

**The Role of Deliberative Democracy in Environmental Decision-Making:
A Case Study of the Thacker Pass Lithium Mining Project**

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Abstract

Demand for lithium is growing rapidly as a result of increasing production of electric vehicles and the lithium-ion batteries that power these vehicles. In the interest of securing a domestic supply of lithium the United States Bureau of Land Management approved a proposal to mine lithium at Thacker Pass in Northern Nevada. Since the proposal was approved in January 2021, multiple environmental groups, Native American tribes, and community members have voiced opposition to the mining project, arguing that the mine will degrade habitat, cause irreparable harm to sacred land, and use scarce water resources. Stakeholders including local community members and tribes also assert that they were not adequately consulted prior to approval of the project. At the crux of the conflict at Thacker Pass lie two questions: (1) who is included in the decision-making process? and (2) how should decisions be made when stakeholder values are pluralistic, conflicting, and incommensurable? In this paper I argue that deliberative democracy is the best procedural framework for decision-making at Thacker Pass because it is an inclusive process and is able to take into account plural, conflicting, and incommensurable values.

Executive Summary

Demand for lithium is growing rapidly as a result of increasing production of electric vehicles and the lithium-ion batteries that power these vehicles. In the interest of securing a domestic supply of lithium the United States Bureau of Land Management approved a proposal to mine lithium at Thacker Pass in Northern Nevada. Since the proposal was approved in January 2021, multiple environmental groups, Native American tribes, and community members have voiced opposition to the mining project, arguing that the mine will degrade habitat, cause irreparable harm to sacred land, and use scarce water resources. Stakeholders including local community members and tribes also assert that they were not adequately consulted prior to approval of the project.

The conflict at Thacker Pass presents two questions that are central to environmental decision-making processes. The first is: Who is included in the decision-making process? The second is: How should decisions be made when stakeholders (e.g. mining companies, U.S. government, local communities, Native American tribes) value a resource or landscape differently? In the case of Thacker Pass, stakeholders ascribe a variety of values to the land—including, economic, ecological, and cultural and historical values. Current decision-making models rely on methods that quantify these values (and usually put them in monetary terms), such as cost-benefit analyses. However, many of these values are incommensurable, meaning that they cannot be measured in the same way. For example, the cultural value Native Americans attach to the sacred land at Thacker Pass cannot be measured in the same way that the profit of the mining company can be. A framework for environmental decision-making at Thacker Pass must be inclusive and must be able to account for multiple different and incommensurable values.

In this paper I argue that deliberative democracy is an approach to decision-making that satisfies these demands. Deliberative democracy involves stakeholders taking part in public discussions about proposed or potential policy measures and presenting reasons for the positions that they take regarding these policies. The goal of deliberative democracy may be to influence the decision-making process or to directly produce a decision or policy. Deliberative democracy is a promising approach to decision-making at Thacker Pass because it requires that individuals or groups justify the positions they take or the policies they pursue and then engage in meaningful conversations with other stakeholders who may have different perspectives. While it may not make incompatible values compatible, the process respects the autonomy of individuals and promotes mutual respect among stakeholders.

At Thacker Pass, I recommend the formation of a public forum in which all willing and able stakeholders come together to discuss future decisions regarding the lithium mining project. There are certainly limitations of this approach to decision-making, the most notable being that without broad agreement about the best course of action, deliberative democracy provides no other natural way of making a decision. For this reason (and because the government currently has almost exclusive authority to make land management decisions at Thacker Pass), I recommend that the aim of deliberations here be to provide a formal way for stakeholders to influence policy decisions. Taking this approach to decision-making at Thacker Pass may provide insight into how deliberative democracy can be implemented in other environmental or resource management decisions—especially as the need for climate solutions makes environmental decision-making more urgent and complex.

I. Introduction and Background

a. The Thacker Pass Project

According to the U.S. Department of Energy, “the global lithium-ion battery market is expected to grow by a factor of five to ten in the next decade” (Flin 2021). The growth in this market comes on the heels of efforts to combat climate change and reduce emissions through the production and use of electric vehicles, which are powered by lithium-ion batteries. Demand for lithium-ion batteries, which have the capacity for high-density energy storage, is also driven by their use in personal electronics devices and their ability to store electricity generated by intermittent, renewable sources such as solar and wind power (Agusdinata et al. 2018; Sterba et al. 2019).

Although the United States has considerable reserves of lithium, only one large-scale lithium mine operates in the U.S. today—and it produces less than 2% of the global supply of lithium (Flin 2021). The majority of the raw lithium currently used comes from mining projects in the ‘Lithium Triangle,’ an area of South America that includes parts of Argentina, Chile, and Bolivia. Furthermore, most of this raw lithium is processed and turned into lithium-ion batteries in China (Liu et al. 2019). In the interest of economic and national security, U.S. government officials, mining companies, and electric car manufacturers have pushed for investments in procuring a domestic supply of lithium. The Biden administration has also called for investment in “safe, equitable, and sustainable mining ventures” in order to secure a larger share of the lithium-battery supply chain (Flin 2021).

To this end, in January 2021 the U.S. Bureau of Land Management approved the Thacker Pass Project proposed by the Lithium Nevada Corporation (BLM 2021). According to the U.S. Department of the Interior and the U.S. Geological Survey, Thacker Pass—a stretch of sagebrush

and rolling prairie nestled between the Montana Mountains and Double H Mountains of Northern Nevada—contains the largest lithium-clay deposit in the United States (Rodeiro 2022). The project is set to operate on approximately 5,700 acres of public land managed by the BLM and will consist of an open pit lithium mine as well as waste rock and clay tailings storage facilities, associated runoff ponds, and a processing plant (BLM 2021).

b. Opposition to the Thacker Pass Project

Since January 2021, multiple Native American tribes, environmental groups, and local ranchers have filed lawsuits against the BLM and have voiced their opposition to the project. Many Native American tribes allege that they were not appropriately consulted by the BLM as the mining project proposal was under review. Tribes also argue that the mining will cause irreparable damage to the Thacker Pass area, which they consider to be a sacred site with cultural and historical significance. Thacker Pass is the traditional homeland of numerous indigenous nations, and today many Native peoples continue to harvest traditional medicines and foods from the area (The People of Red Mountain 2021). Furthermore, mining activity would use scarce water resources (and possibly contaminate remaining water sources) and disrupt the habitat of wildlife—including pronghorn antelope, mule deer, sage grouse, and golden eagles—which are an important part of local tribes' religious ceremonies (Penn & Lipton 2021). Native peoples also assert that Thacker Pass has cultural and historical significance because it was the site of an 1865 massacre in which federal soldiers murdered at least 31 Paiute people. That Thacker Pass was the site of this massacre is contested, however, and Native groups recently lost a court case seeking to prove that the massacre occurred within the project area (Sonner 2021). Native peoples also consider the area to have historical value because the caves and rocks of the Thacker Pass

landscape hid Native peoples during times when American soldiers were rounding them up and forcing them onto reservations. The People of the Red Mountain, a group of tribal descendants from the Fort McDermitt Paiute Shoshone tribe, state that their tribe essentially descends from two families who avoided being sent to reservations far from their ancestral lands by hiding in Thacker Pass. Finally, though the mining project promises to bring good-paying jobs to tribal members, many Native peoples have expressed concerns about the connection between mining camps and/or resource extraction and missing and murdered indigenous women (The People of the Red Mountain 2021).

Environmental activist groups and local ranchers echo concerns related to the use and potential contamination of scarce water resources and the degradation of critical habitat that would affect a variety of plant and animal species, potentially including some protected under the Endangered Species Act (BLM & FWS 2020). Environmental groups and some community members also argue that the environmental review process was rushed and that existing environmental impact assessments must be re-examined. In sum, while proponents of the mining project point to its economic value, contribution to national security, and role in reducing transportation emissions and combatting climate change, opponents argue that local communities (including some Native tribes) were not appropriately consulted prior to the approval of the project, the environmental review process was rushed, and that the mining operation will desecrate sacred land and degrade the environment and natural resources.

II. The Nature of the Conflict

At the crux of the conflict and controversy at Thacker Pass lie two distinct questions. First, who is included in the decision-making processes? Second, how can decisions be made when stakeholders ascribe different types of value to a resource or landscape and some (or many)

of these values are incommensurable? Section II will analyze these questions as they relate to the Thacker Pass Project.

a. Procedural Justice and the Environmental Decision-Making Process

One of the central frameworks for analyzing potential environmental justice implications of sustainable development projects (e.g. lithium mining, hydropower dams, etc.) is through the lens of procedural justice. Procedural justice is concerned with the ways that individuals and groups are included in and able to influence decision-making processes. Closely related is the concept of justice as recognition, which is concerned with the inclusion and valuing of “divergent perspectives rooted in social, cultural, ethnic, racial, and gender differences” (Levenda et al. 2021). In the case of the Thacker Pass Project, it is clear that Native American tribes and community members suffered procedural injustices.

During the permitting process the BLM did consult with several Native American tribes which—at the time—did not bring to light any issues concerning the cultural or historical significance of the Thacker Pass area. However, several tribes were also left out of the consultation, including regional indigenous tribes such as the Reno-Sparks Indian Colony. In a letter sent to a local BLM office in a request for consultation, the colony pointed out that “just because regional tribes have been isolated and forced onto reservations relatively far away from Thacker Pass does not mean these regional tribes do not possess cultural connections to the Pass” (Solis 2021). In addition to being left out of initial consultations, regional tribes and other Native groups (such as the People of Red Mountain, mentioned in the previous section) often find their interests sidelined because they are not federally recognized tribes and have no legal standing (Sonner 2021). It is clear that, moving forward, decision-making processes at Thacker Pass must be inclusive of individuals, groups, and a diversity of perspectives.

b. Decision-Making in the Case of Incommensurable and Plural Values

In addition to raising questions related to inclusion in the decision-making process, the conflict at Thacker Pass also brings to light uncertainty about how to make decisions in cases where stakeholders' values are pluralistic and—at times—incommensurable.

The stakeholders in this mining project ascribe a variety of values to the Thacker Pass landscape. The Lithium Americas mining company and U.S. government see economic value in the landscape; the mining company estimates that there is \$3.9 billion worth of recoverable lithium at Thacker Pass (Penn & Lipton 2021). Some members of local communities (and local tribes) also see economic value in the jobs that would be provided by the mining project; Lithium Americas promises that the operation will create 300 long-term jobs in the area that pay an average of about \$63,000 per year (Penn & Lipton 2021).

Native American tribes, local ranchers, and environmental activist groups attach environmental values such as biodiversity, ecological integrity, and ecosystem health to Thacker Pass. Biodiversity may be valued for its own sake (intrinsically), as well for the way that it contributes to the integrity (i.e. functioning) of the ecosystem and the provision of ecosystem services (instrumentally). Similarly, ecological integrity and ecosystem health may be valued in themselves as well as for the ecosystem goods and services they provide. For example, many Native tribes value the health and functioning of the Thacker Pass ecosystem both because they consider ecosystems as 'beings' and because some species of plants are medicinal resources and certain animal products are consumed for sustenance or used for ceremonial purposes (People of Red Mountain 2021).

There is another significant environmental value ascribed to Thacker Pass by all stakeholders, even those opposed to the mining project: the less definable but crucial valuation of

the landscape for its capacity to provide a resource (i.e. lithium) that is essential to the fight against climate change. Of course, mining impacts the functioning and health of the ecosystem, which is also valued by the same stakeholders who appreciate its resource richness; it is clear then how even one form of environmental valuation—the valuation of ecosystem goods and services—can pull in different directions. One might also argue that valuing the landscape for its role in combatting the climate crisis brings ethical valuations into the situation. Climate change is an ethical issue in that inaction (or wrong action) on the part of current generations may harm future generations. Therefore, actions taken (or not taken) at Thacker Pass may be influenced by ethical principles (i.e. justice for future generations).

Lastly, as mentioned previously, Native American tribes ascribe cultural and historical value to Thacker Pass. Cultural and historical values are in themselves legitimate environmental values which imbue a landscape with significance or meaning—and in this case, sacredness. Furthermore, application of an emerging environmental justice framework—call it ‘justice as capabilities,’ in reference to Sen’s capabilities approach—suggests that the destruction of sacred land would constitute an injustice as it violates the vital interests of Native peoples. Severing the intimate connection between tribal communities and this landscape and undermining their ability to continue traditional cultural and religious practices would hinder their purposeful self-development and ability to pursue their conception of a good life (Rodeiro 2022). This is another way that ethical value is introduced into the decision-making process at Thacker Pass.

In sum, it is evident that pluralism is present in the valuation of Thacker Pass. Not only do different stakeholders ascribe different environmental values to the landscape, but one stakeholder may herself attach multiple values to the environment. It is important to appreciate that all of these environmental values—economic, ecological, ethical, cultural and historical—

matter. Economic gains, for example, may have instrumental value as they raise a mining worker's standard of living or strengthen the United States' position in the global economy. Ecological integrity, ecosystem health, and biodiversity may have both intrinsic (or aesthetic) value and instrumental value (as they facilitate the provision of ecosystem goods and services). Of course, ethical values matter as long as people matter and as long as we have responsibilities to fellow humans, and therefore the imposition of environmental injustices (e.g. upon Native Americans, or future generations) may constitute an ethical violation. Lastly, as previously mentioned, culturally and historically significant landscapes are intimately connected with Native American tribes' well-being and spirituality. One value is not necessarily more important than the others, but decision-making in situations where there is value pluralism almost always involves tradeoffs between values. This makes the case of lithium mining at Thacker Pass an issue of broad environmental ethics (Cooper 2021).

The measurement of values is central to most environmental decision-making processes, especially in cases where values are pluralistic. The neoclassical economic approach to solving environmental problems supposes that (i) preferences are expressed in monetary terms, and (ii) "all values relevant to the policy decision are captured in the valuation exercise" (Cooper 2021). An example of this approach is a typical cost-benefit analysis, which attempts to quantify the economic and environmental (ecological) impacts—economic and environmental (ecological) value being the two classes of values most readily considered—of a proposed project in a common measure, usually dollars. Traditionally, this is the approach that has primarily been applied to environmental decision-making, and its influence can be seen in the proposal and formal review and permitting process of the Thacker Pass lithium mining project. However, as evidenced in the previous paragraph, valuation of the Thacker Pass landscape requires

recognizing values beyond those that are strictly economic or ecological—namely, ethical and historical and cultural values. Furthermore, ecological values may be more diverse or broad than those typically incorporated into environmental impact assessments and cost-benefit analyses.

An additional problem with traditional cost-benefit analyses and the neoclassical paradigm is that it forces the expression of values into monetary terms (Cooper 2021). Clearly, Native Americans would find it difficult (if not impossible) and offensive to attach a monetary value to the cultural and historical value of the sacred Thacker Pass landscape or accept compensation for some disturbance of this environment. Some ecological values, too, may be hard to quantify in a monetary sense. For example, it is difficult to put a price on ecological health or biodiversity when an ecosystem is considered as a ‘being’ or is home to endangered species. In sum, stakeholder values of Thacker Pass are not only pluralistic and conflicting, but many are also incommensurable in monetary terms.

It follows that, moving forward, a procedural framework for decision-making at Thacker Pass must be able to take into account values that are pluralistic, conflicting, and at times incommensurable. As mentioned in the previous subsection (Section II.a), the decision-making process must also be inclusive of individuals, groups, and a diversity of perspectives. Sections III and IV will present a case for deliberative democracy as the procedural framework that best satisfies these demands.

III. Deliberative Democracy

a. What is Deliberative Democracy?

In their seminal work on deliberative democracy, “Why Deliberative Democracy?,” Gutman and Thompson define deliberative democracy as “a form of government in which free

and equal citizens (and their representatives), justify decisions in a process in which they give one another reasons that are mutually acceptable and generally accessible, with the aim of reaching conclusions that are binding in the present on all citizens but open to challenge in the future” (2004). In essence, deliberative democracy is grounded in the idea of reciprocity and involves stakeholders having discussions about proposed or potential policy measures and presenting reasons for the positions that they take regarding these policies. The goal of deliberative democracy may be to influence the decision-making process or to directly produce a decision or policy.

Gutman and Thompson provide four central characteristics of deliberative democracy. The first is that it requires leaders and citizens to provide reasons for their positions or provide justification for their preferences. The reasons are meant to produce a justifiable decision and express mutual respect and should appeal to principles that individuals acting in good faith cannot reasonably object to and that are “neither merely procedural nor purely substantive” (Gutman & Thompson 2004). Reason-giving is grounded in the moral view that people should not be treated as merely objects of legislation or as passive subjects but should be “autonomous agents” who actively participate in the governance of their society (Gutman & Thompson 2004). The second characteristic of deliberative democracy is that it requires that the reasons given in the process be accessible and comprehensible to the individuals to whom they are provided. Deliberation must take place in public, and the content informing the reasons individuals provide must be accessible and comprehensible. (Note that this does not automatically preclude relying on experts in a field to provide reasoning but does require (i) that experts to communicate to citizens in ways that they can understand, and (ii) that citizens have some “independent basis” for trusting the experts.)

The third characteristic of deliberative democracy is that it aims at “producing a decision that is binding for some period of time” (Gutman & Thompson 2004). The stakeholders involved are not arguing for argument’s sake but “intend their discussion to influence a decision the government will make, or a process that will affect how future decisions are made” (Gutman & Thompson 2004). Essentially, the goal of deliberative democracy is productive action. This is an important point which will be revisited in a later section. Finally, deliberative democracy is dynamic in the sense that it “keeps open the possibility of continuing dialogue” and requires that decisions be open to challenge at some point in the future. While the process aims at a “justifiable decision,” there is no guarantee that such a decision will in fact be justified in the present or in the future; therefore while decisions are binding for a period of time, citizens must be able to criticize these decisions. Recognizing results of deliberative decision-making as provisional allows for re-evaluation of decisions—which can lead to different choices in the future—and promotes acceptance of decisions in cases where there is not consensus by ensuring that critics will have a chance to make further arguments (Gutman & Thompson 2004).

b. Deliberative Democracy in Environmental Decision-Making

The work of Gutman and Thompson discusses deliberative democracy in a general moral and political and highly theoretical sense. Only relatively recently have the ideas and principles of deliberative democracy been applied to environmental decision-making and the field of environmental ethics—in a theoretical or practical way. Historically, environmental ethics has been unable to make significant contributions to policy, due at least in part to preoccupation with the extensionist project. Out of frustration of this failure, a more recent turn in the field of environmental ethics, led by Norton, Minter, and Sarkar, has embraced "value pluralism, multicriteria decision-making strategies, and a heavy focus on stakeholder inclusion and

deliberative processes” (Cooper 2021). This approach has been referred to as environmental pragmatism.

A “fundamental tenet” of environmental pragmatism is that “environmental philosophy should direct its attention to practical problems, particularly towards socially relevant public policy decisions” (Sarkar 2018). Environmental and resource management decisions are increasingly seen as “socially relevant public policy decisions,” in part because of growing recognition of the way that issues of marginalization and global (or local) inequity are tied to environmental factors. Environmental decisions are also being viewed in this light because the urgency of the climate crisis is becoming clearer, as is the fact that responsibility for the crisis and vulnerability to the impacts of climate change are not evenly distributed among nations—or even within communities in a state or nation. Thacker Pass presents an opportunity to apply pragmatic environmental ethics to a relevant and significant environmental decision.

IV. Deliberative Democracy at Thacker Pass

a. Why Deliberative Democracy?

As mentioned at the end of Section II, a procedural framework for decision-making at Thacker Pass must be able to take into account values that are pluralistic, conflicting, and at times incommensurable; it must also be inclusive of individuals, groups, and a diversity of perspectives. There are several reasons why deliberative democracy is the decision-making framework that best satisfies these demands. First, deliberative democracy is necessarily inclusive. As Gutman and Thompson write, “What makes deliberative democracy democratic is an expansive definition of who is included in the process of deliberation” (2004). In other words, deliberative democracy “gives an inclusive answer to the questions of who has the right (and effective opportunity) to deliberate or choose the deliberators, and to whom do the deliberators

owe their justifications” (Gutman & Thompson 2004). In the case of the Thacker Pass lithium mining project, an inclusive process would mean that all local stakeholders—each concerned Native American tribe, community members, ranchers and farmers—have the opportunity to engage in deliberations with non-local stakeholders including government officials, mining company executives, and even electric car company executives. Some people may even argue that non-human entities such as ecosystems should be recognized as stakeholders—or even have legal standing—and have their interests represented (by surrogates) in deliberation. Naturally, this is practically challenging; deliberation becomes even more challenging when attempts are made to include stakeholders who may not yet exist (i.e. future generations) or whose interests are more indirectly affected by the decision to mine lithium at Thacker Pass (i.e. individuals or groups harmed by or profiting from lithium mining projects in other places of the world). Both of these issues will be addressed in a later section of this paper.

In addition to being inclusive, the process of deliberative democracy can be carried out in cases where values are pluralistic, conflicting, and at times incommensurable—as they are at Thacker Pass. Gutman and Thompson write that while “deliberation cannot make incompatible values compatible... it can help participants recognize the merit in their opponents’ claims when those claims have merit. It can also help deliberators distinguish those disagreements that arise from genuinely incompatible values from those that can be more resolvable than they first appear. And it can support other practices of mutual respect” (2004). Gutman and Thompson also highlight the relative advantages of deliberative democracy as compared to aggregative conceptions of democracy, which produce decision-making tools such as voting and electoral processes, as well as cost-benefit analyses. Such methods take expressed preferences as given and put them through an analytic filter or combine them in the most efficient and fair way in

order to produce optimal outcomes (Gutman & Thompson 2004). While outcomes produced by aggregative conceptions of democracy “need no further justification beyond the rationale for the method itself,” the deliberative conception asks also for justifications for expressed preferences (Gutman & Thompson 2004). In doing so, deliberative democracy respects citizens as autonomous agents.

Unfortunately, most environmental and resource management decisions today—including the formal review of the Thacker Pass Project proposal—rely on aggregative conceptions of democracy in the sense that they take economic and environmental values (or preferences) and express them in economic terms which are then transformed into policy decisions using tools of cost-benefit analysis. A shortcoming of aggregative methods like cost-benefit analyses (which was also touched on in Section II.b) is that they “do not welcome all kinds of primary preferences equally. Those that can be readily translated into economic categories fit much better than those that express values that are incommensurable” (Gutman & Thompson 2004). Deliberative processes, on the other hand, encourage and even require discussion of incommensurable values. For example, in a deliberative democracy framework Native American tribes would have the opportunity to justify their historical and cultural valuation of the Thacker Pass landscape; such an opportunity would not be possible in an aggregative process.

Democratic deliberation also provides a forum for discussion and decision-making outside of the judicial system. This is especially important at Thacker Pass and in other cases where Native Americans or other Indigenous peoples are stakeholders for two primary reasons. First, as mentioned in a previous section of this paper, some regional tribes or Native American groups are not federally recognized and therefore have no legal standing as bodies of peoples. This limits their ability to participate in judicial processes and advocate for their interests.

Second, the legal system, specifically through the use of legal language that fails to reflect cultural pluralism, often fails to reconcile different systems of meaning and legitimacy. (Torres & Milun 1990). For example, an event in Native American culture may be documented in oral history, but this oral history may not be recognized by the court as a legitimate source of evidence. This problem is made clear by a recent court case in which a judge found evidence of Thacker Pass as the site of an 1865 massacre of Paiute people “too speculative” to warrant an injunction against archaeological exploration of the site. The evidence included oral histories of Native American tribes, as well as two eyewitness accounts of the massacre at Thacker Pass—which were originally published in 1929—from a calvary volunteer and a tribal member who survived the massacre (Sonner 2021).

Finally, deliberative democracy encourages public participation in decision-making, promotes the legitimacy of collective decisions and a mutually respectful decision-making process, and helps to correct mistakes of past decisions (Gutman & Thompson 2004). Individuals, communities and society more broadly benefit (e.g. through decreased polarization or politicization) when citizens participate in discussions and provide reasons for their perspectives rather than relying on political powers to influence policy and decision-making. Furthermore, fair deliberation in which all stakeholders claims are considered based on merit rather than bargaining power can produce decisions which may be accepted as legitimate even by those who do not get what they want, need, or deserve. As mentioned before, this process also promotes mutual respect among stakeholders and provides opportunities for advancing collective understanding. In the case of Thacker Pass, the capacity to have ongoing deliberations about past decisions is critically important, as key decisions (i.e. approval of the project proposal) have already been made and are either unable or unlikely to be reversed. That these decisions were

made in a process decidedly void of democratic, deliberative principles is unfortunate to say the least, but that does not mean that applying a procedural framework of deliberative democracy to future decisions is futile. In fact, it is even more important now, for two reasons. First, there will be more decisions made about the management of the land; thus, all stakeholders—even and especially those who are dissatisfied with the original decision or feel it was unjust—must have opportunities to deliberate and influence future decisions. Second, deliberation has the capacity to fundamentally change the way decisions are made at Thacker Pass by dismantling existing power structures that were reinforced in previous decision-making methods and providing a way for citizens and groups to challenge these methods and advocate for a different process of decision-making (Gutman & Thompson 2004).

b. Deliberative Democracy in Practice at Thacker Pass

While deliberative democracy as a procedural framework for decision-making at Thacker Pass is promising, the critical consideration is what this would look like in practice. Skeptics of this framework might ask if it is truly feasible. For this reason, the feasibility of several aspects of deliberative democracy must be evaluated here, including: willingness of all stakeholders to participate in the process, ability of all stakeholders to participate in the process, and selection of a forum in which deliberation is to take place. Finally, the most critical piece of the puzzle is determining the specific purpose of the deliberation (i.e. “What decision is being made?” and “Is the aim of the stakeholder deliberation to actually come to a decision or is it to influence development of a policy?”—both goals are equally legitimate in a deliberative democracy framework).

First, in determining a forum for discussion it would be best to select a location near the Thacker Pass site and to meet in person if possible. It is likely that all stakeholders would be

willing to engage, though some parties—particularly the government—may be more hesitant. Of course it cannot be guaranteed that all representatives participating in the deliberation are there in good faith; still, that is something that must be hoped for. A more challenging task is to ensure that all affected stakeholders have a seat at the table. As mentioned earlier, this is difficult when one of the stakeholders is future generations—these are the individuals that would most benefit climate change mitigation through the reduced emissions facilitated by the production of electric vehicles and the mining of lithium. While it is not possible to represent the future generations in deliberations, it is imperative to include multiple generations in the deliberations in order to capture their interests as much as possible.

In addition to future generations, other stakeholders that may be difficult to include in deliberations include individuals and groups profiting from or being harmed by lithium mining projects in other parts of the world. If a large-scale lithium mine at Thacker Pass would impact the global supply of lithium, this will have repercussions for the industry worldwide—possibly decreasing profits of foreign mining companies but also lessening the intensity of environmental degradation and injustices against indigenous communities in places such as the Lithium Triangle in South America. On the other hand, not pursuing domestic lithium production would put more pressure on foreign sources, and subsequently foreign landscapes and the low-income and indigenous communities that inhabit them; this is particularly concerning as many other parts of the world do not have as strict (or strictly enforced) mining regulations as would likely be in place in the United States. Do the perspectives of people indirectly connected to the Thacker Pass Project in this way need to be expressed in local deliberations? If so, how can that happen? If not, how then does deliberative democracy deal with the moral issue of ‘outsourcing’ extraction and injustice? Finally, should non-human interests of the Thacker Pass ecosystem be

represented? If so, how? Could surrogates represent the interests of future generations, people indirectly impacted by the mining, and ecosystem itself? These are important considerations to keep in mind as stakeholders come together to provide justification for their values.

Finally, as mentioned previously, one of the defining characteristics of deliberative democracy is that it is not argument for argument's sake; the aim is to make decisions and/or influence policy, and at some point action must be taken. That deliberation results in action is crucial, particularly when an issue as urgent as climate change is central to the conflict or proposed policy at hand. Naturally this raises the question: If the situation is urgent, how do we justify deliberation when decisions must be made quickly? This is an important point, but as long as deliberative processes are undertaken as efficiently and effectively as possible—and are given priority—there is no reason they cannot operate on a similar timeline to aggregative processes that require cost-benefit analyses and environmental impact assessments to be conducted. The most troublesome feature of deliberative democracy is that aside from reaching consensus—which is unlikely in deliberations regarding an issue as divisive as Thacker Pass—it is unclear how stakeholders may naturally come to a conclusion and make a decision. One possibility is to put the issue to a vote at the end of deliberation; while this raises some issues that have been highlighted in other aggregative conceptions of democracy, it is an approach worthy of further consideration and deeper examination. Another possibility is to define the goal of the deliberation not as making a policy decision but as influencing the development of policy (i.e. the deliberators themselves do not get to write or choose the policy). For better or worse, in the case of Thacker Pass this might be the only feasible aim of democratic deliberation, as the government presently maintains exclusive control over the land and permitting process. Still—whether by expanding and formalizing the influence of stakeholders or giving them direct

policy-making power—implementing a deliberative democracy procedural framework at Thacker Pass would improve future decision-making processes.

c. Deliberative Democracy in Environmental Decision-Making, Revisited

While the conflict at Thacker Pass demonstrates the need for deliberative democracy in environmental decision-making, it also demonstrates the difficulties in implementing this procedural framework. This is both a practical problem and an issue rooted in historical methods of environmental decision-making. The growing interest in applying ethical principles, recognizing value pluralism, and engaging diverse stakeholders to environmental decision-making processes stands in stark contrast to traditionally practiced methods of resource management. Throughout history, resource extraction in the name of ‘progress’ or ‘development’ has been coupled with land grabbing, environmental degradation, and human exploitation. These kinds of injustices have been carried out around the world, including domestically in the United States. An emblematic case is uranium mining in the western United States that took place during and after WWII. In the name of development, wealth, and national security, prospectors flocked to the west in search of uranium. During the Uranium Boom Native Americans were pushed off of lands that were rich in uranium and the labor of many members of tribal communities was exploited in uranium mines (Brugge & Goule 2002). Nuclear weapons were tested on sacred landscapes, and maps conveniently ignored Native American territories in designating uranium prospecting sites (Voyles 2015). Clearly, there was little or no real consideration of ethical principles or Native perspectives in environmental decision-making at this time.

More recently, the case of the Muskrat Falls mega-dam demonstrates a similar preoccupation with development and progress. The hydropower harnessed by the dam is

promoted as ‘clean’ or ‘green’ energy; therefore, the project has been seen as a symbol of ‘sustainable development.’ However, the project, which has been in the works for over ten years, has also faced scrutiny around environmental damages, the lack of consultation with local indigenous groups, and increasing costs (Samson 2017). In addition to the development of hydropower dams, the mining of minerals for use in new technologies, including some (e.g. electric cars) that are vital to decreasing emissions and fighting climate change, has made the need for better environmental and resource management decision-making all the more urgent. Cobalt mining in the Democratic Republic of the Congo (DRC) exemplifies this need; similarly to lithium, cobalt is a mineral used in electric car batteries and personal electronics. However, over 70% of the world’s cobalt is produced in the DRC, where severe human rights violations (e.g. child labor, fatal accidents) have been documented in mining operations (Baumann-Pauly 2020). The cases of hydropower and mineral extraction also raise important questions about who the beneficiaries of these projects are. Often they are not the local communities or indigenous tribes that are displaced or harmed by the projects. Similar questions may be asked in the case of Thacker Pass—are communities impacted by lithium mining able to reap the direct benefits of climate solutions like electric cars?

In sum, historically most decision-making about the environment and resource management has not been particularly democratic nor has it involved much public deliberation. Unfortunately, this is still true today. As the world remains committed to ideas of ‘progress’ and ‘development,’ and as urgent climate action is demanded, the need for inclusive decision-making processes that have the capacity to address the plurality and incommensurability of stakeholder values becomes evident. Insofar as the conflict at Thacker Pass is representative of tensions between the pursuit of ‘clean’ energy (or ‘sustainable’ development) and the environmental and

human impacts of the technologies and development these goals require, the application of a deliberative democracy procedural framework in the decision-making processes there may have significant implications for other emerging conflicts that are similar in nature and are becoming more prevalent.

V. Conclusions and Recommendations

In conclusion, it is clear that future decisions at Thacker Pass must be made through a procedural framework that takes into account values that are pluralistic, conflicting, and at times incommensurable, and that is also inclusive of all stakeholders. Deliberative democracy is the decision-making framework that best satisfies these demands, though it is challenging to implement in practice and doing so will require significant commitments on behalf of all stakeholders. In the case of Thacker Pass, I recommend as a next step the establishment of a public forum in which all willing and able stakeholders may gather to ‘deliberate’ on future decisions regarding the lithium mining project. As the conflict is one grounded in valuations of a specific place, I also recommend that the government continue exploring alternative sites for lithium mining projects in the U.S. which might present better options. The United States Geological Survey has conducted analysis of existing lithium deposits, which provides a starting point for identifying other viable options (USGS 2020). Additionally, more research is needed on the potential applications of deliberative democracy frameworks to emerging environmental or resource management decisions, particularly those related to the development of climate solutions. Finally, it is imperative to acknowledge the uncertainty that surrounds these kinds of decisions—especially when pluralistic, conflicting, and incommensurable values are held by stakeholders—but to continue to pursue productive discourse and action in the midst of the uncertainty.

VI. Personal Reflection

The capstone experience has been both challenging and rewarding. I spent a relatively long time deciding on a topic, but I am glad to have landed on this one. While I pivoted many times in developing an objective/thesis—including a very significant pivot during this last week of classes—I appreciate that this has given me the chance to dive into so many different aspects of the issue. I think what I have enjoyed the most in working on this capstone is how interdisciplinary the experience was. I have done research in many different fields and have applied insights from many of my environmental studies classes here at W&L. Despite not having taken an ethics class prior to this year, I ended up writing what is essentially an ethics paper! While I could never have imagined this would be the capstone paper I would write as a culmination of my time in the Environmental Studies Department at W&L, I am incredibly thankful for the journey it has taken me on. I am grateful to Professors Humston, Kahn, Cooper, and Fisher for their guidance throughout the capstone class and research/writing process. I am also grateful to my classmates and peers for their encouragement and advice and for the way they have inspired me with their work on and passion for their own capstone projects.

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