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## Fairness in Energy Transitions: Confronting Ecologically Tragic Situations

Abstract: Transitioning societies to spatially extensive renewable energy sources (e.g., manufacturing and erecting wind turbines, solar panels, building geothermal power plants, hydroelectric dams, harvesting biofuels, and extracting the rare earth minerals and other materials necessary to do all of this) engenders numerous questions of fairness. Despite aiming to make society greener, developing renewable energy infrastructure ensures the future degradation and destruction of wilderness and ecosystem services on a massive scale. But continuing usage of fossil fuels will result in a myriad of environmental disasters (flooding, shoreline erosion, forest fires, desertification, glacial melt, etc.) from climate change. How ought societies to fairly balance the litany of competing interests in cases where whatever decision is made, grave harms will occur? In hopes of gaining greater clarity for confronting these issues, this paper examines four reasonable approaches (cost-benefit, sufficientarian, democratic, and pluralist) for fairly adjudicating clashing demands in ecologically tragic situations, i.e., circumstances in which the preferred way of meeting some citizens' vital interests is through acts of environmental destruction that undermine the vital interests of other citizens. This paper will discuss the strengths and weaknesses of the respective frameworks, ultimately recommending a liberal pluralist approach for securing fairness in energy transitions.

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### **I. Introduction**

Many environmentalists have devoted their careers to championing investment in “green” and “renewable” energy. These investments are encouraged for the purpose of transitioning economies away from reliance on the fossil fuel industry, eventually resulting in a reduction of fossil fuel consumption and thereby a reduction in carbon emissions. Concern for mitigating climate change lends credence and support to proposals for manufacturing and erecting wind turbines, solar panels, building geothermal and tidal stream power plants, and mining lithium for electric-vehicle batteries. But there are communities who strongly object to such proposals and perhaps for good reason. It appears we are only at the beginning of a new era of infrastructure development which is not dissimilar to the fossil fuel extraction rushes of the past in so far as many of the environmental downsides of the development are the same, i.e., ecocidal land

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grabs.<sup>1</sup> The main environmental ethical question of today does not consist of evaluating the merits of fossil fuel vs. the merits of green energy. The green energy transition is already underway.<sup>2</sup> The question to now consider is how can we proceed with this course of development *fairly*? How can we best represent and weigh the various competing interests at stake?

The term “energy transition” has a connotation of substitution. Its usage encourages conceiving of green energy infrastructure development as a process of replacing fossil fuel extraction sites and refineries. This is misleading. A sea of solar panels does not come into existence only by blanketing a former oil drilling field. And current trends indicate that increases in green energy usage do not entail proportionate decreases in fossil fuel usage.<sup>3</sup> Even if this were the case, wind, solar, and tidal energy are all more spatially extensive than fossil fuel production (at least using current technology) and thus would involve the appropriation of expanses of additional land to generate the same amount of energy (McCarthy 2015, 2497). New infrastructure, and mining of necessary rare earth minerals, must take up room somewhere. Unfortunately, the most *economically* attractive lands to claim for these industrial activities are usually the very same places where they can do the most *ecological* harm, i.e., rural areas that serve as critical habitat for wildlife.

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<sup>1</sup> In recent work, I have defined ecocide as “human activity that purposefully or inadvertently destroys or destabilizes ecosystem functioning to such an extent that the environmental damage hinders or undermines communities’ vital interests” (Rodeiro 2022, 83).

<sup>2</sup> BloombergNEF estimates that Global investment in green energy infrastructure topped \$800 billion in 2021 (Baker 2022). This growing investment has resulted in renewable energy consumption increasing at a compound annual rate of more than 12.5%, compared with gas increasing at a rate of 2.9% (Kemp 2020).

<sup>3</sup> Research by the preeminent consulting firm McKinsey has projected that “energy consumption is set to more than double by 2050” (Gundy 2021). This being the case, it seems likely that renewable energy will contribute to meeting additional energy demand rather than offsetting the use of fossil fuels.

It is not only wildlife that it is negatively impacted, but *people* whose vital interests are bound up with the functioning of local ecosystems, materially, culturally, and even spiritually.<sup>4</sup> Today, green energy infrastructure development typically involves claims on rural areas where land is cheap, and the existing users are socially marginal and have few formal land rights (McCarthy 2015, 2497). These rural folks include people living off the land in a subsistence fashion and indigenous groups following their traditional ecological practices.<sup>5</sup> Some energy development projects have thus been dubbed “green colonialism” for their disruption of traditional life in the name of technological ‘progress.’ Some of the Sami people of Norway, for example, are protesting the wind farms in the remote Fosen peninsula because the turbines are preventing them from engaging in their ancient practices of reindeer herding (Monet 2023).<sup>6</sup> Further examples of current green colonialist controversies include: *Rio Tinto*’s proposed copper mine in Oak Flats (Chi’chil Bildagotee) on sacred Apache land; *Lithuim Americas*’ plan to mine the Salinas Grandes salt flats at the expense of Kolla indigenous communities; the targeting of thousands of acres of Amazonian rainforest to be destroyed and converted into biofuel, which threatens the continued survival of hundreds of indigenous groups that call the region home; and China’s intended construction of the 250-megawatt Kaliwa Dam that will displace thousands of

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<sup>4</sup> Brian Barry defines vital interests as “certain objective requirements for human beings to be able to live healthy lives, raise families, work at full capacity, and take part in social and political life” (Barry 1999, 97).

<sup>5</sup> Those of us living in the so-called ‘developed world’ tend to underestimate the number of people included in this group. Glenn Albrecht estimates, “about half of the world’s population still lives in a small town or rural village and is mainly sustained by its hinterland. These people are already intensely local in their survival orientation and will be highly motivated to protect their patch should the need arise” (Albrecht 2019, 173).

<sup>6</sup> This example is of particular interest because it involves removing existing renewable energy sources. The Norwegian Supreme Court ruled in 2021 that the wind turbines were illegal and violated the Sami’s’ rights. But, two years after the court’s ruling, the wind turbines have still not been turned off or removed.

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Filipino villagers. It is not enough to mollify such groups of people opposing green development by telling them, “You should be grateful it’s not a coal mine.” From their perspective, the direct result of the development project, whether done for “dirty” energy or “clean,” is essentially the same. It immediately results in ecological devastation and thus undermines vital interests tied to local ecosystems.

How ought we to fairly balance the benefits and burdens of a green energy transition? The benefits of green energy lie in aspirations to lower carbon emissions in an effort to combat climate change. Increasing the supply (and thereby *decreasing* the price) of energy furthermore benefits society by reducing the cost of living, which may make all the difference for disadvantaged individuals balancing on the edge of extreme poverty. The ethical urgency of lowering energy prices derives not from the increased production and consumption of unnecessary luxuries it would facilitate (i.e., the satisfaction of fleeting wants), but from the increased satisfaction of genuine needs. It appears we are today facing an *ecologically tragic situation*, in which the preferred method of meeting some citizens’ vital interests is through acts of environmental destruction that undermine the vital interests of other citizens.<sup>7</sup> No matter what path is chosen, someone will suffer.

This lose-lose ethical dilemma is not a necessary nor unavoidable one, but this only adds to its tragic character. It is conceivable that governments could enact far-reaching reforms to resolve the concerns at issue without sacrificing any group’s vital interests. For example, carbon

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<sup>7</sup> Ecologically tragic situations are a subset of what Martha Nussbaum calls “tragic questions” in which, “all the possible answers...including the best one, are bad, involving serious moral wrongdoing” (Nussbaum 2000, 1007). Nussbaum argues it is possible to rank one tragic state of affairs over another (Nussbaum 2011, 86). She invokes Aeschylus’s play *Seven Against Thebes* to illustrate this point: “For the tragic hero Eteocles, it was a horrible wrong to choose to kill his brother, even though the alternative, which involved the destruction of the entire city, was clearly worse” (Nussbaum 2011, 86).

emissions could be reduced through outright prohibitions, or incentives such as a carbon tax, or economic degrowth measures to reduce overall consumption, without sacrificing the meeting of needs or necessitating green colonialism. Rather than increasing the supply of cheaply produced goods due to energy abundance, provisions for the poor could be made through wealth redistribution mechanisms that strengthen the social safety net. But it appears there is a lack of political will to achieve reforms of this kind, such that green development is the only politically feasible option on the table.

This paper will explore four reasonable approaches to adjudicating competing interests in ecologically tragic situations: (1) cost-benefit analysis, which aims at maximizing total aggregate social utility; (2) sufficientarianism, which aims at maximizing the number of people in the society with enough social resources to lead a good life; (3) a democratic approach, which aims at involving the public in decision-making; and (4) a pluralist approach, which aims for the state to remain impartial in their treatment of various reasonable life plans. I will discuss the respective strengths and weaknesses of each framework, ultimately recommending the fourth approach for liberal societies attempting to realize the value of fairness in seemingly intractable disputes over green development.<sup>8</sup>

## **II. Cost-Benefit Analysis**

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<sup>8</sup> Often these four approaches work together in reinforcing each other. For instance, Elizabeth Anderson advocates for what she calls “democratic equalitarianism” that aims to “create a community in which people stand in relations of equality to others” (Anderson 1999, 289). Her theory endorses aspects of both sufficientarian and democratic approaches. Combining the approaches may regularly offer the most effective means of resolving ecologically tragic situations. But what should be done in cases where the approaches’ proposed policies conflict. In other words, which of the approaches ought to be prioritized as foundational? In answering this question, it is helpful to independently consider each approach’s distinct method of justifying public-policy decision making.

I will begin the enquiry into how to fairly navigate ecologically tragic situations with cost-benefit analysis, as it is currently the predominant method of public-policy decision making.<sup>9</sup> This approach attempts to weigh the expected benefits of competing policies (including a policy of doing nothing) against their costs in order to determine the one that produces the most net benefits (or the least net costs). It maintains that every policy decision, including inaction, involves both losses and gains, and that the most reasonable and fair course of action consists in implementing the policy that yields the greatest social profit.

Maximizing advantageous consequences undergirds one of the classic theories of ethical evaluation – utilitarianism. As such, the litany of criticisms against utilitarianism likewise apply to cost-benefit analysis. There are moreover several practical issues with drawing up a cost-benefit list.<sup>10</sup> For one, there is always a fog of uncertainty surrounding predictions of the consequences of our actions, especially in the long-term. Is it possible to take all costs and benefits into account? Even if it were, how can they be expressed on a standard scale of comparison?

### *A. Strengths of Cost-Benefit Approach*

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<sup>9</sup> The neoliberal shift in public policy in the 1980s, characterized by an overarching aim of maximizing economic growth and embodied in global institutions such as the World Bank, International Monetary Fund, and World Trade Organization, is essentially an endorsement of cost-benefit analysis.

<sup>10</sup> To provide a more accurate picture of the costs and benefits of proposed renewable energy projects, this paper will refer to assessments from ecological economics of the total economic value provided by ecosystem services. For a thorough discussion of the thousands of peer-reviewed academic journal articles documenting the value of ecosystem services, *see* Robert Costanza's "Twenty Years of Ecosystem Services: How Far Have We Come and How Far Do We Still Need to Go?" (Costanza *et al.*, 2017). The most famous attempt at valuing ecosystem services is the U.N.'s Millennium Ecosystem Assessment, which led to the formation of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) in 2012.

Many political and economic institutions are designed for using cost-benefit analysis and are well-versed in techniques for doing so. Using this method to address ecologically tragic situations promotes social stability by aligning with existing expectations and procedures. In times of social strife and uncertainty, there is value in maintaining modes of established decision-making to avoid disrupting already strained institutions and causing further upheaval in citizens' lives.

Another strength of the cost-benefit approach is that it provides a clear and orderly method for making decisions in the face of uncertainty. The expected value of a potential project/policy is calculated as follows. First, we list each possible outcome of the proposed action. Then, we assign a probability and a value to each outcome, which we then multiply together. Repeat this process for the other possible courses of action being evaluated. Finally, the action that will likely yield the highest overall expected value is selected. This method is objective and transparent in that once measures of social advantage are accepted and the probabilities of various outcomes are determined, expected value dictates which policy ought to be implemented. The cost-benefit approach has intuitive appeal in that it is structured according to the uncontroversial idea that policy-decisions should aim to make society better. The method also provides a useful quantitative metric for tracking social progress.

### ***B. Weaknesses of Cost-Benefit Analysis***

A major weakness of the cost-benefit approach for resolving ecologically tragic situations lies in the difficulty of determining an adequate measure of value. There are several methods for quantifying social benefits. Monetary value is preferred in economics for quantifying the worth of goods to citizens according to how much they are willing-to-pay for them. This allows for



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evaluation of trade-offs between environmental preservation and industrial energy production in ecologically tragic situations. Money is indeed the principal measure of value in the highly prioritized public policy goal of maximizing Gross Domestic Product (GDP). States making decisions in ecologically tragic situations according to the goal of maximizing GDP would analyze whether the proposed development project would increase or decrease the amount of total goods and services being produced, sold, and purchased throughout the country.

Unfortunately, GDP is a poor metric for representing the value of natural entities and ecosystem services. A forest's production of oxygen, for instance, occurs with no economic input and the fresh air is neither bought nor sold. From the perspective of GDP, the forest's oxygen production contributes no value. But it is absurd to think that trees emitting the life sustaining oxygen necessary for human survival has no value.<sup>11</sup>

There have been recent attempts to measure natural capital (i.e., the value of ecosystem services and natural entities) more accurately. Robert Costanza explains,

There are a number of methods that can be used to estimate or measure benefits from ecosystems... Examples include production-oriented valuation that looks at changes in direct-use values from products actually extracted from the environment (e.g., fish trawled from the sea). This method may also be applicable to indirect-use values, such as the benefits forests provide to agricultural production by controlling soil erosion... Stated preference methods rely on individuals' responses to hypothetical scenarios involving ecosystem services and include contingent valuation and structured choice experiments... Choice experiments present respondents with scenarios that embody combinations of ecosystem services and monetary costs and ask for the most preferred scenarios to infer ecosystem service values (Costanza *et al* 2011).

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<sup>11</sup> This is sometimes referred to as *the water and diamond paradox*. The total value of water exceeds by far that of diamonds, but the latter has a high price and the former a low one (Ekelund and Hébert 1997). Another example highlighting the defectiveness of focusing on GDP for valuing natural entities and ecosystem services is that it would be beneficial (per the metric of expanding GDP) to kill local frogs who are ridding the community of malaria carrying mosquitos for no cost and instead hire exterminators who use chemicals produced in domestic factories to exterminate the mosquitos. Killing helpful frogs that are ridding the community of malaria for free would be a win-win-win from a GDP standpoint.

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Even with a more balanced assessment of all the natural assets that contribute to human material well-being and their interrelationships, there is still the problem of non-material values being difficult to quantify, such as spiritual, religious, and aesthetic values, and a sense of place and belonging. Such values will furthermore vary according to each culture and stakeholder group in question. Plural values and multiple criteria fail to fit within a single metric that assumes all things are commensurable. A problem with applying cost-benefit analysis to ecologically tragic situations is that such an approach is likely to obscure and ignore values that fall outside of the society's dominant ideological construct. As Erle Ellis, Unai Pascual, and Ole Mertz argue,

[T]here is a growing realization that conservation of biodiversity and ecosystems will often be at the losing end in such optimization efforts, for example, in policies oriented toward greenhouse gas abatement, as their implicit valuation framing, often associated with a utilitarian, transactional, ecosystem services framing (e.g., the more carbon that forests can sequester, the better), conflicts with a wide array of more complex and culturally contingent human–nature relations and associated values (e.g., forests as sacred; forests have rights; forests are habitat) (Ellis, Pascual, and Mertz 2019, 87).

Another difficulty for applying cost-benefit analysis to ecologically tragic situations is that, when dealing with complex systems (e.g., ecosystems, the global climate, and the economy), there is uncertainty regarding which variables are critical for avoiding collapse of the system. Many natural entities (species and ecosystems) appear to have no material value, in that their contributions to eco-integrity are simply unknowable until they disappear. Because of epistemic limitations, various life-support services may be opaque to detection, rendering accurate valuation impossible. Often there may be large time lags between crossing a threshold and irreversibly flipping a complex system to a new regime (Monbiot 2022). As such, when trying to devise accurate probabilities, there is the potential for widespread and intractable uncertainty that can render cost-benefit analysis ineffective. A problem that only compounds in

difficulty when we project the expected value of our decisions further into the future.<sup>12</sup> This problem is made even more difficult by the fact that social preferences themselves are likely to unexpectedly change overtime.

A final criticism of the approach is that the act of calculating the aggregate costs and benefits is of secondary importance. Martha Nussbaum criticizes, “all the work of evaluating has to be done beforehand. If the weightings are right, the analysis will give us good guidance concerning what we ought to choose. If the weightings are assigned badly, it will give us bad guidance” (Nussbaum 2000, 1032). In other words, it is not the cost-benefit analysis that is doing the work of evaluating options but the underlying theory of value. “And that means that we really are not getting anything out of the cost-benefit analysis. It is just a crude and only partly adequate representation of what we have already figured out on our own” (Nussbaum 2000, 1033). In Nussbaum’s view, what is crucial for evaluating options in tragic situations is a well-thought-out theory of basic entitlements. This approach will be discussed in the following section.

### **III. Sufficierianism**

One way of avoiding issues in cost-benefit analysis is by instead aiming to promote and protect citizens’ vital interests up to a minimum threshold level. Sufficierianism aims at maximizing the number of individuals who are provided enough in a given situation (Roemer

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<sup>12</sup> This problem is evident in speculations regarding the consequences of our decisions far into the future. Such speculations have resulted in strange conclusions such as William MacAskill’s endorsement of biotechnology and mind-uploading in pursuit of immortality (83-86) or space exploration and settlement (28-29) to escape the death of the Earth and later the solar system in the hopes of benefiting trillions and trillions of people in the distant future (MacAskill 2022). While thinking long-term (*longtermism*) is an important moral project, it must be recognized that the further we look into the future, the less certain we can be about our predictions and plans.

2004, 278).<sup>13</sup> Like cost-benefit analysis, the approach is outcome-oriented. But instead of maximizing the overall social pie, it aims to maximize the number of people provided adequate resources. A sufficientarian policy framework measures how individuals and groups are faring by tracking and projecting the advancement or retreat of minimum levels of welfare i.e., analyzing if universal access to guaranteed levels of social goods is being met. Sufficientarian ideals justify social policies such as universal healthcare and education.

In ecologically tragic situations (i.e., situations in which some group’s vital interests will necessarily be lost), a sufficientarian framework of evaluation would examine all the available alternatives and pick the option that either lifts the greatest number of the worst-off members in society above the minimum threshold of wellbeing or pushes the fewest people below that threshold. The viability of the sufficientarian framework depends on the interpretation of the threshold designating what is ‘good enough.’ It is contentious for state governments to determine this and thereby dictate what should ultimately matter to individuals or communities, i.e., to determine which interests should be considered vital.

### *A. Strengths of Sufficientarianism*

The sufficientarian approach to resolving ecologically tragic situations is appealing in that it prioritizes the interests of the needy and aims to maximize the number of people capable of leading contented lives. An advantage sufficientarianism has over cost-benefit analysis is that it focuses on maximizing the number of people who have an adequate distribution of social

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<sup>13</sup> Sufficientarianism has been described as having a positive and negative thesis (Casal 2007). The positive thesis holds “that it is morally valuable to have enough” and the negative thesis maintains “that once people have enough, no further distributive criteria apply” (Timmer 2022, 299). In this paper, I am concerned with the positive thesis of sufficientarianism.

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resources. The latter, by aiming to maximize total *aggregate* social welfare, does not. Unlike cost-benefit analysis, sufficientarianism takes seriously the idea that society ought to prioritize satisfying interests below some threshold (needs) over interests above that threshold (nonessential wants).

For sufficientarianism to serve as an effective means of policy decision-making, it must establish a minimum threshold that is neither too vague nor arbitrary. Nussbaum provides a clear standard of basic entitlements with her list of ten Central Human Capabilities: life; bodily health; bodily integrity; senses, imagination and thought; emotions; practical reason; affiliation; other species; play; and control over one’s environment. Nussbaum argues these ten capabilities are constitutive of a good life such that they are implicit in the idea of a life worthy of human dignity (Nussbaum 2003, 42-43; 2006, 70, 78–81; 2011, 78-81). Nussbaum asserts “a decent political order must secure to all citizens at least a threshold level of ... ten Central Capabilities” (Nussbaum 2006, 176). This means that if any one citizen’s Central Human Capabilities goes unfulfilled, it constitutes an injustice. Accordingly, to adjudicate ecologically tragic situations from a sufficientarian perspective, policy makers should pursue the option that deprives the least number of people of any of the ten Central Human Capabilities.

### ***B. Weaknesses of Sufficientarianism***

Several problems arise in the sufficientarian approach to navigating ecologically tragic situations. According to sufficientarian analysis, it would be acceptable to undertake a renewable energy industrial development project that deprives numerous people of many of their central human capabilities, so long as the project on aggregate pushes *more* people over the threshold of

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a good enough life by affording them the opportunity to actualize their last missing central human capability.

For example, the framework might justify constructing a hydroelectric dam to provide multitudes of urban poor with abundant cheap electricity, allowing them access to air-conditioning and heating (control over their environment), even if the damming operation flooded the ancestral land of a small indigenous community, depriving members of the tribe most of their central human capabilities. Such an outcome would satisfy the sufficientarian goal of maximizing threshold-crossing yet seems at odds with *fairness*. John Rawls, the quintessential proponent of justice as fairness, criticizes purely aggregative principles that place no limits on the sacrifices they demand of some individuals and generate unreasonable “strains of commitment” (Rawls 1971, 126). Rawls asserts, “liberties do not depend upon conjectural calculations concerning the greatest net balance of social interests. In justice as fairness such calculations have no place” (Rawls 1993, 317).

Sufficientarian theorists have attempted to avoid such unsavory logical conclusions by instead arguing that absolute priority should be given to the worst off, i.e., those with least central capabilities fulfilled (Arneson 2000, Holtug 2007, Temkin 2003). This *prioritarian* addendum, while solving some problems, generates others. Per a prioritarian schema, any gain of capabilities to the smallest number of worst off, would trump any gains in capabilities, however large, to any but the worst off, even the next worst off. This requirement would likely strike many as absurd.

If sufficientarianism can be used to resolve ecologically tragic situations, then it must provide a principled means of prioritizing the worse off while also considering the size of benefits at stake and the numbers of people who will benefit. A hybrid model is difficult to

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articulate from within a sufficientarian framework, in that ‘head counting’ (maximizing the incidence of raising individuals above the minimum threshold) and prioritizing those at the lowest range of deficiency (consideration of the depth of insufficiency) are directly opposing aims.<sup>14</sup>

Nussbaum endorses recent scholarship by Jonathan Wolff and Avner De-Shalit that gestures toward a means of deciding which outcomes are preferable, i.e., which capability sets ought to be prioritized over others in tragic situations (Nussbaum 2011, 97). In summary, Wolff and De-Shalit propose that, in deciding how to proceed in tragic situations, practitioners and theorists consider the “dynamic clustering” effect of promoting or discouraging a capability. This entails consideration of how gaining or losing a capability can cause accumulation and reproduction of (dis)advantage (Wolff and De-Shalit 2007). They argue that social policy can benefit from indexing “fertile functionings,” which are capabilities that spread their good effects over several categories by reducing risk to the other functionings, and “corrosive disadvantages,” which are capabilities that have negative effects on other functionings (Wolff and De-Shalit 2007, 121-122). Nussbaum endorses Wolff and De-Shalit’s conclusion that when two or more capabilities cannot be satisfied, the capabilities that promote fertile functionings and discourage corrosive disadvantages ought to be prioritized (Nussbaum 2011, 98-100). In ecologically tragic situations, decisionmakers might evaluate which policy will generate greater fertile flourishing than corrosive disadvantages in the society writ large.

This framework of evaluation, while appealing, is still aggregative in character and as such fails to place limits on the sacrifices it may demand from some individuals and groups in

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<sup>14</sup> For a developed discussion on this topic, see Dick Timmer’s recent article, “Justice, Thresholds, and Three Claims of Sufficientarianism” (2022).

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the society. It may be helpful to examine non-outcome-oriented approaches to resolving ecologically tragic situations.

#### **IV. Democratic Approach**

In contrast to an outcome-oriented conception of justice, one might appeal to a *procedural* conception of justice. One procedural justice method of fairly determining what ought to be done in ecologically tragic situations is democratic decision-making. Democratic critics of outcome-oriented conceptions of justice argue that pre-political cataloging of vital interests (*a la* Nussbaum's list of Central Human Capabilities) undermines individuals' and communities' right to be heard and respected in social decision-making processes (Sen 2009, 241-243). Amartya Sen claims "the demands of justice can be assessed *only* with the help of public reason" (Sen 2009, 326). Defenders of democracy aver that it ought to be up to the people themselves to determine how to proceed in challenging circumstances (Sen 2009).

There are many questions regarding democratic adjudication of ecologically tragic situations. Who should be involved in the decision-making process? The public, those impacted, experts? How might persistent minorities be protected from a tyranny of the majority? How might the concerns of the voiceless be included and represented, including non-human animals, future generations, and ancestral stewards of the land?

##### ***A. Strengths of Democratic Approach***

There are many reasons why scholars have championed the usage of democratic processes for making difficult social decisions. Some have defended the inherent value of democratic decision-making as embodying liberty, equality, and social solidarity. Others have



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defended the instrumental epistemic value of democracy as being more reliable than alternative methods, such as authoritarian dictatorship or oligarchical rule of the elite.<sup>15</sup> Some argue that democracy tends to cultivate citizens' moral virtues by encouraging them to listen to others, justify themselves to others, and consider the common good.

When facing ecologically tragic situations, it is imperative that those whose vital interests are at stake have a chance to be heard and allowed to participate in decision-making processes. As John Dewey explains, one of the greatest strengths of democracy involves its role in promoting “consultation and discussion which uncovers social needs and troubles” (Dewey 1927 154-155). Those who will be negatively affected are often most informed about the potential harms they will suffer and so ought to be provided platforms to disseminate this information. Democratic institutions, procedures, and norms play an important role in this occurring.

Like cost-benefit analysis, democratic decision making offers a straightforward procedure. All it requires is: (1) collecting the votes of interested parties, (2) treating all parties' preferences equally, and (3) pursuing the option on the table with the most collective support. There are compelling reasons for the dilemmas of ecologically tragic situations to be left to public deliberation and democratic procedures.

### ***B. Weaknesses of Democratic Approach***

The potential for ‘tyranny of the majority’ and oppression of persistent minorities (groups of persons who find themselves always losing in majority decisions) presents a vexing worry for

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<sup>15</sup> Hélène Landemore has drawn on the “diversity-trumps-ability” studies, showing that random collection of agents drawn from a large set of limited-ability agents typically outperforms a collection of the very best agents from that same set, to argue that democracy can be expected to produce better decisions than rule by experts (Landemore 2013).

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reliance on democratic decision making in ecologically tragic situations.<sup>16</sup> This concern is particularly germane to ecologically tragic situations. Often, the underlying conflict of the situation pits the interests of the broader society against the interests of a local community (e.g., constructing massive solar farms to provide energy to an entire region but in so doing destroying the ancestral hunting ground of an indigenous community).

Disputes over green colonialism are typically conflicts between urban citizens and rural citizens. These disputes beset many societies, particularly (post)industrialized societies that nonetheless include groups of indigenous peoples attempting to follow their traditional ecological practices (Magallenes 2010). It is often the case that such citizens' low numbers, geographic and epistemic isolation, and a lack of adequate social resources (e.g., access to media outlets, the legal system, or high-priced advocacy groups) make it difficult for their interests to win-out, or even be heard, in ecologically tragic situations.

Negative consequences of green colonialism may occur even in cases where the majority attempts to treat the minority well in accordance with a majoritarian conception of good treatment, such as by providing them monetary compensation for their loss. Unfortunately, it is typically the case that the minority disagrees on what constitutes proper treatment, such as by preferring to continue their traditional way of life over being provided money which cannot compensate for their loss of culture and sense of personal/communal identity. Consequently, being a persistent minority can be highly oppressive even when the majority does not try to act oppressively.

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<sup>16</sup> As Andrew Volmert explains, the “compelling justification for majority rules” rests on the idea that “the greater the number of people whose wills are embodied in decisions, the fewer the number of people who are forced to obey the wills of others” (Volmert 2010, 55).

A glaring problem with the democratic approach to resolving ecological tragic situations is that it often promotes the interests of the dominant culture to the exclusion of others.<sup>17</sup> This is the essence of the imperialist element in green colonialism. If the dominant culture's interests are continuously prioritized over the legitimate concerns of minority groups, then the minority could be construed as receiving unfair treatment. It appears that fair treatment requires certain institutions to ensure that critical interests of the minority are adequately respected. Otherwise, the society fails to live up to the democratic ideal of rule by citizens who are themselves free and equal.<sup>18</sup> How can this equality be achieved in a culturally diverse society, among citizens ascribing to a plurality of conceptions of the good life? How can citizens who endorse a minority conception of the good, that is nonetheless reasonable, be afforded equal treatment in the form of equal opportunity to actualize their life plans? It appears it is necessary to consider what respecting pluralism entails in ecologically tragic situations.<sup>19</sup>

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<sup>17</sup> Some scholars, such as Iris Marion Young, have developed theories of democratic decision-making that aim to prioritize minority positions (Young 2000). Young argues fairness and inclusion generally require taking special measures to encourage the representation of marginalized groups in decision-making processes (Young 2000). For instance, she advocates for providing groups greater representation and input in decision-making processes by moving beyond 'one person, one vote' election schemas and instead allocating seats, leadership roles, and/or veto powers to historically marginalized voices (Young 1990, 187-189). However, such inclusion-promoting mechanisms may be more closely aligned with promoting respect for pluralism (the approach discussed in the next section) than democracy.

<sup>18</sup> Volmert claims that "members of indigenous groups are, in a substantive sense, regularly subject to the rule of non-indigenous groups because the wills of non-indigenous citizens are consistently imposed on indigenous citizens" (Volmert 2010, 58). Under such conditions, "fears about the subjection of internal minorities are warranted, but respect for indigenous authority requires deference to indigenous communities' interpretations of their members' rights" (Volmert 2010, 58).

<sup>19</sup> This is setting aside the issue of how a democratic approach ought to include the interests of *silent voices*, such as future generations, deceased ancestors, the more than human, in ecologically tragic stations.

## V. Pluralist Approach

The final approach to navigating disputes in ecologically tragic situations emphasizes a central tenet of liberalism, that societies ought to remain neutral in their treatment of various reasonable life plans.<sup>20</sup> The goal of state neutrality is to ensure societies are structured in a way that is non-oppressive and demonstrates respect for citizens' liberties. States must avoid undermining citizen's self-conception and autonomy by compelling observance and performance of values they could reasonably choose to not endorse.

In recent work, I have defended the view that state neutrality should extend to tolerating and respecting citizens' desire to sustain intimate bonds with specific habitats and natural entities (Rodeiro 2021, Rodeiro 2022, Rodeiro 2023). This condition is often unmet, as modern states readily prioritize *developmentalism* (i.e., the idea that more mining, drilling, building, and manufacturing is indubitably socially beneficial), over other ways of relating to the natural world. Liberal pluralism demands the state maintain neutrality of aim, by refraining from explicitly and purposefully promoting one conception of the good (developmentalism) at the direct expense of other reasonable conceptions of the good (other relationships with the natural world). This constitutes respect for *ecorelational pluralism*.

Respect for ecorelational pluralism does not invalidate the reasonableness of purely exploitative and destructive relationships with the natural world (e.g., viewing nature as nothing more than a stock of resources to be depleted and destroyed for economic gain). It does however restrict the state from pervasively privileging and facilitating such relationships in the way it does currently. In ecologically tragic situations, respect for liberal pluralism would demand

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<sup>20</sup> In Rawlsian terms, the state ought to remain neutral such that its policies do not aim to promote one reasonable comprehensive doctrine or conception of the good at the expense of another (Rawls 1993).

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prioritization of ecological interests that have been historically disregarded, marginalized, and disrespected.

This framework has far-reaching implications for projects and policies that build up renewable energy capacity by way of degrading and destroying natural habitats. As societies struggle to conserve biodiversity, wilderness, and protect ecosystem functioning, radically departing from the *status quo* is perhaps necessary. It is essential for fairness that the green energy transition be prohibited from further eroding and erasing the wide array of complex and heterogenous ways of relating to and valuing the natural world.

One might worry that it is illiberal for the state to actively promote marginalized ecological interests because such a proposal conflicts with the demand for state neutrality. However, it is essential to recognize that there is a long history in liberal thought that endorses proactive state intervention to correct past injustices. As Will Kymlicka states, “Some minority rights eliminate, rather than create, inequalities. Some groups are unfairly disadvantaged in the cultural-marketplace, and political recognition and support rectify this disadvantage” (Kymlicka 1995, 109). Legacies of past mistreatment and historical injustice change the terms of liberal neutrality. Consequently, respecting ecorelational pluralism may require societies to grant special privileges to historically marginalized ecological interests as a form of corrective action, e.g. prioritizing their interests in environmental controversies or granting these citizens special control and decision-making power (sovereignty) over the use of their land or resources.

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transition energy production infrastructure to green sources are prohibited from further eroding and erasing the wide array of complex and heterogeneous ways of relating to and valuing the natural world.

### *A. Strengths of the Pluralist Approach*

A major strength of the liberal pluralist approach, which maintains states ought to respect a plurality of ways of relating to the natural world, is that it serves as a powerful bulwark against homogenous developmentalism and green colonialism. At present, policymakers often discuss renewable energy development as if it were a universally affirmed good. This is far from the truth. Increasing energy production to spur economic growth (expanding the goods and services available in a society) has been widely regarded as a morally neutral and uncontroversial means of increasing social wellbeing. This fails to account for those citizens who are not dependent upon, nor interested in being integrated into, the global industrial system. The culture, values, and way of life of such people undermines the justification for continually sacrificing ecosystems and disrupting the natural world to maintain and expand industrial society. Repeatedly approving and promoting renewable energy projects that undermine local communities' way of life (i.e., green colonialism) constitutes an abdication of states' responsibility to remain neutral toward various reasonable life plans.

A truly liberal approach to resolving ecologically tragic situations bars state governments from implementing policies that aim to promote one reasonable comprehensive doctrine at the expense of another (Rawls 1993, 190-194). Although this would not invalidate the reasonability of investment in renewable energy infrastructure development, it would prevent the state from pervasively privileging these projects if they persistently undermine other ways of relating to the

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natural world. Citizens' desire to preserve their habitat should be included in deliberations over what ought to be done, since their worldview also constitutes a reasonable conception of the good (a reasonableness that is only becoming more apparent as our environmental crises worsen).

If it is found to be the case that the same decisions are made time and again, sacrificing traditional cultures in the name of progress, a compelling *de facto* case can be made that states are failing to respect a plurality of values. Accordingly, when the next ecologically tragic situation presents itself, authorities should give priority to claimants whose environmental interests have been pervasively and historically marginalized.

A further advantage of this approach is that respecting ecorelational pluralism does not require states to actively invest in environmentalist projects. It only requires states to desist enacting, authorizing, subsidizing, and tolerating environmentally destructive activity that expresses contempt for citizens' desire to preserve their traditional/sustainable relationships with their habitats.

### ***B. Weaknesses of the Pluralist Approach***

One of the major weaknesses of adopting a pluralist approach is how it can be anathema to the *status quo*. At present, it is so normalized and taken for granted that (green) development is a desirable social goal, in that it will create jobs, lower prices, or 'raise the standard of living,' that dislodging this embedded assumption requires radically restructuring some of the state's political institutions. Even supposedly well-ordered societies such as the United States, Canada, Norway, or Australia may have an obligation to take steps to reform their societies' basic structure or risk illiberally prioritizing certain reasonable conceptions of the good over others.

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Although this a radical break from ‘business as usual,’ a radical change may be precisely what is called for to adequately confront and mitigate present ecological crises, including climate change.<sup>21</sup>

Another problem with the pluralist approach is that it offers limited guidance on how to mitigate past violations of citizens’ vital interests in preserving sustainable/traditional relationships with their habitat.<sup>22</sup> How should policy makers respond to the fact that their state has failed to respect ecorelational pluralism since its inception?<sup>23</sup>

Moreover, how confident can we be that the state will take steps to respect ecorelational pluralism when they have already neglected to implement reforms that could avoid sacrificing vital interests in the past? What reason do we have to believe that they will be interested in maintaining neutrality and promoting fairness when it comes to settling disputes over the use of valuable natural resources? These are essential questions from a practical strategy standpoint. But they fall outside the scope of this paper, which is interested in articulating what justice requires in settling disputes regarding the transitional to renewable energy in ecologically tragic situations rather than the strategic question of how to effectively petition and compel governments to act justly.

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<sup>21</sup> Respecting ecorelational pluralism can help address climate change. Prohibition of ecocide can reduce carbon emissions and promote carbon sequestration.

<sup>22</sup> In recent work, I analyze the kinds of reparative, reconciliatory, and transformative practices and policies suitable for justly responding to illiberal violations of ecorelational pluralism (Rodeiro 2023).

<sup>23</sup> Being recognized as an independent nation-state often entails that the state accepts binding commitments with international development organizations (e.g., the International Monetary Fund and the World Bank) to promote economic interests (free trade and open markets). As Vijay Prashad emphasizes, “the *rules of the world order* were established when the majority of humanity struggled under colonial and post-colonial domination,” in that colonial and newly independent states were required to do whatever was necessary to integrate local markets and societies into the expanding global system (Prashad 2012, 24).



Lastly, the demand to respect a plurality of relationships with the natural world can be difficult to justify and uphold when it entails that some citizens' needs will not be met. Adopting a pluralist approach does not ensure that the interests of those opposing green development will always win out. But it does put the onus on developers to show that preventing a proposed renewable energy project will necessarily compromise segments of the populace's vital interests. This will be, in many cases, difficult to demonstrate.

## **VI. Conclusion**

This paper has explored the respective strengths and weaknesses of four reasonable approaches for adjudicating clashes of interests in ecologically tragic situations presented by the green energy transition: 1) cost-benefit analysis, 2) sufficientarianism, 3) democracy, and 4) respect for ecorelational pluralism. There are different underlying rationales for each of the four approaches. If policymakers prioritize acting within currently existing institutional structures, then cost-benefit analysis is perhaps most appropriate. If policymakers prioritize maximizing the number of people capable of leading a good life, then the sufficientarian approach is preferable. Perhaps they would instead prefer to leave the vexing political disputes involved in ecological tragedies up to public deliberation. If policymakers in a liberal political system are most concerned with securing *fairness* in adjudicating disputes over green energy transitions, then the pluralist approach is most appropriate.

It is important to recognize that climate change is not the only pressing environmental crisis we are facing today. Moreover, investing in green energy infrastructure development is not the only, nor necessarily most effective, means of mitigating climate change. The rapid construction of new energy infrastructure, although beneficial in some ways, does not serve the

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interests of all segments of the population equally. This diversity of interests is currently not widely recognized and discussed. To ensure fairness in imminent political decisions over the environment, it is imperative that this diversity be articulated and afforded due consideration. If states wish to live up to core liberal values and ideals, it demands they respect the ecorelational pluralism of their citizenry.

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