

Paguate-Jackpile Mine: Uranium Mining, Climate Crisis, and American Eco-Nationalism

Introduction

International and domestic pressure caused by the climate crisis has the potential to increase uranium mining on indigenous lands in the United States. Because nuclear energy is both a low carbon and efficient energy source, it is likely the continuous threat of climate change to the United States will increase demand for uranium mining. American nationalism and the desire for energy independence ensures that this demand will strongly favor depletion of uranium deposits within the boundaries of the United States. Yet much of the uranium within the United States is located on indigenous lands. What is known as the Grants Uranium Belt in Northern New Mexico contains the second largest uranium reserve in the country.¹ Settler colonialism, environmental racism, and growing concern over the climate crisis will contribute to a disconnect and disregard for the impacts of uranium mining on indigenous communities.

This paper is comprised of four key parts. Part I of this paper will discuss the historical and contemporary background of the Paguate-Jackpile uranium mine located in Laguna Pueblo reservation in New Mexico as a detailed case study of the impacts of uranium mining and environmental degradation on indigenous communities. Part II will briefly examine the effect of climate change on demand for uranium mining. Part III will employ a critical analysis of American eco-Nationalism, defined as the United States' desire to end reliance on foreign energy sources and instead promote green energy sources that can be created and maintained within the United States boundaries while simultaneously appropriating indigenous landscapes and resources for primarily white American identity, to predict how globally popular climate change solutions such as nuclear energy may end up harming indigenous peoples within the United

¹ *U.S. Uranium Reserve Estimates*, UNITED STATES ENERGY INFORMATION ADMINISTRATION, <https://www.eia.gov/uranium/reserves/table1.php> (last visited Dec. 18, 2019).

States. Part IV will conclude by proposing a series of reforms in United States and tribal policy for finding climate change solutions that center indigenous knowledge and sovereignty.

I. Pagate-Jackpile Mine Case Study

Much research has been done on uranium mining in the Navajo Nation, yet there is another community within the Grants Uranium Belt that has suffered from the United States uranium boom—the Pueblo of Laguna. Laguna is a large Pueblo nation comprised of six villages in western New Mexico with a population of about 8,000 citizens.² While the Pagate-Jackpile mine located in the village of Pagate is shut down, its toxic remnants still pose numerous health and environmental hazards to the surrounding villages. The history and emerging impacts of the mine serve as a rich case study of how extractive industry uniquely harms indigenous communities.

a. Operation, Reclamation, and Remediation

The history of the Pagate-Jackpile uranium mine begins with World War II. World War II spurred demand for uranium in order to defend and arm the United States.³ Yet after the war ended, the United States increased its efforts to stockpile nuclear weapons for the Cold War, causing the uranium boom.⁴ In 1946 Congress enacted the Atomic Energy Act which established the Atomic Energy Commission in 1947.⁵ The Atomic Energy Commission (“AEC”) managed military and civilian use of uranium.⁶ In accordance with the Atomic Energy Act, the federal government was the sole purchaser of uranium ore in the United States until

² *Laguna Pueblo*, NEW MEXICO TOURISM DEPARTMENT, <https://www.newmexico.org/places-to-visit/native-culture/laguna-pueblo/> (last visited Dec. 18, 2019).

³ PHILIP SITTNICK, URANIUM MINING AND ITS IMPACT ON LAGUNA PUEBLO: A STUDY GUIDE FOR AN INTERDISCIPLINARY UNIT 13 (July 1998).

⁴ *Id.* at 14-15.

⁵ Rebecca Tsosie, *Indigenous Peoples and the Ethics of Remediation: Redressing the Legacy of Radioactive Contamination for Native Peoples and Native Lands*, 13 SANTA CLARA J. OF INT’L LAW 203, 212 (2015).

⁶ *Id.*

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1971.⁷ However, private companies were able to operate mines and sell the ore to the United States. One of these companies was Anaconda Minerals Company, a division of what is today ARCO.

In 1951 Anaconda obtained a permit from the Pueblo of Laguna to search for uranium on the Laguna reservation.⁸ Just outside the village of Paguete Anaconda discovered a huge deposit of uranium.⁹ Laguna's governing body decided the mines would provide economic development for the tribe and leased the lands to Anaconda, though it was the Bureau of Indian Affairs who exercised authority to approve the leases.¹⁰ Over the course of the mine operations, Laguna received royalties totaling less than 1% of Anaconda's profits.¹¹ Within a matter of years the Jackpile uranium mine became the largest open pit uranium mine in the world, producing over 22 million tons of ore from 2,000 acres.¹² Jackpile's operations included three open pits, 32 waste dumps, 23 stock-piles of subgrade ore, four topsoil stockpiles, housing for the miners, and a myriad of roads.¹³ The mine was a mere 1,000 feet from the village of Paguete and intersected the Rio Paguete river.¹⁴

In 1971 the AEC's government purchasing program ended and operators were able to directly acquire uranium.¹⁵ At this time uranium began to be used for energy.¹⁶ It is unclear whether there was ever another purchaser of Jackpile's uranium other than the United States,

⁷ Doug Brugge & Rob Goble, *The History of Uranium Mining and the Navajo People*, 92 AMERICAN J. OF PUBLIC HEALTH 1410 (2002).

⁸ Sittnick, *supra* note 3, at 16.

⁹ *Id.*

¹⁰ 25 C.F.R. § 211, 216 (2019).

¹¹ Sittnick, *supra* note 3, at 17.

¹² *Superfund Site: Jackpile-Paguete Uranium Mine*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0607033> (last visited Dec. 18, 2019).

¹³ BUREAU OF LAND MANAGEMENT, *Summary of JACKPILE-PAGUETE URANIUM MINE RECLAMATION PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT* at vi (1986).

¹⁴ *Id.* at 2-2.

¹⁵ Tsosie, *supra* note 5, at 215.

¹⁶ *Id.*

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though throughout the 1970s and 1980s commercial purchasers replaced the AEC for many other mines.¹⁷ In 1982 the Jackpile uranium mine shut down due to a severe drop in market prices for uranium.¹⁸

Reclamation of the mine began in 1986.¹⁹ Reclamation is the restoration of mined land to a natural or economically usable state.²⁰ Anaconda, now ARCO, did not want to pay for or complete the reclamation, so Laguna brought suit against them.²¹ Negotiations with ARCO eventually led to a \$45 million-dollar settlement, in which Laguna was awarded this amount to reclaim the mine on its own.²² With this money Laguna created the Laguna Construction Company.²³ Reclaiming the mine was a huge undertaking especially for a relatively small, under-resourced tribe. At this point in time, no uranium mine had ever been reclaimed before, which is likely why ARCO fought so hard to avoid this responsibility. There were no regulations, laws, or guidance of any kind to help Laguna safely mitigate the radioactive site.²⁴ Laguna Construction Company backfilled the mines, removed contaminated material within 100 feet of the Rio Paguete, and seeded the area with grasses and other native plants.²⁵ Reclamation was completed in 1994.²⁶ This bare bones project left behind known and unknown environmental harm, setting the stage for future attempts to remedy leftover contamination.²⁷

¹⁷ Brugge, *supra* note 7, at 1411.

¹⁸ Sittnick, *supra* note 3, at 16.

¹⁹ Jackpile-Paguete Uranium Mine Reclamation Project Final Environmental Impact Statement, *supra* note 13.

²⁰ ENVIRONMENTAL PROTECTION AGENCY, *Jackpile-Paguete Uranium Mine Site Newsletter*, July 1, 2018.

²¹ Sittnick, *supra* note 3, at 18.

²² *Atlantic Richfield Company v. United States*, 181 F. Supp. 898, 905 (2016).

²³ Sittnick, *supra* note 3, at 19.

²⁴ Sittnick, *supra* note 3, at 18.

²⁵ Sittnick, *supra* note 3, at 19.

²⁶ *Id.*

²⁷ *Id.*

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In 1980 Congress enacted the Comprehensive Environmental Response Compensation and Liability Act (“CERCLA”).²⁸ CERCLA created what is known as the Superfund process, which aims to cleanup lands affected by toxic and hazardous waste by enforcing strict liability on mine owners and operators, transporters, and/or generators of hazardous waste.²⁹ Liable parties are required to pay for the costs of clean up, or remediation, which addresses contamination-related risks to human health and the environment to the extent practicable or above acceptable and quantifiable cancer risk ranges.³⁰ Under CERCLA the Environmental Protection Agency (“EPA”) sets the standard for cleanup, but has the discretion to deviate from that standard if cleanup is technically impracticable or if the nature of the contamination does not pose a significant threat to human health.³¹ These decisions take into consideration factors such as low population density or the availability of an alternative water supply.³² The victims of the contamination are not parties to the apportionment of liability, rather victims ultimately depend on EPA to enforce cleanup.³³

Jackpile mine was designated a Superfund site in 2013 and is currently in the Remedial Investigation and Feasibility part of the process.³⁴ In retaliation of EPA and Laguna’s efforts to involve ARCO in remediation studies, ARCO attempted to seek cost recovery and contribution under CERCLA for its \$45 million settlement with Laguna,³⁵ but in 2017 ARCO and EPA entered into a settlement requiring ARCO to conduct the Remedial Investigation and Feasibility

²⁸ ENVIRONMENTAL PROTECTION AGENCY, COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) AND FEDERAL FACILITIES, <https://www.epa.gov/enforcement/comprehensive-environmental-response-compensation-and-liability-act-cercla-and-federal> (last visited Dec. 18, 2019).

²⁹ *Id.*

³⁰ *Jackpile-Paguete Uranium Mine Site*, *supra* note 20.

³¹ Tsosie, *supra* note 5, at 218.

³² *Id.*

³³ *Id.*

³⁴ *Superfund Site: Jackpile-Paguete Uranium Mine*, *supra* note 12.

³⁵ *Atlantic Richfield Company*, 181 F. Supp. at 898.

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Study.³⁶ Neither ARCO nor any other potentially liable parties have been sued under CERCLA for liability of the Jackpile mine contamination.

b. Effects and Impacts of Jackpile Mine

In hindsight, the \$45 million settlement was a horrifically low amount to be able to deal with all the known, unknown, and continuing effects of the mine. Although CERCLA seeks to hold companies like ARCO accountable, the United States does not have a responsibility to indigenous communities to seek full remediation for health, environmental, cultural, and socioeconomic impacts.³⁷

i. Health and Environment

Europeans had been aware of the dangerous health effects of mining uranium since the late 1800s.³⁸ Uranium itself is only slightly toxic, but radon and particulate matter released from crushing and mining uranium ore is radioactive.³⁹ Special care must be taken to limit the exposure of miners, including providing ventilation, efficient dust control, using remote techniques, employing radiation detection equipment and strict hygiene standards for workers, and continuous monitoring of air quality and worker conditions.⁴⁰

Scientific studies conducted by the U.S. Public Health Service concluded by the 1950s that radon caused lung cancer and other diseases.⁴¹ While information from these health studies was distributed to white miners, due to language and other access issues this information and precautionary measures were never disclosed to indigenous miners such as those who worked in

³⁶ *Superfund Site: Jackpile-Paguate Uranium Mine*, *supra* note 12.

³⁷ Tsosie, *supra* note 5, at 206.

³⁸ Brugge, *supra* note 7, at 1410.

³⁹ *Uranium Mining Overview*, WORLD NUCLEAR ASSOCIATION, <https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/uranium-mining-overview.aspx> (last visited Dec. 18, 2019).

⁴⁰ *Id.*

⁴¹ Brugge, *supra* note 7, at 1412.

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Laguna.⁴² Standards for radon in mines were finally set in 1969, but these standards were often violated.⁴³

In addition to failing to disclose the health impacts of mining uranium, the companies and the United States provided little to no protective equipment for the Laguna miners.⁴⁴ Miners breathed the air without proper ventilation, ate and drank near the mine, and some even lived at the site.⁴⁵ One of the major causes of health impacts at the Jackpile mine continues to be uranium ore dust. When the ore was blasted two to three times per day, the dust from the blasts spread over Paguate village, likely causing dust inhalation by anyone who was outdoors.⁴⁶ The dust also covered drying meat, fruit trees, and crops such as corn, causing the dust to be ingested.⁴⁷ Children and women family members were also exposed to the dust when miners would come home with the ore dust covering their work clothes.⁴⁸ Many Laguna people vividly recall as children and wives hugging the dusty mine workers as they came home and washing the work clothes.⁴⁹

After several mines were abandoned the United States actively discouraged studies on the health effects of uranium mining, the AEC maintained they were not responsible for the miner's health and held that specific information on the exact effects were classified.⁵⁰ This initial suppression of information prevented Laguna from starting a remediation process earlier. Laguna

⁴² Brugge, *supra* note 7, at 1413.

⁴³ Brugge, *supra* note 7, at 1415.

⁴⁴ While there has been considerably less research on the mining conditions and information disclosed to the Laguna miners regarding health effects from the mine, it is likely that their experience is similar to what was recorded about the Navajo miners. Brugge, *supra* note 7, at 1411; Sittnick, *supra* note 3, at 17.

⁴⁵ Sittnick, *supra* note 3, at 17.

⁴⁶ *Id.* at 13, 17.

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*; Talli Nauman, *Native Sun News: Laguna Pueblo still affected by uranium mine*, INDIANZ.COM, Aug. 25, 2014, <https://www.indianz.com/News/2014/014847.asp>.

⁵⁰ Tsosie, *supra* note 5, at 213; Barbara Rose Johnston, Susan Dawson & Gary Madsen, *Uranium Mining and Milling: Navajo Experiences in the American Southwest*, in INDIANS AND ENERGY: EXPLOITATION AND OPPORTUNITY IN THE AMERICAN SOUTHWEST 111, 117 (Sherry L. Smith & Brian Frehner eds. 2010).

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had to take great initiative in addressing the unknown effects of uranium mining on its people. To date there has been no compensation for or formal recognition of the health impacts of the mine, like compensation provided by the United States to the Navajo Nation, either by ARCO or the United States.⁵¹

Laguna's Environment and Natural Resources Department and the University of New Mexico ("UNM") METALS Superfund Research Program have partnered with the EPA to oversee ARCO's Remedial Investigation and Feasibility Study under CERCLA.⁵² Securing data and studying the effects of the mine is difficult work. The UNM METALS program conducted preliminary studies on uranium concentration in the Rio Paguete.⁵³ Studies on uranium in the Rio Paguete are crucial to understanding health impacts as the river sustained crops, cattle, sheep, and orchards.⁵⁴ UNM METALS also found nanoparticles in the Jackpile mine waste containing uranium and vanadium.⁵⁵ These particles can travel via air, resulting in inhalation by humans and livestock and absorption into water.⁵⁶ The exact effect of these particles on health is unknown, though lung disease is a possibility, and air monitoring is currently being conducted within the village of Paguete.⁵⁷ No studies have been conducted on psychological effects of the mining

⁵¹ Special Rapporteur on the Implications for Human Rights of the Environmentally Sound Management and Disposal of Hazardous Human Wastes at 49, U.N. Doc. A/HRC/21/48/Add.1 (Sep. 3, 2012) (by Calin Georgescu) [hereinafter Georgescu Report], citing FINAL REPORT, ADVISORY COMMITTEE OF HUMAN RADIATION EXPERIMENTS.

⁵² Kyle Swimmer & Chris Shuey, *Air Monitoring Begins in Paguete, Old Laguna, and Mesita Villages Laguna ENRD Collaborates with UNM Research Team*, PUEBLO OF LAGUNA COMMUNITY PAPER, April 2, 2019, at 1.

⁵³ Johanna M. Blake et al., *Uranium mobility and accumulation along the Rio Paguete, Jackpile Mine in Laguna Pueblo, NM*, ENVIRONMENTAL SCIENCE PROCESSES AND IMPACTS, March 5, 2017 at 1.

⁵⁴ Sittnick, *supra* note 3, at 18.

⁵⁵ UNM METALS SUPERFUND RESEARCH CENTER, *Super-tiny "nano" particles containing uranium and other metals found in Jackpile Mine wastes*, Research Brief No. 2, Sept. 2019.

⁵⁶ *Id.*

⁵⁷ UNM METALS SUPERFUND RESEARCH CENTER, *Air Monitoring Continues in Paguete, Old Laguna and Mesita UNM Research Team and Laguna ENRD collaborate to assess windblown particles, weather conditions*, Research Brief No. 2, Sept. 2019.

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operation and closure.⁵⁸ Among the people of Laguna, there is growing frustration and anxiety over the lack of research on the health impact, as many have witnessed deaths of previous uranium miners and believe cancer and lung diseases are a major threat to those still alive.⁵⁹

ii. Cultural and Socioeconomic

Equally important impacts of the Jackpile Mine include cultural and socioeconomic impacts. As with many indigenous peoples, Laguna spirituality and social practices such as land use are not separate, but rather are considered to comprise the Laguna way of life, “[t]he land, the sky, and all that is within them-the landscape, includes human beings. Interrelationships in the Pueblo landscape are complex and fragile.”⁶⁰ Growing crops was both a form of subsistence and a cultural/religious act. The walls of traditional adobe homes in Paguante that cracked⁶¹ from the blasting of the mines are more than just part of the home, they are an integral piece of Pueblo culture and community-building. Thus, cultural and socioeconomic impacts of the mine are compounded and interrelated.

There are four religious and over two hundred archaeological sites located in the vicinity of the mine.⁶² Access to these sites is severely limited by health risks of contamination and historically has been limited by ARCO due to security and safety concerns.⁶³ Pottery is a major piece of Laguna culture, as it is used for ceremonies, sold as art, and utilized within the home. Jackpile Mine and the Rio Paguante are located near clay gathering sites, and the EPA has cautioned tribal members against using clay from these areas due to the potential for radioactive

⁵⁸ *Jackpile-Paguante Uranium Mine Reclamation Project Final Environmental Impact Statement*, *supra* note 14, at 1-7.

⁵⁹ Talli Nauman, *Native Sun News: Laguna Pueblo still affected by uranium mine*, INDIANZ.COM, Aug. 25, 2014, <https://www.indianz.com/News/2014/014847.asp>.

⁶⁰ Leslie Marmon Silko, *Landscape, History, and the Pueblo Imagination*, 57 *Antaues* 1003, 1006 (1986).

⁶¹ UNM METALS Superfund Research Center, *supra* note 57.

⁶² *Jackpile-Paguante Uranium Mine Reclamation Project Final Environmental Impact Statement*, *supra* note 14, at 2-76.

⁶³ *Id.*

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contamination from radon.⁶⁴ Not being able to use clay from Laguna affects Laguna people in various ways, and demonstrates how a seemingly minor harm raises large cultural loss concerns for Laguna people.

The socioeconomic impacts of the mine were huge. Many Lagunas welcomed the mine as it provided well-paying jobs that allowed tribal members to stay connected and live close to home.⁶⁵ For Lagunas, like many indigenous peoples, living in the community is crucial due to cultural and family obligations. The mine caused an economic shift from an agricultural, land-based economy to a wage-based economy.⁶⁶ The mine brought modernization, utilities, plumbing, paved roads, money to invest in scholarships, infrastructure, and experiences in mine reclamation.⁶⁷ The majority of miners were men, yet men also have a large role to play in Laguna social/cultural activities. The mine decreased participation in growing crops, ranching, and ceremonies because the men became dependent on mining income.⁶⁸ Some activities such as ranching and growing crops almost completely died out. The more money the miners earned, the more they turned toward consumer culture. Expenses began piling up for cars, utilities, and trips to the city.⁶⁹ There was now money to spend on alcohol and drugs, and crime increased on the reservation.⁷⁰

When the mine shut down thirty years later, over 400 workers were left unemployed, resulting in a \$8 million loss in total annual income.⁷¹ A 1983 survey reported that there was a

⁶⁴ AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES PUBLIC HEALTH SERVICE, PUBLIC HEALTH ASSESSMENT FOR JACKPILE-PAGUATE URANIUM MINE LAGUNA PUEBLO, November 29, 2017, at 19-22.

⁶⁵ *Jackpile-Paguate Uranium Mine Reclamation Project Final Environmental Impact Statement*, *supra* note 14, at 2-76-77, 1-6; Sittnick, *supra* note 3, at 17-18.

⁶⁶ Sittnick, *supra* note 3, at 17.

⁶⁷ *Id.* at 18-19.

⁶⁸ *Id.* at 17.

⁶⁹ Sittnick, *supra* note 3, at 18-19.

⁷⁰ *Id.*

⁷¹ *Id.* at 17.

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50% unemployment rate on the reservation, and the cultural need to stay close to home prevented those who remained unemployed from seeking jobs elsewhere.⁷² Without any form of on-reservation employment, all the modern comforts that were brought to Laguna dragged many families into debt. Cultural disconnect and dependence on American luxuries created an inability to survive off the land, this coupled with financial troubles further increased drug and alcohol abuse, domestic violence, and suicide.⁷³ No formal research on the cultural and socioeconomic effects of the mine has ever been completed.

iii. Disparate Effect

The impacts of uranium mining have a disparate effect on indigenous peoples. For Laguna, the reservation is more than just a place to live, it's the emergence place and homeland of the people.⁷⁴ Relocating away from the contamination is not an option,⁷⁵ and the cultural harms effect the identity and survival of the tribe. Laguna is also particularly protective of cultural knowledge, and this in turn has the effect of not allowing a full understanding of cultural consequences of the mine. Coupled with federal policies such as the removal and forced assimilation of Native children into Indian boarding schools, the impact of the uranium mine on Laguna culture and wellbeing is devastating.

It's hard to imagine what reparations would be necessary to redress the harm to Laguna. The EPA has developed the RE-Powering Program, which develops renewable energy on contaminated Superfund lands such as old mine sites.⁷⁶ The renewable energy projects are

⁷² *Jackpile-Paguate Uranium Mine Reclamation Project Final Environmental Impact Statement*, *supra* note 14, at 2-79.

⁷³ *Id.*

⁷⁴ Silko, *supra* note 59, at 1010-11.

⁷⁵ At one point, ARCO asked Paguate residents to relocate because ARCO thought there were more uranium deposits where the village was located, obviously the residents refused. Sittnick, *supra* note 3, at 17.

⁷⁶ *Learn More About RE-Powering*, ENVIRONMENTAL PROTECTION AGENCY, <https://www.epa.gov/re-powering/learn-more-about-re-powering#why> (last visited Dec. 19, 2019).

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meant to bring employment and attract business to the area.⁷⁷ While the lack of employment opportunities on the Laguna reservation is a key concern for Laguna, this would not be a complete form of reparation. A new project that employs many people would not address the cultural damages or health effects, including mental health effects. It also does not conform to the original uses of the land, including use as a cultural site for gathering clay, growing crops and orchards, and ranching. Additionally, much of the wealth from uranium mining doesn't end up in communities where the mines are located, but rather mainly with the operating companies whose investments are based overseas.⁷⁸ While providing economic stability and independence as part of the remediation is necessary, reparations for the harm ARCO and the United States brought to Laguna must be community driven, with Laguna identifying their remedial priorities.

II. Climate Change and Uranium Mining

Some may see the impacts of uranium mining on indigenous communities such as Laguna as a past issue, but the impending climate crisis will either increase demand for uranium mining or spur demand for other forms of green energy development, posing a threat to indigenous peoples of the Southwest who are rich in natural resources. Climate change caused by CO₂ emissions poses a systemic threat to our planet.⁷⁹ At the current rate of global warming, expected effects include sea level rise, species extinction, and extreme weather and drought.⁸⁰ To be able to

⁷⁷ *Id.*

⁷⁸ Seth Tupper, *Radioactive Legacy, Part 5 of a Journal Special Report: The Past as Prologue; will lessons be learned?*, RAPID CITY JOURNAL, Nov. 1, 2015, https://rapidcityjournal.com/radioactive-legacy-part-of-a-journal-special-report-the-past/article_c09bac0a-ad7b-5a08-983c-32c1dc81c899.html

⁷⁹ VALÉRIE MASSON-DELMOTTE ET AL., SUMMARY FOR POLICYMAKERS SPECIAL REPORT ON GLOBAL WARNING OF 1.5° ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY 5 (2018); John Cook et al., *Consensus on consensus: a synthesis of consensus estimates on human-caused global warming*, 11 ENVTL. RES. LETTERS 1 (2016).

⁸⁰ VALÉRIE MASSON-DELMOTTE ET AL., SUMMARY FOR POLICYMAKERS SPECIAL REPORT ON GLOBAL WARNING OF 1.5° ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY 7-10 (2018).

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mitigate and adapt to climate crisis, drastic changes are needed to slow global temperature rise through reduction of greenhouse gas emissions.⁸¹

Nuclear energy has been identified by world leaders as a potential energy resource that would drastically help reduce CO₂ emissions.⁸² Nuclear energy is low carbon; its lifecycle produces same amount of CO₂ per unit of electricity as wind energy and the power plants produce no greenhouse gas emissions during operation.⁸³ Despite the potential, nuclear energy may not be the best choice as a low cost energy source.⁸⁴ The marginal cost of nuclear energy is more expensive than utility scale wind, solar, natural gas, and coal,⁸⁵ meaning realistically nuclear energy will not be utilized on a large scale in the United States. Technology developments and political change may cause nuclear energy to be more desirable in the future, and increased demand for uranium, especially where infrastructure already exists, is still a major possibility.

Nuclear energy could provide up to 25% of global electricity.⁸⁶ If significant nuclear power expansion were to begin, a sustained increase in uranium exploration would be required, which could mean the discovery of many more sources of uranium.⁸⁷ The storage and safety of power plant technology has vastly improved in recent years,⁸⁸ but there is no significant improvements in mining technology itself, for the most part worker safety is still at high risk. Many mining companies have switched to in situ leach mining, a process that pumps chemicals into aquifer

⁸¹ *Id.* at 12-15.

⁸² *Id.* at 21.

⁸³ *Nuclear energy and climate change*, WORLD NUCLEAR ASSOCIATION, <https://www.world-nuclear.org/nuclear-basics/nuclear-energy-and-climate-change.aspx> (last visited Dec. 19, 2018).

⁸⁴ Robinson Meyer, *There Really, Really Isn't a Silver Bullet for Climate Change*, THE ATLANTIC, March 5, 2019, <https://www.theatlantic.com/science/archive/2019/03/why-nuclear-power-cannot-solve-climate-change-alone/584059/>.

⁸⁵ *Levelized Cost of Energy and Levelized Cost of Storage*, LAZARD, <https://www.lazard.com/perspective/lcoe2019> (Nov. 7, 2019).

⁸⁶ *Nuclear Energy and Addressing Climate Change*, Nuclear Energy in Perspective, Dec. 2009, <https://www.oecd-nea.org/news/in-perspective/addressing-climate-change.pdf> (last visited Dec. 19, 2019).

⁸⁷ *Id.*

⁸⁸ *Id.*

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orebodies to dissolve uranium and pump the uranium to the surface for treatment.⁸⁹ Mining companies argue that in situ leach mining is a safer, more environmentally friendly process,⁹⁰ but environmental organizations argue that the process poses threats to drinking water and water quality.⁹¹ In situ mining has already been proposed in areas that impact Laguna and the Oglala Sioux Tribe.⁹²

While some European nations have identified nuclear energy as a potential for CO2 reduction,⁹³ President Trump has denied climate crisis and pushed for increase of natural gas and coal extraction.⁹⁴ While the Obama administration explicitly endorsed nuclear energy under the 2016 Clean Power Plan,⁹⁵ the EPA has no current plans to increase nuclear energy expansion. The Trump administration has withdrawn from the 2016 United Nations Framework Convention on Climate Change Paris Agreement and implemented the Clean Energy Rule which implements a cost benefit analysis that will allow agencies to devalue risks associated with air pollution and incentivize coal mining.⁹⁶ Despite the rollback on CO2 emission reduction policies, the Trump

⁸⁹ *In Situ Leach Mining of Uranium*, WORLD NUCLEAR ASSOCIATION, <https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/in-situ-leach-mining-of-uranium.aspx> (last visited Dec. 19, 2019).

⁹⁰ *Id.*

⁹¹ *In-situ Leach Uranium Mining*, EARTHWORKS, https://earthworks.org/issues/in_situ_leach_uranium_mining/ (last visited Dec. 19, 2019).

⁹² *Mount Taylor*, EARTHWORKS, https://earthworks.org/stories/mount_taylor/; *Oglala Sioux appeal decision on survey decision for mine*, RAPID CITY JOURNAL, Dec. 13, 2019, <https://rapidcityjournal.com/news/state-and-regional/ogla-sioux-consider-appeal-on-survey-decision-for-mine/>.

⁹³ James Temple, *Why France is eyeing nuclear power again*, MIT TECHNOLOGY REVIEW, Oct. 16, 2019, <https://www.technologyreview.com/s/614579/why-france-is-eyeing-nuclear-power-again/>; WORLD NUCLEAR ASSOCIATION, *NUCLEAR POWER IN FRANCE*, <https://www.world-nuclear.org/information-library/country-profiles/countries-a-f/france.aspx> (last visited Dec. 19, 2019).

⁹⁴ Kari De Pryck & François Gemenne, *The Denier-in-Chief: Climate Change, Science and the Election of Donald J. Trump*, LAW CRITIQUE, May 19, 2017, <https://orbi.uliege.be/bitstream/2268/220188/1/The%20Denier%20in%20Chief%20-%20Law%20and%20Critique.pdf>.

⁹⁵ ENVIRONMENTAL PROTECTION AGENCY, *FACTSHEET CLEAN POWER PLAN OPPORTUNITIES FOR NUCLEAR POWER*, Nov. 5, 2015, <https://archive.epa.gov/epa/sites/production/files/2015-11/documents/fs-cpp-nuclear.pdf>.

⁹⁶ Miranda Green, *EPA to reconsider cost benefit analysis of air pollution on human life*, THE HILL, May 21, 2019, <https://thehill.com/regulation/energy-environment/444878-epa-to-reconsider-cost-benefit-analysis-of-air-pollution-on-affordable-clean-energy-rule>, ENVIRONMENTAL PROTECTION AGENCY, *Affordable Clean Energy Rule*, <https://www.epa.gov/stationary-sources-air-pollution/affordable-clean-energy-rule> (last visited Dec. 19, 2019).

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administration Energy Department has been developing domestic advanced nuclear technology projects in order to increase commercial nuclear capability.⁹⁷ Additionally, the nuclear industry continues to push for government subsidies and opening public lands to uranium mining in order to promote energy independence and national security.⁹⁸

Between advancing nuclear technology and potential for political change in the coming election that focuses on reducing greenhouse gas emissions in various ways, there is a possibility of increased uranium mining in the future. Regardless of whether there will be increased dependence on nuclear energy in the future, the United States must confront negative impacts on indigenous peoples from energy development that mitigates climate change.

III. Colonialism and American Eco-Nationalism

Even if nuclear energy will not be utilized in the future to reduce climate change, uranium mining in the Southwest serves as a case study of how energy development effects indigenous communities in a number of ways. Looking beyond the Jackpile-Paguate mine case study and towards a larger understanding of environmental contamination on indigenous lands, it is necessary to assess root causes of extractive industry on indigenous lands. Settler and extractive colonialism and environmental racism have allowed non-consensual natural resource extraction to occur on indigenous lands, while American nationalism has provided justifications for the continued practice.

a. Colonialism and Racism toward Native peoples

⁹⁷ OFFICE OF NUCLEAR ENERGY, *U.S. Department of Energy Awards \$15.2 Million for Advanced Nuclear Technology*, Sept. 10, 2019, <https://www.energy.gov/ne/articles/us-department-energy-awards-152-million-advanced-nuclear-technology-0>.

⁹⁸ Seth Tupper, *Tribe loses case against uranium mine*, RAPID CITY JOURNAL, Dec. 13, 2019, <https://rapidcityjournal.com/news/local/tribe-loses-case-against-uranium-mine/>; Ellen Knickmeyer et al., *US nuclear, uranium mining industries hope for Trump bailout*, STARTRIBUNE, Oct. 9, 2019, <http://www.startribune.com/us-nuclear-uranium-mining-industries-hope-for-trump-bailout/562644662/>.

To explain American nationalism, it is necessary to first examine colonialism as the primary phase of contamination of indigenous lands. Under colonization and federal Indian law, the United States holds title to indigenous lands and has plenary authority over land use decisions.⁹⁹ Throughout history, there have been several different models of political relationships with tribes. These models are constantly in flux and rotation, depending largely on federal politics. Under the colonial federalism model, formalities between the United States and tribes have the pretense of political consent, but in actuality the United States imposes political domination and removes autonomy from tribal governments.¹⁰⁰ It is under this model that extractive industry harms indigenous communities since indigenous communities lack full autonomy over lands that were taken or held in trust by the United States. Extractive industry has taken advantage of colonial federalism to lease lands from the United States to the detriment of tribes and indigenous communities.

United States assimilation policies also forced tribes to adopt capitalist, consumer culture that favored extractive industry. The 1940s-1960s were a time of forced assimilation for Indian communities.¹⁰¹ Pressure to conform to modern American culture through boarding schools, discrimination, and prohibition of Indian religious and cultural activities led to adoption of employment and education focused on natural resource extraction.¹⁰² Natural resource extraction directly contradicted traditional indigenous beliefs and knowledge regarding sustainability, forcing many indigenous people to lose cultural ties. While assimilation was meant to decrease

⁹⁹ *Johnson v. M'Intosh*, 21 U.S. 543, 587-88 (1823); *Ex Parte Crow Dog*, 109 U.S. 556 (1883); *United States v. Kagama*, 118 U.S. 375 (1886); *Lone Wolf v. Hitchcock*, 187 U.S. 553 (1903).

¹⁰⁰ CAROLE E. GOLDBERG ET AL., *AMERICAN INDIAN LAW: NATIVE NATIONS AND THE FEDERAL SYSTEM*, FEDERAL INDIAN LAW 7-8 (Lexis Nexis, 7th ed. 2015).

¹⁰¹ *Id.* at 24, 29-30, 33.

¹⁰² *Id.*

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tribal dependence on the United States, acting as a trustee by leasing lands on the behalf of tribes allowed the United States to increase its use of natural resources.

The concept of tribes as wards and trustees of the United States is an inherent part of Indian law.¹⁰³ In order to utilize lands and resources within its borders, the United States often subjects tribal governments to its political will and ignores indigenous cultural and political concerns surrounding land use. The current self-determination policy of Indian law is weaker than it appears, “where tribal political sovereignty is dependent upon federal acknowledgement, Indian nations will always be vulnerable to restrictions on their sovereignty, and perhaps even to the total annihilation of their sovereignty.”¹⁰⁴ President Trump, who openly idolizes Andrew Jackson (proponent of the Indian Removal Act),¹⁰⁵ and others in the face of climate crisis may continue to use destructive policies to harm tribal lands and public lands surrounding tribal communities or containing sacred landscapes. Perhaps even more importantly, as colonization continues to shape society on a global scale, tribal governments are pressured to turn to a capitalist economy dependent on fossil fuels.

As a result of colonialism, racism against indigenous peoples occurs through systemic violence and environmental racism. Across the country indigenous peoples face the highest rates of police violence and sexual violence.¹⁰⁶ Violence against indigenous people is connected to environmental racism towards indigenous people. Indigenous culture is seen as inferior,

¹⁰³ *Id.* at 59; *United States v. Kagama*, 118 U.S. 375 (1886); *Cherokee Nation v. Georgia*, 30 U.S. 1 (1831).

¹⁰⁴ Wallace Coffey & Rebecca Tsosie, *Rethinking the Tribal Sovereignty Doctrine: Cultural Sovereignty and the Collective Future of Indian Nations*, 12 STAN. L. & POL’Y REV. 191, 194 (2001).

¹⁰⁵ Eli Rosen, *Andrew Jackson was called “Indian killer.” Trump honored Navajos in front of his portrait*, THE WASHINGTON POST, Nov. 28, 2017, <https://www.washingtonpost.com/news/retropolis/wp/2017/11/28/andrew-jackson-was-called-indian-killer-trump-honored-navajos-in-front-of-his-portrait/>.

¹⁰⁶ André B. Rosay, *Violence Against American Indian and Alaska Native Women and Men*, NATIONAL INSTITUTE OF JUSTICE, U.S. DEPARTMENT OF JUSTICE, June 1, 2016, <https://nij.ojp.gov/topics/articles/violence-against-american-indian-and-alaska-native-women-and-men>; Elise Hansen, *The forgotten minority in police shootings*, CNN, Nov. 13, 2017, <https://www.cnn.com/2017/11/10/us/native-lives-matter/index.html>.

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especially the dependence on and reverence that indigenous peoples have for land and water.

Taken together with violence against indigenous people, harm to indigenous communities via environmental degradation goes unnoticed or even welcomed. Examples of this include the risks of uranium mining only being disclosed to white miners, disproportionate effects of climate change and sexual violence in Inuit communities going unaddressed,¹⁰⁷ and the violent backlash against water protectors in South Dakota.¹⁰⁸ The racialization of indigenous people as backwards and primitive makes it easier for the United States to allow complex harms of resource extraction to continue or go unaddressed.

b. American eco-Nationalism

American Eco-nationalism describes the United States' desire to end reliance on foreign energy sources and instead promote green energy sources that can be maintained within the United States boundaries while simultaneously appropriating indigenous landscapes and resources for white American identity.¹⁰⁹ Extracting uranium to promote national security parallels the impending extraction of uranium or non-consensual utilization of indigenous lands to mitigate climate crisis. While extracting natural resources from indigenous lands without consent is a well-known component of colonial processes, the justification of doing so for the greater American environmentalist good is unique to indigenous peoples within the United

¹⁰⁷ Sara Bernard, *Rape Culture in the Alaskan Wilderness*, THE ATLANTIC, Sept. 11, 2014, <https://www.theatlantic.com/health/archive/2014/09/rape-culture-in-the-alaskan-wilderness/379976/>.

¹⁰⁸ Sam Levin, *Dakota Access pipeline activists say police have used 'excessive' force*, THE GUARDIAN, Jan. 18, 2017, <https://www.theguardian.com/us-news/2017/jan/18/dakota-access-pipeline-protesters-police-used-excessive-force>.

¹⁰⁹ The term draws on the work of Jane I. Dawson, Sam Adler-Bell, and Catherine Simpson. JANE I. DAWSON, *ECO-NATIONALISM ANTI-NUCLEAR ACTIVISM AND NATIONAL IDENTITY IN RUSSIA, LITHUANIA, AND UKRAINE* (Duke University Press 2010) (defining national identity in Russia, Lithuania, and Ukraine through anti-nuclear activism); Catherine Simpson, *Australian eco-horror and Gaia's revenge: animals, eco-nationalism and the 'new nature,'* 4:1 STUDIES IN AUSTRALIAN CINEMA 34 (2010) (discussing eco-nationalism in Australia via appropriating Aboriginal landscapes and animals for national identity); Sam Adler-Bell, *Why White Supremacists Are Hooked on Green Living*, THE NEW REPUBLIC, Sept. 24, 2019 (discussing environmentalism in white nationalist circles).

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States. Within this paper the lens of American eco-nationalism strives to predict how globally popular climate change mitigations like nuclear energy may end up harming indigenous peoples within the United States.

Historically under American nationalism, white American interests were centered to the detriment of indigenous populations:

The historic legacy of radioactive contamination for Native peoples and lands relates to the longstanding US policy to treat uranium production as a “public good” intended to serve the country’s interest in national security.¹¹⁰ The uranium mining boom was propelled by the development of nuclear weapons for the Cold War. The desire to remain a major world power and prevent the spread of communism pushed the United States to harness nuclear power, without considering or caring about the consequences of such rapid depletion of resources. American culture during the Cold War shifted towards one of centralization, where communities were organized not by ethnic ties, but rather private property, consumerism, and the nuclear family.¹¹¹ Belief in American superiority became necessary to withstand inhuman subjection to radioactive contamination and had the effect of silencing health and safety concerns of both mining and nuclear testing.¹¹² Some Laguna tribal members agreed to the construction of Jackpile-Paguate mine based on a sense of patriotism and desire to support military family members.¹¹³ Indigenous communities like Laguna found themselves forced into this nationalism, sacrificing their land, identity, and safety in the process.

While the core justification behind radioactive contamination was American nationalism during the Cold War, American eco-nationalism during climate crisis will likely provide justification for continued contamination of indigenous lands. American eco-nationalism

¹¹⁰ Tsosie, *supra* note 5, at 211.

¹¹¹ Sharon Stephens, *Nationalism, Nuclear Policy and Children in Cold War America*, CHILDHOOD, 103, 107 (1997).

¹¹² *Id.* at 119.

¹¹³ UNM METALS SUPERFUND RESEARCH CENTER, *supra* note 57.

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invariably places the health and safety of indigenous communities last because the ideal of the United States as a white, capitalist nation cannot exist without appropriating indigenous lands. Indigenous sovereignty over land and resources contradicts the colonial project of United States federalism. Efforts to protect indigenous sacred places, such as Chaco Canyon,¹¹⁴ the Tongass Forest,¹¹⁵ and the Black Hills¹¹⁶ directly challenge American resource extraction and energy independence. In the uranium context, mining companies have recently petitioned for trade barriers and incentives to increase mining within the United States as opposed to purchasing low cost uranium from Canada and Australia.¹¹⁷ The nuclear industry has been accused of leveraging Trumps “America First” sentiments in order to save the financially struggling domestic uranium industry.¹¹⁸

A nationalist approach is embedded in uranium mining and domestic extractive industry in general, but the looming climate crisis has the dangerous effect of providing an urgent justification that resonates with a broad sector of the country. Research shows that a majority of Americans believe in climate change and want to do something to stop it.¹¹⁹ Similar to the growing fears surrounding communism during the Cold War,¹²⁰ collective fear and belief in climate change may lead the American public and its government to take extreme actions

¹¹⁴ Sierra Club, *Public Condemns Sales of Ancestral Tribal and Public Lands For Fracking*, KRWG PUBLIC MEDIA, Dec. 19, 2019, <https://www.krwg.org/post/public-condemns-sale-ancestral-tribal-and-public-lands-fracking>.

¹¹⁵ Richard Chalyee éesh Peterson & Joel Jackson, *SOUTHEAST ALASKA TRIBAL GOVERNMENTS CALL FOR PROTECTION OF TONGASS NATIONAL FOREST*, PRESS RELEASE, Oct. 29, 2019.

¹¹⁶ Native Sun News Today, *Oglala Sioux Tribe battles uranium mining in sacred Black Hills*, INDIANZ.COM, Aug. 29, 2019, <https://www.indianz.com/News/2019/08/29/oglaala-sioux-tribe-battles-uranium-minin.asp>.

¹¹⁷ Tom DiChristopher, *Nuclear wasteland: The explosive boom and long, painful bust of American uranium mining*, CNBC, Aug. 4, 2018, <https://www.cnbc.com/2018/08/04/the-miners-that-fuel-americas-nuclear-power-and-atomic-arsenal-are-di.html>.

¹¹⁸ Ellen Knickmeyer et al., *US nuclear, uranium mining industries hope for Trump bailout*, STARTRIBUNE, Oct. 9, 2019, <http://www.startribune.com/us-nuclear-uranium-mining-industries-hope-for-trump-bailout/562644662/>.

¹¹⁹ Jennifer Marlon, Eric Fine & Anthony Leiserowitz, *Majorities of Americans in Every State Support Participation in the Paris Agreement*, YALE PROGRAM ON CLIMATE CHANGE COMMUNICATION, May 8, 2017, https://climatecommunication.yale.edu/publications/paris_agreement_by_state/.

¹²⁰ MCCARTHYISM AND THE RED SCARE, <http://www.millercenter.org> (last visited Jan. 12, 2020).

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without fully considering the harm those actions would cause. With supposedly safer technologies of in situ mining and the prospect of supporting an industry that provides jobs to the working class, it would seem that uranium mining would be appealing to most Americans.

White nationalism is also a key piece of the American eco-nationalist approach. White nationalism and its subjugation of indigenous peoples is a time-honored strand of American nationalism. As a partial rationale behind indigenous genocide, early settlers married Western ecology and Manifest Destiny.¹²¹ Borrowed from European ethnonationalists, white nationalists commonly pursue environmental purity alongside racial purity, seeking to preserve lands and resources for the white race.¹²² Today some European leaders have branded climate change concerns as inherently nationalist.¹²³ While this ideology often breeds anti-immigration, it also harbors disdain for indigenous occupation of land and underdevelopment of natural resources.¹²⁴

American nationalism espoused by President Trump is built upon a foundation of xenophobia and whiteness.¹²⁵ Within this narrow conceptualization of America, indigenous safety and wellbeing are necessarily jeopardized. In embracing white nationalist undertones, American eco-nationalists imagine themselves as the indigenous peoples of the land and see it as their duty to protect American land for whites and reject “urban, degenerate living.”¹²⁶ This harms both migrants and indigenous communities, as it excludes one while displacing and poisoning the

¹²¹ Jedediah Purdy, *Environmentalism's Racist History*, THE NEW YORKER, Aug. 13, 2015, <https://www.newyorker.com/news/news-desk/environmentalisms-racist-history>.

¹²² Sam Adler-Bell, *Why White Supremacists Are Hooked on Green Living*, THE NEW REPUBLIC, Sept. 24, 2019, <https://newrepublic.com/article/154971/rise-ecofascism-history-white-nationalism-environmental-preservation-immigration>.

¹²³ Kate Aronoff, *The European Far Right's Environmental Turn*, DISSENT MAGAZINE, May 31, 2019, https://www.dissentmagazine.org/online_articles/the-european-far-rights-environmental-turn.

¹²⁴ Patrick Wolfe, *Settler colonialism and the elimination of the native*, 8:4 J. OF GENOCIDE RES. 387, 395-96 (2006).

¹²⁵ Sean Illing, *Can American nationalism be saved?*, Vox, Nov. 22, 2019, <https://www.vox.com/policy-and-politics/2019/11/22/20952353/trump-nationalism-america-first-rich-lowry>; Henry A. Giroux, *White nationalism, armed culture and state violence in the age of Donald Trump*, 43 SAGE J. 887, April 18, 2017, <https://journals.sagepub.com/doi/abs/10.1177/0191453717702800>.

¹²⁶ Aronoff, *supra* note 123; Kelly Weill, *Farmers' Markets Have New Unwelcome Guests: Facists*, THE DAILY BEAST, July 14, 2019, <https://www.thedailybeast.com/farmers-markets-have-new-unwelcome-guests-facists>

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other. Under nuclear energy and other supposedly green energy approaches such as carbon capture, affluent white communities get all the benefits of nationalism, economic independence, and environmentalism, with considerably fewer harms. It is difficult to predict how climate change will affect future ideologies, but a nationalist ideology that centers American interests of environmental protection without consideration of other perspectives could end up projecting policies of climate change mitigation that rely on uranium. Every allowance of extraction on indigenous lands without full and informed consent perpetuates the colonial project and eco-nationalism, to the detriment of Native health and wellbeing.

IV. Moving Forward: Tribal Consultation and Tribal Sovereignty

Given the American nationalist legacy of uranium mining in Laguna leaving an array of complex issues involving environmental, health, cultural, and socioeconomic impacts, and the future impacts of American eco-nationalism, environmental decision making must be redefined in order to protect indigenous peoples. Tribal sovereignty is a popular buzz phrase at any Indian law conference, but in reflecting on the tremendous influence of American eco-nationalism it should be questioned whether under a colonial system a sovereign choice by tribes can ever truly be made. Under current federal law and some state laws, the United States or states are required to consult with federally or state recognized tribes before making major government actions that could impact tribes.¹²⁷ Even leaving aside that this marginalizes indigenous communities who are not federally or state recognized, this tribal consultation policy falls short of international human rights standards for consultation. Current United States consultation with tribes belongs under the colonial federalism model, creating a formality of political consensus but reserving a right to the United States to make a final decision under plenary authority and tribal wardship.¹²⁸

¹²⁷ 36 C.F.R. § 800.2-800.6; Exec. Order No. 13,175 (2009); 40 C.F.R. § 1501.2 (1978).

¹²⁸ Tsosie, *supra* note 5, at 222.

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Given these shortcomings of the current policy regarding environmental decision making impacting tribes, United States consultation policy must be reformed, tribes must examine their own definitions of tribal sovereignty, and as a society we must redefine our relationship to land. The following proposals are largely exploratory and require collaborative input from indigenous communities and tribes, but they frame a vision for future action and hopefully instigate discussion on possible solutions.

Legislative reform is needed to bolster existing tribal consultation laws and increase tribal participation in environmental decision-making that occurs outside tribal jurisdiction. Free prior and informed consent standards under the United Nations Declaration on the Rights of Indigenous Peoples should drive the tribal consultation model, allowing for inclusion of non-federally recognized indigenous communities and consensus-based process.¹²⁹ Tribes and tribal coalitions should be assisted in developing their own consultation protocols. During consultation, tribes should be treated as experts and agencies must follow tribal protocols and incorporate tribal knowledge into environmental planning. Environmental agencies who have had a history of approving projects that harm indigenous communities, such as the Bureau of Land Management, the Nuclear Regulatory Commission, and the Army Corp of Engineers, should be required to include an indigenous representative on their decision-making boards or commissions. While such representation may not be a comprehensive solution towards tribal participation in environmental planning, it is a step towards making tribes more visible in these processes. On a broader level, tribes such as Laguna and Navajo Nation should be given the opportunity to formally share their knowledge and stories regarding uranium mining with the government and receive a formal public apology on behalf of the United States for its harmful

¹²⁹ G.A. Res. 61/295, Article 32 (Sept. 13, 2007).

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policies during the Cold War uranium boom. At the discretion of these tribes, these experiences should be widely disseminated and published so the public, environmentalists, the nuclear energy industry, and agency-decision makers can understand the full costs of their decisions.

Considering the aftermath of an environmental decision such as the Jackpile-Paguate mine, lawmakers should also reform the CERCLA process. Laguna's experience and partnership with the EPA in the Superfund process has largely been positive so far. But this is the result of Laguna's persistence, resilience, and initiative, not the result of the design of CERCLA. More under-resourced indigenous communities may not be as successful. Only time will tell whether Laguna will be able to influence the EPA's final remediation decision, including the apportionment of liability and the costs of remediation. The ability of tribes and indigenous communities to partner alongside federal agencies to complete the information-gathering for remediation should be codified, and financial and technical support should be provided to communities who wish to participate in the clean-up process. Lastly, tribes and indigenous communities must be given more agency in creating the CERCLA remediation Proposed Plan, specifically so tribes can tailor a remedy that addresses all harms resulting from contamination, including cultural and socioeconomic harms.

In order to avoid American eco-nationalism from infiltrating and influencing tribal governments, tribes have a duty to reevaluate their use and definitions of sovereignty. Many tribal government decisions, such as permitting coal and uranium mining and fracking within tribal jurisdictions, align with commercial interests and ignore the concerns of women, youth, and elders. Unlike Navajo Nation, Laguna has not banned uranium mining on its lands and some Laguna members support uranium mining as a source of jobs and revenue. Climate crisis along with the desire for economic stability may provide rationale for tribes themselves to increase

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extractive industry or even uranium mining within tribal borders. However, tribal politics that involve economic and environmental decisions are inaccessible to women, children, and elders due to educational or even cultural barriers. Some cultural impacts disparately effect elders and women, who may participate more in subsistence lifestyles or cultural practices. The perspectives of youth are especially important in the context of climate change, youth around the world have been fighting against climate change diligently, and indigenous youth have arguably the greatest interest in its outcome. Through questioning both the reasoning and consequences of uranium mining or extractive industry in general from women, elder, and youth perspectives, indigenous nations must structure their decision-making on their own values and norms, rather than the norms of the larger capitalist, colonial society.¹³⁰ Tribal law and sovereignty should reflect cultural sovereignty and concepts found in human rights to uplift voices in the community that have been fighting for environmental justice for decades.

As a society we must reimagine our relationship to the land as one based on kinship as opposed to commodification. This shift in thinking is necessary in order to break the projected pathway of American eco-nationalism. American eco-nationalism replaces indigenous kinship with land with white kinship with land based on dominion and control. Through adaptation and mitigation stances like anti-immigration and nuclear energy, climate crisis shapes the American ecological view of place to be both xenophobic and colonial.

As is noted by the need for improved tribal consultation policies and cultural sovereignty, sacred sites and landscapes located outside tribal regulatory jurisdiction are of particular concern. For Laguna, a foreseeable battle is the attempted reopening of a uranium mine on Mount Taylor,

¹³⁰ Coffey, *supra* note 104, at 196 (discussing the merits of cultural sovereignty as opposed to political sovereignty).

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a mountain sacred to both Laguna and Navajo Nation located just outside of Grants, NM.¹³¹

Because the mine is on state land, Laguna has no power to ban this type of mining, even if such a consensus were reached. The mine's current status is standby, a status sought-after by the mine owner, General Atomics Corporation, in order to postpone expensive reclamation and remediation costs.¹³² The EPA debated designating the mine as a Superfund site, but instead opted for placement on the "Emphasis List," a list of sites that are prioritized for reaching an agreement with responsible parties on clean-up alternatives.¹³³ Even if the Mount Taylor mine is eventually cleaned up, potential increased demand for uranium due to climate change and job security in the Grants area will likely compel General Atomics Corporation to operate the mine in the future.

Past and current attempts at remediation or even repatriation demonstrate a disconnect between Western epistemology and indigenous epistemology. Westerners are focused on economic value and monetary compensation to redress harms. While economic opportunities are appropriate partial remedies for communities like Laguna who welcomed on-reservation employment, more reflection is needed to address cultural and health harms.

Conclusion

The United States' failure to incorporate indigenous perspectives in climate change planning reflects the larger issue of American eco-Nationalism. Relatedly, decisions to continue extractive practices on Native lands that are framed as tribal sovereignty or economic

¹³¹ Michael Hartranft, *Nation's largest uranium mine planned for N.M.*, ALBUQUERQUE JOURNAL, May 19, 2013, <https://www.abqjournal.com/200845/nations-largest-uranium-mine-planned-for-nm.html>.

¹³² *Mt. Taylor Mine Dec 2015-End the Standby Game*, MULTICULTURAL ALLIANCE FOR A SAFE ENVIRONMENT, Jan. 26, 2016, <https://swuraniumimpacts.org/15-12-fact-sheet-mt-taylor-mine-end-the-standby-game/>.

¹³³ Kendra Chamberlain, *EPA selects San Mateo Creek Basin for targeted clean up action*, NM POLITICAL REPORT, Aug. 1, 2019, <https://nmpoliticalreport.com/2019/08/01/epa-selects-san-mateo-creek-basin-for-targeted-clean-up-action/>.

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development may further perpetuate either American eco-Nationalism as a desire to be a part of a capitalist economy or even the colonial project. Our understanding of tribal sovereignty based on future United States politics and treatment of indigenous knowledge will be instrumental in how climate change affects communities who are targeted for more uranium, such as indigenous communities located in the Grants Uranium belt.

In order to move forward not just in terms of inclusivity of other voices in our community but also in making the best-informed environmental decisions possible, we need to question the notion of American Eco-Nationalism and center indigenous knowledge at the front of climate solutions. This includes a more comprehensive understanding of tribal experiences with radioactive contamination and harm it brings to health and culture. This experience should be formally acknowledged by the United States and taken into consideration to prevent environmental harm toward indigenous communities from happening in the future. To find meaning in all the trauma Laguna and hundreds of indigenous peoples have suffered for the benefit of Americans and for the sake of future generations, we must move forward with these heavy lessons and honor indigenous knowledge.

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