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The Editorial Board, composed of experienced natural resources and energy law practitioners and academics, determines which articles should be printed, which law review articles should be reprinted, and which articles should be included in the Topical Reading list. Subscriptions to the semiannual *Foundation Journal* are $75 per calendar year. Annual Members receive the semiannual *Foundation Journal* as a complimentary benefit of Annual Membership.

PREFACE

The Foundation Journal for Natural Resources and Energy Law publishes original, short, practical, and scholarly articles, along with reprints of Foundation papers, law review articles, and other articles that are useful to the natural resources attorney. Published semiannually, the *Foundation Journal* emphasizes oil and gas, mining, public lands, water, and environmental law, as well as other related areas of natural resources law. The *Foundation Journal* was renamed in 2022. It was previously called the *Rocky Mountain Mineral Law Foundation Journal*, which was introduced in 2004 as the successor to the *Public Land & Resources Law Digest*.

We encourage you to submit articles for inclusion in the *Foundation Journal*. The Author Guidelines are available at https://www.fnrel.org/publications/journal-and-newsletters/periodicals-landing-page, and you may contact Executive Editor Ryan Minton at the Foundation, rminton@fnrel.org, for further information on publication.

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Alex Ritchie
Executive Director

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FOR NATURAL RESOURCES AND ENERGY LAW

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Part I — Articles

Oil and Gas Update: Legal Developments in 2022 Affecting the Oil and Gas Exploration and Production Industry

Keturah A. Brown & Rebecca Wright Pritchett, Editors[1]

I. ALASKA

A. Legislative Developments

No substantive oil and gas legislation was passed in this year's state legislative session.

B. Administrative Developments

1. Department of Natural Resources Allows Santos to Use Roads Which ConocoPhillips Constructed on State Oil and Gas Leases

Santos, Ltd. (Santos) is an Australian oil and gas producer, formerly known as Oil Search, LLC.[2] For several years, Santos has sought to use roads built by ConocoPhillips (Conoco) at Conoco's Kuparuk River Unit (the KRU), which is located on state-owned land that is leased to Conoco pursuant to state oil and gas leases, so Santos could access other state lands for resource development at Santos' Pikka project.[3] Conoco and Santos failed to reach a permanent agreement regarding Santos' use of the KRU roads, and Santos filed an application for a miscellaneous land use permit to allow it access the roads, which was granted by the Director of the Alaska Division of Oil and Gas.[4] Conoco appealed and the Commissioner of the Alaska Department of Natural Resources decided that Santos could use the KRU roads because roads constructed by oil and gas lessees on state-owned lands are allowed to be concur-

[1] The committee editors and Vice Chairs for this report are Keturah A. Brown of Sidley Austin LLP, Washington, DC, and Rebecca Wright Pritchett of Adams and Reese LLP, Birmingham, AL, with assistance from Deesha Shah of Sidley Austin LLP, Washington, DC. The contributors work in the states for which they report: George R. Lyle, Traci N. Bunkers, Rikki Burns-Riley, and Adam D. Harki, Guess & Rudd, P.C., Anchorage, AK; Thomas A. Daily, Daily & Woods, P.L.L.C., Fort Smith, AR; John J. Harris, Casso & Sparks, LLP, City of Industry, CA; Sam Niebrugge and Kelsey Johnson, Davis Graham & Stubbs LLP, Denver, CO; Diana Stanley and Chris Steincamp, Depew Gillen Rathbun & McInteer, LC, Witchita, KS; April L. Rolen-Ogden, Michael H. Ishee, and John Parker, Liskow & Lewis, APLC, Lafayette, LA; Andrew J. Cloutier, Hinkle Shanor LLP, Roswell, NM; Gregory D. Russell, Ilya Batikov, and Mark A. Hylton, Vorys, Sater, Seymour and Pease LLP, Columbus, OH; Susan Dennehy Conrad, Oklahoma Corporation Commission, Oklahoma City, OK; Nicolle R. Snyder Bagnell, Nicole Jensen Morgan, and Gina Kantos, Reed Smith LLP, Pittsburgh, PA; Jolisa Melton Dobbs, Aaron C. Powell, and Emily A. Fitzgerald, Holland & Knight LLP, Dallas, TX; Brittany J. Alston, Andrew H. Bell, and Curtiss R. Boggs, Jackson Kelly PLLC, Morgantown, WV; Andrea H. Grave and Jeffrey S. Pope, Holland & Hart LLP, Cheyenne, WY. The 2022-2023 Chair of the Committee is Ghislaine G. Torres Bruner of Polsinelli PC.

[2] Scott Rhode, *Oil Search Approves Merger with Santos*, ALASKA BUS. MAG. (Dec. 8, 2021).

[3] Nathaniel Herz, *ConocoPhillips Loses Bid to Limit Competitor's Access to Alaska's Next Big Oil Project*, ALASKA BEACON (Dec. 6, 2022).

[4] *Id.*

rently used by other parties, like Santos, for the development of other state oil and gas leases, especially given that the usage of those roads by Conoco was not being unreasonably impaired.

2. Alaska Administrative Code Updates

The Alaska Oil and Gas Conservation Commission has amended 20 AAC 25.072(d), 20 AAC 25.105(c)(2), 20 AAC 25.110, 20 AAC 25.534, and 20 AAC 25.990, which "update drilling, wells, inspections, and definitions to provide more clarity in carrying out the purposes of Alaska Statutes 31.05."[5] The amendment was signed into law on June, 28, 2022, and appears in Register 243, October 2022, of the Alaska Administrative Code.[6]

C. Judicial Developments

In *Sagoonik v. State*, a group of young Alaskans sued the State of Alaska, "alleging that its resource development is contributing to climate change and adversely affecting their lives."[7] The young Alaskans sought declaratory and injunctive relief based on allegations that the State has, through existing policies and past actions, violated both the constitutional natural resources provisions and their individual constitutional rights. However, the superior court dismissed the case, and the Alaska Supreme Court upheld dismissal on appeal in part, reasoning that the legislature's stated energy policy both recognizes "concerns about global climate change" and "encourage[s] economic development by . . . promoting the development, transport, and efficient use of nonrenewable and alternative energy resources . . . ."[8] The import of "purposeful development of the state's abundant natural resources" was only undertaken with the consideration of citizens' social and economic views and assurances of adequate protection of Alaska's environment.[9]

II. ARKANSAS

A. Legislative Developments

There were no 2022 Arkansas legislative developments. The Arkansas General Assembly meets in general session biannually, in odd numbered years.

B. Administrative Developments

Because the Arkansas Oil and Gas Commission's regulations are constantly in revision, practitioners are advised to regularly check these regulations,

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[5] *Statutes and Regulations*, Dept. of Com., Cmty. & Econ. Dev., Alaska Oil & Gas Conservation Comm'n (last visited Mar. 11, 2022).

[6] *Id.*

[7] 503 P.3d 777, 782 (Alaska 2022).

[8] *Id.* at 804–05 (quoting ALASKA STAT. § 44.99.115).

[9] *Id.* at 805 (quoting ALASKA STAT. § 44.99.100).

online at http://www.aogc.state.ar.us. Proposed rule changes as well as a tabulation of recently enacted, repealed, or amended rules are available online at http://www.aogc.state.ar.us/rules/new.aspx.

C. Judicial Developments

Numerous Arkansas appellate decisions involving deed interpretation have relied upon the so-called "four corners" rule to determine the intent of the grantor and grantee.[10] That rule requires the court to determine whether the deed in question is ambiguous. Outside evidence of the parties' intent is only admissible if the deed is determined to be ambiguous.

Two recent decisions of the Arkansas Court of Appeals cited the four corners rule but appear to have expanded the inquiry from the "four corners" of the deed itself to include consideration of prior and contemporaneous instruments within in the parties' title chain.

Phifer v. Ouellette,[11] involved a series of conveyances, the last of which was a deed from Appellee, Ruth Wilburn, now deceased, to Appellant, Phifer. The question presented was whether that deed conveyed a one-half or one-fourth mineral interest. The answer depended upon the interpretation of a prior instrument in the parties' title chain. That prior instrument excepted "one-half of all oil, gas and other minerals . . . previously conveyed . . . ."[12] The "previous conveyance" thus referred conveyed a one-half mineral interest to the other Appellees, Richard and Margot Cowin, immediately prior to the Phifer deed. The question was whether the exception in the Phifer deed of "one-half previously conveyed" excepted the full one-half or only one-half of that one-half. The court permitted evidence of the entire title chain including the mineral deed to Richard and Margot and concluded that a full one-half mineral interest had been excepted.

Mehaffy v. Clark,[13] involved two quitclaim deeds that had been executed on the same day to different grantees. The deeds were otherwise identical. Each quitclaimed to its respective grantee one-half of the grantor's interest which, at the time, included a 75% mineral interest. The two deeds were not recorded until two and one-half years later, also on the same day. Clark, the grantee of the deed which was recorded first, claimed a full one-half mineral interest out of the grantor's three-quarter interest based the earlier recording time, rather than three-eighth's interest (one-half of the common grantor's three-quarter interest). The appeals court recited the identical "four corners" deed interpretation rule quoted above, but did not decide whether or not the deed to Clark was ambiguous. Instead, it merely held that, in the context of the other near-identical contemporaneous deed, the common grantor had intended to convey one-half of the grantor's interest to each grantee.

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[10] *See, e.g.*, Harrison v. Loyd, 192 S.W.3d 257 (Ark. Ct. App. 2004).

[11] 641 S.W.3d 48 (Ark. Ct. App. 2022).

[12] *Id.* at 53.

[13] 646 S.W.3d 651 (Ark. Ct. App. 2022).

III. CALIFORNIA

A. Legislative Developments

1. Prohibition on Drilling and Reworking Wells Within "Health Protection Zones"

With the enactment of Senate Bill 1137,[14] the California legislature has effectively attempted to ban drilling and reworking operations in any inhabited area within the state and has imposed broad new requirements on existing oil and gas production operations. Senate Bill 1137 added new Article 4.6 (commencing with section 3280) to Chapter 1 of Division 3 of the Public Resources Code. New section 3281[15] prohibits the California Geologic Energy Management Division (CalGEM) from approving any "notice of intention" submitted by an operator under Public Resources Code section 3203[16] for the drilling of oil or gas wells or the reworking of existing oil or gas wells within a "health protection zone," defined as the area within 3,200 feet of a "sensitive receptor."[17] Sensitive receptors include any residence, school, community resource center, health care facility, long-term care hospital, prison, and building housing a business open to the public.[18] Section 3281(a) does contain limited exceptions to respond to health, safety, or environmental threats, to plug and abandon a well, or "[t]o comply with a court order finding that denying approval would amount to a taking of property, or a court order otherwise requiring approval of a notice of intention."[19] Section 3281 also requires operators to submit additional information with a notice of intention, including a sensitive receptor inventory and map, and "a statement certifying that the operator has confirmed . . . that there are no sensitive receptors . . . within 3,200 feet of the wellhead . . . ."[20] Section 3284 requires operators to provide baseline and follow-up surface water and groundwater testing to property owners and tenants within the health protection zone.[21]

SB 1137 also imposes a number of new requirements on existing production operations. Every operator must submit a sensitive receptor inventory and map to the CalGEM by July 1, 2023, and annually provide updates.[22] Commencing January 1, 2025, all oil or gas wells and production facilities within a health protection zone will have to comply with new requirements for sound levels, lighting, dust control measures, emissions and vapor venting, and chemical analyses of produced waters, as well as comply with applicable state, federal, and local permits.[23] Operators within a health protection zone will be required

[14] SB 1137, 2021-2022 Reg. Sess. (Cal. 2022).

[15] CAL. PUB. RES. CODE § 3281(a) (2023).

[16] *Id.* § 3203 (2018).

[17] *Id.* § 3280(b) (2023).

[18] *Id.* § 3280(c) (2023).

[19] *Id.* § 3281(a)(2) (2023).

[20] *Id.* § 3281(b) (2023).

[21] *Id.* § 3284 (2023).

[22] *Id.* § 3285 (2023).

[23] *Id.* § 3282 (2023).

to submit a leak detection and response plan by January 1, 2025, and implement their plan by January 1, 2027.[24]

The oil and gas industry has submitted a referendum to repeal SB 1137 and reportedly obtained enough voter signatures for certification of the referendum, thereby allowing it to go on the ballot.[25] Upon certification by the Secretary of State, SB 1137 may be delayed from going into effect until the referendum is voted on in the 2024 statewide election.[26]

B. Administrative Developments

1. Implementation of SB 1137

Despite the referendum challenging SB 1137, CalGEM gave notice of a proposed emergency rulemaking action on December 19, 2022, to adopt emergency regulations implementing SB 1137, with an intended effective date of January 7, 2023. The proposed regulations would, among other things, impose new requirements for the permitting of production facilities.[27]

2. Proposed Cost Estimate Report Regulations

Public Resources Code § 3205.7, enacted in 2019, directed CalGEM, commencing July 1, 2022, to require each operator to submit a report to the Supervisor "demonstrat[ing] the operator's total liability to plug and abandon all wells and to decommission all attendant production facilities, including any needed site remediation . . . ."[28] In April 2022, CalGEM released a pre-rulemaking draft of proposed regulations for such cost estimates for the purpose of receiving public input.[29] Formal rulemaking has not yet commenced.

3. CalGEM Permits in Kern County

Kern County, the largest oil-producing region of California, in conjunction with CalGEM and industry stakeholders, approved an ordinance in 2015 to streamline the permitting process for new oil and gas wells and certified an environmental impact report (EIR) as compliant with the California Environmental Quality Act (CEQA).[30] In 2021, the Kern County Superior Court in

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[24] *Id.* § 3283(a) (2023).

[25] *California Oil and Gas Well Regulations Referendum (2024)*, Ballotpedia, https://ballotpedia.org/California_Oil_and_Gas_Well_Regulations_Referendum_(2024) (last visited Mar. 11, 2023).

[26] CAL. GOV'T CODE § 12166 (2022).

[27] SB 1137 First Emergency Implementation Regulations (proposed Dec. 19, 2022).

[28] CAL. PUB. RES. CODE § 3205.7 (2021).

[29] Pre-Rulemaking Public Comment Period on Cost Estimate Regulations for Oil and Gas Operations (Apr. 4, 2022).

[30] ETHAN N. ELKIND & TED LAMM, U.C. BERKELEY CTR. FOR L., ENERGY & THE ENV'T, LEGAL GROUNDS: LAW AND POLICY OPTIONS TO FACILITATE A PHASE-OUT OF FOSSIL FUEL PRODUCTION IN CALIFORNIA 8 (2020); CAL. PUB. RES. CODE §§ 21000–21006 (1979).

Vaquero Energy Inc. v. County of Kern[31] ordered the County to suspend the review and approval of oil and gas permits until the court determined that the ordinance complied with CEQA requirements. On November 2, 2022, the court lifted the suspension of the operation of the ordinance, thereby allowing Kern County to resume permitting of oil and gas operations with CEQA as the lead agency and CalGEM as a responsible agency.[32] Accordingly, CalGEM issued Notice to Operators 2022-06, advising operators that CalGEM "w[ould] consider Kern County's [Final Supplemental Recirculated Environmental Impact Report] when reviewing any Notice of Intention or UIC application," but would "reach its own conclusion on whether and how to approve the project."[33]

C. Judicial Developments

The Ninth Circuit held in *Environmental Defense Center v. Bureau of Ocean Energy Management*[34] that the Bureau of Ocean Energy Management (BOEM) and Bureau of Safety and Environmental Enforcement (BSEE) violated the National Environmental Policy Act (NEPA),[35] the Endangered Species Act (ESA),[36] and the Coastal Zone Management Act (CZMA)[37] in authorizing permits for oil well stimulation treatments, including hydraulic fracturing, on federal leases off the coast of California without preparing a full environmental impact statement consistent with California's coastal management program.

In *In re Venoco, LLC*,[38] a bankruptcy court held that the takeover by the California State Lands Commission and its operation of an offshore platform after the operator quitclaimed its leases back to the Commission and filed for bankruptcy was "a reasonable exercise of [the State's] police power[s] and not a taking in violation of the Fifth Amendment of the U.S. Constitution" or the California Constitution.

In January 2022, the California Supreme Court granted review of the court of appeal's opinion in *Chevron U.S.A., Inc. v. County of Monterey*[39] (discussed in The Year in Review 2021), which had held that a Monterey County ordinance banning well stimulation treatments, wastewater injection and impoundment, and the drilling of new wells in the County was preempted by Public Resources Code § 3106.[40] The court's minute order stated that "[p]ending review, the opinion of the Court of Appeal, which is currently published at 70 Cal.App.5th 153, may be cited, not only for its persuasive value but also for the limited purpose of establishing the existence of a conflict in authority . . . . The parties are or-

[31] Nos. BCV-15-101645-GP, BCV-15-10053-GP, BCV-15-100536-GP (Cal. Super. Ct. Oct. 22, 2021).

[32] CAL. DEP'T OF CONSERVATION, NOTICE TO OPERATORS 2022-06 (2022).

[33] *Id.*

[34] 36 F.4th 850 (9th Cir. 2022).

[35] 42 U.S.C. §§ 4321 to 4370m-11 (1970).

[36] 16 U.S.C. §§ 1531–1544 (1988).

[37] 16 U.S.C. §§ 1451–1467 (1990).

[38] No. 17-10828 (JTD), 2022 WL 3639414 (Bankr. D. Del. Aug. 23, 2022).

[39] 70 Cal. App. 5th 153 (Ct. App. 2021).

[40] CAL. PUB. RES. CODE § 3106 (2023).

dered to brief the following issue: Does Public Resources Code section 3106 impliedly preempt provisions LU-1.22 and LU-1.23 of Monterey County's initiative 'Measure Z?'"[41]

IV. COLORADO

A. Legislative Developments

1. PFAS Disclosures and Prohibition

In June 2022, Governor Jared Polis signed two bills into law in response to growing public concern in Colorado and elsewhere regarding chemicals used in oil and gas operations, other industrial operations, and consumer products, with a particular focus on a broadly defined group of perfluoroalkyl and polyfluoroalkyl compounds (PFAS chemicals). The first bill, House Bill 22-1348, implements disclosure requirements for any chemical that may be used in oil and gas production in Colorado, including PFAS chemicals.[42] The second bill, House Bill 22-1345, prohibits the sale or distribution of consumer (and industrial) products that contain intentionally-added PFAS chemicals.[43]

House Bill 22-1348 requires disclosers that sell, distribute, or use a chemical product in downhole operations in Colorado to disclose information about the product to the Colorado Oil and Gas Conservation Commission (COGCC), including the chemical trade name of the product, details about the chemicals used in the product, the intended purpose of the product, and a declaration to the COGCC that the product does not contain intentionally-added PFAS chemicals.[44] A discloser may refuse to disclose this information if it is protected by trade secrets.[45] A discloser is defined as an operator or service provider that uses chemical products in the course of downhole operations, or any direct vendor that provides chemical products to an operator or service provider for use at the well site.[46]

House Bill 22-1345 requires manufacturers and distributors to phase out the sale and distribution of certain PFAS-containing consumer products and oil and gas products.[47] On or after January 1, 2024, the use and sale of PFAS-containing oil and gas products, including hydraulic fracturing fluids, drilling fluids, and proppants, will be prohibited.[48]

2. Financial Assurance Rulemaking

Effective April 30, 2022, the COGCC approved new regulations requiring financial assurance to cover the cost of plugging and abandoning wells and re-

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[41] Chevron U.S.A., Inc. v. Cnty. of Monterey, No. S271869 (Cal. Jan. 26, 2022).

[42] H.B. 22-1348, 73d Gen. Assemb., 2d Reg. Sess. (Colo. 2022).

[43] H.B. 22-1345, 73d Gen. Assemb., 2d Reg. Sess. (Colo. 2022).

[44] H.B. 22-1348; COLO. REV. STAT. § 34-60-132(2) (2022).

[45] COLO. REV. STAT. § 34-60-132(2).

[46] *Id.* § 34-60-132(1)(j).

[47] H.B. 22-1345; Colo. Rev. Stat. § 25-15-604(1) (2022).

[48] COLO. REV. STAT. § 25-15-604(1).

claiming well sites.[49] Pursuant to Senate Bill 19-181, which was signed into law by Governor Jared Polis, the COGCC updated the financial assurance rules to include (1) requiring that operators are financially capable of meeting their obligations under Senate Bill 19-181 through an operator-specific financial assurance plan, (2) increasing financial assurance for transferred and inactive wells, (3) requiring financial assurance accounts for new wells funded in the initial years of operations, (4) creating an orphan well fund, (5) applying Colorado's new rules to federal wells for the first time, (6) broadening access for local governments regarding the plugging of wells, and (7) developing an out-of-service plugging program.[50] Operators are required to use the COGCC's newly-developed Form 3 to submit financial assurance plans.[51]

The orphan well fund was established in June 2022. Operators must pay a mitigation fee for each well that has been spud but not plugged and abandoned.[52] The mitigation fees collected will "fund the plugging, reclaiming, and remediating of orphaned wells" in Colorado.[53]

C. Judicial Developments

In *Great Northern Properties, LLLP v. Extraction Oil & Gas, Inc.*, the Colorado Court of Appeals held that the centerline presumption applies to mineral interests underlying a dedicated right-of-way.[54] In that case, a real estate developer owned a parcel of land in Greeley, Colorado, which is located in Weld County in the heart of the Denver-Julesburg Basin. The developer subdivided the parcel into individual lots and dedicated a right-of-way across its land to the City of Greeley. The developer granted three parcels, all abutting the right of way, to separate grantees, but did not expressly reserve any mineral interests. Years later, the developer conveyed "whatever interest it had in the minerals" under the right-of-way to Great Northern Properties (GNP).[55] GNP subsequently sought to quiet title to the mineral estate.

Extraction Oil & Gas, Inc. (Extraction) held oil and gas leases with land abutting the right-of-way and was entitled to drill oil and gas beneath the right-of-way.[56] Extraction argued that in applying the centerline presumption, the landowners of the parcels abutting the right-of-way owned the mineral rights and GNP did not own any mineral rights. The centerline presumption provides "a conveyance of land abutting a road or highway is presumed to carry title to the center of that roadway to the extent the grantor has an interest therein, unless a contrary intent appears on the face of the conveyance."[57] Further, the

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[49] Megan Castle, *Colorado Oil & Gas Conversion Commission Votes Unanimously to Adopt New Rules*, PAGOSA DAILY POST (Mar. 2, 2022).

[50] *Id.*

[51] COLO. CODE REGS. § 404-1:702 (2022).

[52] COLO. REV. STAT. § 34-60-133(5) (2022).

[53] *Id.*

[54] 522 P.3d 228 (Colo. App. 2022), *cert. granted in part*, No. 22CV805 (Colo. Mar. 20, 2023).

[55] *Id.* at 233.

[56] *Id.*

[57] *Id.* at 233–34 (quoting Asmussen v. United States, 304 P.3d 552, 553 (Colo. 2013)).

law presumes a grantor conveys all appurtenant advantages and rights along with the property, including all mineral interests, unless specifically reserved to the grantor. Therefore, Extraction argued the real estate developer did not own any interest in the mineral rights beneath the right-of-way at the time of the conveyance to GNP, and the landowners took title to both the mineral estate to the centerline of the right-of-way.

Moreover, the court held the centerline presumption only applies when the following criteria is met:

> (1) the grantor conveys ownership of a parcel of land abutting a right-of-way; (2) at the time of conveyance, the grantor owned the fee underlying the right-of-way; (3) the grantor conveys away all the property they own abutting the right-of-way; and (4) no contrary intent appears on the face of the conveyance.[58]

In *Weld County Colorado Board of County Commissioners v. Ryan*,[59] the Board of County Commissioners of Weld County, Colorado (Weld County), sued the Colorado Department of Public Health and Environment (CDPHE) and the Air Quality Control Commission (Commission), challenging the Commission's new air quality control regulations on oil and gas operations. The Commission proposed to revise its Regulation No. 7 to impose (1) additional leak detection and repair inspections at well production facilities and natural gas compressors and (2) increased emission controls for storage tanks. The Commission initiated rulemaking processes to review and revise Regulation 7 and eventually adopted the new rules.

Once the new rules took effect, Weld County sued, asserting the Commission and CDPHE allowed a local community group to submit a late amendment without allowing other parties to respond, and the Commission failed to prioritize Weld County's concerns regarding economic impacts of the rules and its land use powers.[60] The CDPHE and the Commission moved to dismiss Weld County's claims for lack of standing to sue a state agency under the *Martin v. District Court* holding and failure to establish an injury-in-fact. The *Martin* decision provides that "absent 'an express statutory right, a subordinate state agency'—possibly a county—'lacks standing or any other legal authority to obtain judicial review of an action of a superior state agency.'"[61] The district court dismissed Weld County's suit.

On appeal, Weld County argued that it is not a subordinate agency because its powers and rights as a county are like those of an agency, and because the Colorado Air Pollution Prevention and Control Act (Colorado Air Act) requires the Commission to prioritize the economic impact concerns of local government with respect to proposed regulations.[62] However, the court of appeals disagreed and found the Colorado Air Act limits the County to adopting regulations that conform to, or may be more restrictive than, the Commission's standards. Accordingly, the court held Weld County did not have standing to

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[58] *Id.* at 236.

[59] 511 P.3d 663, 665 (Colo. App. 2022), *cert. granted*, No. 22CV242 (Colo. Nov. 21, 2022).

[60] *Id.* at 666.

[61] *Id.* at 667 (quoting Martin v. District Court, 550 P.2d 864, 866 (Colo. 1976)).

[62] *Id.* at 667–68.

seek judicial review of the Commission's rulemaking pursuant to the *Martin* decision and affirmed the district court's dismissal. Importantly, in November 2022, the Supreme Court of Colorado granted a petition for writ of certiorari to determine whether the court should review and clarify the *Martin* decision, and in doing so, whether Weld County may have standing to seek a decision on the merits in the district court.[63]

V. KANSAS

Kansas had a relatively quiet year in both the legislature and the judiciary. Two case decisions were issued by Kansas courts.

A. Judicial Developments

1. *Fawcett* and the Marketable Product Rule

In the longstanding *Fawcett* litigation, the Kansas Supreme Court issued its decision on the plaintiffs' amended petition.[64] *Fawcett* was a class action by royalty owners based on Kansas's marketable product rule. After the Kansas Supreme Court rejected the plaintiffs' theory of recovery in 2015, the class amended its petition on the basis that the court, "changed the law on what it means for gas to be marketable."[65] The Class challenged OPIK and third-party gas marketers' use of net-back formulas to determine royalty payments—essentially alleging that such formulas suggest bad faith toward lessors.

The court found that its prior decision did not reflect a change of existing law. In doing so, the court relied on "the law of the case" doctrine, which "provides that when a second trial or appeal is pursued in a case, the first decision is the settled law of the case on all questions addressed in a first appeal and reconsideration will not be given to such questions."[66] As such, the owners were precluded from relitigating that the operator breached its implied duty to market or from raising a good-faith argument based on an intended market theory. This opinion appears to have finally brought the *Fawcett* saga to a close, but new royalty owner class actions may still arise in the future over the marketable product rule.

2. Wrongful Royalty Payments and Insurance Coverage

In *Deutsch v. BITCO General Insurance Corp.*,[67] the U.S. District Court for the District of Kansas heard an insurance case arising out of a royalty misallocation dispute and found that coverage did not apply. Deutsch was the operator of an oil and gas lease in Stafford County. The property was originally

[63] Weld Cnty. Bd. of Cnty. Comm'rs v. Ryan, No. 22SC242, 2022 WL 17254059 (Colo. Nov. 21, 2022).

[64] L. Ruth Fawcett Tr. v. Oil Producers, Inc. of Kan., 507 P.3d 1124 (Kan. 2022).

[65] L. Ruth Fawcett Tr. v. Oil Producers, Inc. of Kan., 475 P.3d 1268, 1274 (Kan. Ct. App. 2021).

[66] *Fawcett*, 507 P.3d at 1127.

[67] No. 21-1150-EFM, 2022 WL 796308 (D. Kan. Mar. 16, 2022), *appeal dismissed*, No. 22-3077, 2022 WL 10480787 (10th Cir. Sept. 20, 2022).

leased in the 1970s. In 2012, the operator drilled another well on the leasehold without realizing that the property had been subdivided into two tracts and the new well had differing mineral ownership than the previous ones. The affected royalty owners sued the operator for breach of contract, conversion, and negligence. As part of Deutsch's attempt to fix the problem, Deutsch successfully unitized the two tracts to address royalty payments going forward. The Tract A owners (who had been overpaid by Tract B production) then sued Deutsch because the unitization would dilute their royalties from Tract A and cause them "financial injuries."

Deutsch sent notices of the claims to BITCO seeking coverage because the claims involved damage to property. BITC denied both requests because the relevant policies provided coverage only if the damage was either physical or involved "the loss of use of 'tangible property.'"[68] When Deutsch sued, BITCO sought a motion for summary judgment on the grounds that royalty misallocations were purely intangible losses. Deutsch argued that 'tangible' meant "anything 'capable of being appraised at an actual or approximate value,'" and that oil is tangible.[69] Deutsch likewise urged the court not to adopt the Black's Law definition because it a specialized resource for lawyers.

The district court granted summary judgment for BITCO and adopted the Black's Law Dictionary definition for tangible.[70] The court noted the frequent use of Black's Law Dictionary by both Kansas and federal courts. In addition, the court relied on an older Kansas case which characterized oil and gas leases as "the source of intangible interests."[71] It is worth noting that the court's description of the oil and gas lease suggests that the lessor was entitled to a one-eighth share of the oil produced. BITCO had a separate argument that severed oil would exempt as personal property under the insured's control, but the court declined to address that issue in its decision.

VI. LOUISIANA

A. Legislative Developments

Louisiana's risk-fee statute, La. R.S. 30:10 (also known colloquially as the statutory JOA), was amended by Act No. 5 of the 2022 Regular Session, effective August 1, 2022.[72] The major substantive changes fall into three primary categories. First, the amendment creates new rights for operators remitting a nonparticipating owner's lease burdens for the benefit of the nonparticipating owner's royalty and overriding royalty owners as required by the statute. Nonparticipating owners must now furnish the operator with the instruments creating the royalty and overriding royalty obligations, along with title information pertaining to the nonparticipating owner's interest in the unit. A nonparticipating owner who receives payment based upon the information it furnishes to

[68] *Id.* at *5.

[69] *Id.* at *6.

[70] *Id.* at *7.

[71] *Id.* (quoting Robinson v. Jones, 240 P. 957, 959 (Kan. 1925)).

[72] LA. STAT. ANN. § 30:10 (2023); S.B. 38, 2022 Reg. Sess. (La. 2022).

the operator must indemnify and hold the operator harmless for claims arising from such payments and must restore any payments made by the operator in reliance upon incorrect information. Following the amendment, the operator may also secure a title opinion for the nonparticipating owner's tract(s) in the unit and recoup the cost out of the nonparticipating owner's allocable share of production from the unit well. In addition, any mineral lease royalty owner or overriding royalty of the nonparticipating owner making demand on the operator for failure to remit the nonparticipating owner's lease burdens must now enclose the applicable instruments as part of the demand to the operator.

The second major substantive change affects the manner in which the operator proposes the well under La. R.S. 30:10. The amendment gives operators the discretion to include a statement in the risk charge notice that payment in full of an owner's share of the authorization for expenditure (AFE) costs and cost estimates must be included with an election to participate in the well. Finally, the third major change in the amendment relates to a "subsequent unit operation." The amendment authorizes an operator to recover a risk charge of 100% of a tract's allocated share of actual reasonable expenditures incurred in conducting a subsequent unit operation if an owner in the unit elects not to participate in the risk and expense of the subsequent unit operation (or is deemed to be a nonparticipating owner as to the subsequent unit operation). "Subsequent unit operation" is defined as "a recompletion, rework, deepening, sidetrack, or extension . . . ."[73] And each of these operational terms in the definition are also defined in both the amendment and the original statutory JOA.

B. Judicial Developments

In October 2022, the U.S. Court of Appeals for the Fifth Circuit in *Plaquemines Parish v. Chevron USA, Inc.*, affirmed the district court's decision to remand the coastal legacy lawsuit against oil and gas companies who operated along the coast to state court in Plaquemines Parish.[74] The lawsuit, originally brought by the plaintiff in state court, is one of over 40 like it seeking to determine the oil and gas industry's potential liability (and potential restoration obligations) for the deterioration of Louisiana's coastal wetlands.[75] The merits of that challenge have not yet been reached. Instead, the parties have been debating the appropriate forum for the dispute. The plaintiff argued the case belongs in state court, alleging violations of Louisiana's State and Local Coastal Resources Management Act. The defendants, however, argued the case was properly removable to federal court because the government directed the oil and gas industry to increase production as part of the nation's combined wartime efforts during the Second World War, and thus, the oil and gas companies qualify as federal officers to anchor federal jurisdiction. However, after nearly a decade of debate, the Fifth Circuit resolved this dispute in favor of remanding the case to the 25th Judicial District Court in Plaquemines

[73] S.B. 38.

[74] No. 22-30055, 2022 WL 9914869 (5th Cir. Oct. 17, 2022).

[75] Mark Schleifstein, *1st of 43 Lawsuits Accusing Big Oil of Damaging Louisiana Coast Back to State Court – Again*, THE TIMES-PICAYUNE (Jan. 13, 2022).

Parish. In doing so, the Fifth Circuit potentially cleared the way for at least 41 similar lawsuits collectively alleging billions of dollars in damages for environmental damages to the Louisiana coast. The defendants recently sought but were denied a stay to allow for a writ of certiorari to the United States Supreme Court.[76]

A significant decision impacting operators across Louisiana was handed down this year by the U.S. District Court for the Western District of Louisiana, which reversed a decision from three years ago. Originally, in 2019, the Western District of Louisiana granted summary judgment in favor of unleased mineral owners included in drilling units created by the Louisiana Commissioner of Conservation in the case of *Johnson v. Chesapeake Louisiana, LP*.[77] The court concluded that the unit operator was not authorized to recover the unleased mineral owner's pro rata share of post-production costs incurred by the operator to market the unleased mineral owner's share of production from the unit. Days after the decision was rendered in 2019, class action lawsuits were filed on behalf of unleased mineral owners in the state of Louisiana against Chesapeake Operating, L.L.C., and BPX Operating Company, and these putative class action lawsuits were assigned to the same judge who rendered the *Johnson* decision.[78] In *Johnson*, the defendant filed a motion for reconsideration of the summary judgment ruling.[79] In *Self v. BPX Operating Co.*, the defendant filed a Federal Rule of Civil Procedure 12(b)(6) motion for partial dismissal aimed at dismissing the primary claim that assessing post-production costs to the proceeds of unleased mineral owners is per se illegal.[80] On March 31, 2022, the district court reversed its prior ruling in the 2019 *Johnson* case and granted BPX Operating Company's motion for partial dismissal in *Self*.[81] In rendering its decision, the court relied upon Louisiana jurisprudence that confirmed when an operator markets production on behalf of an unleased mineral owner, the operator does so pursuant to the Civil Code quasi-contractual regime of *negotiorum gestio*. The court concluded that this regime (specifically Civil Code article 2297) authorizes the legal recovery of post-production costs by the operator as a matter of law.

This year the Fifth Circuit also had occasion to interpret the notice requirements of La. R.S. 30:103.1 and 103.2, which, if satisfied, expose an operator to the statutory penalty of forfeiting the "costs of drilling operations of the well." In *B.A. Kelly Land Co. v. Aethon Energy Operating, L.L.C.*, the Fifth Circuit reversed the district court's conclusion that the correspondence sent by an unleased mineral owner to an operator failed to satisfy the requirements of La. R.S. 30:103.1 and 103.2.[82] The district court deemed the first letter at issue, which was dated December 15, 2017, to be insufficient notice under La. R.S.

[76] Chevron USA, Inc. v. Plaquemines Parish, 143 S. Ct. 991 (2023) (mem.).

[77] No. 16-1543, 2019 WL 1301985 (W.D. La. Mar. 21, 2019).

[78] Johnson v. Chesapeake La., LP, No. 5:16-cv-01543, 2022 WL 989341 (W.D. La. Mar. 31, 2022).

[79] *Id.* at *1.

[80] 595 F. Supp. 3d 528 (W.D. La. 2022).

[81] *Johnson*, 2022 WL 989341; *Self*, 595 F. Supp. 3d 528.

[82] 25 F.4th 369 (5th Cir. 2022).

30:103.1 primarily because it did not reference either of the two statutes at issue or expressly use the term "initial report" or "quarterly report." On appeal, however, the Fifth Circuit rejected this rationale. Instead, the Fifth Circuit noted that the express requirements of La. R.S. 30:103.1 were met, i.e., the correspondence was in writing, sent by certified mail to the operator, and identified the name and address of the unleased mineral owner. Furthermore, the letter tracked the language of La. R.S. 30:103.1 with respect to the specific information that the statute requires the operator to report, and it identified the drilling units and wells at issue. Similarly, as to the second letter at issue, which was dated April 17, 2018, the district court concluded it did not satisfy La. R.S. 30:103.2 because the letter did not expressly reference either of the two statutes at issue or "the possibility of 'a lawsuit, penalty or forfeiture under § 103.2.'"[83] The Fifth Circuit, however, explained that La. R.S. 30:103.2 only required the notice to "'call[] attention' to [an] operator's 'failure to comply with the provisions of R.S. 30:103.1.'"[84] Here, the second letter expressly identified the prior letter dated December 17, 2017, and reiterated the plaintiff's unleased status and request for "written reports concerning operating costs and expenses."[85] Furthermore, the April 17, 2018, letter also tracked the language of La. R.S. 30:103.2. As such, the Fifth Circuit concluded that the writings from the plaintiff satisfied both La. R.S. 30:103.1 and 103.2.

Finally, there were also a number of significant rulings from the Louisiana Supreme Court in the realm of legacy litigation, which generally refers to lawsuits involving claims of oilfield contamination to land, including soil and groundwater, that allegedly arose from historical oil and gas operations. The Louisiana Supreme Court held in *State ex rel. Tureau v. BEPCO, L.P.*, that citizen enforcement actions under La. R.S. 30:16 are not subject to liberative prescription.[86] The statute in question, La. R.S. 30:16, is a statute that allows citizen enforcement actions in instances where the Commissioner of Conservation fails to bring suit pursuant to La. R.S. 30:14 against a person who is violating or is threatening to violate state law with respect to conservation of oil or gas.[87] In *Tureau*, the plaintiff claimed that the defendants maintained several unlined pits in connection with wells being operated on their property and on adjacent property. Further, the plaintiff claimed that the unlined pits were either never closed or were not closed pursuant to "Statewide Order 29-B, which, among other things, requires the registration and closure of [such] unlined oilfield pits, [along with] the remediation of various enumerated contaminates in the soil to certain minimum standards."[88] In lieu of asserting a private right of action related to these claims, the plaintiff sought injunctive relief under La. R.S. 30:16, which would force the defendants' compliance with Statewide Order 29-B. In response, the defendants raised an exception of prescription, al-

[83] *Id.* at 383.

[84] *Id.* (first alteration in original).

[85] *Id.* at 377.

[86] 351 So. 3d 297 (La. 2022).

[87] LA. STAT. ANN. § 30:16 (2022).

[88] *Tureau*, 351 So. 3d at 302 (citation omitted).

leging that the one-year prescriptive period in Louisiana Civil Code article 3492 applies to the plaintiff's claims. However, the Louisiana Supreme Court found these kinds of lawsuits are not subject to *any* liberative prescriptive period because the legislature has not enacted such a period for claims under La. R.S. 30:16, and further, because such claims allow a citizen to act for the Commissioner rather than for personal damages.

On June 1, 2022, the Louisiana Supreme Court affirmed its interpretation of Act 312 in a previous landmark decision of the same name.[89] This new decision, referred to as *Louisiana Land III*, stands as the final chapter in a trilogy of Louisiana Supreme Court cases interpreting the extent of recovery under the 2006 version of Act 312. Prior to the introduction of Act 312, there was no legal mechanism requiring a landowner to use money awarded to remediate environmental damage on the actual cleanup of the allegedly contaminated property. In 2006, the Louisiana legislature introduced Act 312 to require all damages awarded for evaluation or remediation of environmental damage to be paid into the registry of the court and used for cleanup of the property at issue. Then, in *Louisiana Land I*, the Louisiana Supreme Court interpreted Act 312 to potentially allow juries to award damages in excess of actual costs to remediate environmental damages.[90] The court overturned this ruling in *Louisiana Land II*, concluding that a landowner's recovery is limited to a regulatory cleanup of contaminated property unless specifically contracted otherwise.[91] Thereafter, in *Louisiana Land III*, the Louisiana Supreme Court granted rehearing of its *Louisiana Land II* decision and ultimately affirmed its ruling to explain that any award in excess of what is necessary through the feasible plan under Act 312 would be an unacceptable windfall to a landowner, and any tort damages received cannot be duplicative of the award under the Act.[92]

VII. New Mexico

A. Judicial Developments

There were not any topical reported decisions in New Mexico in 2022.

B. Administrative Developments

On March 25, 2022, the New Mexico Oil Conservation Commission (NMOCC) adopted a series of rule amendments related to the venting and flaring of natural gas with the ultimate goal of having operators capture 98% of their natural gas by the end of 2026. The NMOCC adopted a new form identified as a C-115B on which operators are to report all volumes of natural gas vented and flared.[93] After drilling and completion operations are finished, the

[89] State v. La. Land & Expl. Co., 339 So. 3d 1163 (La. 2022) [hereinafter *Louisiana Land III*].

[90] State v. La. Land & Expl. Co., 110 So. 3d 1038 (La. 2013) [hereinafter *Louisiana Land I*].

[91] State v. La. Land & Expl. Co., 347 So. 3d 684 (La. 2021) [hereinafter *Louisiana Land II*].

[92] *Louisiana Land III*, 339 So. 3d at 1164, 1166, 1174.

[93] Press Release, State of N.M., Energy, Minerals & Nat. Res. Dep't, Oil Conservation Commission Approves EMNRD's Final Natural Gas Waste Reduction Rules (Mar. 25, 2021); N.M. Code R. § 19.15.7.25 (2023).

new rules prohibit venting or flaring except in cases of emergency or malfunction, various sorts of enumerated clean-up or maintenance activities, or for the first 12 months of production for a well classified by the New Mexico Oil Conservation Division as an exploratory well.[94] The new rules also require that facilities constructed after the effective date be designed to minimize waste of gas, including flare stacks having automatic ignitors or continuous pilots, and that permanent storage tanks installed shall be equipped with an automatic gauging system that reduces venting.[95] The rules also includes provisions requiring operators to adopt practices, retrofit wells, and otherwise take necessary actions to annually increase the percentage of natural gas captured to achieve 98% capture by the end of 2026.[96] Improvement is to be judged on percentages captured by an operator in the last quarter of 2021 and first quarter of 2022.[97] There is no exception in the rules for older stripper (low producing) wells.[98]

Effective August 5, 2022, ozone precursor rules were adopted by the New Mexico Environment Department (NMED). The basic purpose of those rules "is to establish emission standards for volatile organic compounds (VOCs) and oxides of nitrogen (NOx) from oil and gas production, processing," and transmission facilities.[99] The rules contain detailed requirements for monitoring, installing, operating, maintaining, performing, and/or replacing oil and gas related engines and turbines,[100] compressor seals,[101] control devices and closed vent systems,[102] leaking equipment and other fugitive emissions,[103] unloading of natural gas liquids,[104] glycol dehydrators,[105] heaters,[106] hydrocarbon liquid transfers and related equipment,[107] pipeline pig launching and receiving,[108] pneumatic controllers and pumps,[109] storage tanks,[110] well workovers,[111] pro-

[94] N.M. Code R. § 19.15.27.8(B)–(D).

[95] *Id.* § 19.15.27.8(E).

[96] *Id.* § 19.15.27.9(A).

[97] *Id.*

[98] *See* Press Release, *supra* note 93.

[99] Press Release, Off. of the N.M. Governor, New Mexico's Nationally Leading Oil and Gas Emissions Rule Becomes Law (July 28, 2022); N.M. Code R. § 20.2.50.6 (2023).

[100] N.M. Code R. § 20.2.50.113 (2023).

[101] *Id.* § 20.2.50.114(A) (2023).

[102] *Id.* § 20.2.50.115(A) (2023).

[103] *Id.* § 20.2.50.116(C)(3)(d) (2023).

[104] *Id.* § 20.2.50.117(A) (2023).

[105] *Id.* § 20.2.50.118(A) (2023).

[106] *Id.* § 20.2.50.119(A) (2023).

[107] *Id.* § 20.2.50.120(A) (2023).

[108] *Id.* § 20.2.50.121(A) (2023).

[109] *Id.* § 20.2.50.122(A) (2023).

[110] *Id.* § 20.2.50.123(A) (2023).

[111] *Id.* § 20.2.50.124(A) (2023).

duced water management units,[112] and flowback vessels and preproduction operations.[113]

VIII. OHIO

Like in recent years, Ohio courts tackled a variety of oil and gas issues, ranging from the interpretation of deeds and leases to the application of Ohio's statutory mechanisms for terminating severed mineral interests.

A. Legislative Developments

Effective July 21, 2022, Ohio's statutory unitization law was amended to impose timing requirements upon the Division of Oil and Gas Resources Management (Division) in both setting hearings and issuing unit orders. The amendment provides that the Division must hold a hearing on an application within 60 days after the filing date. However, the hearing may be continued if the operator fails to correct any issue causing the application to be "materially incomplete" within three business days of receiving notice of the issue from the Division.[114] Further, assuming the statutory elements are met by the applicant, the Division is now required to issue a unit order within 60 days of the hearing.[115]

B Judicial Developments

1. Deed Construction

In *Bates v. Bates*,[116] Ohio's Seventh District Court of Appeals interpreted a mineral reservation in a deed that also reserved a life estate unto one of many grantors. Here, the owners of a collective seven-ninths interest in the subject property conveyed the land, reserving a life estate unto Anna Bates, one of the grantors who personally owned a one-third interest.[117] In addition, the deed reserved unto Ms. Bates "the one half interest in the oil and gas in and under the [land] together with the right to lease and dispose of the same in any manner she sees fit . . . ."[118] The court rejected the argument that the mineral reservation merely created a life estate in Ms. Bates, finding that the language used in the separate life estate and mineral reservations, as well as the surrounding paragraphs in the deed, showed that the mineral reservation was not to be limited to Ms. Bates' lifetime.[119] The court also disagreed that the mineral reservation contained a latent ambiguity simply because Ms. Bates only owned a one-

[112] *Id.* § 20.2.50.126(A) (2023).
[113] *Id.* § 20.2.50.127(A) (2023).
[114] OHIO REV. CODE ANN. § 1509.28(C)(1)–(2) (2022).
[115] *Id.* § 1509.28(D).
[116] No. 21 NO 0482, 2022 WL 967392 (Ohio Ct. App. Mar. 31, 2022).
[117] *Id.* at *4, *11.
[118] *Id.* at *1.
[119] *Id.* at *7.

third interest in the land.[120] Instead, the court stated that "[t]he reservation language is exact," as it specifically reserved a one-half interest in the minerals, and the grantors collectively owned and conveyed more than just the one-third interest that Ms. Bates owned.[121] The court ultimately concluded that nothing prohibits grantors from combining their interests to reserve an amount unto one of the grantors who *individually* owns less than that amount.[122]

In *Senterra, Ltd. v. Winland*,[123] the Supreme Court of Ohio considered whether the *Duhig* rule applies to an overconveyance resulting from an attempted mineral severance.[124] At issue was the effect, if any, of a purported reservation of a one-quarter interest in the oil and gas in a 1954 deed.[125] Due to prior severances, the grantor only owned a three-eighths interest in the oil and gas at the time, but these prior severances were not mentioned in the 1954 deed.[126] As a result, the grantee's successor argued that because the grantor purported to *convey* a three-quarter interest—an amount greater than that which the grantor actually owned—the one-quarter reservation was immediately void under the *Duhig* rule.[127] The court disagreed, instead relying on another Texas case[128] to hold that because the grantor "did not own the exact interest necessary to remedy the breach at the time of the conveyance," the *Duhig* rule did not apply.[129] In other words, because the grantor did not own a three-quarter interest in the oil and gas (the interest purportedly conveyed by the 1954 deed), the *Duhig* rule was inapplicable.

In *Peppertree Farms, L.L.C. v. Thonen*,[130] the Supreme Court of Ohio analyzed the impact on a mineral severance of a common-law rule providing that a grantor could only convey or retain a fee simple absolute interest in real property by including words of inheritance in the deed.[131] Although Ohio abrogated this rule by statute in 1925, it still applied to deeds executed prior where, without words of inheritance, a conveyance or retention of an interest would only create a life estate.[132] Important to this common-law rule, there is a distinction between the terms "reservation" and "exception," despite the two terms often being used interchangeably today. A reservation creates a new property right

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[120] *Id.* at *8.

[121] *Id.* at *10.

[122] *Id.*

[123] No. 2020-0197, 2021 Ohio Lexis 1476 (Ohio July 26, 2022).

[124] The *Duhig* rule is an equitable rule set forth in the Texas case of *Duhig v. Peavy-Moore Lumber Co.*, 144 S.W.2d 878 (Tex. 1940). The *Duhig* rule "estops a grantor from claiming title to a severed oil and gas interest when doing so would breach the grantor's warranty as to the title and interest purportedly conveyed to the grantee." *Senterra*, 2022 Ohio LEXIS 1476, at *1–2.

[125] *Senterra*, 2022 Ohio LEXIS 1476, at *3.

[126] *Id.* at *13–14.

[127] *Id.* at *14.

[128] *Id.* at *15; *see* Trial v. Dragon, 593 S.W.3d 313, 319 (Tex. 2019) (clarifying that the *Duhig* rule applies only "if the grantor owns the exact interest to remedy the breach *at the time of execution* and equity otherwise demands it").

[129] *Senterra*, 2022 Ohio LEXIS 1476, at *14.

[130] 188 N.E.3d 1061 (Ohio 2022).

[131] *Id.* at 1062–63.

[132] *Id.* at 1063.

for the grantor, while an exception withholds from a conveyance an existing fee simple property right already owned by the grantor.[133] Because of the distinction, words of inheritance were needed to create a fee simple interest by *reservation*, but not by *exception*.[134] In this case, the court looked at a 1916 deed severing "one half of the royalty of the oil and gas" and a 1920 deed severing "the 3/4 of oil Royalty and one half of the gas," neither of which included words of inheritance.[135] Reiterating that the use of the words "reserve" or "except" is not determinative of whether a severance was a reservation or exception, the court held that each severance was an exception and thus words of inheritance were not required to retain more than a life estate.[136] The court reasoned that, in both instances, the oil and gas was already in existence and owned in fee simple before the severance, and thus the severance did not create the interest.[137] The court explained that because unaccrued royalties are classified as real property and "the right to receive royalt[ies] in the future is one of the separately alienable incidents of ownership of the full mineral interest," the right to future royalties may be retained by exception.[138]

2. Ohio's Dormant Mineral Act and Marketable Title Act

In *Fonzi v. Brown*,[139] the Supreme Court of Ohio addressed the level of diligence a surface owner must exercise in attempting to identify and locate holders of a severed mineral interest under the Ohio Dormant Mineral Act (DMA).[140] Referencing its prior decision in *Gerrity v. Chervenak*,[141] the court reiterated that, while a search "of the public records in the county where the mineral interest is located will 'establish a baseline of reasonable diligence,'" the facts of each case may require additional searching to satisfy the standard of reasonable diligence.[142] In this case, the surface owners only searched the public records of the Ohio county where the mineral interest was located, despite the severance deed identifying the county in Pennsylvania where the reserving parties resided.[143] As a result, the court ruled that it was unreasonable for the surface owners not to search the public records of the identified Pennsylvania county.[144] Additionally, rejecting the argument that the 2006 amendment to the DMA created two distinct methods for abandonment—one where post-notice protections are afforded to the holder and one where they are not—the court confirmed that "[t]wenty years without a saving event, service by mail

[133] *Id.*
[134] *Id.* at 1063, 1066.
[135] *Id.* at 1064.
[136] *Id.* at 1066.
[137] *Id.* at 1067.
[138] *Id.* at 1067–68.
[139] 202 N.E.3d 604 (Ohio 2022).
[140] OHIO REV. CODE ANN. § 5301.56 (2022).
[141] 166 N.E.3d 1230 (Ohio 2020).
[142] *Fonzi*, 202 N.E.3d at 607, 611.
[143] *Id.* at 605, 610.
[144] *Id.* at 606.

(when feasible), and post-notice opportunity to preserve the mineral interest are indispensable elements" of a successful abandonment process.[145]

In *Stalder v. Gatchell*,[146] Ohio's Seventh District Court of Appeals faced the unique issue of whether backdating the effective date of an oil and gas lease could result in earlier production from the subject property being attributed to that lease. The surface owners entered into an oil and gas lease, despite the oil and gas having been previously severed, and in early 2015 a well began producing from a unit including the subject property. Later in 2015, the surface owners abandoned the severed mineral interest under the DMA.[147] Years later, the operator entered into an oil and gas lease with the successor to the mineral reserver. Notably, the effective date of that lease was dated before the *well's initial production*.[148] While oil and gas production can constitute a savings event under the DMA, it requires that production be *by the holder* or under a lease *to which the mineral interest is subject*.[149] Here, production occurring prior to the 2015 abandonment was obtained solely under the surface owners' lease (and thus not by a holder or under a lease to which the mineral interest was subject). And, despite the backdated effective date, the court held that past production was not "by" the new lessor.[150] In fact, by the time the production was actually attributable to the new lease, that lessor was no longer a holder (because of the 2015 abandonment).[151]

In *Hamm v. Lorain Coal & Dock Co.*,[152] Ohio's Seventh District Court of Appeals addressed whether a claim to preserve filed by an alleged shareholder of a dissolved corporation could prevent the abandonment of that corporation's mineral interest under the DMA. The Lorain Coal & Dock Company—the owner of a severed mineral interest—was dissolved in the mid-20th century.[153] This mineral interest was never conveyed out of the corporation, and the surface owners sought to have it abandoned.[154] However, an heir of an alleged shareholder in the company, along with her successor, filed claims to preserve the mineral interest.[155] If timely filed, a claim to preserve "filed for record by [a] holder" will prevent the abandonment of a severed mineral interest.[156] Even though the court agreed that holders other than the dissolved corporation (i.e., the record holder) could exist, it ultimately concluded that there was not enough evidence presented to confirm that the claims to preserve were filed by actual holders.[157] It was uncertain whether the filers did in fact inherit and

[145] *Id.* at 609.

[146] 2022-Ohio-1325, 2022 WL 1180128 (Ohio Ct. App. Apr. 15, 2022).

[147] *Id.* ¶¶ 11, 82 n.4.

[148] *Id.* ¶ 14.

[149] OHIO REV. CODE ANN. § 5301.56(B)(3)(b) (2022).

[150] *Stalder*, 2022-Ohio-1325, ¶ 90.

[151] *Id.* ¶ 91.

[152] 2022-Ohio-1048, 2022 Ohio App. LEXIS 1009 (Ohio Ct. App. Mar. 30, 2022).

[153] *Id.* ¶ 6.

[154] *Id.* ¶¶ 6–7.

[155] *Id.* ¶ 8.

[156] OHIO REV. CODE ANN. § 5301.56(C)(1) (2022).

[157] *Hamm*, 2022-Ohio-1048, ¶ 47.

own shares in the company, especially given conflicting evidence that all shares had been cashed in during dissolution.[158]

In *Peppertree Farms, L.L.C. v. Thonen*,[159] the Supreme Court of Ohio answered the narrow question of whether a decedent's Last Will and Testament could prevent the extinguishment of a severed mineral interest under the Ohio Marketable Title Act (MTA),[160] when it did not include a specific devise of the interest or a residuary clause. The MTA provides that a claimant's marketable record title shall be subject to "[a]ny interest arising out of a *title transaction* which has been *recorded* subsequent to the effective date of the root of title . . . ."[161] And a title transaction is defined as a "transaction *affecting title* to any interest in land, including title *by will or descent* . . . ."[162] Here, because the severed mineral interest owner's will did not include a specific devise of the interest or a residuary clause, the interest passed as if he had died intestate.[163] Looking to the relevant statutory language, the court found that the decedent's will was not a title transaction under the MTA, as it did not transfer, encumber, or in any way affect title to the interest.[164] And while the intestate transfer of the interest *was* a title transaction, it was not a *recorded* title transaction.[165]

3. Oil and Gas Leases

In *Zehentbauer Family Land, LP v. TotalEnergies E&P USA, Inc.*,[166] the U.S. Court of Appeals for the Sixth Circuit was tasked with applying Ohio law to determine the proper method for calculating royalty payments for a class of lessors. The oil and gas leases at issue provided for a royalty payment "based upon the gross proceeds paid to Lessee for the gas marketed and used off the leased premises, . . . *computed at the wellhead* from the sale of such gas substances so sold by Lessee."[167] Here, the defendant lessees sold their gas at the wellhead to midstream affiliates and were paid using the netback method.[168] The lessor royalties were then calculated using the netback price as the base.[169] Finding no conflict between the terms "gross proceeds" (from the perspective of the lessee) and "computed at the wellhead" under the circumstances, the court approved of the calculation methodology.[170] Based on the plain language of the leases, the royalty calculations were to be based on the

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[158] *Id.* ¶¶ 47–48.

[159] 2022-Ohio-396, 188 N.E.3d 1069.

[160] OHIO REV. CODE ANN. §§ 5301.47–.55 (1961).

[161] *Id.* § 5301.49(D) (2022) (emphasis added).

[162] *Id.* § 5301.47(F) (2022) (emphasis added).

[163] *Peppertree Farms*, 2022-Ohio-396, ¶ 26.

[164] *Id.*

[165] *Id.*

[166] No. 20-3469, 2022 U.S. App. LEXIS 3151 (6th Cir. Feb. 1, 2022).

[167] *Id.* at *2.

[168] *Id.* at *2–3.

[169] *Id.* at *3.

[170] *Id.* at *8–9.

amount paid to the lessees at the point of sale (i.e., the wellhead), and the net-back method was commonly used to calculate that amount.[171]

In *Hogue v. Whitacre*,[172] Ohio's Seventh District Court of Appeals elaborated on what qualifies as a "direct expense" when conducting a "paying quantities" analysis. The Supreme Court of Ohio's decision in *Blausey v. Stein*[173] provided the starting point of the analysis—that a paying quantities determination involves "the difference between gross profit and the direct expenses attributable to the production of oil or gas."[174] Whether the investment in a well is profitable is not relevant; rather, the inquiry involves the simple mathematical equation of subtracting direct expenses (i.e., "expenses that directly relate to the production of oil and gas") from gross income to determine the profit.[175] At issue was whether a flat monthly fee paid by the lessee to a wholly separate entity under common ownership constituted a direct expense.[176] Looking at the evidence presented, the court determined that the monthly fee was an *indirect* expense, as it was used to pay the business expenses of that entity, and the same total amount was paid regardless of a well's performance.[177] Applying the mathematical formula set forth in *Blausey* (i.e., without accounting for the monthly fee, as it was an indirect expense) the court found that the well was producing in paying quantities.[178]

4. Adverse Possession

In *Cottrill v. Quarry Enterprises, LLC*,[179] Ohio's Fifth District Court of Appeals addressed the effect of an existing oil and gas lease on the "exclusive possession" element of adverse possession. Here, the plaintiff continuously cared for, maintained, and used a portion of her neighbor's property for over 21 years.[180] As the sole occupier of the property's surface, the plaintiff believed she met all the elements of adverse possession—"exclusive possession and open, notorious, continuous, and adverse use of the disputed property for a period of twenty-one years."[181] However, the court pointed to the existence of an oil and gas lease and associated producing well covering, in part, the disputed property. Because the lease gave the lessee the right of possession of the subsurface and the reasonable use of the surface to allow for the extraction of minerals, the plaintiff's possession was not exclusive and therefore a finding of adverse possession was precluded.[182]

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[171] *Id.* at *5.

[172] 2022-Ohio-3616, 2022 Ohio App. LEXIS 3433 (Ohio Ct. App. Sept. 30, 2022).

[173] 400 N.E.2d 408 (Ohio 1980).

[174] *Hogue*, 2022-Ohio-3616, ¶ 30.

[175] *Id.* ¶¶ 32–33.

[176] *Id.* ¶ 42.

[177] *Id.* ¶ 46. In fact, the total amount paid was the same even if a well was plugged.

[178] *Id.* ¶ 79.

[179] 2022-Ohio-3396, 2022 Ohio App. LEXIS 3191 (Ohio Ct. App. Sept. 27, 2022).

[180] *Id.* at *1–2.

[181] *Id.* at *4–5.

[182] *Id.* at *5–6.

IX. OKLAHOMA

A. Oklahoma Corporation Commission Developments

Documents filed in the rulemakings referred to below can be viewed on the Oklahoma Corporation Commission's (Commission) website.

1. Oil & Gas Conservation Rules

Amendments to Title 165, Chapter 10 of the Oklahoma Administrative Code (OAC), which comprises the Commission's *Oil & Gas Conservation Rules*, were addressed in Cause RM No. 202200002. Following is a brief summary of the amendments that became effective on October 1, 2022:

The amendments

> streamline and clarify the Oil & Gas Conservation rules, update the list of Oil & Gas Conservation Division prescribed forms and eliminate forms, change requirements regarding operator agreements, modify Permit to Drill requirements, allow the Commission to issue a Permit to Drill prior to the issuance of an order under certain circumstances, establish parameters concerning cementing of wells and submission of cementing reports, and revise provisions pertaining to notice of hydraulic fracturing operations and eliminate a reference to citations.[183]

The amendments also clarify requirements regarding submission of well logs, update specifications concerning approval of underground injection wells, increase the amount and type of information to be supplied in connection with applications for approval of underground injection wells, modify requirements pertaining to simultaneous injection wells, and streamline provisions pertaining to issuance of licenses for pulling casing and plugging wells.[184] "Certain amendments in [] OAC 165:10-1-22, OAC 165:10-1-24, OAC 165:10-3-1, and OAC 165:10-3-27 regarding issuance of Permits to Drill prior to the issuance of orders in particular circumstances are consistent with amendments to 52 O.S. section 87.1 in House Bill 3039 approved by Governor Stitt on May 22, 2022."[185]

2. Rules of Practice

Amendments to Title 165, Chapter 5 of the Oklahoma Administrative Code, which comprises the Commission's Rules of Practice, were addressed in Cause RM No. 202200001.[186] Following is a brief summary of the amendments that became effective on October 1, 2022:

The amendments add and clarify requirements and rules relating to the Commission's Electronic Case Filing System.[187] Additionally, the amendments

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[183] *In re* Permanent Rulemaking of the Oklahoma Corporation Commission Amending OAC 165:10, Oil & Gas Conservation, No. RM 2022-00002 (Okla. Corp. Comm'n 2022).

[184] *Id.*

[185] *Id.*

[186] *In re* Permanent Rulemaking of the Oklahoma Corporation Commission Amending OAC 165:5, Rules of Practice, No. RM 2022-000001 (2022). (*See* Electronic Case Filing System Case No. RM2022-000001 as of March 21, 2022.)

[187] *Id.*

"add definitions, clean up language throughout to accurately reflect current terms and processes, reorganize sections of the rules, clarify docket types, clarify notice requirements, and give priority status to hearings on the Oklahoma Universal Services Fund (OSF) docket."[188] Additionally, the amendments

> require the submission of an "as drilled" plat constructed from the results of the directional survey in connection with proposed location exception orders regarding directionally drilled or horizontal wells, clarify procedures for obtaining changes of operator designation regarding pooling, location exception, and increased density orders, require submission of secondary recovery unit certificates of dissolution to the Managers of the Commission's Technical Services and Underground Injection Control Departments, require submission of brine and associated solution gas unit certificates of dissolution to the managers of the Commission's Technical Services and Underground Injection Control Departments, and eliminate forms regarding the use of state funds to conduct remedial action, and to clarify procedures concerning requests for the use and authorization of such state funds.[189]

Finally, the amendments "increase or remove fees, and assess a new fee of $20.00 per applicable electric vehicle supply equipment (EVSE) port."[190]

X. PENNSYLVANIA

A. Legislative Developments

On July 19, 2022, the Pennsylvania General Assembly enacted House Bill 2644 without Governor Wolf's signature.[191] The law amends Title 58 (Oil and Gas) of the Pennsylvania Consolidated Statutes by providing for oil and gas well plugging oversight and establishing the Oil and Gas Well Plugging Grant Program.[192] The law also lowers the bond required for "a well other than an unconventional well" and eliminates the authority of the Environmental Quality Board to adjust the bond amounts for these wells for 10 years following the law's effective date.[193]

B. Judicial Developments

In *Dressler Family, LP v. Pennenergy Resources, LLC*,[194] the Pennsylvania Superior Court concluded that a lease provision setting royalties at one-eighth of "gross proceeds received from the sale of [gas] at the prevailing price for gas sold at the well" was ambiguous regarding whether the deduction of post-production costs was permissible.[195] The plaintiff argued that the "gross proceeds" language clearly meant that royalty payments must be calculated using the gross sales price for the gas.[196] The defendant, on the other hand, relied on

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[188] *Id.*

[189] *Id.*

[190] *Id.*

[191] H.B. 2644, Gen. Assemb. Reg. Sess. 2021-2022 (Pa. 2022).

[192] *Id.*

[193] *Id.*

[194] 276 A.3d 729 (Pa. Super. Ct. 2022).

[195] *Id.* at 730–31.

[196] *Id.* at 732.

Kilmer v. Elexco Land Services, Inc.,[197] to argue that the unambiguous meaning of "royalty" and "at the well" in the oil and gas industry permitted deduction of postproduction costs.[198] The trial court agreed with the defendant and found that the lease language was clear and unambiguous and permitted the deduction of post-production costs.[199] The superior court reversed, explaining that "[a] finding that a contract is clear and unequivocable [] must be made on the contents of the contract 'alone, within the four corners of the document,'" but the parties' arguments and the trial court's opinion all relied on extrinsic evidence.[200] The superior court explained that the industry terms for "royalty" and "at the well" could not be neatly applied to this case to interpret the contract, necessitating remand.[201] On remand, the trial court is to consider several factors, including whether it should apply the accepted meanings in the oil and gas industry for the terms "gross proceeds" and "at the well" and the contractual intent of the original parties to the lease.[202]

In *Commonwealth v. International Development Corp.*,[203] the Pennsylvania Commonwealth Court affirmed the Board of Property's final adjudication that International Development Corporation (IDC), rather than the Commonwealth, owned the oil and gas rights underlying a Bradford County property based on language in a century-old deed between the Commonwealth and the property's previous owner.[204] In 1894, the property was sold via deed which "expressly reserve[d] and save[d] to themselves, their heirs and assigns, all [of] the minerals, coal, oil, gas or petroleum found now or hereafter on or under the surface of any or all of the lands described . . . ."[205] In 1920, Central Pennsylvania Lumber Company (CPLC) sold the property to the Commonwealth, and the deed stated that

> [t]his conveyance is made *subject to* all the minerals, coal, oil, gas or petroleum found now or hereafter on, or under the surface on any or all of the lands described in each of the above mentioned parts or divisions [of the 1920 deed]; together with the right and privilege of ingress, egress and regress upon said lands for the purpose of prospecting for, or developing, working or removing the same, *as fully as* said minerals and mineral rights were excepted and reserved in deed dated October 27, 1894, from . . . Proctor [and Hill] to . . . Union . . . , recorded in the Office for recording deeds in Bradford County in deed book Vol. 205, page 436.[206]

The second clause in the deed stated that the conveyance was also "subject to all the reservations, exceptions, covenants and stipulations" contained in the 1894 deed and the deed conveying the property to CPLC.[207] Subsequently,

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[197] 990 A.2d 1147 (Pa. 2010).

[198] *Dressler*, 276 A.3d at 733 (alteration in original).

[199] *Id.*

[200] *Id.* at 740 (emphasis and citation omitted).

[201] *Id.* at 741–42.

[202] *Id.* at 742.

[203] 276 A.3d 1215 (Pa. Commw. Ct. 2022).

[204] *Id.* at *1.

[205] *Id.* at *2.

[206] *Id.* at *8 (emphasis added).

[207] *Id.* at *8–9.

CPLC executed a quitclaim deed for any oil and gas rights it had in the property, and IDC ultimately acquired these interests.[208] The issue on appeal was whether the clause in the 1920 deed (quoted above) reserved the property's mineral rights for CPLC or was simply a warranty disclaimer provision.[209] The commonwealth court concluded that the "as fully as" language in the 1920 deed transformed the clause from one that would operate as a warranty to one that limited the scope of the property transfer memorialized in the 1920 deed.[210] The court explained that its conclusion was reinforced by the second clause that acted as a warranty provision.[211] Therefore, the commonwealth court concluded that CPLC did not transfer ownership of the oil and gas rights underlying the property via the 1920 deed and IDC was the current owner of those rights.[212]

In *Salevsky v. Seneca Resources Co.*,[213] plaintiff landowners brought suit against the lessee of oil and gas rights to their property, Seneca Resources Company, LLC, seeking declaratory relief to eject Seneca Resources and to quiet title on the property.[214] In 2008, the plaintiffs entered into a lease with Seneca's predecessor that contained a shut-in royalty clause stating that "[i]f during or after the primary term of this lease, all wells on the leased premises or within a unit that includes all or a part of the leased premises, are shut-in, suspended or otherwise not producing for any reason whatsoever for a period of twelve (12) consecutive months," the lessee could "maintain this lease in effect" by the payment of shut-in royalties.[215] In 2012, Seneca's predecessor applied to the Pennsylvania Department of Environmental Protection to have the wells on the property listed as "Inactive Status."[216] Starting in 2013, Seneca's predecessor, and subsequently Seneca, issued shut-in royalty payments to the plaintiff landowners.[217] The landowners argued that these payments were insufficient to continue the lease because the wells had not been shut-in.[218] The district court disagreed, noting that the "broad language" of the shut-in royalty provision did not require the wells to be shut-in to be applicable; the clause also applied when the wells are "suspended or otherwise not producing for any reason."[219] The court also rejected the landowners' arguments regarding improper unitization and abandonment because the payment of shut-in royalties alone was sufficient to continue the lease.[220]

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[208] *Id.* at *9.
[209] *Id.* at *18.
[210] *Id.*
[211] *Id.* at *19.
[212] *Id.* at *20.
[213] No. 4:19-CV-02180, 2022 U.S. Dist. LEXIS 120176 (M.D. Pa. July 7, 2022).
[214] *Id.* at *1–4.
[215] *Id.* at *2–3.
[216] *Id.* at *4.
[217] *Id.* at *12.
[218] *Id.*
[219] *Id.*
[220] *Id.* at *12–15.

In *Laudato v. EQT Corp.*,[221] the U.S. Court of Appeals for the Third Circuit vacated and remanded the district court's certification of a class of all owners of real property within EQT's natural gas storage fields who allege they have not been compensated for EQT's use of their property.[222] In its analysis, the Third Circuit explained that when evaluating class certification under Federal Rule of Civil Procedure 23, a court must engage in "'a rigorous analysis,' including a thorough examination of the factual and legal allegations," before making a determination as to whether the requirements of that rule have been satisfied.[223] Per Rule 23(a), a class should be certified only if numerosity, commonality, typicality, and adequacy of representation are shown.[224] Per Rule 23(b), the party seeking certification of the class must also show that the action is one of the types of class actions that can be maintained.[225] Only after these prongs of both Rule 23(a) and (b) are met can a class be certified.[226] The Third Circuit concluded that the district court's explanation for certifying the class, which was merely included in a footnote, "was no more than a recitation of the Rule 23(a) prerequisites and [was] a far cry from the 'rigorous analysis' that long-standing precedent requires."[227] The district court's opinion was also devoid of any analysis into the requirements of Rule 23(b).[228] As such, the Third Circuit stated it was not even in a position to conduct the analyses of Rule 23 as required.[229] The Third Circuit ultimately vacated the district court's order and remanded for further proceedings.[230]

In *Lodge v. Robinson Township Zoning Hearing Board*,[231] the Commonwealth Court of Pennsylvania evaluated property owners' challenge to a zoning ordinance allowing oil and gas development in Robinson Township, Pennsylvania.[232] The property owners, who lived near the natural gas well development at issue, claimed that the operations affected their way of life due to traffic, noises, emissions, and concerns for well water, among others.[233] Ultimately, the commonwealth court affirmed the trial court's decision that the property owners lacked standing to challenge the ordinance.[234] Citing a prior Pennsylvania Supreme Court opinion, the commonwealth court explained that "[i]n order to be aggrieved in the zoning context, a party must have a substantial, di-

[221] No. 22-1224, 2022 U.S. App. LEXIS 21421 (3d Cir. Aug. 3, 2022).
[222] *Id.* at *1–2.
[223] *Id.* at *3.
[224] *Id.* at *2–3.
[225] *Id.* at *3.
[226] *Id.*
[227] *Id.* at *4 (citations omitted).
[228] *Id.* at *5.
[229] *Id.*
[230] *Id.*
[231] No. 813 C.D. 2020, 2022 Pa. Commw. LEXIS 130 (Pa. Commw. Ct. Aug. 4, 2022).
[232] *Id.* at *1–10.
[233] *Id.* at *4–10.
[234] *Id.* at *41.

rect, and immediate interest in the claim sought to be litigated."[235] Moreover, "[t]o have a substantial interest, there must be some discernable adverse effect to some interest other than the abstract interest of all citizens in having others comply with the law."[236] Reviewing the record evidence, the commonwealth court concluded that there was sufficient evidence to support the trial court's determination that neither the challenged ordinance, nor the well pad, were the cause of the landowners' alleged harms."[237] The commonwealth court also rejected the landowners' reliance on the Pennsylvania Supreme Court's decision in *Robinson Township v. Commonwealth of Pennsylvania*, explaining that that case "in no way announced a new rule of law that individual objectors have automatic standing to pursue the validity of a zoning ordinance in the abstract or that oil [or] gas development is necessarily incompatible with Pennsylvania citizens' constitutional rights."[238] Ultimately, the commonwealth court held that the landowners lacked standing to sue and affirmed the trial court's decision.[239]

In *Diehl v. SWN Production Co.*,[240] the U.S. District Court for the Middle District of Pennsylvania dismissed the plaintiff landowners' claim for breach of contract—implied covenant to develop hydrocarbons, but allowed their claim for quiet title to go forward.[241] The parties' dispute centered on the sufficiency of the plaintiffs' complaint with respect to the alleged breach of the implied covenant to develop.[242] The oil and gas lease at issue provided that the lease would remain effective for as long after the primary term, or the optional extension, "as oil or gas is produced, or considered produced under the terms of this lease, in paying quantities from the premises or from land pooled therewith."[243] The defendant asserted that the claim for breach of the implied covenant to develop must fail because the lease terms precluded application of that duty and the complaint contained no facts regarding fraud.[244] The court cited its earlier opinion on the defendant's motion to dismiss the prior complaint in which it had concluded that the express terms of the lease—rather than an implied duty to develop—controlled where development had commenced, as it had here.[245] The plaintiffs failed to raise any new arguments on this issue, so the court declined to revisit its prior conclusion.[246] With respect to the failure to allege fraudulent conduct, the court noted that Pennsylvania law requires averments of fraud in order to make out a claim for failure to de-

[235] *Id.* at *28 (citing William Penn Parking Garage v. City of Pittsburgh, 346 A.2d 269 (Pa. 1975)).

[236] *Id.* (citation omitted).

[237] *Id.* at *31 (citation omitted).

[238] *Id.* at *34–35 (citing Robinson Twp. v. Commw. of Pa., 83 A.3d 901 (Pa. 2013)).

[239] *Id.* at *41.

[240] No. 3:19-CV-1303, 2022 U.S. Dist. LEXIS 146718 (M.D. Pa. 2022).

[241] *Id.* at *1.

[242] *Id.* at *19.

[243] *Id.* at *3.

[244] *Id.* at *8.

[245] *Id.* at *9.

[246] *Id.*

velop.[247] The court rejected the plaintiffs' claim for breach of the implied duty to develop, as the plaintiffs failed to aver fraud with particularity as required.[248] As to the plaintiffs' quiet title claim, the court held that the claim could proceed.[249] The defendant had the opportunity to raise arguments against the quiet title claim in its prior motions to dismiss, but chose not to.[250] Moreover, the court refused to entertain the defendant's arguments.[251]

In *Yaw v. Delaware River Basin Commission*,[252] the Third Circuit held that the plaintiffs—two Pennsylvania state senators, the Pennsylvania Senate Republican Caucus, and several Pennsylvania municipalities—lacked standing to challenge the Delaware River Basin Commission's (Commission) ban on fracking in the Delaware River Basin.[253] The court reasoned that individual legislators did not have standing to assert that the Commission "deprived [them] of their lawmaking authority," and instead, such injuries "belong[] to the legislature as a whole."[254] The court further reasoned that "under well-established Supreme Court caselaw, 'individual members lack standing to assert the institutional interests of a legislature.'"[255] In addition, the court held that the municipalities lacked standing because they failed to identify an actual injury that was imminent to support their request for prospective relief, instead identifying only a past injury and the possibility of future economic injury.[256] The court held that the plaintiffs lacked standing as "trustees of natural resources" under the Environmental Rights Amendment to the Pennsylvania Constitution because the Commission's ban on fracking "*promotes* the purposes of the trust and *protects* its corpus."[257] Ultimately, the court dispensed with the senators' and municipalities' challenges to the Commission's ban on fracking in the Delaware River Basin because the claims "complain[] of a bare procedural violation divorced from any concrete harm."[258]

In *Anderson Excavating, LLC v. Weiss World L.P.*,[259] the U.S. District Court for the Western District of Pennsylvania held that under Pennsylvania's mechanic's lien law, a contractor cannot assert a lien against a surface owner's property interest based on the subsurface owner's failure to pay on a contract for work performed on the subsurface property.[260] After the owner of the subsurface rights failed to pay the plaintiff excavation contractor, the contractor sought enforcement of a mechanic's lien against the owner of the property's

[247] *Id.* at *20.
[248] *Id.* at *21.
[249] *Id.* at *22.
[250] *Id.*
[251] *Id.*
[252] 49 F.4th 302 (3d Cir. 2022).
[253] *Id.* at 307.
[254] *Id.* at 308, 311.
[255] *Id.* at 307 (quoting Va. House of Delegates v. Bethune-Hill, 139 S. Ct. 1945 (2019)).
[256] *Id.* at 318–19.
[257] *Id.* at 322.
[258] *Id.* at 320.
[259] No. 2:22-cv-00512, 2022 U.S. Dist. LEXIS 199801 (W.D. Pa. Nov. 2, 2022).
[260] *Id.* at *20.

surface rights.[261] The contractor asserted that the subsurface owner was a subcontractor to the surface owner because the subsurface owner had an easement to construct a storage area and sediment pond.[262] The court disagreed, explaining that the subsurface owner could not have conveyed interest or title in the surface to the contractor because the easement did not grant such rights to the subsurface owner and "nobody can give what he does not have."[263]

In *Adorers of the Blood of Christ U.S. Province v. Transcontinental Gas Pipe Line Co.*,[264] the Third Circuit affirmed the district court's dismissal of the plaintiff convent's claims that the defendant's pipeline through the convent's property violated the nuns' rights under the Religious Freedom and Restoration Act.[265] The court held that the convent's failure to present their claims at any time during the administrative proceedings prior to the authorization of the pipeline precluded their instant claims in light of the Natural Gas Act's "exclusive-review framework."[266]

C. Administrative Developments

The Pennsylvania Department of Environmental Protection (DEP) is in the process of revising its Environmental Justice (EJ) Policy, which was last updated in 2004.[267] The most recent policy draft, released on March 12, 2022, would implement a public participation process related specifically to the unconventional oil and gas industry to engage with EJ communities where oil and gas related operations are sited or proposed.[268] The DEP would ask operators to "develop an overview of projects that explains the scope and operations of the projects in terms understandable to a considerable majority of readers within an EJ Area."[269] The DEP would also engage in community education efforts about the oil and gas permit process and developments.[270]

On October 12, 2022, the Pennsylvania DEP executed a consent agreement with Shell Pipeline Company LP and Minnesota Limited (collectively, "Shell") in which Shell agreed to pay the Commonwealth of Pennsylvania $670,000 in civil penalties.[271] The penalties were levied because Shell's construction of a

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[261] *Id.* at *4–5.

[262] *Id.* at *3–4.

[263] *Id.* at *18.

[264] 53 F.4th 56 (3d Cir. 2022).

[265] *Id.* at 57.

[266] *Id.* at 67.

[267] *Environmental Justice Policy Revision*, PA. DEP'T OF ENV'T PROT., https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/Policy-Revision.aspx (last visited Mar. 6, 2023).

[268] PA. DEP'T ENV'T PROT., ENVIRONMENTAL JUSTICE POLICY 15 (Mar. 12, 2022).

[269] *Id.*

[270] *Id.* at 15–16.

[271] PA. DEP'T OF ENVTL. PROT., CONSENT ASSESSMENT OF CIVIL PENALTY, IN RE: SHELL PIPELINE CO., LP & MINNESOTA LIMITED, LLC (2022).

pipeline through Western Pennsylvania caused drilling fluid spills and sediment discharges into Pennsylvania streams.[272]

XI. TEXAS

A. Judicial Developments

In 2022, Texas courts issued several impactful opinions clarifying numerous oil and gas issues. The clarifications addressed issues applicable to lease and deed interpretation, subsurface ownership, successor liability and obligations, royalty calculations and payments, the Texas Oilfield Anti-Indemnity Statute, oilfield liens, operator exculpatory provisions in a JOA, pipeline common-carrier status, and the treatment of royalty claims during a lessee's bankruptcy.

The Texas courts affirmed the ongoing existence of various leases. In *Elmen Holdings, LLC v. Martin Marietta Materials, Inc.*,[273] the court reviewed "the enforceability of an over-50-year-old agreement for the mining of sand and gravel"[274] (the "lease"), challenged on the basis that it lacked a specified term. The lease granted "the exclusive right" to mine gravel and similar materials on the land "for as long as merchantable materials are mined or produced [from the leased premises,] or for as long as Lessee shall pay the advance minimum royalty."[275] The original lessor sold the land to Elmen Holdings, which promptly sought a declaratory judgment that the lease was terminable at will by either party because it lacked a "definite initial term" and, because sand and gravel are part of the surface estate of real property instead of a separate mineral estate like oil and gas, it operated as a "true occupancy lease" governed by generally applicable tenancy law.[276] The court rejected Elmen's assertions. The court clarified that "whether sand and gravel are considered part of the surface estate does not affect whether a lease with an indefinite term can create a fee simple determinable interest in the sand and gravel."[277] Therefore, like an oil and gas lease, this is a "'no term' lease that conveys a fee simple determinable interest in sand gravel to the Lessee."[278]

In *Thistle Creek Ranch, LLC v. Ironroc Energy Partners, LLC*,[279] the court analyzed a mineral lease's habendum clause to determine whether the lease had terminated when "operations" were conducted continuously enough to maintain the lease but the production was not in paying quantities. The habendum clause states that the lease shall remain in force after the primary term had ended as long as "operations . . . are conducted upon said land with no cessa-

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[272] *Id.*

[273] No. 4:19-cv-03293, 2022 WL 1546716 (S.D. Tex. Apr. 28, 2022), *report and recommendation adopted*, No. 4:19-cv-03293, 2022 WL 1540426 (S.D. Tex. May 16, 2022).

[274] *Id.* at *1.

[275] *Id.* at *2.

[276] *Id.*

[277] *Id.* at *4.

[278] *Id.* at *2.

[279] No. 14-20-00347-CV, 2022 WL 1310957 (Tex. App. May 3, 2022) (mem. op.).

tion for more than 90 days."[280] The lease partly defined "operations" as "operations for and any of the following . . . [including] production of oil, gas, sulphur or other minerals, . . . *whether or not in paying quantities*."[281] Both parties conceded that gas had been produced under the lease with no cessation greater than 90 days and that production had not been in "paying quantities." Both parties disputed, though, whether production in any amount was sufficient to maintain the lease. The court here held that the production did not need to be paying quantities to maintain this lease. It relied on contract construction principles that a court must give meaning to every word in a contract and cannot rewrite a contract to ignore a clearly and expressly defined term, while the court also reiterated Texas law's strong public policy favoring freedom of contract. While the court acknowledged well-established case law that the word "produced" or "production" in a habendum clause of a mineral-lease means "production in paying quantities," here, the clause did not use those words; rather, the express clause in the lease provided that it be maintained beyond the primary term as long as "operations" are conducted. The court also rejected use of the "reasonably-prudent-operator" test, since that test is used to determine whether a well is producing in paying quantities, an irrelevant inquiry in this circumstance where production in paying quantities is expressly not required.

Royalty calculations and payment obligations continued to rank as hot issues for the Texas courts. In *Nettye Engler Energy, LP v. BlueStone Natural Resources II, LLC*,[282] the Texas Supreme Court clarified the point at which a nonparticipating royalty interest (NPRI) owner must begin bearing its share of post-production expenses within a gas pipeline system. In this case, Nettye, a NPRI owner who had previously enjoyed royalty payments free of post-production costs, sued BlueStone for conversion once BlueStone assumed operations and began deducting post-production costs from Nettye's royalty interest at the point where the unprocessed gas reached the onsite gathering system.[283] The NPRI reservation described Nettye's NPRI as "a free one-eighth (1/8) of gross production . . . free of cost in the pipe line, if any, otherwise free of cost at the mouth of the well . . . ."[284] In a summary judgment motion, Nettye argued that its royalty interest, by the terms of the contract, was to be free of all post-production costs.[285] Alternatively, Nettye also argued "that a gathering system is not a pipeline" for the purposes of determining a delivery point from which to begin deducting post-production costs under the terms of the contract.[286] Ultimately, the Texas Supreme Court disagreed and held that BlueStone had satisfied its obligation to Nettye under the terms of the contract. The court affirmed that the deed did not limit delivery to a specific method and

[280] *Id.* at *2.
[281] *Id.*
[282] 639 S.W.3d 682 (Tex. 2022).
[283] *Id.* at 686.
[284] *Id.*
[285] *Id.* at 686–87.
[286] *Id.* at 687.

thus must be interpreted in a way that is commonly understood within the industry.[287] The court determined that within the oil and gas industry, a gas gathering system is commonly understood as a pipeline and is thus a valid delivery point for the calculation of post-production costs.[288] Thus, the court determined that BlueStone had properly delivered royalties "free of cost in the pipe line" by deducting from Nettye's royalty payment their pro rata share of post-production costs incurred following the delivery of gas into the gathering system.[289]

In *Enervest Operating, LLC v. Mayfield*,[290] the court held that the lessee did not owe royalties on produced gas used offsite to compress and dehydrate gas produced from the leased premises. The gas royalty provision required payment based on the market value at the mouth of the well for all gas produced from the land or used off the premises. The free-use clause gave the lessee "free use of all gas 'for all drilling operations hereunder.'"[291] The lessor argued that because the gas was used offsite, the lessee owed royalties on gas used to compress and dehydrate produced gas. The lessor further argued that the free-use clause did not apply, since compression/dehydration operations do not constitute "drilling operations." The court disagreed, holding that the free-use clause did not change the basic structure of the gas royalty clause, which, under *Heritage Resources, Inc. v. NationsBank*,[292] meant that gas used in compression and dehydrating amounted to a post-production expense that was clearly chargeable to the lessor.

Samson Exploration, LLC v. Bordages[293] involved a lessee's withholding of royalties because of a title dispute. Samson (lessee) withheld royalty payments from Bordages (lessor) in light of a title dispute with the Bordages' property.[294] Samson argued that it was entitled to withhold payment, interest free, until the dispute was resolved.[295] The trial court held in favor of Bordages and awarded nearly $13 million in damages including interest.[296] The lease language on the timing of royalty payments provided that it was "in lieu of the terms and provisions contained" in the Texas division order statute and that the "parties further, by their signatures below, waive any and all rights which might be claimed or asserted under" the division order statute."[297] In determining whether the lease excused paying royalties and penalties because of a title dispute, the court first observed that the lease expressly supplanted the entire Texas division order statute, including the safe-harbor provision allowing a les-

[287] *Id.* at 691.

[288] *Id.* at 692–94.

[289] *Id.* at 696.

[290] No. 04-21-00337-CV, 2022 WL 4492785 (Tex. App. Sept. 28, 2022) (mem. op.).

[291] *Id.* at *2.

[292] 939 S.W.2d 118 (Tex. 1996).

[293] No. 09-20-00174-CV, 2022 WL 120004 (Tex. App. Jan. 13, 2022).

[294] *Id.* at *1–2.

[295] *Id.* at *2, *5.

[296] *Id.* at *1.

[297] *Id.* at *6; s*ee also* TEX. NAT. RES. CODE ANN. §§ 91.401–.406.

see to suspend royalties if a title dispute exists and the provision allowing suspension without interest.[298] The court further noted that even if the parties had not contracted around the safe-harbor provision, no true title dispute existed because no other party claimed the Bordages' royalty interest. Thus, there was no basis for Samson's assertion that it was entitled to withhold payment in the midst of a title dispute.[299]

Through several cases, the Texas courts also provided guidance on liability obligations for contractors, operators, successors and landowners. In *Cimarex Energy Co. v. CP Well Testing, LLC*,[300] the court ruled that the Texas Oilfield Anti-Indemnity Act (TOAIA) limited a contractor's indemnity obligation under a master service agreement to the amount agreed on between parties, regardless of how high the contractor's insurance coverage actually was. CP Well and Cimarex entered into a master service agreement (MSA) that contained a mutual indemnity provision for personal injury of their respective employees and contractors. CP Well's employee working on the Cimarex well was severely injured from a flash fire that arose at the well. The employee sued Cimarex, CP Well, and others. Cimarex settled the lawsuit with the employee for $4.5 million. Under the MSA, CP Well was obligated to obtain a minimum of $1 million in commercial general liability insurance and $2 million in excess liability insurance. However, CP Well obtained a $1 million general liability policy and an excess liability policy with coverage limits of $10 million—which was $8 million more than the minimum coverage that CP Well agreed to carry under the MSA. Cimarex sought indemnity from CP Well after the settlement, for which CP Well paid only the $3 million set forth in the MSA. Cimarex sought payment for the remaining $1.5 million, claiming CP Well had a duty to defend up to its actual insurance coverage, not contracted amounts. The court held that in a mutual indemnity agreement, TOAIA limits the indemnity obligation of an indemnitor to the amount the indemnitor has agreed to carry for the benefit of the indemnitee and thus denied Cimarex's claim against CP Well for the remaining $1.5 million.

In *In re Eagleridge Operating, LLC*,[301] the Supreme Court of Texas decided that a former working-interest owner of a well does not bear continuing responsibility for a defective gas line after conveying its ownership interest. A worker who was injured by a burst gas pipeline brought a premises defect action against Aruba Petroleum, Inc., the former wellsite owner and former contract operator. Aruba was responsible for drilling, operating, and servicing the well and securing proper equipment. While Aruba was the wellsite's owner-operator, a gas line was installed on the property. Four years later, Aruba conveyed its ownership interest to its co-tenant and ceased serving as the operator of record. The owner of the well then contracted with Eagleridge Operating to serve as the operator. A couple of months after Eagleridge assumed control of the wellsite, the gas line ruptured, injuring the plaintiff. The supreme court

[298] *Samson Expl.*, 2022 WL 120004, at *7.

[299] *Id.*

[300] 26 F.4th 683 (5th Cir. 2022).

[301] 642 S.W.3d 518 (Tex. 2022).

held that a former co-tenant was not a responsible third party under premises-liability principles. Eagleridge contended Aruba was responsible for injuries caused by the burst gas pipeline under a theory that the former owner acted as an independent contractor in constructing, installing, and maintaining the pipeline. The court held that Aruba was acting in its capacity as co-owner and not as an independent contractor when improving the property. Therefore, the owner's responsibility for premises defects did not survive the conveyance of its ownership interest.

Bachtell Enterprises, LLC v. Ankor E&P Holdings Corp.[302] addressed the issue of whether an exculpatory clause in a joint operating agreement (JOA) may exonerate an operator of oil and gas projects. This case analyzed an exculpatory clause that differed from the AAPL standard form JOAs. The operator (Ankor) negotiated to construct a gas production plant. The applicable JOAs required the operator to acquire consent from all parties to undertake any project in excess of $50,000. The JOAs also included an exculpatory clause that provided Ankor would conduct its activities in good faith and "shall have no liability as Operator to the other parties for losses sustained or liabilities incurred, except such as may result from willful misconduct."[303] The non-operators alleged that Ankor breached the JOAs by taking multiple actions relating to the gas plant construction without consent, and that the exculpatory clause did not apply to negate the operator's corresponding liability. On the other hand, the operator argued that the exculpatory clause broadly covers all its alleged conduct because the losses sustained or liabilities incurred, if any, did not result from willful misconduct. In assessing these arguments, the court first stated that the purpose of an exculpatory clause is to protect the operator from liability caused by *ordinary negligence*, and no precedent requires the court to extend that protection further than negligent injury. Consequently, the court found that because the operator's actions were not based on activities envisioned by the exculpatory clause, the exculpatory clause does not apply under the circumstances. In reaching this conclusion, the court emphasized that it is the court's job to avoid "unreasonable constructions when possible and proper."[304]

Foote v. Texcel Exploration, Inc.,[305] involves the duty of a mineral lessee toward a surface owner vis-à-vis an oil spill that poisoned the surface owner's cattle. The court held that "an operator has no duty to fence, or otherwise protect or prevent livestock from entering, the premises of the mineral lease," noting that "the only duty owed with respect to [the] cattle is to not intentionally, willfully, or wantonly injure them when they are injured on the area of the oil and gas operations."[306]

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[302] 651 S.W.3d 514 (Tex. App. 2022) (review denied Dec. 16, 2022).

[303] *Id.* at 517.

[304] *Id.* at 522 (quoting Plains Expl. & Prod. Co. v. Torch Energy Advisors Inc., 473 S.W.3d 296, 305 (Tex. 2015)).

[305] 640 S.W.3d 574 (Tex. App. 2022).

[306] *Id.* at 582.

In *Energen Resources Corp. v. Wallace*,[307] the Supreme Court of Texas clarified that Chapter 95 of the Texas Civil Practice and Remedies Code would protect a landowner from liability for a shut in gas well that impacted a nearby water well. In this case, the plaintiff sustained injuries while working on a water well that also included natural gas. This water well was near a shut-in gas well. Where Chapter 95 applies, it limits the negligence liability of a real property owner arising out of a third party contractor's work on an improvement to the owner's property. The Texas Supreme Court had previously held in *Valdez*[308] that Chapter 95 required the claim to result from "a condition or use of the same improvement" that the plaintiff is working on when the injury is sustained.[309] In this case, the court reasoned that because the plaintiff asserted a negligence claim for a dangerous condition to an improvement that the owner "negligently failed to 'become aware of, rectify, and communicate" (that condition being natural gas within the water well plaintiff was working on), the claim arose from a condition of the same improvement that the plaintiffs were hired to work on.[310] As a result, Chapter 95 applied to the plaintiff's claims and insulated the landowner from liability.

Allison v. State[311] provides a stern reminder that tampering with oil and gas wells is a third-degree felony under section 85.389(a) of the Texas Natural Resources Code. Allison received a sentence of 18 years' imprisonment on each of eight counts for tampering with a well, along with a sentence to make restitution and pay court costs.

The Texas Supreme Court entertained a challenge to common carrier status in a condemnation dispute involving a pipeline. In *Hlavinka v. HSC Pipeline Partnership, LLC*,[312] the court refused a challenge to whether a pipeline company demonstrated common-carrier status with eminent domain authority to condemn an easement and construct a pipeline that transports polymer-grade propylene. HSC initiated condemnation proceedings after the Hlavinkas rejected HSC's attempt to negotiate a right of way on the Hlavinkas' property. The Hlavinkas challenged HSC's power to exercise common-carrier eminent domain authority, arguing that the transport of polymer-grade propylene was not for public use. The court held that HSC possessed common-carrier eminent domain authority and that the pipeline transport of polymer grade propylene qualified as an oil product in holding that the pipeline was for public use. As to the compensation due to the Hlavinkas, the court held that consideration paid to the Hlavinkas for recent easements on such property is acceptable evidence of the current highest and best use of the property taken. The court also held that a condemnor must pay a fair price for the value of the land taken, and evidence of recent fair market sales to secure easements are admissible to determine that property's market value at the time of the taking.

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[307] 642 S.W.3d 502 (Tex. 2022).

[308] Los Compadres Pescadores, L.L.C. v. Valdez, 622 S.W.3d 771, 782 (Tex. 2021).

[309] *Id.*

[310] *Energen*, 642 S.W.3d at 514.

[311] 654 S.W.3d 794 (Tex. App. 2022).

[312] 650 S.W.3d 483 (Tex. 2022).

Of particular interest to practitioners drafting settlement agreements or purchase agreements, the Texas courts broadly affirmed waivers and disclaimers and supported a party's enforcement rights upon offering full performance. *Transcor Astra Group S.A. v. Petrobras America Inc.*[313] involved a dispute between two large corporations which the parties ultimately resolved through a comprehensive settlement agreement. One of the parties later attempted to invalidate the settlement agreement as a result of alleged bribes by the defendant during settlement negotiations. The defendant relied on the settlement agreement's broad release discharging both parties of "any and all claims." The court found that because the parties mutually agreed to broadly release certain claims, the bribes connected to the settlement agreement fall squarely within the scope of the general release. Another argument to nullify the settlement agreement centered on claims of negligent misrepresentations as a result of defendant offering and failing to disclose bribes during negotiations. The defendant argued that the parties mutually agreed to include a contractual disclaimer of reliance in the settlement agreement, thus relieving the defendant of liability, and the court agreed. In assessing the applicability of the reliance disclaimer, the court ruled that the settlement agreement makes clear that the reliance disclaimer applies to claims of both misrepresentations and omissions. The court concluded that because the disclaimer of reliance is enforceable and applies to the parties' representations, and because the disclaimer negated the reliance element of the fraud claim, the defendants were entitled to summary judgment.

In *Kongvongsay v. Sayasane*,[314] Kongvongsay entered into an oral agreement to sell commercial real estate to Sayasane. Both parties acknowledged the existence of the agreement but disagreed over several terms, including the timing of payment, the remaining amount of payment due, and the timing of deed delivery. Due to the dispute, Sayasane ceased making monthly payments and offered full performance (through a final payment of all amounts due) to have Kongvongsay immediately sign the deed over, which Kongvongsay refused to do. The appellate court held that Kongvongsay either agreed or acquiesced to receiving the payment for the property in monthly installments rather than in a lump sum, and Kongvongsay had failed to transfer the deed when obligated. Kongvongsay argued that Sayasane forfeited his right to specific performance by ceasing the monthly payments, but both the trial and appellate courts disagreed with such argument. The appellate court held that by offering full performance and pleading that he was ready to fully perform, Sayasane did not breach his duty of making payments and was therefore entitled to specific performance to require deed delivery.

Texas courts further provided guidance on successor-in-interest obligations. In *Lennar Homes of Texas Land & Construction, Ltd. v. Whiteley*,[315] the court clarified the circumstances under which agreements contained in a deed to real property will bind subsequent purchasers of the property. While not

[313] 650 S.W.3d 462 (Tex. 2022).

[314] No. 07-21-00195-CV, 2022 WL 2237844 (Tex. App. June 22, 2022) (mem. op.).

[315] 625 S.W.3d 569 (Tex. App. 2022).

strictly an oil and gas case, the opinion has obvious application to the oil and gas practitioner. Lennar built and sold a house to Isaacson. The Lennar/ Isaacson deed contained an arbitration provision. Isaacson eventually sold the house to Whiteley. Whiteley later sued Lennar, asserting mold related construction deficiencies. Lennar argued that the arbitration language in the deed to Isaacson bound Whiteley as a subsequent purchaser. In rejecting this argument, the court of appeals explained:

> [C]ovenants that do not burden or restrict the use of the conveyed property are not covenants that run with the land. . . .
>
> Here, we conclude the arbitration agreement in the special warranty deed does not touch and concern the land; therefore, it is not a covenant that runs with the land. The arbitration agreement is not premised on the physical use or enjoyment of the conveyed property — instead, the "fundamental purpose of arbitration [is] to provide a rapid, less expensive alternative to traditional litigation." Avoiding the time and expense of litigation inures to the benefit of the parties—*not* to the property itself. Accordingly, the special warranty deed's arbitration agreement is more akin to a personal covenant rather than a covenant that touches and concerns the land.[316]

The Texas Supreme Court granted Lennar's petition for review.

The Texas courts clarified rights owned, reserved, or conveyed, including, in one case, through the use of extrinsic evidence. Several issues were addressed in *Myers-Woodward, LLC v. Underground Services Markham, LLC*,[317] but of most interest is the issue of whether the surface owner, Myers-Woodward, also owned the subsurface of the property, including the salt caverns at issue. In making this decision, the court declined to apply *Mapco, Inc. v. Carter*.[318] *Mapco*, failing to cite any authority for its holding, held that the mineral owner had storage rights for underground storage facilities. This court disagreed and concluded that the well-recognized, decisional law states that the mineral estate owner owns the minerals but not the subsurface. Ultimately, the court held that Myers-Woodward, as the surface owner, owned the subsurface, and the mineral estate ownership by Underground Services only gave it the right to produce minerals on the land.[319]

In *Hughes v. CJM Resources, LP*,[320] the court examined whether certain causes of action were excepted or reserved from a deed. In 2018, Hughes conveyed certain mineral properties and causes of action related to such mineral properties to Decatur. In 2019, Decatur purported to assign the causes of action back to Hughes, although in November 2018 there had been an intervening deed, whereby Decatur purported to convey everything Decatur received in the Hughes/Decatur deed to Universal. The issue was whether Decatur still owned the disputed causes of action when it signed the 2019 assignment back to Hughes. The court analyzed whether language in the Decatur/Universal deed created an exception from the conveyance. It stated that "[i]t is un-

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[316] *Id.* at 577–78 (citation omitted).

[317] No. 13-20-00172-CV, 2022 WL 2163857 (Tex. App. June 16, 2022).

[318] 808 S.W.2d 262 (Tex. App.—Beaumont 1991), *rev'd on other grounds*, 817 S.W.2d 686 (Tex. 1991).

[319] *Myers-Woodward*, 2022 WL 2163857, at *11.

[320] 640 S.W.3d 623 (Tex. App. 2022).

derstood that the Grantee shall have, receive, and enjoy the Grantor's proportionate right, title, and interest in or to bonus, rents, and royalties and other benefits which may accrue after the date of this Mineral Deed . . . ."[321] The court held that the quoted language did not create an exception because, while there are no necessary "magic words," the conveyance must identify the excepted property with reasonable certainty and must use enough words to provide reasonable certainty that something is being withheld from the assignment. An expectation by implication is disfavored under Texas law. The court reasoned that because the language in this clause neither mentions the causes of action specifically nor indicates that the Decatur/Universal conveyance was made subject to the causes of action being retained by Decatur, this sentence did not make it reasonably certain that Decatur intended to except the causes of action. The court referenced *Pauler as Trustee of Janysek Survivor's Trust v. M & L Minerals, LP*,[322] in which another court construed a deed that purported to convey an entire tract of land but contained both a subject-to clause ("conveyance is subject, however, to all mineral conveyances, mineral reservations, oil, gas and other mineral leases") and a specific reservation. The *Janysek* court held that an exception had not been created because it did "not state with any certainty that the disputed royalties are reserved or excepted from conveyance."[323] Similar to the *Janysek* court, the court here reasoned that because the subject-to clause did not mention causes of action specifically nor use language that would clearly indicate that property was being withheld from the conveyance, the causes of action were not excepted from the conveyance.[324] As a last consideration, the court further analyzed whether the causes of action could be considered "other benefits." Here, the subject-to clause listed interests in "bonus, rents, royalties *and other benefits.*" The court acknowledged that under *ejusdem generis*, an interpretative canon, when specific terms are followed by a catchall term, such as "other benefits," the catchall term is limited to things that are, like the proceeding, more specific terms. The court here declined to conclude that causes of action are "other benefits," so even if it had construed the subject-to clause to create an exception, the language of the paragraph itself was not sufficiently clear to include the causes of action.

In *Calvert v. Crawley*,[325] the court clarified a settlement agreement for the conveyance of certain mineral interests, described in the agreement as the "MWI mineral interests." This term was not otherwise defined in the agreement, but the court held the contract was not ambiguous and looked to extrinsic circumstantial evidence to ascertain the meaning of the undefined term. The court observed that "understanding the context in which an agreement is made is essential in determining the parties' intent as expressed in the agree-

[321] *Id.* at 628–29.

[322] No. 04-20-00302-CV, 2021 WL 2814906, at *1 (Tex. App. July 7, 2021).

[323] *Id.* at *5.

[324] *Id.* at *11.

[325] No. 01-20-00105-CV, 2022 WL 1462799 (Tex. App. May 10, 2022) (mem. op.).

ment."[326] The court noted, however, that such evidence was "'of limited relevance' and 'can only provide the context in which the agreement was reached.'"[327] The court also held that the failure to define "MWI mineral interests" did not render the agreement unenforceable under the statute of frauds because the meaning of the term could nevertheless be identified with reasonable certainty based upon information contained in, and other documents referenced in, the settlement agreement.

The Texas courts issued opinions affirming actions taken under the correction instrument statute, Texas Property Code section 5.029. In *Endeavor Energy Resources, LP v. Trudy Jane Anderson Testamentary Trust by and Through Anderson*,[328] the court considered the construction and validity of a correction deed. The corrective deed had been executed in 2007 to correct a potential over-conveyance in the original 2003 general warranty deed. Unfortunately, one spouse of the two married grantors passed away before the corrective deed was executed. The issue arose out of her husband's execution of the corrective deed pursuant to his testamentary powers as executor under the wife's will. Endeavor challenged the validity of the mineral deed and sought affirmation of its title to the mineral interests. Texas law requires a correction deed be "executed by each party to the recorded original instrument of conveyance the correction instrument is executed to correct or, if applicable, a party's heirs, successors, or assigns . . . ."[329] Further, under the statute, corrective instruments recorded prior to September 1, 2011, are only required to substantially comply with the above requirements. Ultimately, the court found that the execution of the correction deed substantially complied with section 5.029 because the husband was the wife's sole successor under section 5.029, he had the authority to execute the correction deed in this successor capacity, and when he executed the deed, he did so both in his individual capacity and in his capacity as his wife's sole successor despite the lack of any specific recital in the signature block asserting his capacity as successor.

In *Fugedi as Trustee Carb Pura Vida Trust v. Initram, Inc.*,[330] Texas real property was conveyed via a general warranty deed to a trust, rather than to its trustee. Shortly after the conveyance, the trustee, Nicholas Fugedi, brought an action to quiet title on the property and executed a corrected deed naming himself as the grantee in his capacity as trustee. Fugedi also filed an affidavit stating that the original deed contained a scrivener's error, and he was always meant to be the grantee in his capacity as trustee. The U.S. Court of Appeals for the Fifth Circuit upheld the district court's conclusion that "a trust is a relationship, not a legal entity."[331] However, the courts will ignore such formalities and infer a grantee if one is ascertainable. Here, the court could ascertain that Fugedi was the trustee because he was the trustee at the time of the deed,

[326] *Id.* at *9.

[327] *Id.* (quoting Anglo-Dutch Petroleum Int'l, Inc. v. Greenberg Peden, P.C., 352 S.W.3d 445, 452 (Tex. 2011)).

[328] 644 S.W.3d 212 (Tex. App. 2022).

[329] *Id.* at 219.

[330] No. 21-40365, 2022 WL 3716198, at *1 (5th Cir. Aug. 29, 2022).

[331] *Id.* at *3.

remains the trustee today, and is the only person who can hold property for the trust. Therefore, he was the proper party to be named as the trustee, and the correction deed is valid. In addition, the appellate court ruled that Fugedi made a nonmaterial correction to the deed, which is of the type allowed by Texas Property Code section 5.029.[332]

Although, as seen in the cases above, the correction instrument statute is a helpful tool, practitioners should take note that the statute has its limits. The courts invalidated the attempt to rely on the statute when not signed by all applicable parties. In *Brown v. Underwood*, a Texas court of appeals reviewed the conveyance of royalty interest in mineral rights.[333] Brown, the executrix of her late husband's estate, sued the Underwoods on a theory that her husband conveyed the wrong interest to them in 1985. Brown's late husband, Smith, possessed two identical 35/1920th nonparticipating royalty interests—one he held individually and the other he held in trust for the Underwoods.[334] In 1985, Smith conveyed one of the interests to the Underwoods for ten dollars. Both parties agree that the interest conveyed was Smith's individual interest, but Brown contends that this was a mistake.[335] She filed a correction affidavit in 2017 to clarify that the interest conveyed was the interest held in trust and argues that this correction affidavit should control. The court rejected the correction affidavit because, under Texas Property Code section 5.029, material corrections must be executed by both parties to the original conveyance.[336] Brown also asserted a title attorney's affidavit attesting to Smith's mistake in support of the claim, but the court rejected this affidavit as well because it was founded on a review of the documents rather than any personal knowledge.[337] The court held both affidavits to be "little more than an effort to speculate about the interest that Smith intended to convey . . . ," which is "legally insufficient as evidence."[338]

Given the numerous bankruptcies in the industry, the Texas courts provided guidance on a variety of issues presented by creditors. In *In re EP Energy E&P Co.*,[339] the court addressed the ability of a lessor to terminate a lease for non-production during the stay in bankruptcy. In this case, EP Energy, the lessee, shut-in wells for less than 120 days to mitigate the effect of free-falling oil prices during the pandemic. At the time of the shut-in, EP Energy was undergoing bankruptcy proceedings. After production resumed, the mineral owners brought suit in a Texas bankruptcy court for a Temporary Cessation Claim, arguing that the shut-in resulted in the termination of the mineral lease and the continued operations constituted trespass. The mineral owners would have been able to assert the trespass claim in Texas state court but for EP Energy's

[332] *Id.* at *4; *see also* TEX. PROP. CODE ANN. § 5.029 (2011).

[333] No. 11-20-00138-CV, 2022 WL 1670693 (Tex. App. May 26, 2022).

[334] *Id.* at *1.

[335] *Id.* at *1–2.

[336] *Id.* at *9 (citing TEX. PROP. CODE ANN. § 5.029 (2011)).

[337] *Id.*

[338] *Id.* at *10.

[339] No. 19-35647, 2022 WL 2134969 (Bankr. S.D. Tex. June 14, 2022).

bankruptcy. The bankruptcy court found that the lease had not terminated, that EP Energy was not trespassing, and that it could continue production. Nevertheless, the mineral owners continued to pursue the claim and filed suit in a Texas state court on the same grounds. The mineral owners argued that the bankruptcy plan authorized mineral owners to seek expenses for "post-petition, but pre-Effective Date, actions of the Debtors" for leases and allowed mineral owners to retain their real property interest, and equitable remedies did not constitute "Claims.[340] The mineral owners argued that the state court proceeding was valid under the bankruptcy plan because it sought to exercise an equitable right related to the contract: a reversionary interest through termination of the mineral lease. However, the court determined that the shut-in did not terminate the lease. As such, there was no reversion, no trespass, and no equitable claim. Without the equitable claim, the mineral owners could not relitigate the issue in Texas state court.[341]

In *In re Lilis Energy, Inc.*,[342] the court considered whether recovery for unpaid royalties is available to a mineral owner even if a bankruptcy plan of reorganization treats claims for unpaid royalties as general unsecured claims. The parties' dispute centers on the debtor's (Lilis Energy's) Plan of Reorganization which included a "good faith compromise and settlement of all [c]laims . . . ."[343] However, the mineral owner creditor asserted several arguments to maintain a claim for payment, including that the debtor held the creditor's unpaid royalties in trust for the creditor's benefit, thereby precluding the inclusion of the royalties in the debtor's bankruptcy estate; and that the Plan's plain language contravened Texas law and should have prevented the court from confirming the Plan. The court rejected the creditor's arguments, reasoning that because the creditor received notice that the Plan settled the creditor's claim, it was the creditor's responsibility to object to the Plan based on its perceived legal error or appeal the Confirmation Order. The court held that because the creditor failed to timely challenge the Plan's treatment of the claim, the creditor cannot now circumvent the consequences of their inaction. As such, the court denied the creditor's request for relief from the Confirmation Order and granted the Liquidating Trustee's request to confirm that the creditor's claim is a general unsecured claim.

A Texas bankruptcy court examined the validity of a subcontractor's lien claim against debtor-property owner's interest in *In re Pearl Resources LLC*.[344] The debtor's duty to pay further payments to a contractor was discharged after the contractor failed to provide a successful well, as provided in the drilling contract. A property owner is liable to a subcontractor only to the extent that he is liable to his contractor. Since the debtor no longer owes any obligation to the contractor, the debtor does not owe any obligation to the subcontractor. Even though the subcontractor signed a master service agreement with the

[340] *Id.* at *2.

[341] *Id.* at *1.

[342] No. 20-33274, 2022 WL 1051101 (Bankr. S.D. Tex. Apr. 7, 2022).

[343] *Id.* at *2.

[344] 645 B.R. 530 (Bankr. S.D. Tex. 2022).

debtor, a master service agreement standing alone is not a contract; instead, it requires the issuance of work orders, and a binding contract exists only upon acceptance of the work orders. The court found that a contract between the debtor and contractor existed, a contract between the contractor and subcontractor existed, but a contract between the debtor and subcontractor did not exist. Since the subcontractor could not prove by a preponderance of evidence that a contract between it and the debtor existed, the limit of liability for the property owner protected the debtor from the subcontractor's lien claim, and as a result, the debtor is not liable to the subcontractor.

Beyond bankruptcy, lien availability was a frequent issue litigated in the Texas courts in light of the challenges the industry continued to face. In *Platinum Energy Solutions, Inc. v. Lazarus Operating LLC*,[345] the court analyzed whether a mineral lien filed by a contractor against a lessee-operator could attach to more than just the leasehold when the contractor did not perform work for the property owner itself. Platinum contracted with Richland, a prior working interest holder on the lands at issue, to provide hydraulic fracturing services. Richland failed to pay Platinum for its services, and Platinum filed mineral liens as a result. Platinum subsequently sought foreclosure on these liens, and Richland then filed for bankruptcy. After Platinum and Richland reached a settlement agreement that was approved by the bankruptcy court, the lessor terminated Richland's lease and leased the wells at issue to Lazarus. Platinum added Lazarus to the existing suit, stating that it "learned that the property owners re-leased the affected wells/mineral interests, without regard to Platinum's valid liens attaching thereto . . . ."[346] Under section 56.003(b) of the Texas Property Code, a "lien created by performing labor or furnishing or hauling material, machinery, or supplies for a leaseholder does not attach to the fee title to the property."[347] The court emphasized that the underlying contract was between Platinum and Richland, the initial lessee. There was no contract between Platinum and the lessor. Platinum argued that the services it provided for Richland were for the overall benefit of the well and that any person with an interest in the oil and gas produced at the well benefitted from its work. Finding no case law to support Platinum's argument that "the mineral lien can attach to the fee title when the [contractor] performed work for someone other than" the lessor, the court held that the liens did not attach to more than the leasehold.[348]

In *Pearl Resources Operating Co. v. Transcon Capital, LLC*,[349] the court rejected a subcontractor's attempt to foreclose a mineral lien filed against property where the owner/operator of the property had paid all amounts due to the contractor, even though that contractor had not paid the lienor/subcontractor. Because the owner/operator had paid the contractor, the subcontractor was

[345] No. 13-20-00279-CV, 2022 WL 120151 (Tex. App. Jan. 13, 2022) (mem. op.).

[346] *Id.* at *2.

[347] *Id.* at *3; *see also* TEX. PROP. CODE ANN. § 56.003 (1984).

[348] *Platinum Energy Sols.*, 2022 WL 120151, at *3.

[349] 641 S.W.3d 851 (Tex. App. 2022).

not allowed to foreclose the mineral lien against the owner/operator's property.

XII. WEST VIRGINIA

A. Legislative Developments

The 2022 Legislative Session in West Virginia resulted in enactment of two major oil and gas bills. First was SB 650.[350] Previously, section 37B-1-4, West Virginia's co-tenancy statute, enabled oil and gas producers to develop oil and gas rights so long as three-fourths of the owners of the tract consented.[351] However, the co-tenancy statute applied only if the property to be developed involved seven or more landowners. SB 650 eliminates this requirement and enables producers to develop oil and gas rights so long as they have consent from three-fourths of the landowners.[352] SB 650 became effective June 3, 2022.

Second, after many years of contentious debate, the legislature enacted a forced pooling bill, SB 694, which became effective on June 7, 2022.[353] The new law permits oil and gas producers to obtain a horizontal well unit order so long as they: (1) made good-faith offers to "known and locatable royalty owners having executory interests in the oil and gas in the target formation" who have not previously consented to development; (2) with respect to the royalty interest, have obtained consent from landowners amounting to "75 percent or more of the net acreage in the target formation"; and (3) control, by ownership or lease, of "55 percent or more of the net acreage in the target formation . . . ."[354]

B. Judicial Developments

In *Equitrans, L.P. v. Public Service Commission of West Virginia*,[355] the West Virginia Supreme Court of Appeals held that a company operating its gathering line from various wells to a central facility and interstate pipeline fell under the subject matter jurisdiction of the Public Service Commission of West Virginia (PSC), because the contemplated gathering lines were used directly to serve rural retail consumers over a long period of time, and such use constituted a dedication of the line to public service. Equitrans, L.P. (Equitrans) owns and operates gathering lines from various production wells to central facilities and interstate pipelines. These gathering lines transport third-party gas, from which Equitrans collects a transportation fee. Equitrans denied Hope Gas, Inc., d/b/a Dominion Energy of West Virginia, as a direct-to-consumer utility, from tapping into an existing gathering line. The court held that the PSC had subject matter

[350] SB 650, 85th Leg., 2022 Reg. Sess. (W. Va. 2022).

[351] *Id.*

[352] *Id.*

[353] SB 694, 85th Leg., 2022 Reg. Sess. (W. Va. 2023).

[354] *See* W. VA. CODE § 22C-9-7a (2022).

[355] No. 22-0293, 2022 WL 16946494 (W. Va. Nov. 15, 2022).

jurisdiction over such matters, because the gathering line at issue had been used to serve rural West Virginia consumers for several decades, including more than 25 years under Equitrans' ownership. The court applied its prior analysis from *Boggs v. Public Service Commission of West Virginia*,[356] holding that a gathering line's use to service rural customers caused it to be considered dedicated to public service, and therefore the operator of such gathering line continued to be a public utility until such time as the PSC terminated its status.

In *SWN Production Co. v. Kellam*,[357] the West Virginia Supreme Court of Appeals considered two certified questions presented by the U.S. District Court for the Northern District of West Virginia. The first question was whether its holding in *Estate of Tawney v. Columbia Natural Resources, LLC*[358] is still good law in West Virginia, to which the court answered in the affirmative.[359] The second question involved the level of specificity required in an oil and gas lease to permit the deduction of post-production costs, and how these deductions are to be calculated, which the court declined to answer as it determined it was a question of contract interpretation. Furthermore, the court determined that this interpretation was to be determined by examination of the individual lease in question, with appropriate application of pertinent legal principles.

The court's memorandum opinion in *Antero Resources Corp. v. Irby*[360] addressed the methodology and evaluation of tax assessments for horizontal wells producing both oil and gas, in light of the Supreme Court of West Virginia's prior decision in *Steager v. Consol Energy, Inc.*[361]

The memorandum decision in *Cofield v. Antero Resources Corp.*[362] addresses the interpretation and application of certain reservation language contained in a deed of conveyance, and whether the said reservation language was unambiguous.

In *Antero Resources Corp. v. L&D Investments, Inc.*,[363] the court held that, when considering an agreement to settle claims against an operator for invalid payment of royalties, the provisions for attribution of settlement amounts to specific claims must be drafted in plain and unambiguous language sufficient to make such intent clear. Critically, the court noted that the settlement agreement lacked "any apportionment of the settlement proceeds to the claim for the royalty payments."[364]

The West Virginia Supreme Court of Appeals held in *Antero Resources Corp. v. Directional One Services Inc. USA*[365] that, where a master services

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[356] 174 S.E.2d 331 (W. Va. 1970).

[357] 875 S.E.2d 216 (W. Va. 2022).

[358] 633 S.E.2d 22 (W. Va. 2006).

[359] *Kellam*, 875 S.E.2d at 227.

[360] No. 20-0530, 2022 WL 1055446 (W. Va. Apr. 8, 2022).

[361] 832 S.E.2d 135 (W. Va. 2019).

[362] No. 21-0164, 2022 WL 1715170 (W. Va. May 27, 2022).

[363] No. 20-0964, 2022 WL 1222944, at *1 (W. Va. Apr. 26, 2022).

[364] *Id.* at *10.

[365] 873 S.E.2d 832 (W. Va. 2022).

agreement (MSA) between an oil and gas producer and a directional drilling equipment supplier references a separate rate sheet, they may be construed together, provided the parties and the subject matter are the same, and where there is a clear relationship between the documents. Antero Resources Corporation (Antero), as an oil and gas producer of shale formations of the Appalachian Basin, entered into a written proposal, or rate sheet, with Directional One (Directional), as drafter, detailing daily fees for supplying various types of drilling tools and equipment. This document included a provision that in the event any down-hole equipment is damaged or lost in a well, Antero shall either recover the same without cost to Directional, or pay for any damage to the equipment. Thereafter, the parties entered into an MSA, drafted by Antero, which referred to certain work, as defined in the contract, that Directional would perform. Notably, the MSA provided that the work would be paid in accordance with Directional's "published schedule of rates and/or prices."

Subsequently, equipment owned by Directional was lost in two different wellbores.[366] After failing to retrieve the equipment, Antero cemented and plugged the wellbore. A conflict arose when Directional sent invoices to Antero for reimbursement of the lost equipment, and Antero refused payment. After considering a number of counter arguments by Antero, the court held that the MSA and rate sheet must be read together, that the MSA expressly requires Directional to incorporate certain types of pricing into its rate sheets, and that the record established that it is industry practice to impose liability for lost equipment on the party controlling said equipment in the wellbore. Based on this, the court held that Antero must reimburse Directional for its lost equipment.

C. Administrative Developments

The legislature, in SB 312, relating to section 64-7-5(a), provided that

> [t]he legislative rule filed in the State Register on July 30, 2021, authorized under the authority of section 11-1C-10 of this code, relating to the Tax Department (Valuation of Producing and Reserve Oil, Natural Gas Liquids, and Natural Gas for Ad Valorem Property Tax Purposes, 110 CSR 01J), is not authorized.[367]

XIII. WYOMING

A. Legislative Developments

During Wyoming's 2022 Legislative Budget Session, the legislature amended certain statutes related to the taxation of mineral production. First, HB 89 amended Wyoming Statute section 30-5-104 by authorizing the Wyoming Oil and Gas Conservation Commission (WOGCC) to order wells to be shut in and sealed and to prohibit drilling if an owner or operator is 120 days delinquent on mineral-related taxes.[368] It further amended Wyoming Statute sections 39-13-113 and 39-14-208 to subject taxpayers to the penalties out-

[366] *Id.* at 837.

[367] W. VA. CODE § 64-7-5 (2022).

[368] HB 89, 66th Leg., 2022 Budget Sess. (Wyo. 2022); WYO. STAT. ANN. § 30-5-104 (2022).

lined in section 30-5-104 for failure to timely pay ad valorem taxes or severance taxes on mineral production.[369]

In SF 38, the legislature amended Wyoming Statute section 39-13-113.[370] This amendment modified reporting and payment requirements for ad valorem taxes on mineral production and set forth invoicing requirements for the Department of Revenue. It also clarified the payment of deferred taxes on mineral production for 2020 and 2021 and set forth invoicing and tracking requirements for counties. Finally, the amendment outlined penalties for failing to make deferred tax payments and the procedure for making deferred payments if the taxpayer sells, divests, or liquidates its producing mineral asset such that filing a monthly severance tax report with the Department of Revenue is no longer required.

B. Judicial Developments

In *Solvay Chemicals, Inc. v. Wyoming Department of Revenue*, the Wyoming Supreme Court concluded that the capture and use of waste mine gas (WMG) by Solvay Chemicals, Inc. (Solvay) was subject to severance and ad valorem taxation.[371] Solvay operates a trona mining operation that releases WMG. To reduce risk to miners, Solvay drilled gob-vent boreholes to release the WMG from the mine. In 2012, Solvay began collecting the released WMG and utilizing it to power industrial dryers at its soda ash processing plant. In 2015, the Wyoming Department of Revenue (DOR) imposed severance and ad valorem taxes on the WMG capture, and Solvay objected, arguing the WMG was not "natural gas" under the applicable statutes, it was not subject to severance taxation because it did not have the "privilege of severing or extracting" the WMG, and it was not subject to ad valorem taxation because it did not meet the definition of a "taxpayer." On appeal, the supreme court determined that the WMG captured and utilized by Solvay met the statutory definition of "natural gas" and was subject to both the severance and ad valorem taxation statutes.

In *North Silo Resources, LLC v. Deselms*, the Wyoming Supreme Court resolved a mineral ownership dispute.[372] While the court engaged in extensive analysis of various mineral conveyances, it also clarified two notable questions related to rights of mineral owners and lessees. First, the court addressed to what extent a party holding a life estate in minerals may encumber those mineral rights. In doing so, it looked to the instrument in question, which reserved a life estate in the minerals, and found it did not limit the nature of the leases that the holder of the life estate could enter into. As such, the holders of the life estate had the power to enter into oil and gas leases that extended past their lifetimes. Second, the court addressed whether a mineral lessee has standing to quiet title under Wyoming Statute section 1-32-201. Finding that an

[369] HB 89, 66th Leg., 2022 Budget Sess. (Wyo. 2022); WYO. STAT. ANN. §§ 39-13-113, 39-14-208 (2022).

[370] SF 38, 66th Leg., 2022 Budget Sess. (Wyo. 2022); WYO. STAT. ANN. § 39-13-113 (2022).

[371] 517 P.3d 1123 (Wyo. 2022).

[372] 517 P.3d 556 (Wyo. 2022), *amended and superseded*, 518 P.3d 1074 (Wyo. 2022).

oil and gas lease constitutes an "interest" in land pursuant to section 1-32-201, the court held an oil and gas lessee does have standing to seek to quite title.

C. Administrative Developments

The WOGCC announced that it received the Attorney General's opinion regarding Wyoming Statute section 30-5-109(d) on March 15, 2022, and voted to waive its attorney-client privilege as to the opinion.[373] That opinion addressed whether the WOGCC, when entering an order under section 30-5-109(d) for "additional wells to be drilled within established [drilling] units," establishes "new, individual, smaller drilling units" and determines the acreage for each new unit.[374] The Attorney General concluded that section 30-5-109(d) does not authorize the WOGCC to establish new units, but rather to modify a unit and permit additional wells within the unit.

[373] *Latest Updates*, WOGCC, https://wogcc.wyo.gov/home (last visited Mar. 5, 2023).

[374] Letter from Bridget Hill, Wyo. Att'y Gen. and Micah Christensen, Assistant Att'y Gen. to Thomas Kropatsch, Supervisor, WOGCC (Mar. 15, 2022); *see also* WYO. STAT. ANN. § 30-5-109 (2020).

Ethical Considerations When Working with Consultants

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Synopsis

> Experts, strictly speaking, are not advocates; they are sources of information and opinions in technical, scientific, medical or other fields of knowledge. Yet when experts are retained in connection with litigation, they must operate within the constraints of, and consistent with, the adversary process.
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> —*Wang Lab'ys, Inc. v. Toshiba Corp.*, 762 F. Supp. 1246, 1250 (E.D. Va. 1991)

I. Introduction

In whatever jurisdiction they may practice, lawyers are subject to ethical rules and guidelines fashioned, at least in part, on the ABA Model Rules of Professional Responsibility (Model Rules). Consultants and other non-legal professionals are not subject to the Model Rules or their jurisdictional equivalent. Nonetheless, where these individuals work for or in conjunction with lawyers on legal matters, the affiliated lawyers may (and often are) responsible for ensuring that these nonlawyers comply with the lawyer's own ethical obligations. This presentation will discuss the applicable legal standards that apply in these relationships, as well as strategies and ethical considerations for working with consultants and other non-legal professionals.

II. Scope and Assumptions

Many consultants hired by attorneys, or otherwise involved in legal matters in a role other than as an attorney, are legally trained and licensed but choose not to practice law in the traditional sense. This program does not address those individuals, who are themselves subject to some version of the Model Rules or similar ethical standards.[1] Bear in mind, however, that there are still some obligations incumbent on working with attorneys under your supervision and direction.[2]

Similarly, this discussion does not involve direct employees of an attorney or firm, over whom an employer might have much more direct control over the nonlawyers' actions and arguments with respect to privilege. However, arguably some of the same ethical rules would apply to working with employees as it would to consultants.[3]

Rather, these materials deal with the ethical responsibilities in situations where an attorney hires a nonlawyer third-party consultant or other third-party nonlawyer professional with specific expertise for the benefit of a client.

III. Determining When and What Kind of Consultants to Engage

Model Rule 1.1 requires lawyers to provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness, and preparation reasonably necessary for the representation. Although,

[1] *See generally* ABA Formal Op. 97-407 (Lawyer as Expert Witness or Expert Consultant).

[2] *See, e.g.*, Model Rule 5.1(b), (c).

[3] *See, e.g.*, Model Rule 5.3.

in many instances, the required proficiency is that of a general practitioner. Expertise in a particular field of law may be required in some circumstances.[4]

Providing particular expertise necessary to provide competent representation is precisely the reason that a consultant would be utilized. A consultant is engaged to assist the attorney in providing legal advice when conditions are such that "the lawyer needs outside help" in order to properly advise the client.[5] Use of an outside expert allows a lawyer to fill in some of the holes that you may have in your own knowledge, while still being able to provide the legal knowledge and skill necessary for the representation.[6] Where the client directs the selection of a particular nonlawyer service provider outside the firm, Model Rule 1.2(a) supports that the lawyer should ordinarily agree with the client concerning both the selection of the identified consultant, as well as the allocation of responsibility for monitoring the consultant as between the client and the lawyer.[7] However, the competence required in providing legal services extends to the selection of the appropriate consultant, as well as the timing of their retention, among the following other considerations.

A. What Is the End Goal in Utilizing an Outside Consultant?

The initial consideration must be to determine the reasons that the attorney needs to employ an outside consultant. Whether it is because the lawyer has minimal experience in a particular area, or because the particular issue requires an expert in a specialized area, such as environmental issues, real estate evaluations, medical claims, food contamination, tax issues, or government zoning and ordinances. These are all matters for which a lawyer with generalized experience may be able to assert a civil claim or draft and negotiate an agreement with the assistance of a person familiar with the intricacies of the subject.

Identifying the goal of the services also identifies the particular type of consultant to be hired and their incumbent level of experience. For example, valuation of a single family home may only require an appraiser or even real estate agent depending on the claims at issue, but if the client is looking for a new development site for their next wind farm, an environmental consultant might be necessary.

Locating knowledgeable consultants presents its own set of challenges. Often other attorneys in a practice area may be of assistance. The client is also a good resource if they conduct business in the specialized area or otherwise have personal contacts. In addition, there are a number of expert witness agencies that also provide access to experts where an attorney may not have

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[4] Model Rule 1.1, cmt [1].

[5] *In re* Morning Song Bird Food Litig., No. 3:12-cv-01592, 2015 WL 12791473, at *4–5 (S.D. Cal. July 17, 2015) (quoting United States v. Kovel, 296 F.2d 918, 922 (2d Cir. 1961)).

[6] For a discussion of competing ethical interests in recommending and using a consultant pursuant to a contingency arrangement, see generally ABA Formal Op. 87-354.

[7] Model Rule 5.3, cmt [4]. Model Rule 1.2(a) provides in relevant part that "a lawyer shall abide by a client's decisions concerning the objectives of representation and, . . . shall consult with the client as to the means by which they are to be pursued."

the time or resources available to locate an appropriate expert on their own.[8] Remember, though, that if such services are employed, they should be vetted first in the same manner that an individual expert or consultant is vetted (discussed below).

B. What Is the Anticipated Scope of Services?

From the outset it is important to determine the scope and breadth of necessary consultant services. Does a lawyer need a tutorial on the entirety of education law, or simply a tax accountant to conduct a single audit? The scope of expert or consulting services should be clearly spelled out in an appropriately tailored services agreement.

> PRACTICE TIP: Even where it is anticipated that the consultant will only be needed for a discrete task, it is recommended that the consultant engagement agreement allow for expansion, if necessary. Such as:
>
> > This scope of services is intended to serve as a minimum guideline, rather than to limit Consultant's activity. Where additional areas need to be addressed, it is understood that Consultant will do so, subject to cost, time and other limitations set forth in this Agreement.[9]

C. When Should the Consultant Be Brought on Board?

This factor depends heavily on the scope and extent considerations, above, as well as the client's budget (or the client's exposure if potential damages are not mitigated). It is likely a good idea to bring in the consultant when the lawyer faces a problem or decision that is impossible to solve without expert advice, or where the lawyer is unable to proceed/progress the client's case without the consultant's expertise. This latter situation is particularly critical as failing to progress a client's legal matter, in addition to demonstrating a lack of competence required by Model Rule 1.1, could lead to other ethical dilemmas.[10]

D. Who Should Hire the Consultant?

The real consideration here is privilege issues. There may be reasons why the client or the consultant may wish to contract with either the client or the attorney, but depending upon the extent of privilege and your jurisdiction, it

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[8] Although dozens of expert witness and consultant services can be located through a routine Google search, these services are usually not an attorney's first choice in choosing an expert for three main reasons: (1) they do provide a trusted colleague's opinion as to the effectiveness of any potential expert; (2) there may be a fee involved in using the service, which can cause a significant increase of the expert's otherwise hourly rate; and (3) the fact that the witness is registered with a referral agency may be brought up if the matter is one that proceeds to trial to attempt to show bias to the jury.

[9] 1 *Wis. Legal Forms* § 2:51 (2022 ed.).

[10] *See, e.g.*, Model Rule 1.2(a) (abiding by a client's objectives); Model Rule 1.3 (neglect of a legal matter).

may generally be preferable (i.e., safer) to have the attorney employ the consultant.[11]

E. Other Considerations

1. Possible Vicarious Disqualification

"Although not governed expressly by ethics rules, an issue of disqualification can arise, because a lawyer hires an agent or expert, who received confidential information that should be protected."[12] This is among the many reasons why proper vetting is required.

> PRACTICE TIP: In discussing the potential consultant's experience, it would be prudent for the lawyer to request prior employment and the consultant's client list—*as well as a list of parties or attorneys that may themselves have interviewed or vetted the consultant but which did not end in retention*. These names should be analyzed for conflicts against the client's matter. If it turns out there is any cross-over, then a determination should be made as to whether the putative consultant received any confidences or otherwise potentially disqualifying information from a party or entity with a stake in the matter for which you are considering retaining them. *See* Multiple-client conflicts & other disqualification issues and Engagement issues, below.

2. Load and Capacity of the Prospective Consultant

Much like attorneys, the type of case and amount of clients that a consultant can undertake competently is likely to depend on their own resources. It is a good idea to explore whether the consultant is a solo or in a firm setting, and what services they are able to provide both with and without whatever administrative and support services the lawyer has available. This will certainly be impacted by the converse consideration, namely whether the lawyer is a solo or in a firm setting, and what services they are able to provide in light of their situation, or whether the consultant may be able to help the lawyer's efforts in administratively assisting with the matter.

3. Timeline and Deadlines

Similar (and perhaps related to) the load and capacity of the consultant are the timelines and deadlines in the client's legal matter. The urgency (or lack thereof) is likely to play a significant factor in competently selecting an appropriate consultant.

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[11] Note, however, that it is a common belief that retention of a consultant by the lawyer is all that is necessary for privilege to apply. As discussed further below, this is not the case.

[12] § 8:55. Disqualification—Vicarious disqualification—Staff employees, agents and experts—Agents and experts, 2 *Legal Malpractice* § 18:55 (2022 ed.).

IV. Confidentiality in Disclosing and Sharing Client Information with Consultants

A. Ethics Rules vs. Evidence Rules

When working with consultants, it is imperative to maintain client confidences and not waive privileges and protections related to client information. Recognize, however, that the duty of confidentiality is not synonymous with the attorney-client privilege.[13] The duty of confidentiality under the ethics rules—namely Model Rule 1.6—broadly protects information related to the representation of a client in whatever form and regardless of its source, while the attorney-client privilege—generally a product of the rules of evidence—narrowly protects *communications* "not intended to be disclosed to third persons other than those to whom disclosure is in furtherance of the rendition of professional legal services to the client." Or. Rev. Stat. § 40.225 (Rule 503). Both of these avenues are likely to come into play in discussions with consultants, as well as in providing them with client information. Client information must be protected from disclosure to third parties.

B. Attorney-Client Privilege

The "oldest of the privileges for confidential communications known to the common law," the attorney-client privilege is rooted in the "need for the advocate and counselor to know all that relates to the client's reasons for seeking representation if the professional mission is to be carried out." Recognized in every American jurisdiction by statute or under common law,[14] the privilege allows for "full and frank" discussions "between attorneys and their clients and thereby promote[s] broader public interests in the observance of law and administration of justice."[15] "The attorney-client privilege is personal to the client, and only the client can waive it."[16] The purpose of this protection is to "encourage clients to make full disclosure to their attorneys" and thereby facilitate sound legal advice.[17]

However, the mere "fact that a person is a lawyer does not make all communications with that person privileged."[18] The attorney must be more than

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[13] *See generally* Ann. Model Rules Prof. Cond. § 1.6.

[14] *See, e.g.*, United States v. Ruehle, 583 F.3d 600, 608 (9th Cir. 2009) ("Issues concerning application of the attorney-client privilege in the adjudication of federal law are governed by federal common law."); *see also* United States v. Blackman, 72 F.3d 1418, 1423 (9th Cir. 1995) ("[S]ince the adoption of the Federal Rules of Evidence, courts have uniformly held that federal common law of privilege, not state law applies.").

[15] Upjohn Co. v. United States, 449 U.S. 383, 389 (1981) (citing Trammel v. United States, 445 U.S. 40, 51 (1980)); Swidler & Berlin v. United States, 524 U.S. 399, 403 (1998).

[16] Citizens Ins. Co. of Am. v. Livingston Cnty. Rd. Comm'n, No. 356294, 2022 WL 4281507, at *4 (Mich. Ct. App. Sept. 15, 2022) (citing Leibel v. Gen. Motors Corp., 250 Mich. App. 229, 240, 646 N.W.2d 179 (2002)).

[17] Fisher v. United States, 425 U.S. 391, 403 (1976).

[18] United States v. Ruehle, 583 F.3d 600, 607 (9th Cir. 2009).

merely a party to the conversation.[19] And, even then, only certain communications qualify. Different courts have characterized the elements in different ways but essentially "[t]he attorney-client privilege applies when (1) legal advice is sought (2) from a professional legal advisor in his capacity as such, and (3) the communications relating to that purpose (4) are made in confidence (5) by the client."[20]

In seeking advice from a legal professional, courts have extended the attorney-client privilege to the substantive advice and technical assistance of *agents* of the attorney.[21]

> [T]he ability of lawyers to perform some of their most fundamental client functions . . . would be undermined seriously if lawyers were not able to engage in frank discussions of facts and strategies with . . . consultants. . . . And there simply is no practical way for such discussions to occur with . . . consultants if the lawyers were not able to inform the consultants of at least some non-public facts, as well as the lawyers' defense strategies and tactics, free of the fear that the consultants could be forced to disclose those discussions.[22]

Courts generally extend attorney-client privilege to communications between clients and third-party consultants in three situations:[23] (1) when a consultant is recognized by the jurisdiction's privilege statute as an agent of the attorney or client;[24] (2) when the consultant was or is engaged to assist the attorney in providing legal advice;[25] and (3) when the consultant is a functional

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[19] Henry v. Municipality of Anchorage, No. 3:15-cv-00187 RRB, 2016 WL 10637093, at *2 (D. Alaska Nov. 1, 2016) (citing United States v. Chen, 99 F.3d 1495, 1501 (9th Cir. 1996) ("That a person is a lawyer does not, *ipso facto*, make all communications with that person privileged.")).

[20] Griffith v. Davis, 161 F.R.D. 687, 694 (C.D. Cal. 1995) (citing Admiral Ins. v. U.S. Dist. Ct., 881 F.2d 1486, 1492 (9th Cir. 1989); *In re* Fischel, 557 F.2d 209, 211 (9th Cir. 1977)); *see also* Geoffrey C. Hazard, Jr., W. William Hodes & Peter R. Jarvis, *The Law of Lawyering* § 10.06, at 10–22 (4th ed. 2014); Upjohn Co. v. United States, 449 U.S. 383, 389 (1981).

[21] *In re* CV Therapeutics, Inc. Sec. Litig., No. C-030-3709 SI (EMC), 2006 WL 1699536, at *6 (N.D. Cal. June 16, 2006).

[22] *In re* Grand Jury Subpoenas Dated Mar. 24, 2003 Directed to (A) Grand Jury Witness Firm & (B) Grand Jury Witness, 265 F. Supp. 2d 321, 330–31 (S.D.N.Y. 2003).

[23] David J. Elkanich & Trisha Thompson, "Mirror, Mirror, on the Wall, Is This Privileged After All? Examining the Ability to Shield Communications with Experts and Consultants Through the Attorney-Client Privilege and the Work-Product Doctrine," 63 *Rocky Mt. Min. L. Inst.* 3-1, 3-12 (2017).

[24] *See, e.g.*, Ill. R. S. Ct. Rule 201 ("A consultant is a person who has been retained or specially employed in anticipation of litigation or preparation for trial but who is not to be called at trial. The identity, opinions, and work product of a consultant are discoverable only upon a showing of exceptional circumstances under which it is impracticable for the party seeking discovery to obtain facts or opinions on the same subject matter by other means."); Utah R. Evid. 504 Advisory Comm. Note ("a representative of the client who may be an independent contractor, such as an independent accountant, consultant or person providing other services, is a representative of the client … if such person has been engaged to provide services reasonably related to the subject matter of the legal services or whose service is necessary to provide such service.").

[25] *See, e.g.*, Olson v. Accessory Controls & Equip. Corp., 254 Conn. 145, 157, 757 A.2d 14 (2000) (the presence of certain third parties who are agents or employees of an attorney or client, and who are necessary to the consultation, will not destroy the confidential nature of the communications); Lawson v. Spirit AeroSystems, Inc., 410 F. Supp. 3d 1195 (D. Kan. 2019) (a non-employee consultant can serve as the "client" seeking legal advice on behalf of a corporation, however, party asserting privilege bears the burden to establish that the corporation authorized the

employee of the client.[26] If one of these situations cannot be established, then the court tends to view discussions with consultants as a waiver of the privilege.[27]

In addition, the principle purpose of the communication is key. Courts look to whether it was *primarily* for legal advice, business advice, or both.[28] Courts also consider whether the lawyer involved had meaningful involvement in the communication.[29] An interpreter, for example, is generally viewed as an agent of the attorney to whom the privilege applies when a client speaks a foreign language.[30] Using similar reasoning, "the presence of an accountant, whether hired by the lawyer or client, while the client is relating a complicated tax story to the lawyer, ought not destroy the privilege."[31] That was the Second Circuit's rationale in *United States v. Kovel*, the seminal decision extending the attorney-client privilege to conversations with a nonlawyer.[32]

In *Kovel*, a man under investigation for alleged federal income tax violations retained a tax law firm for assistance. The law firm worked with an accountant (who was also a former IRS agent), who was subsequently subpoenaed by the grand jury as a witness. The accountant refused to appear, claiming privilege because of his employment by the defendant's attorneys. He was found in criminal contempt and ordered jailed, and the case went up on appeal. In analogizing to the foreign-speaking client in need of an interpreter, the court said:

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independent contractor to consult with attorneys for the purpose of securing legal advice for the corporation); Alliance Constr. Sols., Inc. v. Colo. Dep't of Corr., 54 P.3d 861, 869 (Colo. 2002).

[26] *See, e.g.*, McCaugherty v. Siffermann, 132 F.R.D. 234, 239 (N.D. Cal. 1990) (although the attorney-client privilege was inapplicable for other reasons, because independent consultant acted within scope of employment and under direction of supervisor, no principled reason existed to distinguish between the independent consultant and an employee for purposes of the attorney-client privilege); Fosbre v. Las Vegas Sands Corp., No. 2:10-cv-00765-APG-GWF, 2016 WL 183476, at *5 (D. Nev. Jan. 14, 2016) (court evaluated whether privilege would apply to communications between its attorneys and its financial advisors at Goldman Sachs, holding that the "the dispositive question, is whether the consultant performs duties similar to those performed by an employee and whether by virtue of that relationship, he or she possesses information about the company that would assist the company's attorneys in rendering legal advice"); *see also* Narayanan v. Sutherland Glob. Holdings Inc., 285 F. Supp. 3d 604, 614 (W.D.N.Y. 2018) (discussing the functional equivalent doctrine).

[27] *See, e.g.*, *Spirit AeroSystems*, 410 F. Supp. 3d 1195 (plaintiff could not establish consultancy relationship before date of executed agreement, and thus discussions with consultant prior to that date waived the privilege).

[28] *McCaugherty*, 132 F.R.D. at 238 (a party seeking to withhold discovery based upon the attorney-client privilege must prove that all of the communications it seeks to protect were made "*primarily* for the purpose of generating legal advice").

[29] *See, e.g.*, Fed. Trade Comm'n v. Boehringer Ingelheim Pharms., Inc., 180 F. Supp. 3d 1, 17 (D.D.C. 2016), *aff'd*, 892 F.3d 1264 (D.C. Cir. 2018) (finding that "documents prepared by non-attorneys and addressed to non-attorneys with copies routed to counsel are generally not privileged since they are not communications made primarily for legal advice").

[30] *See In re* CV Therapeutics, Inc. Sec. Litig., No. C-030-3709 SI (EMC), 2006 WL 1699536, at *6 (N.D. Cal. June 16, 2006)

[31] United States v. Kovel, 296 F.2d 918, 922 (2d Cir. 1961).

[32] *Id.*

> Accounting concepts are a foreign language to some lawyers in almost all cases, and to almost all lawyers in some cases. Hence the presence of an accountant, whether hired by the lawyer or by the client, while the client is relating a complicated tax story to the lawyer, ought not destroy the privilege, any more than would that of the linguist in the second or third variations of the foreign language theme discussed above; the presence of the accountant is necessary, or at least highly useful, for the effective consultation between the client and the lawyer which the privilege is designed to permit. By the same token, if the lawyer has directed the client, either in the specific case or generally, to tell his story in the first instance to an accountant engaged by the lawyer, who is then to interpret it so that the lawyer may better give legal advice, communications by the client reasonably related to that purpose ought fall within the privilege; there can be no more virtue in requiring the lawyer to sit by while the client pursues these possibly tedious preliminary conversations with the accountant than in insisting on the lawyer's physical presence while the client dictates a statement to the lawyer's secretary or in interviewed by a clerk not yet admitted to practice. What is vital to the privilege is that the communication be made in confidence for the purpose of obtaining legal advice from the lawyer. If what is sought is not legal advice but only accounting service . . . or if the advice sought is the accountant's rather than the lawyer's, no privilege exists.[33]

There has not been uniform application of these concepts among the courts or the tests for applying them, and this dissimilar treatment has gotten a fair amount of attention lately, particularly as law firms push courts to recognize that clients often come to attorneys for multiple reasons, one or more of which are interwoven with the need for legal advice. In fact, the Supreme Court has just agreed to hear an appeal from a Ninth Circuit case,[34] where the only issue is "[w]hether a communication involving both legal and non-legal advice

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[33] *Id.*; *see also* Calvin Klein Trademark Trust v. Wachner, 198 F.R.D. 53 (S.D.N.Y. 2000) (*no attorney-client privilege* where, in anticipation of filing lawsuit, a public relations firm is hired to act as consultant for law firm's representation of client, because nothing confidential and not for purposes of lawyer providing legal advice. Even if there were nuggets of privileged info at play, the consultant did not assist the legal advice, and the privilege must be construed narrowly because it hinders the truth); *cf. In re* Copper Market Antitrust Litigation, 200 F.R.D. 213 (S.D.N.Y. 2001) (a Japanese corporation with no experience with Western media retained a public relations—same one as in *Calvin Klein*—after a corporate executive disclosed information which prompted government investigations and litigation. The PR firm issued press statements on behalf of the corporation and otherwise communicated with the Western press as an agent of the corporation, consulting with the corporation's in-house and outside counsel to be able to do so. The PR firm also had the authority to make independent decisions on the corporation's behalf with respect to public relations matters. Accordingly, the court determined that the *communications were privileged*, because firm was the functional equivalent of a corporate employee); *cf.* Export-Import Bank of the U.S. v. Asia Pulp & Paper Co., 232 F.R.D. 103 (S.D.N.Y. 2005) (an independent financial consultant hired by a Singapore corporation to help the corporation restructure its debt was not a functional employee, so the *privilege did not apply*); *In re* Adelphia Commc'ns Corp., No. 02-41729, 2007 WL 601452 (S.D.N.Y. Feb. 20, 2007) (an independent credit counseling firm was retained as an independent contractor, and an employee of the contractor worked full-time at the corporation for three years, holding substantial responsibility with respect to the corporation's relations with another company. He also became the primary contact person between the corporation and the other company, and was given authority to make decisions and to speak on behalf of the corporation, and in was deemed to be the functional equivalent of a corporate employee, so that the *privilege did apply* when the contractor sought legal advice from the corporation's counsel as part of his job duties).

[34] *In re* Grand Jury, 23 F.4th 1088 (9th Cir. 2021), *cert. granted*, No. 21-1397, 2022 WL 4651237 (U.S. Oct. 3, 2022).

is protected by attorney-client privilege where obtaining or providing legal advice was one of the significant purposes behind the communication."[35]

Not dissimilar to the situation in *Kovel,* the *Grand Jury* case to be considered by the Supreme Court involves grand jury subpoenas issued to a law firm specializing in international tax issues, seeking documents regarding preparation of a client's tax returns, and the Supreme Court may very well limit its holding to that context. However, as noted, the petition for writ of certiorari presents the issue much more generally, so the Court has an opportunity to provide considerable guidance and uniform treatment of the extent of the privilege. Depending on the Supreme Court's decision—and particularly how broadly they address the issue of dual-purpose communications—the case could have a huge impact on the way in which attorneys communicate with clients and consultants, as well as how in-house and outside counsel do their work.

As of now, however, courts tend to look to whether the "primary purpose" or "predominant purpose"[36] of a communication involves legal advice, or they evaluate whether the communication occurred "because of" contemplated litigation or some similar legal purpose.[37] This determination is made "dynamically and in light of the advice being sought or rendered, as well as the relationship, between advice that can be rendered only consulting the legal authorities and advice that can be given by a non-lawyer."[38] A lawyer's "dual legal and non-legal responsibilities may bear on whether a particular communication was generated for the purpose of soliciting or rendering legal advice."[39]

For example, in a recent decision out of the U.S. District Court for the Northern District of California, in evaluating whether the attorney-client privilege applied to five categories of documents withheld by the defendants, the court explained:

> The Ninth Circuit has recognized that "some communications might have more than one purpose." *In re Grand Jury*, 23 F.4th 1088, 1091 (9th Cir. 2021). There are two potential tests courts have applied in that scenario to determine whether the communication is for the purpose of seeking legal advice and thus may be privileged: "the 'primary purpose' test and the 'because of' test." *Id.* In *In re Grand Jury*, the Ninth Circuit decided, as a matter of first impression, that where the purpose of a communication is to give or receive both legal advice and business advice, the communication is protected by attorney-client privilege only where the "primary purpose" of the communication is "to give or receive legal advice, as opposed to business . . . advice." 23 F.4th at 1091. The court explained that a dual-purpose communication can only have a single "primary" purpose

[35] Petition for a Writ of Certiorari, *In re* Grand Jury, No. 21-1397 (U.S. Apr. 5, 2022), 2022 WL 1355596.

[36] *In re* Chevron Corp., 749 F. Supp. 2d 141, 165 (S.D.N.Y.) ("The 'predominant purpose' of a communication *must* involve legal advice." (emphasis added) (citing *In re* Cnty. of Erie, 473 F.3d 413, 420–21 (2d Cir. 2007)), *aff'd sub nom. La*go Agrio Plaintiffs v. Chevron Corp., 409 F. App'x 393 (2d Cir. 2010).

[37] *See In re Grand Jury*, 23 F.4th at 1091–92 ("the 'because of' test—which typically applies in the work-product context—does not consider whether litigation was a primary or secondary motive behind the creation of a document. It instead considers the totality of the circumstances and affords protection when it can fairly be said that the document was created because of anticipated litigation, and would not have been created in substantially similar form but for the prospect of that litigation.").

[38] *In re* Cnty. of Erie, 473 F.3d 413, 420–21 (2d Cir. 2007).

[39] *Id.* at 421.

> and thus, the primary purpose test is narrower than the "because of" test, which asks only if there is a causal connection. *Id.* The court reasoned that "[a]pplying a broader 'because of' test to attorney-client privilege might harm our adversarial system if parties try to withhold key documents as privileged by claiming that they were created 'because of' litigation concerns[,]" finding that this approach "would create perverse incentives for companies to add layers of lawyers to every business decision in hopes of insulating themselves from scrutiny in any future litigation." *Id*. at 1093-1094.[40]

So—at least until the Supreme Court rules in *Grand Jury*—communications with a third-party consultant are likely to be deemed privileged when the third-party consultant is being used to provide effective legal advice to the client, and the lawyer is actively involved with the consultant (and needs information or assistance from the consultant to be able to provide competent and effective representation). It is critical to consider the purpose of the third-party consultant.

In addition, do not overlook that privilege may be defeated by consultants, particularly public relations consultants. For example, after Massachusetts General Hospital hired the Cooley LLP law firm to investigate a whistleblower's billing fraud allegations, a Massachusetts federal judge found that Cooley's findings were subject to discovery when the hospital shared portions of Cooley's report with a public relations firm fielding questions from The Boston Globe. While the report itself constituted legal advice subject to attorney-client privilege, the hospital had waived that protection by sharing it with their public relations consultant.[41] A recent article by Cara Bayles pointed out that it is nearly a "universal approach of all courts is to find PR consultants are outside privilege protection," discussing numerous cases "where sophisticated lawyers assumed their hiring of a consultant protected privilege, only to learn the protection did not apply."[42]

C. Work-Product Doctrine

The work-product doctrine protects from discovery documents or material things prepared in anticipation of litigation or for trial by or for a party or by or for a party's representative.[43] It provides an entirely separate basis for with-

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[40] City of Roseville Employees' Ret. Sys. v. Apple Inc., No. 4:19-cv-02033-YGR-JCS, 2022 WL 3083000, at *3 (N.D. Cal. Aug. 3, 2022) (alteration in original), *motion for relief from judgment denied sub nom*. *In re* Apple Inc. Sec. Litig., No. 4:19-cv-02033-YGR, 2022 WL 4351392 (N.D. Cal. Sept. 12, 2022), *motion to certify appeal denied*, No. 4:19-cv-02033-YGR, 2022 WL 4588603 (N.D. Cal. Sept. 29, 2022).

[41] Burke v. Gen. Hosp. Corp., No. 1784CV02876, 2019 WL 6197040, at *2 (Mass. Super. Ct. May 3, 2019).

[42] Cara Bayles, "How to Avoid Flubbing Privilege When Working with PR Pros," *Law360* (Oct. 13, 2022).

[43] *In re* Grand Jury Subpoena (Mark Torf/Torf Env't Mgmt.), 357 F.3d 900, 907 (9th Cir. 2004) (in order to qualify for work-product protection, "the documents must have two characteristics: (1) they must be 'prepared in anticipation of litigation or for trial,' and (2) they must be prepared 'by or for another party or by or for that other party's representative.'" (quoting *In re* Cal. Pub. Utils. Comm'n, 892 F.2d 778, 780–81 (9th Cir. 1989))).

holding discovery.[44] In fact, it is intended to protect an attorney's work product from falling in the hands of an adversary.[45] This is because a "healthy adversary system affords protection to an attorney's trial preparation as against actual and potential opponents."[46]

The work-product doctrine covers materials prepared by or at the direction of an attorney where future litigation is a distinct possibility. Items that qualify as "materials" include such things as written statements, private memoranda, fact chronologies, mental impressions, and personal beliefs. And, because the doctrine covers items prepared at the attorney's direction, there is protection for the attorney's paralegals and support staff, consultants, investigators, as well as experts engaged by attorney. Even the client, acting at the attorney's direction, may qualify.

The doctrine does not protect the underlying facts themselves, but may protect reports generated by the attorney or the attorney's agent regarding or based upon those facts. This is because the selection and compilation of the facts reflect the attorney's thought processes about, organization of, and impressions of what is relevant and important to the client's case.

> At its core, the work-product doctrine shelters the mental processes of the attorney, providing a privileged area within which he can analyze and prepare his client's case. But the doctrine is an intensely practical one, grounded in the realities of litigation in our adversary system. One of those realities is that attorneys often must rely on the assistance of investigators and other agents in the compilation of materials in preparation for trial. It is therefore necessary that the doctrine protect material prepared by agents for the attorney as well as those prepared by the attorney himself.[47]

Arguably the most-problematic pre-requisite to the application of the doctrine is the "in anticipation of litigation" element.[48] When a party begins anticipating litigation is difficult to articulate and thus often litigated. The burden is on the party seeking protection to show that "in light of the nature of the document and the factual situation in the particular case, the document [being sought] can fairly be said to have been prepared or obtained because of the prospect of litigation."[49] There are a couple of tests that the courts have used

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[44] *See, e.g.*, United States v. Stewart, 287 F. Supp. 2d 461 (S.D.N.Y. 2003) (email that Martha Stewart sent to her attorney and then forwarded to her daughter resulted in a waiver of the attorney-client privilege but not a waiver of its work-product protections).

[45] Westinghouse Elec. Corp. v. Republic of Philippines, 951 F.2d 1414, 1428 (3d Cir. 1991).

[46] *In re* Subpoenas Duces Tecum, 738 F.2d 1367, 1375 (D.C. Cir. 1984); *see also* Comm'r of Revenue v. Comcast Corp., 901 N.E.2d 1185, 1200 (Mass. 2009) (work product doctrine "functions 'to enhance the vitality of an adversary system of litigation by insulating counsel's work from intrusions, inferences, or borrowings by other parties.' The purpose of the doctrine is to establish a 'zone of privacy for strategic litigation planning . . . to prevent one party from piggybacking on the adversary's preparation.'" (internal citations omitted)).

[47] United States v. Nobles, 422 U.S. 225, 238–39 (1975).

[48] United States v. Adlman, 134 F.3d 1194, 1197 (2d Cir. 1998).

[49] *See* Charles Alan Wright, Arthur R. Miller & Richard L. Marcus, 8 *Federal Practice & Procedure* § 2024, at 343 (1994); *In re* Grand Jury Proc., 604 F.2d 798, 803 (3d Cir. 1979); Nat'l Union Fire Ins. Co. v. Murray Sheet Metal Co., 967 F.2d 980, 984 (4th Cir. 1992); Binks Mfg. Co. v. Nat'l Presto Indus., Inc., 709 F.2d 1109, 1118–19 (7th Cir. 1983); Simon v. G.D. Searle & Co., 816 F.2d 397, 401 (8th Cir. 1987); Senate of Puerto Rico v. U.S. Dep't of Justice, 823 F.2d 574, 586 n.42 (D.C. Cir. 1987).

to determine if a document has been prepared or created because of litigation. Namely, they have looked to the function of the document being sought and the primary motivation in creating it.

If the "function of the document" was to help the party understand their legal arguments, then it was prepared in anticipation of litigation and protected.[50] If the "primary motivation" was to assist in possible litigation, then it would similarly be protected. However, if it was for a business reason (or something other than for legal advice from an attorney) then no protection applies.[51]

And while attorneys can generally more readily establish that their own opinions or mental impressions as to legal issues are protected work product, this distinction between legal purpose and business purpose can be trickier to establish as to reports and materials created by consultants. Especially since the existence of litigation is itself insufficient to make consultants' and other third-party materials eligible for protection. Even where litigation is already in process, there is no work-product immunity for documents prepared in the regular course of business rather than for purposes of the litigation.[52] For that reason, courts attempt to determine "the driving force behind the preparation of each requested document" to resolve its eligibility under the work-product immunity doctrine.[53]

Being able to qualify for work-product protection can make a huge difference in discovery and the ultimate outcome of litigation. Although not a privilege per se,[54] information subject to the work-product doctrine is essentially given similar protections from disclosure as is attorney-client privileged information.[55] Except that—while a disclosure to a third party will waive the attor-

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For an in-depth discussion of the differences between the "because of" existing or expected litigation rationale versus the "primarily or exclusively to assist in litigation" rationale, see generally *United States v. Adlman*, 134 F.3d at 1197–1203.

[50] *See, e.g.*, Nat'l Ass'n of Crim. Def. Laws. v. Exec. Off. for U.S. Att'ys, 75 F. Supp. 3d 552, 557 (D.D.C. 2014), *aff'd sub nom.* Nat'l Ass'n of Crim. Def. Laws. v. U.S. Dep't of Just. Exec. Off. for U.S. Att'ys, 829 F.3d 741 (D.C. Cir. 2016), *opinion amended and superseded on denial of reh'g sub nom.* Nat'l Ass'n of Crim. Def. Laws. v. Dep't of Just. Exec. Off. for U.S. Att'ys, 844 F.3d 246 (D.C. Cir. 2016); Tax Analysts v. IRS, 294 F.3d 71, 73 (D.C. Cir. 2002) (both holding that working law need not be released if the function of the document in which the working law is contained makes it attorney work-product).

[51] *See, e.g.*, Gold Standard v. Am. Barrick Res. Corp., 805 P.2d 164 (Utah 1990) (in mining venture contract dispute, memoranda prepared by mining company in ordinary course of business as result of investigation to determine whether feasibility study had been performed and which were not prepared by or at request of attorney were not work product).

[52] *United States v. Adlman*, 134 F.3d at 1202 (citing Wright, Miller & Marcus, *supra* note 49, § 2024, at 346).

[53] Westfield Ins. Co. v. Carpenter Reclamation, Inc., 301 F.R.D. 235, 249 (S.D. W. Va. 2014) (citing Nat'l Union Fire Ins. Co. of Pitt., Pa. v. Murray Sheet Metal Co., 967 F.2d 980, 984 (4th Cir. 1992)).

[54] Sometimes termed as a "qualified privilege." *See, e.g.*, United States v. Nobles, 422 U.S. 225, 238–39 (1975).

[55] Like the attorney-client privilege, the work-product doctrine is recognized either statutorily or through common law in every U.S. jurisdiction. *See, e.g.*, Cal. Civ. Proc. Code § 2018.030; Hickman v. Taylor, 329 U.S. 495, 511 (1947); State *ex rel.* Brandenburg v. Blackmer, 2005-NMSC-008,

ney-client privilege (unless the disclosure is necessary "to further the goal of enabling the client to seek informed legal assistance")—a disclosure to a third party does not necessarily waive the protection of the work-product doctrine. Because the purpose of the work-product privilege "is to protect material from an opposing party in litigation, not necessarily from the rest of the world generally."[56] "Most courts hold that to waive the protection of the work-product doctrine, the disclosure must enable an adversary to gain access to the information."[57]

Finally, however, even where documents were prepared in anticipation of litigation, an opposing party may still be able to obtain them if the party can demonstrate that it has substantial need for the materials and cannot, without undue hardship, obtain their substantial equivalent by other means.[58]

D. Distinguishing Between the Consultant and the Expert Witness

In a 2017 decision out of California, the court clarified the confusion that can be created by the role that the consultant is going to undertake in a given matter, and the application of the attorney-client privilege and work-product protection to communications between a pre-litigation consultant, an expert witness, and someone who may be acting as both.[59]

> If the expert is solely retained as a consulting expert, the attorney-client privilege applies to communications made by the client or the attorney to the expert in order for the expert to properly advise counsel. As noted above, the attorney-client privilege applies to communications "to whom disclosure is reasonably necessary for the transmission of the information or the accomplishment of the purpose for which the lawyer is consulted"; this clearly includes communications to a consulting expert. Similarly, a consulting expert's report, prepared at the attorney's request and with the purpose of assisting the attorney in trial preparation, constitutes work product.
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> The situation is different, however, with a testifying expert. As a general rule, neither the attorney-client privilege nor the work product protection will prevent disclosure of statements to, or reports from, a testifying expert. When a client calls that party's attorney to testify at trial to information the attorney could have only learned through the attorney-client privilege, the privilege is waived. "It follows that the same waiver exists when an agent of the attorney is to testify to matters that he could only have learned because of the attorney-client relationship." Once a testifying expert is designated as a witness, the attorney-client privilege no longer applies, "because the decision to use the expert as a witness manifests the client's consent to disclosure of the information." Similarly, when an expert witness is expected to testify, the expert's report, which was subject to the conditional work product protection, becomes discoverable, as the mere

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110 P.3d 66. For a history and summary of the work-product doctrine, see generally *Coito v. Superior Court*, 278 P.3d 860 (Cal. 2012).

[56] United States v. Am. Tel. & Tel. Co., 642 F.2d 1285, 1298–99 (D.C. Cir. 1980).

[57] *Westinghouse*, 951 F.2d at 1428; *United States v. Stewart*, 287 F. Supp. 2d at 468–69 (defendant waived attorney-client privilege by transmitting an email exchange with her attorneys to her daughter, but did not waive its work-product protections, because the dissemination to her daughter (a nonadversarial party) did not "substantially increased the opportunities for potential adversaries to obtain the information").

[58] *See, e.g.*, U.S. Sec. & Exch. Comm'n v. Collector's Coffee Inc., 337 F.R.D. 70, 78 (S.D.N.Y. 2020), *objections overruled*, No. 19 CIV. 4355 (VM), 2021 WL 391298 (S.D.N.Y. Feb. 4, 2021).

[59] DeLuca v. State Fish Co., 217 Cal. App. 4th 671, 158 Cal. Rptr. 3d 761 (2013).

> fact that the expert is expected to testify generally establishes good cause for its disclosure.
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> The issue becomes more complex, however, when the expert is *both* a consulting and a testifying expert.[60]

In cases where a consultant is also an expert witness, the courts have essentially said that the consultant's work and communications are protected until such time as he or she is identified or called as an expert witness. Prior to that time, "none of the expert's opinion, professional though it may be, is relevant evidence in the case."[61] However, subsequent to the point where it "becomes reasonably certain" that the consultant will testify, the attorney-client privilege and work-product protection will no longer apply.[62]

E. Model Rule 1.6(a)[63]

A lawyer shall not reveal information relating to the representation of a client except in circumstances where the client consents to disclosure or where disclosures are impliedly authorized in order to carry out the representation.[64]

All U.S. jurisdictions now have some version of the ABA Model Rules, including a rule akin to Model Rule 1.6 (i.e., "the confidentiality rule"). As noted above, this ethics rule is not to be confused with the attorney-client privilege and it is broader than the attorney-client privilege, extending beyond communications and attorney work product to all information learned by the lawyer in connection with his or her representation.[65]

The duty of confidentiality applies not only to privileged "confidences," but also to unprivileged secrets; it "exists without regard to the nature or source of the information or the fact that others share the knowledge."[66]

> PRACTICE TIP: Attorneys should assume that all information obtained, received, or otherwise ascertained during the course of a representa-

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[60] *Id.*, 217 Cal. App. 4th at 688–89, 158 Cal. Rptr. 3d at 773–74 (citations omitted).

[61] Swartzman v. Superior Court, 231 Cal. App. 2d 195, 202–03, 41 Cal. Rptr. 721 (1964).

[62] People v. Milner, 45 Cal. 3d 227, 240, 753 P.2d 669, 678 (1988), *disapproved of on other grounds by* People v. Sanchez, 63 Cal. 4th 665, 374 P.3d 320 (2016).

[63] Model Rule 1.6 applies to the disclosure of information during the attorney-client representation. Model Rule 1.9(c) applies to treatment of this information after the conclusion of the representation. *See* Model Rule 1.6, cmts [1], [20].

[64] Although the specific language of rule states that a lawyer is prohibited from revealing "information relating to the representation of a client unless the client gives informed consent, the disclosure is impliedly authorized in order to carry out the representation or the disclosure is permitted by paragraph (b)," none of the reasons that permit disclosure in Model Rule 1.6(b) are likely to apply, as they generally relate to preventing death, serious injury, criminal acts, or ensuring that the lawyer is complying with his or her ethical obligations.

[65] *See* Off. of Disciplinary Couns. v. Baldwin, 225 A.3d 817, 843 (Pa. 2020) (confidentiality provisions of Rule 1.6 provide broader protections than does the attorney-client privilege); Newman v. State, 863 A.2d 321 (Md. 2004) (confidentiality rule "not limited to matters communicated in confidence by the client but also to all information relating to the representation . . . whereas the attorney-client privilege only protects communications between the client and the attorney").

[66] Perillo v. Johnson, 205 F.3d 775, 800 n.9 (5th Cir. 2000) (quoting former ABA Model Code of Professional Responsibility Canon 4, DR 4-101 and EC 4-4).

> tion—in whatever form and from whatever source—is not information that can be shared outside of the attorney's law office absent informed consent from the client. It is a "but for" analysis; but for the legal representation, the attorney would not have come into possession of the information. Applying the "but for" analysis helps lawyers determine what information is subject to the ethics rule.

In this way, not only may information that is not privileged still be protected by Rule 1.6,[67] but even seemingly "public" information may be protected from disclosure by the lawyer, if the only reason that the lawyer knew of the information was *because of* (i.e., *but for*) their representation.[68]

It is important to keep in mind, however, that the duty to protect information under Model Rule 1.6 extends to nonlawyer "assistance," including hired consultants. Although lawyers are impliedly permitted by Model Rule 1.6 to share information *with* consultants necessary to facilitate the consultants' services for the lawyer or the client,[69] they must ensure that these consultants similarly protect the client's information.[70]

1. The Interview Process

In order to determine the most appropriate consultant for a client's case, it will likely be necessary for attorneys to interview several candidates. In this interview process,

> [c]onfidential information should not be disclosed to the potential expert [or other consultant] unless there is a clear understanding that the information will be regarded as confidential. During this process, you may have to reveal confidential information about your client and your client's case; therefore, you must take precautions such as having the expert execute a written confidentiality agreement to assure that this information will not be disclosed to the opposing counsel or the public. Furthermore, in order to maintain confidentiality, the agreement should also provide that the expert, if not retained by you, would not be engaged by opposing counsel.[71]

2. Responsibility of the Firm and Supervisory Lawyers

Those with managerial authority in a law firm are required to make reasonable efforts to ensure that *the firm* has *measures* in effect giving reasonable assurance that the conduct of a nonlawyer employed or retained by or as-

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[67] Ann. Mod. Rules Prof. Cond. § 1.6.

[68] "This prohibition also applies to disclosures by a lawyer that do not in themselves reveal protected information but could reasonably lead to the discovery of such information by a third person. A lawyer's use of a hypothetical to discuss issues relating to the representation is permissible so long as there is no reasonable likelihood that the listener will be able to ascertain the identity of the client or the situation involved." Model Rule 1.6, cmt [4].

[69] Model Rule 1.6, cmt [5].

[70] *See* § 18:52. Disqualification—Vicarious disqualification—Staff employees, agents and experts—In general, 2 *Legal Malpractice* § 18:52 (2022 ed.) (obligation of confidentiality extends to an outside agent retained as a witness or consultant); *see also* Model Rule 5.3 (responsibilities regarding nonlawyer assistance).

[71] Pamela Esterman, *Legal Ethics for Environmental Lawyers*, Prac. Real Est. Law., May 2020, at 38, 46–47.

sociated with a lawyer of the firm is compatible with the professional obligations of the firm lawyer.[72] Discussed in greater detail below, this requirement means that firms need to establish *policies* directed at ensuring that consultants are complying with statutory and rule-based ethical constraints.[73]

V. Communicating and Storing Information by Electronic Means

As touched on previously, the duty of confidentiality under Model Rule 1.6 requires a lawyer to make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client.[74] This is the aspect of the confidentiality rule that is likely to impact attorneys the most when dealing with consultants, as the exchange of sensitive client information is often a necessary precondition to a consultant's services.

"Preserving confidentiality is a question of access to information."[75] Attorneys (as well as most businesses and individuals) "regularly use a variety of devices to create, transmit and store confidential communications, including desktop, laptop and notebook computers, tablet devices, smartphones, and cloud resource and storage locations."[76] However, transmitting and storing electronic communications, "pose unique problems related to maintaining client confidences because of the ease with which communications and data may be accessed by unauthorized and unknown persons."[77] "Each device and each storage location offer an opportunity for the inadvertent or unauthorized disclosure of information relating to the representation, and thus implicate a lawyer's ethical duties."[78]

> The risks and pitfalls change as technology changes to enable us to communicate and share information from anywhere, store and share information on tiny devices or somewhere on the Internet, and access the Internet via WiFi hotspots. Gone is the need for wires and cables and large machines. Also gone is confidence that confidential infor-

[72] Model Rule 5.3(a).

[73] *See, e.g.*, Att'y Grievance Comm'n of Maryland v. Dore, 433 Md. 685, 73 A.3d 161 (2013) (respondent violated rule when he put in place a system at his firm that allowed non-lawyer staff to "robo-sign" his name on a large number of foreclosure affidavits he had not reviewed, and which were subsequently notarized and filed with the court). *But c.f.* People v. Smith, 74 P.3d 566 (Colo. O.P.D.J. 2003) (*no violation* of Rule 5.3(a) where respondent had in place procedures to reasonably assure that legal assistant would act in manner compatible with lawyer ethics rules, but assistant failed to follow them).

[74] Model Rules 1.1, 1.6(c), 5.1, 5.3; *see also* Model Rule 1.6, cmt [18] (Model Rule 1.6(c) requires a lawyer to act competently to safeguard information relating to the representation of a client against unauthorized access by third parties and against inadvertent or unauthorized disclosure by the lawyer or other persons who are participating in the representation of the client or who are subject to the lawyer's supervision).

[75] ABA Formal Op. 88-356.

[76] ABA Formal Op. 477R.

[77] Ann. Mod. Rules Prof. Cond. § 1.6.

[78] ABA Formal Op. 477R.

> mation will not easily and accidentally find its way to your opponents in litigation, or that your communication will be privileged.[79]

Compliance with the duty of confidentiality under Model Rule 1.6 requires not only that lawyers avoid improperly disclosing protected information, but also that they act reasonably and competently to preserve confidentiality.[80]

A. Confidences and Competence in Securing Client Information

In the context of communications with consultants, experts, or third-party agents outside of the lawyer's office, this ethical duty of confidentiality is inescapably intertwined with the duty of competence and particularly the requirement to "keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject."[81] For example, "metadata" is today considered common knowledge, and we all generally understand that it is, "information 'hidden' in a document that may reveal details about the document's preparation, prior drafts, and authorship." However, it was only a few years ago that the ABA issued Formal Op. 477R, which cautioned lawyers about (and to be weary of) the emerging risks of metadata.[82] Maintaining competency with respect to technology requires continuous vigilance, and risk assessment.

> The threshold obligation to understand the risks is satisfied by learning where and how confidential client information is vulnerable to unauthorized access. This inquiry must be made with respect to each type of electronic device or system as they have been or are incorporated into the lawyer's practice.[83]

The unauthorized access to, or the inadvertent or unauthorized disclosure of, information relating to the representation of a client does not run afoul of Model Rule 1.6(c) if the lawyer has made *reasonable efforts* to prevent the access or disclosure.[84] Seems straightforward enough, but . . .

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[79] Kay Baxter, Daniel Wills & Amy Bures Danna, "Attorney-Client Privilege: Technological Changes Bring Changing Responsibilities for Attorneys and Legal Departments," *LexisNexis® Webinar* (Jan. 6, 2014).

[80] Ann. Mod. Rules Prof. Cond. § 1.6; *see also* Stark Cnty. Bar Ass'n v. Kelley, 2021-Ohio-770, 164 Ohio St. 3d 443, 446, 173 N.E.3d 471 (respondent who suffered a relapse of his addition, abandoned client files in his girlfriend's car in violation of Ohio RPC 1.6(c)); Statewide Grievance Comm. v. Paige, No. CV030198335S, 2004 WL 1833462, at *7 (Conn. Super. Ct. July 14, 2004) (Respondent "customarily reused paper which contained confidential client information as scrap. She did not protect the information on this paper from being revealed to other clients. In one instance, on the back of a note she gave to [her client] with information as to where to purchase life insurance, was information concerning another client's medical treatment, the name of the treating physician, and the medical bill details. By allowing access to this confidential information, the respondent violated [Connecticut] Rule 1.6.").

[81] Model Rule 1.1, cmt [8]. Note: this provision was among the "technology amendments" made a part of the Model Rules in 2012. *See* ABA Formal Op. 477R.

[82] ABA Formal Op. 477R.

[83] Cal. State Bar Formal Op. No. 2020-203.

[84] Model Rule 1.6, cmt [18].

1. What Are Reasonable Efforts?

There is no single answer or one-size fits all approach to what constitutes "reasonable efforts."[85] For instance, the duty does not require that the lawyer use special security measures if the method of communication affords a reasonable expectation of privacy.[86] However, "special circumstances," may necessitate "special precautions."[87]

> Factors to be considered in determining the reasonableness of the lawyer's expectation of confidentiality include the sensitivity of the information and the extent to which the privacy of the communication is protected by law or by a confidentiality agreement.[88]

Accordingly, lawyers should analyze and weigh their capabilities, against the value of the information and the possible ramifications of disclosure. Specifically, the ABA has said that, in addition to the sensitivity of the information and its designated protections, other factors to be considered include, the likelihood of disclosure if additional safeguards are not employed, the cost of employing additional safeguards, the difficulty of implementing the safeguards, and the extent to which the safeguards adversely affect the lawyer's ability to represent clients (e.g., by making a device or important piece of software excessively difficult to use).[89]

A client may require the lawyer to implement special security measures not otherwise required by the competency and confidentiality rules, or may give informed consent to forgo security measures that would otherwise be required.[90]

> PRACTICE TIP: While clients can decline the safeguards suggested by Model Rule 1.6, as well as release their lawyer from doing so, attorneys should consider carefully not only the possible disclosure of information related to the representation under such circumstances but also the potential waiver of the protections of the work-product doctrine and the attorney-client privilege (discussed above). Attorneys

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[85] *See* ABA Formal Op. 477R ("What constitutes reasonable efforts is not susceptible to a hard and fast rule, but rather is contingent upon a set of factors. In turn, those factors depend on the multitude of possible types of information being communicated (ranging along a spectrum from highly sensitive information to insignificant), the methods of electronic communications employed, and the types of available security measures for each method.").

[86] Model Rule 1.6, cmt [19].

[87] *Id.*; ABA Formal Op. 477R ("A lawyer generally may transmit information relating to the representation of a client over the Internet without violating the Model Rules of Professional Conduct where the lawyer has undertaken reasonable efforts to prevent inadvertent or unauthorized access." However, depending on the circumstances, lawyers may need to take special precautions.).

[88] *Id.*; ABA Formal Op. 477R (Things to consider in determining the reasonableness of the "expectation of confidentiality include the sensitivity of the information, and the extent to which the privacy of the communication is protected by law or by a confidentiality agreement."); *see also* ABA Formal Op. 498; Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020).

[89] Model Rule 1.6, cmt [18]; *see also* Mo. Bar Informal Op. 2021-03; Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020); *see generally* "Best Practices for Professional Electronic Communication," *The Florida Bar* (May 2020).

[90] Model Rule 1.6, cmt [18].

should explain these principles and protections to clients who advocate for dispensing with the safeguards otherwise required by Model Rule 1.6.

These same reasonable efforts also apply to consultants employed and/or supervised by attorneys.[91] Preliminary inquiries should assess:

- What protections are in place to determine what information the consultant should access and that he or she does not gain access to other protected information?
- What protections are in place to prevent the consultant (or those associated with the consultant) from accessing or sharing firm information or protected client information for reasons other than in service to the client(s) for which they were retained?

2. Suggestions for Preserving Confidentiality of Communications

Establish protocols for safely transferring files to and from clients, consultants, vendors, experts, opposing counsel, and regulators.[92]

Do not forget to include virtual document and data exchange platforms in these protocols.[93] According to ABA Formal Op. 477R:

> At the intersection of a lawyer's competence obligation to keep "abreast of knowledge of the benefits and risks associated with relevant technology," and confidentiality obligation to make "reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client," lawyers must exercise reasonable efforts when using technology in communicating about client matters. What constitutes reasonable efforts is not susceptible to a hard and fast rule, but rather is contingent upon a set of factors.

As noted above, the "obligation is one of reasonable efforts."[94] Encrypt emails or transmit via a secure portal when necessary.[95] What matters in the end is that "[a]ll communications, including telephone calls, text messages, email, and video conferencing are conducted in a manner that minimizes the risk of inadvertent disclosure of confidential information."[96]

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[91] *See* Model Rule 5.3, cmts [3]–[4], discussed further below. *See also* Ohio State Bar Ethics Op. 2011-02 (2011) (law firm that outsources human resources functions must ensure client information remains confidential); ABA Formal Op. 08-451 (2008) (lawyer must act competently to minimize risk of disclosure of protected information by outside service providers); N.J. Ethics Op. 692 (2002) (lawyer must act reasonably to protect client information when destroying client files).

[92] Nicholas Gaffney, "How Microsoft's Data Breach Impacts Law Firms (and Their Clients)," *Law Practice Today* (June 15, 2021).

[93] ABA Formal Op. 498; *see also* Cal. State Bar Formal Op. No. 2010-179 (addressing attorney's ethical duties of confidentiality and competence when using technology to transmit or store confidential client information).

[94] ABA Formal Op. 483.

[95] Wis. Formal Ethics Op. EF-21-02.

[96] Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020).

Evaluate where you have sensitive data, and assess the risk of storing it in those locations.

In particular, determine whether client information is stored on a phone or similar mobile device and whether those devices have sufficient security protocols and safeguards to protect against hacking or accidental/negligent exposure. Assess whether the device is more vulnerable because it lacks a lock screen, an inactivity timer, or biometrics, face, print, or multifactor authentication. In addition, it may have geolocation tracking enabled, may have been jailbroken or rooted, or the virtual assistant feature may regularly be used or left "always on."[97]

Keep software current and apply updates and patches promptly.[98]

"Patch management" is the process of distributing and applying updates to software. These patches are often necessary to correct errors (also referred to as "vulnerabilities" or "bugs") in the software. Discovered vulnerabilities in operating systems, applications, and embedded systems (like network equipment) require patches to correct.[99]

Verify your videoconferencing security.

Carefully review the terms of service for your virtual meeting or videoconferencing platform to ensure that they are in compliance with your obligations under ABA Model Rule 1.6 and 37 C.F.R. § 11.106.[100]

Have a data backup plan.

You need to plan for potential interruptions in access (be it due to natural disasters or human sabotage). Have multiple backups, test them often and, if possible, have at least one isolated backup, so it is inaccessible to threat actors.[101]

Conduct annual training.

This applies to yourself, as well as employees and third-party consultants handling client information. These trainings should be on cybersecurity issues

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[97] ABA Formal Op. 483. Only used reputable vendors for cloud services. ABA Formal Op. 498; Wisconsin Formal Ethics Op. EF-15-01: Ethical Obligations of Attorneys Using Cloud Computing.

[98] Wis. Formal Ethics Op. EF-21-02.

[99] "Patch Management: Benefits and Best Practices," Rapid 7, https://www.rapid7.com/fundamentals/patch-management/ (accessed March 2022).

[100] ABA Formal Op. 498.

[101] Tom Olzak, "Why Immutable Backups Are Essential to Recovering from Ransomware Attacks," *Toolbox.com* (Nov. 9, 2021); *see also* ABA Formal Op. 498 (ensure that data is backed up and that the backup data is readily available in the event of a breach or loss); Cal. State Bar Formal Op. (Interim) No. 20-0004 (firm should also regularly back up files to ensure reasonable access in the event of a data loss); N.Y. County Lawyers Ass'n Comm. on Prof'l Ethics, Formal Op. 754-2020 (2020) (back up confidential information and test protocols); Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020) (attorney may ethically allow client confidential material to be stored in "the cloud" where reasonable safeguards are employed to ensure that the data is protected from breaches, data loss and other risks).

relevant to your practice and the sensitivity of the information being stored and transmitted. Make all persons aware of new policies and potential threats as well as ensure compliance with the policies. It is not a bad idea to have more frequent reminders of the dangers of phishing schemes and ransomware attacks. For instance, there are services that provide monthly cyber awareness courses that can be accessed on demand and only take 10 to 15 minutes per sitting.[102]

Consider limits on access.

Where you are working with other lawyers or numerous staff and/or consultants, "consider limiting access to client files within the law firm or work unit, whether by actively granting access only to certain people or by tying access to client files to origination or billing a certain amount of time to the client's account."[103]

Use (and have employees and consultants use) only secure and encrypted laptops.

Have the ability to remote wipe lost devices (phone and computer) if necessary.[104]

Monitor for data breaches.[105]

Develop a breach response.

Know what you are going to do in the event that client information is lost, stolen, or held hostage.[106]

In June 2017, DLA Piper's (4000+ attorneys in more than 40 countries) was shut down when an administrator in its Ukraine office mistakenly accepted an "update" to the firm's accounting software used by that office. That one click enabled a phishing scam that contained the malware "NotPetya." The firm's cybersecurity team in Britain discovered the threat within 20 minutes. Nonetheless, in that same time, the virus disabled the firm's worldwide telephone system and most of its computer network. No one could use their computers. DLA Piper reportedly paid over 15,000 hours of overtime to its IT department in attempting to restore the network, but it still took a week to get email back online, and months to become fully operational again. The incident cost DLA Piper tens of millions of dollars.[107]

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[102] *See, e.g.*, "Top 10 Best Cybersecurity Training Services," *Atlantic.Net* (July 1, 2022).

[103] Gaffney, *supra* note 92.

[104] Wis. Formal Ethics Op. EF-21-02.

[105] ABA Formal Op. 483; Cal. State Bar Formal Op. 2020-203.

[106] *See* Cal. State Bar Formal Op. 2020-203 (addressing attorney's ethical obligations regarding data breaches); *see also* ABA Formal Op. 483 (when a data breach occurs involving material client information, lawyers have a duty to notify clients of the breach and to take other reasonable steps to stop and mitigate damage, as well as investigate what occurred during the breach); ABA Formal Op. 498 (lawyers should have a data breach policy and a plan to communicate losses or breaches to the impacted clients).

[107] "DLA Piper – A Business Continuity Nightmare that Cost Millions," *prodriveit.co.uk* (Oct. 30, 2017).

DLA Piper's experience is a cautionary tale about the dangers of phishing and malware, and a good reminder that the greatest cybersecurity threat is ourselves. A 2017 LogicForce Security Report surveyed 200 firms and found that *all* had been targeted for confidential data (i.e., subject to hacking attacks). While only 40% of these hacks were successful, 40% of those who were hacked were *unaware* of it. This reveals two things: that the typical firm is not protected enough, and that most firms lack adequate threat detection. Consider not only what you may not know about your own security, but what you may not know about your third-party consultant's security (and what they might not even know themselves).

> Law firms make amazing targets on every conceivable level. They have loads of valuable data, and they are ethically required not to lose that data, which might make them more willing to pay ransoms quickly and quietly. Additionally, attorneys are stereotypically not a tech-savvy bunch, and they have a professional predisposition to move quickly through emails in order to get things done. Even the largest law firms are still small compared to most enterprise-class companies, meaning that their cybersecurity is unlikely to be top-of-the-line.[108]

Cybersecurity firm Coveware reported that the average ransomware payment for Q3 and Q2, 2021 was $140,000. However, "small and midsize professional services firms, especially law firms and financial services firms, are most at risk from ransomware attacks because of their lack of cybersecurity preparedness, apparently because they think they're too small to be targeted."[109] Cyberattacks have increased 300% in recent years, and "the risk of losing important data or being compromised is much greater at home."[110]

Be aware and remain vigilant.

"Finally, as technology inevitably evolves, lawyers should periodically assess whether their existing systems are adequate to protect confidential information."[111]

B. Additional Considerations Regarding Protecting Information When Working Remotely

After more than two years of navigating the COVID-19 pandemic, the vast majority of attorneys have been forced to gain a familiarity with working remotely (aka Telework),[112] and many of those who have figured out how to work effectively from home hope to continue to be able to do so.[113]

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[108] Jim Gill, "Law Firms and Cyber Attacks: InfoGov Isn't Just for Corporate Legal Teams Anymore," *JD Supra* (Aug. 31, 2021).

[109] Sharon D. Nelson, John W. Simek & Michael C. Maschke, "Law Firms Stagger Through Ransomware Attacks," *AbovetheLaw.com* (Nov. 2, 2021).

[110] Acronis, "5 Steps for Securing Your Remote Work Space," *Threat Post.com* (Sept. 10, 2021).

[111] ABA Formal Op. 498.

[112] Before the Coronavirus pandemic, approximately 17% of employees worked from home full time. "Change in Remote Work Trends Due to COVID-19 in the United States in 2020," *statista.com* (Feb. 16, 2022). As a result of the pandemic, 34.5% of establishments increased telework for some or all of their employees. "Business Response Survey to the Coronavirus Pandemic: Changes in Telework," U.S. Bureau of Labor Statistics, bls.gov (accessed Mar. 2022). And a survey

The Model Rules do not specifically address lawyers who practice remotely. Rather, the same rules of professional conduct that apply to attorneys practicing in traditional law firm offices apply to attorneys practicing remotely.[114] However, in addition to the foregoing recommendations for securing information, remote practice offers some special challenges for attorneys (and associated consultants) looking to transmit and safeguard client information. In addition to the foregoing suggestions, consider the following for your home office (and recommend that your consultant do the same, if they are working virtually).

Secure your physical workspace.

This is a critical consideration, particularly if you have to bargain for (often coveted) office space in your home. Contemplate what needs to be done to ensure that you have a designated workspace that provides privacy during client calls, virtual meetings, and otherwise privileged communications. These communications must remain private. Consider how someone might overhear you. Privacy might require certain physical safeguards such as double-paned windows and doors that lock securely. It also requires that you remove any virtual assistants from your workspace, as these devices may listen and record conversations.[115]

You also need a designated work computer that only you use, which is password protected and updated regularly with reliable anti-virus protection software.

Ensure that all paper files and information related to the representation of clients are stored in locked cabinets. Be sure to shred or securely dispose of any and all paper that is no longer required to be maintained.

In sum, you should set up your physical office so your online and phone communications are just as private as they would be in person or by phone at a traditional office, and paper data and documentation is handled as securely as it would be in a formal law office.[116]

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by Owl Labs found that during the COVID-19 pandemic, close to 70% of full-time workers worked from home. "Statistics on Remote Workers That Will Surprise You," *apollotechnical.com* (Jan. 16, 2022).

[113] Kim Parker, Juliana Menasce Horowitz & Rachel Minkin, "How the Coronavirus Outbreak Has – and Hasn't – Changed the Way Americans Work," *pewresearch.org* (Dec. 9, 2020) (a majority of those who say their job can be done from home say they would like to telework all or most of the time post-pandemic); Nicole Black, "Legal Industry Report 2021: Lessons Learned from the Pandemic," *MyCase* (53% of lawyers surveyed reported that their firms would allow lawyers and law firm staff to work remotely full-time once their offices fully reopened, and 70% said that their firms would allow attorneys and staff to work remotely part-time once reopened).

[114] Cal. State Bar Formal Op. (Interim) No. 20-0004; Cal. State Bar Formal Op. No. 2012-184.

[115] Wis. Formal Ethics Op. EF-21-02; *see also* ABA Formal Op. 498 (use of such devices exposes the client's information to unnecessary and unauthorized third parties and increased risk of hacking); Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020) (lawyers should prohibit the use of smart devices such as those offered by Amazon Alexa and Google voice assistants in locations where client-related conversations may occur).

[116] *See* Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020), Ethical Obligations for Lawyers Working Remotely (attorneys and staff working remotely must consider the security and confidentiality of their client data, including the need to protect

Secure your home Wi-Fi network.

This requires a secure wireless connection. Even if you plug straight into your modem, a secure wireless connection is still necessary to protect your clients' information. Wi-Fi that is not secure could allow hackers to access client files on your computer.[117] Protect your router with a strong, unique (complicated) password that is changed often.[118] Stolen or weak credentials account for a large percentage of data breaches, so do not reuse passwords.[119]

Control or disable network services.

This is especially true for unneeded ones. Turn off WPS, Remote Administration, and Universal Plug and Play (UPnP) features. These features can be convenient but weaken your network security. "For example, remote access to your router's controls allows you to change settings over the web. WPS lets you push a button on the router to connect a device to the internet instead of entering the network password. Lastly, UPnP lets your devices find each other on the network. These features may make it easier to, say, add devices to your network or let guests use your Wi-Fi—but they can make your network less secure."[120]

Utilize firewalls and anti-virus software.[121]

VI. AVOIDING CONFLICTS OF INTEREST IN ENGAGING AND WORKING WITH CONSULTANTS

A. Multiple-Client Conflicts and Other Disqualification Issues

A lawyer is prohibited from representing a client if the representation of one client will be directly adverse to another client or there is a significant risk that the representation of one or more clients will be materially limited by the lawyer's responsibilities to another client, a former client, or a third person, unless the lawyer reasonably believes that there will be no adverse effect, and the

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computer systems and physical files, and to ensure that telephone and other conversations and communications remain privileged).

[117] You can encrypt your network by simply updating your router settings to either WPA3 Personal or WPA2 Personal. WPA3 is the newer—and best—encryption available, but both will work to scramble your information. If your router is older (i.e., WPA and WEP), try updating your router software, as those are not secure. After updating, check again to see if WPA2 or WPA3 are available. If they are not, according to the FTC, you should consider getting a new router to keep your information secure. The FTC has other simple recommendations, such as setting up a guest network, so that visitors that might have malware on their devices are not able to corrupt your work computer. Fed. Trade Comm'n, "How to Secure Your Home Wi-Fi Network" (Dec. 2022).

[118] Also consider changing the router's admin credentials. Otherwise, "with a bit of know-how, anyone connected to the router can guess or Google its login credentials. This makes you vulnerable to a hacker or a young overachiever." Stephen Cooper, "How to Secure Your Home Wireless Network," *Comparitech* (Apr. 24, 2020).

[119] "How Data Breaches Happen," *Kaspersky*, https://www.kaspersky.com/resource-center/definitions/data-breach (accessed Mar. 2022).

[120] Fed. Trade Comm'n, *supra* note 117.

[121] Pa. Bar Ass'n Comm. on Legal Ethics & Prof'l Responsibility, Formal Op. No. 2020-300 (2020); Wis. Formal Ethics Op. EF-21-02.

client consents after consultation.[122] Also inherent in this rule is the lawyer's obligations under Model Rule 1.6 to maintain information related to the representation of a client, and its former-client counterpart, Model Rule 1.9(c).[123]

Most lawyers have a pretty good idea of what to look for in terms of multiple-client conflicts of interest when they undertake a new representation.[124] If they have not themselves established a conflict database, they are at least familiar with its use and implement a conflict checks regarding putative clients and parties, and update it as new participants appear in pending matters.[125]

The use of consultants and other experts adds a complicating wrinkle to the conflicts analysis, because they add another player that must be "cleared" against all others, and professional consultants may themselves come from firms with a substantial client list, or they may themselves have received disqualifying information. When vetted against those of the attorney's firm and those of the opposing party, the conflict check could eliminate the consultants best suited to provide the needed services, even though, as with corporate entities, consultants and the companies who assign them to a particular matter are not one in the same for conflicts purposes.[126]

Attorneys involved in servicing or litigating with governmental branches, offices, and entities also need to be mindful of specific conflict of interest statutes, rules, and protocols that might impact their use of a particular consultant. For example, the "Jay Alix Protocol" used by the US Trustee should be considered in bankruptcy proceedings,[127] as should the National Environmental Policy Act in construction and environmental matters.[128]

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[122] Model Rule 1.7(a).

[123] A lawyer who has formerly represented a client in a matter or whose present or former firm has formerly represented a client in a matter shall not thereafter: (1) use information relating to the representation to the disadvantage of the former client except as these Rules would permit or require with respect to a client, or when the information has become generally known; or (2) reveal information relating to the representation except as these Rules would permit or require with respect to a client.

[124] *See generally* Model Rule 1.7, cmts [2]–[5].

[125] *See generally* Willie Peacock, "How to Conduct a Conflict Check," *Clio* (accessed Oct. 1, 2022); Catherine Reach, "Best Practices for Conflicts Checking Systems," *Ctr. for Practice Mgmt., N.C. Bar Ass'n* (June 4, 2019).

[126] Lewis v. State, 312 Ga. App. 275, 283, 718 S.E.2d 112, 119 (2011).

[127] *See, e.g.*, *In re* Nine W. Holdings, Inc., 588 B.R. 678 (Bankr. S.D.N.Y. 2018) (Distressed management consultant retained by Ch. 11 debtor and its affiliates, which had overseen debtors' daily operations prepetition, complied in all material respects with core requirements of U.S. Trustee's "Jay Alix Protocol," even though particular individual employed by consultant had served as director of lone debtor entity within two years prior to petition date; consultant did not violate purpose of Protocol to prevent a consultant from using its position in one capacity to benefit itself in another capacity, neither individual nor any other of consultant's employees ever served on a parent board responsible for approving the prepetition or post-petition retention or compensation of consultant, and individual's *de minimis* service on subsidiary boards did not overlap with timing of consideration of either of consultant's engagement letters, but was done at discretion and under direction of parent boards, and primarily involved ministerial duties.).

[128] *See, e.g.*, Sierra Club v. Marsh, 714 F. Supp. 539, 593 (D. Me.), *amended*, 744 F. Supp. 352 (D. Me. 1989), *aff'd*, 976 F.2d 763 (1st Cir. 1992) (plaintiffs were granted preliminary injunction against proposed development of cargo terminal on undeveloped island, in part because the Federal Highway Administration violated the National Environmental Policy Act by not obtaining con-

Conflicts analysis is generally undertaken to avoid disqualification under the ethics rules. Although attorney regulators generally have no jurisdiction over non-attorney consultants and experts (and they are not otherwise specifically governed by ethics rules), an issue of *disqualification* can still arise in a litigation setting *where a lawyer hires a consultant or expert who received confidential information that should be protected*.[129] In one California case, the court explained it this way:

> In the expert witness cases, the party seeking disqualification has the burden to show that the expert possesses confidential information materially related to the proceedings before the court. . . . "Once this showing has been made, a rebuttable presumption arises that the information has been used or disclosed in the current employment."[130]

The party in that case was unable to show that she had shared confidential information, so the court denied her disqualification motion. The court went on to hold that the rule for disqualification in the case of former employees is the same as that for experts,[131] and there is no reason to believe that the same would not also be true for consultants, who may not be acting as an expert witness in the matter.

In another case, also in California, a law firm was disqualified for hiring an accountant expert witness, who had been contemplated for retention by the adverse party.[132] The expert had received confidential information, but the adverse party had decided not to engage the expert. The court found that the information shared with the accountant by the adverse party was provided with an expectation of confidentiality. The law firm, although denying confidences

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flict of interest disclosure statements from the outside consultants hired to prepare the environmental impact statement).

[129] *See* § IV.D, *supra*.

[130] Roush v. Seagate Tech., LLC, 150 Cal. App. 4th 210, 220, 58 Cal. Rptr. 3d 275, 282 (2007) (internal citations omitted); *see also* Mid Am. Agri Prod./Horizon, LLC v. Rowlands, 286 Neb. 305, 320, 835 N.W.2d 720, 730 (2013) ("a rebuttable presumption of shared confidences should be applied to a side-switching expert").

[131] Based in significant part on *In re Complex Asbestos Litig*., 232 Cal. App. 3d 572, 592–93, 283 Cal. Rptr. 732, 744 (1991) ("Hiring a former employee of an opposing counsel is not, in and of itself, sufficient to warrant disqualification of an attorney or law firm. However, when the former employee possesses confidential attorney-client information, materially related to pending litigation, the situation implicates considerations of ethics which run to the very integrity of our judicial process. [Absent informed consent] the hiring attorney is subject to disqualification unless the attorney can rebut a presumption that the confidential attorney-client information has been used or disclosed in the new employment. A law firm that hires a nonlawyer who possesses an adversary's confidences creates a situation, similar to hiring an adversary's attorney, which suggests that confidential information is at risk." (cleaned up)); *see also* Williams v. Trans World Airlines, Inc., 588 F. Supp. 1037, 1044 (W.D. Mo. 1984) (Nonlawyer "personnel are widely used by lawyers to assist in rendering legal services. Paralegals, investigators, and secretaries must have ready access to client confidences in order to assist their attorney employers. If information provided by a client in confidence to an attorney for the purpose of obtaining legal advice could be used against the client because a member of the attorney's [nonlawyer] support staff left the attorney's employment, it would have a devastating effect both on the free flow of information between client and attorney and on the cost and quality of the legal services rendered by an attorney.").

[132] Shadow Traffic Network v. Superior Court, 24 Cal. App. 4th 1067, 29 Cal. Rptr. 2d 693 (2d Dist. 1994).

were received, admitted retaining the accountant on the very same subject matter as the opposing party had considered retention. The court held that, because the law firm never suggested a lesser alternative or that the recusal order should be narrowed to disqualify only certain personnel, it had "no choice" but to disqualify the law firm.[133] In addition, the court suggested that the risk of disqualification could have been avoided if the law firm first contacted opposing counsel and notified them of their intended engagement of the expert. If counsel had objected, the court opined, then the facts could have been presented to the court.

> PRACTICE TIP: There are two practical lessons to be gleaned from the court's commentary in the *Shadow Traffic* decision. First, you should inform opposing counsel when it becomes apparent that a consultant or expert received confidential information from the adverse party. (Do not assume that the consultant's identity will not be discovered—even if they are not used as a witness.) If opposing counsel does not object following disclosure, the adverse party has likely waived any confidences and privileges concerns, and you are insulated from a later challenge. If they do object, the parties can approach the court for a determination of whether disqualification or other measures are appropriate—before significant time and funds are invested in preparing the consultant. Second, if the opposing party objects, or you otherwise find yourself subject to a motion to disqualify, provide the court with alternative and lesser remedies to disqualification. For example, offer to screen any affected lawyers and other personnel.[134]

These decisions again emphasize the overwhelming importance of preserving a client's confidential information, such that, in the absence of confidential information being disclosed, the choice of an expert is rarely, if ever, cause for disqualification. Put another way, when confidential information is *not* received by a consultant or expert, disqualification is *not* necessary.[135]

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[133] *Id.*, 24 Cal. App. 4th at 1088.

[134] *See, e.g.*, Swanson v. Wabash, Inc., 585 F. Supp. 1094 (N.D. Ill. 1984) (plaintiffs sought to disqualify defendants' attorneys on ground that their firm had previously represented possible witness for plaintiff, but the court held that such prior representation did not require disqualification, where problem could be adequately taken care of by having attorneys file affidavits stating that they did not reveal any of witness' confidences and by having witness cross-examined at trial by attorney not affiliated with firm).

[135] *See, e.g.*, Eng. Feedlot, Inc. v. Norden Lab'ys, Inc., 833 F. Supp. 1498 (D. Colo. 1993) (court rejected manufacturer's motion to disqualify the owner's expert witness and counsel, because the manufacturer *disclosed no confidential communications to the expert* who had been retained to assist in the investigation and settlement of claims in prior litigation involving related cattle vaccines). *But cf.* Conforti & Eisele, Inc. v. Div. of Bldg. & Constr., Dep't of Treas., 405 A.2d 487 (N.J. Super. Ct. Law Div. 1979) (court disqualified an expert witness hired by the defendant to consult on claims related to several phases of a construction project, and who was subsequently hired by the plaintiff with respect to later phases of the same project based upon attorney-client privilege and fundamental fairness).

B. Engagement Issues

"[T]here is no 'right' way for an attorney to retain an expert for purposes of litigation."[136] Drafting a formal engagement agreement to establish the existence of the consultancy or expert relationship is always a good idea, as is including provisions that prohibit the disclosure of any information gained by the consultant or expert during the course of the relationship. However, "neither lawyers nor experts always, or even often, go to such lengths."[137]

According to the district court in *Wang Laboratories, Inc. v. Toshiba Corp.*, a party looking to shield a consultant or expert from potential poaching from an adversary (and thereby protect confidences and secrets) *should* clarify as much during retention, and offered the following checklist:

- Make the intention to establish a confidential relationship "unmistakably clear" and confirm it in writing. Include in the writing:
  - an explanation of the consultant's confidentiality obligations, and
  - confirmation of the payment terms and conditions.
- Work-product communications to the consultant should be prominently labeled as such.
- Consultations with doubts about whether they want to be retained should specifically say so, and "should decline to accept any disclosures" from the prospective client.
- Counsel seeking to retain a consultant should inquire specifically whether consultant's past employment "presents any problems." Counsel should take care to ascertain all the facts concerning the prior or attempted retention and the nature of all disclosures.
- After review, if the consultant is retained notwithstanding a prior association with the adversary, the fact should be promptly disclosed to opposing counsel and the matter discussed thoroughly in an effort to resolve the dispute before it is raised in court.[138]

The foregoing is good guidance, and following these steps would mitigate the risk of disqualification due to an association with a consultant or expert but such "formalistic rituals" are not yet *required* by courts.[139] Rather, "[t]o be sure, no one would seriously contend that a court should permit a consultant to serve as one party's expert where it is undisputed that the consultant was previously retained as an expert by the adverse party pursuant to the earlier retention. This is a clear case for disqualification."[140]

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[136] Paul By & Through Paul v. Rawlings Sporting Goods Co., 123 F.R.D. 271, 279 (S.D. Ohio 1988).

[137] *Id.*

[138] 762 F. Supp. 1246, 1250 (E.D. Va. 1991); *see also Eng. Feedlot*, 833 F. Supp. at 1505 ("lawyer seeking to retain an expert and establish a confidential relationship should make this intention unmistakably clear and should confirm it in writing").

[139] Cordy v. Sherwin-Williams Co., 156 F.R.D. 575, 581 (D.N.J. 1994).

[140] *Wang*, 762 F. Supp. at 1248.

VII. Ensuring Consultants Comply with the Lawyer's Ethical Obligations

As touched on above, ABA Model Rule 5.3 imposes obligations on lawyers and firms utilizing nonlawyers to facilitate services to one or more clients to take steps to see to it that the actions of associated nonlawyers are in line with the lawyer's ethical responsibilities.[141]

Several years ago, the title of Model Rule 5.3 was changed from responsibilities related to nonlawyer "assistants" to applying to nonlawyer "assistance"—a slight but deliberate modification that expands the reach of the rule substantially, and clearly brings consultants within the scope of the rule.

In addition to establishing necessary policies and systems to attempt to make certain that a non-lawyer consultant or other third party complies with the ethical obligations of the supervising lawyer, Rule 5.3(b) also requires that a supervising lawyer make reasonable efforts to ensure the nonlawyer assistant's conduct is compatible with the lawyer's ethical obligations. "[S]o in other words mere compliance with Rule 5.3(a) 'does not suffice if the lawyer also has direct supervisory authority over the nonlawyer whose conduct is in question.'"[142]

The U.S. Court of Appeals for the D.C. Circuit provided a comprehensive amalgamation of the two prongs of Model Rule 5.3:

> "[R]easonable efforts to ensure" that an employee's conduct is compatible with the lawyer's professional obligations is a proactive standard that requires more than careful selection and appropriate training of the employee. As authoritative commentary to the Rule and case law make clear, *proper supervision is necessary* also. In important matters such as the maintenance of financial records for a conservatorship and the monitoring (or handling) of client funds, *there must be some system of timely review and internal control to provide reasonable assurance that the supervising lawyer will learn whether the employee is performing the delegated duties honestly and competently or not*. If no such system is in place, it will not do for a lawyer to profess ignorance of the employee's dishonesty or incompetence. Internal controls and supervisory review are essential precisely because employee dishonesty and incompetence are not always identifiable in advance.[143]

Although the court in that case was speaking to the supervision of in-house employees, it is apparent from other cases that regulators now hold attorneys as equally responsible for *outside* employees and consultants, as they do internal employees.

Model Rule 5.3 provides that with respect to a nonlawyer employed or retained by or associated with a lawyer:

> (a) a partner, and a lawyer who individually or together with other lawyers possesses comparable managerial authority in a law firm shall make reasonable efforts to ensure that the firm has in effect measures giving reasonable assurance that the person's conduct is compatible with the professional obligations of the lawyer;

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[141] *See, e.g.*, State *ex rel.* Okla. Bar Ass'n v. McGee, 48 P.3d 787 (Okla. 2002) (despite lawyer's claim that he was unaware of secretary's preparation of letter impermissibly disclosing confidential information, lawyer "stands ultimately responsible for work done by all non-lawyer staff").

[142] *In re* Disciplinary Action Against Johnston, 2015 ND 282, ¶ 15, 872 N.W.2d 300, 306–07.

[143] *In re* Cater, 887 A.2d 1, 15–16 (D.C. Cir. 2005) (emphasis added).

> (b) a lawyer having direct supervisory authority over the nonlawyer shall make reasonable efforts to ensure that the person's conduct is compatible with the professional obligations of the lawyer; and
>
> (c) a lawyer shall be responsible for conduct of such a person that would be a violation of the Rules of Professional Conduct if engaged in by a lawyer if:
>
> (1) the lawyer orders or, with the knowledge of the specific conduct, ratifies the conduct involved; or[144]
>
> (2) the lawyer is a partner or has comparable managerial authority in the law firm in which the person is employed, or has direct supervisory authority over the person, and knows of the conduct at a time when its consequences can be avoided or mitigated but fails to take reasonable remedial action.[145]

This rule applies equally to nonlawyers both in the lawyer's firm and outside of the firm.[146] However, courts have reviewed the scope and extent of a consultant's services to determine whether an attorney has "direct supervisory authority" over the consultant.[147] For instance, a Pennsylvania court declined to apply Rule 5.3(b) (identical to the Model Rule), because it was clear that no attorney for the plaintiff had "direct supervisory authority" over the defendant's former employee—she was retained as a consultant and only spent approximately one hour speaking telephonically with one of the plaintiff's attorneys.[148]

However, that same court found, "by its plain language," that Rule 5.3(c) (substantially the same as Model Rule 5.3(c)) did apply to plaintiff's attorneys. It also found that the former employee (who worked for the defendant in connection with prior litigation with the same plaintiff and on the same issues) should not have been retained as a "consultant" to provide information to plaintiff's counsel about any substantially related cases. It was clear the plaintiff's attorneys were on notice that the former employee had obtained confidential information, that was "almost certainly, privileged." Nonetheless, neither the plaintiff's lawyers, nor anyone at their firm: (1) inquired whether the former employee possessed confidential or privileged information, (2) warned the former employee not to share confidential or privileged information during her consultancy, or (3) informed the defendant contemporaneously that they had hired the former employee as a consultant.

Because Rule 5.3(c) applied, the plaintiff's attorneys were responsible for the former employee's conduct and revelation of confidential and privileged information—conduct that had it been performed by a lawyer—would have violated Rule 1.6 and Rule 1.9. They were disqualified.[149]

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[144] Jurisdictions can vary on the mental state requirement and type of prohibited conduct subject to this rule. For example, in Texas, rather than punishing only lawyers who ordered or knowingly ratified a nonlawyer's wrongful conduct as prohibited under the MRPC 5.3(c)(1), Texas Rule 5.03(b)(1) imposes sanctions on lawyers who order, encourage, or permit that conduct.

[145] Model Rule 5.3(b), (c); Model Rule 5.3, cmt [3].

[146] Model Rule 5.3, cmt [1] (citations omitted) (emphasis added); *see also* ABA Formal Op. 498 (duty to supervise nonlawyers extends to those both within and outside of the law firm).

[147] *See, e.g.*, Mid Am. Agri Prod./Horizon, LLC v. Rowlands, 286 Neb. 305, 316, 835 N.W.2d 720, 728 (2013) (declining to find that a retained expert qualified as a legal "support person" for purposes of their rule).

[148] Grant Heilman Photography, Inc. v. McGraw-Hill Glob. Educ. Holdings, LLC, No. CV 17-694, 2018 WL 2065060, at *9 (E.D. Pa. May 2, 2018).

[149] *Id.* at *9–11.

VIII. How to Terminate a Relationship with a Consultant

Most often, a consultant's role will be defined in your engagement agreement with them, and will end in its natural course through the completion of their services or the conclusion of the legal matter for which they were retained. When it is necessary for the attorney to terminate the relationship prior to one of these two events (because, for example, there has been a change in litigation strategy or the arrangement simply did not live up to expectations), there can be both practical/business considerations and ethical considerations in breaking up with your third-party consultant.

> PRACTICE TIP: In order to have an "exit strategy," if and when termination is necessary, it is prudent to anticipate this possibility and include a termination provision in your consultancy agreement.[150]

A. Practical Considerations in Terminations

Lawyers and law firms are service businesses. As with all such business, reputation matters, as does avoiding unnecessary litigation over contract disputes or similar misunderstandings. Accordingly, lawyers should do all they can to end a consultancy relationship on positive terms. This means expressing respect and resisting placing blame. It also means thanking consultants for their time and effort in attempting to assist you and your client.

You should attempt to be empathetic, respectful and thoughtful. Offer solid reasons for the separation during a frank and honest conversation, based upon factual information. Be candid, but do not speak from a place of emotion or allow the discussion to get emotional. Executive Coach Greg Ward offers sensible advice for ending a professional relationship that applies equally as well to the end of a professional consultancy:

> Regardless of the reason for dropping the [consultant], you want to "leave clean." Provide a brief, clear and positive explanation for why you're ending the relationship. Simple phrases such as "We're moving in a different direction" or "Others may be better able to help you move forward" are best. This works because negative reasons for leaving always generate lingering bad feelings.[151]

> PRACTICE TIP: Unless the consultant committed malfeasance or completely lacked competency (which is unlikely, because the attorney would or should have uncovered it in the vetting process), it is also a good idea leave open the opportunity for future work, if possible.

Attempting to maintain a good working relationship and respectful rapport with the consultant also ties into your ethical obligations (discussed further below). If the consultant is left feeling disenfranchised he or she (or the entity) is less likely to speak favorably about the lawyer, or your client, and also less likely to maintain confidentiality or continue to comply with the lawyer's ethical obligations to, for example, safeguard information.

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[150] *See, e.g.*, https://www.lawinsider.com/clause/termination-of-consulting-relationship.

[151] "Nine Ways to Effectively and Professionally 'Break Up' With a Client," *Forbes* (Dec. 6, 2018).

It is a good idea to give consultants sufficient notice of the termination to avoid any additional (unnecessary) work on their part that may contribute to a later dispute. Such notice also allows the consultant time to gather their file materials and indicate what remains to be done.

> PRACTICE TIP: Whether a consultancy relationship runs its anticipated course, or is cut short, it is a good idea to have a closing meeting—something along the lines of an exit interview. This meeting enables the attorney to get feedback from the consultant regarding what the consultant believed worked and did not work. If the project or goal of the consultation has not been completed, this is also a good opportunity for the departing consultant to provide a synopsis of remaining work. Finally, this meeting is a chance to confirm the consultant's ongoing obligations to safeguard client information, as well as provide direction regarding the disposition of any work product or files concerning the client.

Finally, you should pay what you owe up through the date of termination to avoid legal battles (and avoid burning bridges). Look to the engagement agreement for this, and discuss your intentions with the consultant.

B. Ethical Considerations in Terminations

Even where a consultant is hired directly by the attorney, there is no attorney-client relationship *between* the consultant and the attorney. However, there are other ethical responsibilities that come into play when a consultant departs a matter. Obviously (as discussed previously), a lawyer's most important ethical obligation throughout the consultancy association is maintaining attorney-client privilege and otherwise safeguarding information related to the representation of a client.[152] This concern remains of paramount importance at the end of the consultancy relationship as well.

A lawyer has a duty under Model Rule 1.9 not to use information relating to the representation of a former client to the former client's disadvantage without informed consent.[153] By extension, a lawyer is required to ensure that any consultant under the lawyer's supervision complies with this rule as well.[154] "Rule 1.9(c) is broader than the protection afforded by the duty of confidentiality and is not limited to confidential information."[155] *However, the rule does not apply to information that is generally known.* Accordingly, at the conclusion of the consultant's representation, it is of particular importance to confirm that the consultant understands the parameters of this obligation, including the definition of "generally known," and the limitations on that exception.

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[152] *See* Model Rule 1.6.

[153] Model Rule 1.9(c).

[154] *See* Model Rules 1.6(a), 5.3.

[155] Pallon v. Roggio, No. CIV.A.04-3625(JAP), 2006 WL 2466854, at *7 (D.N.J. Aug. 24, 2006).

1. What Does It Mean to Be "Generally Known"?

Although there is no definition of the term in the Model Rules, the exception was intentionally added to Model Rule 1.9 several decades ago.[156] And while there is considerable authority on when information is *not* generally known,[157] there is substantially less authority as to when information *is* generally known.[158]

What seems to be agreed is that information is *not* "generally known" simply because it is in the public domain or available in a public file.[159] "The information must be within the basic understanding and knowledge of the public."[160] In this way, information in the public domain may be protected as confidential information even if the information is not "difficult or expensive to discover" and even if it could be obtained without "great effort" or a formal public records request. Information is "generally known only if it is known to a sizeable percentage of people in 'the local community or in the trade, field or profession to which the information relates.'"[161]

Accordingly to ABA Formal Op. 479, "information is generally known within the meaning of Model Rule 1.9(c)(1) if (a) it is widely recognized by members of the public in the relevant geographic area; or (b) it is widely recognized in the former client's industry, profession, or trade."[162]

In short, there are very few instances where it would be "safe" for the consultant to disclose or discuss any information about his or her former consultant client. The foregoing definition of "generally known" nearly swallows the

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[156] ABA Formal Op. 479.

[157] *Id.*; *see also In re* Tennant, 392 P.3d 143, 148 (Mont. 2017) (fact that "the information at issue is generally available does not suffice; the information must be within the basic knowledge and understanding of the public"; protection of the client's information "is not nullified by the fact that the circumstances to be disclosed are part of a public record, or that there are other available sources for such information, or by the fact that the lawyer received the same information from other sources").

[158] *Id.*; *see also* State v. Mark, 231 P.3d 478, 511 (Haw. 2010) (treating a former client's criminal conviction as "generally known" when discussing a former client conflict and whether matters were related); State *ex rel.* Youngblood v. Sanders, 575 S.E.2d 864, 872 (W. Va. 2002) (stating that because information was contained in police reports it was "generally known" for Rule 1.9 purposes); *Restatement (Third) of the Law Governing Lawyers* § 59 cmt d (2000) ("Information contained in books or records in public libraries, public-record depositories such as government offices, or publicly accessible electronic-data storage is generally known if the particular information is obtainable through publicly available indexes and similar methods of access.").

[159] *See, e.g.*, N.Y. State Bar Ass'n Comm. on Prof'l Ethics Op. 1125 (2017) (discussing lawyers' duty of confidentiality and stating that "information is not 'generally known' simply because it is in the public domain or available in a public file"); Tex. Comm. on Prof'l Ethics Op. 595 (2010) ("Information that is a matter of public record may not be information that is 'generally known.'").

[160] *Pallon*, 2006 WL 2466854.

[161] N.Y. State Bar Ass'n Comm. on Prof'l Ethics Op. 991 (2013).

[162] ABA Formal Op. 479 goes on to explain that "[i]nformation may become widely recognized and thus generally known as a result of publicity through traditional media sources, such as newspapers, magazines, radio, or television; through publication on internet web sites; or through social media. . . . [or] if it is announced, discussed, or identified in what reasonable members of the industry, profession, or trade would consider a leading print or online publication or other resource in the particular field."

exception, and the departing consultant needs to verify both their understanding of the restrictions and their commitment to adhere to them.

IX. Conclusion

Lawyers are responsible for appropriately selecting and managing consultants utilized in their representation of a client. Forethought should be given to the scope of use, in light of the objectives looking to be achieved, and an appropriate engagement drafted that addresses both the contemplated services, the responsibilities surrounding confidentiality and use of information, and the potential need to terminate the consultant. The overarching goal of consultancy representation is to assist in providing competent and skilled representation in a legal matter, without compromising the client's information or legal position.

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Part II — Reprints

Indigenous Co-Ownership of Mining Projects: A Preliminary Framework for the Critical Examination of Equity Participation

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Negotiated agreements are now a commonplace mechanism for governing the relationship between mining companies and Indigenous peoples. What is not commonplace are agreements in which Indigenous people acquire an equity stake in industrial-scale projects on their land. Recent and powerful calls for greater Indigenous control of mining projects have drawn renewed attention to the question of Indigenous co-ownership and Indigenous equity participation. This paper describes co-ownership arrangements emerging globally and raises critical questions that drive closer examination of the value proposition of Indigenous equity participation for Indigenous groups and other parties.

Keywords: Indigenous rights; equity participation; resource extraction; extractive industries; economic development; self-determination; customary land; shareholding; benefit sharing; impact and benefit agreement; Aboriginal rights; First Nations participation

1. Introduction

The last two decades has seen increased recognition of Indigenous peoples' right to control, co-manage and benefit from resource development on their lands.[1] These rights are in turn part of the fundamental right of Indigenous peoples to self-determination.[2] The formal adoption by states of major international instruments, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the voluntary adoption by states and busi-

[1] James Anaya, 'Extractive Industries and Indigenous Peoples' (1 July 2013) A/HRC/24/41 <www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session24/Documents/A-HRC-24-41_en.pdf> accessed 15 July 2021.

[2] See in particular articles 3, 26 and 32 of the UN Declaration on the Rights of Indigenous Peoples.

ness of the UN Guiding Principles on Business and Human Rights (2011) has catalysed a raft of industry standards that have shaped expectations about the relationship between mining and Indigenous peoples globally.[3] Available data indicates that Indigenous peoples have land tenure or management rights over one-quarter of the earth's land mass.[4] As mineral and metal extraction is projected to soar in the coming decades,[5] Indigenous peoples' exposure to extractive industries is likewise expected to intensify.

Against this backdrop, negotiated agreements have emerged as a mechanism though which relationships between extractives companies and Indigenous landowners are formalised and governed.[6] These agreements are variously called benefit-sharing agreements, local-level agreements, community development agreements, Indigenous land-use agreements, impact and benefit agreements and other terms.[7] They can cover a wide range of matters, including land rights, compensation, revenue sharing, education, health, employment, consultation processes, and environmental, social and cultural heritage impacts.[8] The relationship between resource extraction and Indigenous rights at the international level is influencing how mining companies and Indigenous peoples negotiate agreements at the project level.

Some negotiated agreements involve Indigenous co-ownership of the project, whereby Indigenous groups acquire an equity stake in a mining company operating on their territory.[9] The global prevalence of Indigenous co-ownership does not appear widespread or well documented, except in a small number of jurisdictions. In Papua New Guinea (PNG), for instance, landowner equity has been an established part of mining and oil and gas since the 1980s.[10] In the research literature, Indigenous equity in mining was described some two dec-

[3] See eg ICMM, 'Indigenous Peoples and Mining: Position Statement' (International Council on Mining and Metals 2013); IFC, *Performance Standards on Environmental and Social Sustainability: Performance Standard 7 – Indigenous Peoples* (International Finance Corporation 2012).

[4] Stephen T Garnett and others, 'A Spatial Overview of the Global Importance of Indigenous Lands for Conservation' (2018) 1 Nature Sustainability 369.

[5] Éléonore Lèbre and others, 'The Social and Environmental Complexities of Extracting Energy Transition Metals' (2020) 11 Nature Communications 4823; Kirsten Hund and others, *Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition* (World Bank 2020); OECD, *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences* (Organisation for Economic Co-operation and Development 2019).

[6] ICMM, *Good Practice Guide: Indigenous Peoples and Mining* (2nd edn, International Council on Mining and Metals 2015); Ciaran O'Faircheallaigh, 'Community Development Agreements in the Mining Industry: An Emerging Global Phenomenon' (2013) 44 Community Development 222.

[7] Ian Murray, 'Indigenous Benefits Management Structures as Social Enterprises: Key Challenges for Economic Development' (2021) 39 Journal of Energy & Natural Resources Law 137; IPIECA, *Community Development Agreements: Guidance Document for the Oil and Gas Industry* (IPIECA 2019); Jo-Anne Everingham and others, *Why Agreements Matter* (Rio Tinto 2016).

[8] Michael Limerick and others, *Agreement-Making with Indigenous Groups: Oil and Gas Development in Australia* (Centre for Social Responsibility in Mining, Sustainable Minerals Institute, The University of Queensland 2012); IPIECA (n 7).

[9] See Ginger Gibson and Ciaran O'Faircheallaigh, *IBA Community Toolkit: Negotiation and Implementation of Impact and Benefit Agreements* (The Gordon Foundation 2015) 143.

[10] Glenn Banks, 'Landowner Equity in Papua New Guinea's Minerals Sector: Review and Policy Issues' (2003) 27 Natural Resources Forum 223.

ades ago as a model for directing mining benefits to Indigenous communities.[11] Since then, documented instances of Indigenous co-ownership in mining do not appear to have proliferated, and the reasons for this have received scattered academic attention.[12]

This paper aims to drive closer examination of Indigenous co-ownership of mining projects. It describes cases of Indigenous co-ownership in six countries (Canada, PNG, Australia, South Africa, the United States and New Zealand). Reflecting on these cases, and the debates and discussion that surround them, we offer a framework for critically examining the value proposition of co-ownership for Indigenous people and other parties.

2. Renewed calls for Indigenous control and co-ownership

Recent events have renewed the imperative to critically examine Indigenous control over mining projects and their land-based activities. In May 2021 – a year after the destruction of ancient and sacred rock shelters at Juukan Gorge, in the mining-intensive Pilbara region of Western Australia[13] – the Puutu Kunti Kurrama and Pinikura Aboriginal Corporation called for Indigenous 'co-management' of the mine to ensure 'a traditional owner voice' in project decisions.[14] While co-management does not necessarily imply co-ownership, the Juukan Gorge incident has had a direct influence on mining industry and political discourse in Australia around Indigenous equity participation in mining projects.[15] The widespread controversy of the incident created a 'lightning rod' case that is powering a demand for new and workable models of Indigenous co-management, and sparking renewed interest in Indigenous co-ownership of large-scale projects, in mining and other sectors.[16]

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[11] *Ibid*; Jon Altman, 'Land Rights and Aboriginal Economic Development: Lessons from the Northern Territory' (1995) 2 Agenda 291; Ciaran O'Faircheallaigh, *Financial Models for Agreements between Indigenous Peoples and Mining Companies* (Centre for Australian Public Sector Management, Griffith University 2003).

[12] See Lily O'Neill and others, *Clean Energy Agreement Making on First Nations Land: What Do Strong Agreements Contain?* (Centre for Aboriginal Economic Policy Research, Australian National University 2021); InterGroup Consultants, 'Aboriginal Engagement in Resource Development: Industry Leading Practices' (InterGroup Consultants for RioTinto 2008) <https://database.atns.net.au/reference.asp?RefID=3546> accessed 5 October 2021.

[13] See Commonwealth of Australia, 'A Way Forward: Final Report into the Destruction of Indigenous Heritage Sites at Juukan Gorge' (Joint Standing Committee on Northern Australia, Parliament of the Commonwealth of Australia 2021).

[14] *Ibid*; Louise Miolin and Laura Birch, '"It's Something Precious": Traditional Owners Say No Amount of Money Can Replace Blasted Rock Shelters' *ABC News (Australia)* (18 May 2021) <www.abc.net.au/news/2021-05-18/one-year-on-from-rio-tinos-juukan-gorge-blast/100145712> accessed 15 July 2021.

[15] Anthony Barich, 'Australian Iron Ore Majors Urge Indigenous Exec Hires to Drive Social Engagement' (*S&P Global Market Intelligence*, 25 June 2021) <www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/australian-iron-ore-majors-urge-indigenous-exec-hires-to-drive-social-engagement-65170932> accessed 9 September 2021; Rachael Knowles, 'Indigenous Procurement Policy Empowers Entrepreneurial Spirit of Mob' *National Indigenous Times* (30 July 2021) <https://nit.com.au/indigenous-procurement-policy-empowers-entrepreneurial-spirit-of-mob/> accessed 9 September 2021.

[16] See eg the Western Green Energy Hub, a mega renewable energy project involving the Mirning Traditional Lands Aboriginal Corporation as an equity partner: Government of Western Australia,

In Canada, other lightning-rod cases have led to co-ownership arrangements. Prior to its cancellation in June 2021, the controversial Keystone XL oil pipeline was the subject of a billion-dollar equity deal with a conglomerate of five Canadian First Nations.[17] Recent reports profile the emergence of Indigenous equity participation in other extractives projects,[18] building on earlier trends seen in the infrastructure and renewable energy sectors.[19] Statutory and civil society organisations have formed to facilitate First Nations co-ownership of major resource projects.[20]

These developments are likely connected to the broader trends described above, namely the increasing international acknowledgement of Indigenous rights to self-determine the use of resources on their lands, and the adoption of agreements to govern the relationship between Indigenous groups, states and mining projects. While not all Indigenous groups may be interested in equity participation, recent calls for Indigenous control over mining renew the imperative to examine what co-ownership entails, how it is implemented in various jurisdictions, and the implications for Indigenous groups and other parties.

3. Research approach

3.1. *A general model of Indigenous co-ownership*

Our research focused on identifying instances of Indigenous co-ownership of mining projects. Figure 1 provides a generalised model of co-ownership through shareholding. Under this model, mining is carried out by a developer company that is locally incorporated and, through regulatory permitting processes, is vested with rights to access, extract and sell a mineral resource. The developer is shown as being owned by several parent entities. In large-scale mining, typically at least one owner is a multinational mining company. Co-owners could also include other private companies, the state and institutional investors.

For our purposes in this paper, Indigenous co-ownership occurs where an Indigenous group or entity, on whose land or territory the project is located, holds shares (equity) in the developer company. As co-owners of the develop-

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'Major New Hydrogen Proposal Welcomed' (13 July 2021) <www.mediastatements.wa.gov.au/Pages/McGowan/2021/07/Major-new-hydrogen-proposal-welcomed.aspx> accessed 5 October 2021.

[17] Rod Nickel, 'Canadian Indigenous Deal with KXL Oil Pipeline Took Years, Aims to Unlock Long- Term Wealth' *Reuters* (30 November 2020) <www.reuters.com/article/tc-energy-keystone-idUSKBN28A1I7> accessed 15 July 2021.

[18] Heather Exner-Pirot, *Pathways to Indigenous Economic Self-Determination* (Macdonald-Laurier Institute 2021) <www.macdonaldlaurier.ca/resource-sector-crucial-self-determination/>; Tom Flanagan, *First Nations and the Petroleum Industry: From Conflict to Cooperation* (Fraser Institute 2021) <www.fraserinstitute.org/sites/default/files/first-nations-and-the-petroleum-industry-from-conflict-to-cooperation.pdf>.

[19] Moody's Investors Service, *Canada: Indigenous Involvement in Large Infrastructure Projects Is Set to Grow* (Moody's Investors Service 2017) 1076110 <www.moodys.com/research/Moodys-Indigenous-involvement-in-large-Canadian-infrastructure-projects-set-to–PR_371732>.

[20] See Jason Calla, *Improving Access to Capital for Indigenous Groups to Purchase Equity Stakes in Major Resource Projects* (First Nations Major Projects Coalition 2021).

er company, the Indigenous group can be considered a co-owner of the project. The Indigenous group's shares could be held by individuals, but more likely are held by an incorporated Indigenous entity that administers the shareholding on behalf of the Indigenous landowner group, as Figure 1 shows.

This model provides a conceptual basis for examining Indigenous co-ownership of mining projects. We recognise that other forms of co-ownership in mining companies can exist. Indigenous groups could hold shares in the developer's parent companies (eg the multinational mining company), or a diversified share portfolio that includes equity in several mining companies.[21] Indigenous groups could form an unincorporated partnership with the developer instead of acquiring an equity stake.[22] There are also 100 per cent Indigenous-owned mining companies, and Indigenous-owned businesses that provide labour hire, land management, catering and other services to

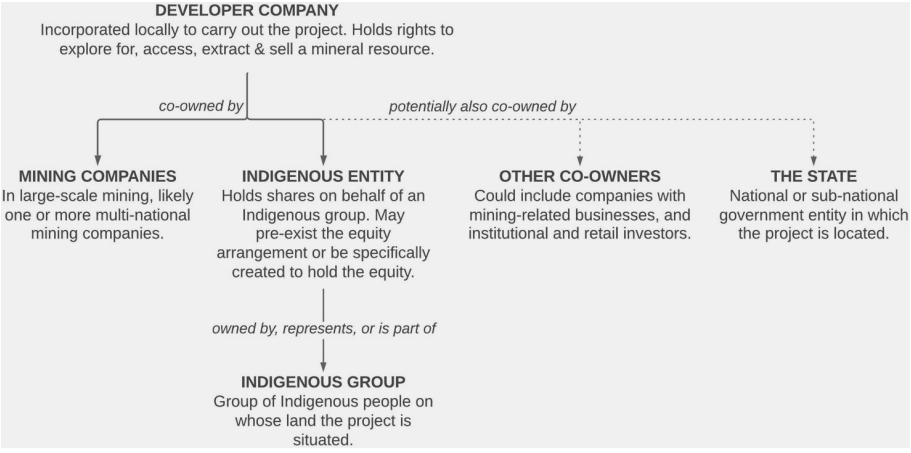

Figure 1. A general model of Indigenous co-ownership through shareholding.

mining operations. These scenarios represent diverse potential arrangements with the mining sector that could drive self-determination and economic development. The focus of this paper, however, is on a particular model of co-ownership, where an Indigenous group holds an equity share in a company that is developing or operating a mining project on their land.

3.2. *Co-ownership and equity participation in Indigenous contexts*

Terminology drawn from corporate governance and finance is frequently used to describe Indigenous co-ownership of resource projects. The term 'Indigenous equity participation'[23] is analogous to the corporate finance term 'equity participation'. In this sense, shares in a company are an *equity* stake, and a

[21] See Gibson and O'Faircheallaigh (n 9) 143.

[22] Such an arrangement would likely be governed by negotiated agreement.

[23] See eg Calla (n 20); InterGroup Consultants (n 12); O'Faircheallaigh, *Financial Models for Agreements between Indigenous Peoples and Mining Companies* (n 11).

shareholder *participates* in the business by contributing funds, sharing profits, risking losses and voting in general meetings.

These terms take on different meanings when used outside corporate finance. 'Participation' is deeply connected to internationally recognised rights of self-determination. For example, the UNDRIP acknowledges Indigenous peoples' right to 'participate fully … in the political, economic, social and cultural life of the State' (Article 5), and to 'participate in decision-making in matters which would affect their rights' (Article 18). In mining, Indigenous 'participation' refers *at least* to financial benefits, employment, agreement-making, and meaningful engagement in decisions – and can extend to wider explorations of Indigenous peoples' rights, values, knowledge, and aspirations for sustainable development.[24] The word 'equity' similarly carries multiple meanings, including technical denotations in law, property, corporate governance and accounting. For many Indigenous people, 'equity' also implies a moral dimension, including fairness and justice, and may be interpreted against a continuing history of settlement, injustice, colonial dispossession, trauma and structural disadvantage.

We are mindful, therefore, that 'Indigenous equity participation' is a term heavily laden with meaning beyond its corporate finance analogue. This observation provides a backdrop for thinking critically about the value proposition of Indigenous co-ownership. An Indigenous shareholding might constitute 'Indigenous equity participation' in a narrow commercial sense. A critical view would examine whether the shareholding represents fair, just and equitable participation in a human rights-based sense. Two contrasting scenarios provide an illustration. First, consider a developer company owned by a few equity holders, including an Indigenous shareholder, with roughly equal stakes. The relationship between owners may have the spirit of a joint venture partnership, with the different parties bringing complementary strengths. The Indigenous co-owner could expect to participate closely in company decision-making, potentially at the board level. By contrast, consider a developer company co-owned by numerous shareholders, each holding a small percentage of perhaps millions of shares issued. Participation in company decision-making may be limited to voting rights at shareholder meetings, although a minority shareholder may be able to persuade other shareholders to vote a particular way. The second scenario might be acceptable for Indigenous groups seeking primarily to make an economic return, but would likely fall short of meaningful participation for an Indigenous group seeking to control resource development on their land.

These scenarios highlight two key points. Firstly, there is no archetypical model of Indigenous co-ownership, given the range of possible ownership structures available across jurisdictions globally. The rights and benefits con-

[24] Diane Ruwhiu and Lynette Carter, 'Negotiating "Meaningful Participation" for Indigenous Peoples in the Context of Mining' (2016) 16 Corporate Governance 641; Sarah Holcombe and Deanna Kemp, 'From Pay-out to Participation: Indigenous Mining Employment as Local Development?' (2020) 28 Sustainable Development 1122; Ciaran O'Faircheallaigh and Tony Corbett, 'Indigenous Participation in Environmental Management of Mining Projects: The Role of Negotiated Agreements' (2005) 14 Environmental Politics 629.

ferred to an Indigenous group by virtue of equity ownership are not fixed and can be negotiated and tailored in any given case. Secondly, examining the value proposition of Indigenous co-ownership requires a multi-dimensional approach. As a commercial arrangement, it involves questions about the investment value and financial risk of the shareholding. As a mechanism for self-determination, it involves foremost the goals of the Indigenous group, and the extent to which those goals are achieved through co-ownership of a mining project. These broad points provide a frame for this paper.

3.3. *Data sources and limitations*

Data collection for this paper comprised a search of academic and grey literature relating to Indigenous co-ownership, Indigenous equity participation, Aboriginal equity shareholdings, First Nations equity stakes, and synonymous permutations. Examples and discussions of co-ownership were collected, focusing on mining but also including other resource sectors such as petroleum and renewable energy. Our search was restricted to English-language sources.

Results came primarily from Canada, Australia and PNG, with some results coming from South Africa, the United States and New Zealand. These jurisdictions are reported herein. We also scanned the literature relating to jurisdictions with well-documented interactions between mining and Indigenous peoples (eg Brazil, Chile, India, Norway and Sweden). This literature typically focused on conflict between Indigenous interests and mining; models of Indigenous co-ownership were not prominent, and are not reported in this paper.

Importantly, our results are limited to cases of Indigenous co-ownership that are publicly reported or academically published. We expect many Indigenous equity arrangements to be confidential or commercial-in-confidence. The examples discussed in this paper must be taken as illustrative, and not representative of the state of Indigenous co-ownership in a given jurisdiction. Conversely, a null set of results in other jurisdictions does not imply an absence of Indigenous equity arrangements.

4. Results: cases of Indigenous co-ownership

4.1. *Canada*

Canada has seen accelerating uptake of Indigenous co-ownership in the last decade, particularly in the renewable energy and petroleum sectors.[25] The formation in recent years of multiple organisations whose purpose is to facilitate Indigenous investment into resource projects points to the growing interest of (some) Indigenous groups in equity participation.[26]

The uptake in Indigenous co-ownership is part of a broader set of political and legal developments in Canada. Judicial decisions in 2004–2005 significantly expanded the Crown's constitutional duty to 'consult and accommodate'

[25] Moody's Investors Service (n 19).

[26] Such organisations include civil society organisations like the First Nations Major Projects Coalition, and statutory entities like the Alberta Indigenous Opportunities Corporation and the First Nation Finance Authority.

First Nations, Inuit and Métis peoples.[27] Resource companies seeking regulatory approval for projects on Indigenous land were consequently encouraged to negotiate agreements with Indigenous groups.[28] The establishment of Indigenous self-government agreements,[29] and the devolution of federal land and resource responsibilities to territorial governments,[30] has facilitated interactions between Indigenous groups, resource companies and the government.[31] More recently, Canada formally endorsed the UNDRIP in 2016 (after initially opposing it, alongside Australia, New Zealand and the United States), and in 2021 passed the UNDRIP Act, which requires federal laws to be consistent with the UNDRIP.[32] These developments provide a conducive space for Indigenous co-ownership of resource projects to be negotiated.

Although not all Indigenous groups may be interested in co-ownership,[33] economic independence and self-determination appear to be key motivators for some groups. The East Tank Farm Development (a petroleum facility in Alberta) involved a C$503 million share purchase in 2016 by the Fort McKay First Nation and Mikisew Cree First Nation, securing a combined 49 per cent equity.[34] For the Fort McKay First Nation, this represented an avenue for economic development independent of 'government largess'.[35]

In mining, the Tahltan Central Government announced in March 2021 a C$5 million share purchase in Skeena Resources,[36] giving the Tahltan a minori-

[27] Dwight Newman, *Revisiting the Duty to Consult Aboriginal Peoples* (Purich Publishing Limited 2014).

[28] Exner-Pirot (n 18).

[29] Government of Canada, 'Indigenous Self-Government in Canada' (*Crown–Indigenous Relations and Northern Affairs Canada, 25 Augus*t 2020) <www.rcaanc-cirnac.gc.ca/eng/1100100032275/1529354547314> accessed 15 July 2021. Note: sometimes referred to as 'modern treaties' or 'comprehensive land claim agreements'.

[30] Devolution is operating in Yukon and Northwest Territories; an agreement-in-principle is in place for Nunavut: Government of Canada, 'Yukon Devolution' (*Crown–Indigenous Relations and Northern Affairs Canada*, 4 June 2013) <www.rcaanc-cirnac.gc.ca/eng/1352470994098/1535467403471> accessed 15 July 2021; Government of Canada, 'Northwest Territories Devolution' (*Crown–Indigenous Relations and Northern Affairs Canada*, 24 July 2013) <www.rcaanc-cirnac.gc.ca/eng/1352398433161/1539625360223> accessed 15 July 2021; Government of Canada, 'Nunavut Devolution' (*Crown–Indigenous Relations and Northern Affairs Canada*, 10 November 2020) <www.rcaanc- cirnac.gc.ca/eng/1352471770723/1537900871295> accessed 15 July 2021.

[31] See Christopher Alcantara, Kirk Cameron and Steven Kennedy, 'Assessing Devolution in the Canadian North: A Case Study of the Yukon Territory' (2012) 65 Arctic 328.

[32] Government of Canada, 'Implementing the United Nations Declaration on the Rights of Indigenous Peoples in Canada' (*Department of Justice*, 13 August 2021) <www.justice.gc.ca/eng/declaration/index.html> accessed 2 October 2021. The adoption of UNDRIP into law was driven by the respective outcomes of the Truth and Reconciliation Commission of Canada (2008–15), and the National Inquiry into Missing and Murdered Indigenous Women and Girls (2016–19).

[33] See Calla (n 20).

[34] OGJ, 'Suncor, Mikisew Cree First Nation Sign Deal for Tank Farm' *Oil & Gas Journal* (18 October 2016) <www.ogj.com/pipelines-transportation/article/17250732/suncor-mikisew-cree-first-nation-sign-deal-for-tank-farm> accessed 15 July 2021.

[35] Fort McKay First Nation Chief Jim Boucher, quoted in: Matthew Bradford, 'Investing in Infrastructure' [2016] *The Aboriginal Business Report: Canadian Council for Aboriginal Business* 6.

[36] Skeena Resources, 'Skeena Welcomes $5 Million Investment From Tahltan Nation' (*Skeena Resources Limited*, 31 March 2021) <https://skeenaresources.com/news/skeena-welcomes-5-million-investment-from-tahltan-nation/> accessed 10 September 2021.

ty stake.[37] The subsequent establishment of an environmental conservancy on Tahltan land, in support of which Skeena Resources relinquished mineral tenures,[38] suggests that the share purchase was part of a broader collaboration between the Indigenous group and the developer company. The Tahltan Central Government described the shareholding as creating a partnership that offers influence over decision-making and opportunities for economic development:

> In partnering with Skeena, the Tahltan Nation is evolving and taking significant steps forward by becoming meaningful equity partners in these projects … . Ownership provides [us] with a strong seat at the table as we continue our pursuit towards capacity building and economic independence.[39]

Recent examples indicate a trend towards consortia of Indigenous groups pooling resources to acquire equity in high-value projects. In late 2020, Natural Law Energy (a coalition of five First Nations) secured an option to purchase up to C$1 billion equity in the now-cancelled Keystone XL pipeline project.[40] Another example is the proposed Trans Mountain pipeline project, in which several Indigenous organisations expressed interest in acquiring equity as a way of controlling project decisions and managing environmental impacts: 'The only way we're able to mitigate the environmental impacts is through ownership and having a say in these projects.'[41] More recently, 75 communities from Alberta and British Columbia discussed equity participation with the Canadian government in relation to the pipeline.[42] An Indigenous organisation, Project Reconciliation, is also seeking full ownership of the project,[43] as a way to 'have a seat at the table as decision-makers, for shared responsibility in project im-

[37] MarketScreener, 'Skeena Resources Ltd (SKE)' (*MarketScreener – Toronto Stock Exchange*, 2021) <www.marketscreener.com/quote/stock/SKEENA-RESOURCES-LTD-1411674/company/> accessed 15 July 2021.

[38] BC Government, 'Tahltan Land to Be Protected in Partnership with Conservation Organizations, Industry and Province' (*British Columbia Government News*, 8 April 2021) <https://news.gov.bc.ca/releases/2021ENV0025-000657> accessed 10 September 2021.

[39] Tahltan Central Government President Chad Norman Day quoted in: Skeena Resources (n 36).

[40] Emma Graney, 'Indigenous Group Strikes Deal for Equity Stake in Keystone XL Pipeline' *The Globe and Mail* (Edmonton, 17 November 2020) <www.theglobeandmail.com/business/article-indigenous-group-strikes-deal-for-equity-stake-in-keystone-xl-pipeline/> accessed 10 September 2021.

[41] Athabasca River Métis president Ron Quintal quoted in Leyland Cecco, 'First Nations Look to Buy Equity in Pipeline to Have Say in Project's Future' *The Guardian* (15 June 2018) <www.theguardian.com/world/2018/jun/15/trans-mountain-pipeline-first-nations-offer-buy-shares> accessed 15 July 2021.

[42] Kyle Bakx, 'Plans to Sell Trans Mountain Pipeline to Indigenous Groups Take Another Step Forward' *CBC News* (19 February 2021) <www.cbc.ca/news/business/bakx-tmx-pipeline-negotiations-1. 5918712> accessed 15 July 2021.

[43] Robert Tuttle, 'Indigenous Group Seeks Full Ownership of Trans Mountain Pipeline' (*BNN Bloomberg*, 8 June 2021) <www.bnnbloomberg.ca/indigenous-group-seeks-full-ownership-of-trans-mountain-pipeline-1.1614289> accessed 15 July 2021.

pact, environmental monitoring and protection with the benefits of economic development'.[44]

These examples illustrate the high-value, sophisticated co-ownership arrangements that are emerging in Canada. Some Indigenous groups have the capacity to negotiate and manage complex equity deals; others may require support to assess project and financial risk or to coordinate a consortium of Indigenous investors.[45] Access to loan financing is a major barrier to Indigenous co-ownership, with some Indigenous groups seeking to purchase equity but reportedly unable to secure capital,[46] although new approaches to financing are emerging.[47]

4.2. Papua New Guinea

PNG legislation provides mechanisms for landowners to negotiate equity in extractives projects on their land. In the Mining Act 1992 (PNG),[48] the approvals process for large-scale mines includes a 'development forum', in which the Minister consults stakeholders that would be affected by the grant of a special mining lease.[49] Attendees include landowners, the applicant mining company, and national and provincial governments.

Specifically, the Act provides an option for the state to acquire a 'participating interest' in a mining project.[50] The state's equity is managed through the Mineral Resources Development Corporation (MRDC), a state-owned company. Historically, the state's equity has ranged from 9 per cent to 30 per cent.[51] The development forum provides landholders the opportunity to negotiate for a share of the state's equity. Landowner equity has historically ranged from 2 per cent to 7 per cent, although recent negotiations indicate the potential for it to reach 15 per cent.[52] There is no defined, regulatory structure for the management of landowner equity. In practice, the MRDC can and does administer landowner equity, although some landowner groups choose to form their own equity-holding entity.

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[44] Project Reconciliation, 'Project Reconciliation: About' (*LinkedIn*) <www.linkedin.com/company/project-reconciliation/about/> accessed 15 July 2021.

[45] Calla (n 20) 31.

[46] Jesse Snyder, 'A Fair Stake: First Nations Seek Equity Positions in Northern Mining Operations' (*Financial Post*, 7 March 2017) <https://financialpost.com/commodities/mining/a-fair-stake-first-nations-seek-equity-positions-in-northern-mining-operations> accessed 15 July 2021.

[47] Calla (n 20).

[48] See also *Oil and Gas Act* (PNG), Part IV.

[49] Mining Act 1992 (PNG), s 5. Note: smaller mining projects that require other types of mining leases do not involve a development forum. See generally Colin Filer, 'Development Forum in Papua New Guinea: Upsides and Downsides' (2008) 26 Journal of Energy & Natural Resources Law 120.

[50] Mining Act 1992 (PNG), s 16A.

[51] Banks (n 10); Kip Keen, 'Nautilus CEO Opens up on PNG Dispute' *Australian Mining* (25 February 2013) <www.australianmining.com.au/features/nautilus-ceo-opens-up-on-png-dispute/> accessed 15 July 2021.

[52] Reuters, 'Papua New Guinea Wins Majority Stake in Barrick–Zijin Gold Mine' *Reuters* (9 April 2021) <www.reuters.com/business/energy/barrick-sign-pact-friday-re-open-papua-new-guinea-gold-mine-2021-04-09/> accessed 15 July 2021.

Landowner equity is a long-standing practice in PNG dating back to the 1980s,[53] and is linked to uniquely Papua New Guinean ideals of nationhood that were articulated as part of securing independence from Australian colonial administration in 1975. PNG's constitution seeks to 'achieve development primarily through the use of Papua New Guinean forms of social, political and economic organization', and consequently recognises customary law ('the customs and usages of the indigenous inhabitants') as part of the law of the land.[54] The vast majority of land in PNG is held under customary tenure and not formally registered.[55] Development forums can ignite disputes, since entitlement to negotiate for equity and other benefits is predicated on proving landownership.

Our literature review uncovered one published paper, written almost 20 years ago, that specifically focuses on landowner equity.[56] It reports 'broad public sentiment in PNG that equates ownership with profits'.[57] Equity also carries symbolic significance for landowning communities, providing 'a sense of project ownership and control'.[58] The paper describes two mines, Lihir and Porgera. In each case, landowners formed a representative company to interface with the MRDC, which arranged loan financing to purchase the equity from the state. Landowner equity at Porgera continues to be negotiated,[59] while Lihiran landowners divested in 2005, redirecting funds to non-mining investments.[60]

The PNG experience of co-ownership highlights several challenges. Firstly, in both Porgera and Lihir, the financial proposition for communities has not been clear. Landowners paid interest to the creditor and administration fees to the MRDC prior to dividends being distributed, and the actual return from the shareholding did not match community expectations, particularly in contrast to the much larger revenues from royalties, employment and compensation for land use.[61]

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[53] Banks (n 10).

[54] Constitution of the Independent State of Papua New Guinea, s 1(6); Underlying Law Act 2000 (PNG), s 1.

[55] Estimates place the figure at over 90 per cent customary land; see Tim Anderson and Gary Lee, 'Understanding Melanesian Customary Land' in Tim Anderson and Gary Lee (eds), *In Defence of Melanesian Customary Land* (AidWatch 2010); Michael Manning and Philip Hughes, 'Acquiring Land for Public Purposes in Papua New Guinea and Vanuatu' in Australian Agency for International Development (ed), *Making Land Work: Volume 2, Case Studies on Customary Land and Development in the Pacific* (Department of Foreign Affairs and Trade 2008).

[56] Banks (n 10).

[57] *Ibid* 224.

[58] *Ibid* 231.

[59] Reuters (n 52).

[60] Hitelai Polume-Kiele, 'The Governance of Natural Resources: Issues Affecting Better Management of Revenues and Distribution of Benefits within Papua New Guinea' (2014) International Journal of Rural Law and Policy 1; Richard Jackson, *The Development and Current State of Landowner Businesses Associated with Resource Projects in Papua New Guinea* (Papua New Guinea Chamber of Mines and Petroleum 2015).

[61] Banks (n 10) 231.

Secondly, other PNG experiences highlight the financial risks borne by equity holders. For example, the state purchased a 15 per cent equity stake in the deep-sea mining project Solwara 1, the collapse of which left the state with some US$100 million in losses.[62] Although not an example of landowner equity, it provides a tangible precedent for losses arising from equity purchases in PNG resource projects.

Thirdly, the PNG model highlights challenges in managing and administering the equity. Management responsibilities are split between the MRDC and the landowner company (controlled by community leaders). The MRDC provides expertise and capacity to navigate commercial arrangements that landowner communities generally do not possess. The landowner company is responsible for distributing dividends to the community. In PNG, corruption by both community leaders and the state (which owns the MRDC) is well documented.[63] In 2017, an assessment of PNG corruption risks in mining approvals considered the risk that community leaders do not represent community interests when negotiating with a mining company, and assigned the highest possible risk rating.[64] In Porgera, the distribution of dividends 'caused intense community acrimony', and there has been 'debate about the willingness, even the possibility, of traditional leaders equitably distributing revenues from foreign-operated mining'.[65]

Finally, landowners may seek equity as a way of gaining influence over the project, but a minority shareholding confers little control: 'at no stage have either the Lihir or Porgera landowners become involved in the planning or operational side of the mining enterprise'.[66] As such, equity participation in PNG appears largely to be a speculative economic prospect that has not historically met landowner expectations.

4.3. *Australia*

The publicly available literature documents several attempts at Indigenous co-ownership in Australia. In an early case from the 1990s, a joint venture agreement was negotiated between a mining company and an Aboriginal Corporation holding freehold land title on behalf of the Jawoyn people. The latter had

[62] Ben Doherty, 'Collapse of PNG Deep-Sea Mining Venture Sparks Calls for Moratorium' *The Guardian* (15 September 2019) <www.theguardian.com/world/2019/sep/16/collapse-of-png-deep-sea-mining-venture-sparks-calls-for-moratorium> accessed 29 October 2019.

[63] Nicholas Bainton and Martha Macintyre, 'Being Like a State: How Large–Scale Mining Companies Assume Government Roles in Papua New Guinea' in Nicholas Bainton and Emilia Skrzypek (eds), *The Absent Presence of the State in Large-Scale Resource Extraction Projects* (ANU Press 2021); Michael Main, 'Absence as Immoral Act: The PNG LNG Project and the Impact of an Absent State' in Nicholas Bainton and Emilia Skrzypek (eds), *The Absent Presence of the State in Large-Scale Resource Extraction Projects* (ANU Press 2021); Polume-Kiele (n 60).

[64] John Burton, *Corruption Risks in Mining Awards: Papua New Guinea Country Report* (Transparency International PNG 2017) 74, 122 <https://transparency.org.au/publications/papua-new-guinea-corruption-risks-in-mining-awards/> accessed 15 July 2021.

[65] Banks (n 10) 232.

[66] *Ibid*.

an option to acquire a 10 per cent share in the Mount Todd gold mine,[67] later relinquished in favour of royalties.[68] In another case, a mining company had provisionally agreed to confer 10 per cent equity of a project to the Martu people, who held native title over a proposed mine site at Lake Disappointment, Western Australia.[69] A legal dispute led to a decision by the Native Title Tribunal to refuse a mining lease, on the basis of cultural heritage impacts.[70] A third case involved the proposed Koongarra uranium mine in the Northern Territory, which was never developed.[71]

A current case of co-ownership is the Galalar Silica Sand Project in Queensland. Under an agreement between a mining company and the Thiithaarr and Gamaay Native Title holders, the latter holds 12.5% free-carry equity in the project, which is currently in an approvals phase.[72] In June 2021, the company reported that a 'Memorandum of Co-operation' has been signed with the Native Title holders and the Hopevale Congress Aboriginal Corporation, and that a Mining Project Agreement is being negotiated.[73] Neither the terms of the equity agreement nor the memorandum are publicly accessible.

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[67] Altman, 'Land Rights and Aboriginal Economic Development' (n 11); Jon C Altman, 'Reforming Financial Aspects of the Native Title Act 1993: An Economics Perspective' (Centre for Aboriginal Economic Policy Research (CAEPR), The Australian National University 1996) 105. Note: the signatory in the original agreement is named as the Barnjarn Aboriginal Corporation. Subsequent agreements also include the Jawoyn Association Aboriginal Corporation. While separate corporate entities, membership of the former is eligible to all members of the latter, and at time of writing their respective boards appear to comprise the same set of individuals. For corporate documentation of the Barnjarn Aboriginal Corporation, see ORIC, 'Documents for Barnjarn Aboriginal Corporation' (*Office of the Registrar of Indigenous Corporations, Australian Government*) <https://register.oric.gov.au/document.aspx?concernID=101776> accessed 17 December 2021. Agreements with the current operator, Vista Gold, are publicly available: SEC, 'Vista Gold Corp – Filings with the United States Securities and Exchange Commission' (*United States Securities and Exchange Commission*, 6 March 2006) <www.sec.gov/Archives/edgar/data/783324/0001104659-06-014356-index.htm> accessed 17 December 2021.

[68] Vista Gold, 'Vista Gold Corp. and the Jawoyn Association Modify Agreement to Include a Royalty and Mutual Cooperation and Support Commitments' (*Vista Gold: News*, 30 November 2020) <www.vistagold.com/news/news-2020/663-istaoldorpandtheawoynssociationodifygreemen20201130114500> accessed 14 December 2021.

[69] Mark Davis, 'Indigenous Mining Share Deal' *The Sydney Morning Herald* (1 April 2008) <www.smh.com.au/national/indigenous-mining-share-deal-20080401-gds7m5.html> accessed 15 July 2021.

[70] John Southalan, 'Australian Indigenous-Resource Developments: *Martu People v. Reward Minerals*' (2009) 27 Journal of Energy and Natural Resources Law 671. Note: this project is continuing to undergo approvals processes – see Michael Philipps, 'Reward Earns Major Project Status for Lake Disappointment' (*Australian Mining*, 30 June 2021) <www.australianmining.com.au/news/major-project-status-a-reward-for-disappointment/> accessed 17 December 2021.

[71] Irene Wilson, 'Impact of Uranium Mining on Aboriginal Communities in the Northern Territory' (Department of the Senate 1997) <www.aph.gov.au/Parliamentary_Business/Committees/Senate/Former_Committees/uranium/report/c11> accessed 15 July 2021; Clare Rawlinson, 'A Long Battle Won: Koongarra Added to Kakadu' *ABC News (Australia)* (6 February 2013) <www.abc.net.au/ local/stories/2013/02/06/3684748.htm> accessed 15 July 2021.

[72] Diatreme Resources, 'Australian Stock Exchange Announcement: Mining Lease Application Lodged for Nob Point Export Solution' (10 June 2021) <https://diatreme.com.au/media/1476/drx_mla-nob-point_10-jun-21.pdf> accessed 17 December 2021.

[73] *Ibid*.

Our review uncovered no other prominent reported examples of Indigenous equity in the Australian mining context. There are likely to be other cases that are commercial-in-confidence, and the paucity of information makes it challenging to characterise the Australian experience overall. The above examples indicate that Indigenous equity participation in Australia is ad hoc, and not systematised through regulation or commercial practice. As an alternative model of Indigenous economic participation in mining, Australian cases of wholly Indigenous-owned mines and contracting companies are more prominently reported in the literature.[74] Following the Juukan Gorge incident, Indigenous equity participation in large-scale mining has been receiving greater attention from both industry and political actors,[75] and in the energy sector, there are emerging proposals for Indigenous equity in major energy projects.[76]

4.4. South Africa, United States, New Zealand

In the post-apartheid period, South Africa has adopted legal provisions for landowning people to acquire equity in mining projects. In particular, Black Economic Empowerment (BEE) laws and policies[77] mean that mining projects must generally confer 25 per cent equity vested in Black individuals or wholly Black-owned companies.[78] The landmark *Richtersveld* case[79] affirmed the right of customary landowners to restitution of dispossessed lands, and to subsurface mineral rights where evidence indicates pre-colonial claims of rights (eg evidence of customary mining). The customary landowners in *Richtersveld* ultimately acquired 49 per cent equity in a diamond mine.[80] Other examples exist of traditional and customary co-ownership of mining projects in South Africa.[81] However, the unique history of South Africa's land ownership (from pre-colonial times through apartheid to post-apartheid reforms) makes it a challenge to analyse these examples in the same frame as other jurisdictions.

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[74] See eg Cecil AL Pearson and Klaus Helms, 'Indigenous Social Entrepreneurship: The Gumatj Clan Enterprise in East Arnhem Land' (2013) 22 The Journal of Entrepreneurship 43.

[75] WA Mining Club, 'Traditional Owner Partnerships a Win–Win for Miners' (*WA Mining Club*, 13 July 2021) <www.waminingclub.asn.au/traditional-owner-partnerships-a-win-win-for-miners/> accessed 9 September 2021; Knowles (n 15).

[76] Government of Western Australia (n 16).

[77] Note eg Broad-Based Black Economic Empowerment Act 2003 (South Africa).

[78] See also Andrew Bowman, 'Black Economic Empowerment Policy and State–Business Relations in South Africa: The Case of Mining' (2019) 46 Review of African Political Economy 223; Sixta R Kilambo, 'Black Economic Empowerment Policy and the Transfer of Equity and Mine Assets to Black People in the South Africa's Mining Industry' (2021) 24 South African Journal of Economic and Management Sciences 1; Lee Godden and others, 'Accommodating Interests in Resource Extraction: Indigenous Peoples, Local Communities and the Role of Law in Economic and Social Sustainability' (2008) 26 Journal of Energy & Natural Resources Law 1, 14.

[79] *Richtersveld Community and Others v Alexkor Ltd and Another* 2003 (6) SA 104 (SCA).

[80] ATNS, 'Alexkor–Richtersveld Joint Mining Venture' (*Agreements, Treaties and Negotiated Settlements*, 8 August 2007) <www.atns.net.au/agreement?EntityID=3923> accessed 15 July 2021.

[81] See also Royal Bafokeng Nation Operations Room, 'Who Are the Royal Bafokeng Nation?' <www.rbnoperationsroom.com/home/static/en_US/id/6/title/who+are+the+royal+bafokeng+nation.html> accessed 15 July 2021.

As Judge Gildenhuys of the High Court of South Africa noted, 'indigenous title, as developed in countries such as the United States, Canada, Australia and New Zealand, has limited, if any, application in Africa'.[82] The concept of Indigenous co-ownership as adopted in this paper does not have straightforward application to South Africa.[83] South Africa remains a potentially illuminating jurisdiction for further research, particularly in light of recent and contentious legal developments.[84]

In the United States, recognised Native American tribes control land designated under federal law as 'Indian reservations'. Reservations have typically had low-income populations, despite substantial energy and mineral resources within these lands.[85] Legislation from the 1980s has authorised tribes to enter agreements with mine developers, subject to federal approval.[86] Further legislation in 2005 authorised tribes to undertake mineral development on their own lands.[87] However, Native American tribes are hampered by the 'morass of federal offices … involved in managing the Indian mineral estate'.[88] Although there are a number of tribes managing extractives projects (mostly oil and coal),[89] equity participation is 'concentrated within a relatively small number of tribes', and most tribes 'do not have the infrastructure to manage their own extractive activities effectively, even though legislation increasingly supports tribal autonomy'.[90]

In New Zealand, our review found one unsuccessful example of Indigenous co-ownership. Taharoa Mining Investments (ultimately Maori co-owned) was to acquire an iron sands project from Bluescope Steel Limited in 2017, but the deal did not proceed.[91]

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[82] Antonie Gildenhuys, 'Indigenous Peoples' Rights to Minerals and the Mining Industry - Current Developments in South Africa from a National and International Perspective Special Issue: Indigenous Peoples and the Development of Natural Resources' (2005) 23 Journal of Energy & Natural Resources Law 465.

[83] There are also debates about whether the word 'indigenous' applies meaningfully to South Africa: Laura Secorun, 'South Africa's First Nations Have Been Forgotten' *Foreign Policy* (19 October 2018) <https://foreignpolicy.com/2018/10/19/south-africas-first-nations-have-been-forgotten-apartheid-khoisan-indigenous-rights-land-reform/> accessed 15 July 2021.

[84] Jan Gerber, 'Ramaphosa Signs Contentious Traditional and Khoi San Leadership Bill into Law' *News24* (29 November 2019) <www.news24.com/news24/SouthAfrica/News/ramaphosa-signs-contentious-traditional-and-khoi-san-leadership-bill-into-law-20191129> accessed 15 July 2021.

[85] Shawn Regan and Terry Anderson, 'The Energy Wealth of Indian Nations' (2014) 3 LSU Journal of Energy Law and Resources 195; Maura Grogan, 'Native American Lands and Natural Resource Development' (Revenue Watch Institute, 2011).

[86] Indian Mineral Development Act 1982 (USA).

[87] Indian Tribal Energy Development and Self-Determination Act 2005 (USA).

[88] Grogan (n 85) 18.

[89] eg RWPC, 'Red Willow Production Company – Southern Ute Indian Tribe' <www.rwpc.us/> accessed 15 July 2021.

[90] Grogan (n 85).

[91] ShareChat New Zealand, 'BlueScope Loses Bid to Toss out $506M Claim by Unsuccessful Taharoa Iron Sands Buyer' (18 July 2018) <www.sharechat.co.nz/article/431fbd90/bluescope-loses-bid-to-toss-out-506m-claim-by-unsuccessful-taharoa-iron-sands-buyer.html> accessed 15 July 2021.

5. Discussion

The examples above highlight key considerations in negotiating and managing Indigenous equity arrangements. In this discussion, we critically examine how these considerations may affect the value proposition of co-ownership for Indigenous peoples and other parties.

5.1. *Objectives of seeking an equity stake*

In any given case, the goals of the parties (the Indigenous group and the developer company) would determine the scope and terms of the equity arrangement. Drawing from the results of the literature review, Indigenous groups appear to seek equity participation in pursuit of several main goals: economic development, a sense of ownership over a project, and control of project decisions (in particular relating to employment and procurement, and impacts to environment, community and cultural heritage).

Two questions arise. First, is equity participation apt to achieve these goals? The PNG experience suggests that equity largely did not achieve landowners' goals because, aside from the local elite, landowners do not necessarily reap the financial return they expected, nor do they acquire the ability to influence project decisions as equity partners.[92] In several of the Canadian cases, Indigenous groups emphasised a desire to influence company decision-making on their lands. Whether a minority stake would enable meaningful participation in decision-making is discussed below.

The second question is whether co-ownership is the best way to achieve the parties' goals. Agreements between Indigenous groups and resource companies can and do target objectives similar to those listed above,[93] even if they do not involve equity transfer. Economic development, for example, may be advanced through contractual commitments with respect to royalties, rents and other project payments, as well as preferential procurement and employment for the Indigenous group. An agreement may also bind the company to abide by certain impact management measures. Co-ownership would likely be more apt where the aim is to exert influence over the full spectrum of company decisions (since contractual commitments are specifically defined), or where symbolic ownership is valued by the Indigenous group. Some of the goals of Indigenous co-ownership might be adequately covered under an agreement that does not confer equity. If so, the value proposition of co-ownership may not be any better than that of a non-equity agreement – and if co-ownership brings additional risks (discussed below), then the value proposition may well be worse.

Finally, a deeper question arises as to the relationship between Indigenous co-ownership of a project and consent to the project by the Indigenous com-

[92] Banks (n 10).

[93] See eg Norah Kielland, 'Supporting Aboriginal Participation in Resource Development: The Role of Impact and Benefit Agreements' (Library of Parliament (Canada): Legal and Social Affairs Division 2015) 2015-29-E; Limerick and others (n 8); Ciaran O'Faircheallaigh, *Evaluating Agreements between Indigenous Peoples and Resource Developers* (Melbourne University Press, 2004).

munity. Co-ownership has been described as a 'politically useful'[94] way of demonstrating community support, perhaps even as a step towards regulatory approval.[95] However, obtaining consent for a mining project is not straightforward, and cannot be assumed from the mere fact of co-ownership.[96] The views of the Indigenous equity holder may not represent those of the broader Indigenous group. In PNG, for example, landowner equity is seen as a default part of large-scale resource projects,[97] and owning equity does not negate opposition to, or grievances about, the project. Consent also cannot be inferred where Indigenous groups seek to control project decisions through co-ownership. Wanting to steer the project in a particular direction, or to significantly change the project's ownership structure,[98] could be considered prima facie indicators that the project *as proposed* is not fully consented to. Co-ownership therefore does not necessarily indicate consent to the project.

5.2. *Negotiation dynamics and policy context*

In the jurisdictions reviewed, co-ownership was negotiated and developed in a variety of ways: as a commercial share-purchase transaction, as part of a package of negotiations to access Indigenous land, and as part of a statutory process of negotiation that facilitates customary landowners' claim to equity. Under all of these models, the capacity of the Indigenous entity to negotiate with the other equity owners would influence the workability of the co-ownership arrangement. Complex and high-value negotiations would necessitate access to commensurate legal and financial expertise. The Canadian experience has included equity deals in the hundreds of millions of dollars, and multiparty deals involving consortia of Indigenous groups. The transaction costs of complex negotiations can be high, and could exceed the resources and expertise available. In PNG, for example, many landowners do not have ready access to advice and expertise. Unless another equity manager is appointed, PNG landowners' equity would likely be managed by the MRDC. The MRDC plays an important role in constructing equity arrangements, but questions of corruption risk and conflict of interest arise, as landowners' equity is carved from the State's share, and the MRDC is a state-owned company.

The broader policy and legal landscape heavily influences the negotiation position of the parties. A suite of developments in Canada created an environment conducive to project-level negotiations between resource companies and Indigenous groups. This is particularly true where an Indigenous group controls land access to a proposed mine (eg through Treaty rights and self-government arrangements), and where regulatory approval requires demonstrating compatibility with Indigenous rights (eg through the duty to consult

[94] Flanagan (n 18) 20.

[95] Moody's Investors Service (n 19) 6; Exner-Pirot (n 18) 27.

[96] John R Owen and Deanna Kemp, '"Free Prior and Informed Consent", Social Complexity and the Mining Industry: Establishing a Knowledge Base' (2014) 41 Resources Policy 91.

[97] Banks (n 10) 226.

[98] See eg Project Reconciliation's goal to achieve full ownership of the Trans Mountain project in Canada: Project Reconciliation (n 44).

and accommodate). Land access can also be controlled at a more local scale, such as where an Indigenous group holds freehold title. By contrast, customary landowners in PNG do not have power to grant or reject mining applications; however, their ability to negotiate for equity is improved by legislation that specifically envisages equity to be shared among the developer, the state and landowners. These contextual factors influence the leverage held by an Indigenous group and other potential co-owners during negotiations for equity participation.

5.3. *Acquiring equity and financial risks*

Our literature review demonstrated multiple modes of equity acquisition. Loan-financed purchases were documented in Canada and PNG. In Canada, equity has been granted as a settlement of historical claims.[99] The terms of the deals in the Australian context are not generally accessible, although they appear to be part of broader benefit-sharing agreements.

Accessing capital to purchase equity can be a significant hurdle for Indigenous groups. It has been argued that shares should be free or discounted, at least where equity is negotiated as part of a broader benefit-sharing agreement: offering to sell shares at undiscounted market prices is a standard commercial transaction that does not require any special agreement.[100] A market transaction would not undermine the objectives of financial return on investment, or gaining influence over a project. In these situations, issues of access to capital might be resolved in other ways, such as government grants and loan guarantees set aside for Indigenous groups, like those emerging in Canada.[101] Other arrangements may also be structured with the mining company as creditor, in ways that allow for access to capital and reduced risk. The company could pay for the shares initially, with the Indigenous group's repayments drawn out of dividends. This would delay the burden of loan repayment until the project is profitable, but would also delay the return from the investment, as shown in the PNG cases.

Once capital is invested, the investor is exposed to a degree of financial risk. The equity could depreciate, or be entirely lost if the project collapses. The Solwara 1 example in PNG demonstrates that this is not merely a hypothetical risk for Indigenous equity owners. A share purchase also carries opportunity costs: capital committed to the purchase cannot be spent on other initiatives. For Indigenous co-owners, the expectation would be that the long-term gains will outweigh the opportunity cost, the actual costs and the risks.[102] The Canadian experience shows that equity purchases are reaching values of

[99] Moody's Investors Service (n 19).

[100] O'Faircheallaigh, *Financial Models for Agreements between Indigenous Peoples and Mining Companies* (n 11).

[101] Calla (n 20).

[102] For example, an Indigenous group requiring funds in the short or medium term might not be able to wait for long-term appreciation of the equity, making another form of payment structure more attractive. This point, framed in terms of risk tolerance, is discussed in Ciaran O'Faircheallaigh and Ginger Gibson, 'Economic Risk and Mineral Taxation on Indigenous Lands' (2012) 37 Resources Policy 10.

C$1 billion. The high-value nature of these transactions, coupled with the tendency of mining projects to operate for decades, means that assessing the economic proposition of equity acquisition requires care, due diligence and technical expertise.

If shares are acquired free or at less-than-market rates, a question arises as to what is traded away in exchange for the equity.[103] In situations where equity participation is part of a broader negotiated agreement, it is conceivable that equity is acquired at the expense of other project benefits (eg lower royalty rates). The acceptability of any such trade-off to an Indigenous group would require careful assessment and commercial analysis. For example, royalties are typically contingent on production, with none payable during potentially years-long approval and construction phases. Dividends from shareholdings can also be uncertain: depending on the shareholder agreement, companies may reinvest funds into the business rather than paying dividends.[104] Dividends are typically payable when the company makes a profit, whereas many (though not all) royalties are based on gross revenue,[105] with the latter providing some protection against rising production costs. Anticipated appreciation in the value of the shareholding over mine life may be more attractive than royalty payments during production. Agreements may provide for both royalties and equity (or an option to acquire equity at a later date). These commercial factors would also be weighed against non-financial considerations, such as the ability of an Indigenous shareholder to influence company decisions. Whether a trade-off is acceptable to an Indigenous group would depend on the rights and interests of the Indigenous group, the commercial outlook of the project, and the full suite of terms on the negotiation table.

5.4. *Influence conferred by equity*

Having a 'seat at the table' is a common objective for Indigenous groups seeking co-ownership of projects. That is, equity participation is seen as a way to achieve greater control over mining developments. The literature review suggests that the Indigenous share is often a minority stake. Being a minority shareholder may provide some avenues for influence, such as rights to vote in meetings where the Indigenous entity can voice its perspectives. The size and structure of the equity is a factor here: a joint venture partner bringing expertise, resource or business advantages may be able to exert significant influence, despite a minority position. Indigenous groups that control land access (such as a landowner or a First Nations government) may also exert influence greater than its strict minority shareholding, although it would be difficult to separate the influence attributable specifically to the shareholding. An Indige-

[103] JR Owen, D Kemp and L Marais, 'The Cost of Mining Benefits: Localising the Resource Curse Hypothesis' (2021) 74 Resources Policy 102289.

[104] Other payments might also take precedence over dividends, further delaying the return on investment for an Indigenous co-owner. See O'Faircheallaigh and Gibson (n 102) 13.

[105] See generally James Otto and others, 'Mining Royalties: A Global Study of Their Impact on Investors, Government, and Civil Society' (World Bank 2006) 37258.

nous shareholder may also benefit from being able to access information about the project that is not distributed externally.

Minority co-owners can be outvoted, and the value proposition of equity needs to be assessed against this possibility. There may be ways to boost the influence of a minority shareholder – for example, by making some decisions subject to a supermajority approval, or to veto by a special class of shareholder. The types of decisions that are ideally made subject to such provisions would be for the Indigenous group to determine, and developed during the negotiation process. Decisions relating to the shareholding itself may be a more natural subject of veto or supermajority provisions (eg when and how shares can be sold). Decisions relating to operational matters (eg cultural heritage, environmental management, employment policies) might not require protection through shareholders' voting mechanisms, where substantially the same effect is achieved through a contractual agreement separate from the shareholding.

An equity agreement may also involve appointing an Indigenous representative to a company board (or executive), allowing an Indigenous voice to directly enter company decision-making at the highest levels. A question arises as to what happens if an Indigenous board member is outvoted on a critical, contentious issue. This situation places the Indigenous entity in an uncomfortable and potentially compromising position. By agreeing to board membership, the Indigenous entity effectively accepts the decision-making processes of the company. As such, the Indigenous entity might be seen to have endorsed the overall decision, notwithstanding a dissenting vote.

A number of implications arise from this perceived endorsement. The Indigenous entity might suffer reputational and relational damage between itself and the broader Indigenous group it represents. It might be seen as ineffective, or having 'sold out' to business interests. There is, after all, a potential conflict of interest that arises as a result of being on a company board. Board members are generally obligated to act in the best interest of the company. While this usually means best commercial interest, Indigenous equity participation would generally aim to advance the interests of the broader Indigenous group.[106] There is potential for Indigenous representatives on the board of the developer company to be exposed to conflicting interests not faced by other parties, where commercial interests of the company are inconsistent with the interests of the Indigenous group, or seen as such.

There are also implications for the broader Indigenous group seeking judicial remedy for grievances. Consider a situation where the developer is involved in a major incident affecting the environment or cultural heritage. Litigation is one avenue of redress that affected Indigenous groups may pursue. Having the Indigenous entity represented on the company board could be seen as an authorisation of the decisions that led to the incident, diminishing the prospect of success in court. There may also be issues with bringing a legal claim in the first place. Indigenous entities often represent the collective inter-

[106] See O'Faircheallaigh, *Financial Models for Agreements between Indigenous Peoples and Mining Companies* (n 11) 19.

ests of the broader group, and play an important role in supporting the group to navigate state institutions such as courts. In the event of an incident, an Indigenous entity would ordinarily act as the claimant, bringing a legal action against the developer on behalf of the group. If the Indigenous entity is represented on the board as well, that board member could also be one of the defendants. This may disqualify the entity from representing the group, depriving it of an important institution that would usually be central to facilitating access to justice.[107]

Overall, Indigenous equity participation is often seen as a way to exert influence and control over a project. But such influence is not automatically granted as a result of co-ownership, especially where the Indigenous stake is a minority. Other factors play a part, such as the size and structure of the developer company, the status of the Indigenous entity as a landowner or regulator, and any special rights conferred on Indigenous shareholders. For Indigenous entities that represent a broader group, there may also be risks associated with being connected to the company via shareholding or membership of the board. Control and influence are not automatic and unproblematic outcomes of Indigenous equity participation.

5.5. *Governance of the Indigenous equity stake*

If an objective of Indigenous co-ownership is to benefit the broader community group, then the Indigenous entity holding the equity must be capable of making and trusted to make decisions for the benefit of the group. It would have to make decisions about buying or selling shares, whether and how to disburse dividends, and the level of reporting to group members. The PNG cases demonstrate the potential for acrimony in the distribution of equity revenues. At Lihir, half of the net dividends were to be paid to individual Lihirans over the age of 18, and the other half set aside for 'community projects'.[108] Both aspects of this approach require careful consideration and good governance by Indigenous groups considering similar arrangements. What community projects are funded, who counts as a member of the group, and who gets to participate in decisions about the disbursements – these questions require fair, accountable, and transparent decision-making by the Indigenous equity holder.[109]

The qualities of the Indigenous entity itself warrant scrutiny. Merely having an Indigenous co-owner does not guarantee that the broader Indigenous group supports or has consented to the project. Questions arise as about the legiti-

[107] Whether such disqualification would happen in practice would depend on the specific corporate structure in place, and the applicable laws of the jurisdiction. For example, a separate company might be formed for the specific purpose of holding the equity. Whether this company is sufficiently separate from the Indigenous representative body for the purposes of litigation would depend on the circumstances.

[108] Banks (n 10).

[109] Further analysis on Lihir is included in Julia C Keenan and Deanna Kemp, *Mining and Local-Level Development: Examining the Gender Dimensions of Agreements between Companies and Communities* (Centre for Social Responsibility in Mining, Sustainable Institute, The University of Queensland 2014).

macy and representativeness of the Indigenous entity. Does it represent the whole of the Indigenous group? Who really participates in the Indigenous entity's decisions? Which individuals sit at its management table, and how are they chosen? Does the entity's governance structures exclude the voices of some members of the Indigenous group, such as women,[110] or of other Indigenous groups who may be affected by the mine? These are issues of governance that are central to effective and meaningful co-ownership.

5.6. *Disposal and dilution of shares*

The Lihir case is an example of a landowner group divesting of the mining project. This situation recalls the deeper questions around Indigenous consent to a project (discussed above), and particularly when divestment could imply a withdrawal of consent to a project.

It also raises questions about when an Indigenous group can dispose of its equity, has a right to retain equity, or otherwise influence the composition of the shareholder cohort. For example, where a major, non-Indigenous shareholder sells its stake to a third party, the Indigenous entity may find itself collaborating with new equity partners that do not have the same vision, respect, relationship, or understanding as the previous co-owners. The equity agreement may provide some protection for an Indigenous equity holder, for instance by establishing a sale process where Indigenous shareholders' approval of a new co-owner is required. The agreement may also provide protection against the issue of new shares, which could dilute the percentage shareholding of the Indigenous entity, reducing both the market value of the shares and its voting power within the business.

5.7. *Legacy issues on Indigenous land*

The general model we have described recognises that Indigenous co-owners are not just commercial investors, but are also part of the Indigenous group that has rights and responsibilities on the land on which the project is situated. For most Indigenous groups, equity participation will carry considerations beyond commercial and operational aspects. The global experience of mine closure, for example, demonstrates that transitioning to post-mining land uses is fraught, uncertain, and costly.[111] If a mine is abandoned, the mined land may be left unrehabilitated and liabilities left unresolved.[112] The Indigenous entity may divest its equity, but the physical, environmental, social and economic aspects of closure would still be relevant, given that Indigenous groups remain connected to the land. The practice of selling nearly exhausted mines to smaller developers at token, 'peppercorn' prices (thereby transferring closure

[110] Julia Keenan, Deanna Kemp and Rebekah Ramsay, 'Company–Community Agreements, Gender and Development' (2016) 135 Journal of Business Ethics 607.

[111] See Nicholas Bainton and Sarah Holcombe, 'A Critical Review of the Social Aspects of Mine Closure' (2018) 59 Resources Policy 468.

[112] Vlado Vivoda, Deanna Kemp and John Owen, 'Regulating the Social Aspects of Mine Closure in Three Australian States' (2019) 37 Journal of Energy & Natural Resources Law 405.

obligations to another)[113] would add complexities of closure to the issues of disposal discussed above.

Mining also carries the risk of major incidents, like a tailings dam breach or the destruction of cultural heritage. For Indigenous groups, such incidents would be a tragic and serious lived experience, whether or not the Indigenous group owned equity in the project. However, equity ownership may add financial harms, as the cost of rectifying a major incident can extend to the billions of dollars.[114] A major incident could depreciate the value of the equity, or even push the project to collapse. These commercial risks would be borne by the Indigenous group on top of the physical, social and cultural harms inflicted by the incident.

5.8. *Synthesis*

The discussion highlights that Indigenous co-ownership arrangements warrant careful and critical examination. Synthesising the discussion, the questions in Table 1 form a framework that provides a starting point for critically examining the value proposition of co-ownership.

6. Conclusion

This paper was written at a time when recent 'lightning rod' events have illuminated the relationship between mining and Indigenous peoples, refreshing demands for workable models of Indigenous co-management of mining projects. These recent events also coincide with wider trends: the international recognition of Indigenous peoples' rights, the likelihood that future metals demand will impact Indigenous peoples, and the continuing adoption of project-level agreements between mining companies and Indigenous groups.

[113] *Ibid*.

[114] See eg BBC, 'Vale Dam Disaster: $7bn Compensation for Disaster Victims' *BBC News* (4 February 2021) <www.bbc.com/news/business-55924743> accessed 15 July 2021.

Table 1. Critical framework for examining Indigenous co-ownership.

Theme	Critical questions
Objectives of co-ownership	• What are the parties' objectives in seeking co-ownership of a project? • Would co-ownership meet these objectives? • Are there other mechanisms that would better meet these objectives? • Is Indigenous co-ownership intended to demonstrate consent to the project (noting that co-ownership does not automatically imply consent)?
Negotiation capacity	• How complex is the proposed equity arrangement? • What capacity, resources and expertise is required to fairly negotiate the arrangement? • Do all parties have access to independent legal and financial advice commensurate with the complexity of the proposed deal? • What is the legal and political context of the negotiation, and how does it affect the negotiation positions of the parties?
Financial risks	• Are the shares to be acquired at market prices, discounted or free? • Does the Indigenous entity have access to finance to effect the purchase? • How does loan financing (if required) affect the expected financial returns to the Indigenous group? • What are the financial risks associated with an equity investment, considering interest, fees and the risks of depreciation or project collapse? • If shares are acquired as part of a broader agreement, what is traded away in exchange?
Influence conferred by equity	• What influence is gained by the Indigenous equity owner through shareholding? • Does a minority stake offer meaningful participation in company decision-making? • Can the shareholding be structured to confer additional rights to Indigenous shareholders? • Would a conflict of interest arise if the Indigenous shareholding entity had a representative on the board of the developer company? What are the legal, commercial and social consequences?

Theme	Critical questions
Governance	• How is the Indigenous entity governed? Which members of the broader Indigenous group participate in the entity's governance? Which voices are excluded? • Is the Indigenous entity legitimate, accountable, trusted and transparent, in relation to the broader Indigenous group? • Are there clear rules relating to how the equity is to be managed? What rules govern how financial returns are distributed to the broader Indigenous group? • Does the Indigenous entity have the resources, capacity and capability to administer the equity holding?
Disposal and dilution of shares	• Who can sell their shares to third parties? To what extent can the Indigenous entity control who buys into the company as a co-owner? • What commercial, relational and practical risks are there if a new co-owner were to join or replace an existing co-owner?
Legacy issues on Indigenous land	• What rights and responsibilities do the co-owners have in relation to mine closure, major incidents and other legacy issues? • Does the equity arrangement clearly set out these rights and responsibilities, and were they discussed at the time of negotiating the co-ownership?

This paper offers a working conceptual model of Indigenous co-ownership. We note the wide variability of co-ownership arrangements, which can occur in a vast array of cultural groupings, governance structures, land tenure systems, corporate arrangements and historical, social, political and economic contexts. In any given case, the value proposition of Indigenous equity participation must be defined with close attention to its specific preconditions and circumstances.

This paper also provides a critical framework through which Indigenous co-ownership can be analysed, based on a scan of the literature in six jurisdictions. Subsequent research should be anchored in real-world cases of Indigenous equity ownership, which would enable deeper, critical application of the framework to a specific mining project, Indigenous group (or groups), set of commercial parties, negotiation process, agreement terms, and regulatory and policy context.

Crucially, future research must also engage Indigenous perspectives and experiences, including perspectives on the application of the UNDRIP in local terms. This paper has purposefully included comments about co-ownership from Indigenous people as quoted in publicly available sources. Direct engagement with Indigenous people, including through co-designed research, will be essential to developing a fulsome and comprehensive exploration of co-

ownership, and the risks and opportunities it presents for promoting self-determination.

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CO2 Pipeline Infrastructure for Sequestration Projects

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I. Introduction

Since the principal author first published an article in 2009 regarding the regulatory landscape for carbon dioxide ("CO2") pipeline infrastructure, we have seen a significant change in the global sensitivity to the need for a carbon transition, and a much stronger consensus on the need to do so to mitigate climate change. Unlike the initial thinking around carbon capture and sequestration in 2009, there is no longer a consensus case for clean coal. Significant tax and other incentives have been provided in some countries (including the United States) for removing and sequestering carbon from waste gas streams. There is a significant expansion of the potential beneficial uses of CO2 that can reduce our carbon footprint and enhance sequestration opportunities, and there is a growing interest in using such incentives to subsidize purely geologic sequestration without further beneficial use. While the federal regulatory framework is relatively unchanged (apart from the availability of tax incentives), an increasing number of states have decided to grant eminent domain to CO2 pipelines to further enhance their viability. This article provides an overview of the current market and regulatory landscape for CO2 pipelines, with a particular focus on eminent domain for CO2 pipeline infrastructure to be used for enhanced oil recovery ("EOR"), sequestration, and burgeoning commercial uses.

II. Market Incentives for CO2 Sequestration and Pipeline Projects

Contrary to popular portrayals, CO2 emissions are not only waste gas, but also a potentially valuable commodity, whether for beneficial use of the CO2 or using CO2 removal and sequestration credits and other incentives to create a revenue stream. While this article surveys the legal landscape applicable to CO2 sequestration pipeline projects (including EOR), we first discuss other

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uses for CO2 because as additional uses for CO2 develop and become more popular, the market for, and incentive to develop, CO2 pipeline projects will expand. By 2030, CO2-based products could be worth between $800 billion and $1 trillion, and the use of CO2 for producing fuel, enriching concrete and generating power alone could reduce GHG emissions by a billion metric tons yearly.[1] As beneficial uses and tax incentives for CO2 separation and sequestration increase, so will the market for CO2 off-gas streams. Carbon capture, storage, and utilization projects are highly capital-intensive projects, but they can and will be developed if there is a market for them.[2] With the potential to decarbonize existing energy production and industry in the U.S. and maintain jobs, the supply of CO2 is likely to increase.

A. CCS and EOR

Carbon capture and sequestration (or storage) ("CCS") is a process that involves capturing man-made CO2 at its source and storing it permanently underground. (CCS is sometimes referred to as carbon capture, utilization, and storage ("CCUS")).[3] CCS has the potential to reduce the amount of CO2 emitted into the atmosphere from the burning of fossil fuels at power plants and other large industrial facilities. An integrated CCS system includes three main steps: (1) capturing and separating CO2 from other gases; (2) purifying, compressing, and transporting the captured CO2 to the sequestration site; and (3) injecting the CO2 into subsurface geological reservoirs.[4] Direct air capture is also an emerging technology that can remove atmospheric CO2, directly reducing its concentration.[5]

CO2 use in EOR involves injecting CO2 into oil wells to maximize the amount of oil recovered.[6] Using CO2 produced from other industrial sources replaces the use of CO2 from natural reservoirs, which is typical,[7] and depending on the setting and project type, more CO2 can be injected and stored than is used in consuming the final oil product.[8] As of now, EOR is the second most

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[1] Renee Cho, *Capturing Carbon's Potential: These Companies Are Turning CO2 Into Profits*, State of the Planet, COLUMBIA CLIMATE SCHOOL (May 29, 2019), https://news.climate.columbia.edu/2019/05/29/co2-utilization-profits/.

[2] LABOR ENERGY P'SHIP, BUILDING TO NET-ZERO, A U.S. POLICY BLUEPRINT FOR GIGATON-SCALE CO2 TRANSPORT AND STORAGE INFRASTRUCTURE, 18 (June 20, 2021), https://www.eenews.net/assets/2021/06/30/document_ew_10.pdf.

[3] PETER FOLGER, CONGRESSIONAL RESEARCH SERVICE, CARBON CAPTURE AND SEQUESTRATION (CCS) IN THE UNITED STATES (Aug. 9, 2018). We will use CCS and CCUS interchangeably in this Article.

[4] *Id*. at 1.

[5] *Id*.

[6] Cameron Hepburn, Ella Adlen, John Beddington, Emily Carter, Sabine Fuss, Niall Mac Dowell, Jan C. Minx, Pete Smith & Charlotte Williams, *The Technological and Economic Prospects for CO2 Utilization and Removal*, 575 NATURE 87 (2019), https://www.nature.com/articles/s41586-019-1681-6.

[7] *Enhanced Oil Recovery*, Office of Fossil Energy and Carbon Management, ENERGY.GOV, https://www.energy.gov/fe/science-innovation/oil-gas-research/enhanced-oil-recovery.

[8] Hepburn et al., *supra* note 6; Christophe McGlade, *Can CO2-EOR really provide carbon-negative oil?*, IEA (Apr. 11, 2019), https://www.iea.org/commentaries/can-co2-eor-really-provide-carbon-negative-oil.

popular industrial use for CO2 and the purpose for which the vast majority of U.S. CO2 pipelines are used.[9] The total potential for CO2 injected for EOR in the US has been estimated at around 200 to 262 million metric tons per annum.[10] With more than 90% of the world's oil reservoirs potentially suitable for CO2 EOR, and a mature business model in the United States, there is good potential for CO2 EOR growth.[11]

However, in addition to the popular emphasis on climate change and the corresponding need to reduce emissions and remove greenhouse gases from the atmosphere, the concept of carbon utilization has gained interest within Congress and in the private sector as a means for capturing CO2 and converting it into commercially viable products. Therefore, CCS and direct air capture have the potential to significantly expand the market for CO2 not only as a means to combat climate change, but also as a profitable means of collecting CO2 for commercial use offsetting the significant costs associated with CCS.

B. Other Commercial Uses

CO2 is being heavily used for EOR, but it can also be used to manufacture many products. The current most popular industrial use of CO2 is to make urea for use in fertilizer.[12] It can also be used for food and beverage manufacturing, pulp and paper manufacturing, metal fabrication,[13] plastic manufacturing, carbon materials (graphene, carbon nanotubes, carbon fiber), textile dying, fishmeal, and concrete strengthening.[14] CO2 can also be used to create methanol as a new source of raw materials for use in fuel, concrete, and food production. Indeed, compared to the traditional method of methanol production, this way of making methanol reduces carbon emissions by 90%.[15] Researchers have also even developed a process to turn waste CO2 into polyethylene, one

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[9] IEA, *Putting CO2 to Use*, Technology Report (Sept. 2019), https://www.iea.org/reports/putting-co2-to-use; LABOR ENERGY P'SHIP, *supra* note 2 at 10.

[10] KENNETH B. MEDLOCK, III AND KEILY MILLER, EXPANDING CARBON CAPTURE IN TEXAS, Center for Energy Studies: Rice University's Baker Institute for Public Policy, 21 (Jan. 21), https://www.bakerinstitute.org/media/files/files/8e661418/expanding-ccus-in-texas.pdf (citing Brown, Jeffrey D. and Ung, Poh Boon, *Supply and Demand Analysis for Capture and Storage of Anthropogenic Carbon Dioxide in the Central U.S.,* in MEETING THE DUAL CHALLENGE: A ROADMAP TO AT-SCALE DEPLOYMENT OF CARBON CAPTURE, USE AND STORAGE (Dec. 12, 2019), https://dualchallenge.npc.org/; Abramson, McFarlane and Brown, Transport Infrastructure for Carbon Capture and Storage, Great Plains Institute and Regional Carbon Capture Deployment Initiative, 34 (June 2020), https://www.betterenergy.org/wp-content/uploads/2020/06/GPI_RegionalCO2Whitepaper.pdf).

[11] Hepburn et al., *supra* note 6.

[12] IEA, *Putting CO2 to Use*, Technology Report (Sept. 2019), https://www.iea.org/reports/putting-co2-to-use.

[13] *Carbon Dioxide Capture and Sequestration: Overview*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, https://19january2017snapshot.epa.gov/climatechange/carbon-dioxide-capture-and-sequestration-overview_.html.

[14] CARBON CAPTURE COALITION, THE USEIT ACT (UTILIZING SIGNIFICANT EMISSIONS THROUGH INNOVATIVE TECHNOLOGIES): CREATING ECONOMIC, JOBS AND ENVIRONMENTAL BENEFITS THROUGH CARBON CAPTURE AND UTILIZATION, https://carboncapturecoalition.org/wp-content/uploads/2018/10/USEITAct_OnePager_10_8_18_formatted.pdf); Cho, *supra* note 1.

[15] Anthony King, *Waste CO2 to be Turned into Ingredients for Fuel, Plastics and Even Food*, PHYS.ORG, (Nov. 19, 2018), https://phys.org/news/2018-11-co2-ingredients-fuel-plastics-food.html.

of the most widely produced plastics in the world and for which there is a substantial existing market.[16] The list of potential uses will only continue to grow since there is an increasing push to find methods to fix and convert CO2 and captured CO2 could theoretically be used to make any fuel or chemical that is currently based on petroleum.[17]

Using CO2 in concrete is particularly interesting as a commercial use of CO2 because concrete is the most widely used construction material globally, with US production alone in 2019 totaling 370 million cubic yards, offering a large, widespread, and growing market for CO2 streams.[18] This presents an opportunity to reduce emissions from concrete (in addition to the initial CO2 source). Reducing concrete emissions would be significant because if global concrete emissions were from a country, the country would rank third for global CO2 emissions.[19] While storage in concrete is shorter and less secure than geological storage, it does offer a short-term, widely-available solution to store CO2 and monetize CO2 streams. Multiple companies have found various solutions to manufacture low-emissions concrete using CO2 as an input.[20] The popular "carbon curing" approach also makes the concrete cure faster and increases the concrete's water resistance and strength.[21]

Commercial uses of CO2 creates opportunities to offset emissions, which opportunities will expand further as energy-efficient processes to convert CO2 are found.[22] Other major opportunities for using CO2 in ubiquitous commercial uses include using CO2 to produce the organic chemicals used in solvents, synthetic, rubber, plastics, etc.[23] Additionally, while these technologies are in their early stages, CO2 could be used to create synthetic fuels and batteries, or be used instead of steam for energy efficiency.[24]

With uncertainty and lack of uniformity in state and local regulation, the CO2 legal landscape is widely variable and, as explained more fully below, there are distinctions between state laws (and, sometimes, lack thereof) that can influence where it makes sense to invest in CO2 sequestration projects and pipelines. Nonetheless, since 2009, the barriers to sequestration and related infrastructure projects have become more market-driven rather than regulatory-driven. Recent volatility in oil and gas commodity prices and increasing investor awareness of environmental and social governance ("ESG") issues,

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[16] Leigh Krietsch Boerner, *New Catalyst Turns Waste CO2 into Valuable Commodity Chemical*, 97 CHEMICAL & ENGINEERING NEWS 46 (Nov. 22, 2019).

[17] Cho, *supra* note 1.

[18] Jane Margolies, *Concrete, a Centuries-Old Material, Gets a New Recipe*, THE NEW YORK TIMES (Aug. 11, 2020), https://www.nytimes.com/2020/08/11/business/concrete-cement-manufacturing-green-emissions.html.

[19] *Id.*

[20] *Id*.

[21] Krysta Biniek, Ryan Davies, and Kimberly Henderson, *Why Commercial Use Could be the Future of Carbon Capture*, MCKINSEY & COMPANY (Jan. 12, 2018), https://www.mckinsey.com/business-functions/sustainability/our-insights/why-commercial-use-could-be-the-future-of-carbon-capture#.

[22] Cho, *supra* note 1.

[23] *Id*.

[24] *Id*.

along with interest in facilitating the carbon transition, appear to be primary motivators of investment capital flows in this area. As a result, sequestration projects will develop if the market supports them, notwithstanding the relative lack of regulations and/or uniformity in regulations. Additionally, with improved and expanded federal tax incentives, investors may find that the tax benefits and various credit revenue streams will outweigh such uncertainties and continue to stimulate investment in these projects. In this climate, the current lack of a uniform regulatory framework may also present an opportunity to clarify policy priorities and move towards a regulatory framework that would further facilitate these projects.

III. CURRENT CO2 PIPELINE INFRASTRUCTURE

The market for CO2 has the potential to increase dramatically, and with it, the market for CO2 pipeline projects. The U.S. is already home to several commercial and demonstration facilities, collectively capturing more than 25 million tons per annum ("Mtpa") of CO2; as a result, the U.S. is currently the global leader in CCS deployment.[25] As of June 2021, there were twelve commercial and seven demonstration carbon capture facilities in operation in the U.S.[26] There are 22 CCUS projects in the US in development, eight of which are pure sequestration projects and the rest EOR.[27] The deployment of direct air capture projects is beginning to ramp up as well.[28]

Most notably, in 2017, the NRG Petra Nova project in Texas was completed and captures ninety percent of the CO2 from a 240 MW slipstream of flue gas of its existing WA Parish plant, or roughly 1.6 million tons of CO2 per year.[29] The CO2 is then transported to an oil field nearby for EOR use.[30] This is the first industrial-scale, coal-fired, electricity-generating plant with CCS to operate in the United States.[31] Unfortunately the project was mothballed in 2020 due to a decline in oil prices during the pandemic, although NRG is currently evaluating its viability based on market changes in 2021.[32]

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[25] Brad Page, *U.S. Leads New Wave of Carbon Capture and Storage Deployment*, THE HILL (Jan. 5, 2020), https://thehill.com/opinion/energy-environment/476783-us-leads-new-wave-of-carbon-capture-and-storage-deployment.

[26] LABOR ENERGY P'SHIP, *supra* note 2 at 10.

[27] LABOR ENERGY P'SHIP, *supra* note 2 at 12.

[28] *Id*.

[29] Folger, *supra* note 3 at 12.

[30] *Id*.

[31] *Id*. at 12-13.

[32] Florian Martin, *Low Oil Prices Lead to Shutdown of Much-Hyped Carbon Capture System Outside Houston*, HOUSTON PUBLIC MEDIA (Aug. 3, 2020), https://www.houstonpublicmedia.org/articles/news/energy-environment/2020/08/03/379125/low-oil-prices-lead-to-shutdown-of-much-hyped-carbon-capture-system-outside-houston/; NRG Energy, Inc., *Petra Nova Status Update*, NRG (Aug. 26, 2020), https://www.nrg.com/about/newsroom/2020/petra-nova-status-update.html; Edward Klump, *'Falling Apart.' World's Largest CCS Plan Hits Snag*, E&E NEWS (June, 22, 2021), https://subscriber.politicopro.com/article/eenews/1063735475.

Also in 2017, Archer Daniels Midland launched its ADM Illinois Industrial Carbon Capture & Storage Project.[33] With this project, the sponsor began capturing CO2 from an ethanol production facility and sequestering it in a nearby deep saline formation. The project can capture up to 1.1 million tons of CO2 per year.[34]

There are also a number of additional proposed and pending projects. For example, an ammonia plant with near-zero CO2 emissions using a repurposed integrated gasification combined cycle plant with CCS was announced in Indiana.[35] The facility is expected to capture 1.5 to 1.75 Mtpa CO2 for geological storage in the Wabash CarbonSAFE CO2 storage hub.[36] Occidental Petroleum also announced the first large-scale direct air capture facility in Texas, which will capture more than one Mtpa of CO2 from the atmosphere.[37] The number of projects is only likely to grow as large firms such as BP, Shell, Equinor, Repsol, Eni, Occidental Petroleum, Entergy, Total, Dominion Energy, and NRG among others have all made net zero announcements and large banks and investors are increasingly reviewing the climate impacts of their investments.[38]

In addition to wholly private sector development, the U.S. Department of Energy ("DOE"), as directed by Congress, also plays a significant role in the growth of CCS by implementing test projects and engaging in R&D. As of January 2020, nine DOE-supported projects in the United States have injected large volumes of CO2 into underground formations as demonstrations of potential commercial-scale storage.[39] Four of these projects are actively injecting and storing CO2.[40] One of those four is in an underground saline reservoir that stores CO2 and simply demonstrates geologic sequestration, while the other three are in oil and gas reservoirs as part of EOR.[41]

The DOE has created the Regional Carbon Sequestration Partnership ("RCSP"), launched the Clean Coal Power Initiative, initiated its National Energy Technology Laboratory ("NETL") to implement a program titled "Carbon Capture and Sequestration from Industrial Sources and Innovative Concepts for Beneficial CO2 Use," and is using its Fossil Energy program to develop technologies that can capture and permanently store greenhouse gases.[42] Con-

[33] *ADM Begins Operations for Second Carbon Capture and Storage Project*, ADM (Apr. 7, 2017), https://www.adm.com/news/news-releases/adm-begins-operations-for-second-carbon-capture-and-storage-project-1.

[34] *Id*.

[35] Page, *supra* note 25.

[36] *Id*.

[37] *Id*.

[38] Medlock and Miller, *supra* note 10 at 30.

[39] Angela C. Jones, *Injection and Geologic Sequestration of Carbon Dioxide: Federal Role and Issues for Congress*, CONGRESSIONAL RESEARCH SERVICE (Jan. 24, 2020), https://crsreports.congress.gov/product/pdf/R/R46192#:~:text=4%20EOR%20involves%20injecting%20CO2,of%20drinking%20water%20(USDWs).

[40] *Id*.

[41] LABOR ENERGY P'SHIP, *supra* note 2 at 10.

[42] *Carbon Dioxide Capture and Sequestration: Federal Research and Regulations*, Climate Change, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, https://19january2017snapshot.epa.

gress has made appropriations to support the DOE's carbon storage work, and, beginning in 2005, has proposed and enacted legislation directing the DOE to establish programs in this area.[43] Such programs include the Energy Policy Act of 2005 ("EPAct"),[44] which directed the DOE to carry out a 10-year carbon capture R&D program to develop technologies for use in new and existing coal combustion facilities. Under the EPAct, Congress directed the DOE, "in accordance with the carbon dioxide capture program, to promote a robust carbon sequestration program" and continue R&D work through carbon sequestration partnerships.[45] Another Congressional initiative was Section 354 of the EPAct, which directed the EPA to establish a demonstration program for CO2 injection for EOR purposes while increasing CO2 sequestration.[46] The Energy Independence and Security Act of 2007[47] amended Section 963 of the EPAct and increased the DOE's work on carbon sequestration R&D and demonstration.[48] Finally, Congress directed the DOE to conduct fundamental science and engineering research in CCS and to conduct training and research on geologic sequestration.[49]

In 2009, there were about 3,600 miles of CO2 pipeline in the U.S.[50] Today, there are approximately 5,000 miles of CO2 pipelines.[51] The U.S. regions with large-scale CO2 pipelines currently operating are the Permian Basin (West Texas, New Mexico, and Southern Colorado) with around 2,600 miles, the Gulf Coast (Mississippi, Louisiana, and East Texas) with 740 miles, the Rocky Mountains (Northern Colorado, Wyoming, and Montana) with 730 miles, the Mid-Continent (Oklahoma and Kansas) with 480 miles, and then a region containing the states of North Dakota and Michigan along with a section of Canada with 215 miles of pipeline.[52] The growth of CO2 pipelines is set to accelerate given the market and federal incentives at play. Recently, in March 2021, Valero announced it was partnering with BlackRock Global Energy & Power Infrastructure Fund and Navigator Energy Services to develop an industrial-

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gov/climatechange/carbon-dioxide-capture-and-sequestration-federal-research-and-regulations_.html.

[43] Jones, *supra* note 39 at 6.

[44] Energy Policy Act, Pub. L. No. 109-58 § 963, 119 Stat. 594 (2005).

[45] Jones, *supra* note 39 at 6.

[46] *Id*. at 6.

[47] Energy Independence and Security Act of 2007 Pub. L. No. 110-140, 121 Stat. 1492 (2007).

[48] Jones, *supra* note 39 at 6.

[49] *Id.* at 6.

[50] Robert Nordhaus and Emily Pitlick, *Carbon Dioxide Pipeline Regulation,* 30 THE ENERGY LAW JOURNAL 85 (Apr. 1, 2009).

[51] Lee Beck, *Carbon Capture and Storage in the USA: The Role of US Innovation Leadership in Climate-Technology Commercialization*, 4 CLEAN ENERGY 9 (Dec. 24, 2019), https://academic.oup.com/ce/article/4/1/2/5686277.

[52] MATTHEW WALLACE, LESSLY GOUDARZI, KARA CALLAHAN & ROBERT WALLACE, A REVIEW OF THE CO2 PIPELINE INFRASTRUCTURE IN THE U.S., U.S. Department of Energy, National Energy Technology Laboratory, Office of Fossil Energy, 31-32 (Apr. 21, 2015), https://www.energy.gov/sites/prod/files/2015/04/f22/QER%20Analysis%20-%20A%20Review%20of%20the%20CO2%20Pipeline%20Infrastructure%20in%20the%20U.S_0.pdf.

scale CCS pipeline system which should span more than 1,200 miles in its initial phase.[53]

IV. FEDERAL REGULATIONS AND INCENTIVES

A. Federal Regulatory Framework

The current federal regulatory framework for CO2 sequestration and transportation exists under a variety of authorities that have been patched together over the past decade. In 2007, the U.S. Supreme Court held CO2 is an air pollutant under the Clean Air Act in *Massachusetts v. EPA*.[54] Following the Supreme Court's decision in *Massachusetts v. EPA*, the EPA issued a series of regulations through its authority under the Clean Air Act ("CAA") to reduce GHG emissions from both mobile and stationary sources.[55] To date however, there are few EPA regulations affecting CO2. In addition, carbon dioxide has been conditionally excluded as a hazardous waste under the Resource Conservation and Recovery Act.[56] However, as demonstrated below, CO2 regulations have thus far been promulgated by administrative agencies. It remains possible that Congress could regulate CO2 as a commodity, deriving the power to regulate from the Commerce Clause of the U.S. Constitution. Nonetheless, Congress does not presently regulate CO2.

Beginning in December 2010, the EPA finalized its requirements for geological CO2 sequestration, designed to protect underground sources of drinking water ("USDW")[57] with the development of a new class of wells, Class VI, under the authority of the Safe Drinking Water Act's ("SDWA") Underground Injection Control ("UIC") Program.[58] These requirements, also known as the Class VI rule, contain specific criteria for Class VI wells, including (i) site characterization requirements, (ii) injection well construction requirements including long-term CO2 compatible materials, (iii) injection well operation requirements, (iv) monitoring requirements addressing well integrity, CO2 injection and storage, and ground water quality, (v) financial responsibility requirements to assure funds are available for the duration of a project, and (vi) reporting and recordkeeping requirements to evaluate the operations and confirm USDW protection.[59] The SDWA currently serves as the major federal authority for regulating injection of CO2 for geologic sequestration and carbon storage in gen-

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[53] *Valero and BlackRock Partner with Navigator to announce Large-Scale Carbon Capture and Storage Project,* BUSINESSWIRE (Mar. 16, 2021), https://www.businesswire.com/news/home/20210316005599/en/Valero-and-BlackRock-Partner-with-Navigator-to-Announce-Large-Scale-Carbon-Capture-and-Storage-Project.

[54] Massachusetts v. EPA, 549 U.S. 497 (2007).

[55] Linda Tsang, *U.S. Climate Change Regulation and Litigation: Selected Legal Issues*, CONGRESSIONAL RESEARCH SERVICE (Apr. 3, 2017), https://fas.org/sgp/crs/misc/R44807.pdf.

[56] Hazardous Waste Management System: Conditional Exclusion for Carbon Dioxide (CO2), 79 Fed. Reg. 350 (Jan. 3, 2014).

[57] *Underground Injection Control (UIC): Class VI- Wells Used for Geologic Sequestration of CO2*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2 (Last visited July 2, 2020).

[58] *Id.*

[59] *Id.*

eral.[60] However, the purpose of the Act is to prevent the endangerment of public water supplies and sources from injection activities.[61] Indeed, the EPA has identified specific policy areas related to geologic sequestration that it is not authorized to regulate, including (but not limited to) the capture and transport of CO2, managing human health and environmental risks other than drinking water endangerment, determining property rights, and the transfer of liability from one entity to another.[62] In the preamble to the proposed UIC Class VI Rule, the EPA states: "[w]hile the SDWA provides EPA with the authority to develop regulations to protect USDWs from endangerment, it does not provide authority to develop regulations for all areas related to GS [geologic sequestration]."[63]

Under the authority of the CAA, the EPA promulgated GHG reporting requirements ("GHGRP") for suppliers of CO2 to be used in underground injection and for geologic sequestration.[64] Under these requirements, facilities that inject CO2 for long-term sequestration and any facilities that inject CO2 underground fall within the GHGRP and must develop and implement a monitoring, reporting, and verification plan.[65] Moreover, reporting requirements apply to both Class VI wells and Class II wells that inject CO2.[66] These requirements will provide the EPA with information that can be used to monitor the growth and effectiveness of CCS as a GHG mitigation technology and consider further policies.[67]

While the Federal Energy Regulatory Commission ("FERC") regulates the sale and transportation of natural gas under the Natural Gas Act, Chapter 15B §717(b), FERC rejected oversight of CO2 transportation pipelines in response to a 1979 inquiry by the Cortez Pipeline Company.[68] FERC responded to the inquiry by ruling that high-purity CO2, used for CO2-EOR in this inquiry, cannot be considered natural gas at the compositional level, and thus is not subject to FERC regulation.[69] Since FERC has rejected oversight of CO2 pipelines, the eminent domain authority for FERC-approved natural gas interstate pipelines is not available to CO2 pipelines.[70]

The Interstate Commerce Commission ("ICC") also determined it does not have oversight of CO2 transportation pipelines in 1981 in response to a similar petition by the Cortez Pipeline Company.[71] The ICC concluded that CO2 is

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[60] Jones, *supra* note 39.

[61] *Id.*

[62] *Id.* at 16.

[63] *Id*.

[64] *Id.*

[65] 40 C.F.R. § 98.448 (2020).

[66] 40 C.F.R. pt. 98 subpart RR (Subpart RR); 40 C.F.R. pt. 98 (Subpart UU).

[67] *Carbon Dioxide Capture and Sequestration: Federal Research and Regulations*, Climate Change, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, https://archive.epa.gov/epa/climatechange/carbon-dioxide-capture-and-sequestration-federal-research-and-regulations.html.

[68] Wallace et. al., *supra* note 52 at 31.

[69] *Id*.

[70] Natural Gas Act, 15 U.S.C. § 717.

[71] Wallace et. al., *supra* note 52 at 31.

transported as a gas (although it is frequently transported in a supercritical liquid phase) and thus was exempt from ICC oversight.[72]

Following these decisions by FERC and ICC, the U.S. Government Accountability Office ("GAO") determined that the U.S. Department of Transportation's ("DOT") Surface Transportation Board ("STB") has oversight over CO2 transportation pipelines, despite the STB being primarily responsible for regulating the interstate transportation of commodities "other than water, oil, or gas" by rail or pipeline.[73] However, the STB has not heard a case involving the transportation of CO2, so its oversight status remains as of yet unfulfilled.[74]

CO2 transportation pipelines are also subject to federal safety regulations by the U.S. DOT's Pipeline and Hazardous Materials Safety Administration ("PHMSA").[75] PHMSA regulates interstate pipeline safety, but state agencies regulate and inspect intrastate pipelines.[76] Although DOT does not consider CO2 a hazardous material, CO2 transportation pipelines are regulated under 49 CFR Part 195, Transportation of Hazardous Liquids by Pipeline, since transportation pipelines often carry highly-pressurized liquid-phase CO2.[77] However, smaller CO2 distribution lines transporting CO2 from the trunk-line to individual wells are generally not subject to PHMSA safety standards.[78]

Significantly, new CO2 transportation pipelines do not need federal siting authority, but the federal government also has no power of eminent domain regarding CO2 pipelines unless the pipeline is built on federal lands.[79] Siting and eminent domain issues for CO2 pipelines are regulated individually by the states.[80] The patchwork of rules and authorities for eminent domain and permitting in the absence of a federal framework creates complexity and challenges for CO2 pipeline developers.[81]

B. Tax Incentives

While there is no uniform federal regulatory framework, there are federal tax credits available, which are intended to incentivize investment in and development of CO2 sequestration projects and pipelines. Initially enacted in 2008, the Section 45Q Tax Credit[82] provides a credit per metric-ton of carbon oxide that is captured either from an industrial source by carbon capture equipment, where the carbon oxide would otherwise be released into the atmosphere, or through direct air capture.[83] The tax credits are available for car-

[72] *Id*.
[73] Wallace et. al., *supra* note 52 at 31-32.
[74] Wallace et. al., *supra* note 52 at 32.
[75] *Id*.
[76] *Id*.
[77] *Id*.
[78] *Id*.
[79] *Id*.
[80] *Id*.
[81] LABOR ENERGY P'SHIP, *supra* note 2 at 27, 29.
[82] I.R.C. § 45Q.
[83] I.R.C. § 45Q.

bon captured and sequestered, disposed of, or otherwise utilized in a manner that permanently removes the carbon oxide from the atmosphere, and are available during the 12-year period beginning with the year in which the carbon capture equipment is placed in service. The Internal Revenue Service ("IRS") recently issued guidance and final regulations that give much needed certainty on the requirements for investors interested in financing carbon capture and sequestration projects to obtain the tax credits.

In February 2020, the IRS issued Revenue Procedure 2020-12, which provides a safe harbor partnership "flip" structure, already widespread in the wind and solar sectors, for carbon capture projects.[84] Under these structures, a tax equity investor, typically a large bank or corporation who can more efficiently use the tax credits, makes an equity investment in a project and is allocated the tax credits while their partner, a developer with limited tax appetite, is allocated a larger share of the cash flows of the project. Upon receiving a negotiated rate of return, the partnership "flips" and the tax equity investor receives a lower percentage of the tax allocations.

In February 2020, the IRS also provided guidance on when construction has begun for a qualified facility or carbon capture equipment,[85] which is a vital component of qualifying for the tax credits, as developers must generally "begin" construction before January 2026 in order to qualify for the tax credits.[86]

Significantly, in January 2021 the IRS issued final regulations for Section 45Q.[87] The final regulations describe how the owner of the carbon capture equipment, who is generally entitled to claim the tax credit, may contract with others to dispose of, inject, or use the carbon oxides and, in certain scenarios, may elect to allow that contractor to claim all or a portion of the credit.[88] The final regulations provide the compliance requirements for taxpayers to demonstrate secure geological storage for projects disposing of carbon oxide through sequestration or injecting carbon oxide in an EOR operation or, if the carbon oxide is utilized, through the fixation, chemical conversion or use of carbon oxide in other commercial products.[89] The final regulations also outline the situations in which the IRS can "recapture" credits if the carbon oxides escape.[90] The IRS recapture period for credits claimed in any given tax year lasts for up to three years.[91] If the loss of containment is not due to the selection, operation, or maintenance of the facility (*e.g.,* as in the case of volcanic activity or terrorist attacks), the IRS generally cannot recapture the credits.[92]

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[84] *See* Rev. Proc. 2020-12, 2020-11 I.R.B.

[85] *See* I.R.S. Notice 2020-12, 2020-11 I.R.B.

[86] I.R.C. § 45Q(d)(1).

[87] T.D. 9944, Treas. Dec. Int. Rev. (2021).

[88] Treas. Reg. § 1.45Q-1(h).

[89] Treas. Reg. § 1.45Q-3; Treas. Reg. § 1.45Q-4.

[90] Treas. Reg. § 1.45Q-5.

[91] Treas. Reg. §§ 1.45Q-5(f).

[92] Treas. Reg. §§ 1.45Q-5(i).

Finally, the IRS released a revenue ruling in July 2021 that clarified the scope of carbon capture equipment, the starting date for the tax credits, and the date the carbon capture equipment is considered placed-in-service for retrofitted carbon capture projects.[93]

The certainty provided in this detailed guidance and the limited recapture period will likely spur interest in carbon capture projects to generate these credits.

V. STATE REGULATORY FRAMEWORK

As no federal system governs CO2 pipeline siting, it is subject to individual state regulation. There are many factors to consider when determining the states in which to invest in CO2 sequestration and pipeline projects (for example the location of CO2 sources and sinks or state incentives, *see infra* at Section F), but in our view, the right to exercise eminent domain, or lack thereof, is probably the most significant and determinative. Most states do not permit eminent domain for CO2 pipelines, and variability in the rights, requirements, and processes exist across the states that do. For example, some states require certification processes in order to use eminent domain,[94] and some give common carriers[95] or public utilities[96] eminent domain rights, statuses which may come with further regulations.

A. General State Eminent Domain Requirements

In general, the states that allow eminent domain for CO2 pipelines seem to follow a similar process under the state's eminent domain title.[97] The condemnor must be unable to agree with the landowner on a sale of the land.[98] The

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[93] Rev. Rul. 2021-13, 2021-20 I.R.B. This revenue ruling specifically addresses a facility with an existing acid gas removal unit.

[94] 220 ILL. COMP. STAT 75/20(a) (2020); KY. REV. STAT. ANN. § 154.27-100(2) (2021); LA. STAT. ANN. § 30:4(17)(a) (2020).

[95] ARK. CODE ANN. § 23-15-101(a) (2019); COLO. REV. STAT. ANN. §§ 38-4-102, 40-9-102 (2021); MICH. COMP. LAWS § 483.5 (2021); MONT. CODE. ANN. § 69-13-101 (2019); N.D. CENT. CODE § 49-19-01 (2019); OKLA. STAT. tit. 52, § 24 (2020); S.D. CODIFIED LAWS § 49-7-11 (2021); TEX. NAT. RES. CODE ANN. § 111.002(6) (2021).

[96] COLO. REV. STAT. ANN. § 40-1-103(1)(a)(I) (2021); WYO. STAT. ANN. § 37-1-101(a)(vi)(G)(II)) (2020) (carving out EOR pipelines from public utility status, although other CO2 pipelines may be considered public utilities if they transport gas "for the public").

[97] LA. STAT. ANN. §§ 19:2.1(A), 30:1108(2)(C) (2020); MISS. CODE ANN. § 11-27-1 (2019); MONT. CODE. ANN. § 70-30 (2020). Proceedings and rules of practice are detailed in the Montana Rules of Civil Procedure and the Montana Rules of Evidence. MONT. CODE. ANN. § 70-30-201 (2020); N.M. STAT. ANN. §§ 42A-1-1 to -33 (2021); N.M. STAT. ANN. § 70-3-5 (2021); N.D. CENT. CODE § 49-19-12 (2019); OKLA. STAT. tit. 52 § 46.3 (2020); TEX. PROP. CODE § 21.011 (2019).

[98] ARK. CODE ANN. § 18-15-1202(a)(1) (2019); KY. REV. STAT. ANN. § 154.27-100(2) (2020); KY. REV. STAT. ANN. § 416.550 (2020). Note that some states, such as Mississippi, New Mexico, North Dakota, Texas, and Wyoming require more specific procedures such as written offers and appraisals being made available to the landowner prior to commencing an eminent domain suit. MISS. CODE ANN. § 11-27-7 (2019); N.M. STAT. ANN. § 42A-1-4 (2021); N.D. CENT. CODE § 32-15-06.1 (2019); TEX. PROP. CODE §§ 21.0111, 21.0113 (2019); WYO. STAT. ANN. § 1-26-509 (2020). Some states also allow the condemnor to enter the land for surveys and sampling before they are granted any rights to the land, though they may need landowner or court approval and can be liable for

condemnor must then file a petition in county court including the purpose for its taking, the legal basis for the taking, information on the land to be condemned and the landowner, and a request that the court will determine the amount of compensation.[99] The condemnor must also give notice to the landowner, and post notices in a newspaper of general circulation if normal notice procedures cannot be followed (for example, if the owner cannot be found).[100] The court typically decides whether the condemnor has eminent domain rights, while a jury or a few impartial local landowners may decide the amount of compensation.[101] The decision-makers usually must view the land themselves and determine an amount based on the fair market value of the land being taken.[102] After the court delivers a verdict and the condemnor pays com-

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damages. CAL. CIV. PROC. CODE § 1245.010, -.020, -.060 (2020); MISS. CODE ANN. § 11-27-39 (2019); N.M. STAT. ANN. §§ 42A-1-8 to -10, -12 (2021); N.D. CENT. CODE § 32-15-06 (2019); OKLA. STAT. tit. 66 §§ 7, 51 (2020); WYO. STAT. ANN. § 1-26-506; -507, -508 (2020). This right is important so that pipeline companies can evaluate whether areas of land will be suitable for their pipeline before entering a costly legal process.

[99] ARK. CODE ANN. § 18-15-1202(a)(2) (2019); CAL. CIV. PROC. CODE § 1250.310 (2020); COLO. REV. STAT. ANN. § 38-1-101.5(1)(b), (2), -102(1) (2021); KAN. STAT. ANN. § 26-501(b), -502 (2020); KY. REV. STAT. ANN. § 416.570 (2021); LA. STAT. ANN. § 19:2.1(A), (A)(1) (2020); LA. STAT. ANN. § 30:1108(2)(C) (2020); MISS. CODE ANN. § 11-27-5 (2019); MONT. CODE. ANN. §§ 70-30-202, 203 (2019); N.M. STAT. ANN. § 42A-1-17 (2021); N.D. CENT. CODE § 32-15-18 (2019); OKLA. STAT. tit. 66 § 53(A) (2020); S.D. CODIFIED LAWS § 21-35-1, -2 (2019); TENN. CODE. ANN. § 29-16-104 (2019); TEX. PROP. CODE ANN. § 21.012 (2019); UTAH CODE ANN. § 78B-6-507 (2019); WYO. STAT. ANN. § 1-26-512 (2020). California and Colorado require additional proof regarding the optimality of the planned route of the pipeline in order to be granted eminent domain rights. CAL. CIV. PROC. CODE § 1240.030(b) (2020); COLO. REV. STAT. ANN. § 38-1-101.5(1)(a), (c) (2021).

[100] ARK. CODE ANN. § 18-15-1202(c) (2020); CAL. CIV. PROC. CODE § 1250.120 (2020); COLO. REV. STAT. ANN. § 38-1-103 (2021); 735 ILL. COMP. STAT. 30/10-5-25 (2020); KAN. STAT. ANN. §§ 26-503, -506 (2020); MONT. CODE. ANN. § 70-30-202 (2019); N.M. STAT. ANN. § 42A-1-14 (2021); OKLA. STAT. tit. 66 §53(B) (2020); S.D. CODIFIED LAWS § 21-35-9, -10 (2019); TENN. CODE. ANN. § 29-16-105 (2020); TEX. PROP. CODE ANN. §§ 21.012(c); 21.016 (2019).

[101] ARK. CODE ANN. § 18-15-1204 (2020); CAL. PUB. UTIL. CODE. § 625(a)(3) (2020) (commissioner or administrative law judge); COLO. REV. STAT. ANN. §§ 38-1-101(2)(a), 106, -107 (2021); KAN. STAT. ANN. § 26-504 (2020); KY. REV. STAT. ANN. §§ 416.610(4), 416.580(1) (2021); LA. STAT. ANN. §§ 19:4, 19:8, 19:9 (B), 30:1108(C) (2020); MICH. COMP. LAWS § 213.62 (2020); MONT. CODE. ANN. § 70-30-206, -207 (2019); N.M. STAT. ANN. § 42A-1-19(A) (2021); N.D. CENT. CODE § 32-15-13, -21, -22 (2019); OKLA. STAT. tit, 66 §§53, 55 (2020); S.D. CODIFIED LAWS § 21-35-10.1, -13, -15 (2019); TENN. CODE ANN. § 29-16-108 to 110, -113 (2020); TEX. PROP. CODE ANN. § 21.014 (2019); UTAH CODE ANN. § 78B-6-511 (2020). The states also have varying provisions regarding awarding attorney's fees, *see* CAL. CIV. PROC. CODE § 1250.410, 1268.610 (2020); LA. STAT. ANN. § 19:8(A) (2020); MISS. CODE ANN. § 11-27-37 (2019); N.D. CENT. CODE § 32-15-28, -32, -35 (2019); OKLA. STAT. tit. 66 § 55(D) (2020); MONT. CODE. ANN. § 70-30-206(b)(4) (2019); N.M. STAT. ANN. § 42A-1-32 (2021); N.D. CENT. CODE § 32-15-32 (2019); TEX. PROP. CODE ANN. § 21.047 (2019); and whether parcels must be handled in combined or separate trials and opportunities for alternative dispute resolution, *see* CAL. CIV. PROC. CODE § 1250.240, .420, 1273.010 – 1273.050 (2020); COLO. REV. STAT. ANN. § 38-1-104 (2021); 735 ILL. COMP. STAT. 30/10-5-30 (2020); MISS. CODE ANN. § 11-27-13 (2019); MONT. CODE. ANN. § 70-30-301(1), (3)(b) (2019); N.M. STAT. ANN. § 42A-1-19(B) (2021); N.D. CENT. CODE § 32-15-19 (2019); S.D. CODIFIED LAWS § 21-35-18 (2021); UTAH CODE ANN. § 78B-6-507 (2020); WYO. STAT. ANN. § 1-26-509(h) (2020).

[102] 735 ILL. COMP. STAT. 30/10-5-5 (2019); KAN. STAT. ANN. § 26-506 (2019); KY. REV. STAT. ANN. § 416.580(1) (2019); MICH. COMP. LAWS § 213.70 (2019); MISS. CODE ANN. § 11-27-19 (2019); MONT. CODE. ANN. §§ 70-30-301, -302, -313 (2019); S.D. CODIFIED LAWS § 21-35-16 (2019); TEX. PROP. CODE ANN. §§ 21.041, 21.042 (2019); WYO. STAT. ANN. §§ 1-26-702 to 714 (2020).

pensation, the condemnor is given title to the property.[103] The parties may appeal.[104]

B. Specific State Requirements for Exercising Eminent Domain for CO2 Pipelines

In this section, we will describe the specific requirements in certain states that allow eminent domain for CO2 pipelines. This section reviews the major rules determining whether eminent domain is available to particular parties looking to construct CO2 pipelines. These include the types of entities and projects eminent domain is granted for, including permitted uses and common carrier or public utility status and regulations. Note that companies and projects otherwise eligible for eminent domain, will still need to comply with the applicable procedural process, including something akin to the general procedural process described above and any other specific procedural requirements in that state. These requirements are beyond the scope of this article, which focuses on substantive access to eminent domain rights.

1. Permitted Uses

Most states that provide eminent domain for CO2 pipelines permit the use of eminent domain for pipelines more broadly without limiting the use of eminent domain based on a specific end use.[105] However, Mississippi[106] only permits eminent domain for CO2 pipelines for EOR use, not storage or other commercial purposes. Louisiana allows eminent domain for CO2 pipelines for

[103] CAL. CIV. PROC. CODE § 1268.210 (2020); COLO. REV. STAT. ANN. § 38-1-108 (2021); KAN. STAT. ANN. § 26-507 (2019); KY. REV. STAT. ANN. § 416.620(6) (2021); MICH. COMP. LAWS § 213.57 (2021); MISS. CODE ANN. § 11-27-27 (2019); MONT. CODE. ANN. § 70-30-311 (2019); N.M. STAT. ANN. § 42A-1-27 (2021); N.D. CENT. CODE § 32-15-27 (2019); S.D. CODIFIED LAWS § 21-35-25 (2019); TENN. CODE ANN. § 29-16-122 (2019); UTAH CODE ANN. §§ 78B-6-515, 516 (2020). Importantly, California, New Mexico, and Texas allow the condemnor to acquire use of the property before the eminent domain case is finalized with the courts if the condemnor can show why it is necessary they begin their project rather than wait and make a deposit in the amount of expected compensation. ARK. CODE ANN. § 18-15-1206 (2019); CAL. CIV. PROC. CODE § 1255.410 (2020); 735 ILL. COMP. STAT. 30/20-5-5 (2019); MICH. COMP. LAWS § 213.59(1)-(2) (2019); N.M. STAT. ANN. § 42A-1-22 (2021); TEX. PROP. CODE ANN. § 21.021 (2019); UTAH CODE ANN. § 78B-6-510 (2020).

[104] ARK. CODE ANN. § 18-15-103(10) (2020); COLO. REV. STAT. ANN. § 38-1-110 (2021); 735 ILL. COMP. STAT. 30/10-5-70; KAN. STAT. ANN. §§ 26-504 (2019); MISS. CODE ANN. § 11-27-29 (2019); MONT. CODE. ANN. § 70-30-304 (2019); OKLA. STAT. tit. 66 § 56 (2020); S.D. CODIFIED LAWS § 21-35-20 (2019); TENN. CODE ANN. § 29-16-118 (2019); TEX. PROP. CODE ANN. § 21.018 (2019).

[105] CAL. PUB. UTIL. CODE. § 615 (2020); COLO. REV. STAT. ANN. §§ 38-2-101, 38-5-105; 38-1-202 (2021) (listing all statutes under which pipeline companies are granted eminent domain); 220 ILL. COMP. STAT. 75/5 (2019) (mentioning sequestration and EOR, though leaving eminent domain open to broader carbon management purposes in the public interest); IND. CODE § 14-39-1-7 (2019); KY. REV. STAT. ANN. § 154.27-100(2) (2021); MICH. COMP. LAWS §§ 483.2(1)(a), 483.1(1)(a) (2021); MONT. CODE. ANN. §§ 69-13-101,-101(3)(a), -102, -104 (2019); N.M. STAT. ANN. § 70-3-5 (2021); N.D. CENT. CODE § 49-19-09 (2019); S.D. CODIFIED LAWS § 49-7-11 (2019); TENN. CODE ANN. § 65-28-101 (2019); TEX. NAT. RES. CODE ANN. §§ 111.002(6), 111.019, 111.020, 111.022 (2019); WYO. STAT. ANN. § 1-26-814 (2020).

[106] MISS. CODE ANN. § 11-27-47 (2019).

EOR purposes,[107] but also permits eminent domain for those built by CO2 storage operators.[108]

Whether eminent domain is available to CO2 pipelines in Oklahoma is less clear. Oklahoma regulates oil and intrastate natural gas pipelines as common carriers with the right to eminent domain.[109] Those constructing CO2 pipelines may be able to use this regime; however, since Oklahoma does not have specific CO2 pipeline legislation, it is unclear whether Oklahoma law considers pipeline operators common purchasers or carriers like they do natural gas pipeline operators.[110] It is possible that the definition of common carrier may be broad enough on its own to include CO2 pipelines since it declares that "[e]veryone who offers to the public to carry persons, property or messages is a common carrier of whatever he thus offers to carry."[111] If CO2 qualifies as property and if pipeline services are considered offered to the public, pipeline operators could exercise eminent domain, but would also be subject to Oklahoma common carrier regulations.[112] However, to date, it is unclear how Oklahoma law would treat CO2 pipeline operators.

2. Common Carrier and Public Utility Status

Montana, North Dakota, Oklahoma, and Texas grant eminent domain for CO2 pipelines only under their common carrier statutes.[113] In Colorado, on the other hand, multiple statutes grant pipeline companies the right of eminent domain,[114] including under the common carrier article[115] and the corporations title.[116] In Colorado, pipeline companies generally are common carriers,[117] and Colorado considers common carriers and pipeline corporations to be public utilities.[118]

Common carrier status, while giving companies access to eminent domain, does subject companies operating the pipelines to more regulation and oversight. Common carriers are usually regulated by the public service commission of the state and must follow the regulations in the common carrier

[107] LA. STAT. ANN. § 19:2(10) (2019).

[108] LA. STAT. ANN. § 30:1108(a)(1) (2019).

[109] OKLA. STAT. tit. 52 §§ 3, 23, 24 (2020).

[110] OKLA. STAT. tit. 52 §§ 23, 24 (2020).

[111] OKLA. STAT. tit. 13 § 4 (2020).

[112] OKLA. STAT. tit. 13 (2020).

[113] ARK. CODE ANN. § 23-15-101(a) (2020); COLO. REV. STAT. ANN. §§ 38-4-102, 40-9-102(1) (2020); MICH. COMP. LAWS § 483.5 (2021); MONT. CODE. ANN. §§ 69-13-101 (2019); N.D. CENT. CODE § 49-19-01 (2019); OKLA. STAT. tit. 52 § 24 (2020); S.D. CODIFIED LAWS § 49-7-11 (2019); TEX. NAT. RES. CODE ANN. § 111.002(6) (2019).

[114] COLO. REV. STAT. ANN. § 38-2-101 (2020); COLO. REV. STAT. ANN. § 38-5-105 (2020); COLO. REV. STAT. ANN. § 38-1-202(2)(b) (2020) (listing all statutes under which pipeline companies are granted eminent domain).

[115] COLO. REV. STAT. ANN. § 38-4-102 (2020).

[116] COLO. REV. STAT. ANN. § 7-43-102; 38-4-105 (2020).

[117] COLO. REV. STAT. ANN. § 40-9-102(1) (2020).

[118] COLO. REV. STAT. ANN. § 40-1-103(1)(a)(I) (2020).

chapter or title of that state.[119] These regulations include charging reasonable and uniform rates, which are often publicly available, without discrimination, and following ratemaking procedures.[120] Additionally, common carriers or public utilities are required to pay just compensation for rights of way (including when exercising eminent domain),[121] file monthly reports,[122] and be subject to inspection.[123]

Some states legislate that certain entities are considered common carriers, while other states have particular requirements that must be satisfied for the entity to be considered a common carrier. Recently, the Texas Supreme Court in *Denbury Green Pipeline-Texas LLC v. Texas Rice Land Partners, Ltd.*[124] determined that companies can no longer simply "check the common carrier box," but must provide some proof that they are a common carrier if a landowner challenges that status.[125] In order to demonstrate common carrier status, "the company must present reasonable proof of a future customer, thus demonstrating that the pipeline will indeed transport 'to or for the public for hire' and is not 'limited in [its] use to the wells, stations, plants, and refineries of the owner.'"[126] Thus, in order to be able to use eminent domain, companies will need to show the pipeline is not just for the owner's use. However, the bar is low since the requirement to be found a common carrier is just to show "reasonable probability that, at some point . . . the [carbon dioxide pipeline]…would serve the public" and reasonable proximity to other CO2 shippers or providing contracts to carry CO2 for non-affiliates should suffice.[127]

In California, any pipeline corporation considered a public utility may condemn any property necessary for the construction and maintenance of its pipeline using eminent domain; however, if it offers competitive services, it must show the condemnation is in the public interest.[128] Under California law, pipeline corporations are considered public utilities if "the service is performed for, or the commodity is delivered to, the public or any portion thereof."[129]

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[119] MONT. CODE. ANN. §§ 69-13-101(b), -102 (2019); N.D. CENT. CODE § 49-19-01 (2019). In Wyoming, the Public Service Commission may regulate CO2 pipelines for non-EOR uses if the pipeline was considered to transport gas "for the public." WYO. STAT. ANN. § 37-1-101(a)(vi)(G) (2020).

[120] COLO. REV. STAT. ANN. §§ 38-4-105 (2020); MONT. CODE. ANN. §§ 69-13-201, -303 (2019); N.D. CENT. CODE §§ 49-19-13, -17, -19, -20 (2019); TEX. NAT. RES. CODE ANN. §§ 111.014, -.015, -.017 (2019).

[121] COLO. REV. STAT. ANN. § 38-4-107 (2020).

[122] MONT. CODE. ANN. § 69-13-301 (2019).

[123] N.D. CENT. CODE §§ 49-02-14; 49-19-02 (2019).

[124] Denbury Green Pipeline-Texas, LLC v. Texas Rice Land Partners, LTD., No. 15-0225, 909 (Tex. 2016), http://www.txcourts.gov/media/1436866/150225.pdf.

[125] *Id*.

[126] *Id*. at 912.

[127] John McFarland, *Landowners Lose in Denbury v. Texas Rice Land Partners*, OIL AND GAS LAWYER BLOG, GRAVES DOUGHERTY HEARON & MOODY (Jan. 9, 2017), https://www.oilandgaslawyerblog.com/landowners-lose-denbury-v-texas-rice-land-partners/.

[128] CAL. PUB. UTIL. CODE. §§ 615, 625(a)(1)(A), (b), (f) (2020) (requiring the exercise of eminent domain under Title 7 of the Code of Civil Procedure beginning at section 1230.010).

[129] CAL. PUB. UTIL. CODE. § 216(a)(1) (2020).

There is some concern that CO2 pipelines might not meet the public use or benefit requirement if CO2 is determined to be a "waste."[130] This is particularly concerning in Texas under the *Denbury* ruling discussed above that could suggest customers would need to retain ownership of their CO2 in the pipeline and then sell it, which may be at odds with the concept of the customer having simply disposed of it at this phase.[131] Additionally, "waste" disposal may not seem to offer a direct public benefit that aligns with the statutory justification for eminent domain.[132] Since the Texas Supreme Court has also ruled that landowners can challenge a company's common carrier self-designation, a motivated landowner could challenge and potentially prevent common carrier eminent domain for CO2 pipelines.[133]

In states that consider pipelines to be public utilities, being a public utility has similar implications to being a common carrier. For example, in California a public utility is subject to the regulations of the public utilities commission[134] and must follow all orders, decisions, directions, or rules of the commission.[135] Public utilities also must pay an annual fee,[136] provide information and reports,[137] charge just and reasonable rates,[138] make rate filings,[139] and be subject to rate investigations by the commission.[140]

C. Other Considerations for CO2 Pipeline Siting

While the right to exercise eminent domain rights is a significant factor in determining where to site CO2 pipelines, it is not the only consideration. There are also other state-specific factors when selecting where to site a CO2 pipeline. Obviously, one must consider the location of CO2 sources and sinks. It is also important to consider the state laws that will be applicable to the pipelines and other infrastructure that will service CO2 sequestration projects when determining whether and where to invest in CO2 sequestration projects. That is because the feasibility and practicality of building the necessary infrastructure to service those projects will dictate their viability and potential profitability. While the locations of CO2 sources and sinks are likely fixed, when thinking about developing and investing in either CO2 sequestration projects or their supporting infrastructure, it is paramount to consider all sides of the

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[130] Medlock and Miller, *supra* note 10 at 16.

[131] *Id*.

[132] Tracy Hester and Elizabeth George, *The Top Five Legal Barriers to Carbon Capture and Sequestration in Texas*, FORBES (Nov. 19, 2019), https://www.forbes.com/sites/uhenergy/2019/11/19/the-top-five-legal-barriers-to-carbon-capture-and-sequestration-in-texas/?sh=38fc87887508.

[133] *Id*.

[134] CAL. PUB. UTIL. CODE. § 216(b) (2020).

[135] CAL. PUB. UTIL. CODE. § 702 (2020).

[136] CAL. PUB. UTIL. CODE. § 431 (2020).

[137] CAL. PUB. UTIL. CODE. §§ 434, 581-82, 584 (2020).

[138] CAL. PUB. UTIL. CODE. § 451 (2020).

[139] CAL. PUB. UTIL. CODE. § 486 (2020).

[140] CAL. PUB. UTIL. CODE. § 703 (2020); other rights and obligations applying to public utilities can be found in §§ 451-651.

equation, as state-law roadblocks to CO2 pipelines could render an otherwise potentially profitable CO2 project ultimately worthless, and pipelines to not-yet-existing CO2 sources may never come to fruition.

1. Other State Regulations and Incentives

In addition to eminent domain, individual states have various incentives and regulations for CCS projects that may make projects more or less attractive in that state. First, this section will focus on state permitting and enforcement regimes, in particular for non-EOR sequestration and long-term liability rules. These are particularly important as progress regarding siting, permitting and long-term liability for geologically stored CO2 has been identified as a key impediment slowing carbon capture development.[141] Then, this section will provide an overview of other relevant state laws such as those regulating EOR and sequestration as well as financial incentives for CCS.[142]

a. State Permitting and Enforcement Regimes for Non-EOR Sequestration

The UIC Class II well permit that is used by the EPA for EOR has been in existence for three decades.[143] Consequently, all states except Arizona, Florida, Hawaii, Idaho, Iowa, Minnesota, Virginia, New York and Pennsylvania have developed their own local permitting and enforcement regimes to get these wells approved and, therefore, have primacy over the EPA in handling Class II permits.[144] Thus, the proper siting authority in most states for Class II EOR wells is the state rather than the EPA, a situation that leads to more seamless permitting for these wells. As of 2019, there are 157,667 permitted Class II wells in the United States.[145]

The most recent category of UIC well with regulations promulgated in 2010, Class VI wells, are specifically designed for carbon dioxide sequestration purposes.[146] Class VI wells are the appropriate well for non-EOR sequestration of carbon dioxide.[147] The requirements for these wells are more demanding

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[141] LABOR ENERGY P'SHIP, *supra* note 2 at 10.

[142] ENVTL. PROT. AGENCY, DOCKET ID NO. EPA–HQ–OAR–2013–0495, COMMENT LETTER ON THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED REVIEW OF STANDARDS OF PERFORMANCE FOR GREENHOUSE GAS EMISSIONS FROM NEW, MODIFIED, AND RECONSTRUCTED STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS, 83 FED. REG. 65, 424 (DEC. 20, 2018) (March 18, 2019), https://oag.ca.gov/system/files/attachments/press_releases/Appendix%20B%20CCS%20in%20State%20Statutes%20%26%20Regulations.pdf.

[143] UNITED STATES ENVTL. PROT. AGENCY, Introduction to the Underground Injection Control Program, https://www.epa.gov/sites/production/files/2018-06/documents/introduction_to_training_course_and_uic_overview_2018_-_nathan_wiser.pdf.

[144] *Primary Enforcement Authority for the Underground Injection Control Program*, Underground Injection Control (UIC), UNITED STATES ENVTL. PROT. AGENCY, https://www.epa.gov/uic/primary-enforcement-authority-underground-injection-control-program.

[145] *UIC Injection Well Inventory*, Underground Injection Control (UIC), UNITED STATES ENVTL. PROT. AGENCY, https://www.epa.gov/uic/uic-injection-well-inventory (including both state and tribal lands).

[146] ENVTL. PROT. AGENCY, *supra* note 143.

[147] Molly Bayer and Brian Graves, Geologic Sequestration of CO_2 and Class VI Wells: UIC Inspector Training, United States Environmental Protection Agency (July 2019), https://www.

upfront and as an ongoing compliance matter in comparison to Class II wells.[148] To date only six permits have been issued, only two of which are active and not expired.[149] Of these existing permits the time it took the final permit to drill was about 3 years for the two active permits, and about 18 months for the four inactive permits.[150] For the two active permits, the process from initiating drilling to receiving an Authorization to Inject took an additional 2 to 3 years, for a total of about 6 years.[151] While the Class VI requirements present an added burden to non-EOR sequestration in general, a few states have pursued primacy, which may result in a more manageable process for non-EOR sequestration. Thus far, only North Dakota and Wyoming have primacy,[152] and Louisiana has applied.[153] This means that, currently, the only two states with authority to approve Class VI injection wells for non-EOR sequestration purposes are North Dakota and Wyoming. For non-EOR sequestration projects in the rest of the United States, the approval for Class VI wells must be obtained from the EPA. Thus, these states may have slower and more divided permitting pathways for non-EOR sequestration projects, and this will likely remain the case for some time as it may take a few years for states to be granted primacy after application.[154]

Additionally, states may need to sort out administrative matters to set up their permitting and enforcement regimes prior to applying. For example, the legislature of Texas, a major oil and gas producing state, only recently introduced a bill, which failed in committee, granting the Railroad Commission of Texas (the "Railroad Commission") sole authority over carbon sequestration wells.[155] Authority is currently split between the Railroad Commission and the Texas Commission on Environmental Quality complicating any pursuit of pri-

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epa.gov/sites/production/files/2019-08/documents/graves_-_class_vi_wells_2019.pdf; T.D. 9944, Treas. Dec. Int. Rev. 51-52 (2021) (for purposes of the 45Q tax credit).

[148] UNITED STATES ENVTL. PROT. AGENCY, GEOLOGIC SEQUESTRATION OF CARBON DIOXIDE: UNDERGROUND INJECTION CONTROL (UIC) PROGRAM CLASS VI IMPLEMENTATION MANUAL FOR UIC PROGRAM DIRECTORS (Jan 2019), https://www.epa.gov/sites/production/files/2018-01/documents/implementation_manual_508_010318.pdf; United States ENVTL. PROT. AGENCY, Underground Injection Control (UIC) Program: Class II Permit Application Completeness Review Checklist, https://www.epa.gov/sites/production/files/2019-08/documents/solution_2.2_-_class_ii_administrative_review_checklist_draft_final.pdf.

[149] Bayer and Graves, *supra* note 147.

[150] National Petroleum Council, *Policy, Regulatory and Legal Enablers*, *in* MEETING THE DUAL CHALLENGE: A ROADMAP TO AT-SCALE DEPLOYMENT OF CARBON CAPTURE, USE AND STORAGE 3-21 (Dec. 12, 2019), https://dualchallenge.npc.org/files/CCUS-Chap_3-122220.pdf. Note these inactive permits were for a project that ran out of time to use federal funding and was never fully completed. *Id*.

[151] *Id*.

[152] *Primary Enforcement Authority for the Underground Injection Control Program supra* note 144.

[153] Hester and George, *supra* note 132.

[154] MATTHEW GERACI, SYED JEHANGEER ALI, COURTNEY ROMOLT & REGINA ROSSMAN, THE ENVIRONMENTAL RISKS AND OVERSIGHT OF ENHANCED OIL RECOVERY IN THE UNITED STATES, Clean Water Action | Clean Water Fund, 48 (Aug. 2017), https://www.cleanwateraction.org/sites/default/files/docs/publications/The%20Environmental%20Risks%20and%20Oversight%20of%20Enhanced%20Oil%20Recovery%20in%20the%20United%20States%2008.17.17a.pdf.

[155] S.B. 450, 2021-2022 Leg., 87th Sess. (Tx. 2021), https://legiscan.com/TX/bill/SB450/2021.

macy.[156] Texas had also passed a bill providing permitting and compliance for carbon sequestration wells, just prior to the final Class VI regulations, but has not yet revised that statute in connection with seeking primacy.[157] Texas will likely need to pass additional legislation and amend the current statutes to successfully seek primacy from the EPA, including either granting a single agency authority over carbon sequestration wells or a clear articulation for multiple agencies to work together to apply for primacy. The faster states take on primacy, the more quickly they can nimbly respond to interest in the market to complete these projects.

b. Long-term Liability

Laws providing for liability caps or the assumption by the state of long-term liability for CO2 storage sites provide certainty to investors in valuing their risk, particularly in light of novelty in the insurance market and unclear federal liability policy.[158] Illinois, Louisiana, Montana, North Dakota, and Texas have passed legislation providing transfer of long-term liability and site ownership to the state after injection. Louisiana, Montana, Wyoming, Texas, Oklahoma, and North Dakota all provide that initially the project operator is responsible until liability is transferred to the state.[159]

Legislation in Illinois and Texas (offshore only) provide for the state to assume liability for the period after well closure. However, Illinois's bill only applies to a specific carbon capture project.[160] Texas's law, HB 1769 signed September 1, 2009,[161] grants the Texas School Land Board authority to oversee offshore carbon dioxide storage sites and accept carbon dioxide for a fee, with scientific advisement and measurement, monitoring and verification from the Bureau of Economic Geology at the University of Texas at Austin.[162] The Texas School Land Board takes title and liability relating to the CO2 in the depository once permanent storage is verified and applicable regulations are complied with, but the board does not take liability with regards to the CO2 prior to storage in the repository or regarding any liability for the construction of the repository.[163]

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[156] Medlock and Miller, *supra* note 10 at 10); Hester and George, *supra* note 132.

[157] S.B. 1387, 2009 Leg., 81st Sess, (Tx. 2009), https://capitol.texas.gov/tlodocs/81R/billtext/pdf/SB01387F.pdf#navpanes=0; 16 TEX. ADMIN. CODE § 5.201 et seq. (2019).

[158] Medlock and Miller, *supra* note 10 at 11; Hester and George, *supra* note 132; LABOR ENERGY P'SHIP, supra note 2 at 31.

[159] S.B. 498, 2009 Leg., 61st Sess. (Mt. 2009); WYO. STAT. ANN. § 34-1-153 (2020); TEX. HEALTH & SAFETY CODE § 382.508 (2009); OKLA. STAT. tit. 27-A § 3-5-105; LA. STAT. ANN. § 30:1103(10) (2021); N.D. CENT. CODE § 38-20-16 (2021).

[160] Clean Coal FutureGen for Illinois Act, S.B. 1704, § 20, 25, 30 (2009). Interestingly this bill also provides for eminent domain powers for this specific project by declaring it in the public interest and for public use. *Id.* at § 45.

[161] H.B. 1796, 2009 Leg., 81st Sess. (Tx. 2009), https://capitol.texas.gov/tlodocs/81R/billtext/pdf/HB01796F.pdf#navpanes=0.

[162] TEX. HEALTH & SAFETY CODE § 382.503, -.505, -.506 (2009).

[163] TEX. HEALTH & SAFETY CODE § 382.507, -.508 (2009).

Under bills in Louisiana and North Dakota, the state assumes title and liability after 10 years, provided a certificate of completion is received by the project and there is proof of well integrity since closure.[164] Montana assumes liability after 30 years.[165] A certificate of completion may be issued 15 years after completion and if no leakage or movement of CO2 is demonstrated in the 15 years after the issuance of a certificate of completion, liability is transferred to the state.[166] Kansas has specifically rejected liability and any responsibility for CO2 injection wells or storage sites.[167]

c. Other State Regulations and Incentives

California provides a credit of nearly $200 /ton for certain CCS projects in California under its Low Carbon Fuel Standard, which can be claimed by CCS projects outside of California as long as the resulting fuel is consumed in California.[168]

Kansas has created the authority for the corporation commission to create regulations for EOR and non-EOR CO2 sequestration.[169] Kansas also exempts CO2 capture, sequestration, utilization property from property taxation and provides for a deduction based on the costs of capture, sequestration, or utilization machinery.[170]

Louisiana exempts approved EOR projects from severance taxes until the project has reached payout.[171] After the EOR project reaches payout, severance tax on future production is reduced to 50% of that which would normally be due.[172] Louisiana also requires permits for CO2 injections for EOR operations[173] and has many regulations for the construction, design, safety, and operation of CO2 pipelines.[174] Louisiana permits eminent domain for CO2 sequestration sites.[175]

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[164] H.B. 661, 2009 Leg., § 1109 (La. 2009); S.B. 2095, 2009 Leg., 61st Sess. § 38-20-16. § 38-20-17 (Nd. 2009).

[165] S.B. 498, 2009 Leg., 61st Sess. § 4 (Mt. 2009).

[166] *Id*.

[167] H.B. 2418, 2010 Leg., (Ks. 2010); KAN. STAT. ANN. § 55-1637(h) (2020).

[168] LABOR ENERGY P'SHIP, *supra* note 2 at 30; *Carbon Capture and Sequestration Project Eligibility FAQ*, CALIFORNIA AIR RESOURCES BOARD, https://ww2.arb.ca.gov/resources/fact-sheets/carbon-capture-and-sequestration-project-eligibility-faq.

[169] KAN. STAT. ANN. §§ 55-1636.

[170] KAN. STAT. ANN. §§ 79-233; KAN. STAT. ANN. §§ 79-32, 256.

[171] LA. REV. STAT. ANN. § 47:633.4(B)(1) (2019).

[172] LA. REV. STAT. ANN. § 47:633.4(B)(2) (2019). Michigan similarly allows for reduced severance tax rate for approved EOR projects using CO2. MICH. COMP. LAWS § 205.303(4) (2019).

[173] LA. ADMIN. CODE tit. 43, § XIX-403, -405, -407 (2018).

[174] LA. ADMIN. CODE tit. 43, § XI, subpt. 4 (2018). Michigan also regulates CO2 pipelines and injection wells. MICH. ADMIN. CODE. 299.9204 (2021).

[175] H.B. 661, 2009 Leg., (La. 2009); *Id*. at § 1108; LA. REV. STAT. ANN. § 19:2(12); *Id*. § 2(12).

Montana has a regulatory system for carbon dioxide injection and EOR[176] and provides a 3% or lower tax rate for CO2 pipelines, sequestration, and EOR equipment.[177]

North Dakota exempts CO2 pipeline property and equipment from taxes for the first ten full years following initial operation.[178] North Dakota has regulations for geologic storage of CO2.[179]

For EOR, Texas provides a reduced severance tax rate of 2.3 percent of the production's market value for 10 years after the Railroad Commission certifies the production response.[180] This lower tax rate can then be reduced by 50% for oil producers operating qualified EOR projects using CO2 produced through human activity ("anthropogenic CO2").[181] Components of clean energy projects are exempt from sales and use taxes if they capture, transport, prepare or inject carbon that is later sequestered including as part of an EOR project.[182] Texas has regulations for the use of anthropogenic CO2 in EOR projects as well as for geologic storage.[183] Additionally, while not a regulatory incentive, the cost of CO2 pipelines is lowest in the Permian Basin likely due to relatively simple terrain, low population, and strong competition among developers capable of putting in pipelines.[184]

Wyoming created a commission for research and technology transfer for EOR and has developed some permitting requirements for geological sequestration.[185] Additionally, through the Wyoming Pipeline Corridor Initiative it has authorized corridors on federal lands for CO2 pipelines.[186]

Kansas, Louisiana, Montana, North Dakota, Texas, and Wyoming have created funds built from fees and penalties to cover long-term monitoring and management of non-EOR CO2 injection and storage sites.[187]

North Dakota, Wyoming, and Montana have passed legislation allowing the unitization of carbon dioxide reservoirs.[188] Montana and North Dakota require

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[176] S.B. 498, 2009 Leg., 61st Sess. (Mt. 2009) (with certain sections effective once primacy is granted); MONT. CODE. ANN. §§ 70-30-105, 75-5-103, 75-5-401, 77-3-430, 82-10-402, 82-11-101, 82-11-111, 82-11-118, 82-11-122, 82-11-123, 82-11-127, 82-11-136, 82-11-137, 82-11-161, 82-11-163, 82-11-181, 82-11-182, 82-11-184, 82-11-188.

[177] MONT. CODE ANN. § 15-6-158 (2019).

[178] N.D. CENT. CODE § 57-06-17.1 (2019).

[179] N.D. CENT. CODE § 38-22 (2019).

[180] TEX. TAX CODE ANN. § 202.054 (2019).

[181] *Id*. § 202.0545.

[182] *Id*. § 151.334; *See also* 34 TEX. ADMIN. CODE § 3.326(b) (2019).

[183] 16 TEX. ADMIN. CODE § 5.301 et seq. (2019); TEX. WATER CODE §§ 27.002(19)-(25), 27.041-.051, 27.071-.073 (2019); TEX. NAT. RES. CODE ANN. §§ 91.801-802; 120.001-04 (2019).

[184] U.S. DEPT OF ENERGY, DOE/NETL-2014/1681, A REVIEW OF THE CO2 PIPELINE INFRASTRUCTURE IN THE U.S. 1, 22 (April 21, 2015).

[185] WYO. STAT. ANN. § 30-5-502, 30-8-101; WYO. STAT. ANN. § 35-11-313 to 318.

[186] LABOR ENERGY P'SHIP, *supra* note 2 at 50.

[187] HOLLY JAVEDAN, REGULATION FOR UNDERGROUND STORAGE OF CO2 PASSED BY U.S. STATES, Massachusetts Institute of Technology, 7, https://sequestration.mit.edu/pdf/US_State_Regulations_Underground_CO2_Storage.pdf; KAN. STAT. ANN. § 55-1638; H.B. 661, 2009 Leg., (La. 2009), § 1110; TEX. NAT. RES. CODE ANN. §§ 121.002(a), 121.003,(c),(d); TEX WATER CODE § 27.045(b); S.B. 498, 2009 Leg., 61st Sess. (Mt. 2009); MONT. CODE ANN. § 82-11-181 (2019); S.B. 2095, 2009 Leg., 61st Sess. (Nd. 2009) §38-20-15; WYO. STAT. ANN. § 35-11-318.

that holders holding 60% of the surface apply for unitization,[189] while Wyoming requires 80% (or 75% in special circumstances).[190] Texas allows unitization for EOR/Class II wells but does not have unitization laws for pure sequestration.[191] The availability of compulsory unitization can prevent a single interest owner from blocking a project.[192] This provides some certainty for investments and can simplify a project allowing for one operating contract for the sequestration facility rather than requiring one with each owner.[193] Unitization can also improve production efficiency, avoid disputes among owners, and ensure each owner receives their proper royalties.[194]

Under existing law, it is often unclear who owns the empty pores where CO2 can be stored, the surface owner, or if applicable, a separate mineral estate owner.[195] The mineral estate owner has rights to the oil and gas that the owner extracts from such spaces, but may not have rights to the space left behind.[196] Despite the importance of having clarity on how to secure rights to carbon sequestration pore space, only Montana, Wyoming and North Dakota have laws addressing pore space ownership specific to CCS.[197] All three allocate the pore space to the surface owner. Montana and Wyoming allow the pore space to be severed and transferred separately, while North Dakota only allows leasing, not severance. In states without such legislation, it may be unclear who owns one of the most vital pieces of property for sequestration. This includes states like Texas where there are conflicting court decisions further muddying the analysis.[198]

2. The Location of CO2 Sources and Sinks

Existing carbon capture and storage infrastructure in the US is primarily used for EOR operations.[199] This infrastructure includes CO2 pipelines that connect natural sources of CO2 to EOR sites, or industrial CO2 sources (pro-

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[188] MONT. CODE ANN. § 82-11-101 (6); MONT. CODE ANN. § 82-11 Part 2; S.B. 2095, 2009 Leg., 61st Sess. (Nd. 2009).

[189] MONT. CODE ANN. § 82-11-204; S.B. 2095, 2009 Leg., 61st Sess. (Nd. 2009).

[190] WYO. STAT. ANN. §§ 35-11-314 through 35-11-317.

[191] TEX. NAT. RES. CODE ANN. §§ 101.011 - .013 (2019); Hester and George, *supra* note 132.

[192] Hester and George, *supra* note 132.

[193] Medlock and Miller, *supra* note 10 at 15; Hester and George, *supra* note 132.

[194] Hester and George, *supra* note 132.

[195] *Id*.

[196] *Id*.

[197] S.B. 498, 2009 Leg., 61st Sess. (Mt. 2009); H.B. 89, 2008 Leg., 49th Sess. (Wy. 2008); S.B. 2139, 2009 Leg., 61st Sess. (2009); Medlock and Miller, *supra* note 10 at 13.

[198] Hester and George, *supra* note 132; MAPCO, Inc. v. Carter 437 U.S. 904 (1978) (finding the mineral estate owns underground formations); Emeny v. United States 412 F.2d 1219 (Fed. Cir. 1969) (holding the surface estate owns underground formations, though this right bows to reasonable use of a productive oil and gas lessee).

[199] U.S. DEPT. OF ENERGY, SITING AND REGULATING CARBON CAPTURE, UTILIZATION AND STORAGE INFRASTRUCTURE: WORKSHOP REPORT, 1, 12 (January 2017), https://www.energy.gov/sites/prod/files/2017/01/f34/Workshop%20Report—Siting%20and%20Regulating%20Carbon%20Capture%2C%20Utilization%20and%20Storage%20Infrastructure.pdf); LABOR ENERGY P'SHIP, *supra* note 2 at 10.

cessing and gasification plants, fertilizer plants, hydrogen plants, ethanol plants etc.) to EOR projects.[200] When siting a CO2 pipeline, it is obviously important to consider the location of CO2 sources to supply the pipeline. These may be natural, or increasingly, industrial sources as the world seeks to lower emissions and various incentive programs including the 45Q Credit make such investments financially attractive. Regions with clusters of industrial facilities could be particularly attractive locations to build pipelines that could serve to transport the CO2 of multiple facilities taking advantage of economies of scale.[201] Some regions of promise include the Ohio River Valley with its emissions-heavy industrial and power generation facilities, Wyoming with its large power generation plants, and the Texas and Louisiana Gulf Coast with a wide variety of industrial and power generation plants.[202]

Additionally, viable locations for geological storage or EOR must be identified to determine the terminus of the pipeline. For geological storage, that may mean the location of a deep saline formation, or a depleted oil and gas reservoir.[203] For EOR, potential sites would include oil reservoirs, carbonate, or sandstone fields with declining production, but where there is substantial crude oil remaining, and CO2 flooding could help increase recovery.[204] Some existing locations with oil fields using EOR include the Permian Basin, New Mexico, West Texas, Oklahoma, Louisiana, Mississippi, East Texas, Wyoming, Utah, Colorado, Michigan,[205] Montana, and Wyoming.[206] Texas for example is estimated to have CO2 storage potential of nearly 1.4 trillion tons in saline formations and an additional 4.9 billion tons in enhanced oil recovery (EOR) operations.[207] Additionally it has been estimated that saline formations in the Outer Continental Shelf could store more than 2,000 gigatons of CO2.[208] For commercial CO2 purposes the location of product manufacturers that could use CO2 as an input would be relevant.

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[200] U.S. DEPT. OF ENERGY, SITING AND REGULATING CARBON CAPTURE, UTILIZATION AND STORAGE INFRASTRUCTURE: WORKSHOP REPORT, 1, 10-11 (January 2017), https://www.energy.gov/sites/prod/files/2017/01/f34/Workshop%20Report—Siting%20and%20Regulating%20Carbon%20Capture%2C%20Utilization%20and%20Storage%20Infrastructure.pdf).

[201] LABOR ENERGY P'SHIP, *supra* note 2 at 21.

[202] *Id*. at 23.

[203] *Id*. at 16.

[204] U.S. DEPT. OF ENERGY, CARBON DIOXIDE ENHANCED OIL RECOVERY: UNTAPPED DOMESTIC ENERGY SUPPLY AND LONG TERM CARBON STORAGE SOLUTION. NATIONAL ENERGY AND TECHNOLOGY LAB, 1, 9 (March 2019), https://www.netl.doe.gov/sites/default/files/netl-file/CO2_EOR_Primer.pdf. Generally, CO2 flooding would be successful if the minimum miscibility pressure can be reached, and there is not geological complexity that would hinder CO2 from contacting the crude. *Id*.

[205] U.S. DEPT OF ENERGY, DOE/NETL-2014/1681, A REVIEW OF THE CO2 PIPELINE INFRASTRUCTURE IN THE U.S., 1, 2, 4, 7, 8, 12 (April 21, 2015).

[206] DENBURY, *Current Tertiary Operations* (Last visited: May, 22, 2020), https://www.denbury.com/operations/rocky-mountain-region/Tertiary-Operations-/default.aspx.

[207] Medlock and Miller, *supra* note 10 at 5 (citing Abramson et al, "Transport Infrastructure for Carbon Capture and Storage," Great Plains Institute, 19, June 2020.)

[208] LABOR ENERGY P'SHIP, *supra* note 2 at 17.

3. Future Laws and the Outlook for Legal Changes

There may be increasing barriers to pipeline siting due to the backlash against the use of eminent domain for pipelines during the natural gas boom. People may not consider CO2 pipelines as environmentally destructive as natural gas pipelines, but landowners, courts and governments may nonetheless increase resistance to corporations exercising eminent domain over private land. People may have a growing aversion to pipelines being sited through eminent domain after witnessing high-profile disputes and the many natural gas pipelines sited using eminent domain. Further, local areas may tighten their regulations to block the use of eminent domain, as has been done in Kyle, Texas,[209] and may tighten the requirements to obtain common carrier status which is necessary to exercise eminent domain in many states. *See supra* at Section V(B)(2). The *Denbury* case is one such example.[210]

Competing with anti-pipeline and anti-eminent domain sentiment, however, is the urgency of lowering the levels of atmospheric CO2. CCS and direct air capture are critical technologies that may help reach this goal. A recent report finds that the capture, utilization, storage, and removal of CO2 could support a gigaton-scale reduction in CO2 by midcentury.[211] Thus, policies to combat climate change may continue to create tailwinds for CO2 pipeline developers. We will likely continue to see increasing incentives for geologic storage of anthropogenic carbon and EOR at both federal and state levels.[212] These incentives should present new opportunities for those seeking to build CO2 pipelines.

VI. CONCLUSION

This article responds to the increasing urgency of reducing our carbon footprint, a much stronger consensus over the last twelve years on the need to mitigate climate change, but also the rapidly developing regulatory and economic infrastructure for the use of CO2. In addition, investment capital flows are moving towards technologies and projects that are consistent with a global carbon transition, and these investors are providing capital to projects focused on reducing CO2. We have seen growth for traditional uses of CO2 such as EOR and carbonation, but also for rapidly expanding new uses that would increase the value of the CO2 gas stream. This combined with developments regarding tax incentives and eminent domain rights to connect the locations

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[209] Kyle, Texas, Code of Ordinances § 8-253 (2021).

[210] Denbury Green Pipeline-Texas, LLC v. Texas Rice Land Partners, LTD., No. 15-0225 1, 14 (Tex. 2016), http://www.txcourts.gov/media/1436866/150225.pdf.

[211] LABOR ENERGY P'SHIP, *supra* note 2 at 9.

[212] *See* ENVTL. PROT. AGENCY, DOCKET ID NO. EPA–HQ–OAR–2013–0495, COMMENT LETTER ON THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED REVIEW OF STANDARDS OF PERFORMANCE FOR GREENHOUSE GAS EMISSIONS FROM NEW, MODIFIED, AND RECONSTRUCTED STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS, 83 FED. REG. 65, 424 (DEC. 20, 2018) (March 18, 2019), https://oag.ca.gov/system/files/attachments/press_releases/Appendix%20B%20CCS%20in%20State%20Statutes%20%26%20Reguments/press_releases/Appendix%20B%20CCS%20in%20State%20Statutes%20%26%20Regulations.pdf.https://oag.ca.gov/system/files/attachments/press_releases/Appendix%20B%20CCS%20in%20State%20Statutes%20%26%20Regulations.pdf; I.R.C. § 45Q.

where the CO2 is generated with locations of CO2 sinks has called for a current overview of the market and regulatory framework for CO2 pipelines.

The Regulatory State and the Emerging Offshore Wind Energy Market in the United States

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Offshore wind energy technologies are generally regarded as variable baseload systems. They could therefore serve a crucial role in a net-zero or carbon-neutral electricity supply grid. With the spate of growing commercial and government-policy interests in offshore wind, it is important to examine how and to what extent the framework of assessing and reviewing project plans, as well as the process of engaging with impacted stakeholders or alternative users of the outer continental shelf, can become more efficient and less controversial. Thus, this paper discusses the emerging offshore wind energy market in the U.S. and highlights the role of the regulatory state in facilitating a more efficient leasing and permitting process for projects without compromising the protections afforded under applicable laws and regulations. Adopting a thorough yet standardized review of relevant project plans and proactive stakeholder engagement processes is recommended at an early or appropriate time during the permitting process. Understanding the opportunity costs of delayed and canceled projects, addressing misperception of risks, and standardizing best practice measures for resolving common issues could make project review process(es) more efficient. Considering experiences in other jurisdictions such as the UK, such efficiency gains are achievable while protecting the environment and legitimate interests of other users in the outer continental shelf.

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I. Introduction

Like most other multifaceted industrial developments, it could be considered reasonable to slow down the process of permitting an energy supply project to ensure a thorough assessment of its social, environmental, and economic impacts and provide appropriate mitigation measures accordingly. However, in an emerging industry such as offshore wind in the United States—where policymakers continue to issue plans, incentives, and significant development targets—there are arguably some opportunity costs for unnecessary delays, cumbersome bureaucratic bottlenecks, inefficiencies, or failure to timely settle avoidable controversies amongst stakeholders.[1] Such counterproductive implications or neglected opportunity costs could mean underinvestments in projects or cancelations, thus leading to an inability to meet future clean energy policy targets. There is also the likelihood of fostering an overburdened and costly regulatory state dealing with the same or similar issues multiple times during the planning, leasing, and development of an offshore clean energy project. To make the process more efficient, the paper recommends (i) a compressive and standardized approach to reviewing Site Assessment Plans and the Construction and Operations Plan; and (ii) ensuring proactive stakeholder engagement processes at an early or appropriate time during the permitting process. All parties need to clearly understand the opportunity costs of delayed and canceled projects. At the same time, the regulatory state plays a key role in gathering relevant information to address the possible misperception of risks and standardizing best practice measures for addressing common issues often identified from environmental reviews and impact assessment processes. Such standards and identified mitigation measures acceded to by all or the majority of stakeholders could help prevent costly and avoidable legal controversies.

The regulatory state encompassing executive agencies and institutions in key sectors of the economy plays an essential role in balancing competing interests in regulated industries such as energy. These institutions and agencies are often required to carry out conciliatory or quasi-judicial functions while

[1] Opportunity costs represent the potential benefits that an individual, investor, or business misses out on when choosing one alternative over another. Because opportunity costs are unseen by definition, they can be easily overlooked. Understanding the potential missed opportunities when a business or individual chooses one investment over another allows for better decision-making.

making prescriptive or standard-setting rules.[2] Such functions are based on the regulatory state's authority, as defined by law and regulations. To be effective, regulatory agencies and institutions must make informed and unarbitrary decisions promptly and cost-effectively. For example, in the energy context, say there are four facilities required to supply a given amount of adequate, reliable, and reasonably affordable electricity right now and over the next ten to twenty years. But due to some policy targets and technicalities, two new projects must be completed in the next nine years to augment the service provided by one or two 'existing' facilities that would be retired in the same period. The regulatory state cannot be said to have succeeded in its role if the industry and market are unable to deliver those two new projects at the right time and scale and in compliance with relevant environmental or administrative rules and regulations.

The regulatory agencies established to implement government policy and laws enacted by Congress have the arduous task of acting efficiently and functionally. They are also expected to act independently or as apolitically as possible. In most cases, the context can be as controversial as building an onshore wind turbine along the path of migratory birds, or offshore turbines that may impact existing interests such as commercial fishing and navigation.[3] As a result, realizing policy objectives such as affordability and reliability of energy supply—as well as ensuring protection from environmental externalities in the energy context in which there is a constant need for mobilizing timely investments in capital-intensive technologies (e.g., floating offshore wind turbines) at the same time— presupposes a thorough understanding of how the systems, the industry, and the market is regulated, and how stakeholders are engaged. The complexity of the challenge implies that the relevant agencies and institutions would need to pragmatically engage with the intended regulated activity and stakeholders to be effective.[4] Thus, this paper discusses the emerging offshore wind energy market in the U.S. and highlights the role of the regulatory state accordingly.

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[2] David Bach and Abraham Newman, *Regulatory State*, ENCYCLOPEDIA BRITANNICA, (Nov. 26, 2014), https://www.britannica.com/topic/regulatory-state; Christopher DeMuth, *The Regulatory State*, National Affairs Summer 2012, https://www.nationalaffairs.com/publications/detail/the-regulatory-state.

[3] Cass R. Sunstein, *Interpreting Statutes in the Regulatory State*, 103 HARV. L. REV. 405 (1989). The US federal government substantially increased its regulatory responsibilities in the 1960's and 1970's, by moving to protect the interests of consumers, the national environment, victims of discrimination, etc. Consequently, the regulatory state that emerged represents a shift in both the substance of law and the institutions through which law is made and enforced, and the sheer volume of federal statutes and regulations that have dramatically changed the business of the federal courts. Regulatory institutions reflect prevailing legal understanding about the fair and effective process and should be well equipped and be able to address problems such as those created by political economy issues creating misalignment of stakeholder interests, misperception of risks, informational gaps, etc. that may affect the growth and emergence of the types of technologies and market required to realize policy objectives. *See also* Julie E. Cohen, *The Regulatory State in the Information Age*, 17 THEORETICAL INQ. L. 369 (2016). Gary M. Lucas, Jr. & Slavisa Tasic, *Behavioral Public Choice and the Law*, 118 W. VA. L. REV. 199-266 (2015); David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 GEO. L.J. 97 (2000).

[4] TADE OYEWUNMI, REGULATING GAS SUPPLY TO POWER MARKETS: TRANSNATIONAL APPROACHES TO COMPETITIVENESS AND SECURITY OF SUPPLY (2018).

The Atlantic and Pacific regions of the U.S. Outer Continental Shelf (OCS)[5] have significant potential for utility-scale offshore wind energy projects.[6] Offshore wind facilities have several pros and cons as an energy supply technology. Their main advantage is having a higher capacity factor than other renewable energy technologies like Solar Photovoltaic (PV).[7] Thus, offshore wind energy adds considerable value and has a higher potential to serve as a "variable baseload" technology for the future net-zero electricity grid.[8] However, the main 'con' is that offshore wind systems' energy output—like most other systems based on intermittent sources—varies according to the strength of the wind and location. Nevertheless, on an hourly basis, the variability for offshore wind is reported as typically lower compared to Solar PV This is perhaps the reason for the growth and investments in offshore wind projects globally, especially in jurisdictions like the United Kingdom., China, and Denmark. Other reasons driving the increase include the falling costs, technological improvements, and the systemic value it adds to the energy supply mix as countries and investing companies aim for their respective net-zero decarbonization targets.[9]

In the U.S., there has been considerable policy support and interest in wind energy, especially in states with potential utility-scale developments, such as Texas and Iowa for onshore projects and Massachusetts, Virginia, California, Oregon, and New York for offshore wind projects. However, most offshore pro-

[5] The U.S. Outer Continental Shelf (OCS) includes the area between state jurisdiction to 200 nautical miles (nm) from shore. State jurisdiction over the seafloor extends from the shoreline out to three nm, except for Texas and the Florida Gulf Coast, which extend out to nine nm. The 200-nm seaward boundary may occasionally differ depending on an area's geography and geology. *See* Bureau of Ocean Energy Mgmt., *Outer Continental Shelf* www.boem.gov/environment/outer-continental-shelf (last visited Oct. 15, 2021).

[6] LAURA B. COMAY & CORRIE E. CLARK, CONG. RSCH. SERV. R46970, OFFSHORE WIND ENERGY: FEDERAL LEASING, PERMITTING, DEPLOYMENT, AND REVENUES, (updated December 7, 2021); *See* Toks A. Arowojolu, et al., *Offshore Wind Handbook*, K&L Gates, (Oct. 2019), www.klgates.com/files/uploads/documents/2019_offshore_wind_handbook.pdf; Taylor J. LeMay, *Offshore Wind: Lessons from Abroad*, 7 LSU J. ENERGY L. & RESOURCES 159 (2019); Nicolas Martino, *Offshore Wind Energy: Sophisticated Technology Struggling with Outdated Legislation*, 58 JURIMETRICS 59 (2017).

[7] Capacity is the amount of electricity a generator can produce when it's running at full blast. This maximum amount of power is typically measured in megawatts (MW) or kilowatts (kW) and helps utilities project just how big of an electricity load a generator can handle. The "Capacity Factor," on the other hand, is a measure of how often a power plant runs for a specific period. It's expressed as a percentage and calculated by dividing the actual unit electricity output by the maximum possible output. This ratio is important because it indicates how fully a unit's capacity is used. *See* U.S. Dep't of Energy (DOE), *What is Generation Capacity?* (May 1, 2020), https://www.energy.gov/ne/articles/what-generation-capacity.

[8] In 2018, the average global capacity factor for offshore wind turbines was 33 percent compared with 25 percent for onshore wind turbines and 14 percent for solar PV. New offshore wind projects have capacity factors of 40 to50 percent, as larger turbines and other technology improvements are helping to make the most of available wind resources. At these levels, offshore wind matches the capacity factors of efficient gas-fired power plants, and coal-fired power plants in some regions exceed those of onshore wind and are about double those of solar PV. *See* THE INTERNATIONAL ENERGY AGENCY (INT'L ENERGY AGENCY, OFFSHORE WIND OUTLOOK 2019 (2019), www.iea.org/reports/offshore-wind-outlook-2019.

[9] *Id*. ("Offshore wind typically fluctuates within a narrower band, up to 20 percentfrom hour to hour, than is the case for solar PV, up to 40 percentfrom hour to hour.")

jects have faced delays and opposition from some stakeholders and constituents whose economic, social, aesthetics or recreational interests may be threatened if not adequately considered in the development process.[10] Generally, the process of planning and leasing, site assessment to construction, and operation of offshore wind projects in the U.S. could go on for about ten to eleven years or more, depending on the effectiveness of the regulatory state.[11] Such lengthy timelines, the risk of controversies, and the misalignment of interests amongst stakeholders could easily impact the costs and deliverability of electrons to power markets from the planned projects.

Part II of this paper highlights the growing interest in harnessing wind energy from offshore areas in the U.S. It then discusses the framework for permitting offshore wind projects with examples from the Northeast, including the energy policy implications for delivering clean energy to the respective wholesale markets that the projects will serve.

From reviewing the background leading to selected cases and decisions made, Part III examines the regulatory environment for leasing, sitting, and permitting, encompassing the stages of planning and analysis, leasing, site assessment, construction, and operating plan. It highlights the tensions between the various stakeholders involved in developing offshore wind projects such as commercial fishing, migratory birds, endangered species, and maritime risks. It underscores how information and perception of various risks influence relevant stakeholders in dealing with the appropriate tradeoffs. It concludes by discussing the need for planning new interconnections with wholesale markets and the grid.

Part III concludes with a discussion on the role of institutional platforms in facilitating the gathering and sharing of essential information among stakeholders and decision-makers. In this regard, it considers the role of Renewable Energy Task Forces in the U.S. with the example of Oregon, as the state and

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[10] See Kenneth Kimmell & Dawn Stolfi Stalenhoef, The Cape Wind Offshore Wind Energy Project: A Case Study of the Difficult Transition to Renewable Energy, 5 GOLDEN GATE U. ENV'T L.J. 197 (2011); Benjamin Storrow, Solar executive with ocean views sues Vineyard Wind, CLIMATEWIRE (July 20, 2021) https://www.eenews.net/articles/solar-executive-with-ocean-views-sues-vineyard-wind/; Wayne Parry, They're not blown away by N.J.'s offshore wind power plans, ASSOC. PRESS (July 17, 2021), https://apnews.com/article/business-environment-and-nature-climate-change-wind-power-e8b2382286f3659cce2d40a99f5a24fc; Jeffrey Tomich, Ind. experiment highlights wind siting challenge, ENERGYWIRE (May 18, 2022), https://www.eenews.net/articles/ind-experiment-high lights-wind-siting-challenge/; David Larson, Offshore wind turbines interfere with ships' radar, ability to navigate, study finds, CAROLINA JOURNAL, (Mar. 9, 2022), https://www.carolinajournal.com/off shore-wind-turbines-interfere-with-ships-radar-ability-to-navigate-study-finds/. See also the following cases showing some of the controversies regarding permitting and leasing for offshore Wind projects over the years- Protect Our Cntys. Found. v. Jewell, 825 F.3d 571 (9th Cir. 2016); Pub. Emps. for Env't. Resp. v. Beaudreau, 25 F. Supp. 3d 67 (D.D.C. 2014); Pub. Emps. for Env't. Res. v. Hopper, 827 F.3d 1077 (D.C. Cir. 2016); Fisheries Survival Fund v. Jewell, No. 16-cv-2409 (TSC), 2018 U.S. Dist. LEXIS 168532, at *3 (D.D.C. Sep. 30, 2018), , aff'd sub nom. Fisheries Survival Fund v. Haaland, 858 F. App'x 371 (D.C. Cir. 2021), and aff'd sub nom, Fisheries Survival Fund v. Haaland, 858 F. App'x 371 (D.C. Cir. 2021).

[11] *See* Figure 2 infra. *See also* 'Phases of BOEM's approvals for offshore wind projects' in *Offshore Wind Handbook*, K&L Gates, Version 2, (Oct. 2019) at 52, www.klgates.com/files/uploads/documents/2019_offshore_wind_handbook.pdf; Kimmell & Stalenhoef, *supra* note 10 on the Cape Wind example.

coastal communities and stakeholders consider the implications of developing offshore wind resources.

Part IV explores costs and integration issues and streamlines the regulatory process to promote efficiency and avoid unnecessary delays while complying with the applicable laws and regulations. It highlights developments in the U.K., one of the major offshore wind jurisdictions.

Part V concludes and highlights the role of the regulatory state within an emerging offshore energy market that promises to play a major role in meeting future energy needs in the U.S.

II. Harnessing Offshore Wind Energy

Electricity generation from wind energy has increased significantly in the U.S. since the 2000s, although this has been primarily from onshore projects.[12] In 2021 alone, wind energy accounted for about 9.2 percent of total U.S. utility-scale electricity generation, while 27 percent of the total amount of renewable energy consumed in the U.S. in 2021 came from wind turbines.[13] Energy from wind in this context has been mainly from onshore production, while offshore developments have faced delays and various regulatory complexities. For instance, the Cape Wind project on the east coast—offshore Massachusetts—would have been one of the world's biggest wind energy projects if it had been completed as planned. Even though the formal permitting of the project began in 2001 with the environmental review under the National Environmental Policy Act (NEPA)[14] and the Massachusetts Environmental Policy Act, the Department of Interior (DOI) approved the project's commercial lease in 2010. The project was stalled for over a decade by the cumbersome permitting process and opposing interest groups.[15] Consequently, Cape Wind Associates (CWA, i.e., the main project sponsor) and utilities that would have received the energy produced eventually terminated their power purchase agreements (PPAs) in 2015.

More recently, there has been a gradual increase in commercial and policy-level interests in harnessing offshore wind resources. However, regulatory uncertainty and unnecessary protracted controversies can 'kill' investor appetite and the commerciality of projects that otherwise would have been successful. In the Wind Vision Roadmap Strategic Approach report (2008-2050), the U.S.

[12] "Total annual U.S. electricity generation from wind energy increased from about 6 billion kilowatt-hours (kWh) in 2000 to about 380 billion kWh in 2021." *See* U.S. Energy Info. Admin. (EIA), *Wind explained: Electricity generation from wind* (last updated Mar. 20, 2022) https://www.eia.gov/energyexplained/wind/electricity-generation-from-wind.php.

[13] According to the US EIA, renewable energy sources (which includes biomass, hydroelectricity, solar, geothermal, and wind) accounted for 12% of total primary energy consumption by energy source, 2021. *See* U.S. EIA, *Renewable Energy Explained* (last updated June 10, 2022), eia.gov/energyexplained/renewable-sources/.

[14] The National Environmental Policy Act (NEPA) establishes a framework through which public officials and agencies can make decisions based on a complete understanding of environmental consequences and take actions that protect, restore, and enhance the environmental concerns. 42 U.S.C. §§ 4321–4347.

[15] Kimmell & Stalenhoef, *supra* note 10. *See, e.g.*, Pub. Emps. for Env't. Resp. v. Beaudreau, 25 F. Supp. 3d 67 (D.D.C. 2014).

Department of Energy (DOE) envisages a continued increase in the share of wind energy in the national energy mix. The Wind Vision details an outlook for establishing offshore wind markets and supply chains in multiple regions, including the West and East coast, the Great Lakes, and the Gulf of Mexico.[16] It is noted that the Biden administration plans to facilitate the development of 30 Gigawatts (30,000 megawatts) of offshore wind by 2030 as part of a major jobs creation, clean energy, and economic plan.[17] Similarly, several projects have been developed or are under development, in state-owned or federally owned waters, including the five-turbine Block Island Wind Farm off Rhode Island, which began commercial operations in 2016, a two-turbine pilot project off the coast of Virginia, and Vineyard Wind, on a federal lease off the coast of Massachusetts. The DOI's Bureau of Ocean Energy Management (BOEM) has also undertaken pre-leasing evaluations in the Pacific region and has solicited interest in potential offshore wind development in the Gulf of Mexico region.

The federal incentive schemes and coastal states with various renewable or clean energy targets are some of the main factors driving investments and growing commercial interests in offshore wind projects.[18] The emerging industry has benefited significantly from regulatory incentives such as the federal Production Tax Credit (PTC) and complementary state-level incentives that helped offset development costs.[19] The Taxpayer Certainty and Disaster Tax Relief Act of 2020 extended the deadline for eligible systems to qualify for

[16] Dept. of Energy, *Wind Vision: A New Era for Wind Power in the United States*, Apr. 2015, https://www.energy.gov/eere/wind/maps/wind-vision (last visited May 18, 2022).

[17] The White House, *Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs*, (Mar. 29, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/ (last visited May 18, 2022)

[18] *See* North Carolina Clean Energy Technology Center, *Database of State Incentives for Renewables & Efficiency (DSIRE) Summary Maps,* https://programs.dsireusa.org/system/program/maps (last visited May 18, 2022). It is noted that consumers, utilities, and system operators of the transmission networks within such states also comprise the wholesale energy markets that will be served by these offshore projects. *See* Hayden S. Baker, *Clean/Renewable Energy M&A Trends and Best Practices* (Mar. 26, 2018).

[19] The PTC is a per kilowatt-hour (kWh) federal tax credit included under Section 45 of the U.S. Tax Code. 26 U.S. C. § 45. It is an inflation-adjusted per-kilowatt-hour (kWh) tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year. The duration of the credit is 10 years after the date the facility is placed in service for all facilities placed in service. Electricity from wind, closed-loop biomass, and geothermal resources receives as much as 2.5 cents/kWh. The PTC is phased down (40 percent) for wind facilities and expires for all renewable energy technologies commencing construction after December 31, 2021. §13101 0f the recently enacted Inflation Reduction Act (IRA) of 2022 (Pub. L. No. 117-169, 136 Stat. 1818 (2022) extends the PTC incentives through 2024.it further provides for a base credit amount of 0.3 cents per kWh (0.5 cents per kWh in 2021, or 0.3 cents for half-credit technologies, after being adjusted for inflation). Facilities that pay prevailing wages during the construction phase and first 10 years of operation and meet registered apprenticeship requirements are eligible for a PTC that is five times the base amount, or 2.5 cents or 1.3 cents per kWh in 2021 after being adjusted for inflation. Qualifying marine and hydrokinetic renewable energy projects, which are half-credit technologies, would be allowed the full PTC. Additionally, a "bonus credit" amount would be provided for projects that meet domestic content requirements to certify that certain steel, iron, and manufactured products used in the facility were domestically produced.

PTCs. As a result, wind projects started in either 2020 or 2021 will be eligible for a PTC at 60 percent of the full rate on the electrical output for ten years.[20] Regarding offshore wind, there is a 30 percent investment tax credit provision applicable to projects that began construction from 2017 through the end of 2025.[21] At the state level, New York's Clean Energy Standard requires 100 percent carbon-free electricity by 2040 and an Offshore Wind Standard under the Climate Leadership and Community Protection Act (CLCPA) 2019, which mandates about 9,000 MW by 2035. Additionally, while the ISO-New England (ISO-NE) is projecting the retirement of six GW of coal- and oil-fired generation, a state such as Massachusetts—which is within the ISONE power market area—is now requiring utilities to procure an aggregate of 2,800 megawatts from clean energy sources, which includes 1,600 megawatts of offshore wind energy.

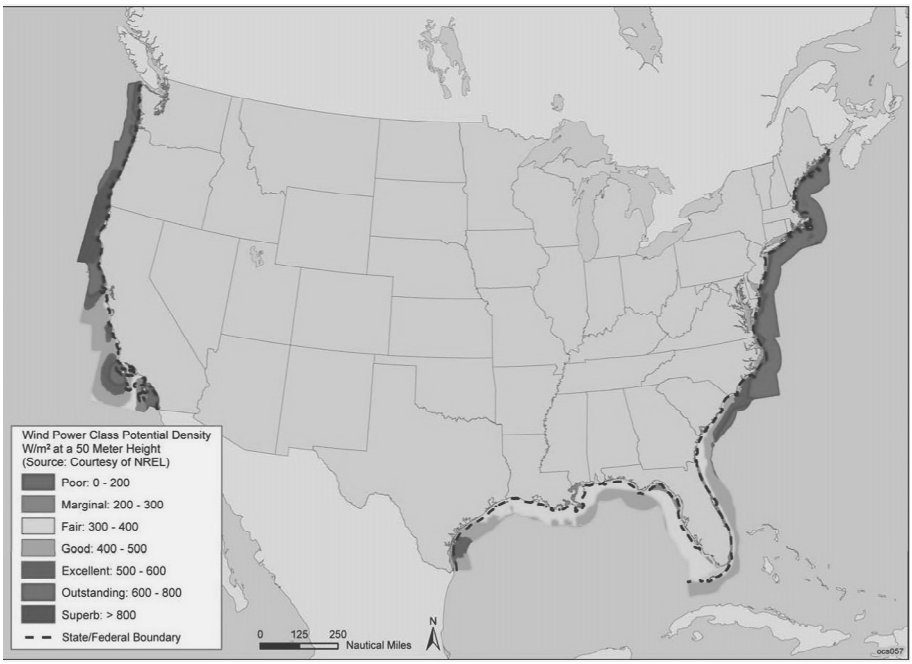

Figure 1: US Offshore Wind Energy Potential (as of 2007)[22]

In the Pacific (West) coast region, institutions in California and Oregon are also witnessing growing interests and activities regarding offshore wind de-

[20] DSIRE, *Renewable Electricity Production Tax Credit (PTC)* (last updated Sept. 9, 2022), https://programs.dsireusa.org/system/program/detail/734. Renewable energy facilities placed in service after 2008 and commencing construction before 2018 (or 2020 for wind facilities) had the option of making an irrevocable election to claim the Investment Tax Credit (ITC) in lieu of the PTC although subject to a similar phase-down framework as the PTC.

[21] 26 U.S.C. § 48.

[22] BUREAU OF OCEAN ENERGY MGMT., *Guide to the OCS Alternative Energy Final Programmatic Environmental Impact Statement (EIS)* (Oct. 2007), www.boem.gov/Renewable-Energy-Program/Regulatory-Information/Alt_Energy_FPEIS_Chapter1.aspx.

velopment.[23] California's recently released West coast roadmap for offshore wind outlines a projection for major wind energy developments in the mid-to-long term. Considering the deep nature of the OCS in the Pacific region, offshore wind energy developments would mostly have to use floating turbine technology.

A. Technological Advancements and Innovations

A typical offshore wind project's viability depends on factors such as location, water depth, and wind speed available at a particular height reachable by the wind turbines. The modern turbine will start to generate electricity at the cut-in rate, i.e., when wind speeds get six to nine miles per hour (mph), while the turbines will shut down to prevent equipment damage if the wind is blowing too strong, roughly over 55 mph.[24] The offshore turbines are often larger than onshore turbines. Thus, they can generate more power due to the spinning size and diameter. As a result, location, wind speed, and the design of the turbines are essential to harnessing wind energy at the right scale. The same intriguing elements of offshore wind systems also bring up issues regarding the potential impact on the environment, and the cost of energy supply to the grid to which a proposed project will be connected.

The range of technologies used for offshore wind turbine foundations varies depending on location and water depth features. They include: (a) the most common, mono-piles, comprising hollow steel poles up to 40m in height and used in shallow depths; (b) jacket foundations, which involve a four-sided lattice structure already common in offshore oil and gas applications; (c) gravity base foundations, which involve an enormous weight with a footprint wide enough to counteract local conditions—these are very sensitive to soil conditions at the surface and are less common; and (d) floating platforms which are typical in deep water applications. For water depths greater than 30m or at sites with softer soil compositions, a wider substructure base is needed to counteract overturning forces and to conform to turbine design requirements for stiffness. Deeper water means more structure is placed below the waterline and is a more difficult installation process logistically.

According to the American Clean Power Association (ACPA), over the course of a year, modern turbines can generate usable amounts of electricity over 90 percent of the time.[25] If the wind blowing at a turbine's location reaches the cut-in speed of six to nine mph, the turbine will start generating electricity. As wind speeds increase, so does electricity production.[26] In terms of reliability, it is reported that "wind energy only marginally increases total power sys-

[23] David Iaconangelo, *Calif. unveils largest U.S. offshore wind target,* ENERGYWIRE (May 10, 2022), www.eenews.net/articles/calif-unveils-largest-u-s-offshore-wind-target/; Michael Doyle, *Interior moves toward first wind lease sales off Calif. Coast*, ENERGYWIRE (May 26, 2022), https://www.eenews.net/articles/interior-moves-toward-first-wind-lease-sales-off-calif-coast/.

[24] *See* American Clean Power Assoc. (ACPA), *Wind Power Facts*, https://cleanpower.org/facts/wind-power/ (last visited Oct. 9, 2022).

[25] *Id.*

[26] *Id*.

tem variability, as most changes in wind energy output are canceled out by opposite changes in electricity demand or other sources of supply." Wind changes tend to be gradual and predictable, making them far less costly to accommodate system-wide while they use less expensive, slower-acting reserves.[27]

In electricity parlance, a base load system is a power generating equipment normally operated to serve load (demand) around the clock. At the same time, the capacity factor refers to the ratio of electrical energy produced by a generating unit for the time period considered vis-à-vis the electrical energy that could have been generated if the system operates at its full designed capacity during the same period. Thus, when an electric generating facility can produce up to its nameplate capacity or maximum possible output regularly, 90 percent or 40 percent of the time within a specific period (e.g., one year), such a system can be said to have a 90 percent or 40 percent capacity factor. Modern wind farms often have capacity factors greater than 40 percent, which is close to some types of conventional coal or natural gas power plants. When wind turbines are spread over large areas, their output becomes far more constant and even easier to accommodate alongside other conventional baseload and intermediate load resources such as gas-fired and nuclear power plants.[28] The ACPA also points out that "modern wind plants can provide the same grid reliability services as conventional power plants, in many cases better than conventional plants, by using their sophisticated controls and power electronics."[29] However, it is essential to point out that wind energy turbines are still regarded as providing variable baseload service to the power mix supply of the energy grid.[30]

Technical challenges related to wind facilities include the need for structures and turbines to be designed to withstand and remain resilient in the marine environment. There is a potential for corrosion because of exposure to

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[27] *Id*.

[28] Explaining how the various conventional technologies' role(s) vary due to daily and seasonal variations, the US Energy Information Administration (EIA), notes that ". . . [a]s demand varies over the day, different generators play different roles in meeting demand. Baseload capacity runs around the clock when it is not down for maintenance. Peaking capacity runs a few times a year for short periods to help electricity systems meet peak demand. Daily demand for electricity is greater during the middle of the day than at night. Intermediate capacity runs during the day and is turned down or off at night. Seasonal demand for electricity is greater in the summer and winter than in the spring and fall. Some generators run as baseload capacity most of the year but cycle on and off like intermediate capacity during the spring and fall low-demand seasons. These generators could be identified as seasonal baseload capacity . . .." *See* U.S. EIA, Electric generators' roles vary due to daily and seasonal variation in demand (June 8, 2011), www.eia.gov/todayin energy/detail.php?id=1710. While energy output from intermittent sources like wind and solar varies significantly and less predictably thus requiring energy storage investments, the high-capacity factor of offshore wind compared to other variable sources means it can also perform some 'baseload' services depending on the variabilities of factors such as wind speed and water depth location.

[29] ACPA, *supra* note 24.

[30] Offshore wind turbines are regarded as the only variable baseload power generation technology. *See Int'l Energy Agency*, *supra* note 8; Patrick de Mars et al., *Estimating the Impact of Variable Renewable Energy on Base-Load Cycling in the GB Power System*, 195 ENERGY 117041 (Mar. 2020).

seawater, thus developers must be mindful of how such factors affect the operating and maintenance costs of the facilities. The DOE's Wind Energy Technologies Office forms partnerships with industry and national laboratories to produce innovative components, controls, and integrated system designs, as well as improved modeling and analysis tools which will improve the performance and reliability and reduce the costs of offshore wind systems.[31]

III. The Regulatory State on Leasing, Sitting, and Permitting

The federal government and coastal states play key roles in permitting offshore energy projects. Their responsibilities depend on whether the project is being sited within state or federal waters. Section 388 of the Energy Policy Act of 2005 (EPAct) amended the Outer Continental Shelf Lands Act (OCSLA) to address previous uncertainties regarding offshore wind projects. Hence, the Secretary of the DOI is granted the leading role in the development of wind energy projects offshore. The DOI's function regarding offshore energy development is administered via the BOEM. Note that the seaward jurisdiction of the U.S. over the oceans begins at the point on the coastline referred to as the baseline, and it extends at least 200 nautical miles out toward the sea.[32] Under the Submerged Lands Act of 1953 (SLA), coastal states such as California, Maine, or New York have title to the lands beneath coastal waters in an area stretching, in general, three geographical miles from the shore, subject to federal regulation for "commerce, navigation, national defense, and international affairs" and the power of the federal government to preempt state law.

BOEM can designate areas and issue leases for offshore wind farms on U.S.'s Exclusive Economic Zone (EEZ). Such powers are subject to internationally recognized rights on the EEZ and high seas and the jurisdiction granted to the coastal states under the SLA. The U.S. littoral states have their respective coastal zone management plans (CZP) to coordinate the protection of habitats and resources in coastal waters under the Coastal Zone Management Act (CZMA). Any federal offshore wind project should therefore be consistent with such CZPs that are approved by the Secretary of Commerce. Offshore wind projects to be constructed within state waters, including any interconnection

[31] DOE Off. of Energy Efficiency & Renewable Energy, *Offshore Wind Research and Development*, https://www.energy.gov/eere/wind/offshore-wind-research-and-development (last visited Oct. 9, 2022).

[32] Maritime limits and boundaries for the United States are measured from the official U.S. baseline, recognized as the low-water line along the coast as marked on the National Oceanic and Atmospheric Administration (NOAA) nautical charts in accordance with the articles of the Law of the Sea. The Office of Coast Survey depicts on its nautical charts the territorial sea (12 nautical miles), contiguous zone (24nm), and Exclusive Economic Zone (EEZ) (200nm, plus maritime boundaries with adjacent/opposite countries such as Russia off the coast of Alaska). *See* Nat'l Oceanic and Atmospheric Admin. Office of Coast Survey, *U.S. Maritime Zones*, https://nauticalcharts.noaa.gov/data/docs/gis-learnaboutmaritimezones1pager.pdf (last visited Oct. 9, 2022); *see also U.N. Convention on the Law of the Sea* https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf (last visited Oct. 9, 2022).

cables that would be necessary to transmit power back to shore, are subject to all state regulations or permitting requirements.[33]

On federal waters and the Outer Continental Shelf (OCS),[34] the DOI, in consultation with other federal agencies, is empowered to grant leases, easements, or rights-of-way for wind energy development. The BOEM activities carried out as a result of such a grant are done in a manner that provides for safety, protection of the environment, conservation of the natural resources within the OCS, and prevention of interference with reasonable uses of the EEZ, the high seas, and the territorial seas, such as navigation and fishing.[35] Under the National Environmental Policy Act (NEPA), the BOEM must evaluate potential projects' social and economic impacts.[36] This role implies that the BOEM requires accurate data and reliable information from relevant agencies involved in the permitting process and project developers. There is a constant need to make appropriate decisions and assessments of potential impacts and proffer necessary risk mitigation measures. The BOEM coordinates with relevant Federal agencies such as the U.S. Coast Guard and the Fish and Wildlife Service (FWS) to be effective. Planning and coordination with these agencies are essential to avoiding conflicts among users and maximizing the OCS's economic and ecological benefits.[37]

Leases for offshore energy projects proceed under different processes depending on whether BOEM or the developer proposes an area for lease. Either way, BOEM must consult with state task forces, state and local representatives, and representatives of Indian tribes whose interests may be affected.[38] Before issuing a lease, BOEM follows a four-step process, issuing a Call for Information and Nominations, completing the Area Identification process, publishing a Proposed Sale Notice, and publishing a Final Sale Notice.[39] The commercial leasing process may be initiated by both solicited and unsolicited applications.[40] A solicited application is one in which BOEM identifies the potential development site and initiates the leasing process by publishing a notice of Request for Interest (RFI) or a Call for Information and Nominations in the Federal Register. An unsolicited application is one in which a potential developer applies for a site not otherwise considered by BOEM.

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[33] CONG. RSCH. SERV., R40175, WIND ENERGY: OFFSHORE PERMITTING (2015) https://www.everycrsreport.com/files/20150113_R40175_4a86263083ea515ffd7e0b7ed69f1f23f9a1f590.pdf.

[34] The OCS is the 1.7 billion acres of Federal submerged lands, subsoil, and seabed beginning three nautical miles off the coastline—except for Texas, western Florida, and Puerto Rico, which claim a nine nautical mile belt— and extending to the edge of the Exclusive Economic Zone (EEZ), excluding any areas within the exterior boundaries of any unit of the National Park System, National Wildlife Refuge System, or National Marine Sanctuary System, or any National Monument.

[35] The Outer Cont'l Shelf Lands Act §8(p)(4), 43 U.S.C. § 1337.

[36] 42 U.S.C. § 4321 *et seq.*

[37] 30 C.F.R. § 585.102(a)(5).

[38] 30 C.F.R. §§ 585.102(e), 585.211(a)–(d), 585.231(e).

[39] *See* BOEM, *Regulatory Roadmap*, https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines#tabs-1443 (last visited Oct. 9, 2022). This map provides guidance on the requirements for acquiring an offshore wind commercial lease on the Outer Continental Shelf (OCS), pursuant to 30 C.F.R.§ 585.

[40] *See* 30 C.F.R. §§ 585.200–234.

Upon receiving an unsolicited request, BOEM publishes an RFI to seek public comment and determine whether there is competitive interest from other developers, and then proceeds with the competitive process if there is such competitive interest. If not, it publishes a notice of Determination of No Competitive Interest and follows a separate procedure. The EPAct also provides a framework for collecting royalties, fees, and bonuses from a competitive process of granting such property rights. Development activities must be carried out to adequately address issues such as environmental impact, safety, protection of U.S. national security, and protection of the rights of others to use the OCS and its resources. This provision, in effect, calls for a process of stakeholder engagement and thorough environmental assessment, including the overarching NEPA reviews and assessments, security considerations, and navigational uses, which could also inadvertently slow down permitting processes if not properly coordinated and handled.

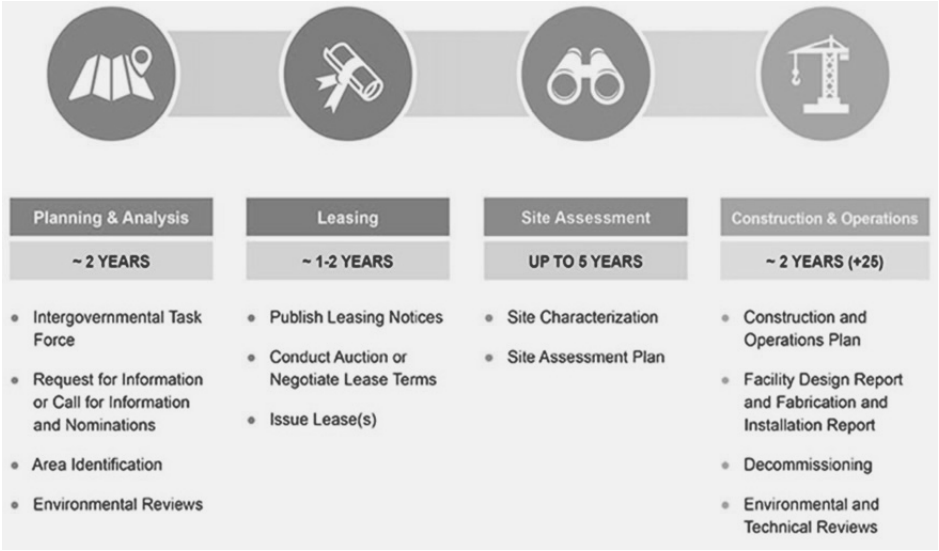

Figure 2: Regulatory Roadmap of offshore wind commercial lease on the US Outer Continental Shelf[41]

A. Facilitating Viable Offshore Wind Projects

Developing wind energy on federal waters starts with BOEM's planning and leasing of areas appropriate for offshore wind energy development. The planning process takes about two years, while the leasing process takes between one to two years. Following the grant of a lease, the next phase involves site assessment, in which the lessee submits the Site Assessment Plan (SAP) and Construction and Operations Plan (COP). The lessee typically has about five years to carry out assessments. The COP is the key document for highlighting

[41] *Overview of BOEM's Regulatory Framework*, BUREAU OF OCEAN ENERGY MGMT., https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines (last visited Oct. 9, 2022).

the details of the facility's construction, operation, maintenance, and eventual decommissioning.[42] The SAP describes how the lessee will conduct resource assessment activities, such as installing meteorological towers or buoys, and technology testing during the site assessment phase of the commercial lease. It is important to note that the SAP must be approved before the lessee can install facilities or conduct its activities. This point is important to note because the mere grant of a lease in the earlier stage does not necessarily mean the BOEM has approved the lessee's planned activities and plans to manage potential impacts on the chosen site.

The COP, on the other hand, outlines how the lessee will construct and operate a commercial wind project following the grant of a commercial lease. The COP includes a description of all planned facilities, proposed construction activities, commercial operations, and conceptual decommissioning plans. BOEM must approve the COP before the lessee can install facilities or conduct commercial activities described in the COP.[43]

The BOEM conducts its own environmental and technical reviews and solicits public comment before ultimately deciding whether to approve (with conditions) or disapprove the COP. Upon approval, the lessee typically receives a 25-year commercial lease, which may come with the possibility of renewal. Developing and transmitting the energy generated to the shore onwards to designated consumer(s) (with a PPA or the wholesale power market or transmission grid) means that the lease terms will typically include one or more easements to install cables, pipelines, and other appurtenances on the OCS Recently approved projects include (a) the construction and operation of the 800 MW Vineyard Wind project located 12 nautical miles off the coast of Martha's Vineyard, Massachusetts, which was approved in May 2021; and (b) the first federal marine hydrokinetic energy (MHK) research lease, granted for the PacWave South project, to be located about six nautical miles off Newport, Oregon. BOEM granted this lease in coordination with other agencies such as FERC in January 2021 about eight years after the initial request was submitted.

Given the highlighted steps, offshore wind developers could expect to spend at least seven to ten years in the planning and construction phases before commercial operations and the actual delivery of electrons from the installed offshore wind facilities can commence. The Cape Wind project took almost 15 years. Still, the developers ended up canceling the project after years of litigation and dealing with hurdles within the framework of the regulatory state.[44]

B. Permitting Hurdles for Offshore Wind

While larger blades and wider spinning diameters are good for economizing costs and generating energy capacity per turbine, the likelihood of having

[42] BUREAU OF OCEAN ENERGY MGMT., *A Citizen's Guide to The Bureau of Ocean Energy Management's Renewable Energy Authorization Process* Dec. 2016, https://www.boem.gov/sites/default/files/renewable-energy-program/KW-CG-Broch.pdf.

[43] *Id.* at 4.

[44] *See, e.g.,* Pub. Emp. for Env't Resp. v. Beaudreau, 25 F. Supp.3d 67 (D.D.C. 2014).

these massive structures spread over designated areas within the OCS., on the other hand, presupposes potential negative impacts worth considering before permits and approvals are granted.[45] Note that the regions within the OCS would be equally subject to other simultaneous uses such as fishing, navigation, migration and habitats of endangered species, movements of migratory birds, etc. In *Public Employees for Environmental Responsibility v. Beaudreau*,[46] a group of individuals and environmentalists brought interrelated claims which were consolidated and concerned several administrative decisions made by federal agencies approving the construction of various aspects of the Cape Wind project in Nantucket Sound, offshore Massachusetts. The Plaintiffs claimed that the agencies—including the Secretary of Interior, the BOEM, the United States Army Corps of Engineers (USACE), and U.S. Coast Guards—violated various provisions in the Administrative Procedure Act (APA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), the OCSLA, and NEPA. The District Court opined, among other things, that the Coast Guard did not engage in arbitrary and capricious decision-making when it issued a safety assessment letter that was relied upon by the BOEM. Likewise, the BOEM's reliance on the safety assessment letter in determining that the project was carried out in a manner providing for the protection of the environment and prevention of waste was appropriate. The court also found that the BOEM's incorporation of the Coast Guard's navigational safety findings into its final Environmental Impact Statement (EIS) was not a consummation of the Coast Guard's decision-making process, nor did it determine the rights or obligations of any party or result in legal consequences; rather, those findings were meant to inform BOEM of the project's impact on navigational safety in and around the project. Thus, it can be argued that the regulatory state is not set up to 'kill' or stall projects unreasonably. Rather agencies in the regulatory state have the task of implementing law and policy by ensuring they are duly informed before making decisions affecting competing interests, and by acting in a manner that is not arbitrary or capricious during the process of permitting or approving projects.

Under the APA's arbitrary and capricious standard of review, the court's role is not to second guess the agency, but rather to ascertain whether the administrative record demonstrates that the agency has considered the relevant data and articulated a satisfactory explanation for its action, and whether the agency's choice reflects a rational connection between the facts found and

[45] *See* The Endangered Species Act (ESA), which aims at conserving endangered and threatened species and their habitats. 16 U.S.C. § 1531. Section Seven of the ESA mandates that BOEM and all other Federal Agencies consult with the Secretary of Commerce and/or Interior to ensure that any "agency action" is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of an endangered or threatened species' critical habitat. Formal consultation must occur for any activity that BOEM,

NMFS, or USFWS determines may adversely affect listed species or designated critical habitat. *See also* 16 U.S.C. §§ 703–12, which "implements four international conservation treaties that the U.S. entered into" and is "intended to ensure the sustainability of populations of all protected migratory bird species." U.S. Fish & Wildlife Serv., *Migratory Bird Treaty Act of 1989*, https://www.fws.gov/law/migratory-bird-treaty-act-1918.

[46] *Beaudreau,* 25 F. Supp.3d 67.

the choice made. It is also worth noting that the District Court in *Beaudreau* opined that the BOEM did not violate OCSLA. However, it departed from its regulations and approved the COP for the project in Nantucket Sound so that the contractor could obtain financing to conduct additional surveys. The court agreeably noted that conducting those surveys after approval was consistent with the requirement that projects be carried out in a manner that duly provides for the safety and protection of the environment. Thus, it was appropriate for BOEM to allow the collection of data after approving COP, perhaps because this was the first project of its kind in the U.S. OCS, and the data had to be collected and analyzed before commencing construction or otherwise disturbing the seafloor.[47] Cape Wind submitted a COP revision in 2014, which the BOEM approved. Despite the findings and steps taken to push ahead with the project, some interest groups and stakeholders had unresolved issues and opposition. Thus, the developers and utilities National Grid and NStar terminated their PPAs tied to the project in 2015, effectively killing the project.

After considering every significant aspect of the environmental impact of the proposed action under NEPA, an agency must inform the public that it has indeed considered environmental concerns in its decision-making process. In *Public Employees for Environmental Responsibility v. Hopper*, a case about the same Cape Wind disputes and controversies, the U.S. Court of Appeals District of Columbia Circuit opined that the BOEM's EIS failed to take NEPA's required "hard look" at the geological and geophysical environment impacted by the project and thus vacated the EIS. Further, it was held that the BOEM's grant of a regulatory departure, permitting the developer to depart from the requirement to submit geological surveys with its construction plans, did not violate OCSLA as stated earlier. The Coast Guard's terms and conditions were imposed to ensure navigational safety was upheld to comply with the Maritime Transportation Act requirements. The decision of the USFWS to disregard the environmental conservation organizations' submissions about the feasibility of mitigation measures to prevent killing endangered and threatened migratory bird species by the project was held to be arbitrary and capricious in violation of ESA. Thus, the court would vacate USFWS's incidental take statement that

[47] The notable Cape Wind Project history and milestones are as follows: between 2001 and 2004, project developers (CWA) submitted an application to the Army Corps of Engineers, which assumed the lead federal regulatory role under the River and Harbors Act and issued a permit for Cape Wind to construct a meteorological tower to measure wind speeds and gather meteorological data. The Army Corps issued a draft Environmental Impact Statement (EIS) for the construction of a wind power facility. The Energy Policy Act of 2005 gave the lead Federal regulatory authority to the Department of the Interior. The former Minerals Management Service (MMS) took the lead role, and CWA, later on, applied for a commercial lease from the BOEM in 2005. A draft EIS was published on January 18, 2008, and the final EIS was published on January 21, 2009. The analysis determined that impacts are expected to be mostly negligible to minor. Overall, the project is not expected to have a negative impact on the biological, physical, or human environments, although there will be adverse effects to historic and cultural properties. The Nantucket Sound was later named as eligible for listing as a traditional cultural property and an historic and archaeological property. Consequently, the BOEM issued a revised Documentation of Section 106 Finding of Adverse Effect in 2010. Nevertheless, the DOI approved the project and CWA signed the first commercial offshore renewable energy lease in the US in 2010. The COP was later approved with conditions while the Avian and Bat Monitoring Plan (ABMP) was also approved by the BOEM after receiving concurrence from the U.S Fish and Wildlife Service, on November 20, 2012.

that project would not jeopardize the continued existence of any threatened or endangered species.

In *Fisheries Survival Fund v. Jewell*,[48] the Plaintiffs, including the Fisheries Survival Fund, brought an action at the District Court in D.C., claiming that the BOEM violated NEPA, the OCSLA, and the APA for issuing a lease to the Defendant-Intervenor Statoil (now known as "Equinor") for the development of an offshore wind project off the coast of New York. In denying Plaintiff's motion(s) for preliminary injunction, etc., the court reiterated that the "…OCSLA authorizes BOEM to issue leases, easements, or rights-of-way for offshore renewable energy projects."[49] In exercising this authority, BOEM is required to consult with the U.S. Coast Guard and other relevant federal agencies and must consider several factors that include, among other things, safety, protection of the environment, prevention of waste, conservation of natural resources, national security interests, and—critically—"'the location of . . . a lease . . . for an area of the outer Continental Shelf' and 'any other use of the sea or seabed, including use for a fishery, a sea lane, a potential site of a deepwater port, or navigation. . . .'"[50] In addition, the district court noted that BOEM follows a thorough four step process before issuing a lease. Once the lease is issued, the lessee must submit an SAP for review before any assessment activity occurs. Even after completing a site assessment, a lessee may not begin construction until it has been submitted and BOEM has approved a COP. In the assessment process, the BOEM analyzes the potential environmental impacts of the plans. Consequently, the lease is issued following a revised E.A., which found no significant impact on commercial wind lease issuance and related activities within the designated area.[51]

Generally, the BOEM's framework for permitting offshore wind is set up to address the issue of mitigating environmental impacts early in the planning process by conducting site identification through public stakeholder meetings.[52] In this regard, it is important to identify and assess areas that may have significant implications for the environment, including marine mammals. If the lessee eventually goes ahead to submit a COP for approval to commence construction, then the BOEM would conduct a separate site and project-specific NEPA analysis, and likely an EIS, and would provide additional opportunities for public involvement in the process. Thus, the issuance of an offshore wind

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[48] Fisheries Survival Fund v. Jewell, No. 16-CV-2409 (TSC), 2018 WL 4705795, (D.D.C. Sept. 30, 2018), *aff'd sub nom.* Fisheries Survival Fund v. Haaland, 858 F. App'x 371 (D.C. Cir. 2021), *aff'd sub nom*, Fisheries Survival Fund v. Haaland, 858 F. App'x 371 (D.C. Cir. 2021).

[49] 43 U.S.C. § 1337(p)(1)(C).

[50] Fisheries Survival Fund, 858 F. App'x at *3.

[51] *Id*. at *10; *see also* 81 Fed. Reg. 75, 438 (Oct. 31, 2016) ("The finding of no significant impact concluded that "the reasonably foreseeable environmental impacts . . . would not significantly impact the quality of the human environment," and "therefore, the preparation of an environmental impact statement [was] not required.").

[52] Following an initial Call for Information and Nominations stage, project developers and other stakeholders—such as state and tribal governments, natural resource agencies, and other ocean users—may provide comments that may help the BOEM determine the most wind energy areas that appear "most suitable" for leasing considering the concerns and issues raised by such stakeholders. See Comay & Clark, *supra* note 6, at 6.

lease is not a final determination of rights and interests, nor does it amount to closure in obtaining and incorporating the concerns of other stakeholders that the project may impact. Given the necessity of conducting multiple assessments of the same knotty issues that may lead to more protracted controversies amongst various stakeholders during the lengthy project approval process, it may be helpful to consider the opportunities to introduce some standardization and process streamlining and ask the question: at what stage of the process is best to have a full EIS? The idea of incorporating early or Regional Programmatic Environmental Impact Statements (PEIS) highlighted further in Part V below has been under consideration for several years.[53]

In *Fisheries Survival Fund v. Haaland*,[54] the D.C. Circuit Court of Appeals heard an appeal to the decision in *Fisheries Survival Fund v. Jewell* discussed above and affirmed the ruling of the district court. Consequently, it was held that the BOEM does not need to conduct full NEPA environmental reviews when granting an offshore wind energy lease. The appellants comprised organizations of fishermen and seaside municipalities who challenged BOEM's decision to issue the lease. The D.C. Circuit held that "[A]n agency's NEPA obligations mature only once it reaches a critical stage of a decision which will result in irreversible and irretrievable commitments of resources to an action that will affect the environment."[55] Generally, the issuance of an energy lease triggers NEPA unless the lease reserves the authority to "(i) preclude all activities pending submission of site-specific proposals and (ii) prevent proposed activities if the environmental consequences are unacceptable."[56]

The grant of the lease to Equinor in the *Fisheries Survival Fund* case was held to satisfy both requirements for two main reasons. First, the lease does not, by itself, authorize any activity within the leased area. Instead, it grants Equinor (i.e., the lessee) the exclusive right and privilege to (a) submit a SAP and COP for the project identified in the lease covering the designated area, and (b) conduct activities to be detailed in the SAP and COP that will be submitted for approval to the BOEM. Second, and as rightly opined, it is still up to the BOEM to approve the SAP or COP in following the applicable regulations in 30 C.F.R. Part 585.[57] Thus, BOEM could eventually disapprove the SAP or COP to the extent that its proposed project development activities are unacceptable from an environmental perspective or if such activities conflict with one or more of the requirements outlined in the OCSLA or applicable regulations.[58]

From a legal standpoint, the cases mentioned above exemplify the various stages of approving an offshore wind energy project and the role of the regulatory state in implementing government policy and applying laid-down rules of

[53] Bureau of Ocean Energy Mgmt., *supra* note 22.

[54] Fisheries Survival Fund, 858 F. App'x 371 (D.C. Cir. 2021).

[55] *Id.* at 372.

[56] Sierra Club v. Peterson, 717 F.2d 1409, 1415 (D.C. Cir. 1983).

[57] See Comay & Clark, *supra* note 6, at 6 – 8.

[58] *Id.* The lease reserves both the authority to preclude all activities pending submission of site-specific proposals (i.e., a SAP or COP) and the authority to prevent proposed activities by rejecting the SAP or COP if the environmental consequences are unacceptable. Accordingly, the lease did not trigger the Bureau's NEPA obligations.

law while addressing environmental concerns and conflicting interests. While such concerns are legitimate, there are thoughtful and efficient avenues for regulators and developers to address them that avoid unnecessary delays to project timelines.[59] BOEM solicits public comments, convenes Intergovernmental Renewable Energy Task Forces (Task Forces) with interested states, and holds public meetings throughout the offshore wind development. There are also various avenues for public engagement and stakeholder comments during the Environmental Assessment and NEPA review processes. In particular, the *Fisheries Survival Fund* decision expounds on the issue of whether a mere lease sale may trigger extensive environmental review under NEPA—potentially streamlining the initial lease acquisition process—which also requires the investment of significant funds before developers have cleared the environmental review process.[60] Some of the issues discussed above came up recently in the case of *Allco Renewable Energy Ltd. v. Haaland,*[61] in which a solar farm developer is seeking an order vacating the federal regulatory approvals granted to the Vineyard Wind Project. The claimant argues that the authorizations violate federal environmental laws and threaten solar energy producers' economic interests. The case was however dismissed on June 30, 2022, without prejudice to the solar developer's claims because the developer had not provided the requisite notice prior to filing the claims.

Over the past decade, there have been several decisions regarding the role of regulatory agencies in assessing and permitting onshore wind projects, perhaps because there have been more onshore than offshore projects. In *Protect Our Communities Foundation v. Jewell*,[62] some interested organizations brought an action against the DOI's Bureau of Land Management (BLM) and various officials of the DOI alleging that the proposed onshore wind energy project, for which BLM granted right-of-way on federal lands, would harm birds in violation of the MBTA and the Bald and Golden Eagle Protection Act (BGPA), and challenging the adequacy of the BLM's EIS for the project under the NEPA. Following an appeal against the judgment of the District Court, it was held that: (a) the NEPA EIS's statement of purpose and need was adequately broad and adequately examined viable alternatives; (b) mitigation measures outlined in the EIS were sufficiently detailed; (c) the EIS took requisite "hard look" at the impact of the project; (d) BLM was not liable under the MBTA and the BGPA. The court opined that an agency acts in an "arbitrary and capricious" manner under the APA when it relies on factors that Congress has not intended it to consider, entirely fails to consider an important aspect of the problem, explains its deci-

[59] American Clean Power Assoc. and the Univ. of Delaware's Special Initiative on Offshore Wind, *Offshore Wind Public Participation Guide* (Jan. 2020), https://cleanpower.org/wp-content/uploads/2021/02/Final_ACP-Engagement-Process-1.pdf.

[60] Timothy Hobbs et al., *D.C. Circuit Affirms that Offshore Wind Lease Does Not Trigger NEPA Review,* NAT'L LAW REVIEW (June 3, 2021) https://www.natlawreview.com/article/dc-circuit-affirms-offshore-wind-lease-does-not-trigger-nepa-review.

[61] Allco Renewable Energy Ltd. v. Haaland, No. 1:21-cv-11171-IT, 2022 U.S. Dist. LEXIS 115687, at *2 (D. Mass. June 30, 2022). See. The Sabin Center for Climate Change Law's U.S. Litigation Chart at http://climatecasechart.com/case/allco-renewable-energy-ltd-v-haaland/ (last visited Oct. 21, 2022) for future updates on this case.

[62] Protect Our Communities Found. v. Jewell, 825 F.3d 571 (9th Cir. 2016).

sion that runs counter to the evidence before the agency, or is so implausible that it cannot be ascribed to a difference in view or the product of agency expertise.[63] NEPA outlines a series of procedural steps, but it does not impose any specific substantive result on an agency; rather, compliance with NEPA involves the application of a rule of reason, which involves a pragmatic judgment whether the EIS's form, content and preparation enhances both informed decision-making and informed public participation.[64]

C. Recent Offshore Projects and Recurring Issues

Despite the controversies and hurdles that eventually led to the mothballing of the Cape Wind Project, some recent developments and projects continue to emerge, especially on the east coast of the OCS. In 2017 and 2018, Massachusetts utilities and the Massachusetts Department of Energy Resources (DOER) conducted a solicitation process for long-term contracts for up to 800 MW of offshore wind proposals, which led to the selection of the Vineyard Wind project.[65] Vineyard Wind executed PPAs with the three Massachusetts utilities. The PPAs were approved on April 16, 2019 by the Massachusetts Department of Public Utilities (DPU) and formed a critical piece in the commercial and regulatory framework of delivering electrons from the turbines. Signaling growing interests in the east coast area, the DOI conducted a lease sale for 390,000 acres offshore in Massachusetts in December 2018. Separately, Massachusetts is also working with Rhode Island to develop a 1,200 MW offshore wind capacity for the region. Massachusetts' contribution is the 800-MW Vineyard Wind project. Rhode Island's project is Deepwater Wind's 400-MW Revolution Wind. The first commercial-scale offshore wind project in the U.S., the 30 MW Block Island Wind Farm, is located in the waters of Rhode Island and was commissioned in 2016 after several years of planning and regulatory hurdles. Although the wind farm is within state waters, the transmission line from the turbines to the shore crosses BOEM's Outer Continental Shelf (OCS) lands and therefore requires federal approval of a right-of-way (ROW) grant.

Maryland's Offshore Wind Energy Act of 2013 aims to incentivize project development by making provisions for Offshore Wind Renewable Energy Credits (ORECs). Like New York, New Jersey aims to deploy 3,500 MW of offshore wind energy projects by 2030. In June 2019, Ocean Wind was selected as New Jersey's initial offshore wind project. Significant developments and proposals are being considered in other states such as New York, Virginia, and Connecticut.[66] Some of the most pressing issues and objections to these projects in-

[63] *Id.*

[64] National Environmental Policy Act of 1969, 42 U.S.C. § 4332. NEPA favors coherent and comprehensive up-front environmental analysis to ensure that the agency will not act on incomplete information, only to regret its decision after it is too late to correct. 42 U.S.C. § 4332(2)(C).

[65] The BOEM approved Vineyard Wind's environmental permit in May 2021, thus becoming the first offshore wind developer to complete BOEM's environmental review process. There are 14 other developers with active leases along the Eastern Seaboard trying to receive permits. Heather Richards, *Vineyard Wind gets major victory but faces new troubles*, ENERGYWIRE (May 12, 2021), https://www.eenews.net/articles/vineyard-wind-gets-major-victory-but-faces-new-troubles/.

[66] *Id.*

clude the potential impact on the interests of the coastal and fishing communities, especially the loss of revenue to commercial fishermen due to perceived risks of significant interruptions. They are also concerned that residential customers served by interconnected markets may eventually have to pay much higher prices for electricity than they do now.[67]

On the issue of whether offshore wind turbines can co-exist with commercial fishing and marine species, the ACPA opines that there are limited impacts to marine ecosystems or seafood supply from offshore wind. Although offshore wind lease areas encompass hundreds of square kilometers, wind turbine structures occupy only a small portion of that area.[68] With turbine spacing and layouts coordinated with the BOEM and the U.S. Coast Guard, leasing areas can continue to be used for many of the same purposes for which they were originally used, such as commercial and recreational fishing, recreational boating, and tourism-related trips.[69] On the question of whether vessels will be able to transit through wind farms, the ACPA notes that neither BOEM nor the Coast Guard will prohibit vessels, including commercial fishing vessels, from transiting through (or fishing within) lease areas.[70]

As a part of the BOEM permitting process, developers have to submit a navigation safety risk assessment (NSRA) as a part of their COP. The Coast Guard and BOEM carefully review these to ensure compatibility with safe navigation.

D. Planning Interconnections with Wholesale Markets and Grid

As mentioned above, states like New York and California, along with the current Federal Government administration, have established significant wind energy capacity and policy targets.[71] Developing the projects is not only about the timeliness of completion or effectively assessing and mitigating impacts on the environment and conflicting uses; rather, it is equally important to ensure such large amounts of additional electricity capacity can be safely and reliably transmitted in real-time. In other words, a project developer would ordinarily need to factor in onshore physical interconnection and transmission infrastructure and technical planning with relevant Regional Transmission Op-

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[67] Ørsted said the first New Jersey project would raise the average residential customer's bill by $1.46 a month. The state says its second project would add another $1.28 to residential bills. Atlantic Shores Offshore Wind's project would add $2.21 a month to residential bills. Wayne Parry, *They're Not blown away by N.J.'s offshore wind power plans,* ASSOC. PRESS (July 17, 2021), https://whyy.org/articles/theyre-not-blown-away-by-n-j-s-offshore-wind-power-plans/.

[68] ACPA, *supra* note 24.

[69] *Id.*

[70] *Id.*

[71] U.S. DEP'T OF ENERGY, Offshore Wind Market Report: 2022 Edition, (Doe/Go-102022-5765, Aug. 2022) vi, 34, https://www.energy.gov/sites/default/files/2022-09/offshore-wind-market-report-2022-v2.pdf. States policies aim to procure at least 39,322 MW of offshore wind energy capacity by 2040. The U.S. offshore wind energy market is largely driven by state-level offshore wind energy procurement activities and policies. See also, ACPA, *Offshore wind power facts*, *https://cleanpower.org/facts/offshore-wind/* (last visited May 15, 2022).

erators (RTOs) and Independent System Operators (ISOs).[72] The NYISO, for instance, is already a very loaded transmission network with physical interconnections to the NE-ISO network. Grid operators also often have congestion and network balancing considerations.

The interconnections and entry of energy from offshore wind projects into the networks of the wholesale power markets would be subject to Federal Energy Regulatory Commission (FERC) jurisdiction.[73] Acting under the regulatory jurisdiction of the FERC, the RTOs and ISOs manage the various wholesale power transmission networks.[74] RTOs/ISOs are also responsible for planning the expansion and enhancement of the transmission system, including increases due to planned capacity addition from future offshore wind systems. Through procedures established under the Open Access Transmission Tariff (OATT), the RTOs/ISOs identify the necessary upgrades required to accommodate the interconnection of the new generation to the transmission system. Reliability, economic, and public policy issues are significant in the planning and interconnection process. As new offshore projects are being reviewed and planned, due consideration must be given to necessary investments in interconnection and transmission networks.[75]

Local and state-level utility commissions also need to be aware of such plans and future investment needs in the medium to long term. For instance, following the recent decision of the Virginia State Corporation Commission to require a performance guarantee from Dominion Energy pertaining to its planned 2.6 GW offshore wind farm, the energy utility recently announced that such a requirement will make the project commercially untenable.[76] According to Dominion, the performance guarantee requirement means that its retail customers must be held harmless by the utility for any shortfall in energy production below the project's expected 42 percent average annual capacity factor, measured on a three-year rolling average.[77] Thus, apart from the FERC's role at the wholesale market level, state utility commissions responsible for managing and regulating power distribution systems and retail on behalf of local end-users would also need to take cognizance of the changing power generation and supply dynamics.

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[72] U.S. DEP'T OF ENERGY, Offshore Wind Market Report: 2022 Edition, *supra* note 71, at 30, 47 reports that the New York's ISO can integrate nine GW of offshore wind energy if it expands Long Island bulk transmission and upgrades transmission in New York City, while the ISO-New England could support the integration of about 5.8 GW of offshore wind energy if it makes minimal onshore transmission upgrades, but capacities beyond 5.8 GW will require substantial upgrades. The California's Public Utilities Commission recently directed the California ISO to analyze the transmission requirements for an 8,000-MW and 21,000-MW offshore wind scenario.

[73] U.S. DEP'T OF ENERGY, UNITED STATES ELECTRICITY INDUSTRY PRIMER 25 (July 2015), https://www.energy.gov/sites/default/files/2015/12/f28/united-states-electricity-industry-primer.pdf.

[74] *Id.*

[75] *Id.*

[76] *See* Ethan Howland, *Dominion threatens to abandon 2.6-GW offshore wind farm over performance guarantee*, UTILITY DIVE (Aug. 25, 2022), https://www.utilitydive.com/news/dominion-offshore-wind-performance-standard/630397/.

[77] *Id.*

FERC Order No. 2003 provides for standardization of generator interconnection agreements and procedures applicable to facilities with a capacity of 20 MW or more.[78] FERC Order No. 2006 provides pro forma interconnection procedures and a standard interconnection agreement for facilities with a generating capacity of 20 MW or less.[79] The interconnection costs, controversies, and timing are essential to project goals and system planning. Regardless of political dispositions or policy-level support and interests, institutions such as FERC and the relevant grid and network operator—for example, CAISO in California, NYISO for New York, or PJM for Virginia—will have to be involved in the actual delivery of the clean wind electrons.

In 2021, New York's Public Service Commission (PSC) declared that offshore wind goals are driving additional investments in transmission facilities to deliver that renewable power to Long Island and from Long Island to the rest of New York State.[80] The NYISO noted:

> Offshore wind presents transmission challenges for New York; specifically, how to reliably integrate all that power from up to 30 miles out in the Atlantic Ocean onto the statewide grid? As offshore wind projects continue to be developed, we expect project owners to build supply lines underwater to several spots in New York City and Long Island, close to the shore, where major transmission lines and substations exist. Our role will be studying the interconnection of those underwater cables to existing transmission infrastructure on land and planning the future grid to operate with additional energy from those new resources.[81]

It is noted that these transmission interconnection projects are not the subject of the PSC's declared transmission investment need. Rather, the PSC is focused on expanding the system's capability to move power (including all the energy from new offshore resources) onto Long Island and to the rest of the state.

E. Addressing Tradeoffs in the Emerging Wind Energy Sector

While the *ex-ante* costs and impacts may be fairly substantial, the promise of *ex post* utility-scale clean energy to be supplied to the respective markets in the medium to long-term is perhaps a considerable trade-off. Assuming that all stakeholders in the emerging market are primarily motivated by their self-interests when making claims or seeking to oppose or support the approval and completion of a project(s), it would be necessary for the regulatory state to actively identify and address misperception of risks, unwarranted aversion to risk and losses, and incomplete information issues that may lead to counterproductive policy outcomes. For instance, in the *Allco Case,* a solar energy company is claiming that the development of a Wind Project such as Vineyard

[78] Standardization of Generator Interconnection Agreements and Procedures, Order No. 2003, 104 FERC ¶ 61,103 (2003) (codified at 18 C.F.R. §. 35).

[79] Standardization of Small Generator Interconnection Agreements and Procedures, Order No. 2006 (2005) (codified at 18 C.F.R. § 35).

[80] *Offshore Wind and the Role of New Transmission,* N.Y. INDEP. SYS. OPERATOR (June 17, 2021), https://www.nyiso.com/-/offshore-wind-and-the-role-of-new-transmission.

[81] *Id.*

will affect the economics of its solar ventures.[82] In the *Beaudreau Case*, the need to obtain financing and fill an informational gap meant that the lessees were permitted to conduct further geophysical surveys to gain more information and knowledge about the project site after the COP was approved.[83]

Regulatory institutions and agencies of the state are often set up to reflect prevailing legal wisdom about fair and effective processes and when industrial developments require effective and pragmatic oversight.[84] Rushing through permitting processes could have harmful impacts on legitimate rights and interests. At the same time, failure to complete projects at the right time and scale also has significant implications for the commercial interests of developers and energy policy goals of supplying reliable and cleaner energy to the grid in the mid-to long-term. As pointed out earlier, relevant institutions within the regulatory state have a role in ensuring a more informed decision-making framework and robust assessment of issues raised by the stakeholders vis-à-vis project developers. Gathering complete information and thorough engagement with the policy options relating to energy systems would foster rationality, reduce bias, and create more effective decision-making processes for approvals and development of the clean and reliable energy market that policymakers and stakeholders seek. For example, understanding that the capacity factor of offshore wind is generally higher than other variable resources like onshore wind and solar PV and could serve as a variable baseload resource to the future net-zero energy supply mix.

IV. Reconciling Differences and Conflicting Interests

The BOEM is "responsible for managing the development of the nation's offshore resources"—including both oil and gas, as well as renewable resources—"in an environmentally and economically responsible way."[85] The Secretary delegated authority to BOEM to regulate activities that produce or support the production, transportation, or transmission of energy sources, including resource evaluation, planning, leasing, environmental science, and environmental analysis.[86] The BOEM's authority over renewable energy developments in the OCS hinges on the provisions of OCSLA as amended by the EPAct.[87] To facilitate this interagency coordination and stakeholder engagement efforts, the BOEM establishes Intergovernmental Renewable Energy Task Forces (Task Forces).[88] These Task Forces are based in states and regions

[82] For the latest developments in this case, *see* The Sabin Center for Climate Change Law's U.S. Litigation Chart at http://climatecasechart.com/case/allco-renewable-energy-ltd-v-haaland/ (last visited Oct 21, 2022).

[83] Pub. Emps. for Env't. Resp. v. Beaudreau, 25 F. Supp. 3d 67 (D.D.C. 2014).

[84] Cohen, *supra* note 3, at 370.

[85] See subsection eight of the Outer Continental Shelf Lands Act (OCS Lands Act) (43 U.S.C. § 1337), as set forth in section 388(a) of the Energy Policy Act of 2005 (EPAct) (Pub. L. 109-58) and amended by the Reorganization of Title 30: Bureaus of Safety and Environmental Enforcement and Ocean Energy Mgmt., 76 Fed. Reg. 64431 (Oct. 18, 2011) (codified at 30 C.F.R. § 585.100).

[86] *Id.*

[87] *Id.*

[88] BUREAU OF OCEAN ENERGY MGMT., *supra* note 42, at 15.

where the Governor(s) have initially contacted BOEM with an expressed interest in developing offshore renewable energy projects.[89] Notably, the Task Force plays a crucial role during the planning and analysis phase by facilitating intergovernmental communications, gathering preliminary data, researching specific issues, and providing BOEM feedback from stakeholder groups. The Task Force also helps to ensure that the information needs, multiple-use concerns, and associated solutions are identified early in the leasing process.

Currently, there are thirteen state Task Forces—Maine, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Florida, Oregon, Hawaii, and California—and three regional/multi-state Task Forces—Gulf of Maine, Gulf of Mexico, and New York Bight.[90] The composition of a typical Task Force would generally include local governmental entities such as county board members and city council members; tribal entities; state entities such as legislative commissions, state agencies, the Governor's office, and the State Historic Preservation Office; and federal entities such as the National Park Service, Bonneville Power Administration, Bureau of Indian Affairs, Department of Defense, NOAA, U.S. Coast Guard, DOE, DOI, and the U.S. Geological Survey.[91] Thus, one could conclude that the Task Force's composition is designed to ensure a wide range of representation from relevant stakeholders. Such a broad representation creates a forum for providing insights on relevant issues such as equity and inclusion, ecological impacts, energy, national defense, trade and commerce, and other issues.

The BOEM generally recognizes the unique legal relationship of the United States with tribal governments. In states with indigenous groups and where such communities have coastal interests, an essential part of the Task Force will involve engaging with tribal entities.[92] Tribal and Alaska Native Claims Settlement Act (ANCSA) Corporation consultations are typically required for actions with tribal implications. Such actions are defined as "[a]ny Departmental regulation, rulemaking, policy, guidance, legislative proposal, grant funding formula changes, or operational activity that may have substantial direct effect on an [Indian Tribe or ANCSA corporation]."[93]

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[89] Energy and Policy Act of 2005, 43 U.S.C. § 1337(p)(7) ("The Secretary shall provide for coordination and consultation with the Governor of any State or the executive of any local government that may be affected by a lease, easement, or right-of-way under this subsection.").

[90] Bureau of Ocean Energy Mgmt., *State Activities*, https://www.boem.gov/renewable-energy/state-activities (last visited Oct. 12, 2021).

[91] BUREAU OF OCEAN ENERGY MGMT., *supra* note 42, at 15. For a more extensive list, *see* BUREAU OF OCEAN ENERGY MGMT., BOEM OREGON INTERGOVERNMENTAL RENEWABLE ENERGY TASK FORCE (May 2020), https://www.boem.gov/renewable-energy/state-activities/boem-oregon-intergovernmental-renewable-energy-task-force; BUREAU OF OCEAN ENERGY MGMT., GULF OF MAIN INTERGOVERNMENTAL RENEWABLE ENERGY TASK FORCE ROSTER (May 2020), https://www.boem.gov/sites/default/. files/documents/renewable-energy/stateactivities/Gulf%20of%20Maine% 20Task%20Force%20Roster.pdf

[92] Memorandum from William Brown, Chief Exec. Officer, BOEM, on BOEM Tribal Consultation Guidance § 3 (June 29, 2018) https://www.boem.gov/sites/default/files/about-boem/Public-Engagement/Tribal-Communities/BOEM-Tribal-Consultation-Guidance-with-Memo.pdf.

[93] *Id.* at § 5(C). "Tribe" is defined as "[a]ny American Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994. *Id.* at § 5(A). "ANCSA Corporations" are defined as "[a]ny Alaska Native village corporation, urban corporation,

A. The Task Force and BOEM

As pointed out earlier, the four distinct phases of BOEM project authorization are (1) planning and analysis, (2) issuance of a lease or grant, (3) site assessment, and (4) construction operations.[94] The authorization process begins with a call for information and nominations (the call). In this regard, the Task Force will help BOEM identify the initial "call area." This is the area initially proposed or considered by BOEM for a potential lease. BOEM will initiate the call and invite formal public comments about the specific call area, uses and concerns, and nominations of interest for development in this area.[95] Draft call areas will be presented and discussed by the Task Force before publication in the *Federal Register*. After the call has been published and public comments received, BOEM identifies Wind Energy Areas (WEAs) using the gathered feedback and information from the Task Force.[96] WEAs are areas within the OCS most suitable for commercial wind energy activities while presenting the fewest apparent environmental and user conflicts. This subset of the initial call area identified by BOEM will undergo environmental review, site characterization, and site assessment.[97]

A "lease area" is an area BOEM would offer for lease during an "issuance of a lease or grant." WEAs form the basis for BOEM's "lease area" and are typically areas where there is the least amount of conflict that will support an offshore wind project.[98] These areas may be further narrowed by the WEAs following environmental review. This marks the end of phase one in the BOEM project authorization process. For example, about five new WEAs were created by the BOEM in the New York Bight with a total capacity of 9,800 MW.[99] At the same time, about 15 projects in the U.S. offshore pipeline have reached the permitting phase, and eight states have set offshore wind energy procurement goals for a total of 39,298 MW by 2040.[100]

B. The Task Force in Oregon

Following the growing commercial and political interests in energy resources in the Pacific region, Oregon requested that a state-federal task force be established to address the potential for developing renewable energy off-

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or regional corporation as defined in, or established pursuant to, the Alaska Native Claims Settlement Act." *Id.* at § 5(B).

[94] BUREAU OF OCEAN ENERGY MGMT., *supra* note 42, at 6 – 9.

[95] COMAY & CLARK,, *supra* note 6, at 6 – 7.

[96] *Id.*

[97] *Id.*

[98] *Id.*

[99] *Id.*

[100] U.S. DEP'T OF ENERGY, THE OFFSHORE WIND MARKET REPORT: 2021 EDITION 7 (2021), https://www.energy.gov/sites/default/files/2021-08/Offshore%20Wind%20Market%20Report%202021%20Edition_Final.pdf. This report issued by the DOE's Wind Energy Technologies Office is intended to provide offshore wind policymakers, regulators, developers, researchers, engineers, financiers, supply chain participants, and other stakeholders with up-to-date quantitative information about the offshore wind market, technology, and cost trends in the United States and worldwide.

shore Oregon in 2010.[101] The Oregon Department of Land Conservation and Development (DLCD) Coastal Management Program (OCMP) was designated as the State agency charged with coordination with BOEM for offshore wind development efforts.[102] In 2011, Oregon's BOEM Intergovernmental Renewable Energy Task Force (OR Task Force) was established.[103] Consequently, the BOEM and DLCD developed the Data Gathering and Engagement Plan (DGEP) for Offshore Wind Energy in Oregon as a proactive offshore wind planning approach in response to growing interest in the wind energy sector.[104] The DGEP serves as the guiding document for offshore wind development in Oregon. The first phase in the DGEP is a year-long data gathering and engagement effort to inform BOEM's lease area authorization process.[105]

During the data gathering and engagement process,[106] various stakeholder groups reportedly expressed concerns about the potential loss of commercial and recreational fishing grounds and requested siting offshore wind energy projects in areas already closed off to or used less by the fishing industry.[107] Some stakeholders also raised concerns related to breeding habitats for seabirds and pelagic birds, impacts on marine species' habitat and migration, and how effects on wildlife might affect the fishing industry. Lastly, stakeholders showed interest in how offshore wind would impact Oregon's energy portfolio.[108] However, this interest was coupled with concern over how offshore wind might affect tax and electricity rates and other areas of the economy, such as job displacement in the fishing industry relative to new jobs in the energy industry.[109]

In addition to BOEM and DLCD's data gathering and engagement efforts, other members of the OR Task Force have engaged in research relevant to BOEM siting determinations that have, in turn, been shared with the OR Task Force. Cross-pollination of ideas is one valuable role that BOEM Task Forces play. The Task Force acts as a forum for sharing information and a platform for shopping for input and gathering new resources and information.

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[101] BUREAU OF OCEAN ENERGY MGMT., DRAFT DATA GATHERING AND ENGAGEMENT SUMMARY REPORT OREGON OFFSHORE WIND ENERGY PLANNING 8 (OCT. 2021) - 9.

[102] *Id.*

[103] *Id.*

[104] *Id.* at 72.

[105] Throughout the year-long data gathering and engagement process, BOEM and DLCD held sixty meetings and engaged with over 1,200 participants, including individuals who represented research organizations, tribes, coastal communities, ocean users, elected officials, environmental organizations, agency officials, and the general public. The BOEM served as the lead agency for tribal engagement because of the agency's trust responsibility to federally recognized tribes. BUREAU OF OCEAN ENERGY MGMT., *Overview of Oregon Offshore Wind Energy Planning and Engagement Activities*, (Oct. 21, 2021), https://www.boem.gov/renewable-energy/state-activities/overview-oregon- offshore-wind-energy-planning-and-engagement (last visited Mar. 12, 2022).

[106] Data and Engagement Report, *supra* note 79, at 29.

[107] These concerns are like sentiments expressed recently by the fishing industry in North Carolina on the east coast. David Larson, *Offshore wind turbines interfere with ships' radar, ability to navigate, study finds*, CAROLINA JOURNAL (Mar. 9, 2022), https://www.carolinajournal.com/offshore-wind-turbines-interfere-with-ships-radar-ability-to-navigate-study-finds/.

[108] Data and Engagement Report, *supra* note 79, at 30–31.

[109] *Id.* at 29.

C. Offshore Wind Energy Studies

The National Renewable Energy Lab (NREL), under the DOE, has engaged in several activities on the Pacific Coast regarding the development of floating offshore wind technologies, including costs and feasibility studies offshore Oregon.[110] These studies looked at reference sites to analyze the Levelized Cost of Energy (LCOE) for floating offshore wind and the grid impact of Oregon wind energy from offshore Oregon.[111]

The U.S. Coast Guard has conducted a Pacific Coast Port Access Route Study under its authority through the Ports and Waterways Safety Act (PWSA) (P.L. 95-474; 33 U.S.C. 1223). The Port Access Route Study is required before establishing or adjusting new fairways and traffic separation schemes. The study aims to ensure maritime safety by blocking areas for development that would create obstructions to navigation.[112] The study utilizes data on vessel incidents, environmental factors, economic factors, public comments, commercial and government waterway development, and fisheries to make suitability recommendations that the Task Force will consider.[113] In turn, the Coast Guard relies on the Task Force to provide additional, relevant information to be considered in the study.

BOEM is also engaged in a Pacific Avian Study, studying migration patterns, mating patterns, and species diversity on the OCS.[114] The study aims to identify the impacts of offshore wind development on onshore, nearshore, and aquatic birds.[115] The study area encompasses habitat for four Endangered Species Act species and 66 species with some special status on the Pacific OCS and coast.[116] Hazards identified by the study include: collision with wind turbines' avoidance, meaning displacement from feeding grounds and movement barriers for migration and feeding; and attraction, such as prey base and habitat alteration/completion, light attraction/disorientation, and perching for predators.[117] The study performs both broad-scale assessments (landscape level) and site-specific assessments with the goals of identifying baseline conditions, detecting changes associated with anthropogenic effects, evaluating the impact of past policies and management activities, and designing and

[110] *See generally* NREL, OREGON OFFSHORE WIND SITE FEASIBILITY AND COST STUDY (Oct. 2019), https://www.nrel.gov/docs/fy20osti/74597.pdf.

[111] NREL, *Updated Oregon Floating Offshore Wind Cost Modeling* (Sept. 24, 2021) https://www.nrel.gov/docs/fy22osti/80908.pdf; NREL, EVALUATING THE GRID IMPACT OF OREGON OFFSHORE WIND (2021), https://www.nrel.gov/docs/fy22osti/81244.pdf.

[112] Jamie Damon, *BOEM Oregon Intergovernmental Renewable Energy Task Force Meeting Webinar Presentation*, https://www.boem.gov/renewable-energy/state-activities/boem-oregon-tf-presentation .

[113] *Id.*

[114] *Dave Pereksta, Avian Biologist BOEM Pacific Office*, *BOEM Pacific Avian Study Strategy,* in Jamie Damon, *supra* note 113, at 163–84.

[115] *Id.*

[116] *Id.*

[117] *Id.*

implementing projects that will minimize adverse effects on marine resources to the maximum extent possible[118]

BOEM has also undertaken efforts to work with interested tribes along the Oregon coast and the areas around Humboldt and Morro Bays in California on establishing a West Coast Tribal Cultural Landscape.[119] To this end, BOEM has invited representatives from these tribes to build a better understanding of areas of cultural importance, termed "cultural landscapes," to make more informed decisions about the impacts of offshore wind development on tribes. Cultural landscapes have been defined as "any place in which a relationship, past or present, exists between a spatial area, resources, and an associated group of indigenous people whose cultural practices, beliefs, or identity connects them to that place. A tribal cultural landscape is determined by and known to a culturally related group of indigenous people with relationships to that place."[120]

Considering the above, the Task Forces have significant and diverse perspectives. Public input comes to the Task Forces through feedback provided to individual agencies and entities involved in research and engagement and information provided directly to them via their publicly held meetings.[121] Public input can direct Task Force members toward new issues and questions that may not have previously been considered, helps identify areas that require further research or clarification in how information is communicated, and allows members to recognize the synergy between their work and ongoing efforts by other stakeholders. Additionally, the Task Forces serve as an opportunity for information to be exchanged between Task Force members, leading to alterations and additions to research and engagement tools.

V. The Cost(s) of Integration and International Developments

Most energy projects, including offshore wind technologies, are capital intensive and require a long timeframe for completion. As a result, factors such as Levelized Costs of Electricity (LCOE)[122] and the value of an additional capacity delivered to the power grid from the new planned systems typically change over time. When negotiating the initial power project contracts, making engineering and construction arrangements, undertaking necessary surveys, etc., there is bound to be incomplete information regarding future market scenarios, cost dynamics, and policy changes. Regulatory uncertainties due to

[118] *Id.*

[119] Dave Ball, Historic Preservation Officer BOEM Pacific Office, West Coast Tribal Cultural Landscapes, in Damon, *supra* note 113, at 185–92.

[120] *Id.* at 187.

[121] BUREAU OF OCEAN ENERGY MGMT., *supra* note 42, at 3.

[122] LCOE and levelized cost of storage (LCOS) represent the average revenue per unit of electricity generated or discharged that would be required to recover the costs of building and operating a generating plant and a battery storage facility, respectively, during an assumed financial life and duty cycle. The levelized avoided cost of electricity (LACE) is the revenue available to that generator during the same period. U.S. ENERGY INFO. ADMIN., LEVELIZED COSTS OF NEW GENERATION RESOURCES IN THE ANNUAL ENERGY OUTLOOK 2022, https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf.

cumbersome permitting, assessment, and approval process worsened due to avoidable conflicts of interests will also have an impact on delaying and escalating costs and, in some cases, project cancellations, as seen in the Cape Wind project.

Some essential questions to ask here are: how would the emerging technologies that are used in nascent industries like the U.S. offshore wind industry remain competitive over the mid- to long-term? What role(s) will such technologies play within the context of the power supply value chain, and what factors will influence such role(s)? It is noted that the EIA evaluates the LCOE, LCOS, and LACE for each technology based on assumed capacity factors, which generally correspond to the high end of their likely utilization range.[123] This convention is consistent with using LCOE and LCOS to evaluate competing technologies in baseload operations such as coal and nuclear plants. Although sometimes used in baseload operation, some technologies, such as CC plants, are also built to serve load-following or other intermediate dispatch duty cycles. Combustion turbines typically used for peak-load duty cycles are evaluated at a ten percent capacity factor, reflecting the historical average utilization rate. Battery storage is also assessed at a ten percent capacity factor, reflecting an expected use for energy arbitrage, especially with intermittent renewable generation such as solar generation.

The operational cycles for intermittent resources such as wind and solar are not operator controlled, but rather depend on the weather, which does not necessarily correspond to operator-dispatched duty cycles. As a result, LCOE values for wind and solar technologies are not directly comparable with the LCOE values for other technologies that may have a similar average annual capacity factor. Hence, wind and solar technologies are usually classified as non-dispatchable technologies.[124]

Globally, the LCOE for offshore wind fell by 20 percent between 2010 and 2018. Likewise, the total installed costs for projects commissioned in 2018 were five percent lower than those commissioned in 2010.[125] According to the IRENA, the major drivers of this reduction in the cost of electricity from offshore wind—which also underpins its relative competitiveness—include innovations in wind turbine technology,[126] installation, and logistics; economies of scale in operations and maintenance of larger turbine and offshore wind farm clustering; and improved capacity factors from higher hub heights, better wind resources (despite increasing cost in deeper waters offshore), and larger rotor diameters.[127]

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[123] *Id.*

[124] *Id.*

[125] Int'l Renewable Energy Agency, *Renewable Power Generation Costs in 2018*, 23 (2019). https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/May/IRENA_Renewable-Power-Generations-Costs-in-2018.pdf.

[126] Increasing the size of turbines is also having the effect of reducing the number of foundation positions and inter-array cabling, which is reducing installation and operation, and maintenance costs.

[127] *Id.*

The trend towards larger turbines, which expand the capacity of a wind farm and/or reduce the number of turbines required for a given capacity, has helped to reduce installation costs and project development costs below what they would otherwise have been.[128] However, this reduction has been offset, to a greater or lesser extent, by the shift to offshore wind farms being located in deeper waters further from ports but often with better, more stable wind regimes.[129] However, as noted earlier, bigger and more spread-out wind farms potentially imply more careful planning to avert risks to the maritime zones' environment and equally legitimate conflicting uses. It presupposes those reviews under the ESA, NEPA, and MBTA are likely critical and worth assessing. Likewise, alternative use of maritime zones for fishing and recreation or security services are also relevant.

Reductions in project development and maintenance costs influence the affordability and eventual price to be paid by end-users. The costs could also escalate due to avoidable controversies and permitting bottlenecks discussed earlier. A recent BOEM study regarding Northern California's Offshore wind generation and load compatibility assessment with emphasis on electricity grid constraints, mitigation measures, and associated costs examined the value and role of offshore wind systems in the three market avenues.[130] Offshore wind energy could be deployed in the resource adequacy (RA) market, the ancillary services market (AS), and the energy market. Accordingly, offshore wind was compared to California solar, and land-based wind in California, New Mexico, and Wyoming.[131] Due to the higher overall energy generated (expressed as a higher capacity factor), the expected revenue available per MW of offshore wind is significantly higher than land-based wind or solar.[132] In other words, each megawatt of installed offshore wind generates more megawatt-hours (MWh) compared to other variable renewable energy resources. However, the value per MWh of offshore wind is approximately the same. It is also interesting to note that the report states that approximately four percent of the annual revenue is through resource adequacy capacity payments, one percent through participation in ancillary services markets, and 95 percent through energy generation and participation in energy markets.[133] Therefore, in planning the integration of new offshore wind capacity, one could expect the systems to serve the energy market more than the markets designed to serve resource or capacity adequacy and provide ancillary services to the grid.[134]

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[128] *Id.*

[129] *Id.*

[130] BUREAU OF OCEAN ENERGY MGMT., NORTHERN CALIFORNIA OFFSHORE WIND GENERATION AND LOAD COMPATIBILITY ASSESSMENT WITH EMPHASIS ON ELECTRICITY GRID CONSTRAINTS, MITIGATION MEASURES AND ASSOCIATED COSTS 7.2 (2020), https://www.boem.gov/sites/default/files/documents/regions/pacific-ocs-region/environmental-science/BOEM-2020-045.pdf. Energy and AS prices are based on historical 2019 data, while RA revenues are based on a combination of 2020 effective load carrying capacity and projected 2022 resource adequacy payments.

[131] *Id.*

[132] *Id.*

[133] *Id.* at 7.16.

[134] Offshore wind's value is generally higher than its onshore counterpart and more stable over time than that of solar PV, which has a concentrated output during daylight hours. Its energy

A. Standardization and Streamlining the Process

Despite the technological gains and federal and state incentives that have helped to reduce development and installation costs, there are still considerable regulatory and commercialization hurdles and tradeoffs that may impact the costs of development and operations going forward. Efficiently standardizing and streamlining the permitting process without compromising important environmental, social, economic, and safety requirements are arguably part of avoiding the opportunity costs of delayed and canceled projects in the medium- to long-term.

There have been many commentaries regarding enhancing the pace of permitting and carrying out potential changes to its regulations, fostering increased coordination with other federal agencies—including the DOE and the Department of Commerce's National Marine Fisheries Service—and standardizing its environmental review process. Senior officials for the BOEM recently hinted that the agency is exploring ways to standardize its environmental reviews of offshore wind projects and further collaborate with other federal agencies and states in both approving projects. This is not surprising considering the Biden administration's ambitious goal of installing at least 30 GW of offshore wind power by 2030. Developing such a harmonized framework for reviews and regulatory decision-making processes may reduce costs, avoid unnecessary controversies, and help address the misperception of risks. It may also help to reduce the risk of political interference in administrative decision-making obligations for the agencies involved. Some relevant questions worth asking are: what stage of the project approval process is best to have a full EIS as opposed to an EA only to have the likelihood of a full EIS two years after a lease is issued and the COP is submitted for approval? Should the BOEM adopt a full or comprehensive Programmatic Environmental Impact Statements (PEIS) at a very early stage before issuing a RFI or Call for Information and Nominations; or should such PEIS be developed on a regional basis, considering the peculiarities of developments in, for instance, the west coast vis-à-vis east coast?[135]

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value (equivalent to the average price received for energy sold to the market) depends on the pattern of demand and the power mix, but in most cases remains close to the average wholesale electricity price over the year.

[135] Generally, environmental reviews under NEPA, 42 U.S.C. §§ 4321-70, may be on the project-specific or broader programmatic level. The analyses in a programmatic NEPA review are carried out to outline the broad view of environmental impacts and benefits for a proposed decision, rulemaking or project plans requiring NEPA assessments. Such a programmatic NEPA review can then be relied upon when agencies make decisions based on the programmatic EA or PEIS, as well as decisions based on a subsequent (also known as tiered) NEPA review. It is expected to result in clearer and more transparent decision-making, as well as provide a better defined and more expeditious path toward decisions on proposed actions. This program would also provide a road map for developers to follow during the permitting process, allowing developers to more adequately estimate the resources required for a proposed project. This would in turn result in fewer failed proposals because developers would know the requirements before investing in projects or locations. *See* Council on Environmental Quality, Final Guidance for Effective Use of Programmatic NEPA Reviews, 79 Fed. Reg. 76986(Dec. 23, 2014).

An Alternative Energy and Alternate Use Program on the OCS was established following NEPA amendment of Section 8 of the OCSLA (43 U.S.C. § 1337), which empowered the DOI to, among other things, issue leases, easements, or rights-of-way on the OCS for the production, transportation or transmission of energy from sources other than oil and gas.[136] As a result, the PIES was considered to examine the potential impacts of the production and transmission of alternative energy (which includes offshore wind) and alternate use activities that could result from the grant of leases, easements, and rights-of-way from initial site characterization through decommissioning. The PEIS requires that environmental consequences and potential mitigation measures be examined at a broader scale than would be appropriate for site-specific projects.[137] Therefore, according to NEPA, additional environmental review will be required for all future site-specific projects on the OCS. The PEIS idea also led to developing policies and best management practices (BMPs) that the Alternative Energy and Alternate Use Program may adopt as mitigation measures.[138]

The BOEM's guide on PEIS for alternative energy development and uses recognize that having such a program in place for permitting would result in decreased time to obtain permits, facilitating faster growth of the alternative energy industry on the OCS.[139] An alternative to institutionalizing the PIES approach is reviewing projects on a case-by-case basis as developers submit them. Such a case-by-case alternative would not have the same comprehensive, formal regulations for granting and managing a lease, rights-of-way, rights-of-use or easement, or the same information requirements as the proposed action. The case-by-case approach has been the norm over the years, especially considering the highlighted experiences concerning the Cape Wind and Vineyard Wind projects.[140]

Individual offshore wind lessees and project developers must submit necessary information on social and economic conditions and "recreational and commercial fishing (including typical fishing seasons, location, and type)" that could be affected by the lessee's proposed activities.[141] It must stipulate project-specific information, as well as the proposed mitigation measures for avoiding, minimizing, reducing, eliminating, and monitoring environmental impacts.[142] As discussed above, such information goes a long way in supporting BOEM and other agencies' role in making an informed decision in accordance

[136] BUREAU OF OCEAN ENERGY MGMT., *supra* note 22, at ES-2.

[137] Council on Environmental Quality, Final Guidance for Effective Use of Programmatic NEPA Reviews79 Fed. Reg. 76986(Dec. 23, 2014).

[138] BUREAU OF OCEAN ENERGY MGMT., *supra* note 22, at ES-2.Such policies and BMPs are intended to decrease the environmental impacts of alternative energy activities by including consistent stipulations for data collection, facility siting, mitigation, and ongoing impact evaluation.

[139] *Id.* at ES-3.

[140] *Id.*

[141] U.S. DEP'T OF INTERIOR, GUIDELINES FOR MITIGATING IMPACTS TO COMMERCIAL AND RECREATIONAL FISHERIES ON THE OUTER CONTINENTAL SHELF PURSUANT TO 30 CFR PART 585, at 1 (2022), https://www.boem.gov/sites/default/files/documents/renewable-energy/DRAFT%20Fisheries%20Mitigation%20Guidance%2006232022_0.pdf.

[142] *Id.*

with the relevant laws and regulations designed to protect the environment and other legitimate uses of the OCS. As far as offshore wind energy developments are concerned, industry and regulatory agencies typically opine that most impacts would be negligible to moderate, assuming that proper siting and mitigation measures are followed. However, controversies and avoidable delays may arise if stakeholders and impacted communities aren't properly informed of the potential risks and mitigation measures in a clear and transparent manner.

B. The UK's Offshore Wind Project Approval Framework

Offshore wind development has gained significant traction globally in places like China, the E.U., and the U.K. A stable legal and policy environment was key in supporting the deployment of about 17 GW of offshore wind capacity additions in Europe between 2010 and 2018.[143] The U.K., Germany, Belgium, Netherlands, and Denmark together added 2.7 GW of capacity in 2018 alone.[144] In 2018, China added 1.6 GW of offshore wind capacity largely due to its 13th Five-Year Plan, which called for five GW of offshore wind capacity to be completed by 2020 and the establishment of supply chains to support further expansion.[145] Considering these global experiences, one could say that the risks and best practice standards for offshore wind projects are now better understood by operators or agencies globally. In addition, most of the leading operators in the U.S. offshore wind energy space are international firms (such as Norway's Equinor and Denmark's' Ørsted) with significant know-how and experience in the very complex and capital-intensive sector.[146] Thus, there are opportunities for knowledge sharing and developing standardized processes that work for all stakeholders.

The U.K. has grown into the world leader in offshore wind, with greater installed capacity than any other nation.[147] Accounting for over a quarter of the total global portfolio, the U.K. dominates the offshore wind market and plans to continue growing its portfolio.[148] As the country begins phasing out all coal-fired power plants by 2025, government leaders are placing even more emphasis on the growth of offshore wind to account for lost capacity. With over

[143] INT'L ENERGY AGENCY, *supra* note 7, AT 16–17.

[144] *Id.*

[145] *Id.* at 31.

[146] *Id.* at 63. See also U.S. DEP'T OF ENERGY, *supra* note 71, at 7.

[147] Ørsted, *Offshore Wind*, https://orsted.co.uk/energy-solutions/offshore-wind (last visited Nov. 9, 2021).

[148] Claudia Colombo, *United Kingdom Offshore Wind Market*, U.S. DEP'T OF COMMERCE INT'L TRADE ADMIN. (Apr. 8, 2021), https://www.trade.gov/market-intelligence/united-kingdom-offshore-wind-market. The UK comprises of England, Wales, Northern Ireland, and Scotland. There are peculiar constitutional arrangements that may impact the extent of the 'Crown Estates' role regarding offshore wind in the U.K. as a whole. A licensing round means a program organized for issuing leases and related permits etc. so such a program will have helpful guidelines and documents such as the Leasing Round Four Information Memorandum.

ten GW of installed capacity, the U.K. plans to quadruple power to 40 GW by 2030.[149]

Two major factors have led to the U.K.'s success with offshore wind. First, the U.K's long coastline, with its reliable wind speed and shallow seabed, boasts the ideal geography for offshore wind development.[150] Second, the country's open and transparent licensing and permitting processes have made the nation one of the most attractive destinations for international companies. Between 2010 and 2017, the country accounted for 48 percent of all new offshore wind developments in Europe, with approximately €40 billion euros invested.[151] This is partly due to the streamlined permitting process, which offers a degree of certainty of timeframes once an application is submitted. The streamlined process allows all development phases to be accepted in one application.

Before getting involved in any potential offshore wind project, companies must fully understand the project's regulatory timeline and all key stakeholders involved. While the process is relatively streamlined compared to other nations, the process still involves several governmental bodies and requires various permits and leases.[152] The licensing and permitting process takes roughly nine years in the U.K., and developers must first obtain an Agreement to Lease (AfL) the seabed from the Crown Estate, which takes approximately two years. Developers must then apply for a Development Consent Order (DCO) from the Secretary of State for Business, Energy, and Industrial Strategy via the Planning Inspectorate. This process can last up to five years.[153] Lastly, developers must participate in Contract for Difference (CfD) auctions to gather support to build and run the offshore wind farm.[154] As the U.K. Government's main mechanism for supporting low-carbon electricity-generating projects while minimizing costs to billpayers, CFDs are private law contracts between a generator and the Low Carbon Contracts Company (LCCC) in a standard template form published by the U.K.'s Department for Business, Energy and Industrial Strategy (DBEIS).

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[149] Neil Ford, *UK faces tough pricing choices to fill offshore wind supply gaps*, REUTERS EVENTS (Dec. 9, 2020) https://www.reutersevents.com/renewables/wind/uk-faces-tough-pricing-choices-fill-offshore-wind-supply-gaps.

[150] *Id. See also* Colombo, *supra* note 151.

[151] Tallat Hussain, *Offshore wind projects: Assessing the environmental impact: United Kingdom*, JDSUPRA (May 4, 2019), https://www.jdsupra.com/legalnews/offshore-wind-projects-assessing-the-55253/.

[152] Colombo, *supra* note 151. *See also* INT'L ENERGY AGENCY (IEA), ENERGY POLICIES OF IEA COUNTRIES: UNITED KINGDOM 2019 REVIEW 133–139 (June 2019). pp. 59 – 64 https://iea.blob.core.windows.net/assets/298930c2-4e7c-436e-9ad0-2fb8f1cce2c6/Energy_Policies_of_IEA_Countries_United_Kingdom_2019_Review.pdf.

[153] *Offshore Wind Leasing Round 4*, CROWN ESTATE (Sept. 2021), https://www.thecrownestate.co.uk/round-4/.

[154] *Id. See also* Stephen Naimoli, *The United Kingdom's Offshore Wind Industrial Strategy*, Ctr. Strategic & Int'l Stud.tl (Oct. 21, 2021),https://www.csis.org/analysis/united-kingdoms-offshore-wind-industrial-strategy.

1. Permitting the Crown Estate – Seabed Leases

The first step in developing offshore wind as prescribed under the Leasing Round Four requires obtaining an AfL from the Crown Estate. An AfL from the Crown Estate grants the right to develop and produce energy from the wind resources within the area covered by the lease over a specified section of the seabed.[155] The entire process for a company hoping to obtain an AfL from the Crown Estate takes roughly two years and requires detailed project proposals. However, the overall process takes approximately four years as the Crown Estate spends roughly the first two years gathering stakeholder comments and determining where seabed development should occur. Under the Crown Estate Act of 1961, the Crown Estate has the statutory duty to maintain and enhance the estate's value, with all revenues generated by the estate being given to the U.K. Treasury.[156] It serves as the manager of the U.K.'s seabed out to 12 nautical miles. It possesses the privilege of utilizing natural resources to generate electricity within the U.K. Exclusive Economic Zone (EEZ).[157]

Offshore Wind Leasing Round Four is a good representation of the process to obtain an AfL and provides us with a relative timeline. The first step in receiving an AfL is submitting a Pre-qualification Questionnaire (PQQ).[158] By assessing potential bidders' financial capability, legal compliance, and technical experience, the PQQ authorizes successful bidders to qualify for the second stage of the leasing process. After qualifying, bidders submit potential projects assessed by the Crown Estate for financial and technical robustness. This second step, called the Invitation to Tender Stage One (ITT Stage One), typically lasts several months.[159] For Offshore Wind Leasing Round 4, the ITT Stage One process lasted from Spring to Summer of 2020. Bidders' project proposals must show all potential economic and environmental impacts. Once the bidders' project proposals have been approved through ITT Stage One, the bidders become recognized as Eligible Bidders with Eligible Projects.

Once recognized as an Eligible Bidder with an Eligible Project, the multicycle bidding process continues with Invitation to Tender Stage Two (ITT Stage Two).[160] This third step happens in two phases, each taking approximately six months. During the first phase, the Crown Estate issues tender documentation temporarily approving potential project bids. Once all necessary documentation has been issued, the second phase begins. The second phase consists of Bidding Cycles, where the Crown Estate uses option fees bids to award leases. Only one project is awarded per daily Bidding Cycle to guarantee

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[155] BUREAU OF OCEAN ENERGY MGMT., PHASED APPROACHES TO OFFSHORE WIND DEVELOPMENTS AND USE OF THE PROJECT DESIGN ENVELOPE 6 (July 2017), https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Phased-Approaches-to-Offshore-Wind-Developments-and-Use-of-Project-Design-Envelope.pdf [hereinafter Phased Approaches to Offshore Wind Developments].

[156] *Id.* at 53.

[157] *Id.*

[158] Crown Estate*, supra* note 156.

[159] *Id.*

[160] *Id.*

the value of the estate's worth, with Bidding Cycles continuing until the maximum gigawatts are reached or exceeded.[161] For example, Offshore Wind Leasing Round Four's ITT Stage Two took place over nine months, with the first phase in the Fall of 2020 and the second in early 2021. The Crown Estate granted options until the proposed seven GW were met but could have awarded up to eight-and-a-half GW.

The fourth and ultimate step before receiving an AfL requires a Plan-Level Habitats Regulations Assessment (HRA).[162] As a Competent Authority under the HRA, the Crown Estate considers the potential impacts on the U.K.'s valuable species and habitats. Estimated to last between nine and twelve months, the HRA considers all environmental impacts and is the lengthiest portion of obtaining an AfL. However, subject to the findings of the HRA, the Crown Estate will enter into Wind Farm Agreements with all successful bidders.

During this entire process, the Crown Estate relies on stakeholder engagement to guarantee to continued success and safety of its seabed.[163] It determines locations for offshore wind development based on the current Offshore Energy Strategic Environmental Assessment (OESEA). When it decides to host a new offshore wind leasing round and is looking for potential seabed areas to develop, it contacts the U.K. and Devolved Governments, statutory marine planners, and regulators to share the possible plans.

Over the last twelve years, OESEA, OESEA2, and OESEA3 have begun looking at offshore wind and gathering stakeholders' concerns. The OESEA occurs before site identification and aims to assess any program's environmental and sustainability aspects. OESEAs examine major national plans and programs to determine overreaching themes and mitigation measures. OESEA3, completed in 2020, enables future renewable leasing for offshore wind and wave and tidal devices.[164]

All OESEAs undergo a rigorous process to guarantee that stakeholder concerns and comments are heard. The Department uses five main ways to gather stakeholder feedback and comments.[165] First, after a draft publication is posted online, the Department for Business, Energy & Industrial Strategy begins accepting stakeholder comments virtually. Second, the Department begins scoping fundamental issues of concern amongst stakeholders to guarantee these concerns are considered in appropriate detail. Through scoping, the Department locates key information gaps and provides addendums for all stakeholders to best understand the publication. Third, the Department holds several workshops with government entities, non-governmental organizations, the general public, and other entities. Fourth, the environmental report is published for formal public consultation, allowing the Department to gain insight from stakeholders with expertise. Lastly, after the closing of the consulta-

[161] *Id.*

[162] *Id.*

[163] CROWN ESTATE, *supra* note 156.

[164] DEP'T FOR BUS., ENERGY & INDUS. STRATEGY, *Offshore Energy Strategic Environmental Assessment (SEA): An overview of the SEA process* (Aug. 11, 2021), https://www.gov.uk/guidance/offshore-energy-strategic-environmental-assessment-sea-an-overview-of-the-sea-process.

[165] *Id.*

tion period, the Department considers all comments and produces a post-consultation report, where the Department summarizes all comments and responds appropriately to each.[166] By incorporating the OESEA into its decision-making, the Crown Estate guarantees that stakeholder concerns and interests are heard and recognized from the start of the process. Based on the OESEA, the Crown Estate begins drafting a proposal locating potential seabed for lease and outlining their reasoning.

After discussing potential plans with the regulatory bodies, the Crown Estate begins hosting engagement workshops where stakeholders are allowed to speak directly with representatives. These workshops are meant to cover many issues, including fishery concerns, cultural heritage issues, and many others. During the Offshore Wind Leasing Round Four workshops, around 30 stakeholders representing 15 different organizations attended the in-person workshops.[167] After refining their proposed seabed development, the Crown Estate hosts a second round of workshops via several webinars. Overall, the Crown Estate received over 500 points of feedback from over 20 organizations ranging from environmental groups such as the Wildlife Trusts to historical preservation organizations like Historic England.[168] Their engagement included 15 governmental bodies, 40 market participants, and 30 different organizations totaling around 400 total people attending their five engagement events.[169]

To conclude their stakeholder engagement, the Crown Estate releases a "Summary Stakeholder Feedback Report" where they address and summarize stakeholder comments.[170] By infusing stakeholder comments into seabed location determinations and later on the HRA, the Crown Estate can show its willingness to listen to stakeholders' concerns. Obtaining an AfL from the Crown Estate generally takes around four years from the time the Crown Estate determines the feasibility of seabed development to the official granting of a Wind Farm Agreement. A lease of the seabed or seabed utilization rights is given once the developer has received the necessary statutory consent from the relevant planning authority (or authorities) and fulfilled all other conditions specified in the AfL.[171] A typical wind farm lease grants the lessee rights to construct and operate wind power generation assets for a fixed term. The standard term under the licensing round three was 50 years, while round four wind projects are offered a 60-year term.[172] Following the execution of the Wind AfL, there is also a transmission AfLs after a grid connection agreement is finalized and the Crown Estate has separately approved the cable route. Among other things, the transmission AfL grants the developer rights to the

[166] *Id.*

[167] CROWN ESTATE, *supra* note 156, at 10.

[168] *Id.* at 13.

[169] *Id.* at 26.

[170] *Id.*

[171] Julian Pollock & Ruth Benfield, Offshore power projects: Crown Estate lease, *Practical Law UK Practice Note w-002-5727* (last visited Nov. 22, 2021)

[172] *Id.*

designated area on which the offshore substation is located, including the export cable routes and rights to use the seabed and cable routes.[173]

2. Development and Consenting

Under the Planning Act 2008 U.K. (Planning Act), companies hoping to develop offshore wind power projects with more than one hundred megawatts of capacity—which are defined as nationally significant infrastructure projects (NSIP)—are required to obtain a Development Consent Order (DCO) from the Secretary of State for Business, Energy & Industrial Strategy (Secretary of State) via the Planning Inspectorate.[174] The Secretary of State grants or denies a DCO based on the recommendation of the Planning Inspectorate.[175]

The DCO incorporates several consents, including a marine license and onshore approvals. The DCO replaces the need for historically necessary consents such as planning permission under the Town and Country Planning Act of 1990 and listed building and conservation area consent controlled by the Planning Act of 1990.[176] This is one reason the U.K. is attracting international business. The nation's permitting process allows for all phases of development—from environmental impact studies to economic concerns—to be accepted in one application.

Companies must work with government entities depending on where the project is located. For example, if the offshore wind project is located in Wales, Natural Resources Wales determines the marine license approval.[177] Whereas in Northern Ireland, the Marine Strategy and Licensing Team housed in the Department of Agriculture, Environment, and Rural Affairs controls both the overall consent application and marine license approval.[178] In Scotland, the Crown Estate Scotland (CES) is responsible for managing the rights for offshore renewable energy on the seabed around Scotland. The CES runs its offshore wind leasing round, ScotWind. Nevertheless, the respective permitting and leasing processes are very similar no matter which government entity has jurisdiction.

The Planning Act process was created to streamline decision-making for all nationally significant infrastructure projects (NSIPs).[179] There are six stages of the Planning Act process, and the process generally takes about five years. The first stage is the Pre-application stage, where the applicant submits their development proposal. The development consent process is front-loaded, meaning that the applicant's proposal must be fully refined and polished before being submitted to the Planning Inspectorate.

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[173] *Id.*

[174] Hussain, *supra* note 154.

[175] BVG ASSOCS., GUIDE TO AN OFFSHORE WIND FARM 17 (2019), https://www.thecrownestate.co.uk/media/2860/guide-to-offshore-wind-farm-2019.pdf.

[176] Phased Approaches to Offshore Wind Developments, *supra* note 158, at 53.

[177] BVG ASSOC., *supra* note 175, at 17.

[178] *Id.*

[179] Nat'l Infrastructure Planning, Plan Inspectorate, *Application Process*, https://infrastructure.planninginspectorate.gov.uk/application-process/the-process/ (last visited Nov. 9, 2021).

To fully refine and polish their proposal, the applicant must take several additional steps to guarantee all environmental concerns are included in the application. First, the applicant must have considered any alternatives and included these alternatives with their initial draft plans.[180] Second, based on the development's location, various regulatory agencies then screen the proposal to determine if an EIA is needed. To best determine if an EIA is necessary, the agencies may collect data through surveys; these surveys could be multi-year surveys due to any birds or marine mammals.[181] If an EIA is required, the agencies will begin scoping the project's proposed location, focusing only on the aspects of the environment that are likely to be significantly impacted.[182] The UK's EIA process relatively mirrors the U.S.'s EIS and can take several years if there is potential for significant impacts. A Preliminary Environmental Impact Record (PEIR) will be produced based on the completed EIA and the agency's findings. The PEIR will summarize likely future environmental changes, summaries of any short or long-term surveys conducted, and various recommended mitigation measures.

During this stage, the applicant must also begin formally consulting with all statutory bodies, including local authorities, the local community, and any other affected persons depending on where the project is located.[183] Because the process is front-loaded, it leaves very little room for change once a proposal has been submitted. This is why all applicants need to formally consult with any entity impacted by the development. When the applicant enters the Pre-application stage, the Planning Inspectorate will set a deadline for stakeholder comments based on the complexity and scope of the project.[184] The applicant must then host various consultation events and be willing to respond to comments via email. After the deadline set by the Planning Inspectorate passes, the applicant must consider all stakeholder comments. This stage can take as much time as necessary and is controlled mostly by the applicant. The applicant's timeliness in hosting consultation events and speaking with stakeholders determines the length of the stage entirely.[185] As the development consent regime is front-loaded, the five steps following the Pre-application stage are much quicker.

Following the Pre-application stage is the Acceptance stage, where the application is formally submitted, and the Planning Inspectorate has 28 days to determine if all relevant documentation has been submitted properly.[186] If the Planning Inspectorate accepts the applicant, it is then published on the National Infrastructure Planning website for stakeholders to see. If the Planning Inspectorate denies the application, the applicant has six weeks to raise any legal challenges.[187]

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[180] Phased Approaches to Offshore Wind Developments, *supra* note 158, at 18.

[181] *Id.*

[182] *Id.*

[183] Plan Inspectorate, *supra* note 182.

[184] *Id.*

[185] *Id.*

[186] *Id.*

[187] *Id.*

Once the application has been accepted, the applicant moves into the Pre-examination stage. In the Pre-examination stage, the applicant must begin to publicize the application and provide information on how and when Interested Parties may get involved.[188] The period to register as an Interested Party is set by the applicant but must be no less than 28 days. Once the deadline for registration as an Interested Party has passed, the Planning Inspectorate and the applicant set a date for a Preliminary Meeting. At this Preliminary Meeting, parties will discuss procedural issues and set a timeline for the Examination stage. Once the timetable has been decided, all parties will be notified, and the process immediately moves into the Examination Stage.

The Examination Stage, the fourth stage of the process created by the Planning Act, begins the day after the Preliminary Meeting.[189] During this stage, the Planning Inspectorate appoints the Examining Authority. It conducts the examination through written comments and hearings where each Interested Party is entitled to share their observations through oral representation. The Examining Authority must consider all stakeholder concerns and any environmental impacts in the PEIR and include any mitigation measures. The Examination Stage must be completed within six months after the Preliminary Meeting.

After the examining authority completes its application review, they have three months to write its recommendation and submit it to the Secretary of State.[190] This next stage is referred to as the Recommendation and Decision stage. The Secretary of State makes the final decision based on the Examining Authority's recommendation. It is important to note that while the Secretary of State typically agrees with the Examining Authority, the Secretary of State has the power to make the final decision. Their decision must be made within three months of the Examining Authority's formal written recommendation submission.[191] The last stage of the development consent regime is the Post Decision Stage, which provides a six-week window for any party to challenge the Secretary of State's decision legally.

While the Development and Consenting process takes up to five years for large, complex projects, due to the front-loaded nature of the process, the developer has the control to determine just how long the Pre-application stage lasts. Once a developer's proposal has been completed and accepted through the Pre-application stage, the process takes roughly one year.[192] It takes approximately one year of the bureaucratic process after the application is received to obtain several consent licenses at once. This is why the U.K. is so attractive to international companies.

[188] *Id.*
[189] *Id.*
[190] *Id.*
[191] *Id.*
[192] *Id.*

3. U.K. Contract for Difference Auctions

The last step in the U.K.'s offshore wind licensing and permitting process for developers is participating in CFD auctions.[193] These auctions can take up to two years and provide developers an avenue to finalize financial decisions and funding. This aspect is one of the notable distinctions between the U.S. and the U.K. power supply markets. In the U.S., institutions such as FERC and RTOs/ISOs are responsible for economic regulation and access to the respective energy markets and transmission networks. On the other hand, the U.K. has a different market structure and institutional framework.[194] Unlike in the U.S., the U.K. power market is the electricity market of Great Britain (GB). Northern Ireland, part of the U.K., operates a joint wholesale electricity market with the Republic of Ireland, the so-called single electricity market (SEM), in place since 2007.[195] GB wholesale electricity market is based on "self-dispatch," in which suppliers and generators contract to buy and sell power and must pay balancing costs if they under or over-deliver. Besides the energy market, GB also has a capacity market. Under the British Electricity Trading and Transmission Arrangements, Great Britain is now an SEM with a single price zone, despite congestion between Scotland and England and Wales.[196] Unlike the U.S., the U.K. has an LCCC established as the government counterparty for CFDs. It manages the CFDs with low-carbon generators throughout their lifetime, forecasts and settles CFD payments, and manages the Supplier Obligation Levy that funds CFD payments.

Similarly, the U.K.'s National Grid (NG) is the system operator whose responsibilities include integrating variable renewable energy sources (RES) in coordination with 14 distribution network operators. In a general sense, it could be opined that the NYISO or CAISO in the U.S., for instance, does for New York or California what the NG does for GB, England, and Wales. Although understandably, there are no CFD requirements in any U.S. power markets due to the structural peculiarities of both jurisdictions.

The CFD auctions are the U.K.'s main mechanism for supporting low-carbon electricity generation.[197] They are contracts between financial institu-

[193] Colombo, *supra* note 153. Following the leasing process and the development and Consenting process, successful developers will move to the procurement and C.F.D phase in which they take part in auctions to bid for support to build and run the wind project.

[194] INT'L ENERGY AGENCY, *supra* note 155, at 133–39. The UK's power market is the electricity market of Great Britain (GB). Generation and supply are unbundled from transmission and distribution and from the system operation. The National Electricity Transmission System (NETS) is owned and maintained by different regional transmission companies. Scottish Power is the transmission owner for Central and Southern Scotland. Scottish Hydro Electric Transmission owns the transmission network of North Scotland. The National Grid Electricity Transmission (National Grid (NG)) is the transmission owner for England and Wales, but also the electricity system operator (ESO) in GB responsible for the balance of supply and demand, and system safety and security.

[195] *Id.* at 134.

[196] *Id.* at 135.

[197] The template CFD is divided into two parts: the front-end agreement (CfD Agreement), into which the project-specific details and variables determined by the allocation process are inserted (e.g., generator's name, facility description, installed capacity, strike price), and the standard terms and conditions (Standard Terms), which apply to all projects. Once the project has satisfied all the Operational Conditions Precedents, the generator will be paid the difference between the 'strike

tions and investors where the investors take a position on the future value of the offshore wind farm. Following the auction, the winning generators are guaranteed a certain electricity price (called a strike price) throughout a long-term contract. If the wholesale electricity price is below the agreed strike price, the generator will receive a top-up payment to make the difference.[198] The generator pays the surplus back if the wholesale price exceeds the contract price. The CFDs arguably enhance the predictability of expected income when investing in an asset subject to several variabilities and intermittency issues. Thus, it potentially helps reduce the cost of capital for new renewable energy projects, which have high up-front fees but low operational costs.[199]

The CFD framework allows traders and investors to capitalize on profit from price movement without owning the assets. By providing developers of offshore wind projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, CFDs incentivize investment in renewable energy development. CFDs also protect customers from paying increased support costs if electricity prices are high.[200] After receiving an Agreement to Lease from the Crown Estate and a DCO, developers enter into a private contract with the LCCC. LCCC is a government-owned company that was established to be the counterpart of the CFD program. LCCC's primary goal is to manage the CFDs and to "maintain investor confidence in the CFD scheme and minimize costs to consumers."[201] Developers received a flat rate for all the electricity they produced over fifteen years. This rate is the difference between the strike price, i.e., the price reflecting the cost of investing in the wind farm, and the reference price, i.e., the average market price for electricity in the United Kingdom.[202]

VI. Conclusion

Multiple federal, state, and local agencies, utilities, and other stakeholders are involved in assessing and reviewing offshore wind energy projects in the

price' and the 'reference price' for the electricity they produce over the course of the contract. The strike price is a price for electricity in £/MWh determined through a sealed-bid process during the allocation round and, therefore, should reflect the cost of investing in a particular low-carbon technology. The reference prices used (either Baseload or Intermittent, depending on the technology) represent the average market price for electricity at the relevant point in time.

[198] INT'L ENERGY AGENCY, *supra* note 152 at 62.

[199] *Id.* CFD payments are raised through a levy on all GB electricity suppliers, who pass these costs on to consumers. The scheme has delivered substantial new investments and helped achieve significant reductions in the costs of some renewable technologies, particularly offshore wind. Notably, two offshore wind projects were awarded CFD deals at British pounds (GBP) 57.50 per megawatt hour (GBP/MWh) (EUR 64.10/MWh) – a 50 percent cost reduction from contracts awarded in 2015.

[200] *Policy Paper: Contracts for Difference*, U.K. Dep't Bus., Energy & Indus. Strategy (Dec. 14, 2022) https://www.gov.uk/government/publications/contracts-for-difference/contract-for-difference. *See also* Cory Mitchell, *An Introduction to Contract for Differences (CFDs)*, Investopedia, https://www.investopedia.com/articles/stocks/09/trade-a-cfd.asp (last visited Aug. 24, 2021).

[201] Low Carbon Contracts Co., *Corporate Governance*, https://www.lowcarboncontracts.uk/corporate-governance (last visited Nov. 9, 2021).

[202] INT'L ENERGY AGENCY, *supra* note 152, at 141–42.

U.S. For instance, the BOEM solicits public comments, convenes Task Forces with interested states, and holds public meetings throughout the offshore wind development. There are also various avenues for public engagement and stakeholder comments during the Environmental Assessment and NEPA reviews process. Thus, coordination would be essential in realizing the technology's multiple policy targets and the clean energy supply potential. Further, completing a project offshore requires necessary interconnection networks to enable efficient integration with the onshore grid and respective power markets. As a result, streamlining siting and permitting processes for projects and thorough engagement with impacted coastal communities and stakeholders such as fishing, navigational, and maritime defense operations are essential to realizing the underlying law and policy objectives.[203]

The regulatory state, i.e., institutions and agencies of government, are often set up to reflect prevailing legal wisdom about fair and effective processes and when industrial developments require effective and pragmatic oversight. As mentioned above, rushing through permitting processes could harm legitimate rights and interests. At the same time, failure to complete projects at the right time and scale also has significant implications for the legitimate commercial interests of developers and energy policy goals of supplying reliable and cleaner energy to the grid in the mid- to long-term. There is a constant need to facilitate a more informed decision-making framework and robust assessment of issues raised by the stakeholders vis-à-vis project developers in ways that are not arbitrary and capricious.

The examined cases in the U.S.'s emerging offshore wind power industry show that projects could easily be delayed due to unresolved competing interests amongst stakeholders for over ten to fifteen years before actual electrons can be generated. Thus, finding ways to standardize and streamline the permitting processes and properly engage relevant stakeholders via a more comprehensive EIS at the initial stages of project planning rather than later on when there is more pressure and demand to complete the project or cancel it may be more proactive. To make the process more efficient, a compressive and standardized review of relevant Site Assessment Plans and the Construction and Operations Plan and proactive stakeholder engagement processes at an early or appropriate time during the permitting process are recommended. All parties need to clearly understand the opportunity costs of delayed and canceled projects. At the same time, the regulatory state plays a key role in gathering relevant information to address the possible misperception of risks and standardizing best practice measures for addressing common issues often identified from environmental reviews and impact assessment processes. Such standards and identified mitigation measures acceded to by all, or the majority of stakeholders, could help prevent costly and avoidable legal controversies. In the U.K., for instance, most engagement processes and reviews occur in the front end of the planning and permitting framework.

The need to consider the investment and infrastructural requirements for adding additional energy capacities from the emerging offshore industry in the

[203] BUREAU OF OCEAN ENERGY MGMT., *supra* note 41.

medium- to long-term also implies the importance of coordination with the relevant RTOs/ISOs, state and local institutions, and grid managers. In the medium- to long-term, measures aiming to reduce capital and operating expenses, including the ability to secure financing and commercial interests throughout the permitting and review process, require keen attention.

Plastic Activism and the Clean Water Act

Rachael E. Salcido*

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Scientists have been sounding the alarm about the health and environmental dangers of plastics. We have been slow to pay attention. Plastic production causes a range of environmental harms. Furthermore, larger plastic items break down over time into smaller and smaller pieces—microplastics. Much of the plastic waste in our environment originates as single-use items which degrade into microplastics that pollute rivers, wildlife, and humans ourselves. Today, we sit on the verge of a new tidal wave of petrochemical build-out to produce plastic in the United States in areas already overburdened with air and water pollution. Can the Clean Water Act address this challenge?

The Clean Water Act can indeed make an important difference. Why has it failed to do so thus far? Environmental activists have highlighted the Clean Water Act's potential to stem the tide of plastic toxification of our waters, citizens, and wildlife. This has included important regulatory efforts through citizen petitions, engagement in voluntary EPA programs, and citizen-suit litigation. Although federal law encourages citizen engagement, it should not replace effective regulatory programs to address known threats to water resources. This paper will look at these combined citizen efforts, the pressure these efforts have directed at responsible government officials, and what those efforts reveal about the durability of the Clean Water Act at fifty years old to address evolving threats to the chemical, physical, and biological integrity of our precious water resources.

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I. INTRODUCTION

Plastic is produced by mixing fossil fuels with other chemicals.[1] Single-use plastic is a major revenue generator since the items are literally designed to be infinitely replaced.[2] The plastic industry deliberately pursued this revenue generation model.[3] Because the concerns with plastic pollution are now widespread, the plastic industry is aggressively steering legal regulation to consumer usage architecture and away from limits on production or use.[4] In practice, this means promoting recycling efforts and improvements in publicly-owned treatment works, instead of reformulating or reducing the production of plastic and its toxic footprint.[5] Continuing down this path will deepen the need for robust pollution abatement efforts that have thus far eluded regulators. Existing legal regimes have been unable to handle the vast quantity of plastic and plastic-related wastes entering the environment, and for a variety of reasons, industry is about to turn the volume way up.[6]

In a carbon-constrained world, the fossil fuel industry is likely to increase plastic production. Given the international commitment to decarbonize economies and dramatically reduce the use of fossil fuels to minimize the harm from climate change,[7] the main area for predicted growth in fossil fuels use is in the production of plastic.[8] Plastic production is predicted to be a leading greenhouse gas contributor, as energy systems move away from fossil fuels to sources such as solar, wind, nuclear, or other non-carbon forms of energy pro-

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[1] Renee Cho, *More Plastic Is on the Way: What It Means for Climate Change,* COLUM. CLIMATE SCH. 2 (Feb. 20, 2020), https://perma.cc/X5U8-NBVM.

[2] *See* A.T. Williams & Nelson Rangel-Buitrago, *Marine Litter: Solutions for a Major Environmental Problem*, 35 J. COASTAL RES. 648, 649 (2019) (explaining how plastic waste generation has increased and the large role plastic packaging and single-use items play because these items "enter the waste stream immediately after use").

[3] MAX LIBOIRON, POLLUTION IS COLONIALISM 1 (2021) (describing strategy to maximize profits by creating constant demand for new plastic).

[4] Jehan El-Jourbagy et al., *Creating an Industrial Regulatory Framework to Reduce Plastics*, BERKELEY BUS. L.J., 2021, at 94, 95–96, 104. In contrast, many scholars are emphasizing the need to incentivize the reduction of unnecessary plastic, specifically single-use plastic. *See, e.g.*, *id.* at 97 (promoting extended producer liability).

[5] TALLASH KANTAI, CONFRONTING THE PLASTIC POLLUTION PANDEMIC 6 (Dec. 2020), https://perma.cc/5NFP-JQQS (explaining how the plastic industry shifted responsibility to end-users and the fallacy of recycling as a solution). A linear economy would keep society locked into continued overconsumption of resources, which is why those promoting sustainable development advocate for a circular economy. ELLEN MACARTHUR FOUND., THE NEW PLASTICS ECONOMY: RETHINKING THE FUTURE OF PLASTICS 18, 37 (2016), https://perma.cc/2397-TZYF.

[6] *See* Kantai, *supra* note 5, at 3–5 (explaining various legal initiatives and their shortcomings).

[7] *See* United Nations Framework Convention on Climate Change art. 4, May 9, 1992, S. TREATY DOC No. 102-38, 1771 U.N.T.S. 107 (stating overarching goal of reducing carbon dioxide emissions); Paris Agreement to the United Nations Framework Convention on Climate Change arts. 2–4, 7, Dec. 12, 2015, T.I.A.S. No. 16-1104 (adopting strengthened standards for achieving greenhouse gas emissions reductions and adapting to climate change).

[8] *See What is the Future for Plastics?*, S&P GLOBAL (Feb. 24, 2020), https://perma.cc/2KYJ-ZTZR (predicting use of recycled plastics will grow); INT'L ENERGY AGENCY, THE FUTURE OF PETROCHEMICALS: TOWARDS MORE SUSTAINABLE PLASTICS AND FERTILISERS 3 (2018) (stating that petrochemicals, which include plastics and fertilizers, are absorbing an increasing amount of the world's oil and gas supply, but predicting that a more sustainable option is feasible).

duction.[9] Natural gas production has unlocked the raw materials for plastic production, and those producers are looking to monetize their product.[10] Moreover, recycling of plastic is expensive and inefficient since traditional plastic degrades with each recycling attempt.[11] Thus, a continued demand for virgin plastic remains the optimal revenue generator for the plastics industry.

Moreover, society has come to see many plastic items as indispensable, and certainly people weave plastic usage throughout modern everyday life. Many people in developing nations are also adopting the convenience and disposable-based attitudes that lead to plastic consumption.[12] Population growth, as well as the expansion of buying power among growing middle classes, increases demand for a growing list of plastic consumer products.[13] Experts have noted that the quantity of plastic produced in the first decade of the century rivals the quantity produced in the entire time since its inception in the 1950s,[14] and this growing appetite will not likely abate unless governments intervene.[15]

Thus, a convergence has occurred: at the very time we are racing to find a legal architecture to prevent future plastic pollution and technological tools to clean up pollution which has already occurred, the plastic industry is on a major expansion campaign in places like Asia and the United States to increase production of plastic—single-use plastic in particular.[16] Focusing specifically on water quality, the traditional tools contemplated by the Clean Water Act (CWA)[17] readily address the dangers of unabated plastic pollution.

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[9] THE FUTURE OF PETROCHEMICALS, *supra* note 8, at 11. The production of plastic products with the use of coal-based energy will also be a significant driver of greenhouse gas emissions. *See* Livia Cabernard et al., *Growing Environmental Footprint of Plastics Driven by Coal Combustion*, 5 NATURE SUSTAINABILITY 139, 139 (2022), https://perma.cc/7U8A-MGLR (emphasizing that coal-based emissions for plastic production have quadrupled since 1995 and constitute the majority of the carbon footprint for plastics).

[10] Beth Gardiner, *The Plastics Pipeline: A Surge of New Production Is on the Way*, YALE ENV'T 360 (Dec. 19, 2019), https://perma.cc/6YPF-KG82. Natural gas production in the United States is predicted to increase, and producers see an opportunity to co-locate plastic production facilities in close proximity to gas-production locations. *See U.S. Marketed Natural Gas Production Forecast to Rise in 2022 and 2023*, U.S. ENERGY INFO. ADMIN. (Feb. 17, 2022), https://perma.cc/EYG6-E6NB (predicting rise to record highs in 2023); CHRISTINE RISCH ET AL., VALUE ADDED OPPORTUNITIES FROM NATURAL GAS 12 (2013) (noting co-location of intermediate petrochemical products near an ethane cracker would bring about economic opportunity in West Virginia).

[11] Alexander H. Tullo, *Companies are Placing Big Bets on Plastics Recycling. Are the Odds in their Favor?*, CHEM. & ENG'G NEWS (Oct. 11, 2020), https://perma.cc/QFS7-DKRK.

[12] Dave Hall, *Throwaway Culture Has Spread Packaging Waste Worldwide: Here's What to Do About It*, THE GUARDIAN (Mar. 13, 2017), https://perma.cc/5CLT-AWK5.

[13] Michael Taylor, *Can the Tide of Plastic Pollution Be Turned by a New Global Pact?* THOMSON REUTERS FOUND. (Mar. 2, 2022), https://perma.cc/3CD8-LG2A.

[14] Richard C. Thompson et al., *Plastics, the Environment and Human Health: Current Consensus and Future Trends*, 364 PHIL. TRANSACTIONS ROYAL SOC'Y 2153, 2164 (2009).

[15] THE FUTURE OF PETROCHEMICALS, *supra* note 8, at 88, 119.

[16] Katie Brigham, *How the Fossil Fuel Industry Is Pushing Plastics on the World*, CNBC (Jan. 29, 2022), https://perma.cc/MH6H-TXXZ; Gardiner, *supra* note 10 (noting that "[s]ince 2010, companies have invested more than $200 billion in 333 plastic and other chemical projects in the U.S." alone).

[17] Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1388 (2018).

II. PLASTIC WASTE AND WATER QUALITY

Although some have noted that the CWA does not specifically address plastic,[18] water quality is the exact focus of the statute and has also been the main driver of plastic pollution concerns since they first captured modern attention. Ocean pollution was one of the canaries in the coalmine for the growing dangers from unchecked plastic production and use.[19] Thus for a time, the fixation on the ocean gyres aggregating plastic pollution sparked research interest into the potential harm plastic posed and the possible legal solutions.[20] What is often lost on the public is that land-based pollution is the main source of ocean plastic pollution.[21] It is not possible to address plastic pollution without focusing on the rivers polluted with plastic that carry pollution out to sea.

The rivers that contribute the most to ocean plastic waste are all in Asia.[22] Moreover, plastic bottles top the list as one of the most frequently occurring waste items.[23] But international considerations aside, it is important to emphasize that the United States is a major source of plastic waste. The per capita waste generation rates in the United States put Americans in the running for generating the most plastic litter.[24] This is also despite the fact that many U.S. waste-management systems are well-developed, whereas systems in other countries are less robust.[25] While the international community must work toward a global agreement to tackle the problem,[26] it is imperative that the United States address local sources of pollution as one part of the effort and as a critical component of preventing harm in the United States.

Like other industrial production processes, plastic manufacturing has the potential to pollute air and water with chemical byproducts. When plastic is

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[18] El-Jourbagy, *supra* note 4, at 106 (noting that the CWA regulates water pollution but does not specifically address plastic waste).

[19] *See* André M. Santamaria, Esq., *The Pacific Garbage Patch, Everyone's Responsibility but Nobody's Problem: A Critical Analysis of Public International Law Regimes as They Relate to the Growing Toxicity of the Environment*, 32 J. ENV'T L. & LITIG. 189, 192–93 (2017) (discussing how all water systems are connected and thus how the toxicity of the ocean will lead to the toxicity of all waters).

[20] *See id.* at 191–92, 197, 201–202 (assessing UNCLOS and London Dumping Convention applicability to address ocean plastic pollution); *see also*, Jessica R. Coulter, Note, *A Sea Change to Change the Sea: Stopping the Spread of the Pacific Garbage Patch with Small-Scale Environmental Legislation*, 51 WM. & MARY L. REV. 1959, 1973, 1978, 1991 (2010) (examining bans, taxes, and other potential regulation to prevent continued plastic pollution).

[21] *80% of Ocean Plastic Comes From Land-Based Sources, News Report Finds*, ECOWATCH (June 15, 2016), https://perma.cc/ZWX5-XK73.

[22] Russell McLendon, *10 Rivers May Deliver Bulk of Ocean Plastic*, TREEHUGGER, https://perma.cc/VTV2-CXAC (last updated May 30, 2020).

[23] Carmen Morales-Caselles et al., *An Inshore-offshore Sorting System Revealed from Global Classification of Ocean Litter*, 4 NATURE SUSTAINABILITY 484, 485 (2021).

[24] Kara Lavender Law et al., *The United States' Contribution of Plastic Waste to Land and Ocean*, SCI. ADVANCES, Oct. 30, 2020, at 1, 1.

[25] *Id.* at 2–4.

[26] Stephanie B. Borrelle et al., *Why We Need an International Agreement on Marine Plastic Pollution*, 114 PROC. NAT'L ACAD. SCI. U.S. 9994, 9995–96 (2017) (noting the positive progress local and national actions make and explaining why cross-border solutions are required to address scale of problem).

produced, common chemical additives such as lead, cadmium, zinc, and copper can reach the environment.[27] After a boom in shale gas, the plastic industry is now focusing more attention on expanding plastic production in the United States, particularly in the traditional petrochemical strongholds of Louisiana and in areas along the Mississippi River.[28]

The building blocks of many virgin single-use plastic items are called "nurdles." Nurdles are a source of local pollution even before they begin their useful timeframe within a plastic product.[29] Nurdles are particularly challenging because of their small size and density.[30] Thus, once nurdles escape into the environment, water and wind easily disperse them.[31]

There is also good reason to focus regulatory attention on the release of used plastic products into the environment. Plastic items are notoriously difficult to capture in waste systems.[32] Plastic that is waste but that does not end up in waste receptacles is known in the business as plastic "leakage."[33] That "leakage" is, in simple terms, garbage pollution, with single-use products filling creeks and overwhelming sewer systems.[34] Once in our environment, plastic persists for hundreds of years and is often degraded over time into smaller and smaller pieces that are consumable by fish, wildlife, and humans, and float through our rivers and streams into the oceans.[35]

The assault of plastic debris on wildlife has been well-documented with marine wildlife starved by bellies full of plastic waste.[36] Plastic waste causes physical damage to wildlife that may be trapped (entanglement), consume larger plastic products or microplastics, and suffer the ill-effects of the chem-

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[27] Hannah M. Diaz, *Plastic: Breaking Down the Unbreakable*, 19 FLA. COASTAL L. REV. 85, 88 (2018) (discussing the toxicity of plastics).

[28] Steven Mufson, *Huge Plastics Plant Faces Calls for Environmental Justice, Stiff Economic Headwinds*, WASH. POST (Apr. 19, 2021), https://perma.cc/8N5K-MNLT.

[29] Julissa Treviño & Undark, *The Lost Nurdles Polluting Texas Beaches*, ATLANTIC (July 5, 2019), https://perma.cc/H38J-YN63 (explaining that nurdles are:

> "the preproduction building blocks for nearly all plastic goods," including single-use consumer product plastics like soft drink bottles, and that when they are "lost during transit or manufacturing . . . they absorb toxic chemicals and are often mistaken for food by animals . . . [and] . . . wash up by the millions on beaches, leaving coastal communities to deal with the ramifications.

[30] Therese M. Karlsson et al., *The Unaccountability Case of Plastic Pellet Pollution*, 129 MARINE POLLUTION BULL. 52, 55–57 (2018) (discussing research on dispersion of pellets from industrial sites).

[31] *Id.* at 56–57.

[32] *See* Kevin Loria, *The Big Problem with Plastic*, CONSUMER REPS. (Sept. 8, 2021), https://perma.cc/D9YS-2J7F (describing how most plastic that Americans place in recycling bins ends up in landfills).

[33] Julien Boucher & Guillaume Billard, *The Challenges of Measuring Plastic Pollution*, FIELD ACTIONS SCI. REPS., March 2019, at 68, 69.

[34] *Marine Plastic Pollution,* INT'L UNION FOR CONSERVATION NATURE (2021), https://perma.cc/M9AX-BBHK.

[35] *What are Microplastics?,* NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (2021), https://perma.cc/9TVQ-RE86.

[36] *See, e.g.*, Alejandra Borunda, *This Young Whale Died with 88 Pounds of Plastic in its Stomach*, NAT'L GEOGRAPHIC (Mar. 18, 2019), https://perma.cc/HSN5-S395 (documenting the death of a whale who starved due to being unable to break down the plastic in its stomach).

ical by-products of plastic manufacturing.[37] When plastic enters waterways, it can absorb toxic chemicals from the water and thereafter transfers the toxic chemicals when animals ingest them.[38] These chemicals include polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), heavy metals, and dioxins.[39] Records show that all seven species of sea turtle have ingested microplastics, which has affected their reproductive health and survival.[40] Indeed, scientists have documented over 2,200 species impacted by marine debris.[41] Microplastics persist in the environment and are thus available for ingestion for hundreds of years.[42]

Although much has been written about the impacts on wildlife, only more recently have the human health impacts of plastic been part of the growing call for action.[43] Water quality is inherently connected to human health. Studies have shown that plastic, plastic chemical by-products, and forever chemicals like PFAS are indeed harming human health.[44] As previously emphasized, ingested plastic particles can transfer chemicals and many of those chemicals are linked to human health impacts.[45] A study conducted by the University of New Castle for the World Wide Fund for Nature (formerly World Wildlife Fund) concluded that people eat an average of five grams—about a credit card—worth of plastic every week.[46] One of the most recent, alarming discoveries concerns reproductive health impacts. Plastic exposure has been linked to reduced sperm counts.[47] Overall, the evidence has become overwhelming that addressing the water-quality impacts of plastic are critical to societal well-being.

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[37] *Ocean Plastics Pollution: A Global Tragedy for our Oceans and Sea Life*, CTR. FOR BIOLOGICAL DIVERSITY, https://perma.cc/2XZJ-ZKKS (last visited Apr. 18, 2022); Frederic Gallo et al*., Marine Litter Plastics and Microplastics and their Toxic Chemicals Components: The Need for Urgent Preventive Measures*, ENV'T SCIS. EUR., Apr. 2018, at 2–3.

[38] Letter from Emily Jeffers & Maxx Phillips, Ctr. for Biological Diversity, to Andrew Wheeler, Administrator, U.S. Env't Prot. Agency 2 (Oct. 31, 2019) (on file with author), https://perma.cc/J9L7-VRUZ.

[39] *Id.*

[40] *Id.*

[41] *Id.*

[42] *Microplastics*, NAT'L GEOGRAPHIC SOC'Y, https://perma.cc/G6AJ-R2U2 (last updated July 1, 2019).

[43] *See, e.g.*, WIJNAND DE WIT & NATHAN BIGAUD, DALBERG ADVISORS, NO PLASTIC IN NATURE: ASSESSING PLASTIC INGESTION FROM NATURE TO PEOPLE 12 (World Wide Fund for Nature, June 2019), https://perma.cc/A72H-B86J (listing potential ways for Governments to address plastic pollution and its effect on humans).

[44] *What are the Health Effects of PFAS?,* AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY, https://perma.cc/WG6Q-V5YM (last updated June 24, 2020); WIT & BIGAUD, *supra* note 43, at 11.

[45] WIT & BIGAUD, *supra* note 43, at 7, 11.

[46] *Id.* at 7.

[47] Hagai Levine et al., *Temporal Trends in Sperm Count: A Systematic Review and Meta-Regression Analysis*, 23 HUMAN REPRODUCTION UPDATE 646, 654 (July 25, 2017); Stephania D'Angelo & Rosaria Meccariello, *Microplastics: A Threat for Male Fertility*, INT'L J. ENV'T RSCH. & PUB. HEALTH Mar. 2021, No. 2392 at 1, 2, 8.

III. PLASTIC ACTIVISM WITHIN THE CLEAN WATER ACT

The CWA is the primary federal statute designed to address water quality.[48] When the CWA was adopted, it was well-recognized that water pollution was harming the environment.[49] Fires burning on industrialized rivers provided a stark visual of the impact of pollution.[50] Today, plastic pollution is also visible, yet as a society, we have been slow to respond.[51] Congress did not design the CWA to address only solid waste or other traditional forms of pollution; the CWA has clearly been effective at cleaning up water pollution since its inception,[52] and in part it has met this challenge because Congress broadly defined its regulatory scope.

Congress designed the CWA to engage both the federal government and states in a cooperative federalism legal architecture to protect the nation's waters.[53] The main components of the CWA include provisions that require a permit before a discharge of pollutants into waters of the United States.[54] The CWA defines "pollutant" broadly to include garbage, as well as industrial, municipal, and agricultural waste discharged into water.[55] Thus, plastic and its subcomponents are clearly readily captured in the definition of "pollutant"—but the structure of the act and its programs make a difference in how regulators address pollutants.[56]

One of the major challenges for addressing water pollution from plastic is that it falls into the categories of both of point- and nonpoint-source pollution, with federal authorities dominating the former and states dominating the latter.[57] The CWA has robustly addressed identifiable "point-source" pollution, while non-point sources remain a continued challenge with programs largely spearheaded by the states. Point-source regulation is addressed through the National Pollutant Discharge Elimination System (NPDES) permitting program, which applies technology requirements at factories and other industrial sites

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[48] CWA, 33 U.S.C. § 1251(a) (2018).

[49] ROBIN CRAIG, ENVIRONMENTAL LAW IN CONTEXT: CASES AND MATERIALS 676 (4th ed. 2016).

[50] *Id.*

[51] *See* Karlsson et al., *supra* note 30, at 59 (noting that visible plastic pollution could be addressed by existing laws in Europe but have not been enforced).

[52] *See* William L. Andreen, *Water Quality Today—Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537, 542 (2004) (noting the CWA's success in reducing industrial pollution and reversing wetland losses).

[53] 33 U.S.C. § 1251(b), (g).

[54] *Id.* § 1342(a).

[55] *See id*. § 1362(6) ("The term 'pollutant' means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.").

[56] Stephanie F. Wood, *Move Over Diamonds–Plastics are Forever: How the Rise of Plastic Pollution in Water Can Be Regulated*, 29 VILL. ENV'T L.J. 155, 158 (2018) (noting EPA regulates plastic as a pollutant).

[57] *See* 33 U.S.C. § 1329 (describing state-led management of non-point source pollution); *see also id.* § 1344 (describing one type of federally led management of point-source pollution, i.e., regulating permits for discharge of dredge or fill materials into navigable waters at specified disposal sites).

that might discharge pollution from a pipe or ditch to receiving waters,[58] as well as regulation on the fill of wetlands for development.[59] Further, the CWA might additionally constrain point-sources if regulators have inadequately addressed pollution in a particular location. Pursuant to the CWA, regulators consider the total maximum daily loads (TMDL) of a pollutant on a water system when waterbodies are not otherwise meeting water quality standards through the application of permits on regulated facilities.[60] But of course, not all pollution comes out of a pipe—stormwater runoff is a clear example of nonpoint-source pollution that can significantly degrade water quality.[61] Nonpoint-source programs, addressed primarily by the states, are not as well-developed.[62] And finally, at the administrative level, we have recognized for two decades that inadequate enforcement prevents the CWA from meeting its full potential.[63]

The Office of Inspector General (OIG)[64] for the U.S. Environmental Protection Agency (EPA) undertook an audit in October 2019 to evaluate EPA's programs as they related to addressing plastic pollution.[65] The OIG identified the main tools of the CWA that could bear on the issue in their May 11, 2021 report.[66] Accordingly, the OIG made clear that EPA could find the path to address plastic pollution by employing specific water quality standards adapted to plastic pollution, increasing control of point sources, better managing nonpoint sources, identifying impaired waters, and establishing TMDLs for those waters.[67]

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[58] *Id.* § 1342(a).

[59] *Id.* § 1344(a), (e).

[60] *Id.* § 1313(d).

[61] U.S. ENV'T PROT. AGENCY, EPA 841-F-03-003, PROTECTING WATER QUALITY FROM URBAN RUNOFF (Feb. 2003), https://perma.cc/J6E2-8BTN.

[62] Robert W. Adler, *Resilience, Restoration and Sustainability: Revisiting the Fundamental Principles of the Clean Water Act*, WASH. U. J.L. & POL'Y 139, 159–61 (2010) (describing the CWA's ineffective regulation of nonpoint sources of pollution).

[63] Andreen, *supra* note 52, at 544.

[64] The OIG is an oversight division within the federal government intended to address illegal, ineffective, or inefficient administrative practices. *About EPA's Office of Inspector General,* U.S. ENV'T PROT. AGENCY, https://perma.cc/EG3Q-QP98 (last visited Mar. 22, 2022). The EPA OIG is an independent office within EPA and explains its mission as to assist EPA to protect the environment in a more efficient, cost-effective way. *Id.* OIG was created pursuant to the Office of Inspector General Act of 1978 and receives its funding from Congress. *Id.*

[65] Memorandum from Kathlene Butler, Dir., Water Directorate, Off. of Audit and Evaluation, on the Effectiveness of Clean Water Act to Protect from Plastic Pollution to David P. Ross, Assistant Adm'r, Off. of Water, and Jennifer Orme-Zavaleta, Principal Deputy Assistant Adm'r for Sci., Off. of Rsch. and Dev. (Oct. 30, 2019). The project yielded two reports. *See* Memorandum from Sean W. O'Donnell on the Office of Research and Development Initiatives to Address Threats and Risks to Public Health and the Environment from Plastic Pollution Within the Waters of the United States to Jennifer Orme-Zavaleta, Principal Deputy Assistant Adm'r for Sci. and EPA Sci. Advisor, Off. of Rsch. and Dev. (Jan. 6, 2021); Memorandum from Sean W. O'Donnell on EPA Helps States Reduce Trash, Including Plastic, in U.S. Waterways but Needs to Identify Obstacles and Develop Strategies for Further Progress to Radhika Fox, Acting Assistant Adm'r, Off. of Water (May 11, 2021) [hereinafter, EPA Helps States].

[66] EPA Helps States, *supra* note 65, at 1–3.

[67] *Id.*

EPA has been slow to use its tools under the CWA to tackle the plastic crisis. The problem of plastic has only recently received attention despite EPA recognizing its potential to impair water quality. In 2012, the Center for Biological Diversity (CBD) petitioned EPA to specifically address water quality criteria for plastic pollution under the CWA.[68] EPA declined to do so.[69] The following year, EPA launched the Trash Free Waters (TFW) program as a voluntary partnership to address plastic pollution.[70] The articulated purpose was to prevent trash from entering waterways and to identify new ways to address trash pollution.[71] The EPA OIG specifically reviewed EPA's strategic planning to implement the TFW program, given it was the main program EPA was pursuing to address plastic pollution.[72] Through the TFW program, EPA provides a range of funding and technical assistance to projects across the country under the main categories of source reduction, trash capture, research on aquatic trash, and community engagement.[73] Potentially more relevant, EPA has developed tools and resources to illustrate best management practices, including a recently published Trash Stormwater compendium, which provides useful information to municipal separate storm sewer system permit writers, for developing trash-related provisions.[74] Industry representatives, such as the American Chemistry Council, have participated in these voluntary efforts.[75]

Given the anemic response to the growing plastic crisis, environmental organizations began to mobilize against plastic pollution in recent years.[76] Those organizations include ones specifically focused on ocean health, like the Surfrider Foundation, as well as organizations focused on wildlife more generally, such as CBD.[77] Many environmental groups have sought to promote more sound environmental practices related to plastic, including lobbying for bans, restricting specific plastic products, or extending producer liability for plastic

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[68] Ctr. For Biological Diversity, Petition for Water Quality Criteria for Plastic Pollution Under the Clean Water Act, 33 U.S.C. § 1314, at 1 (Aug. 22, 2012) [hereinafter 2012 NGO PETITION].

[69] A discussion of the failure to address plastics through the Clean Water Act and specifically in response to a petition for water quality criteria can be found in Rachel Doughty & Marcus Eriksen, *The Case for a Ban on Microplastics in Personal Care Products*, 27 TUL. ENV'T L.J. 277, 284–85 (2014).

[70] U.S. ENV'T PROT. AGENCY, EPA'S TRASH FREE WATERS PROGRAM: SUPPORTING HEALTHY COMMUNITIES AND VIBRANT ECOSYSTEMS, https://perma.cc/9M2A-6DXK (last visited Apr. 19, 2022) [hereinafter TFW PROGRAM].

[71] *Id.*

[72] EPA Helps States, *supra* note 65, at 7–8.

[73] TWF PROGRAM, *supra* note 70.

[74] U.S. ENV'T PROT. AGENCY, EPA-841-R-21-001, TRASH STORMWATER PERMIT COMPENDIUM 1 (2021), https://perma.cc/95A5-V2RB.

[75] Steve Russell, *Plastics in a Circular Economy: A Look Back Helps Industry Push Forward,* AM. CHEMISTRY COUNCIL 2 (Feb. 6, 2020), https://perma.cc/BMT4-E7UB.

[76] *See Citizen Suit Alert: Environmental NGOs Set Their Sights on Plastics*, CROWELL & MORING LLP (Feb. 11, 2020), https://perma.cc/MM4R-4Z8M; *see also* Sarah J. Morath et al., *Plastic Pollution Litigation*, NAT. RES. & ENV'T, Summer 2021, at 41, 41–44 (explaining multiple lawsuits involving citizen plaintiffs and plastic pollution).

[77] Press Release, Ctr. for Biological Diversity, EPA: Waters Around Two Hawaii Beaches Impaired by Plastic Pollution (July 16, 2020), https://perma.cc/93VC-U7NR.

sold as consumer products.[78] Other recent efforts by citizens demand the government address plastic pollution pursuant to authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA),[79] state laws, and the focus of this paper, the CWA.[80]

Citizen suits have long been an important component of CWA enforcement efforts. Citizens may bring a lawsuit pursuant to the CWA to enforce provisions of the statute.[81] Some of the most prominent actions against plastic pollution have occurred in response to citizen suits demanding industry be held accountable for plastic pollution.

A. Nurdles Pollution in South Carolina (CWA § 402)

The Charleston Waterkeeper and South Carolina Coastal Conservation League sued Frontier Logistics in March 2020.[82] Frontier Logistics is a plastic resin packaging company.[83] Plaintiffs alleged that Frontier released nurdles into the environment.[84] Among their alleged violations, Plaintiffs argued that Frontier was discharging pollutants into waters of the United States without an NPDES permit.[85] The Waterkeeper had collected over 14,000 plastic pellets from the Cooper River, Charleston Harbor, and other nearby water areas.[86] Plaintiffs had recovered many of the samples from locations immediately adjacent to Frontier's facility and the facility's fence line.[87] At the facility, Frontier received plastic pellets by rail and then packaged them in bulk for overseas shipment where they would be used to manufacture plastic goods.[88] The case survived a motion for judgment on the pleadings in September 2020,[89] and the parties engaged in settlement negotiations. According to a press release by the Southern Environmental Law Center, Frontier agreed to pay $1.2 million to settle the lawsuit.[90]

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[78] For example, Congress adopted the Microbead-Free Waters Act in 2015, amending the Federal Food, Drug, and Cosmetic Act and limiting the addition of plastic microbeads into cosmetic products. Pub. L. No. 114-114, 129 Stat. 3129 (amending 21 U.S.C. § 331). Although promoted by environmental groups, the Act was also supported by industry because of, among other reasons, the easy replacement by other materials. Jessica Lyons Hardcastle, *Plastic Microbead Ban Signed into Law, Wins Industry Support*, ENV'T + ENERGY LEADER (Jan. 4, 2016), https://perma.cc/7F6W-WEX7.

[79] 42 U.S.C. §§ 9601–9675 (2018).

[80] *See* Morath et al., *supra* note 76, at 41–44 (discussing lawsuits under various environmental laws).

[81] CWA, 33 U.S.C. § 1365 (2018).

[82] Complaint for Declaratory and Injunctive Relief at 1, Charleston Waterkeeper v. Frontier Logistics, L.P., 488 F. Supp. 3d 240 (D.S.C. 2020) (No. 2:20-cv-01089-DCN).

[83] *Id.* at 8.

[84] *Id.* at 1.

[85] *Id.* at 2.

[86] *Id.* at 1–2.

[87] *Id.*

[88] *Id.* at 5.

[89] *Charleston Waterkeeper*, 488 F. Supp. 3d 240, 245 (D.S.C. 2020).

[90] Press Release, S. Env't L. Ctr., Frontier Logistics Agrees to $1.2 Million Settlement in Pellet-Pollution Lawsuit (Mar. 3, 2021), https://perma.cc/4QPT-LUG9.

B. Hawai'i Water Quality Litigation (CWA § 303(d))

CBD and others brought a lawsuit involving microplastic concentrations in Hawai'ian offshore waters.[91] Pursuant to the cooperative federalism structure of § 303(d) of the CWA, states must identify waters that are failing to meet the State's water quality standards.[92] The state must submit to EPA a list of "impaired" waters, and EPA must either approve or disapprove of the list.[93] When EPA identifies waters as "impaired," the state must identify the pollutant causing impairment and develop a plan to improve water quality.[94]

CBD sued EPA for violating § 303(d) when it approved Hawai'i's allegedly deficient list of impaired waters.[95] CBD alleged there was ample evidence of plastic pollution and that failure (both by Hawai'i and EPA) to identify these waters as "impaired" prevented the state from developing a TMDL plan to ensure that those waters would attain applicable water quality standards.[96]

In response to the lawsuit, EPA withdrew its approval and ordered a re-evaluation of data on plastic pollution in Hawai'ian waters.[97] Following a new submission of listed waters by Hawai'i, EPA concluded in July 2020 that two of the listed waters were impaired due to plastic pollution, and thus added those waters to the "impaired waters" list and required the state to incorporate them into the state's TMDL water quality management plan.[98]

Although the plaintiffs had focused on seventeen potential waters, EPA ultimately listed only two as impaired.[99] While this case represents progress—and states must re-visit these listings every two years[100]—it also illustrates how the government has been lukewarm to use this tool to target plastic pollution.

C. Siting Plastic Production in Louisiana (CWA § 404)

As previously discussed, the plastics industry is ramping up its production in North America and looking at sites in proximity to fracking operations such as in Ohio and Louisiana. The potential increase in production of plastics has led to local resistance. Formosa Plastics Group proposed to build a plastics

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[91] Complaint for Declaratory and Injunctive Relief at 1–2, Ctr. for Biological Diversity, v. U.S. Env't Prot. Agency (*CBD v. EPA*), No. 20-cv-00056 (D. Haw. Feb. 5, 2020). The case was voluntarily dismissed on September 2, 2020, without going to trial. *See* Notice of Voluntary Dismissal Pursuant to FRCP 41(a)(1)(A)(i) Order, *CBD v. EPA*, No. 20-cv-00056.

[92] 33 U.S.C. § 1313(d)(1)(A) (2018).

[93] *Id.* § 1313(d)(2); *Overview of Listing Impaired Waters under CWA Section 303(d)*, U.S. ENV'T PROT. AGENCY, https://perma.cc/S4Y7-LJFC (last updated Sept. 20, 2021).

[94] 33 U.S.C. §§ 1313(d)(2), 1314(a)(2).

[95] Complaint for Declaratory and Injunctive Relief at 4, *CBD v. EPA*, No. 20-cv-00056.

[96] *Id.* at 19–21.

[97] Notice Regarding Timing of Forthcoming EPA Action at 2, *CBD v. EPA*, No. 20-cv-00056.

[98] Joint Status Report at 2, *CBD v. EPA*, No. 20-cv-00056.

[99] *Id.*

[100] 40 C.F.R. § 130.7(d)(1) (2021).

facility in Louisiana along the Mississippi River, in St. James Parish.[101] To build its plastics facility, Formosa needed a wetlands permit from the U.S. Army Corps of Engineers (ACOE) to comply with § 404 of the CWA.[102] The proposed pollution burden of the project was high: the facility would double the amount of air pollution in St. James.[103] In fact, numerous other potential sites had been eliminated from consideration due to the limitations of the Clean Air Act.[104]

Environmental groups (including the CBD, Louisiana Bucket Brigade, Rise St. James, and Healthy Gulf) sued in federal court claiming ACOE failed to adequately analyze potential pollution impacts on poor and minority communities.[105] Formosa touted the benefits of its new facility, with a proposed 1,200 new permanent jobs, which would be specifically to produce the components for new, single-use plastic products.[106] Plaintiffs in the litigation to stop the siting of the facility emphasized that more plastic being produced contributes to the overall pollution of our oceans.[107] Furthermore, the affiliated groups began a public campaign to demand ACOE revoke the plant's permit, which yielded over 5,500 letters in opposition to the facility.[108]

The lawsuit, however, proved unsuccessful. The judge hearing the case rejected the environmental and grassroots organizations' lawsuit and dismissed the case.[109] ACOE is still considering the permit, and plaintiffs have pledged to sue again once ACOE issues another final agency decision on the wetlands permit.[110]

This grassroots opposition has also included political lobbying. Some notable Democrats are urging the Biden Administration to stop the project, em-

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[101] Complaint for Declaratory and Injunctive Relief at 2, Ctr. for Biological Diversity v. U.S. Army Corps of Eng'rs (*CBD v. ACOE*), No. 20-CV-103, 2020 WL 5642287 (D.D.C. Sept. 22, 2020).

[102] 33 U.S.C. § 1344(a) (2018). The CWA regulates discharges into waters of the United States. *Id.* § 1251. Some wetlands are considered waters of the United States and thus ACOE regulates when developers may fill in wetlands to construct buildings or other improvements through the § 404 permitting program. *Id.* § 1344(a).

[103] Press Release, CTR. FOR BIOLOGICAL DIVERSITY, Army Corps Receives More Than 5,500 Letters Demanding It Revoke Formosa Plastics' Permit (Feb. 10, 2021), https://perma.cc/FFV6-E9GS [hereinafter CTR. FOR BIOLOGICAL DIVERSITY PRESS RELEASE].

[104] Rick Mullin, *Army Corps Pulls Permit on Formosa Project,* CHEM. & ENG'G NEWS (Nov. 21. 2020), https://perma.cc/T7TK-QVG5. *See* U.S. ARMY CORPS OF ENG'RS, FINDING OF NO SIGNIFICANT IMPACT: PROGRAMMATIC ENVIRONMENTAL ASSESSMENT #556, at 24 (2017), https://perma.cc/V6AE-KR37 (listing nearby areas designated as nonattainment). The Clean Air Act regulates the introduction of additional facilities in areas that do not meet air quality standards. Clean Air Act, 42 U.S.C. §§ 7501–7509 (2018). For areas that are already not in attainment of standards, it is very difficult to introduce new facilities without offsetting pollution in the area and implementing expensive technology requirements. *See id.* (outlining multiple stringent regulations for facilities emitting in nonattainment areas).

[105] Complaint for Declaratory and Injunctive Relief, *supra* note 101, at 31–32.

[106] *The Sunshine Project,* FG LA LLC, https://perma.cc/AM5N-SFGX (last updated 2022).

[107] Complaint for Declaratory and Injunctive Relief, *supra* note 101, at 17.

[108] CTR. FOR BIOLOGICAL DIVERSITY PRESS RELEASE, *supra* note 103.

[109] *CBD v. ACOE*, No. 20-CV-103, 2020 WL 5642287, at *16 (D.D.C. Jan. 1, 2021).

[110] *See* Defendant's Motion to Stay at 5, *CBD v. ACOE*, 2020 WL 5642287 (arguing for a stay on summary judgment to avoid further suit by CBD); David J. Mitchell, *Judge Tosses Lawsuit Over Permit for $9.4 Billion Formosa Plastic Complex; Here's What's Next*, THE ADVOCATE (Jan. 5, 2021), https://perma.cc/9UHG-ASFE.

phasizing environmental injustice.[111] On the other hand, Senator Bill Cassidy of Louisiana objected to the resistance because the plant would bring jobs and industry to Louisiana.[112] Senator Cassidy noted that if the United States does not site this plant here, then another country with more lax environmental standards would establish it.[113] A concern for international pollution equity is worthy of consideration, but it should not drive the decision to overburden St. James Parish with yet another petrochemical facility that would contribute to the existing pollution burden and exacerbate the plastic pollution problem.[114]

Within the local press, newspaper articles discussing the lawsuit against Formosa in St. James Parish emphasized its bad international reputation. For example, a Bloomberg Businessweek article entitled "A Plastics Giant that Pollutes Too Much for Taiwan Is Turning to America" alleged that Formosa is trying to increase its operations in the U.S. Gulf Coast due to the crackdown it faced in Taiwan.[115] Now, the plan is to create more plants like the Sunshine plant in Louisiana and in places where close proximity to fracked gas will allow a surge in new single-use plastic, despite the rising number of bans around the world on this product.[116] Plastic activism, as demonstrated in this case, can bring significant visibility to the rising problem of plastic pollution.

D. Nurdles Pollution at Formosa in Texas (CWA § 402)

Formosa Plastics previously settled an environmental contamination case in Texas where it polluted local water with nurdles.[117] The San Antonio Bay Estuarine Waterkeeper and Sylvia Diane Wilson sued Formosa Plastics for discharging plastic pellets.[118] The litigation established liability for Formosa violating its permit because it discharged "floating solids or visible foam other than trace amounts."[119] Thus, more than trace amounts of plastic triggered a

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[111] Letter from Raul M. Grijalva, Chairman, House Comm. on Nat. Res. and A. Donald McEachin, Member, House Comm. on Nat. Res., to Joseph Biden, President of the United States (Mar. 17, 2021), https://perma.cc/6FUR-G3CE; *see also* Mufson, *supra* note 28 (discussing political opposition to the project).

[112] David J. Mitchell, *Democrats Urge Biden to Revoke Permits for Big Louisiana Plastics Plant; Cassidy Says Butt Out*, THE ADVOCATE (Mar. 17, 2021), https://perma.cc/6D5G-JUNH.

[113] *Id.*

[114] *Environmental Racism in Louisiana's 'Cancer Alley', Must End, Say UN Human Rights Experts*, U.N. NEWS (Mar. 2, 2021), https://perma.cc/7XEP-VNJS (highlighting the disproportionate impact of plants on the African American community in St. James Parish).

[115] Bruce Einhorn and Joe Carroll, *A Plastics Giant That Pollutes Too Much for Taiwan Is Turning to America*, BLOOMBERG BUS. (Dec. 12, 2019), https://perma.cc/XHR6-9HTC.

[116] Polly Mosendz, *This Plastic Mega-Factory Is a $10 Billion Bet on a Single-Use Future*, BLOOMBERG GREEN (June 22, 2020), https://perma.cc/9MPZ-XRQK.

[117] Stacy Fernández, *Plastic Company Set to Pay $50 Million Settlement in Water Pollution Suit Brought on by Texas Residents*, TEX. TRIBUNE (Oct. 15, 2019), https://perma.cc/JC6F-K8T6.

[118] San Antonio Bay Estuarine Waterkeeper v. Formosa Plastics Corp. Tex., 852 F. App'x 816, 817–18 (5th Cir. 2021).

[119] *Id.* at 818.

violation of their Texas Pollutant Discharge Elimination System permit, the NPDES permitting program implemented by Texas.[120]

After the parties settled the lawsuit, another dispute arose from the terms of the consent decree. The parties disputed whether plastic found outside Formosa's outfall lease would be considered a new discharge.[121] Formosa contended that obligations were only triggered on a "new discharge" of plastics, whereas San Antonio Bay contended they were triggered on a "visual detection" of plastics, regardless of when the plastics had been discharged from Formosa property.[122] In an unpublished decision, the district court put the burden on Formosa to prove it was not a new discharge, but the Fifth Circuit Court reversed and remanded.[123] The Fifth Circuit construed the consent decree to resolve all liability for past nurdle pollution.[124]

While this successful litigation illustrates how companies can be held accountable for plastic pollution under the CWA, the ongoing dispute highlights the inevitable challenge with plastic nurdle pollution. Once in the environment, these tiny items are incredibly difficult to track and eliminate; it was factually difficult to prove which nurdles simply persisted in the environment and which nurdles were newly introduced after the consent decree. Although future settlements can be drafted to avoid these interpretative disputes, the reality is that we must anticipate persistent cleanup challenges with nurdles.

E. Petro-Plastics Petitions (Administrative Procedure Act and CWA)

As previously noted, CBD petitioned EPA in 2012 specifically to address Water Quality Criteria for Plastic Pollution under the CWA.[125] Yet at that time EPA declined to do so.[126]

Perhaps the most impressively inclusive citizen effort to address the lack of effective regulation of plastics came in the form of a petition to EPA by 280 environmental, public health, Indigenous, and community non-governmental organizations in July 2019.[127] CBD again spearheaded this effort.[128] The petition demanded that EPA review and revise effluent limitations guidelines and standards applicable to the petroleum refining industrial category (Part 419) and organic chemicals, plastics, and synthetic fibers industrial categories (Part

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[120] *Id.*; *What Is the "Texas Pollutant Discharge Elimination System (TPDES)"?*, TEX. COMM'N ON ENV'T QUALITY, https://perma.cc/DN52-W4CC (last visited Mar. 22, 2022).

[121] *San Antonio Bay Estuarine Waterkeeper*, 852 F. App'x at 818–19.

[122] *Id.* at 819.

[123] *Id.* at 819, 823.

[124] *Id.* at 822.

[125] 2012 NGO PETITION, s*upra* note 68.

[126] *See* Doughty & Eriksen, *supra* note 69, at 284.

[127] Ctr. For Biological Diversity, Petition to Revise the Clean Water Act Effluent Limitations Guidelines and Standards for the Petro-Plastics Industry Under the 40 C.F.R. Part 419 Petroleum Refining Industrial Category (Cracking and Petrochemicals Subparts) and Part 414 Organic Chemicals, Plastics, and Synthetic Fibers Industrial Category, 280 Environmental, Public Health, Indigenous, and Community Non-Governmental Organizations v. Andrew Wheeler, Administrator, U.S. Env. Prot. Agency (July 23, 2019), https://perma.cc/TE8F-KMNG [hereinafter 2019 NGO Petition].

[128] *Id.* at 53.

414).[129] The petitioners relied upon the Administrative Procedure Act[130] and the CWA as the gravamen of their petition and right to demand that EPA engage in required regulation.[131]

The petition aptly described the extent of pollution experienced due to plastic production and emphasized the build-out planned for the immediate future in the United States.[132] Specifically, the petitioners demanded four actions:

1. **Prohibit the discharge of plastic pellets** and other plastic materials in industrial stormwater and wastewater;
2. Update Effluent Limitations Guidelines and Standards for new facilities to **eliminate the discharge of toxic priority pollutants** from wastewater and stormwater streams;
3. For existing facilities, put into effect Effluent Limitations Guidelines and Standards for **pollutants of concern not currently regulated**; and
4. Update current Effluent Limitations Guidelines and Standards for existing facilities to **reflect advances in detection and treatment technologies** since the last revisions decades ago.[133]

The petition highlighted how the failure to update existing regulations has exacerbated the problem with plastic pollution. Before looking to triggering new ways of regulating plastic pollution, it is important to recognize that the petro-plastic facilities in the United States are already under-regulated, due to overdue revisions that would incorporate the state of knowledge and urgency to address the pollution burden of plastics.[134]

The petition articulated an ambitious agenda to capture plastic pollution before it enters the environment.

The Petitioners seek the following:

> A zero plastic (in pellet, flake, powder, granule, or other form) discharge standard for all wastewater and stormwater streams;
>
> A zero detectable discharge requirement for new sources of all pollutants in the wastewater and stormwater streams of new sources;
>
> For existing sources, the promulgation of Effluent Limitations Guidelines and Standards for wastewater and stormwater pollutants of concern not currently regulated; and
>
> For existing sources, an update of decades-old Effluent Limitations Guidelines and Standards to ensure they reflect the best available technology.[135]

With emphasis on zero release, the petition highlighted a painful reality: closing the tap is one of the only effective solutions to address the particularly pernicious nature of plastic pollution. Unless we take ambitious action now, the legacy of plastic pollution will continue to defile our waterways and cause harm to fish, wildlife, and the humans dependent upon them.

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[129] *Id.* at 2.

[130] Pub. L. No. 79-404, 60 Stat. 237 (1946) (codified as amended in scattered sections of 5 U.S.C.).

[131] 2019 NGO Petition, *supra* note 127, at 2.

[132] *Id.*

[133] *Id.*

[134] *Id.* at 1–2.

[135] *Id.* at 5.

IV. CONFRONTING THE LEADERSHIP DEFICIT AND ERODING RULE OF LAW

Plastic activism is gaining the attention of industry analysts and those providing legal services. A client alert from one law firm in 2020 advised that environmental NGOs had "set their sights on plastics," and could be expected in the next few years to use litigation and other legal arguments to pressure policymakers to address plastics.[136] Congress has in fact discussed various bills to address plastic pollution.[137] Minor legislation like the elimination of plastic microbeads from cosmetics has passed at the federal level, and many states and localities are adopting bans on specific plastic products.[138] However, to date no comprehensive reform has emerged. Thus, what is the importance of plastic activism within the CWA?

The importance of this plastic activism is elevated by the heartbreaking lack of federal leadership either in Congress or EPA. Citizen activism is taking up space in a growing leadership void. Thus, plastic activism through the CWA has: (1) brought necessary attention to the growing plastic crisis, and (2) illustrated structural governance challenges for plastic regulation yet to be tackled. These specific challenges concern the shortcoming of cooperative federalism (particularly so in economically depressed states), the plastics industry's outsized influence in government decision-making, and a retread of the same tactics used to evade effective climate regulation. Finally, people in the United States are experiencing eroded faith that the government can fix complex problems under a continued assault on the rule of law. The erosion of trust exacerbates the power disparity which the largest industries wield and it reasserts business solutions to safeguard public goods like water quality. The CWA affords an opportunity for citizens to drive more ambitious environmental protection.

A. Attention to the Plastic Problem

Plastic pollution is not just a marine litter or a trash problem. Industry has promoted this framing in part to avoid application of laws that would constrain production and perpetrate the recycling solution myth.[139] Plastic activism using the CWA has illustrated how plastic is harmful, well beyond the floating trash piles defiling our ocean gyres. Plastic pollution is a problem in the heart of Los Angeles, where California has adopted TMDLs to address trash in the Los Angeles River.[140] Plastic pollution is also a problem on Maryland's Ana-

[136] CROWELL & MORING LLP, *supra* note 76.

[137] *See, e.g.*, Break Free from Plastic Pollution Act of 2021, S. 984. 117th Cong. (2021).

[138] Microbead-Free Waters Act of 2015, Pub. L. No. 114-114, 129 Stat. 3129; *see* Dr. Kishor Dere*, Mobilizing World Public Opinion Against Use of Plastic Products*, 57 CAL. W. L. REV. 81, 98 (2020) (discussing Maine and New York's bans on single-use plastic).

[139] *See* Greta Moran*, The House Just Passed another 'Save our Seas' Act. Here's Why it Won't.,* INTERCEPT (Oct. 7, 2020), https://perma.cc/M3N9-UJZG (discussing the Act's focus on plastic pollution as a marine-specific issue and its failure to regulate plastic production generally).

[140] NGO PETITION, s*upra* note 68, at 8.

costia River.[141] Our rivers and watersheds feed plastic to the oceans, but environmental harms are not all just washed out to sea (as some would have us believe). The activists in St. James Parish live with the burden every day. With their tenacious efforts to block expanded petrochemical facilities from locating in the already-overburdened cancer alley, these activists contrast environmental justice claims against the promises of economic benefit.

Congress has also failed to deliver meaningful legislation, potentially perpetuating the notion that plastic is largely a marine debris problem. The Save Our Seas 2.0 Act,[142] adopted in December 2020, takes only modest actions.[143] The statute seeks to enhance domestic marine debris response capacity, enhance international cooperation on the issue, spur innovation, and improve domestic infrastructure to prevent marine debris by providing grant monies for waste management and mitigation studies.[144] But by focusing on plastic pollution as a marine litter problem, the statute minimizes the urgency of addressing all impacts from plastic waste.[145] The plastics industry supported this bipartisan bill, while many environmental groups did not.[146] As one critique explained, there is a reason the industry liked it—it requires nothing of them and diverts public attention.[147]

As part of a multi-pronged effort to address plastic pollution, we need to employ the tools at our disposal. The actions taken by plastic activists highlight proven tools in the toolbox to address water quality through the CWA.

B. Structural Governance Problems for Combatting Plastic Pollution of Waterways

It is well-understood that in a capitalist system, business interests have a special place, providing jobs and economic development which benefit society.[148] The administrative state has evolved over time, while grappling with competing views on the operation and interplay of market forces, regulation, business interests, and broader civic engagement which might lead to optimal policy and law-making for societal benefit. This evolution increased voice and participation in rulemaking for citizen engagement. Yet some then criticized that policymakers listened too much to the beneficiaries of regulation, and

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[141] Matthew Powell, *The Anacostia River: Urbanization, Pollution, EPA Failures, and the Collapse of the Public Trust Doctrine*, 41 U. BALT. L.F. 68, 84 (2010).

[142] Pub. L. No. 116-224 (2020) (codified in scattered sections of 33 U.S.C.).

[143] *See* Moran, *supra* note 139 (explaining that the Save Our Seas Act fails to address the plastics crisis effectively).

[144] Press Release, Senator Sheldon Whitehouse, Save Our Seas 2.0 Act Passes Senate Unanimously (Jan. 10, 2020), https://perma.cc/X3V7-QJEY.

[145] *See* Moran, *supra* note 139 (identifying the Act as an extension of failed policies).

[146] *Opposition Letter to Save our Seas Legislation November 19*, #BREAKFREEFROMPLASTIC (Nov. 8, 2019), https://perma.cc/YKV2-EPVB.

[147] *See* Moran, *supra* note 139 (quoting Brett Hartl, government affairs director at the Ctr. For Biological Diversity).

[148] *See* Sidney A. Shapiro, *Administrative Law After the Counter-Reformation: Restoring Faith in Pragmatic Government*, 48 U. KAN. L. REV. 689, 693 (2000) (discussing the weak role the government has played in policing certain industries).

now business interests themselves have financial resources greater than many sovereign states.[149] This is particularly relevant for the framing of a social or environmental problem since problem-framing is critical for yielding a workable, effective solution. Powerful interests, such as the plastic industry, can use resources to frame social problems and then promote policy solutions that abdicate responsibility. For plastic pollution, this has meant the false insistence that recycling efforts would be successful if: (a) individual consumers participated; and (b) governments improved waste collection.[150] In the statutory policy arena at the federal level, this has yielded minor statutory reforms, such as eliminating microbeads from cosmetics and increasing focus on cleanup of ocean litter, for example, with the Save our Seas Act.[151]

How agencies prioritize meeting their statutory missions is also a contested area. Scholars have debated the appropriate level of "slack" agencies are afforded to fulfill their mission.[152] EPA has been under-resourced and must simultaneously meet its mission while rationing resources.[153] Thus, it is necessary for EPA to prioritize the problems it will address. Plastic activism is striking up against agency autonomy at a time where the rule of law is being actively eroded to undermine the protection of public goods. If EPA and the states are not held accountable for using their authorities under the CWA, then the plastics industry would be allowed to produce illegal levels of pollution.

Finally, cooperative federalism frameworks are particularly ill-suited to address certain environmental problems.[154] The CWA federalism structure falls apart with the issue of plastics. Aptly described as a problem of "coordination, disruption, and lack of resiliency" by Douglas Williams,[155] the challenges are

[149] Reformation in the 1970s (when the CWA was adopted) sought to address a concern that business interests had captured agencies, and reformers were concerned that what gains are made through lawmaking could be lost by agencies who used their discretion to regulate business interests in a lax manner. *Id.* at 693–94. This ushered in the era of more citizen engagement in rulemaking and access to courts to enforce the laws. *Id.* at 694–96. In response, the counter-reformation pushed against this narrative, instead suggesting the government listened too much to the beneficiaries of regulation. *Id.* at 697. They emphasized the need for rationality in government—efforts like cost-benefit analysis—and sought to emphasize how government failure hurt both intended beneficiaries and business. *Id.* at 698–707.

[150] Factually, recycling methods have never been able to manage the quantity of plastic produced. Only a small percentage of plastic has ever been recycled, and nearly all plastic ever produced still exists. Roland Geyer et al., *Production, Use, and Fate of all Plastics Ever Made,* SCI. ADVANCES, July 2017, at 2–3.

[151] Microbead-Free Waters Act of 2015, Pub. L. No. 114-114, 129 Stat. 3129 (2015).

[152] Slack is the administrative power agencies have to implement programs and missions without being checked by other aspects of the federal government. David Markell, *'Slack' in the Administrative State and its Implications for Governance: The Issue of Accountability*, 84 OR. L. REV. 2 (2005). Markell argues that while the federal government system is becoming more transparent as a whole, some aspects have the potential of shifting the overall system towards less openness and accountability to the general public. *See id.* at 4–5.

[153] *See* OFF. OF INSPECTOR GEN., U.S. ENV'T PROT. AGENCY, REP. NO. 21-P-0132, RESOURCE CONSTRAINTS, LEADERSHIP DECISIONS, AND WORKFORCE CULTURE LED TO A DECLINE IN FEDERAL ENFORCEMENT 19–20 (May 13, 2021) (reporting that a decline in funding contributed to reduced enforcement activity).

[154] Douglas R. Williams, *Toward Regional Governance in Environmental Law*, 46 AKRON L. REV. 1047, 1050–52 (2013).

[155] *Id.* at 1070.

both structural to the CWA and yet also of this particular moment, where the rule of law has been considerably eroded.

First, if a program depends on EPA to take the first step in a chain of ultimate regulation, and EPA delays, then the issue takes longer to get resolved. This problem is emphasized when EPA declines to adopt water quality standards for plastic pollution or to revise its petro-chemical standards which states would later implement. Second, if states require more information from EPA due to the relative disparity of capacity, including expertise, then EPA needs to provide this resource or else it fails to coordinate effectively with states. Although EPA launched the Trash Free Waters program to address some of the challenges with coordination and information sharing, these challenges remains structurally woven into the CWA federalism.

Plastic activists are demanding that EPA use its expertise to implement the CWA toward cleaning up plastic pollution. While EPA's Trash Free Waters programs have promoted progress, EPA has served as only a reluctant expert.[156] EPA's focus on the problem could serve as a legitimating force, catalyzing more powerful efforts by policy and lawmakers to address the rising burden of plastic pollution. By more robust actions, EPA could meaningfully address the leadership deficit of the government's response to the plastic crisis—regardless of whether the actions come as part of an infrastructure, environmental justice, or climate focus.

Failure to enforce laws creates a feedback loop that continues to undermine and erode the rule of law. Plastic activism has demanded EPA sufficiently enforce the CWA point-source provisions while drawing attention to the need for enhancing nonpoint-source pollution programs. Scholars emphasize the growing sense of a need to advance an environmental rule of law within the sustainable development agenda.[157] Strategically undermining the leadership of key institutions such as EPA has accomplished the aggressive roll-back of fundamental environmental safeguards. It is false hope that industry will meaningfully address the global plastic crisis, and such faith is self-defeating. In assessing progress on plastic pollution to date, the PEW Trust report states that "[i]ndustry has also made high-profile commitments, but these are primarily focused on post-consumer downstream solutions and often in low-leakage countries."[158] It is in this very space that we need foundational environmental laws—and the decades of agency expertise in implementing them—focused on addressing a new problem impacting the health of our waters.

The plastic and fossil fuel industries are evading new plastic regulation much the same as they have climate change regulation: with a combination of

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[156] *See* Sidney A. Shapiro, *Law, Expertise and Rulemaking Legitimacy: Revisiting the Reformation*, 49 ENV'T L. 661, 672–78 (2019) (explaining how EPA develops and wields expertise pursuant to the CWA related to jurisdiction). Professor Shapiro examined the role of expertise in legitimating agency decisions and emphasized the relevance for such agencies to identify policy options to implement statutory responsibilities. *Id.* at 678–80.

[157] Alexandra Dapolito Dunn & Sarah Stillman, *Advancing the Environmental Rule of Law: A Call for Measurement*, 21 SW. J. INT'L L. 283, 284–89 (2015).

[158] THE PEW CHARITABLE TRUSTS & SYSTEMIQ, BREAKING THE PLASTIC WAVE: A COMPREHENSIVE ASSESSMENT OF PATHWAYS TOWARDS STOPPING OCEAN PLASTIC POLLUTION 9 (2000), https://perma.cc/ER6T-6Y9N.

denial, distraction, deflection, and ultimately, resistance.[159] Plastics are a billion-dollar industry and have a unique and out-sized influence over government actions.[160] As one scholar explained, plastics is the eighth-largest industry domestically; thus "[b]ecause of its sheer size, the plastics industry is able to influence governmental decision-making at various levels."[161]

Beyond influencing government decisions, industry also seeks to influence public opinion. By focusing on recycling efforts, the plastic industry intended to distract the public from being concerned that our use of plastic was harmful to the environment.[162] The plastic industry has long known it needs to address this public image problem to successfully sell more consumer products.[163] Particularly for a product that is so woven into our society, the reign of plastic will not continue unless its innocuous image persists. Plastic activism is an important counter-narrative.

As previously discussed, the EPA OIG evaluated whether the agency was adequately utilizing the CWA to address plastic pollution. The OIG highlighted multiple areas where improved CWA programs would address plastic pollution. For one, too few states are identifying their waters as impaired and thus triggering TMDL coverage for plastic pollution.[164] Also, insufficient municipal waste systems lead to more plastic pollution and need to be more effective.[165] Finally, the OIG noted that there is insufficient data collection to support states in their efforts to tackle the problem.[166] The main takeaway of these recommendations is that the CWA can and should be used to address this growing threat to water quality.[167]

Critical to understanding the purpose of OIG efforts is its acknowledgement that the audit was addressing a key goal of the CWA, that is, "[e]nsuring clean and safe water" and a key EPA management challenge, "[o]verseeing states implementing EPA programs."[168] Unfortunately, there are a number of reasons we could point to for the failure of EPA to address plastic adequately through their existing authorities.[169] Plastic activism was—and remains—a necessary shot in the arm.

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[159] CHANGING MKTS. FOUND., TALKING TRASH: THE CORPORATE PLAYBOOK OF FALSE SOLUTIONS TO THE PLASTIC CRISIS 8 (2020), https://perma.cc/MQS8-WYYK.

[160] Dere, *supra* note 138, at 85–86.

[161] *Id.* at 86.

[162] *Planet Money: Waste Land,* NPR, at 09:49 (Sept. 11, 2020) https://perma.cc/YM75-KV6S (discussing how the plastic industry sought to advertise its way out of the problem by providing significant funding for recycling efforts they knew were doomed to fail).

[163] *Id.*

[164] EPA Helps States, *supra* note 65, at 6. States such as California, Maryland, Hawai'i, and Alaska have taken this step. *Id.*

[165] *Id.* at 7.

[166] *Id.* at 9.

[167] *Id.*

[168] *Id.* at At a Glance.

[169] Decline in resources is one potential reason, as is the theory that the Trump Administration EPA explicitly sought to orient EPA toward industrial and industry-friendly interests. Lindsey Dillon et al., *The Environmental Protection Agency in the Early Trump Administration: Prelude to Regulatory Capture*, 108 AJPH PERSPECTIVES, Editorial S89, S93 (2018) (exploring the theory of regu-

V. CONCLUSION

Plastic pollution is not an intractable problem. A piecemeal solution which addresses the full life cycle of plastics will significantly address the plastic burden and can curtail its expansion. The CWA's provisions are directly applicable to addressing the production of plastic and discharge of plastic production byproducts and waste into U.S. waterways. Citizen activism has demonstrated the expectation that the government should use these existing legal tools to address known threats.

As the CWA reaches the milestone of fifty years, the importance of protecting the rights of citizen activists cannot be overstated. Plastic activism under the CWA demonstrates the wisdom of citizen participation, echoed through these five decades of its adoption. Like plastic itself, we may yet see that the CWA is both flexible and durable enough to tackle a novel pollution problem.

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latory capture throughout EPA's history from 1990 to the present, supported by interviews of EPA employees).

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Part III — Topical Reading

Topical Reading

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