primacy and is looking to prevent Class VI UIC wells from being constructed near and on reservation land.").

²⁷³ *Id.* ("EPA Question: Is your tribe interested in pursuing Class VI primacy? If so, what level of familiarity does your tribe have with the program? Tribal Responses: Responses varied between tribes. Several tribes were only seeking information. Some tribes were interested in exploring Class VI primacy. One tribe noted that they were aware of at least on company interested in constructing a Class VI well on tribal land. Finally, one tribe stated that they were not interested in Class VI primacy and is looking to prevent Class VI UIC wells from being constructed near and on reservation land.").

²⁷⁴ See generally EPA, *TAS Approvals to Operate Regulatory Programs and Perform Administrative Functions - by Tribe*, <https://www.epa.gov/tribal/tribes-approved-treatment-state-tas>.

government-to-government basis, with federally recognized Indian tribes when EPA actions may affect those tribes.²⁷⁵ The EPA implements a broad policy on consultation with the goal of seeking tribal input prior to EPA action.²⁷⁶ The consultation process may include several methods of interaction, including continued dialogue between the EPA and tribal government representatives, adherence to program and regional office consultation procedures, and adherence to the consultation requirements of any applicable regulation. The EPA considers a range of actions to be “appropriate for consultation,” including the adoption of specific regulations or rules; the adoption of policies, guidance documents, and directives; the preparation of budgets and priority plans; the preparation of legislative comments; the review and approval of permits; civil administrative enforcement actions; response actions and emergency preparations; the approval of state or tribal program authorizations or delegations; and occasions when tribal representatives have requested consultation.²⁷⁷ CCS project developers may not be able to predict whether the consultation process will lead the EPA to give deference to a tribe’s input or to change its planned action in any way, but should be aware of impacts the consultation process may have on project timelines and be aware that records created or exchanged or generated during the consultation process may be disclosed under the Freedom of Information Act.²⁷⁸

4. Other Regulatory Considerations

NEPA applies to all major federal actions significantly affecting the quality of the human environment, including secretarial approval of activities occurring on Indian lands.²⁷⁹ The development of natural resources on trust lands will generally require compliance with the procedural requirements of NEPA as a precursor to such federal action.²⁸⁰ If the Secretary of the Interior approves a lease or other agreement without first conducting the applicable NEPA review,

²⁷⁵ See EPA, *EPA Indian Policy*, <https://www.epa.gov/tribal/epa-policy-administration-environmental-programs-indian-reservations-epa-indian-policy>; see also 65 Fed. Reg. 67,249, Executive Order No. 13,175 (Consultation and Coordination With Indian Tribal Governments).

²⁷⁶ EPA, *EPA Policy on Consultation with Indian Tribes*, December 7, 2023, <https://www.epa.gov/system/files/documents/2023-12/epa-policy-on-consultation-with-indian-tribes-2023.pdf>.

²⁷⁷ *Id.* § V.B.1, 2.

²⁷⁸ 5 U.S.C. § 552.

²⁷⁹ 42 U.S.C. § 4332(2)(c); *Davis v. Morton*, 469 F.2d 593, 597 (10th Cir. 1972) (holding that the approval of leases on federal lands constitutes major federal action and thus must be approved according to NEPA mandates); see also Indian Affairs National Environmental Policy Act (NEPA) Guidebook, 59 IAM 3-H (2012), https://www.bia.gov/sites/default/files/dup/assets/public/raca/handbook/pdf/59_IAM_3-H_v1.1_508_OIMT.pdf.

²⁸⁰ See 25 C.F.R. § 162.214(a)(2) (NEPA compliance required for BIA approval of agricultural leases); *id.* § 163.34 (NEPA compliance required for secretarial approval of forest land management activities); *id.* § 211.7 (requiring NEPA compliance and compliance with regulations promulgated by the Council on Environmental Quality (CEQ) for approval of leases under the IMLA); *id.* § 225.24 (requiring NEPA compliance and compliance with regulations promulgated by the Council on Environmental Quality (CEQ) for approval of leases under the IMLA); *id.* § 225.24 (requiring NEPA compliance and compliance with CEQ regulations for approval of agreements under IMDA).

the lease or agreement may be deemed invalid.²⁸¹ As discussed above, NEPA authorizes federal agencies to designate categories of activities that will require the preparation of an EIS and other activities that may qualify for a categorical exclusion.²⁸² If the federal action in question does not fall into either of these categories, an EA will be required, resulting in a finding of significant impacts requiring an EIS or a “finding of no significant impact” on the environment.²⁸³ The BIA has identified several categorical exclusions from the EIS process that it considers single, independent actions, including the operation, maintenance, and replacement of existing facilities; certain Self-Determination Act contract and grant activities; the issuance of ROW inside existing ROWs; service line agreements; renewals, assignments, and conversions of existing ROW with no change in use; approval of minerals permits; the approval of unitization agreements and communitization agreements; approval of mineral lease adjustments, assignments and subleases; and approvals of utility installations along or across a transportation facility located in whole within the limits of the roadway ROW, among other actions.²⁸⁴

When an EIS is determined to be required for federal action on Indian lands, the BIA will typically be the lead agency responsible for EIS preparation, but other agencies with special expertise, including a tribal agency, may serve as a cooperating agency by agreement with the BIA.²⁸⁵ In addition to tribal involvement as a cooperating agency or through the consultation process, tribes may be solicited to provide comments if the effects of a proposed action may concern reservation lands or for purposes of adhering to CEQ guidance directing consultation with tribal leaders.²⁸⁶ In the context of CCS projects, the EPA is exempt from compliance with NEPA with respect to UIC programs under the SDWA because it is regarded as performing its environmental protection functions under “organic legislation [that] mandates specific procedures for considering the environment that are functional equivalents of the impact statement process.”²⁸⁷ For this reason, NEPA compliance is not likely to become a project challenge with respect to Class VI UIC program approvals, but will rather be relevant to other aspects of a CCS project, such the potential need for approval of surface uses on tribal lands or the need for ROWs across tribal land, or other actions that do not qualify for categorical exclusion.

In addition to NEPA considerations, CCS project developers on Indian lands will need to be aware of potential regulation related to historic preservation, cultural resources, and fish and wildlife. The National Historic Preservation Act (NHPA) requires federal agencies to conduct a review and consulta-

²⁸¹ See COHEN, *supra* note 128, § 10.08 at 821.

²⁸² 40 C.F.R. §§ 1501.4(a), 1507(d).

²⁸³ *Id.* § 1501.4(b), (c)–(e).

²⁸⁴ See 43 C.F.R. § 46.210; see also 516 Interior Dep’t Manual 10, 10.5 (2020), <https://www.doi.gov/sites/doi.gov/files/elips/documents/516-dm-10.pdf>.

²⁸⁵ 40 C.F.R. § 1501.8(a).

²⁸⁶ Executive Order No. 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629, 7633 (1994).

²⁸⁷ See 75 Fed. Reg. 77,230, 77,236; see also *Western Neb. Res. Council v. EPA*, 943 F.2d 867, 871–72 (8th Cir. 1991).

tion process similar to that required by NEPA when federal action may involve property of historic value to a tribe.²⁸⁸ The Advisory Council on Historic Preservation (ACHP) is the federal agency responsible for administering the review process established by the NHPA (known as the Section 106 process) to which all federal agencies are subject.²⁸⁹ Section 106 requires federal agencies with jurisdiction over certain federal action or with authority to make expenditures or issue licenses to “take into account” the effect of the action on any “district, site, building, structure, or object” that is included or eligible for inclusion in the National Register of Historic Places and give the ACHP opportunity to comment on the undertaking.²⁹⁰ Like state historic preservation officers (SHPOs), Indian tribes have been authorized to perform similar responsibilities on tribal lands through tribal historic preservation officers (THPOs).²⁹¹ ACHP regulations require, generally, a process of initiation, identification of historic properties, assessment of adverse effects, and resolution of adverse effects, specifically requiring consultation with a tribes and THPOs assuming the functions of a SHPO.²⁹²

The Native American Graves Protection and Repatriation Act (NAGPRA) establishes rights of Indian tribes and their descendants to obtain repatriation of human remains, funerary objects, sacred objects, and objects of cultural patrimony.²⁹³ NAGPRA also provides for criminal penalties for trafficking in Native American human remains or cultural items.²⁹⁴ NAGPRA contains regulations for the protection of graves, in addition to its repatriation provisions, which will apply to “federal lands” (lands other than tribal lands which are controlled or owned by the United States) and “tribal lands” (lands within the boundaries of an Indian reservation, all dependent Indian communities, and any lands administered for the benefit of Native Hawaiians pursuant to certain statutes).²⁹⁵ CCS project developers should be aware that NAGPRA’s definition of tribal lands as being lands “within the boundaries of an Indian reservation” means that, despite a checkerboard pattern of ownership within a particular reservation, NAGPRA compliance will be required for actions related to federal trust land, but also for actions on fee land owned by the tribe, allotted land, and privately owned land, whether owned by Indian or non-Indian individuals.

The Endangered Species Act of 1973 (ESA), managed by the U.S. Fish and Wildlife Service, empowers the Secretary of the Interior to list species as endangered or threatened and prohibits the unauthorized taking or possession of

²⁸⁸ See 16 U.S.C. §§ 470 et seq.; see also *Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 787 (9th Cir. 2006) (holding that failure to consult with the tribe was grounds for overturning approvals related to a planned geothermal plant).

²⁸⁹ 16 U.S.C. § 470f.

²⁹⁰ See *id.*; see also *Oglala Sioux Tribe v. U.S. Army Corps of Eng’rs*, 570 F.3d 327, 333 (D.C. Cir. 2009) (NHPA compliance does not include an obligation to evaluate a site for potential inclusion in the National Register of Historic Places within a certain time period).

²⁹¹ 54 U.S.C. § 304702.

²⁹² *Id.* §§ 302701–302706; see COHEN, *supra* note 128, § 20.02[3][c].

²⁹³ 25 U.S.C. §§ 3001–3013.

²⁹⁴ 18 U.S.C. § 1170.

²⁹⁵ 25 U.S.C. § 3001(15).

those species.²⁹⁶ Designation by the U.S. Fish and Wildlife Service of critical habitat essential for the conservation of endangered and threatened species may impact project activities occurring on those lands.²⁹⁷ Any action carried out by the BIA, as a federal agency subject to the ESA, must be reviewed for potential effects on critical habitat.²⁹⁸ The BIA will consult with the U.S. Fish and Wildlife Service to identify any limitations on approvals or proposed action in connection with CCS projects, and CCS project developers should be aware the time and coordination required.

G. *Transactional Considerations*

Because the ideal location for geologic sequestration may involve tribal lands or the interests of an Indian tribe as discussed above, project developers may find themselves negotiating various agreements with tribal parties, whether the tribe is acting in the role of a regulator, project proponent or investor, or project opponent with concerns about the impacts of CCS on tribal lands. CCS project developers should be aware of several issues that may come up in a transactional setting. First, tribes enjoy immunity from suit based on their sovereign status unless immunity has been waived by clear language of Congress or by the tribe itself through properly authorized action complying with tribal law.²⁹⁹ To facilitate various transactions for the benefit of tribal interests, and often for the benefit of lenders when obtaining financing, tribes are willing to issue a limited waiver of sovereign immunity, most often limited in a manner that exposes only certain assets of the tribe to execution and specifically tailored to apply to the interpretation or enforcement of the transactional documents involved. Once enforceability questions have been addressed by the limited waiver, parties should draft governing law and dispute resolution provisions unambiguously. With respect to taxation, tribes and IRA Section 17 corporations owned by tribes generally do not pay federal income tax.³⁰⁰ Nor are they subject to state income tax, ad valorem property tax, severance tax, gross receipts tax, or sales tax on purchases they make within Indian Country.³⁰¹ Indian tribes are not characterized as “tax exempt,” but are instead described as “non-taxable,” in recognition of their existing sovereign status.³⁰² The Internal Revenue Code Section 45Q tax credit may not incentivize tribes as project investors because of this non-taxable status, unless they can find and negotiate an agreement with a tax equity partner. With respect to on-reservation project operations, project developers may be subject to a Tribal Employment Rights Ordinance (TERO) if included in applicable tribal laws. TEROs require that covered employers, as defined by size or activity under the

²⁹⁶ 16 U.S.C §§ 1531–1543.

²⁹⁷ *Id.* §§ 1532(5)(A), 1533(b).

²⁹⁸ *Id.* § 1536.

²⁹⁹ See *Michigan v. Bay Mills Indian Cmty.*, 134 S. Ct. 2024, 2030–31 (2014).

³⁰⁰ See Rev. Rul. 94-16, 1994-1 CB 19.

³⁰¹ See *Montana v. Blackfeet Tribe*, 471 U.S. 759, 765–66 (1985); see also COHEN, *supra* note 128, § 8.02.

³⁰² See *United States v. Brown*, 824 F. Supp. 124, 127 (S.D. Ohio 1993).

tribal law, who are engaged in operating a business on land subject to the jurisdiction of an Indian tribe, give preference to qualified Indians in all aspects of employment, whether in hiring or contracting. TERO Offices are established to monitor and enforce the requirements of the ordinance. The “Montana exception” providing for tribal regulation of the activities of non-members who enter into consensual relationships with the tribe or its members through commercial dealings has provided the basis for the application of TERO.³⁰³ Depending on the particular tribe and code, project developers may need to apply the preference in hiring for activities performed on tribal lands and in bidding for contractors and may be subject to the assessment of a TERO fee, which may be imposed, often on the value of a particular project contract, often between 2% and 4%.

Finally, project developers should educate themselves, ideally through direct contact with tribal representatives, about the attitude of a particular tribe with respect to geologic sequestration that may impact their lands—the attitudes will not necessarily be the same from one tribe or group of tribal members to the next. Some tribes are experienced in the development of natural resources within their reservations and have the internal departments, or access to advisors, necessary to evaluate the feasibility of sequestration projects on tribal lands. Based on experience gained in the development of oil and gas or other mineral resources under the IMLA or the IMDA, many tribes are well prepared to review applications for proposed development, applications for permits, leases, and ROWs, and to coordinate with the BIA, the BLM, and other federal agencies as needed to evaluate and approved components of CCS projects that cross tribal land. A misstep that can lead project developers to experience opposition is the failure to communicate directly with tribes in advance of project activity. As of this writing, there are no publicized sequestration projects occurring on tribal lands and sequestration activity on Indian land appears to be focused on biologic sequestration and opportunities in the carbon credit market.³⁰⁴

With the potential to partner with tax equity investors to take advantage of 45Q tax credits and the potential opportunities related to geologic sequestration, tribes are well positioned to both regulate CCS projects on Indian lands and to participate as an investor in CCS project, subject to the federal government’s restrictions, delegations, and acknowledgments of tribal power as discussed above. Securing rights and negotiating effective agreements for CCS projects involving Indian lands is complicated, but developers of natural resources have successfully operated in Indian Country for many decades, with early and direct communications with tribal representatives being a key component of success.

³⁰³ See COHEN, *supra* note 128, §§ 4.02[3], 21.02[5][c].

³⁰⁴ See generally *National Indian Carbon Coalition, Carbon Projects*, <https://www.indiancarbon.org/carbon-projects/>; see also *U.S. Department of Energy Office of Indian Energy, Project Successes*, <https://www.energy.gov/indianenergy/tribal-energy-project-successes>.

V. CONCLUSION

In the absence of specific legislation or regulatory guidance governing CCS projects on federal lands, America's land management agencies are moving ahead with efforts to authorize sequestration projects under the agencies' established land management authorities. While statutes like FLPMA provide the BLM and the Forest Service with broad authority to approve CO₂ sequestration, both agencies will undoubtedly encounter any number of unique regulatory and operational questions along the way.

This unsettled legal terrain, with respect to both public and tribal land, challenges agency personnel and project applicants to work collaboratively as they apply established regulatory programs to a proposed new use of land that presents any number of unique legal and technical questions. Project applicants and agency personnel alike may benefit from the following recommendations as they seek to review and authorize carbon sequestration projects in a timely manner:

- **Be flexible and solution oriented.** The effort to approve carbon sequestration under established land management and environmental statutes will require agency personnel and project applicants to remain focused on the purpose and goals of those statutes as they apply specific regulatory requirements to a public land use that was likely not envisioned by Congress when it enacted the underlying statutes.

For example, while the use of federal pore space for CO₂ sequestration falls squarely within FLPMA's "multiple use and sustained"³⁰⁵ mandate, land managers will need to be creative as they accommodate this new use with more established subsurface uses, such as mineral development. Land managers will likely need to call upon the technical expertise of project applicants and others (including other state and federal agencies and academic institutes) as they develop their own internal expertise on the many operational issues involved in transporting, injecting, and storing CO₂. Agencies will also likely need to engage outside experts from as they attempt to establish a valuation and compensation structure for long-term CO₂ storage that both encourages projects and provides American taxpayers with a fair market return for use of federal pore space.

- **Early and regular engagement.** Project applicants should engage early and often with federal agency personnel and, as applicable, tribal representatives. Early collaboration will allow the agency to thoughtfully consider and address the many technical and operational questions that will arise with large-scale CCS projects. Likewise, early and frequent engagement between legal counsel for the project applicant and the federal agencies will provide a more defensible administrative record once the agency issues its final authorization.

³⁰⁵ 43 U.S.C. § 1701(a)(7).

Identify areas for future legislation and rulemaking. As CCS projects move forward under the existing legal framework, land managers and companies alike will undoubtedly identify specific issues that could benefit from greater statutory or regulatory clarity. This benefit of “real world” experience in permitting a new use of federal lands will benefit Congress and the agencies as they consider whether, and how, to provide more specific guidance on any number of operational, regulatory, and financial questions related to sequestration.