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Between Luxury and Subsistence: An Ethics of Middle Emissions

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ABSTRACT

I defend the need for a sustained and substantive ethical treatment of the global middle class's non-luxury, non-subsistence emissions. I call these 'middle emissions'. Although middle emissions should not be afforded the moral priority of the poor's subsistence emissions, they are more morally important than luxury emissions. I argue that there is no blanket permission for middle-emitting, but I identify conditions that might permit middle-emitting. I then consider whether imposing mitigation burdens on middle emitters is fair. In doing so, I identify burden-sharing principles that are sensitive to the circumstances of those in the middle of the global income distribution.

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Climate change ethics; global middle class; distributive justice; subsistence emissions; global inequality

1. Introduction

In 'Subsistence Emissions and Luxury Emissions', Henry Shue (1993) defends what he calls the 'weak judgement'. This entails the idea that people should not be expected to restrain their subsistence emissions and remain in poverty so that the rich do not have to restrain their luxury emissions and thereby give up mere superfluities (Shue, 1993, p. 42).¹ The weak judgment is echoed in the widely accepted claim that climate change mitigation should primarily (if not exclusively) focus on restraining the wealthy's luxury emissions (see Caney, 2010; Gardiner, 2004; Moellendorf, 2014; Shue, 2014; Vanderheiden, 2008).² Recent research on carbon inequality supports the urgency of acting on the weak judgment. Indeed, in 2019, the top 1% of global income earners (who annually earn over $\in 123,900$ PPP)³ emitted 17% of total global emissions,⁴ while the entire bottom 50% (who annually earn under $\in 6,700$) emitted only 12% (Chancel et al., 2022, p. 123).⁵

Emissions inequality research also highlights the global annual emissions of people in the middle of the global income distribution, even though the weak judgment and many climate ethicists are silent about this group.⁶ The middle 40% of global income earners (who annually earn $\in 6,700$ to $\in 37,199$) emitted 40% of global emissions in 2019.⁷ Given the need for 'rapid and deep and, in most cases, immediate GHG reductions in all sectors' (IPCC, 2022, p. 24), curbing emissions among this middle group seems morally required. In fact, according to one study,

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the middle 40% need to reduce emissions by roughly one-third by 2030 to achieve a per capita level consistent with achieving the target of limiting global average surface temperature to no greater than 1.5° C above pre-industrial levels (Capstick et al., 2020, p. 63).⁸

Arguably, many of the emissions from the middle 40%⁹ are neither luxury emissions (emissions produced from luxury activities)¹⁰ nor subsistence emissions (emissions required to sustain a minimally decent quality of life).¹¹ The middle 40% group notably includes households a generation or two out of poverty. Here, people are among the first in their families to maintain a standard of living above the decent minimum threshold often used to define subsistence emissions. Admittedly, some benefits of their non-subsistence emitting activities represent laudable achievements of poverty emancipation. These include improved well-being, health optimization, higher education, civic engagement, culture, and improved gender equality.

The ethics of restricting emissions from those in the middle is not as clear-cut as the moral imperative to reduce the wealthy's luxury emissions or to protect the poor's subsistence emissions.

- On the one hand, if we treat the emissions of the global income group as having the same moral significance as the subsistence emissions of the poor, then we risk slowing climate change mitigation by establishing overly strong protections for carbon-intensive lifestyles that should not be afforded moral priority (see Socolow, 2012).
- On the other hand, if we treat the emissions of the global income group as morally weightless luxury emissions, then we risk blindly endorsing climate change solutions that could impose unfair burdens on those in the middle and/or negatively impact their quality of life.

I do not doubt the need to restrict the wealthy's luxury emissions or to prioritize protecting the poor's subsistence emissions. My goal in this paper is to argue that we must also consider whether, when, and to what extent those in the middle of the global income distribution should restrict their emissions. In doing so, I am positing a third normative category between luxury and subsistence emissions – called here 'middle emissions'.¹² This category is useful for identifying questions that arise when considering emissions in between luxury and subsistence emissions. I shall not provide a complete definition of 'middle emissions' or assume that one can be given. Instead, I present uncontroversial examples of middle-emitting activities among the global middle-income group. These emissions are the product of activities that are too morally important to be considered luxury emissions but not morally weighty enough to be considered subsistence emissions. As discussed below, other income groups, especially the wealthy, also participate in middle emitting activities. Nevertheless, I argue in this paper that the middle emitting activities of the global middle-income groups are of special moral concern. From this point on, unless otherwise noted, I use 'middle emissions' and 'middle emitters' to refer respectively to the emissions and emitting activities between subsistence and luxury of those in the global middle-income group.

I shall make several arguments and interrogate established views, but my goal is not to advocate for a single set of solutions. Instead, I identify and begin to characterize the

ethical problems that arise when considering the middle emissions of the global middleincome group.¹³ In particular, my discussion focuses on two problem spaces or questions:

- (1) What is the moral significance of the middle emissions generated by those in the middle of the global income distribution?
- (2) How should burdens of mitigation be distributed between the wealthy and those in the middle of the global income distribution?¹⁴

This paper has the following structure. In Section 2, I motivate the need to focus on middle emissions as a separate category from subsistence emissions and luxury emissions. In Section 3, I argue that there is no blanket permission for middle-emitting, even if there are conditions where middle-emitting might be justified. In Section 4, I apply principles of distributive climate justice to the distribution of burdens between middle emitters and luxury emitters. In Section 5, I conclude by articulating several further questions or challenges for an ethics of middle emissions.

2. Why Middle Emissions?

Consider two fictional examples of households in the middle 40% of the global income distribution:¹⁵

The Li Family:¹⁶ A family consisting of two adults and one teenager live in public rental housing in the city of Chongqing in southwest China. The family's unit is furnished with an electric oven, electric stove, refrigerator, water heater, and an air conditioner. There is on-site access to laundry machines. The family use public transport for work, school, and errands. They moved from a rural area to an urban centre to increase their income, but also so that their child could be educated in an urban school system. Urban schooling increases the Li child's chances of attending university. The family's total income is 55,000CNY (€6,900) per year. A back-of-the-envelope calculation indicates that, given the region and their income, each of the adult Li family members emits about 3.1 tonnes of CO_2 per year.

The Smith Family:¹⁷ A Black American family consisting of one adult and two young children live in the city of Baltimore in the mid-Atlantic United States. Using a government subsidy, they rent a privately owned one-bedroom apartment in a predominantly Black neighbourhood. Their apartment is equipped with a stove, refrigerator, and a window air conditioning unit. They frequent a nearby laundromat to do laundry. The apartment is in a three-unit building, which is equipped with an inefficient oil furnace heater maintained by the landlord. The parent works full-time in a suburban department store, commuting 15 miles each way in a 10-year-old fossil-fuel vehicle. Extended family helps with day care and afterschool care for the children. The family's total annual income is \$28,800 (\in 25,933). A back-of-the-envelope calculation based on region and income suggests that the adult member of the Smith family emits about 12 tonnes of CO₂ per year.¹⁸

In this section, I contend (a) that the bulk of the two families' emissions are middle emissions and (b) that the question of whether the families' middle emissions are permissible is far from straightforward. To do so, I argue in this section that neither family exclusively engages in subsistence emissions or luxury emissions. In Section 3, I consider the moral significance of middle emissions.

2.1. Discretionary Emissions, Not Subsistence Emissions

Many of the emissions from the Li and Smith families are discretionary in the sense that they are not necessary to maintain a minimally decent standard of living. Their emissions are, therefore, not subsistence emissions. Both families have income left over after meeting a minimally decent standard of living. They spend this money at their discretion. They might go shopping, take modest vacations, purchase or use durable goods (like house-hold appliances),¹⁹ invest in their children's higher education, and optimize their health beyond disease prevention.

Some might object that the families' emissions should, in fact, count as subsistence emissions because both live in fossil fuel-intensive societies and their emissions are required to maintain a minimally decent standard in *those societies*. Christian Baatz (2014) gives the example of an elderly woman in a developed country who lives in a rural area, occupies an energy-inefficient house, and relies on a fossil fuel vehicle to purchase food and attend social and cultural engagements.²⁰ She has no means to improve her house and no alternative transport option. According to Baatz, the woman does not have a duty to reduce emissions because, if she did, 'her life would not be decent anymore' (2014, p. 10).

However, many of the emissions in the above examples could be reduced without pushing the Lis and the Smiths below the minimum. Unlike the rural woman in Baatz's example, Ms Smith can take public transport to work and still have a decent life. Alternative transport is onerous owing to the inefficiency of the local public transit system, but it is not impossible. A one-way trip from home to work would require two hours of travel and three bus transfers (assuming all buses are on time).²¹ Driving at the same time of day might take 30 minutes. Ms Smith could take the bus without rendering her life indecent.²² However, taking the bus would impose certain hardships and impact important aspects of her and her children's quality of life. Taking public transport is time-consuming and inconvenient. It would require the Smith children to spend several more hours per day in daycare, which could displace time that the Smiths would have spent on important personal and familial projects (e.g. spending time together, playing, studying, enjoying a meal, reading, or resting).²³

In any event, emissions from energy-using assets like laundry machines or cars are not subsistence emissions for many in the global middle-income group. They are, I believe, squarely in the range of middle emissions. The question is what moral significance these emissions have.

2.2. Non-Frivolous Emissions, Not Luxury Emissions

Even if emissions can be reduced without threatening the families' minimally decent living standards, it is not clear whether middle emissions should (like luxury emissions) be reduced as a matter of justice.²⁴ A reason why luxury emissions should be reduced is that they have no moral weight (see Baatz, 2014, p. 15). Arguably, the Lis and the Smiths are obligated to reduce their *luxury* emissions. Yet, many of their discretionary emissions are produced while engaging in morally important personal projects and morally valuable goods.

The Lis could switch from an electric washing machine to handwashing laundry, but this would likely have a profound impact on their lives. Using a washing machine can decrease hours of strenuous, unpaid labor, which is often expended by women.²⁵ Using appliances can help reserve precious time for important professional, personal, social, and cultural projects. In a similar vein, commuting provides Ms Smith with time and opportunities to engage in activities that improve her family's quality of life in meaningful ways.

Some might object at this point that differentiating between middle emissions and luxury emissions is too permissive because the affluent also engage in meaningful middle-emitting activities. Affluent families benefit from using energy-consuming assets to do mundane tasks, such as laundry and commuting to work in a fossil fuel vehicle. And these benefits advance their personal projects in profound ways. Must an ethical study of middle emissions be lenient when it comes to reducing middle emissions from the richest 5%? In response, there are important moral differences between the middle emissions of those in the global middle-income group and those at the top. Affluent emitters have opportunities to cut emitting activities with no moral weight before arriving at the point where they must even consider giving up the laundry machine or taking a two-hour bus trip to work.²⁶ An affluent family can, for instance, forgo a lavish holiday light displays,²⁷ opt to live in a smaller house within walking distance from work, or cut out a cross-continental flight (Rosenthal, 2013).

By comparison, to reduce emissions, the Li and Smith households would almost immediately face hard choices between morally important emitting activities related to labor-reducing appliances, non-onerous commuting options, indoor lighting, and heat, not to mention health optimization and higher education services. As I shall argue in Section 3, the Smiths and Lis (unlike their rich counterparts) make emissions-related choices in the context of option sets constrained by socioeconomic circumstances that are sometimes highly unjust. This is why my focus in this paper is on middle emissions from people in the middle of the global income distribution.

3. Are Middle Emissions Permissible?

In this section, I argue that the question of whether middle emissions are permissible cannot be answered by appealing to standard strategies for arguing that subsistence emissions are permissible and luxury emissions impermissible. I consider and dismiss arguments both for treating middle emissions as permissions to harm (Section 3.1) and for treating middle emissions as socially necessary (Section 3.2). As a step in the direction toward evaluating middle emissions, I then present a provisional non-exhaustive set of conditions for identifying permissible middle-emitting activities (Section 3.3).

3.1. Middle Emission Permissions?

Subsistence emissions are sometimes justified as permissions to harm – akin to a right to self-defense (Budolfson, 2014; Gardiner, 2017; Shue, 1993; Traxler, 2002).²⁸ Martino Traxler has argued as follows:

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Much like self-defense may excuse the commission of an injury and even a murder, so their necessity for our subsistence may excuse our indispensable current emissions and the resulting future infliction of harm they cause. Subsistence emissions are emissions we cannot reasonably be expected not to make, because they are rationally compelling emissions, and we are excused for making them. (2002, p. 107)²⁹

As I interpret Traxler, subsistence emitters do not violate a duty to do no harm because they cannot act in any other way. Their emitting activity is necessary or indispensable. Like harming in self-defense, morality is supposed to permit emitting for the sake of subsistence.³⁰ In this section, I shall assume that the self-defense justification pertains to the kind of emitting activities that are necessary for basic needs. I discuss Traxler's broader (and more controversial) claim that socially necessary emissions are permissible in Section 3.2.

Consider Stephen Gardiner's four constraints on a right to self-defense:

- (1) One must exhaust non-harmful alternatives to protecting some threatened interest.
- (2) If there are no non-harmful means readily available, then doing harm to eliminate the threat is permissible on condition that one actively seeks non-harmful alternatives.
- (3) One must impose only the minimum harm necessary for protecting the threatened interest.
- (4) One must provide compensation for any harm caused (Gardiner in Gardiner & Weisbach, 2016, pp. 123–124).

Although these constraints might help identify when subsistence emissions are permissible, I do not think that they easily apply to middle emissions. I shall argue that Constraints (1)–(3) place an exceptionally strong limitation on the self-defense justification, one that middle emitters categorically cannot meet.

As a preliminary point, the self-defense justification does not apply to middle emissions, even if they have moral weight. This is because many of the interests involved in middle-emitting activities do not rise to the level of importance needed to justify selfdefense. As several thinkers have pointed out, the plausibility of self-defense becomes increasingly weak as the relevant interests decreasingly involve the protection of basic, vital, or physiological needs (Morrow, 2015; Shue, 1996; Vanderheiden, 2008, p. 243). Technically, middle emitters *could* simply give up an important interest without sacrificing the pertinent need. These are not forced choices (as Traxler would say). The Lis could have opted for a lower-income rural lifestyle without jeopardizing their minimally decent guality of life (not to mention their basic needs). Imagine that doing so would have kept their income low. Given the current strong correlation between income and emissions, maintaining a rural lifestyle would also result in lower emissions.³¹ However, living in the rural village would require the Lis to forgo their child's higher education opportunities. As such, the Lis' choice to move to an urban area and increase their income and their child's higher education opportunities might be justified. It is, however, not justified by appealing to self-defense. One cannot appeal to self-defense to help improve one's child's chances of attending university. Usually, self-defense justifications apply in cases where someone (a) faces a threat to life and limb and (b) is permitted to eliminate that threat for the sake of survival or bodily integrity. If so, then Constraints (1)–(3) simply do not apply to middle emissions, which relate to important, albeit discretionary, interests.

At the same time, a middle emitter might have multiple routes to satisfying a specific interest (some more harmful than others). Take Ms Smith's interest in transportation to and from work. Taking the bus to work is a time sink and an inconvenience for her. Nevertheless, driving a fossil fuel-powered vehicle thirty miles a day, five days a week, contributes significantly more to climate change. If driving instead of busing is a morally allowed option, then it is not justifiable by appealing to self-defense. The Smith family do not meet Constraints (1)-(3) because they can protect their interest in transportation less harmfully by using the bus.

Moreover, attempting to evaluate the moral significance of the Li and Smith families' emitting activities by appealing to self-defense might risk being overly harsh or overlooking serious background injustices. Constraints (1) and (2) respectively involve exhausting non-harmful alternatives and actively seeking out non-harmful alternatives. Although harm avoidance and harm reduction are crucial in a climate-constrained world, both families live in social, economic, political, and infrastructural circumstances that affect their access to lower-emitting activities. Indeed, self-defense-like justifications are too narrow to fully address the reality and complexities of the social injustices that shape the option sets of many in the middle group.

According to some scholars working on self-defense, if I have *any* alternative to deter a threat other than imposing harm, then I must opt for that alternative (see Frowe & Parry, 2021). But the mere existence of an alternative might not be sensitive to the reality of some middle emitters' lives, the option sets they have, and the opportunity costs they face. Because self-defense justifications depend on evaluating alternatives, they are not much help in answering questions about the moral permissibility of middle emissions. The middle group's options are heavily and often unjustly constrained by both violent histories and social, economic, and political forces beyond their control.

For example, some of the options that are available to an affluent family to avoid middle emitting are not available to the Smiths. The Smiths cannot afford to lessen the burden of commuting via public transport by moving closer to work because living in or closer to the suburbs is too financially burdensome. Ms Smith also does not have opportunities to work closer to home because decent-paying jobs are in the suburbs. This is due to unjust background conditions, including a history of racial segregation and racist housing policies in US cities (Brown, 2022; Coates, 2014). Policies requiring low-income families like the Smiths to reduce their emissions might compound the hardships they already face. These are hardships related to racial, environmental, and structural injustices (including generational poverty, segregation, the urban heat island effect,³² and food desertification).

It might be adequate to identify subsistence emissions by considering whether someone has *any* low or zero emissions alternatives. However, further questions arise when considering the permissibility of middle emissions. How has background injustice determined the available options? How have socioeconomic factors constrained people's option sets. The social, political, and economic context should be considered when determining the middle-income group's obligations to reduce emissions. Before moving on, note that I am assuming that middle emitters have a duty to compensate those they permissibly harm (Constraint (4)). The duty to compensate is, however, usually thought to be delayed (or even suspended) if payment would injure the payer. It seems plausible that we could develop compensation schemes that are not burdensome, but I shall not defend this point here.

3.2. Middle Emissions as Social Necessities?

Many consider subsistence emissions to be a category that is sufficiently broad to include emissions produced when attaining social needs. Traxler has argued that subsistence emissions are justified for social or physiological necessity: 'Social necessity amounts to what a society needs or finds indispensable in order to survive' (2002, p. 106). Such criteria are often included in arguments that draw the line for what counts as a subsistence emission at a minimally decent quality of life. Perhaps, permissible middle emissions can be identified in terms of expanded criteria for which emissions count as socially important.

Appealing to social necessity to justify subsistence emissions is, however, subject to a serious problem – a problem that is only magnified when appealing to social importance to identify permissible middle emissions. I shall call this the *inflation problem* because it involves expanding what counts as a subsistence emission to include almost anything. Stephen Gardiner (2004) has discussed Traxler's argument that what counts as a subsistence emission is determined by what a society takes to be indispensable to its survival. Gardiner considers what we should think of a society that understands itself to depend on high-emitting activities. He states: 'It is hard not to recall the first President Bush's comment, back in 1992, that "the American way of life is not up for negotiation" (2004, p. 586). Such an interpretation of social necessity inflates what counts as a permissible subsistence emission. It seems that many American luxury emissions are indispensable from subsistence emissions if (a) subsistence emissions are indispensable to the American way of life. Emissions from gas guzzlers and wasteful consumption would then count as permissible subsistence emissions.

Middle emissions are subject to the problem of inflation in an especially pernicious way. This is because an ethics of middle emissions will appeal to mere social *importance* instead of social *necessity* to determine when a middle-emitting activity is morally permissible. This could allow almost any emitting activity deemed socially important to count as morally permissible.

Let us say that the Li family takes a purely recreational shopping trip to a Sam's Club over the weekend. They do this every weekend in a community that opened its second Sam's Club in 2022. (As of 2024, China has 47 Sam's Club stores, and the company plans to add six or seven annually.) If recreational shopping is socially important, then should we count the Lis' recreational shopping as permissible middle emissions? Identifying permissible emissions in terms of social importance causes the permissible middle emissions category to inflate excessively. Indeed, there are reasons to think that the Lis' recreational shopping involves luxury emissions. The problem of inflation for an ethics of middle emissions is especially concerning when considering Robert Socolow's (2012) observation that the global middle-income group could economically develop in a way that mirrors the industrialized West's high-consumption lifestyles.

A central concern driving my proposal for an ethics of middle emissions is as follows: morally speaking, it matters that some middle-emitting activities may be justified and some may not. Appealing to social importance makes it almost impossible to tell the difference. There is little basis for diagnosing a moral difference between emissions from high consumption and emissions from activities that improve quality of life if (a) middle emissions are morally significant because they are socially important and (b) highconsumption lifestyles are deemed socially important.

Some might argue that the problem of inflation (as it relates to subsistence emissions) can be avoided by recognizing that the concept of subsistence emissions rests on a theory of vital interests (Duus-Otterström, 2022, p. 4). We could then use a theory of interest to identify morally permissible middle emissions. The problem is that this strategy fails. Appealing to a theory of vital interests does not address the concern at the heart of the inflation objection. The problem of climate change requires interrogating what we should think of as socially necessary in the first place.

Drawing on Dale Jamieson's (1992) work, Gardiner has made the following associated point: 'Part of the challenge of climate change is the deep guestions it raises about how we should live and what kinds of societies we ought to have' (2004, p. 586). Duus-Otterström's theory of vital interest takes the question of what societies should be like for granted, instead focusing on how societies are. Citing Baatz (2014), he writes: '[I]n societies based on private motoring, the emissions of one's car are more likely to be a source of subsistence emissions than in societies with a built-out public transport system' (Duus-Otterström, 2024, p. 5). Duus-Otterström maintains that car-based societies require more emissions to satisfy a vital interest in mobility. But this simply skirts the inflation issue. In a society based on using gas guzzlers for mobility (e.g. the United States), a vital interest in mobility would be satisfied by gas-guzzling, and gas-guzzling would then count as a subsistence emission. The deeper question is whether or not we should endorse societies and lifeways centered around private vehicles in the first place. An unavoidable task for an ethics of middle emissions (indeed, for any climate ethics) involves directly confronting questions related to how we should live in a climateconstrained world and what kinds of societies we should have.

3.3. Justifying Middle Emissions?

Scholars working on subsistence and luxury emissions often assume that, while subsistence emissions are permitted, there is a strict prohibition on luxury emissions. Does this strict prohibition extend to all *non-subsistence* emissions? (see Duus-Otterström, 2024; Traxler, 2002; Vanderheiden, 2008). If so, then this might be because harm is impermissible (except in rare cases in which harming is justified to prevent harm). It is, however, too quick to maintain that all harm should be prohibited unless it prevents harm to others.³³ Indeed, such strict prohibitions on harm have significant and potentially absurd implications in the context of both individual life and social policy (see Gardiner, 2017).

In the policy space, strict prohibitions on harm can lead to deadlock. They can also block projects and policies that contribute to well-being enhancement if they use funds that could otherwise be spent on safety (Fried, 2011; Zamir & Medina, 2010).

A government might build a public park when it could have invested in more highway safety (Harel & Porat, 2011). The public park could be considered an important investment despite the importance of reduced highway casualties. Individual and household emissions might present similar trade-offs (Francis, 2017). When are middle-emitting activities involving recreation, higher education, convenience, social productivity, art, or civic engagement worthwhile even while refraining from them could reduce climate change impacts? Addressing whether benefits related to middle emissions can offset the harm they do is at the core of the study of middle emissions. So, although there is no blanket permission for middle emissions, there is no blanket prohibition either.

There is good reason to identify some conditions on when we can justify harms in light of important benefits. These conditions will be considerably weaker than the strictures usually placed on self-defense. The conditions are, nonetheless, important. This is partly because they ward against the dangers of justifying too much harm absent compensation and guardrail against risk. I now discuss three categories that can serve as a point of departure when working toward constructing conditions for justifying middle emissions (i.e. constraints for justifying harm for the sake of benefit). These conditions are, however, not intended to be exhaustive.

First, conditions on when middle emissions are justified must involve an account of which benefits are morally significant. This is a substantive ethical question, and it requires addressing questions about what kind of society we ought to have given the realities of climate change (Section 3.2). Appealing to vital interests, the capabilities approach, or other theories of the human good, is not sufficient. Ethical inquiry into what kind of society we ought to have in a climate-constrained world is also required.

Second, including a condition involving the availability of alternative, less harmful actions appears central to evaluating middle emissions' moral permissibility. However, as discussed in Section 3.1, we should be careful when evaluating the real alternatives people have given background injustices and social, economic, and political contexts. An evaluation of whether middle emissions are justified might concern both the permissibility of individual action and a justice evaluation of political circumstances. One could argue that the Smith's middle emissions are permissible because they involve socially important benefits in a fossil fuel-intensive society. Viable alternatives to middle emissions are then ruled out in a way that is appropriately sensitive to background injustice (Section 2.3).

Fleshing out what we require of a condition involving alternatives might need to invoke both individual and structural levels. This is because individuals' ability to pursue non-harmful (or less harmful) actions depends on the social circumstances, structures, and institutions they live in.³⁴ Even if it is permissible for the Smith family to middle emit, a fully-fledged account of middle emissions might require reductions through infrastructural and political change rather than by households and individuals. This would require society and local and national governance bodies making serious efforts to create non-harmful (or less harmful) opportunities to pursue important benefits – benefits that would otherwise come from middle-emitting. These might include the need for public investment in renewable technology and public transport.

Third, we require a condition that specifies a commitment against harm. Benefits pursued should be accompanied by a commitment to reduce harm, and the injured should be compensated when possible. Indeed, even social policies that sacrifice some level of safety for other goals involve a commitment to reducing harm. For example, parks install safety fences, hire rangers, and maintain trails to an identified standard of care. Standards of care are also frequently reassessed through administrative, political, and legal systems (which include procedures for dealing with accidents, whether through insurance or the court system). These assessments should involve ethics at their core.

The question remains of who should bear the costs of harm reduction and compensation. Should it be borne privately or publicly through public investments in climate change adaptation and funds for loss and damage compensation? (Wallimann-Helmer et al., 2019). If middle emission costs are going to be borne privately, then questions arise about whether compensatory payments are unduly hard for households to bear.

In the next section, I argue that exclusively focusing on the rich and poor distracts from the question of which mitigation burdens those in the middle should bear vis-à-vis distributive justice.

4. Fairness and the Working Class

Consider the following example as a starting place for addressing the question of fairness. *The World Inequality Report 2022* shows that lower and working classes in developed countries (15–20% of the global population) are among the only class groups to have *reduced* their emissions over the past thirty years (Chancel et al., 2022).³⁵ The report suggests that this degrowth in emissions is explained by market-based climate change policies that disproportionately affect the lower and working classes in developed countries (Chancel et al., 2022, p. 125). This distribution of mitigation burdens seems unfair. Indeed, claims of unfairness arguably motivated the 2018 Yellow Vest Protests in France. Chancel and colleagues write:

Many low and middle-income households had to pay the carbon tax every day in order to get to work, having no alternative to using their cars, while tax cuts were given to the very rich, living in cities, with low-carbon transport options, who also benefited from very low energy tax rates when they traveled by plane. (2022, p. 128)

Like Baatz's example of the elderly rural woman (Section 2.1), middle-income households might truly have no alternative but to use their cars. Are these households engaging in subsistence emissions (as Baatz understands them)? If so, then a possible explanation for this distribution's unfairness is that it violates Shue's weak judgment. It does so by cutting subsistence emissions to make room for luxury emissions.

Although appealing to the weak judgment might be part of the explanation, doing so depends on treating all relevant working-class emissions as subsistence emissions. I have established so far that this would be a mistake. Many morally significant working-class emissions lie somewhere in between subsistence and luxury – they are middle emissions. In this section, I consider whether the distribution of mitigation burdens between the world's wealthy and the working class in rich countries is unfair (assuming that the working class are middle emitters).³⁶ To do so, it will be helpful to distinguish between two different approaches to equality:

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- The comparative approach: Distributive justice requires equality in the comparative sense 'that nobody's share should be much greater than anybody else's' (Waldron, 1986, p. 22).
- (2) *The non-comparative approach*: The fair distribution should be 'fixed cardinally' or non-comparatively in accordance with people's needs (Waldron, 1986, p. 22).

Imposing higher burdens on the working class is unfair in the *comparative* sense if it imposes a greater share of the burden on the working class compared with other groups. Imposing higher burdens on the working class is unfair in the *non-comparative* sense if it pushes the working class beneath a threshold.

In what follows, I contend that the strongest arguments for the claim that emissions degrowth among the working class is unfair appeal to comparative approaches to equality. I also show that non-comparative approaches support the view that degrowth in emissions among the working class is perfectly just (even if the rich should have made significantly deeper cuts).

4.2. Equal per Capita Emissions

Following Simon Caney (2012), I use 'the Equal Per Capita View' as an umbrella term to capture a wide range of equal per capita approaches, which defend distributing the emissions budget equally per capita.³⁷ The Equal Per Capita View can be justified by appealing to either a comparative or non-comparative approach.

- On a comparative justification of the Equal Per Capita View, emissions ought to be distributed equally per capita because justice requires that people have equal shares of important goods. In the comparative sense, the Equal Per Capita View maintains that *emissions* are an important good, one that should be distributed equally. However, this assumption proves problematic, partly because emissions may be narrowly substitutable for alternative energy sources (Caney, 2012).
- A non-comparative approach would justify an equal per capita emissions distribution by maintaining that people have 'equal basic needs in using greenhouse gases' (Caney, 2012, p. 263). I shall assume that the available emissions budget is fixed and that people's basic needs are satisfied by their fair share of emissions in this noncomparative version of the Equal Per Capita View.

On a non-comparative Equal Per Capita View, it is not straightforwardly unfair that the working class reduce their emissions. Assume that the working class in the United States emit ~ 10–13 tonnes of carbon dioxide (tCO_2) per person per year. Assume further that this amount exceeds the per capita fair share. A non-comparative interpretation of the Equal Per Capita View requires reductions among the working class. However, there might be other unfair features of the situation. Arguably, the rich have acted in ways that are even more unfair by failing to do their share in combatting climate change. Nevertheless, reductions among the working class who exceed their share are perfectly fair, according to a non-comparative Equal Per Capita View.

The comparative approach, in contrast, considers degrowth in working-class emissions to be unfair. On average, the top 1% emitted $110tCO_2$ per person in 2019, while those in

the middle 40% emitted 6.1–13tCO₂ (Chancel et al., 2022, p. 123). If justice requires that emissions, an important good, be distributed equally, then the current distribution is considerably unjust. It is also notably unfair that the emissions of the rich continue to grow, which makes the inequality in per capita emissions worse. Emissions degrowth among the global middle combined with emissions growth among the top widens the inequality in emissions between these income groups. The comparative version of the Equal Per Capita View can explain why the gap between the emissions reduction burden of the rich and that of the working class is unfair. The comparative approach can appeal to both (a) a difference in the extent to which the rich and working class exceed their fair share of emissions and (b) the comparatively unequal burden imposed on the working class.

4.2. A Greater Ability to Pay

A feature missing from the Equal Per Capita View is sensitivity to differences in people's ability to make the sacrifices needed to reduce emissions. This feature is foundational to the ability to pay approach on which those who have the greatest ability should pay the costs of climate change (see Caney, 2010; Moellendorf, 2012, 2014). Shue provides a formal statement of the approach in the form of the following principle:

Greater Ability to Pay: Among a number of parties, all of whom are bound to contribute to some common endeavour, the parties who have the most resources normally should contribute the most to the endeavour. (1999, p. 537)

The Greater Ability to Pay Principle requires that parties to the endeavor contribute at a progressive rate of payment.³⁸ As Shue states, '[i]nsofar as a party's assets are greater, the rate at which the party should contribute to the enterprise in question also becomes greater' (1999, p. 537). The Greater Ability to Pay Principle straightforwardly shows why emissions degrowth among the working class compared with intensive emissions growth among the rich and super-rich is unfair. Those with greater assets fail to contribute a greater amount. Given a progressive contribution rate, the failure of the super-rich in particular is egregious. Appealing to this principle with some instrumentalisation could reveal what would count as a fair working-class contribution, given their ability. Specifically, it could support a progressive carbon tax policy, which, perhaps, includes cash transfers to the poor and working class to offset costs (see Chancel et al., 2022, p. 131).

Although appealing to the ability to pay when it comes to emissions degrowth among the working class appears straightforward, we should consider how one can justify the Greater Ability to Pay Principle. Comparative and non-comparative justifications of the principle have different implications when it comes to the fairness of imposing burdens on middle emitters.

Shue's defense of the Greater Ability to Pay Principle appeals to the non-comparative approach to fairness. He defends a progressive contribution rate solution to the problem because a progressive arrangement protects those at the bottom from falling below 'subsistence level' (Shue, 1999, p. 538). Shue gives an example of three people: A, B, and C. Person A earns \$9,000 annually, Person B earns \$3,000, and Person C earns \$900. Requiring A, B, and C to contribute to a common endeavor at a flat rate of $\frac{1}{3}$ would result

in a new distribution, one in which A has \$6,000, B has \$2,000, and C has \$600. Shue asks us to imagine that C lives in a place where \$750 is required to survive. He then argues that, even though it appears fair from an ex ante position, the outcome of imposing the flat rate is that C will be destitute. Implementing a progressive rate is consistent with C contributing to the effort without having their survival imperiled.

What implications does Shue's justification of the Greater Ability to Pay Principle have for the working class? And how much should they contribute to the emissions reduction effort as a matter of fairness? First, imagine that B is a member of the working class. Is there a reason to reject the flat rate in the name of B's interests? Assuming that B is above the subsistence level in the resulting distribution, Shue's reasoning does not provide much support for thinking that a flat rate between A and B is objectionable. On my interpretation, the trouble with the new distribution is C's plight rather than B's relatively minor burden.

However, on a straightforward reading of Shue's stipulation that the Greater Ability to Pay Principle is progressive, A and B should not pay the same rate. But on what grounds? A comparative approach to fairness might help. The comparative approach seems especially powerful when it comes to evaluating injustices related to extreme wealth and extreme poverty. Indeed, Moellendorf points out that the ability to pay approach 'condemn[s] deep inequalities' (2012, p. 136). There are notably 'deep inequalities' between the poorest and the rich. Even worse, the top 0.1% emit at an annual average per capita level of 217tCO₂, which is 'several hundred times greater than the average of the poorest half of the global population' (Capstick et al., 2020, p. 63).

This might be sufficient for justifying a Greater Ability to Pay Principle that requires lower contribution rates for those at the bottom and higher ones for those at the top. Does this suggest that there is a problem with those in the middle range contributing at a greater rate than those at the top? There might be reasons that the inequality between the working class and the super-rich is morally unacceptable on the comparative approach. A Greater Ability to Pay Principle that progressively assigns rates of contribution could condemn the worsening emissions inequality that results from both an increase in emissions among the top 5% and a decrease in emissions among the working class. It could do so on the grounds that this situation worsens the burden-sharing inequality between the two groups.

On a comparative progressive Greater Ability to Pay Principle, the working class could be required to contribute more (perhaps significantly more) than the poor but less (perhaps significantly less) than the rich. The question of how to set the progressive rate is, then, front and center. The answer will depend on the ethical question of how we should understand the idea of an 'ability to pay' in the first place. Considering the working class's ability to pay brings the difficulty involved into stark relief. It might be evident that the rich and (especially) the super-rich have the ability to pay while the poor and the nearly poor do not. When it comes to the working class, it might be tempting to associate income levels with the ability to pay because entry into the global middle-income group brings discretionary income. However, this is a mistake. Depending on various factors, the ability to cope with the added burdens of the mitigation policy could vary widely across households with similar income levels. Location, customs, public health policy, race, health, environment, gender, and similar factors can affect people's ability to convert income into well-being (Sen, 1997). For

various reasons, people in the middle with similar incomes might have different abilities to absorb the same policy's impacts. For example, the wealth gap between white and Black Americans could place many different burdens from the same policy on Black and white families with identical incomes.

The Greater Ability to Pay Principle is a promising avenue for explaining why unequal mitigation burdens between the working class and the rich are unfair. That said, further questions arise about how to justify the Greater Ability to Pay Principle and how to implement it in a way that is sufficiently sensitive to the middle of the income distribution. A full justification of a version of the principle that requires different contribution rates among the very rich and the working class requires appealing to theories of justice that address inequalities across the distribution (rather than just inequalities between the richest and the poorest). Implementing the Greater Ability to Pay Principle in a way that is sensitive to the ability of those in the middle of the distribution requires going beyond assigning contribution rates based on income. It requires (a) attending to moral questions about how best to understand and measure well-being and (b) inventorying the range of values at stake when taking on mitigation burdens.

4.3. Burdens or Opportunities?

Shue's weak judgment warns against seeking out low-cost and efficient ways to reduce emissions. Doing so could lead to a morally abhorrent scenario in which people suffer harm to reduce their subsistence emissions so that the rich can continue emitting. Should we be similarly suspicious of policies that attempt to seize cheap opportunities to reduce middle emissions? Cautiously, I want to suggest that there is a moral difference in the case of middle emissions: seeking cheap opportunities to reduce or avoid middle emissions is much less ethically problematic. Indeed, seeking such opportunities might be what justice requires.

The discussion about distributive justice in the climate change ethics literature focuses on *burden* distribution. However, when it comes to middle emissions, it is important to note that there are also win – win *opportunities* to reduce emissions and improve living standards. For example, providing living space and amenities for the rapidly urbanizing newly middle income presents opportunities to avoid emission increases while improving quality of life. Shoibal Chakravarty and colleagues have emphasized this point:

Many of the lowest-cost opportunities for CO_2 emission reduction over the next few decades in all countries, especially in developing countries, will be found in the middle of the emission distribution, associated with billions of people of modest means. Many of them will be moving into cities for the first time, and, in a CO_2 -responsive economy, would be housed in well-built apartment buildings equipped with efficient appliances and served by efficient mass transit systems. (Chakravarty et al., 2009, p. 11188)

Tackling the issue of when it is *fair* to reduce middle emissions should not assume that all emissions reductions (or emissions avoidances) are burdens. It is also crucial to account for the positive effect these changes have on well-being. If not, then we risk interpreting the prevention or reduction of the middle's emitting activities as an unfairness rather than a success.

5. Conclusions and Further Research

I began by motivating ethical considerations related to the middle emissions of the global middle-income groups. I did so by considering ethical differences between middle, subsistence, and luxury emissions (Section 2). I then considered when middle emissions are morally permissible. After finding a poor fit between traditional arguments for the permissibility of subsistence emissions and middle emissions, I considered which conditions might allow the benefits of middle-emitting activities to justify the harm they do (Section 3). I then turned to the question of fairness. I focused on the finding that, over the past 30 years, the working class in developed nations reduced their emissions more than the rich did. I explored whether and why this distribution of burdens might be unfair given different approaches to climate change ethics. I argued that comparative approaches appear promising when it comes to further exploring the fairness of burden-sharing between the middle-income group and the rich (Section 4). To conclude, I identify five areas for further research.

First, my exploration of the pertinent issues reveals a need for further study about which energy-using activities in the global middle-income range are especially meaningful or valuable and in which contexts this applies. This information can allow for a clearer prioritization of emission cuts among those in the middle during the energy transition. Investigating which activities are meaningful or valuable requires (a) considering what people actually find meaningful, (b) providing a substantive account of what activities and goods have value, and (c) exploring ethical questions about what society should be like.

Second, an ethics for middle emissions must consider which middle-emitting activities are impermissible given the harm they do. Answers to this question might partly depend on which middle-emitting activities are meaningful or valuable. However, it also depends on how the relevant benefits should be weighed against harms.

Third, understanding when middle-emitting activities are permissible requires a deeper understanding of the social, economic, political, and economic structures in which people make decisions. A fuller consideration of these factors might require shifting the moral issue of middle emissions from the notion of individual morality to that of structural justice.

Fourth, we require a deeper understanding of the Greater Ability to Pay Principle. This could involve utilizing metrics of well-being that are sensitive to how economic, social, political, and cultural circumstances affect the way that climate change policies impact middle-income households around the world.

Finally, climate change ethicists often focus on the costs and burdens of climate change mitigation. But focusing on middle emitters opens up opportunities for simultaneously addressing climate change and enhancing well-being. A key reason for getting a clearer understanding of what matters to middle emitters involves prioritizing the search for ways to promote important benefits without using fossil fuels – benefits that are often associated with life beyond poverty.

Notes

- 1. Agarwal and Narain (1991) introduced the distinction between survival and luxury emissions, which inspired Shue's (1993) subsistence/luxury emissions distinction.
- 2. While most don't take the luxury/subsistence emissions distinction to be exhaustive, some hold that all emissions are either subsistence emissions are luxury emissions (see Vanderheiden, 2008, p. 67). Part of my aim in this paper is to show that exhaustive accounts of the subsistence/luxury emissions distinction fail to give due concern to the quality of life of those just out of poverty, and the lower and working classes.
- 3. All income figures in this paper use purchasing power parity (PPP). I shall, however, drop 'PPP' from income figures from here on.
- 4. The entire top 10% of income earners (who earn over €37,200) were responsible for 48% of global emissions in 2019.
- 5. The data I focus on in this paper relate to *income* inequality and emissions, but different patterns could occur when considering wealth inequality, which is more pronounced than income inequality (Chancel et al., 2022, p. 10). However, there is a paucity of data on emissions based on wealth across the distribution. See Chancel et al. (2022) Box 6.2 for a discussion of the emissions of the ultra-wealthy.
- 6. Those in the middle of the *global* income distribution should not be confused with stereotypes of 'the middle class' in developed countries. A 'middle-class' person in the United States who earns, say, \$135,000 is a member of not just the top 10% but the top 1% of global income earners. They are among the global affluent, whose luxury emissions should be cut as a matter of justice.
- 7. The World Inequality Report breaks the global population into three groups (the bottom 50%, the middle 40%, and the top 10%) while providing data for subgroups included in the top and the bottom of the distribution (e.g. the bottom 20% and the top 1%). Different ways of dividing the global population into income groups and presenting data could have different normative implications. See also (Piketty, 2024) for an accessible discussion of global inequality.
- 8. In this paper, I do not assume that the 1.5°C target is morally required. Rather, I assume there is a live ethical debate about which target we ought to aim for. An ethics of middle emissions could play a role in an argument for a less aggressive target, but I take no position on this debate in this paper. For a related discussion over poverty eradication and the appropriate climate target see Moellendorf (2014). My primary concern is to consider what ethical questions are relevant to guiding policy choices to safeguard important interests of those in the global middle-income group. This is a question we must ask whatever the correct target is.
- 9. The middle 40% is a highly diverse group, one that includes, for instance, poor Americans and rich Tanzanians.
- 10. I shall assume in this paper that luxury emissions have no (or very little) moral weight (see Baatz, 2014). To have moral weight, the emitting activity must some moral relevance that counts in favor of doing it and that could outweigh the harms done by emitting.
- 11. Lots of the literature in climate change ethics is concerned with theorizing about subsistence emissions. In addition to Shue (1993, 2014), see the discussion in the 'Breakthrough Symposium' on Henry Shue's work in the *British Journal of International Relations*, introduced by Cripps (2019). For a framework that specifies energy needs associated with a decent living standard, see Rao and Baer (2012).
- 12. To my knowledge, the earliest use of the expression 'middle emissions' is in Chancel and Piketty's (2015) report, 'Carbon Inequality from Kyoto to Paris'. They use the term as an empirical category, one that refers to emissions from the middle 40%. As clarified below, I use 'middle emissions' in this paper to refer to a normative category including emissions that do not count as either subsistence or luxury. Although any income group could engage in

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middle-emitting activities, I am especially concerned with middle-emitting activities by the global middle-income group.

- 13. I do so in the spirit of Stephen Gardiner's strategy for engaging in the broader problem of global climate change: 'Sometimes the best way to make progress in solving a problem is to clarify what the problem is' (Gardiner, 2011, p. 3).
- 14. A related set of questions concerns how to distribute emission reduction burdens among those in the middle of the global income distribution and the poor (Moellendorf, 2012; cf. Gardiner, 2017). I shall not consider these important questions in this paper, but they must be addressed by an ethics of middle emissions.
- 15. The examples are in no way intended to be representative of the entire global middle-income group, which is incredibly diverse.
- 16. See Hu (2022) for a discussion about rural migrants living in urban public housing in China.
- 17. See King et al. (2019) for an anthology of ethnographies, histories, and stories about diverse neighborhoods in Baltimore.
- 18. Emission levels for both examples are estimated based on income and region drawing from data in Chancel et al. (2022). Data about children's emissions are not included.
- 19. Studies show that appliance use is expected to grow as people's incomes increase beyond a certain level (depending on credit availability) (Gertler et al., 2016; cf. Rao & Ummel, 2017).
- 20. Baatz uses this example to convincingly show that the evaluation of subsistence emissions should not be limited to those in developing countries, and that subsistence emissions might be considerably higher than is sometimes supposed.
- 21. I calculated this route from Baltimore to a suburban department store 17 miles southwest of the city during rush hour.
- 22. As discussed later in this paper, it matters that the transportation hardships imposed on the Smiths result from racism and injustice.
- 23. It might be overly demanding to require the adult member of the Smith family to take the bus. For a consideration of the demandingness objection as it relates to obligations to reduce emissions, see Fragnière (2017; cf. Hickey, 2021). See also Traxler (2002).
- 24. See Duus-Otterström (2024) for an argument that only subsistence emissions are permissible.
- 25. As long as a gendered division of labor persists in the household, women's labor could increase owing to the double shift regardless of appliance acquisition. In the United States, for example, 100% of households have access to electricity, most own appliances, and 84% of women spend time on unpaid housework (Richmond & Urpelainen, 2019).
- 26. A related point can be made by appealing to an 'integrationist' approach to climate ethics. This approach considers the just distribution of the entire bundle of goods, including income, wealth, and emissions permits (Caney, 2012). Taking an integrationist approach could help to explain the injustice of imposing mitigation burdens on those whose bundles are significantly smaller than those of others.
- McLaughlin (2019) uses Christmas lights as an example of luxury emissions. Each year in the United States, Christmas lights use enough energy to power the entire country of El Salvador for a year (Murray, 2020).
- 28. Gardiner (2017) interprets Shue (1993) as providing a self-defense justification for subsistence emissions, noting that Shue appears to assign the permission directly to countries. This paper follows Gardiner in assigning the permission to individuals.
- 29. Self-defense is not usually understood to be merely an *excuse* that mitigates or exculpates fault for acting impermissibly (as Traxler suggests). Appeals to self-defense more often support the stronger claim that the act in question is morally permissible (see Thomson, 1991). I shall assume that self-defense is a permission and not merely an excuse.
- 30. The analogy between self-defense and subsistence emissions only goes so far. I shall, however, leave this discussion for another time. See Budolfson (2014) for a discussion of subsistence emissions and self-defense, specifically related to whether those who would be injured by emissions are innocent bystanders or a (direct or indirect) threat to those being asked to reduce their emissions (cf. McLaughlin, 2019, p. 267).

- 31. There is controversy about whether rural lifestyles involve higher or lower emissions than urban lifestyles. The former might involve more carbon emissions than the latter owing to transportation (Kharas, 2017, p. 18).
- 32. Urban areas are warmer relative to rural areas due to road and building surfaces absorbing solar radiation. This so-called 'heat island effect' disproportionally affects people who live in neighborhoods with less shady tree cover (Newsome, 2023).
- 33. See Kagan (1998, pp. 78–94) for a discussion of non-absolutist accounts of harm's moral significance.
- 34. I am suggesting that the responsibility to reduce middle emissions goes beyond personal responsibility. Iris Marion Young (2006, 2011) distinguishes between fault-based approaches to justice and structural justice. On the one hand, questions about permissibility and justification are matters of fault-based justice. They concern whether an individual should be held accountable for their actions. Structural justice, on the other hand, has to do with everyone's responsibility to respond to injustices that befall some people owing to the workings of the system or structure in place. Several scholars have argued that climate change should be understood as a problem of structural injustice (see Eckersley, 2016; Francis, 2021; Sparenborg, 2022).
- 35. Groups above the bottom 80% and below the top 5% of the income distribution reduced their emissions between 1990 and 2019. I shall use 'working class' as a shorthand that refers to these groups for the remainder of the paper.
- 36. Lukas Tank (2020) has argued that carbon pricing unfairly burdens the less affluent. See Minz-Woo (2022) for a response to the 'unfair burdens argument'.
- 37. See Caney (2012) for an extensive criticism of the Equal Per Capita View.
- 38. The rate need not be strictly proportional. In other words, it does not necessarily require that those who have twice the ability bear twice the burden. It could, instead, assign higher rates to those with higher ability according to a schedule.

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