

ARTICLES

ADAPTING TO COAL PLANT CLOSURES: A FRAMEWORK FOR UNDERSTANDING STATE RESISTANCE TO THE ENERGY TRANSITION

BY

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In response to market pressures and renewable generation mandates, utilities are making the decision to close coal-fired generation assets prior to their scheduled retirement dates. Impacts of early coal plant closures to workers and communities can be devastating. The conventional response among state policy makers has been to create short-term programs to transition workers and provide local economic development assistance. However, through detailed comparative analysis of energy transition policies among states in the Rocky Mountain region, a heterogeneity of policy choices emerges. Notably, this includes energy transition resistance, efforts to thwart or delay coal plant closures and other changes consistent with a shift toward renewable generation. This Article unpacks the underlying drivers of energy transition resistance as closely tied to fossil-dependent revenue models and suggests the need for both state-level policies and federal investments in economic diversification.

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I. INTRODUCTION

Throughout the United States, coal-fired power plant generation (coal plants) are rapidly retiring or announcing plans to do so.¹ Significant additional retirements are anticipated through 2025² as a result of shifting social, political, regulatory, and economic conditions.³ Although core to decarbonization policies, early coal plant retirements pose significant impacts to states, ratepayers, and communities with resource-dependent economies.⁴ Coal plant retirements may result in a variety of social and economic challenges. These challenges include managing the residual economic value of coal plants that have been retired early; economic redevelopment of coal assets and the communities where they

¹ Slade Johnson & Kien Chau, *More U.S. Coal-Fired Power Plants Are Decommissioning as Retirements Continue*, U.S. ENERGY INFO. ADMIN. (July 26, 2019), <https://perma.cc/84KE-N9FS>.

² *Id.* at fig.1: *Total net summer capacity of retired and retiring coal units (2010-2025)*; Dennis Wamsted & Seth Feaster, *IEEFA U.S.: Surge of coal-fired generation retirements are looking like a reverse S-curve*, INSTITUTE FOR ENERGY ECONOMICS AND FINANCIAL ANALYSIS, <https://perma.cc/9E8Q-P783> (July 13, 2021); Visual Capitalist, *Road to Decarbonization: U.S. Coal Plant Closures*, <https://perma.cc/DT9Y-8SRJ> (as of June 2021).

³ ROBERT GODBY ET AL., UNIV. OF WYO. CTR. FOR ENERGY ECON. AND PUB. POLY, *THE IMPACT OF THE COAL ECONOMY ON WYOMING* 4, 6 (2015).

⁴ Christian Fong & Sam Mardell, *Securitization in Action: How US States Are Shaping an Equitable Coal Transition*, RMI (Mar. 4, 2021), <https://perma.cc/FLM4-PPTC>.

are located; and significant declines in tax revenue, job losses, and workforce displacement and retraining.⁵

Faced with ongoing coal plant retirements and, in some instances, the closure of coal mines, states have adopted a variety of approaches to address the economic and distributive impacts of coal asset retirements.⁶ These policies are aimed at transforming state economies, workforces, energy markets, and communities.⁷ Policies may intend to accelerate the transition to renewable and zero-carbon electricity, ease local and statewide impacts of the energy transition, or resist the transition through policies designed to defer retirements and avoid detrimental impacts to state and local economies. In each case, state policies reflect a series of choices that consider the interests of ratepayers, utility shareholders, impacted communities, and other stakeholders.

While the forces motivating the reduction of coal in the national generation fleet are common, the responses among states can be quite different while rationally motivated. This Article examines the policy responses to the energy transition in the four states along the eastern edge of the Rocky Mountain region: Colorado, Montana, New Mexico, and Wyoming. Each of these states has coal assets that are slated for early retirement and economies that are supported or even dependent on, to a greater or lesser extent, resource extraction as well as generation.⁸ Legislative responses are tailored differently depending upon the anticipated positive or negative economic impacts predicated to result from the energy transition. This Article categorizes and differentiates these approaches as those that *compel*, *ease*, or *resist* the driving forces of energy transition at play within each state. In so doing, this Article provides a compelling window into the distributive impacts of the energy transition and the forces underpinning energy transition resistance.

The closures and retirement of coal generation assets are both pivotal to the decarbonization goals of the energy transition and a consequence of decades of changing social and economic conditions. Part II of this Article examines the drivers of coal asset retirements, including economic competition from other sources, regulatory uncertainty, and climate policy. Part III then provides an overview of the social and economic impacts of early coal asset retirements to workers, communities, utility ratepayers, and, at times, state revenue. These drivers of change and associated impacts have compelled states to enact new energy transition policies. Part IV applies the aforementioned

⁵ TOM GUEVARA ET AL., IND. UNIV. PUB. POL'Y INST., ECONOMIC, FISCAL, AND SOCIETAL IMPACTS OF THE TRANSITION OF ELECTRICITY GENERATION RESOURCES IN INDIANA 1, 10, 13–14, 23 (2020).

⁶ ABBY NEAL, ENV'T AND ENERGY STUDY INST., ISSUE BRIEF: HOW COAL COUNTRY CAN ADAPT TO THE ENERGY TRANSITION 5–7 (Amber Todoroff ed., 2020).

⁷ EMMA CIMINO & JESSICA RACKLEY, NAT'L GOVERNORS ASS'N, CTR. FOR BEST PRACTICES, GOVERNORS LEADING ON ENERGY TRANSITIONS: AN OVERVIEW OF STATE ENERGY GOALS 2, 5–6 (2020).

⁸ U.S. DEP'T OF ENERGY, NAT'L ENERGY TECH. LAB'Y, INITIAL REPORT TO THE PRESIDENT ON EMPOWERING WORKERS THROUGH REVITALIZING ENERGY COMMUNITIES 6–10 (2021).

framework to compare and contrast energy transition policies in the four states, categorizing various attributes as either *compelling*, *easing*, or *resisting* the energy transition. Part V examines the underlying drivers of state resistance to energy transition through the lenses of economic analysis and just transition. Part V also identifies state and federal policy opportunities to address the disproportionate impacts of the energy transition in states like Wyoming, where economic impacts resonate well beyond the immediate communities affected and cannot be addressed through community and workforce policies alone.

II. THE DECLINE OF COAL GENERATION

In response to a variety of economic, regulatory, and policy challenges, utilities throughout the United States have increasingly opted to retire coal generation assets.⁹ Over the past decade electricity demand has been lower than anticipated, making competition among energy sources keener.¹⁰ Low natural gas prices and comparably lower costs associated with building natural gas generation facilities have been the primary reason for the decline of coal.¹¹ Looking forward, renewables pose an even greater threat to remaining coal generation as a result of diminishing operating and construction costs combined with federal and state incentives to make new capital investments.¹² In many parts of the United States, renewables are now the lowest cost form of new generation relative to both new natural gas projects and existing partially or fully depreciated coal plants.¹³ As utilities invest in more intermittent renewable generation, coal is additionally disadvantaged as a result of its' limited operational flexibility to adjust output relative to other thermal sources, which undermines the incentive to retain coal assets.¹⁴

⁹ Kenneth Dubin, *U.S. Coal Plant Retirements Linked to Plants with Higher Operating Costs*, U.S. ENERGY INFO. ADMIN. (Dec. 3, 2019), <https://perma.cc/Z5DX-TCHP>; *What's Driving the Decline of Coal in the United States*, CLIMATE NEXUS, <https://perma.cc/FW7W-P462> (last updated Mar. 21, 2019).

¹⁰ TREVOR HOUSER ET AL., COLUMBIA CTR. OF GLOBAL ENERGY POL'Y, CAN COAL MAKE A COMEBACK? 5, 7 (2017).

¹¹ FRANCISCO FLORES-ESPINO ET AL., NAT'L RENEWABLE ENERGY LAB'Y, COMPETITIVE ELECTRICITY MARKET REGULATION IN THE UNITED STATES: A PRIMER 10, 12 (2016); CAMILA STARK ET AL., JOINT INST. FOR STRATEGIC ENERGY ANALYSIS, RENEWABLE ELECTRICITY: INSIGHTS FOR THE COMING DECADE v (2015); see HOUSER ET AL., *supra* note 10, at 5 (explaining that a surge in United States natural gas production drove down prices and made coal increasingly uncompetitive in United States electricity markets).

¹² INT'L ENERGY AGENCY, WORLD ENERGY INVESTMENT 2020 19, 71, 186 (5th ed. 2020).

¹³ See *Levelized Cost of Energy, Levelized Cost of Storage, and Levelized Cost of Hydrogen*, LAZARD (Oct. 19, 2020), <https://perma.cc/WUA6-4JTC> (noting in the figure regarding levelized cost of energy comparison that levelized costs of renewables are lower than the marginal costs of existing conventional generation).

¹⁴ See Miguel Angel Gonzalez-Salazar et al., *Review of the Operational Flexibility and Emissions of Gas- and Coal-fired Power Plants in a Future with Growing Renewables*, 82 RENEWABLE & SUSTAINABLE ENERGY REV. 1497, 1499 (2018) (classifying plants as an "inflexible power generation" technology in contrast to "flexible" and "highly flexible" technologies such as biomass, biogas, and combined and simple cycle gas turbines); Tyler

In addition to market challenges, coal plants are subject to regulatory costs and risks. Following the United States Supreme Court in *Massachusetts v. EPA*,¹⁵ the Environmental Protection Agency (EPA) implemented a suite of regulatory programs intended to limit atmospheric emissions of GHGs, including CO₂ from both stationary and mobile sources.¹⁶ Compliance with these programs, and future regulatory mandates, may pose significant additional costs to coal plants.¹⁷ Renewable energy sources do not emit criteria pollutants that are regulated under the Clean Air Act¹⁸ and, thus, do not face the same costs related to post-combustion emission control.¹⁹ As a result, renewables enjoy an additional and unpriced regulatory advantage over existing coal generation.

Although not a principal driver of early coal retirements thus far, decarbonization policies further discourage continued operation of coal plants. On the first day of his term in office, President Biden announced his goal for total decarbonization of the United States electricity market by 2035.²⁰ The Paris Agreement,²¹ federal tax-subsidy programs for

Hodge, *EIA Expects 2020 Summer U.S. Electricity Demand to be Lowest Since 2009*, U.S. ENERGY INFO. ADMIN. (June 10, 2020), <https://perma.cc/TBH4-VKEY>.

¹⁵ *Massachusetts v. U.S. Env't Prot. Agency*, 549 U.S. 497 (2007).

¹⁶ Endangerment and Cause or Contribute Findings for Greenhouse Gases Under the Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,502, 66,505-06 (Dec. 15, 2009) (codified at 40 C.F.R. Chapter I).

¹⁷ See, e.g., U.S. ENV'T PROT. AGENCY, REGULATORY IMPACT ANALYSIS FOR THE REPEAL OF THE CLEAN POWER PLAN, AND THE EMISSION GUIDELINES FOR GREENHOUSE GAS EMISSIONS FROM EXISTING ELECTRIC UTILITY GENERATING UNITS at ES-5 (2019) (estimating that the annual cost of compliance with EPA's guidelines for greenhouse gas emissions will be 290 million dollars in 2025).

¹⁸ 42 U.S.C. §§ 7401–7671(q) (2018).

¹⁹ See *Avoided Emissions and Generation Tool (AVERT)*, U.S. ENV'T PROT. AGENCY, <https://perma.cc/C43M-JQ83> (last visited Sept. 29, 2021); JEREMY FISHER ET AL., ASSESSING THE EMISSION BENEFITS OF RENEWABLE ENERGY AND ENERGY EFFICIENCY USING EPA'S AVOIDED EMISSIONS AND GENERATION TOOL (AVERT) 2, 16, <https://perma.cc/X5FG-37W4> (last visited Nov. 30, 2021).

²⁰ Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7622 (Feb. 1, 2021).

²¹ Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104. While the United States started the process of withdrawing from the Paris Agreement under President Trump, states and investors have separately followed the goals in the agreement. See, e.g., *Alliance Principles*, U.S. CLIMATE ALL., <https://perma.cc/T33X-ZNYQ> (last visited Oct. 14, 2021) (stating that Governors who choose to participate in the United States Climate Alliance are committed to implementing greenhouse gas emission reductions in their state that are consistent with the goals of the Paris Agreement); President Biden announced his intention to re-enter the Paris Agreement, a decision which officially took effect on February 19, 2021. See *Paris Climate Agreement*, THE WHITE HOUSE: BRIEFING ROOM (Jan. 20, 2021), <https://perma.cc/D6PY-5EAE> (stating President Biden's acceptance of the Paris Agreement); Antony J. Blinken, *The United States Officially Rejoins the Paris Agreement*, U.S. DEPT OF STATE (Feb. 19, 2021), <https://perma.cc/WML8-MRBG>; The Glasgow Climate Pact, agreed to during COP26, calls upon parties to “phasedown” use of “unabated coal power.” see UNFCCC, *Glasgow Climate Pact*, § 36, (advance unedited version) <https://perma.cc/59FW-KGJM>.

renewable resources,²² and regional, state, and local low carbon fuel and electricity standards have guaranteed markets for renewable generation and have further encouraged transitions away from coal.²³ Combined with higher operating, workforce, and maintenance costs,²⁴ utilities across the country have not invested in the construction of new coal plants,²⁵ acknowledging the economic advantages to retiring coal units, sometimes prior to the end of their economic lives, and replacing their electrical output with energy generated from natural gas, wind, and solar.²⁶

III. SOCIAL AND ECONOMIC IMPACTS OF THE ENERGY TRANSITION

While there are positive environmental benefits associated with the early closure of coal plants, including the reduction in air pollution, negative social and economic impacts often follow as well.²⁷ As noted by Professor Ann Eisenberg, “[t]he transition to a low-carbon society will have winners and losers as the costs and benefits of decarbonization fall unevenly on different communities.”²⁸ For some communities, particularly low-income and communities of color, the closure of coal plants is often a benefit.²⁹ For others, coal-fired power plants have provided a stable source of employment and tax revenue.³⁰ Citizens, local governments, and even states have come to rely upon these facilities as a

²² DIRECT FEDERAL FINANCIAL INTERVENTIONS AND SUBSIDIES IN ENERGY IN FISCAL YEAR 2016, U.S. ENERGY INFO ADMIN. 3 (2018).

²³ Jonas J. Monast, *Electricity Competition and the Public Good: Rethinking Markets and Monopolies*, 90 U. COLO. L. REV. 667, 680 (2019).

²⁴ HERMINÉ NALBANDIAN-SUGDEN, INT’L ENERGY AGENCY CLEAN COAL CTR., OPERATING RATIO AND COST OF COAL POWER GENERATION 33, 35 (2016).

²⁵ See STEPHEN NALLEY & ANGELINA LAROSE, U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2021 14 (2021) (forecasting significant coal retirements and no new coal generation between 2021 and 2050).

²⁶ STARK ET AL., *supra* note 11, at vi; Taylor Kuykendall, *US Power Generators Reporting Savings, Other Benefits From Phasing Out Coal*, S&P GLOB. MKT. INTEL. (Aug. 7, 2019), <https://perma.cc/H6W2-VG55>.

²⁷ Matthew S. Henry et al., *Just Transitions: Histories and Futures in a Post-COVID World*, 68 ENERGY RSCH. & SOC. SCI. 2020, 1; See Ann M. Eisenberg, *Just Transitions*, 92 S. CAL. L. REV. 273, 275 (2019) (explaining that people whose livelihood depends on high carbon industries bear a large portion of the burden of the economic costs that accompany decarbonization).

²⁸ Eisenberg, *supra* note 27, at 273.

²⁹ See *id.* at 281 (stating that “[p]eople of color, indigenous communities, and people living in poverty have [historically] borne the worst burdens of fossil-fuel supplied energy production[.]”). The Energy News Network, citing the NAACP has stated that “[n]ationally, over 60% of African Americans and 40% of Latinos live within 30 miles of a coal-fired power plant, and those residents are typically exposed to upward of 60% more pollution than they produce through consumption and daily activities.” Energywire, *Thousands of Coal Workers Lost Jobs. Where Will They Go?*, ENERGY NEWS NETWORK (June 25, 2020), <https://perma.cc/C96C-5UHS>.

³⁰ Energywire, *supra* note 29.

driving force in their economies.³¹ When coal-fired power plants are retired, jobs are lost and tax revenue goes away, causing economic and social impacts, particularly at the community level.³² The Pew Center of Global Climate Change has found that the negative impacts of economic transitions like the energy transition “are generally manifested sequentially: businesses are usually the first to feel the pain of economic decline, followed by their workers, and then the local communities where those workers live.”³³

While the United States economy is large enough that it is not impacted by coal-sector job losses, the impact to regional and local economies will be significant.³⁴ This is particularly true in rural settings where there are relatively few job opportunities for laid-off workers and where it may be difficult to attract and create new jobs.³⁵ Due to limited access to metropolitan markets and educated labor forces, rural communities may struggle to diversify their economies.³⁶ Moreover, these communities may be more dependent on coal assets for their general fiscal health.³⁷ The loss of coal industry equates to the loss of a major employer and taxpayer, which can jeopardize the ability of local governments to provide public services, administer state programs, provide social and health services, conserve the environment, and strengthen economies.³⁸ These system-wide impacts ripple through communities, constraining economic adaptation by limiting options for workforce development and funding from government services.³⁹ Because long-term planning and impact analysis are not mandated components of retirement and decommissioning processes, coal plant retirements often come as a surprise to local communities.⁴⁰

Despite a general awareness of the energy transition and the existing and future impacts to communities and states from the early retirement of coal assets, state-level transition planning and community impact solutions and analyses have been slow to develop.⁴¹ State policies when

³¹ Ethan Rosenfeld, *Transition Plans for Coal-Fired Power Plant Closings: Stability, Opportunity, & Community*, J. ENERGY & ENV'T. L., Spring 2015, at 71, 71.

³² Julia Haggerty et al., *Planning for the Local Impacts of Coal Facility Closure: Emerging Strategies in the U.S. West*, 57 RES. POL'Y 69, 71 (2018) [hereinafter *Planning for Local Impacts*].

³³ JUDITH M. GREENWALD ET AL., COMMUNITY ADJUSTMENT TO CLIMATE CHANGE POLICY 1 (2001).

³⁴ Mark Haggerty, *Communities at Risk from Closing Coal Plants*, HEADWATERS ECON. (Mar. 23, 2017), <https://perma.cc/A6J8-UQ2X>.

³⁵ See *id.* (noting that workforce impacts may be most acute for skilled but less well-educated workers due to the lack of well-paying replacement jobs).

³⁶ *Id.*

³⁷ *Id.*

³⁸ See, e.g., Rosenfeld, *supra* note 31, at 72 (describing the Dunkirk, NY coal plant that paid taxes accounting for 18% of the city's budget and paid 4.1 million dollars annually to the local school district).

³⁹ *Id.* at 73.

⁴⁰ *Planning for Local Impacts*, *supra* note 32.

⁴¹ Rosenfeld, *supra* note 31.

extant, have only been enacted within the past several years.⁴² Notably, these policies are increasingly focused on labor and community impacts.⁴³ State approaches, however, differ significantly in their objectives and mechanisms, with some states accelerating energy transitions and incentivizing early coal plant retirements, while others aim to address social impacts by attempting to forestall transitions or stabilize declining markets for coal.⁴⁴

IV. COMPARISON OF ENERGY TRANSITION POLICIES IN THE ROCKY MOUNTAIN REGION

State legislatures across the Rocky Mountain region have adopted energy transition policies in response to the industrial transitions underway in those states.⁴⁵ This Part categorizes these policies as either compelling, easing, or resisting the underlying energy transition.⁴⁶ Policies which *compel* are those which accelerate the transition toward specific, more desirable alternative whereas those which *ease* generally accept the transition as inevitable and allow transformation energy and industrial systems but address short-term and localized impacts. These policies can be distinguished from those that *resist*. Rather than accept the energy transition as a *fait accompli*, resisting policies attempt to perpetuate aspects of the current or historic system by counteracting drivers of the transition. While each state's overall response to the energy transition may be categorized generally within one of these responses, a

⁴² While a number of states enacted renewable portfolio standards in the late 1990's and early 2000's, statutes addressing stranded assets and social and community impacts are much more recent. *E.g.*, *State Renewable Portfolio Standards and Goals*, NAT'L CONF. OF STATE LEGIS. (Aug. 23, 2021), <https://perma.cc/QCP9-BFLG>. New Mexico's 2019 Energy Transition Act was the first legislation passed in the country to comprehensively address community and workforce impacts as part of accelerated coal asset retirements. Since then, other states have followed including Colorado's Just Transition Act (2020), California's Governor Newsome issued an executive order directing two state agencies to develop a "just transition roadmap," Gov. Gavin Newsom, Executive Order N-79-20 (Sept. 23, 2020), and proposed legislation in Pennsylvania titled the Energy Innovation and Investment Act, 2019 Pennsylvania Senate Bill No. 15, Pennsylvania Two Hundred Fourth General Assembly - 2019-2020.

⁴³ *See, e.g., infra* text accompanying notes 48–49 (describing how Colorado's "Just Transition Act" encourages community investment in clean energy jobs).

⁴⁴ *Compare infra* text accompanying notes 50–51, *with infra* text accompanying notes 180–186 (contrasting state policies that embrace clean energy transitions with those that don't).

⁴⁵ *See, e.g.,* Silvo Marcacci, *Colorado's Untapped \$7.5 Billion Economic Opportunity: Ambitious Climate Policy*, FORBES (May 20, 2021), <https://perma.cc/VW9R-ZART> (explaining that renewable sources are now cheaper than coal, thus driving ambitious clean energy policy).

⁴⁶ This framework was developed, in part, based on the resist, adapt, direct (RAD) framework used to evaluate managerial responses to ecosystem change. *See* Laura M. Thompson, et al., *Responding to Ecosystem Transformation: Resist, Accept, Or Direct?*, 46 FISHERIES, Jan. 2021, at 8, 10 (suggesting three responses—resist, accept, or direct—to ecosystem transformation depending on the rate and direction of the change).

state's response may—at the same time—be comprised of multiple policies that, alone, are consistent with more than one type of strategy.

By taking a comparative and holistic approach which views each response as a thoughtful policy adaptation to dynamic and systemic changes in the energy landscape, this framework illustrates the differences between state approaches and positions them along a spectrum ranging from policies that advance or accelerate the transition toward ones which attempt to impede changes underway. In so doing, it identifies and groups together policy choices consistent with state-level energy transition resistance. This Article then unpacks the underlying economic conditions which may serve as drivers of energy transition resistance. In so doing, this Article illuminates opportunities for resisting states to adapt to the energy transition while concurrently suggesting the need for federal resources and regional coordination.

A. Compel: Policies that Accelerate Long-Term Industrial and Energy Transitions

Policies that accelerate the energy transition are classified as policies that *compel* change. These policies lay out frameworks and establish funding to support municipalities and public utility regulatory agencies efforts to transition toward low and zero carbon energy sources. In line with recent congressional acts signaling federal movement toward energy transition policy, research, and development,⁴⁷ some policies have embraced the challenge of proactively transitioning coal communities⁴⁸ and have created new political subdivisions to accelerate research and development of advanced industries and for collaborative projects.⁴⁹

1. Industrial Transitions and Economic Development

Both Colorado and New Mexico have developed comprehensive energy policy strategies intended to accelerate the transition within their states.⁵⁰ Despite economies which have relied on natural resource extraction and coal-fired power generation in the past, both states have

⁴⁷ See Energy Act of 2020, Pub. L. No. 116-260, 134 Stat. 2418 (appropriating funds focused on energy efficiency, nuclear energy development, renewable energy and storage, carbon management and storage, decreasing emissions from industrial and manufacturing technologies, the extraction of rare earth elements (REE) and critical minerals (CM) from coal resources, grid modernization, and other energy innovation). The federal movement and support toward an energy transition is expected to continue under the Biden administration. See Scott H. Segal et al., *Energy: 2020 Post-Election Analysis Issue-by-Issue*, NAT'L L. REV. (Nov. 14, 2020), <https://perma.cc/R44F-F6E8> (anticipating a deliberate but gradual approach to the energy transition under the Biden Administration).

⁴⁸ COLO. REV. STAT. ANN. § 8-83-501 (West 2021).

⁴⁹ *Id.* § 24-47.5-101-02.

⁵⁰ Energy Transition Act, 2019 N.M. Laws 437; See Michele Betsill & Dimitris Stevis, *The Politics and Dynamics of Energy Transitions: Lessons from Colorado's (USA) "New Energy Economy"*, 34 ENV'T & PLAN. C: GOV. & POL'Y 381, 381 (2016) (examining the ambitious effort by Colorado to transition from fossil fuels to clean energy).

been leaders in the development of climate and clean energy policies.⁵¹ Colorado Governor Jared Polis and New Mexico Governor Michelle Lujan Grisham co-authored an editorial in October of 2020 calling for western states to “continue to work together toward cleaner energy, cleaner jobs, cleaner economies and cleaner cars to mitigate further public health and economic crises brought on by deteriorating air quality, rising temperatures, undiversified energy economies, and a federal government that is looking the other way.”⁵²

Beginning in 2004 with its first-in-the-country voter-adopted renewable energy standard, Colorado has taken active steps to “re-orient the state’s energy economy away from fossil fuels and towards clean energy technologies through a coherent set of policy initiatives.”⁵³ Championed from 2007 to 2011 by then Governor Bill Ritter, Colorado’s efforts included the coordination of fifty-seven pieces of legislation as well as organizational and administrative changes in state government, and various initiatives developed and funded by the state.⁵⁴ To assist in this effort, Colorado has created the Colorado Energy Office (CEO), a non-regulatory department within the Colorado Governor’s Office with broad mandates that may be shaped to gubernatorial priorities.⁵⁵ The CEO’s mission is to “[r]educe greenhouse gas emissions and consumer energy costs by advancing clean energy, energy efficiency and zero emission vehicles to benefit all Coloradans.”⁵⁶ Colorado’s recent initiatives to accelerate the transition include, but are not limited to, efforts to increase appliance energy efficiency standards, update energy efficient building code, create electric vehicle tax incentives, improve infrastructure, enact just transition policies to benefit communities and workers, amend the state’s utility laws, and increase the state renewable energy standard.⁵⁷

Through a mixture of legislation, incentives and business deals, New Mexico has also developed a policy strategy to accelerate its energy

⁵¹ See PATRICIA NELSON LIMERICK ET AL., WHAT EVERY WESTERNER SHOULD KNOW ABOUT ENERGY 10–11 (2003) (explaining the history of energy in the southwestern United States and offering projections for the future).

⁵² Jared Polis & Michelle Lujan Grisham, *States Can Lead on Climate and Clean Energy*, THE HILL (Oct. 16, 2020), <https://perma.cc/755T-VBTQ>.

⁵³ Betsill & Stevis, *supra* note 50, at 382.

⁵⁴ *Id.* at 381.

⁵⁵ Sharon B. Jacobs, *Agency Genesis and the Energy Transition*, 121 COLUM. L. REV. 835, 852–53 (2021).

⁵⁶ *About Us*, COLO. ENERGY OFF., <https://perma.cc/5TLZ-TTES> (last visited Oct. 14, 2021); See COLO. REV. STAT. ANN. § 24-38.5-102(1)(a) (West 2021) (outlining the CEO’s powers and duties).

⁵⁷ See COLO. ENERGY OFF., 2019 LEGISLATIVE SESSION SNAPSHOT 1–3 (2019) (providing a list of legislative actions for clean energy); see also ANDREA DENKA, COLO. LEGIS. COUNCIL STAFF, SUMMARY OF LEGISLATION 2020 1–2 (2020) (summarizing the consideration of energy related bills in the 2020 legislative session); ANDREA DENKA, COLO. LEGISLATIVE COUNCIL STAFF, SUMMARY OF LEGISLATION 2021 1–2 (2021) (summarizing the consideration of energy related bills in the 2021 legislative session).

economy transition.⁵⁸ New Mexico's efforts began after Colorado's and are primarily centered around the 2019 Energy Transition Act.⁵⁹ The Energy Transition Act attempts to accelerate New Mexico's transition by requiring investor-owned utilities to increase to 80% renewable energy by 2040, bolstering the state's economy via a large renewable energy buildout with a locally-trained workforce, restructuring financing on stranded assets with securitization, and providing low-interest bonds to finance economic relief for communities impacted by coal plant closures.⁶⁰ The 2019 Energy Transition Act has been described by New Mexico Governor Michelle Lujan Grisham as "landmark legislation that sets bold statewide renewable energy standards and establishes a pathway for a low-carbon energy transition away from coal."⁶¹ This strategy is not only intended to accelerate energy transition, but to enhance economic development opportunities by leveraging the state's natural wind and solar resources as an asset to attract new, innovative, and high-value sectors.⁶²

2. *Securing Markets for Renewable and Low Carbon Energy: Renewable Portfolio Standards*

The most popular state policy instrument used to direct the energy transition in the United States is the Renewable Portfolio Standard (RPS).⁶³ RPS policies generally require electric utilities in a state to add a specified percentage capacity or capacity addition of renewable-based electricity to its production mix by a specified date.⁶⁴ When scholars critically examine RPS policies they find that more stringent policies, measured by the required percentage increase of renewables, have "a positive and significant impact on renewable electricity investment," the percentage of renewable energy sales by utilities, and overall renewable generation and capacity.⁶⁵ In addition to guaranteeing markets for new

⁵⁸ Collin Krabbe, *New Mexico's Energy Transition Continues Amid Pandemic*, ALBUQUERQUE BUS. FIRST (Dec. 3, 2020), <https://perma.cc/A4KR-G5TN>.

⁵⁹ Energy Transition Act, 2019 N.M. Laws 437.

⁶⁰ *Id.* at 471–72, 480–81, 486–87, 501.

⁶¹ *Governor Signs Landmark Energy Legislation, Establishing New Mexico as a National Leader in Renewable Transition Efforts*, OFF. OF THE GOVERNOR MICHELLE LUJAN GRISHAM (Mar. 22, 2019), <https://perma.cc/7GG5-FRS7>.

⁶² Kristin Keller, *Double Down on Renewables to Diversify NM's Economy*, ALBUQUERQUE J. (May 19, 2021), <https://perma.cc/2NSV-LN9Z>.

⁶³ Shan Zhou & Barry D. Solomon, *Do Renewable Portfolio Standards in the United States Stunt Renewable Electricity Development Beyond Mandatory Targets?*, ENERGY POL'Y, May 2020, at 2; Although there have been numerous proposals for federal electricity standards over the last ten years, none have passed. *A Brief History of U.S. Electricity Portfolio Standard Proposals*, CONG. RSCH. SERV. (Feb. 24, 2021), <https://perma.cc/2D2M-QP4T>.

⁶⁴ Zhou & Solomon, *supra* note 63.

⁶⁵ *Id.* at 5. Zhou and Solomon found that in states endowed with large renewable energy resources, stringent RPS policies can motivate energy producers to invest in renewable electricity capacity beyond the RPS mandatory target to minimize the economic cost of electricity supply. *See id.* at 7 (describing the different outcomes of a stringent RPS).

renewable generation, they can be utilized to actively steward the pace of the energy transition within a state. Additionally, where generation assets are owned and operated by multi-state utilities as in Wyoming and Montana, renewable portfolio standards enacted in states with large populations served by those utilities may have significant impacts on resource planning and utility investments outside the states' borders.⁶⁶

New Mexico's RPS is arguably the most aggressive among the four states. Its current RPS policy is the result of the state's enactment of the 2019 Energy Transition Act.⁶⁷ The Energy Transition Act requires public utilities serving New Mexico customers to have retail sales of "no less than" 40% renewable energy by 2025, 50% by 2030, and 80% by 2040.⁶⁸ The Act further mandates that by 2045, 100% of retail sales in New Mexico will be supplied by carbon-free resources.⁶⁹ The New Mexico Public Regulation Commission further requires public utilities to meet their RPS targets utilizing a diversified mix of renewable energy sources. Specifically, investor-owned utilities are required to source 30% of their renewables from wind energy, 20% from solar, 5% from other renewable technologies, and 3% from distributed generation.⁷⁰

Colorado's current RPS policy, or Renewable Energy Standard (RES) policy as it is called, requires investor-owned utilities to generate 30% of their electricity from renewable energy sources by 2020, of which, 3% must come from distributive energy resources.⁷¹ In addition, cooperative and municipal utilities must generate 20% of their electricity from renewables.⁷² In 2019, Colorado enacted legislation (SB 13-252) requiring utilities serving over 500,000 customers to utilize 100% clean energy by 2050.⁷³ The legislative declaration within the 2019 Act states "[i]t is a matter of statewide importance to promote the development of cost-effective clean energy and new technologies and reduce the carbon dioxide emissions from the Colorado electric generating system."⁷⁴ This text indicates the Colorado legislature's intent for its RES to serve as a policy driver for the state's energy transition.

In contrast, policies in Wyoming and Montana may discourage investments in replacement generation. Montana initially adopted a less stringent RPS policy requiring that only 15% of electricity generated by

However, in states with constrained or limited renewable energy sources, stringent RPS policies can lead to less development of renewable energy beyond the RPS target. *Id.*

⁶⁶ See, e.g., Electric Generation, MONTANA-DAKOTA UTILS. CO., <https://perma.cc/47WR-R3V2> (last visited Oct. 25, 2021) (showing a map depicting one utility's assets in Wyoming and Montana).

⁶⁷ Renewable Energy Act, N.M. STAT. ANN. § 62-16-4 (West 2020).

⁶⁸ *Id.* § 62-16-4(A)(2)–(5).

⁶⁹ *Id.* § 62-16-4(A)(6).

⁷⁰ *State Renewable Portfolio Standards and Goals*, NAT'L CONF. OF STATE LEGIS. (Aug. 13, 2021), <https://perma.cc/UD7D-446F>.

⁷¹ COLO. REV. STAT. ANN. § 40-2-124(1)(c)(I)(E) (Lexis 2021).

⁷² *Id.* § 40-2-124(1)(c)(V.5).

⁷³ *Id.* § 40-2-125.5(3)(II).

⁷⁴ *Id.* § 40-2-125.5(1)(a).

utilities in the state come from renewable sources.⁷⁵ However, legislation in 2021 first amended Montana's renewable portfolio standard to include hydroelectric energy produced by existing facilities⁷⁶ and then, shortly thereafter repealed the standard in its entirety.⁷⁷ Additionally, the Montana legislature revised its avoided-cost ratemaking rules in 2021 to prohibit inclusion of a bonus or adder related to environmental externalities for qualifying small power production facilities.⁷⁸ Wyoming has enacted a low carbon energy standard that requires retrofitting existing power plants with carbon capture and storage technology.⁷⁹ Although that mechanism functions similarly to RPS policies in the other states—by assuring a certain percent of the market is available for generation from a preferred source—when combined with other requirements limiting cost recovery for replacement generation, Wyoming's standard resists rather than accelerates transitions away from fossil generating resources.⁸⁰

B. Ease: Economic Policies to Address Short-Term Impacts of the Energy Transition

In addition to RPS policies, Colorado, New Mexico, and Montana have each adopted policies to *ease* the impacts of the transition on ratepayers and local communities. These policies largely allow securitization or other economic restructuring mechanisms to reduce the economic impacts on ratepayers and investors from early coal asset retirements.⁸¹ In all three states, additional policies provide aid to communities experiencing the most direct impacts of the energy transition.⁸² These policies can provide public utility commissions and communities with the tools to more conscientiously transition away from fossil fuels. These policies can be classified as policies that *ease* change because policymakers either view resisting as infeasible or the broader changes associated with the energy transition as socially, politically, and economically desirable.

⁷⁵ Montana Renewable Power Production and Rural Economic Development Act, MONT. CODE ANN. § 69-3-2004(4)(a) (2021).

⁷⁶ H.B. 475, 67th Leg. (Mont. 2021).

⁷⁷ H.B. 576, 67th Leg. (Mont. 2021).

⁷⁸ S.B. 201, 67th Leg. (Mont. 2021).

⁷⁹ WYO. STAT. ANN. § 37-18-101(iii) (Lexis 2020). For a more detailed analysis of Wyoming's low carbon energy standard see *infra* text accompanying notes 138–152.

⁸⁰ Niall Mac Dowell et al., *Evaluation of Net Zero Scenarios for the Wyoming Power System* 11–15 (Univ. Wyo., Working Paper No. 3, 2021), <https://perma.cc/LG2H-QKAR>.

⁸¹ COLO. REV. STAT. ANN. § 40-2-137 (Lexis 2020); N.M. STAT. ANN. § 62-16-6(A) (2019); MONT. CODE ANN. § 69-8-503(1) (2020).

⁸² COLO. REV. STAT. ANN. § 40-2-125.5(4)(VII) (Lexis 2021); N.M. STAT. ANN. § 62-16-2(B)(3) (2007); MONT. CODE ANN. § 69-3-1602(2)(b)(i) (2019).

1. Securitization

All three states have passed legislation authorizing state public utility regulatory agencies to issue financing orders or ratepayer-backed bonds in order to lower costs as part of retiring coal generation and building renewable replacement generation.⁸³ Early retirement of coal-fired power plants may also result in negative impacts to utility ratepayers and utility shareholders, at times with regressive impacts.⁸⁴ Changing regulatory circumstances can result in the issue of stranded assets—when a utility has remaining useful life but it cannot expect to recover the difference between its book value and market value due to changing market shifts or regulation.⁸⁵ Stranded assets contribute to “[c]arbon lock-in” by disincentivizing decarbonization efforts and investment in lower-emission generation, transferring risks from ratepayers to utility investors, and discouraging new investment dollars in newly constructed, and often lower cost, decarbonized energy infrastructure.⁸⁶

Originally developed to *ease* the transition from regulated to deregulated markets, securitization policies allow utilities to finance the under-depreciated capital costs—often called stranded costs—that remain after early retirement of generation assets by lowering interest rates and funding new investments in replacement generation with lower marginal costs.⁸⁷ As a result, securitization mechanisms can produce substantial savings to the utility. These savings may be shared with utility shareholders, passed on to vulnerable transitioning communities, or used for other programs, though they may not immediately lower costs to the ratepayer despite lower costs of generation.⁸⁸ Rather than requiring coal plant operation until investments have been fully recovered and depreciated, securitization policies allow utilities to more rapidly transition to lower cost generation and prevent stranded assets, while protecting ratepayers from cost increases as a result.

⁸³ COLO. REV. STAT. ANN. § 40-2-137 (Lexis 2021); N.M. STAT. ANN. § 62-16-6(A) (2019); MONT. CODE ANN. § 69-8-503(1) (2020).

⁸⁴ Sanya Carley & David M. Konisky, *The Justice and Equity Implications of the Clean Energy Transition*, 5 NATURE ENERGY 569, 570–72 (2020).

⁸⁵ Christopher Serkin & Michael P. Vandenberg, *Prospective Grandfathering: Anticipating the Energy Transition Problem*, 102 MINN. L. REV. 1019, 1023 (2018); Emily Hammond & Jim Rossi, *Stranded Costs and Grid Decarbonization*, 82 BROOK. L. REV. 645, 647 (2017).

⁸⁶ Tracey M. Roberts, *Stranded Assets and Efficient Pricing for Regulated Utilities: A Federal Tax Solution*, COLUM. J. TAX L., 2019, at 1, 48; Gregory C. Unruh, *Understanding Carbon Lock-In*, 28 ENERGY POL'Y 817, 817, 823 (2000).

⁸⁷ Walter R. Hall, II, *Securitization and Stranded Cost Recovery*, 25 ENERGY L. J. 173, 173, 191–92 (2004); J. Paul Forrester, *Unstranding “Stranded Costs” Securitizations: New Application for a Proven Technology*, 14 J. STRUCTURED FIN. 33, 33–34 (2008); Hammond & Rossi, *supra* note 85, at 679; Seth Gillen, *Great Expectations: Stranded Cost Recovery and the Interplay of the Electricity Industry, Consumers, and the Public Utility Commission of Texas*, 7 TEX. TECH. ADMIN. L. J. 345, 359 (2006).

⁸⁸ Gillen, *supra* note 87, at 359–60.

Colorado's 2019 comprehensive energy legislation, SB 19-236,⁸⁹ includes the Colorado Energy Impact Bond Act (Impact Bond Act),⁹⁰ which aims to protect ratepayers from the economic risks of the energy transition by establishing securitization measures to refinance fossil energy assets.⁹¹ Among these changes, the Impact Bond Act authorizes the Colorado Public Utility Commission to allow utilities to issue low-cost energy impact assistance bonds to cover energy impact costs (EI-Costs) associated with or resulting from retirements of electric generating facilities.⁹² EI-Costs encompass decommissioning and restoration spending, capital and operating costs associated with existing debt, and assistance to affected workers and communities.⁹³ Utilities may use the funds raised by the bonds to pay off costs, including the remaining and unamortized portion of prematurely retired coal assets.⁹⁴ Costs associated with the bonds are passed through to consumers as an "Energy Impact Assistance Charge."⁹⁵ The Impact Bond Act accepts early coal asset retirements as inevitable and as consistent with the directive changes in Colorado's renewable portfolio standards, while concurrently protecting workers and communities and lowering costs to ratepayers when early retirements occur.

Similarly, SB 489,⁹⁶ which includes New Mexico's Energy Transition Act (ETA),⁹⁷ provides financing mechanisms to securitize transition costs, including costs of workforce and community transitions and capital and debt costs associated with undepreciated assets.⁹⁸ Following approval of an application for abandonment pursuant to New Mexico Statute § 62-18-4, the utility can apply to the Commission for a financing order "to recover all of its energy transition costs through the issuance of energy transition bonds."⁹⁹ While the utility forfeits profits on its investments in prematurely retired assets, the bonds permit the utility to recoup its investments and restructure debt.¹⁰⁰ A financing order, if approved by the Commission, authorizes the utility to issue bonds that would eventually be paid off by utility customers in the form of a non-bypassable energy transition charge on a customer's utility bill.¹⁰¹ By securitizing transition costs, including stranded debt on retired coal facilities, the ETA permits

⁸⁹ S.B. 19-236, 71st Gen. Assemb., Reg. Sess. (Colo. 2019).

⁹⁰ Colorado Energy Impact Bond Act, 2019 Colo. Sess. Laws 3317.

⁹¹ *Id.* § 102(5).

⁹² *Id.* § 102(7)(a)(I)(A). "Electric generating facilities" is not defined in the statute, and thus presumably the Energy Impact Assistance Bonds could be issued for retiring coal, gas, and renewable facilities.

⁹³ *Id.* § 102(7)(a)(I)(B)–(II).

⁹⁴ *Id.* § 104(2)(i).

⁹⁵ *Id.* § 109(1)(b).

⁹⁶ S.B. 489, 2019 Leg., 54th Sess. (N.M. 2019).

⁹⁷ Energy Transition Act, 2019 N.M. Laws 437.

⁹⁸ *Id.* § 2(H).

⁹⁹ *Id.* § 4(A).

¹⁰⁰ *Id.* § 5(I).

¹⁰¹ *Id.* § 2(G).

qualifying utilities to move toward lower cost and renewable assets while protecting ratepayers from later increases.¹⁰²

The Montana Energy Impact Assistance Act of 2019¹⁰³ revises utility laws to authorize the Montana Public Service Commission to issue ratepayer-backed bonds to refinance utility debt on coal-fired generation investments and make lower-cost energy investments.¹⁰⁴ Montana lawmakers have previously used securitization “of transition property” to address stranded costs associated with deregulation of its utility industry, as required by the state’s 1997 Electric Utility Industry Restructuring and Customer Choice Act.¹⁰⁵ Like Colorado’s Impact Bond Act and New Mexico’s ETA, the Energy Impact Assistance Act authorizes securitized, ratepayer-backed bonds to lower long-term costs paid by the utility customers, both by refinancing the debt on retiring units and by financing investments in “modernized infrastructure and facilities and services, including least-cost electric generating facilities and other supply-side and demand-side resources.”¹⁰⁶ The Montana Energy Impact Assistance Act does not mandate any specific “[l]east-cost generation resource” and instead defines the term as “an incremental supply-side or demand-side resource that when included in an electric utility’s generation portfolio produces the lowest cost among alternative resources, considering both short-term and long-term costs and assessing the likelihood of changes in future fuel prices and the future environmental requirements.”¹⁰⁷

Energy transition legislation may also provide public utility regulatory agencies with authority to consider community impacts as part of decisions regarding early retirements and whether to issue ratepayer backed energy transition financing.¹⁰⁸ Both Colorado and New Mexico’s energy legislation requires utilities proposing closures to consider and estimate local impacts—such as job training and worker displacement—among the costs of abandonment. For instance, in New Mexico, the application for a financing order must include, inter alia, an estimation of the transition costs, severance job training expenses for affected employees losing their jobs, and information relating to energy transition bonds.¹⁰⁹ The ETA also allows the New Mexico Public Regulation Commission to consider local impacts to communities around potentially abandoned facilities as part of the decision to approve or deny

¹⁰² See *id.* § 4(B)–(C) (discussing the recovery of customer costs and applying for new resources).

¹⁰³ Montana Energy Impact Assistance Act, 2019 Mont. Laws 1816.

¹⁰⁴ *Id.* §§ 2–3.

¹⁰⁵ Electric Utility Industry Restructuring and Customer Choice Act, 1997 Mont. Laws 2848, § 31.

¹⁰⁶ Montana Energy Impact Assistance Act, § 2(2)(b)(ii).

¹⁰⁷ *Id.* § 3(10).

¹⁰⁸ See *id.* § 9(1)–(2); COLO. REV. STAT. ANN. § 40-2-125.5(5)(f) (West 2021); Energy Transition Act, 2019 N.M. Laws 447–448, § 4(B) (discussing commission authority to issue and monitor rate-payer backed energy transition funds in affected communities).

¹⁰⁹ Energy Transition Act, 2019 N.M. Laws 447–448, § 4(B).

early decommissioning.¹¹⁰ In Colorado, utilities proposing an accelerated retirement of an electric generating facility must submit a workforce transition plan identifying the number of employees affected by the closure and a community assistance plan.¹¹¹ The Colorado statute requires clean energy plans to consider payment of community assistance to local governments and school districts and authorizes rate recovery for such payments.¹¹² As a result, securitization policies may work in tandem with related, or separate, just transition policies designed to assist impacted communities and encourage workforce redevelopment.

2. *Just Transition Policies: Workforce Redevelopment and Local Impact Support*

Colorado, New Mexico, and Montana have all enacted policies designed to address energy justice concerns and local impacts associated with the energy transition. These policies are designed to address issues related to “coal-impacted communities” in several ways, including requiring planning relative to community transitions, and establishing new funds and agencies to provide assistance to impacted communities. These just transition policies are by definition policies that *ease* the energy economy transition. Having accepted coal plant closures as inevitable or desirable, these policies endeavor to provide communities with resources to help them adapt to the social, industrial, and economic transitions associated therewith.

In each state, energy transition policies have endeavored to provide funding and support to communities impacted by the energy transition. State definitions of coal-impacted communities vary slightly, however. For instance, New Mexico’s ETA makes funding available to “affected communit[ies],” defined as “a New Mexico county located within one hundred miles of a New Mexico facility producing electricity that closes, resulting in at least forty displaced workers.”¹¹³ Similarly, in Montana, recent legislation authorized new funding and expanded financial assistance programs through its Coal board.¹¹⁴ The legislation provides support to “each county, incorporated city or town, school district, or other government unit” impacted by coal development.¹¹⁵ Colorado’s Just Transition Bill¹¹⁶ is the most expansive, including workers in mining, transportation, and the processing supply chain¹¹⁷ as well as “coal transition communit[ies]” with industries undergoing significant

¹¹⁰ *Id.* § 16(F); *The Energy Transition Act (ETA) – Myths & Facts*, CONSERVATION VOTERS N.M. (Jan. 19, 2021), <https://perma.cc/XZ7Q-L2EA>.

¹¹¹ 2019 Colo. Sess. Laws 3290, 3294.

¹¹² *Id.*

¹¹³ Energy Transition Act, 2019 N.M. Laws 437, § 16(L)(1).

¹¹⁴ MONT. CODE ANN. § 9-06-207 (2003).

¹¹⁵ *Id.*

¹¹⁶ COLO. REV. STAT. ANN. § 8-83-501 (2020).

¹¹⁷ *Id.* § 8-83-501 (1)(b)(II).

economic transition and facing critical losses of tax base and revenue.¹¹⁸ Colorado's bill specifically seeks to redress impacts of coal-power pollution to "communit[ies] of color, low-to-middle income communit[ies], or indigenous communit[ies]."¹¹⁹ Although the current bill focuses on coal transition communities, Colorado's legislation requires its new energy transition agency to consider offering similar support to other transitioning industries.¹²⁰

Of the states studied, Colorado's Just Transition Bill is the most extensive in its provisions for planning and administration. It supports coal-impacted communities through establishment of a comprehensive information gathering and planning process to target resources and challenges associated with the energy justice impacts of Colorado's transition to renewable energy.¹²¹ Following approval of accelerated retirements, and at least six months prior to the retirement, the Just Transition Bill requires utility workforce transition plans related to the accelerated retirements of the generating units, including identifying the number of affected workers and their potential reemployment.¹²² It also establishes a new transition office in the Department of Labor and Employment.¹²³ Together with an advisory committee, that office is charged with aligning resources and identifying and estimating impacts to coal-transition communities and reporting on and identifying options for benefits for coal transition workers, access to education and training programs for high-quality jobs, and grants for entities in coal transition communities who want to create "more diversified, equitable, and vibrant economic future[s]."¹²⁴

Energy transition legislation in Colorado, New Mexico and Montana also provide mechanisms to direct funding to impacted communities. While not making an appropriation, Colorado's Just Transition Bill directs the Office of Energy Transition to align potential sources of funding and establishes a Just Transition Cash Fund for any money credited to the fund or transferred and appropriated from the general assembly.¹²⁵ New Mexico's ETA creates three separate funds to assist with energy transition costs affecting communities and workers losing their jobs: the energy transition Indian affairs fund, the energy transition economic development assistance fund, and the energy transition

¹¹⁸ *Id.* § 8-83-502(1).

¹¹⁹ *Id.* §§ 8-83-502(4), 8-83-501(1)(c)(II).

¹²⁰ *Id.* § 8-83-503(6)(d)(III).

¹²¹ *Id.* § 8-83-503(6)(d).

¹²² *Id.* § 8-83-505(1).

¹²³ *Id.*

¹²⁴ *Id.* § 8-83-505; *CO HB1314 Just Transition from Coal-Based Electrical Energy Economy*, BILLTRACK50, <https://perma.cc/KQ7D-JUB6> (last visited Oct. 14, 2021). In 2021, the Colorado legislature injected an additional seven million dollars into the Just Transition Cash fund to support former coal workers in their transition to other employment. COLO. REV. STAT. ANN. § 8-83-504.5(1) (West 2021).

¹²⁵ COLO. REV. STAT. § 8-83-504(1) (2020).

displaced Worker Assistance Fund.¹²⁶ Finally, in Montana, recent legislation increases allocations to the Coal Board to address consequences of major declines in coal mining¹²⁷ and authorizes communities to plan for future coal plant retirements and to set aside revenue from coal related activities to address impacts of closure.¹²⁸

C. Resist: Economic Policies to Resist the Transition and Preserve Existing Markets

Wyoming and Montana have each enacted legislation intended to defer or prevent early coal asset retirements in their states. These policies can be construed as policies that *resist* adaptation to the energy transition because they aim to maintain the existing industrial and economic composition. These laws are intended to provide utilities with new options to keep coal-fired generation assets operating, despite pressure to close them as a result of alternative generation options, multi-state resource planning, or out-of-state renewable portfolio standards.

In response to the anticipated retirement of two units of Montana's Colstrip plant in 2022 and the expected acceleration of its remaining two units, the Montana legislature enacted HB 476.¹²⁹ HB 476 authorized public financing to restructure ownership of the facility in order to prevent its closure.¹³⁰ Currently, half of units 1 and 2 of Colstrip are owned by Puget Sound Energy, which seeks to shutter the units in response to Washington State legislation requiring utilities in to remove coal from their portfolios.¹³¹ HB 476 authorized the board of investments to make loans from the Montana permanent coal tax trust to a public utility for purposes of improvements, acquisition of new coal interests or investments in transmission infrastructure.¹³² This bill would position other co-owners of the Colstrip facilities, notably NorthWestern Energy, to buy out Puget Sound Energy from the facility or build a new infrastructure that would allow coal plants to import coal from alternate sources.¹³³ These efforts failed to save Colstrip Units 1 and 2, which closed in early January 2020 after Talen Energy, the owner of half of these units, announced in June 2019 they would retire them two years ahead of schedule, and before the Puget Sound Energy ownership could be transferred to Northwestern Energy.¹³⁴

¹²⁶ N.M. STAT. ANN. § 62-18-16(A), (D), (G) (2019).

¹²⁷ MONT. CODE ANN. § 90-6-201 (2019).

¹²⁸ *Id.* § 7-6-622.

¹²⁹ H.B. 476, 66th Legis. (Mont. 2019).

¹³⁰ *Id.* §§ 2–3.

¹³¹ *Colstrip Steam Electric Station Units 1 and 2 to Retire*, TALEN ENERGY (June 11, 2019), <https://perma.cc/H2NH-KFC6>.

¹³² MONT. CODE ANN. § 17-6-308 (2019).

¹³³ Lulia Gheorghiu, *Montana Reviews Controversial Coal-Saving Bill, Passes Community Transition Actions*, UTIL. DIVE (Apr. 9, 2019), <https://perma.cc/6N4B-K6LW>.

¹³⁴ Aaron Larson, *In a Surprise Announcement, Colstrip Units 1 and 2 to Close by Year-End*, POWER (June 12, 2019), <https://perma.cc/F8FK-W6Q5>.

In 2021, the Montana Legislature passed a suite of new legislation designed to perpetuate operation of the remaining two units at the Colstrip facility, including to relieve Northwestern Energy of certain financial obligations related to community renewable energy project requirements, requiring dispute resolution to occur in Montana, and authorizing civil penalties under the state's unfair trade practices law against co-owners of generating facilities attempting to unilaterally close generating units without consent of other owners.¹³⁵ These enactments are directly targeted toward lowering operating and capital costs to Northwestern Energy, pushing back against zero-coal policies in Washington and Oregon, and intervening in the current joint operations agreements with other owners of the plant to prevent its closure.¹³⁶ Additionally, the Montana legislature passed a joint resolution requesting an interim study of the feasibility of retrofitting the Colstrip plant with advanced nuclear technology.¹³⁷ Montana's energy transition response illustrates the principle that a state's response to the energy transition may be comprised of multiple types of strategies. The suite of Colstrip related legislation *resists* the energy transition by attempting to preserve coal operations using state financing. Similarly, the 2021 repeal of the state's already conservative renewable portfolio standard and limitation on environmental considerations in avoided-cost rate proceedings represents a shift toward increased *resistance*. Yet, simultaneously Montana's policies reflect an adaptive strategy with a focus on *easing* transitions by gradually providing communities and utilities with tools to adapt to changing electricity markets.

Of the states studied, Wyoming's energy transition policy is the clear outlier in that it resists closure of coal plants and construction of replacement generation, instead favoring retrofits with CCUS technology, but does not include any significant easing mechanism for struggling communities.¹³⁸ Wyoming imposes requirements prior to early asset retirement to discourage closure of coal assets within the state.¹³⁹ It is also the only state that does not include opportunities for utility securitization or community transition funding.¹⁴⁰ Instead, in 2019 the

¹³⁵ S.B. 237, 67th Legis. (Mont. 2021); S.B. 265, 67th Legis. (Mont. 2021); S.B. 266, 67th Legis. (Mont. 2021).

¹³⁶ Tom Lutey, *Montana Blasts 'Woke' Washington with New Laws to Extend Coal Power*, BILLINGS GAZETTE (May 3, 2021), <https://perma.cc/4NTN-JNDH>. Portland General Electric and other co-owners of Colstrip have filed a lawsuit challenging S.B. 265 and S.B. 266 as violating the Contracts Clause of the Montana and United States Constitutions. *Portland General Electric Along with Other Pacific NW Utilities Expand Federal Lawsuit Challenging Constitutionality of Newly-Enacted Montana Laws*, PORTLAND GEN. ELEC. (May 19, 2021), <https://perma.cc/P64X-VC2P>.

¹³⁷ S.J. 3, 67th Legis. (Mont. 2021).

¹³⁸ See WYO. STAT. ANN. § 37-18-102 (2021) (utilities may apply for reimbursement of costs related to CCUS technology).

¹³⁹ See *e.g.*, *id.* § 37-3-117 (requiring utilities "to make a good faith effort to sell" coal plants before closing them).

¹⁴⁰ For a discussion of challenges to securitization in Wyoming, see *infra* text accompanying note 187.

Wyoming Legislature enacted legislation to forestall, or *resist*, the retirements of coal assets. This legislation requires the purchase of coal-generated electricity, encourages the sale and continued operation of facilities slated for retirement, and establishes additional procedural requirements as a precondition of Public Service Commission (PSC) approval of cost recovery for replacement generation.¹⁴¹ To encourage sale, the law prohibits cost recovery on new generation designed to replace generation from coal-fired electric facilities, unless the utility first “made a good faith effort to sell the facility.”¹⁴² In addition, SF 0159¹⁴³ encourages purchasers to acquire otherwise retiring coal assets by providing 100% rate recovery of purchase costs, regulatory exemptions, and by mandating purchase of the plant output by other utilities.¹⁴⁴ It requires a public utility to purchase coal-generated electricity from a plant that would have otherwise been retired, provided the coal-generated electricity is offered at a price that is equal or greater to the utility’s avoided cost, including the capacity value of maintaining dispatchable power on a power system increasingly dominated by intermittent renewable resources.¹⁴⁵

In 2020, Wyoming enacted “Reliable and Dispatchable Low-Carbon Energy Standards,” becoming the first state to encourage retrofitting coal plants with CCUS technology and permitting rate recovery of investments in carbon capture.¹⁴⁶ HB 200¹⁴⁷ requires the PSC to establish “energy portfolio standards that will maximize the use of dispatchable and reliable low-carbon electricity.”¹⁴⁸ The law defines “dispatchable” and “low-carbon electricity” as energy “that is available for use on demand . . . or that can have its power output adjusted according to market needs,” and “is generated while using carbon capture, utilization and storage technology.”¹⁴⁹ The law authorizes a utility to apply for rate recovery for new investments in carbon capture, utilization, and storage infrastructure.¹⁵⁰ It also builds on the rate recovery limitations enacted in SF 0159 by prohibiting recovery of costs or earnings on new facilities, built to replace retiring coal plants, unless the new facility can demonstrate it is working toward the newly enacted electricity generation standards.¹⁵¹ In direct contrast to securitization laws enacted in other states that allow utilities to recover underappreciated investments in coal facilities, HB 200 could require utilities to make new investments in coal facilities and would assure that ratepayers were responsible for any costs

¹⁴¹ WYO. STAT. ANN. § 37-3-117 (2021).

¹⁴² *Id.* §§ 37-3-117(a), 118(b).

¹⁴³ *Id.* § 37-2-133.

¹⁴⁴ *Id.* § 37-2-133(b).

¹⁴⁵ *Id.* § 37-2-133(b)–(c).

¹⁴⁶ *Id.* §§ 37-18-101–102.

¹⁴⁷ H.B. 200, 65th Legis. (Wyo. 2020).

¹⁴⁸ WYO. STAT. ANN. § 37-18-102(a) (2021).

¹⁴⁹ *Id.* § 37-18-101(a)(ii)–(iii).

¹⁵⁰ *Id.* § 37-18-102(c)(iii).

¹⁵¹ *Id.* § 37-18-102(b).

of doing so. In combination, SF 0159 and HB 200 use rate-recovery limitations to discourage and delay coal asset retirements and construction of replacement generation, while encouraging utilities to make new investments in CCUS and other low-carbon coal-generating technologies.¹⁵²

While clearly an effort to prolong the life of coal plants in the state, Wyoming legislation passed in 2019 and 2020 has not yet achieved the apparent goal of avoiding early retirement of coal fired facilities in the state. PacifiCorp, owner of the state's largest utility Rocky Mountain Power, and owner of seven generator units scheduled for closure statewide, did not change its plans to close these units after the passage of the new laws.¹⁵³ In its Integrated Resource Plan document, filed September 1, 2021, the utility identified a preferred portfolio of generators through 2040.¹⁵⁴ This portfolio did not change the previously planned early retirements of Naughton Units 1 and 2, in 2025, nor the retirement of all four units at Dave Johnston in 2027.¹⁵⁵ Despite legislators' hopes to *see* some of the units at Naughton and Dave Johnston avoid closure and/or retrofitted with CCUS technology, the 2021 IRP filing left the planned unit retirement dates unchanged.¹⁵⁶ In what may have been a possible response to the state's legislation, however, the previously announced early retirement of Jim Bridger Unit 2 in the previous IRP filing was amended in the 2021 filing to a planned gas conversion.¹⁵⁷ By maintaining ownership, the conversion would avoid both Wyoming's requirement to put the units up for sale and any mandated power purchases from the new owner. The planned gas conversion would only use the plant in times of peak need and therefore would also reduce the operating costs currently associated with operating the facility as a coal-fired power plant.¹⁵⁸

¹⁵² Wyoming is one of the few states that includes carbon capture utilization in its definition for "low carbon." WYO. STAT. ANN. § 37-18-101(a)(iii) (2021).

¹⁵³ Nicole Pollack, *Wyoming's Biggest Utility is Closing the Curtains on Coal*, STAR-TRIBUNE (Aug. 28, 2021) <https://perma.cc/LS3Y-365T>.

¹⁵⁴ See PACIFICORP, 2021 INTEGRATED RESOURCE PLAN 7, 8 (2021) (stating that the "preferred portfolio" includes "reasonable cost[s] and with manageable risks, while considering customer demand for clean energy and ensuring compliance with state and federal regulatory obligations.").

¹⁵⁵ *Id.* at 15.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 299. The 2021 preferred portfolio was revealed days before the September 1 filing in a public input meeting, and details of that preferred portfolio plan are summarized in a presentation. PACIFICORP, INTEGRATED RESOURCE PLAN 2021 IRP PUBLIC-INPUT MEETING (2021), <https://perma.cc/ED4U-CFC8>.

¹⁵⁸ The preferred portfolio did, however, also include the planned construction of a new advanced nuclear reactor demonstration project. In partnership with TerraPower, this Natrium™ reactor will be built in Kemmerer, Wyoming at the site of a retiring coal-fired facility and put into operation by 2028. PACIFICORP, *supra* note 154, at 38, 269; *TerraPower Selects Kemmerer, Wyoming as the Preferred Site for Advanced Reactor Demonstration Plant*, TERRAPOWER (Nov. 16, 2021), <https://perma.cc/PAA3-82KU>.

A review of state-based energy-transition policies in the Rocky Mountain Region reveals a spectrum of responses, ranging from strongly directive to fiercely resistant. Despite efforts to keep specific coal plants in Montana and New Mexico operational, legislation in Colorado and New Mexico, embrace the energy transition using policies that primarily *compel* and accelerate change, or, in the case of Montana, *ease* the transition despite vigorous efforts to keep the Colstrip facility in operation. In these states, responses to early coal plant retirements focus on protecting ratepayers from the costs of stranded assets, shifting toward lower-cost generation, and addressing localized impacts to coal-dependent workforces and communities. In Colorado and New Mexico, energy transition policies are paired with ambitious zero-carbon energy standards to accelerate change toward renewable energy and coal plant retirements, complementing aggressive climate policy goals.¹⁵⁹

In contrast, Wyoming's policies are aimed toward *resisting* the energy transition without any significant easing mechanism. The state has provided very limited direct support to coal-impacted communities or requirements relative to workforce transition. Despite their apparent lack of success thus far, these policies are collectively designed to delay and preempt retirements. In response to the ongoing energy transition, Wyoming's only response has been to pass legislation designed to forestall early retirements of coal generating units and to encourage utilities to continue using coal by implementing CCUS technologies. These efforts prohibit cost recovery in replacement generation unless the utility has first attempted to sell its coal-fired units and met the new standards for low-carbon retrofits. Concurrently, the state has continued to focus on programs that promote and support use and development of Wyoming's raw mineral resources and extraction-based economy. In 2019 the Wyoming legislature created the Wyoming Energy Authority (WEA) to replace the Wyoming Pipeline Authority and Wyoming Infrastructure Authority with the mission of diversifying Wyoming's economy through improvements to its electric and energy transmission infrastructure, and development and use of the state's natural resources.¹⁶⁰ Although the 2021 Wyoming legislature amended the WEA's authority to include efforts related to rare earth and critical minerals as well as geothermal and pumped hydro projects, the focus remains on the use of Wyoming energy and associated natural resources.¹⁶¹

Contextualized, the spectrum of policies among the states directly corresponds with the rate of change and the magnitude of impact the energy transition poses to each state. Seen in this light, it becomes clear that Wyoming's resistance toward coal retirements and the energy

¹⁵⁹ OFF. OF COLO. GOVERNOR JARED POLIS, COLORADO GREENHOUSE GAS POLLUTION REDUCTION ROADMAP (2021); OFF. OF N.M. GOVERNOR, MICHELLE LUJAN GRISHAM, PRESS RELEASES, GOVERNOR LUJAN GRISHAM SIGNS EXECUTIVE ORDER COMMITTING NEW MEXICO TO ESSENTIAL CLIMATE CHANGE ACTION, (2019)

¹⁶⁰ WYO. STAT. ANN. § 37-5-503(a)(i) (2021).

¹⁶¹ 2021 Wyo. Sess. Laws 1–2.

transition is grounded in the relative recency of coal-retirement announcements, the possibility of continued low-carbon generation, and the importance of coal assets to Wyoming's overall economy. Rather than addressing individual retirements, Wyoming's policies are oriented toward protecting its revenue model by securing continued use of, and markets for, coal and providing support to remaining facilities where retirement is not yet assured.

V. UNDERSTANDING ENERGY-TRANSITION RESISTANCE IN WYOMING

When compared with the other states along the eastern front of the Rocky Mountain Region, Wyoming's policy response to coal asset retirements emerges as an outlier. Rather than enacting policies that fall into the *compel* and *ease* categories of our framework, as Colorado, Montana, and New Mexico have done to a varying degrees, Wyoming has enacted policies that generally fall into the *resist* category of the framework. These policies include attempts to hamper coal plant retirements and to secure an enduring market for coal generation through new markets or new technologies including CCUS.

Wyoming's rationale for resistance is obvious—Wyoming's statewide economy and state budget are wedded to mineral extraction. Early coal plant retirements in Wyoming, paired with a reduction in out-of-state purchases of Wyoming's coal and coal-generated electricity have reduced demand, resulting in rapid contraction of the coal-economy.¹⁶² This reduction in demand causes an irreplaceable decline in Wyoming's state budget revenues.¹⁶³ This is a financial position not shared by Colorado, Montana, or New Mexico.

Although all states studied in this Article have coal-mining operations, Wyoming's are significantly greater as is its economic dependence on those operations.¹⁶⁴ Since 1986, Wyoming has been the largest producer of coal in the United States, and produces 40% of the nation's coal output.¹⁶⁵ In 2019, Wyoming produced approximately 277 million short tons of coal.¹⁶⁶ In the same year, 12.9 million, 14.4 million, and 34.5 million short tons were produced in Colorado, Utah, and Montana, respectively.¹⁶⁷ As the smallest state in the United States by

¹⁶² Camille Erickson, *A Look Ahead: It was a Bruising Year for Wyoming Coal. What Could the New Year Bring?*, CASPER STAR TRIBUNE (Jan. 1, 2021), <https://perma.cc/984X-7WZX>.

¹⁶³ Camille Erickson & Nick Reynolds, *As Government Spending is Cut to the Bone, Wyoming is Spending Millions to Promote Coal. Will it Pay Off?*, CASPER STAR TRIBUNE (Dec. 5, 2020), <https://perma.cc/E79B-K6EU>.

¹⁶⁴ See *Rankings: Coal Production, 2019 (Thousand Short Tons)*, U.S. ENERGY INFO. ADMIN., <https://perma.cc/8TMK-SJBD> (last visited Nov. 30, 2021) (Wyoming ranks first in coal production among the states).

¹⁶⁵ *Wyoming State Profile and Energy Estimates, Profile Analysis*, U.S. ENERGY INFO. ADMIN., <https://perma.cc/JBF2-FFJ8> (last updated Mar. 18, 2021).

¹⁶⁶ U.S. ENERGY INFO. ADMIN., ANNUAL COAL REPORT 2019 viii (2020).

¹⁶⁷ *Id.*

population and the second smallest by size of economic output, Wyoming's prolific coal-production statistics illustrate the significance of coal to Wyoming's economy.¹⁶⁸ In 2019, coal mining directly contributed 5,404 jobs in Wyoming, and power plants another 1,197; combined the coal industry accounted for 2.3% of all jobs in the state.¹⁶⁹ The percentage of coal industry jobs in Wyoming is over seven times that of Montana, the state with the second largest share.¹⁷⁰

Wyoming's dependence on coal is not just seen in the share of its private economic activity, but also in its state revenue dependence. A substantial share of Wyoming's state revenue is produced through coal mining and generation, sales of electricity and coal, and related activities.¹⁷¹ Of coal mining and generation, coal mining contributes the largest share of coal revenues through federal coal leasing payments, federal mineral royalties, state mining severance and ad valorem taxes, sales and use taxes, abandoned mine lands distributions, and state rents and royalties.¹⁷² A 2015 report found that Wyoming's coal economy was the most stable source of tax revenue since the 1970s, accounting for 11.2% of total state revenue at the time of the study.¹⁷³ In 2016, coal mining alone accounted for over one billion dollars in revenues in Wyoming, compared to 109 million dollars in Montana, 236.9 million dollars in Colorado, and 13.6 million dollars in New Mexico, all states with larger (sometimes much larger in the case of Colorado) public budgets.¹⁷⁴

¹⁶⁸ *Wyoming is Officially the Least Populated State Again in 2021*, COUNTY 10 (Jan. 14, 2021), <https://perma.cc/M57A-7H2A>. In all four states, coal mining accounts for the majority of non-oil and gas mining activity. All mining (excluding oil and gas) constituted over 8% of Wyoming GDP in 2019, while the shares in Colorado, Montana and New Mexico are 0.4%, 2.7% and 1.7%, *GDP by State*, U.S. BUREAU OF ECON. ANALYSIS, <https://perma.cc/WA55-EPSF> (last updated Oct. 1, 2021).

¹⁶⁹ *Mine Data Retrieval System*, U.S. DEP'T OF LABOR, <https://perma.cc/Q864-2K8H> (last visited February 4, 2021); Power plant employment is not generally public information, but numbers were estimated using state, company and press reports. Calculations on file with author.

¹⁷⁰ In Montana, mining accounted for 1301 jobs in 2019, and power plants an additional 346, accounting for 0.32% of that state's employment. Colorado mining employed 1285 and plants 880 (0.1% of state employment) and there were 927 mining and 708 power plant jobs (totaling 0.2% of total employment) in New Mexico in 2019. Calculations on file with author.

¹⁷¹ CONSENSUS REVENUE ESTIMATING GROUP, WYOMING STATE GOVERNMENT REVENUE FORECAST 5 (2021).

¹⁷² WYOMING STATE LEGISLATURE JOINT COMMITTEE ON MINERALS, BUSINESS AND ECONOMIC DEVELOPMENT, 2019 WYOMING COAL OVERVIEW (2019).

¹⁷³ ROBERT GODBY ET AL., CTR. FOR ENERGY ECON AND PUB. POL'Y, THE IMPACT OF THE COAL ECONOMY ON WYOMING 4 (2015).

¹⁷⁴ WYO. MINING ASS'N, WYOMING COAL SEPTEMBER 2018 CONCISE GUIDE 7 (2018); HEADWATER ECON., THE IMPACT OF FEDERAL COAL ROYALTY REFORM ON PRICES, PRODUCTION, AND STATE REVENUE 2, 17 (2015); SONJA NOWAKOWSKI, ENV'T QUALITY COUNCIL, SENATE JOINT RESOLUTION 5: COAL IN MONTANA; FISCAL IMPACTS 4-6 (2018); Virginia T. McLemore, *Economic Impact of the Mineral Industry in New Mexico, 2019*, N.M. BUREAU OF GEOLOGY & MIN. RES. (2021), <https://perma.cc/YH2P-RX54>.

The decline of the coal economy has significant and holistic impacts on budgets throughout Wyoming that cannot be easily replaced. The reason for this is the state revenue model, under which revenue from mineral extraction makes up a significant portion of the state's budget.¹⁷⁵ For example, in 2017 mineral extraction revenue accounted for over 52% of the state's general budget.¹⁷⁶ Coal, oil, and gas are responsible for a significant portion of both mineral production taxes and state assessed property tax values.¹⁷⁷ This has allowed the average family of three in the state to consume an estimated seven times the value in public services that it pays for in taxes.¹⁷⁸ This revenue dependence, however, also creates a political dilemma—to accept the energy transition will require Wyoming lawmakers to find alternative sources of revenue, a reality that likely means raising taxes or cutting public services to balance the state's budget. Wyoming's decision to depend on energy-commodity taxes has created “an economic and political ‘mineral[-]tax trap’ wherein a political culture and commitment has developed around protecting the self-interest of low taxes and the status quo.”¹⁷⁹ In fact, it creates two problems—identifying new economic development to replace the lost private sector activity coal mining and creating and raising taxes or cutting public spending. Unlike states that can target localized impacts to counties and cities where retiring coal generation facilities are located, the decline of the coal-economy has significant and holistic impacts on budgets statewide, impacts that cannot be replaced solely by jobs in other sectors. The importance of the coal industry to Wyoming's economy cannot be understated and this alone likely provides motivation to adopt policies resistive to the energy transition away from coal.

Wyoming's comparative lack of policies addressing short-term and local impacts may also be tied to the recency of announced retirements and small share of total generation scheduled for decline. The first specific proposal to close a modern coal plant ahead of its scheduled retirement date in Wyoming occurred in 2019 and still has not been approved by regulatory authorities.¹⁸⁰ Thereafter, during 2020 the Wyoming Public Service Commission commenced an investigation of the planned retirements and, in an order dated January 15, 2021, concluded in part that: 1) there was insufficient data to support specific retirement

¹⁷⁵ Michael Madden, *The Costly Lessons of Wyoming's Limited Revenue Diversity*, WYOFILE, (Dec. 8, 2020), <https://perma.cc/Z2XX-QDUL>.

¹⁷⁶ Heather Richards, *Contrary to Popular Belief, Wyoming Doesn't Get 70 Percent of its Revenue from Minerals*, STAR-TRIBUNE (Dec. 1, 2018), <https://perma.cc/Q554-7PQV?type=image>.

¹⁷⁷ STATE OF WYOMING DEP'T OF REVENUE, 2020 ANNUAL REPORT 5, 41 (2020).

¹⁷⁸ WYOMING TAXPAYERS ASS'N, DIRECT TAX COLLECTIONS & PUBLIC SERVICE COSTS 2019 1 (2020).

¹⁷⁹ Rob Godby, *Series: People and Public Lands: The Overlooked Importance of Federal Public Land Fiscal Policy*, HEADWATERS ECON. (May 2019), <https://perma.cc/K99H-QW7B>.

¹⁸⁰ See PACIFICORP, 2019 INTEGRATED RESOURCE PLAN 22–23 (2019) (recommending early retirement of generators at the Naughton plant Units 1 and 2 and early retirement of Bridger Units 1 and 2).

decisions; and which 2) required the utility to “report periodically . . . on the [planned retirements], community and transition planning.”¹⁸¹ Specifically as to energy transition issues, the order states:

If the economics of early retirement are a close call, as we believe they are . . . the economic devastation caused by early retirements should weigh heavily in final decisions on the fate of [the utility]’s facilities. It is incumbent on the utility to prepare an Employee Transition Plan and a Community Action Plan to mitigate these impacts.¹⁸²

Moreover, at the time of Wyoming’s legislative actions in 2019 and 2020,¹⁸³ the share of total generation slated for early retirement, approximately 24%, was far lower than in the other states considered here.¹⁸⁴ Comparatively, 100% of coal-fired generation is currently planned for retirement by 2030 in New Mexico and Montana,¹⁸⁵ and over 70% of coal generation in Colorado is expected to retire by 2030 with the remaining two plants scheduled for retirement in 2040.¹⁸⁶ In contrast to these states, as of today, there is still the possibility of a future for coal-generation in Wyoming. Thus, Wyoming’s policy choices to support continuing operation of its existing assets is pragmatic and not entirely anomalous.

In addition to the market pressures created by declining market demand, Wyoming’s ability to effectively enact policies that drive the energy transition toward favorable ends may also be hampered by the

¹⁸¹ IN THE MATTER OF THE COMMISSION’S INVESTIGATION PURSUANT TO WYO. STAT. § 37-2-117 TO ASSURE FULL UNDERSTANDING OF THE ORIGINS, METHODOLOGY AND RESULTS OF THE COAL STUDY UNDERTAKEN BY PACIFICORP, D/B/A IN WYOMING AS ROCKY MOUNTAIN POWER AND IN THE MATTER OF THE COMMISSION’S INVESTIGATION PURSUANT TO WYO. STAT. § 37-2-117 OF THE INTEGRATED RESOURCE PLAN FILED BY ROCKY MOUNTAIN POWER ON OCTOBER 18, 2019, DOCKET NOS. 90000-144-XI-19, 90000-147-XI-19, MEMORANDUM OPINION, FINDINGS AND ORDER (Jan. 15, 2021) at 2–3.

¹⁸² *Id.* at 24.

¹⁸³ After the most recent Wyoming legislation was passed in March 2020 affecting future coal retirements, in December of 2020 Tri-State Generation and Transmission Association announced it was considering closure of Laramie River Station Unit 3 if it can come to an agreement with the other owners of the plant. Camille Erickson, *The Owner of a Wyoming Coal Power Plant is Weighing Whether to Close it in 2033*, CASPER STAR TRIBUNE (Dec. 16, 2020), <https://perma.cc/23GM-YN6U>.

¹⁸⁴ Calculations on file with author.

¹⁸⁵ The Montana Legislature’s efforts to continue operation of the Rosebud mine and associated generating units at Colstrip similarly indicates openness to a future for coal generation and associated mines. Similarly, the New Mexico Public Regulation Commission’s approval of a plan to replace the San Juan Generating Station (SJGS) with renewable energy specifically contemplated Enchant Energy’s plans to acquire SJGS and retrofit it with carbon capture technology.

¹⁸⁶ Kassia Micek & Tyler Godwin, *Colorado, Minnesota Resource Plans Driving Xcel’s Carbon-Free Goal by 2050*, S&P GLOBAL (Apr. 29, 2021), <https://perma.cc/M8SW-Z865>; Paul Jesse, *Tri-State Generation to Close All of Its Colorado, New Mexico Coal-Fired Power Plants and Coal Mines – 3 Locations – by 2030*, COLO. SUN (Jan. 9, 2020), <https://perma.cc/F6A3-R2BC>; 2021 Clean Energy Plan Filing Materials, XCEL ENERGY, (Mar. 31, 2021), <https://perma.cc/VV77-C5WL>.

interstate nature of Wyoming's electricity and coal markets. Most power generation in the state is operated by multi-state utilities where affected infrastructure is paid for by ratepayers across multiple states. For instance, several of the coal plants which may benefit from securitization in Wyoming are owned by PacifiCorp, which serves six states through two subsidiary utilities, Rocky Mountain Power and Pacific Power.¹⁸⁷ Accordingly, enactment of policies like securitization would require parallel state enabling legislation, requiring coordination of specific financial market expertise and harmonization of differing, and at times inapposite, policies related to decarbonization and climate. Moreover, Wyoming may have little reach to defer coal plant retirements in other states that rely on its coal exports, thus limiting the impact of statewide policies like HB200 and SF0159 to counteract coal market declines. Despite recent decisions by PacifiCorp that suggest they have been unsuccessful, Wyoming's policies endeavor to forestall retirements and to secure an enduring market for coal generation within the state.

In response to the economy-wide impacts of the energy transition in Wyoming, the state has also attempted to find alternative markets for its coal resources, including overseas markets.¹⁸⁸ Toward that effort, Wyoming has supported the development of new coal export terminals along the West Coast, an effort which has been thwarted by objections from the State of Washington.¹⁸⁹ On June 28, 2021, the United States Supreme Court denied a request by Wyoming and Montana to hear a challenge objecting to Washington State's denial of water quality permit applications needed to move forward with the construction of a proposed coal terminal in Longview, Washington.¹⁹⁰ Consistent with these efforts, Wyoming has also supported coal exports via ports in Mexico and Canada. During the 2020 legislative session, Wyoming passed HB 231¹⁹¹ which provides a 3% tax exemption to coal producers who export Wyoming coal via ports in either Mexico or Canada.¹⁹²

Wyoming has also engaged in efforts to prevent the closure of coal plants in other states that utilize Wyoming coal. During the 2020 session, Wyoming passed HB 004¹⁹³ which creates a "Wyoming coal marketing program."¹⁹⁴ It provides the Governor with a one million dollar budget to

¹⁸⁷ *PacifiCorp*, BERKSHIRE HATHAWAY ENERGY, <https://perma.cc/265D-HXCG> (last visited Oct. 24, 2021).

¹⁸⁸ Ike Fredregill, *Wyoming Coal: Are Export Facilities the Answer?*, COWBOY STATE DAILY (Jan. 16, 2020); Stacy Feldman, *Is Sending Wyoming Coal to China Smart Economics*, REUTERS (Nov. 19, 2010).

¹⁸⁹ Mead Gruver, *Justices Deny Wyoming, Montana Coal Suit Against Washington*, ASSOCIATED PRESS (June 28, 2021), <https://perma.cc/UEX8-V4CG>.

¹⁹⁰ *Montana & Wyoming v. Washington*, 152 S. Ct. 2021 WL 2637830 (2021); *Montana and Wyoming v. Washington*, SCOTUS BLOG (June 18, 2021), <https://perma.cc/9FRL-TWST>.

¹⁹¹ H.B. 231, 65th Leg. (Wyo. 2020).

¹⁹² *Id.*

¹⁹³ H.B. 004, 65th Leg. (Wyo. 2020).

¹⁹⁴ *Id.* § 1(a).

protect and expand Wyoming's coal markets.¹⁹⁵ The fund can also be used for “[p]rojects with a public benefit that address impacts cities, towns, and counties have experienced or will experience due to changes in the coal market.”¹⁹⁶ Wyoming has directed some of this funding (as well as previous state funds) to the Energy Policy Network, a non-profit lobbying group that actively campaigns against the closure of coal plants that burn Wyoming coal in other states.¹⁹⁷ Wyoming Governor Mark Gordon has justified the expenditures as an effort to extend the life of coal, which he stated “is a wise investment for Wyoming, [a] wise investment for the globe.”¹⁹⁸ Additionally, in 2021, Wyoming passed HB 207,¹⁹⁹ appropriating 1.2 million dollars for lawsuits against other states “that enact and enforce laws, regulations or other actions that impermissibly impede Wyoming's ability to export coal or that cause the early retirement of coal-fired generation facilities located in Wyoming.”²⁰⁰

However pragmatic considering its revenue profile and economic dominance, Wyoming's myopic focus on preserving markets for coal carries an opportunity cost—pursuing *resisting* policies to the exclusion of *easing* or *compelling* policies to support energy communities and plan for economic diversification may further entrench Wyoming's revenue challenges.²⁰¹ As a recent article pointed out, the lack of energy transition agencies in the state may leave communities without the support and expertise needed to compete for federal resources.²⁰² Wyoming presently has an opportunity to concurrently address negative impacts to workers and communities *and* make investments to attract new industries. Wyoming can look to the policies deployed by its neighbors which provide direct funding and support to communities and workers impacted by the energy transition. Wyoming has not yet assessed the magnitude of the impacts of coal plant closures and declining coal exports on communities and workers. Although HB 004 takes a small step in this direction, with the possibility of some of its one million dollar appropriation going toward community impacts, significant additional resources are needed. Wyoming can look to the policies deployed by its neighbors, particularly New Mexico and Colorado, which provide significantly more direct funding and support to communities and workers impacted by the energy transition.

Additionally, Wyoming must take seriously the need for economic and revenue diversification. The state has taken steps to encourage new

¹⁹⁵ *Id.* § 2.

¹⁹⁶ *Id.* § 1(b)(ii).

¹⁹⁷ Andrew Graham & Cooper McKim, *Wyoming's 'Dark Money' Coal Campaign*, WYOFIL (Oct. 2, 2020), <https://perma.cc/D9D5-ZN82>.

¹⁹⁸ *Id.*

¹⁹⁹ H.B. 207, 66th Leg. (Wyo. 2021).

²⁰⁰ *Id.* § 2.

²⁰¹ ROBERT GODBY ET AL., *THE OVERLOOKED IMPORTANCE OF FEDERAL PUBLIC LAND FISCAL POLICY*, HEADWATERS ECON. 1 (2019).

²⁰² Dustin Bleizeffer, *Wyo Unprepared to Grab Federal Coal Community Lifeline*, *Experts Say*, WYOFIL (Aug. 4, 2021), <https://perma.cc/GH9M-ZZRZ>.

industries around the use of coal and CO₂, including carbon capture and advanced coal technologies,²⁰³ and enacted legislation supporting workforce training in new industries.²⁰⁴ Additionally, the legislature has passed taxes on generation from wind energy²⁰⁵ and small modular reactors.²⁰⁶ These taxes can be viewed as an effort to adapt to shifts in electricity markets. However, given much of the revenue from coal production is from coal exported to other states, these taxes alone will not replace losses in severance and property tax revenues. To do so either tax rates would have to be raised to an extent that they would deter further investments in renewable and zero carbon generation in Wyoming or generation would need to expand by many orders of magnitude.²⁰⁷

State policies alone, however, may be insufficient to address the impacts of the energy transition on coal-revenue dependent states and communities. Although Wyoming may be uniquely vulnerable to impacts of the energy transition due to its revenue model and resource-based economy, it is emblematic of challenges faced by similarly situated states. For instance, coal producing states West Virginia and Arizona face similar challenges, prompting lawmakers from those states, respectively, to resist the Clean Power Plan²⁰⁸ and Paris Agreement²⁰⁹ and, more recently, attempt to roll back state-level renewable portfolio standards.²¹⁰ In states with fossil-based economies, lawmakers have taken action to preempt local governments from banning new gas infrastructure.²¹¹ Even in New Mexico, which has progressive policies compelling the energy transition away from fossil sources and has actively sought to diversify its economy, officials have expressed opposition to and concern over

²⁰³ Sarah Young, *Wyoming Integrated Test Center: Fostering New-Generation Technology for Today's Energy Resources*, 4 CLEAN ENERGY 85, 85 (2020).

²⁰⁴ Press Release, Wyo. Legis., WY Legislature Approves ENDOW Bills to Diversify State's Economy (Mar. 10, 2018).

²⁰⁵ WYO. STAT. ANN. § 39-22-104 (2021). Recent legislative proposals to increase the amount of the wind generation tax have failed. See, H.B. 108, 66th Leg. Gen. Sess. (Wyo. 2021).

²⁰⁶ WYO. STAT. ANN. § 35-11-2101 (2021).

²⁰⁷ Benjamin Cook and Rob Godby, *Estimating the Impact of State Taxation Policies on the Cost of Wind Development in the West*, CTR. FOR ENERGY ECONS. & PUB. POLY (March 7, 2019); Rob Godby et al., *Wind Development, Tax Policy and Economic Development Tradeoffs*, 31 ELECTRICITY J. 46, XX (2018).

²⁰⁸ *Manchin Testifies at EPA Hearing on Existing Source Rule*, JOE MANCHIN NEWSROOM (July 30, 2014), <https://perma.cc/67YL-ER63>.

²⁰⁹ *Manchin Statement on President's Decision to Leave the Paris Climate Agreement*, JOE MANCHIN NEWSROOM (June 1, 2017), <https://perma.cc/K5XM-2KQK>.

²¹⁰ Bob Christie, *Arizona Renewable Energy Standards Targeted by GOP Lawmakers*, ASSOCIATED PRESS (Jan. 19, 2021), <https://perma.cc/68DW-P3YZ>.

²¹¹ LA. REV. STAT. ANN. § 40:1730.21.1(A) (2020); S.B. 1934, 111th Gen. Assembly (Tenn. 2020); H.R. 3619, 57th Leg. Reg. Sess. (Okla. 2020); H.B. 2686, 54th Leg. 2d Sess. (AZ. 2020). *But see* Jeffrey Tomich, *Gas Ban Backlash Spreads Across the U.S.*, E&E NEWS (Feb. 2, 2021), <https://perma.cc/B8V4-VTKW> (noting proposed legislation prohibiting municipal gas bans in Kansas, Missouri, Indiana, Georgia, Florida, and other states).

President Biden's leasing moratorium and proposals to change permitting, regulation, and leasing practices on public lands.²¹²

Foremost, addressing lost revenues and developing new industries is expensive. Even in Colorado, which already boasts a diverse economy and derives a small fraction of its revenue from coal generation and extraction, the Office of Just Transition estimates the cost for adequately aiding the eleven counties in the state anticipated to be impacted by coal declines will be at least 100 million dollars.²¹³ Such costs are far more than local communities can shoulder and, given the current state of affairs with state budgets, more than most affected states can afford.²¹⁴ States dependent on coal-revenue may be even less equipped to respond.²¹⁵ For fossil-dependent states, *resistance* emerges as a rational response to an insurmountable challenge because these states lack resources to make the substantial investments required for economic diversification and development or to support workers and communities in transition.

This suggests a need for federal resources to address the problem. Until recently, a federal energy-transition strategy and related policies have been slow to develop. The limited federal resources that have been made available are often use-restricted, lacking flexibility and opportunity for affected workers and communities.²¹⁶ Funding directed toward the coal industry is also unlikely to provide the long-term transition support needed. For instance, President-Obama's Power+ Plan initially included two billion dollars in tax credits, a much greater amount than was designated for workforce development, to support carbon capture retrofits on power plants.²¹⁷ While this would have provided a subsidy to coal producers and may have slowed declines in production temporarily, it neither promoted state and local transitions to other economic activities and revenue sources nor replaced previously lost

²¹² David Blackmon, *New Mexico Officials Taken Aback by Biden Assault on Oil and Gas*, FORBES (Jan. 24, 2021), <https://perma.cc/VS7D-GFN7>; Letter from Yvette Herrell, Rep. 2d Dist. N.M., to Michelle Lujan Gisham, Governor N.M. (Jan. 25, 2021).

²¹³ COLO. DEPT OF LAB. AND EMP., COLORADO JUST TRANSITION ACTION PLAN 3, 13, 17 (Dec. 31, 2020).

²¹⁴ *Coronavirus (COVID-19): Revised State Revenue Projections*, NAT'L CONF. OF STATE LEGIS. (Jan. 18, 2021), <https://perma.cc/TTA5-RU6G>.

²¹⁵ HEADWATER ECON., REPLACING COAL REVENUE AND INVESTING IN ECONOMIC TRANSITION: SOLUTIONS FOR COAL-DEPENDENT COMMUNITIES 4 (2019).

²¹⁶ See, e.g., Jeffrey Selinger, *The False Promises of Worker Retraining*, ATLANTIC (Jan. 8, 2018), <https://perma.cc/9G6H-HZ5N> (describing the numerous cuts to federal retraining programs); DELTA INSTITUTE & JUST TRANSITION FUND, COAL IN THE UNITED STATES: POLICY RESPONSES TO AN INDUSTRY IN DECLINE 11 (2018) (projecting further shrinkage of federal job training programs); DANIEL RAIMI ET AL., FEDERAL ECONOMIC DEVELOPMENT SUPPORT FOR COAL COMMUNITIES: A CASE STUDY OF THE ATHENS, OHIO REGION, RES. FOR THE FUTURE 11–15, 18 (Feb. 2021) (suggesting government spending would better support workers by investment in smaller, local projects).

²¹⁷ Mark Partridge et al., *How Should the U.S. Government Help Coal Communities?*, CONVERSATION (Feb. 15, 2016), <https://perma.cc/JCN5-HUUM>.

employment opportunities.²¹⁸ Federal policy makers have an opportunity with newly proposed decarbonization and economic development policies to support state energy transitions, including state-wide economic and industrial transitions through support to impacted workers and stabilization of property taxes and other revenues. As Governor Polis wrote in a recent letter to President Biden, “the Federal Government is the only partner with the capacity to provide consistent and equitable financial support for [community transition] efforts throughout the nation.”²¹⁹

In the first week of his administration, President Biden released an executive order on climate that proposes efforts to “empower[] workers through revitalizing energy communities.”²²⁰ The order establishes an Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization to explore brownfield development opportunities at retired coal plants and to “coordinate the identification and delivery of Federal resources to revitalize the economies of coal, oil and gas, and power plant communities.”²²¹ The Initial Report of the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization identified thirty-eight billion dollars in potential federal funding to support impacted communities through investments in infrastructure, environmental remediation, and workforce support.²²² Although noting that the employment metric may understate broader revenue and economic impacts, based on percentages of coal jobs, twenty-one of Wyoming’s twenty-three counties are listed as being included in high priority areas for investment and engagement.²²³ Many of these priorities, including an Energy Community Revitalization program and Advanced Energy Manufacturing and Recycling Grant Program targeted toward communities with closing coal facilities, were incorporated into bipartisan infrastructure legislation passed in November of 2021.²²⁴ In addition, funding provided in the bill for development of broadband and electric vehicle charging infrastructure, critical minerals development, and carbon management may support economic diversification and capacity building statewide.²²⁵

The current infrastructure and workforce bills, however, do not address the larger state revenue and economic impacts related to the Biden Administration’s efforts to overhaul fossil leasing and permitting practices on public land. Rather than exclude states that have historically

²¹⁸ *Id.*

²¹⁹ Letter from Jared Polis, Governor of Colo., to Joe Biden, President of the United States (July 13, 2021).

²²⁰ *Tackling the Climate Crisis at Home and Abroad*, *supra* note 20.

²²¹ *Id.*

²²² INTERAGENCY WORKING GRP. ON COAL AND POWER PLANT CMTYS. AND ECON. REVITALIZATION, NAT’L ENERGY TECH. LAB’Y, INITIAL REPORT TO THE PRESIDENT ON EMPOWERING WORKERS THROUGH REVITALIZING ENERGY COMMUNITIES 2, 3, 12 (2021).

²²³ *Id.* at 23.

²²⁴ H.R. 3684, 117th Cong., 1st Sess. (2021).

²²⁵ *Id.*

benefited from federal public land policy, federal efforts to decarbonize and invest in green energy should prioritize the people and places most vulnerable to impacts of the energy transition. Scholars have proposed both regional coordination and federal revenue replacement programs as potential vehicles to address regional inequities and ease the financial impacts of revenue losses tied to the energy transition.²²⁶ Legislation introduced by Sen. Heinrich of New Mexico, the School and State Budgets Certainty Act,²²⁷ proposes making “energy transition payments to States, counties, and Indian Tribes” that receive mineral revenue payments from development on federal land to provide stability in revenue during energy transitions.²²⁸ If passed, this bill or similar legislation could address the underlying drivers of energy transition resistance and better align state interests with federal clean energy priorities. As the federal government furthers momentum in the energy transition, states with fossil-based economies like Wyoming should strive to actively inform federal goals and policies and to coordinate state and federal efforts and resources.

Federal investments in economic development and diversification can address the drivers of energy-transition resistance. States and communities that depend on high-carbon industries are justifiably concerned about bearing an undue share of the cost of the industrial transitions contemplated by decarbonization policies.²²⁹ As one scholar as notes, “[t]he effect that a lack of transition planning may cause . . . worryingly resembles the steel mill closures and deindustrialization of the 1970s and early 1980s, which devastated communities that continue to struggle to recover.”²³⁰ Federal investments in the people and places most impacted by the energy transition may help overcome opposition to climate reform including the “[l]ongstanding ‘jobs-verses environment’ tensions [that] persist.”²³¹ Moreover, investments in natural amenities, cleanup, and basic infrastructure may both promote economic recovery, replace funding for public services currently supported by coal revenues, and immediately improve the quality of life in impacted communities.²³²

²²⁶ DANIEL RAIMI ET AL., RES. FOR THE FUTURE, POLICY OPTIONS TO ENABLE AN EQUITABLE ENERGY TRANSITION 36, 46–47 (2021).

²²⁷ S. 1740, 117th Cong., 1st Sess. (2021).

²²⁸ *Id.*

²²⁹ Eisenberg, *supra* note 27, at 275–76. The Energy Transition movement has roots in the global labor market and has been endorsed by the International Labour Organization and the United National Environmental Program as well as being a policy objective in the Paris Agreement. David J. Doorey, *Just Transitions Law: Putting Labour Law to Work on Climate Change*, 30 J. ENV'T. L. & PRAC. 201, 206–07 (2017).

²³⁰ Rosenfeld, *supra* note 31; see LISA ANNE HAMILTON ET AL., PACE ENERGY AND CLIMATE CTR., TRANSITION SUPPORT MECHANISMS FOR COMMUNITIES FACING FULL OR PARTIAL COAL POWER PLANT RETIREMENT IN NEW YORK 6 (2017) (noting that the fiscal challenges New York faces in retiring electric generation units “are not unlike the challenges faced by communities, legislators, and plant owners during the periods of deindustrialization of the late 1960’s through 1980’s”).

²³¹ Eisenberg, *supra* note 27, at 276.

²³² Partridge et al., *supra* note 217.

VI. CONCLUSION

Although the policy responses between states such as Colorado and Wyoming stand in stark opposition, the goals are largely the same. Energy transition policies reflect legislative efforts to minimize the short-term impacts and long-term costs associated with a shift away from coal resources. Energy-transition policies are, thus, designed to address the distributive and justice concerns associated with early retirements and the transition away from the coal economy. Whereas in Colorado, New Mexico, and Montana the key stakeholders are utility ratepayers, mine and plant employees, and the frontline communities in which mines and generation resources are located, revenue impacts in Wyoming are holistic and statewide. Understanding the underlying drivers of energy transition resistance in Wyoming provides insight to climate-driven energy-policy resistance in states dependent on fossil-derived revenue.²³³ Although this Article focused on declines in the coal economy and early coal generation retirements, parallel concerns underlie resistance to other energy-transition efforts including potential changes to oil and gas development on public land.

States with ongoing coal-generation are likely to support and, at times, attempt to extend the operation of such facilities and related economic activities where doing so is not in direct conflict with other priorities. Thoughtful policy responses can address the underlying sources of energy-transition resistance. Concurrently, state policy efforts can address local community and workforce impacts and encourage economic diversification and industrial transition. Finally, federal energy-transition efforts, including climate and economic-recovery spending, should provide support to state efforts related to the energy transition by considering immediate job losses and declining revenue precipitated by declining fossil production on federal land. By coordinating investments and other efforts, policymakers can remove sources of resistance to climate and energy transition policy while encouraging growth in new clean energy and manufacturing sectors.

²³³ James Bruggers, *Coal Communities Across the Nation Want Biden to Fund an Economic Transition to Clean Power*, INSIDE CLIMATE NEWS (Jan. 26, 2021), <https://perma.cc/AA5W-UHRR>.