Moral Dimensions of Offsetting Luxury Emissions

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**ABSTRACT**
This essay addresses moral aspects of using carbon offsets for counteracting individuals’ luxury emissions. After introducing and outlining the main topics and terms related to carbon offsetting, this essay answers three objections that have been levied against carbon offsetting: objections from the indulgences analogy, objections from the directness of the duty not to harm, and separateness objections. The essay argues that advocates for offsetting have resources to defend against these criticisms by pointing to particularities of individual emissions’ harmfulness, as well as the preemptive nature of offsetting. The essay then shows that in spite of these defenses there is reason to regard not emitting as a better option because of a host of problems that plague offsetting in its current forms. The essay concludes that offsetting enhances individuals’ options for discharging their duty not to harm, but that standards of justice and efficacy need to be adopted.

**KEYWORDS**
Ethics; climate change; carbon offsetting; duty not to harm

1. Introduction

This essay examines the current state of moral thinking about carbon offsetting as it relates to individuals. Although this involves considering some empirical aspects of carbon offsetting, or at least not completely ignoring them, this work’s primary aim is to analyze some of the moral arguments in favor and against offsetting luxury emissions.

This essay is organized in the following way. Section one details the boundaries of the examination and provides some definitional guideposts necessary for further argument. The second section addresses some of the arguments against carbon offsetting. In particular, the section discusses analogy-based objections, objections from the directness of the duty not to harm, and separateness objections. These objections are related, but they are treated separately for the sake of a clearer exposition. The objections are found wanting inasmuch as offsetting advocates have resources for defending against them. The third section tempers some of the success in answering such criticisms by pointing out that there is reason to both question the assumptions under which they hold (e.g. the effectiveness of offsets) and regard not emitting as the preferable option. A short conclusion ends this essay.

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2. Offsetting: Definition and Boundaries

Carbon offsetting describes activities that compensate for emissions of carbon dioxide (CO₂) or other greenhouse gases (GHG) measured in carbon dioxide equivalents by providing for emission reductions somewhere else. Hyams and Fawcett (2013) characterize carbon offsetting as ‘a mechanism by which an organization or individual contributes to a scheme that is projected either to remove carbon dioxide from the atmosphere or to deliver carbon dioxide emission reductions on the part of other organizations or individuals’ (91).

Broadly, carbon offsetting comes in two forms – regulatory and voluntary. The former operates through a regulatory carbon market and enables compliance with various rules regarding carbon emissions as set out in various regimes (e.g. the Kyoto Protocol; the EU Emissions Trading Scheme–EU ETS 2005–2007). The latter enables the voluntary purchase and offset of CO₂ emissions outside compliance market (Gössling et al., 2007, pp. 226–7). This essay focuses on voluntary offsetting done by individuals.

The moral permissibility of offsetting can be described succinctly in the following way: at times, it is morally permissible to harm if that harm is offset by good. In other words, offsetting can be described in moral terms as expressing a calculus between good and harm in such a way that when a good neutralizes or outweighs the harm done by an action this can permit that otherwise impermissible action (Broadhead & Placani, 2021, p. 406).

This essay will not consider the moral permissibility of all examples of offsetting but rather restrict analysis to carbon offsetting of luxury emissions by individuals.¹ The terminology used here is based on Henry Shue’s (1993) well-known distinction between luxury and subsistence emissions. Subsistence emissions are ‘essential and even urgent for the fulfillment of vital needs’, while luxury emissions are ‘inessential for either survival or decency’ (Shue, 1993, p. 55).

Despite debate about this distinction’s precise limits or purported thresholds, straightforward examples of each sort can be found.² For instance, an example of subsistence CO₂ emissions are those created by a household in the process of cooking.³ Such emissions can be contrasted with the luxury emissions that arise from the famed Sunday drive in a gas-guzzling SUV for no other reason or purpose than to ‘spin the wheels’ or just cruise around.⁴ To make a long a story short, luxury emissions do not include those emissions that individuals cannot help but produce in the process of fulfilling their basic needs.⁵

The examples noted above help to illuminate conceptual differences between these two types of emissions. Yet, it seems that the paradigmatic contemporary example of luxury emissions is that of passenger air travel for leisurely pursuits (Gössling et al., 2019, pp. 2–5). This example is also useful to keep in mind because many airlines offer carbon-offsetting options, where passengers can pay to offset CO₂ emissions for their respective shares of a flight’s total CO₂ emissions (Dodds et al., 2008). Moreover, the fact that air travel contributes substantially to CO₂ emissions along with the fact that it is used extensively for expendable activities has made it the focus of much current philosophical and non-philosophical analyses. Nevertheless, the scope of this essay is not (exclusively) on the morality of carbon offsetting of luxury emissions from passenger air travel (even if it does provide a good example for the kinds of luxury-emissions-producing practices under consideration), but on the morality of offsetting all kinds of non-essential carbon emissions.
The following analysis is further restricted by setting to the side Walter Sinnott-Armstrong’s contention that luxury emissions from a lone individual are inconsequential (Sinnott-Armstrong, 2005, p. 311). In other words, the assumption made here is that an individual’s luxury emissions (at least when considered as the total emissions from an individual over her lifetime) could contribute in a non-negligible or difference-making way to total CO₂ emissions, such that they could potentially generate harm. However, this assumption leaves open the question of how such harm is generated, which is something the essay will consider. Nevertheless, this supposition brackets out a sizable discussion. Without it, however, investigating the moral im/permissibility of luxury emissions loses traction, which affects carbon-offsetting moral analysis since without harm there would be no consequentialist grounds for offsetting. Finally, there is at least an intuitive conflict between luxury emitting and doing what is morally right (Broadhead & Placani, 2021, p. 408). Bypassing some of the debates surrounding inconsequentialism affords a more direct path into addressing whether carbon offsetting can assuage this.

Notice that, for purposes here, what is wrong about luxury emitting is taken to be its supposed harmfulness. Other concerns, which might make such emitting wrong (e.g. fairness, integrity, complicity), are not foci of the evaluation. It is possible, however, that emitting is wrong because of other considerations (as many philosophers have argued), in which case it would be wrong to emit even if one offset. The question is: Does offsetting make emissions permissible if what makes them impermissible is their harmfulness or propensity for harm? We take it that this is what most people have in mind when it comes to offsetting, and, indeed, the notion of harm is a cornerstone for climate change ethicists.

Now, the preceding remarks (i.e. definitions, assumptions, explanation) highlight another assumption: carbon offsetting is an example of moral offsetting. Whether the argument below about carbon offsetting holds for or readily applies to other moral offsetting examples is not examined. Still, a lingering question remains vis-à-vis the morality of carbon offsetting; namely, what is being morally offset? Here, the assertion, which needs defending, is that a potential harm – the outcome of increased CO₂ emissions – is offset (counteracted through reduction or nullification) by a countervailing removal of emissions. The countervailing good described above is assumed to be genuine. That is, it is assumed that the carbon offsetting scheme will in fact remove or prevent an increase in total CO₂ emissions from the atmosphere (Broome, 2012, Ch. 5). Making this assumption about genuineness indicates at least one high bar that carbon offsets must reach if they are to render luxury emitting permissible. We take up the matter of the effectiveness of offsets later in this essay.

One moral problem of carbon offsetting seems, at its root, to consist of the following dilemma: how can the harm of luxury CO₂ emissions be countered by good such that luxury emitting is morally permissible? The answer, in a nutshell, seems to be that that carbon offsetting (understood in qualified terms set out above) is putatively permissible because it does not increase an individual’s net contribution to total CO₂ emissions. To show how this might work, consider an airplane passenger who purchases a carbon offset equal to the total CO₂ emission tonnage for their second vacation flight from Vienna to Lisbon. The offset keeps the passenger’s total CO₂ emissions equal to what they would have been had they not flown at all. In other words, our passenger makes no difference to climate change (Broadhead & Placani, 2021, p. 410).
The justification for offsetting luxury emissions seems to rely on some consequentialist variant inasmuch as it involves judging the permissibility of acts on the basis of their consequences. On its face, assuming that offsetting can and does actually work, the consequences of (overall) carbon emissions of emitting and offsetting would be the same as the consequence of not emitting at all. This could make not emitting on a moral par with emitting and offsetting because, just like the non-emitter, an individual who offsets seemingly makes no difference (Hyams & Fawcett, 2013).

So much for the bare bones of the matter. Some philosophers, especially those with deontological sympathies, have raised objections to this view of the morality of carbon offsetting. They point to ethical problems that a mere mathematical calculus would be hard-pressed to overcome. Some of these problems are considered below.

3. Moral Objections to Offseting

The following details some of the objections that have been levied against carbon offsetting. The objections identified are not exhaustive and although they are treated separately for expository purposes, there are many points of convergence between them. Also, the selected objections offer up significant challenges and are representative of current philosophical debates surrounding the topic. The section presents some of the ways in which an advocate of carbon offsetting might defend against these. Thus, the section does not claim that it is possible to answer in full all the worries that these objections might point to, but that avenues for defense do exist.

3.1. Objections from the Indulgence Analogy

Goodin (1994), Smith (2007), Hansen (2009), and Jaccard (2020) compare the practice of buying offsets to the practice in the Middle Ages of buying indulgences from the Catholic Church in order to expiate one’s sins. The practice was based on a variety of claims including that the priests had done so many good deeds and acts of repentance that they had a surplus to sell (Jaccard, 2020, p. 166). The sins of the less actively devout practitioners could then be offset by purchasing the surplus good deeds from the clerics. This was a very lucrative practice as a quick and easy method for neutralizing one’s sins without having to change one’s ways appealed to many (Ibid). Of course, Christians of today no longer believe they can offset their sins by paying someone more pious and see sin-offsetting as delusional at best (Ibid).

In addition to the indulgence analogy, there are other similar analogies designed as critiques of carbon offsets. The CheatNeutral satirical website (now defunct) asked if one would offset their sexual infidelity by paying a sum of money to foster someone else’s monogamous relationship. The proposition went like this: ‘When you cheat on your partner you add to the heartbreak, pain, and jealousy in the atmosphere. CheatNeutral offsets your cheating by funding someone else to be faithful and NOT cheat. This neutralizes the pain and unhappy emotion and leaves you with a clear conscience’. Thus, one’s adultery could be neutralized by purchasing a CheatNeutral offset. By this logic, even killings could be offset if one’s own act of killing could be neutralized by paying another not to kill on condition that that other would have otherwise killed, as the net number of killings in the world would stay constant.
These objections rely on analogies. They criticize offsetting on the basis of it being akin to being able to pay others (e.g. the Catholic Church, would-be adulterers or would-be killers) not to do harm or wrong and, in this way, be permitted to produce harm or wrong, which is a farcical proposition. Although this conclusion is clearly warranted in the cases mentioned, dissimilarities between these and the practice of buying carbon offsets weaken the analogies and, thusly, any conclusions that we might draw from them.

There are many dissimilarities between offsets and the questionable practices described above, but the most significant dissimilarity is morally salient. This difference lies in the moral significance of performing acts such as sinning, committing adultery or killing (also sins for the theists) and emitting CO₂. Unlike the former, emitting CO₂ is not intrinsically wrong or harmful (we are currently emitting CO₂ by breathing). The action of emitting CO₂ is by itself, which means divorced from possible consequences and divorced from total emissions, morally neutral. In other words, while emitting may be instrumentally harmful because it can cause harm, it is not intrinsically harmful or wrong. An individual’s emissions can generate harm, but they cannot do so by themselves and are not wrong or harmful in and of themselves. Thus, the activity of CO₂ emitting is too dissimilar from that to which is compared in analogy-based objections (e.g. sinning) because the latter but not former’s intrinsic moral quality.

In addition to the above, offsetting is not paying in order to commit a harm, but (putatively) paying so that the harm is not done. In the examples of adultery, killing, and the commission of sins, wrongs and harms are perpetrated and, allegedly, become warranted through payments. However, this means that the preventative rationale of offsetting cannot be captured by these analogies. The claim is that if offsetting works, it works so that no harm is committed by the buyer. The carbon offset finances a means by which a potential harm is counteracted. The difference is vital. Carbon offsets would be a nullification of harm that a luxury emitter would otherwise cause or contribute to the cause. The negative outcome (harm and/or wrong) of an action (emitting in its manifold forms) would then be avoided, rendering all things equal to the state of affairs before the emission.

The preventative rationale of offsetting will crop up again, but what matters for answering the objections from analogy above is simply that, unlike in the case of all the examples offered (e.g. sins) emitting CO₂ is not, by itself, wrong or harmful. The permissibility of luxury emissions turns in part on offsetting expected harm, rather than remediating harm that occurred. In this respect, doing no harm comes about through prophylactically countering harm that emitting can otherwise generate. Such prophylactic measures would not work for intrinsic wrongs.

The above highlights that there are resources available to the advocate of carbon offsets that can be used to answer the analogy-based objections noted. The bottom line seems to be that the analogies offered are too weak in a crucial respect to sustain their conclusions. However, there are other aspects of the indulgence analogies that should be taken into account, which point to moral limitations when using offsets.

3.1.1. Other Aspects of Indulgence Analogies
The criticism could be that buying CO₂ offsets is immoral because it allows people to pay others to deal with climate change problems rather than change their own behavior. On the other hand, it can be argued that a real change in people’s behavior is likely to be a
lengthy, costly, and unpopular proposition. This does not mean that it should not be undertaken; it absolutely should, but, given the sheer scale of the problem, this is easier said than done, and any such change is not likely to come over night. Given that such changes should occur, it is a question whether offsets should be considered as a step forward or backwards.

On the one hand, offsets could be construed as a step forward inasmuch as they increase awareness of the climatic impact of one’s luxury emissions and make these costlier, which could act as a disincentive to emitting. On the other hand, the problem of moral corruption, which is a prevalent topic in the geo-engineering literature, could rear its ugly head in this setting as well. In this case, offsets could be construed as a distraction (or a step backwards) because a practice such as this could make emitting seem more permissible than it is and thusly lead to a greater number of individual emissions. Although this question is important as it indicates another moral dimension of carbon offsetting, the scope of this essay limits a full-blown consideration.

Nevertheless, it seems true that if it were the case that offsets facilitated the continuation of bad behavior, then this would be wrong. This means that one must be clear on the limits of using offsets, which entail, at the very least, that they ought not to be used as an excuse for not reducing those emissions that can be reduced. Options to reduce emissions exist, and they are viable for many (especially the well-off). Luxury-emitting activities can be avoided if one is willing to do so.

Sandel (2012) captures the worry about paying others to fulfill duties that we should be fulfilling ourselves by saying that it is a way of foisting our duties onto other people or buying our way out. Yet, in spite of the appeal of such thinking, it seems perfectly acceptable in many cases to employ others in the discharge of our duties (e.g. principal-agent relationships). For instance, parents have duties toward their children to protect their safety or keep them fed. In order to discharge this duty, they might purchase bike helmets or buy them a restaurant meal. Employing others or paying others in order to fulfill our duties seems acceptable in such cases. This is because we are not actually paying so that others fulfill our duties but paying so that we ourselves fulfill our duties. In addition, those who we pay do not fulfill our duties or their own by acting on our behalf. Those who we pay would not be engaging in the actions we prompt through our purchase but for our purchase. In the case of offsetting, this points to the condition of additionality (Gillenwater, 2012, p. 3; Michaelowa et al., 2019, p. 1212), discussed at greater length below in section 3. Given all this, however, perhaps the worry is not that others fulfill our duties on our behalf, but that we break our duties and think it justified because we pay others not to break their duties. However, a duty not to harm applies to each individual person, and it is not transferable. This links to the next objection that will be considered.

3.2. Directedness of the Duty Not to Harm Objections

Critics of offsetting claim that each individual has a duty to reduce their own emissions in order not to harm others. This duty is owed directly from each of us to each of the potential victims of climate change (Hyams & Fawcett, 2013, p. 94). This means that the duty cannot be fulfilled simply by paying others to reduce (or avoid increasing) their
emissions or by funding a carbon sink projected to absorb a comparable amount of carbon. Benefiting some cannot compensate for harming others because it violates the separateness of persons (Rawls, 1971).

If we owe a duty not to harm to a potential victim, then we should fulfill this duty and not engage in something that will lead to harm. A defense against this objection has already been adumbrated. What offsetting is supposed to do is prevent an action that would otherwise been harmful from being harmful. So, the duty not to harm need not be violated. In this vein, Broome (2012) argues in favor of the permissibility of offsetting as a way of not doing harm (Broome, 2012, p. 85). Broome holds that each individual has a duty to avoid harming the potential victims of climate change by their emissions. He also argues that using carbon offsets is a legitimate and convenient way to discharge this duty because a successfully offset activity causes no net increase in the amount of carbon dioxide in the atmosphere and therefore causes no harm.

Broome assumes that the harmfulness of individual emissions is a function of an individual’s set of actions. He takes this position in order to argue against the supposed negligibility of individual emissions. Broome writes that an average person from a rich country born in 1950 will emit around 800 tonnes in a lifetime. The harmfulness of such emissions can be shown in a variety of ways. To give one example, on the basis of the World Health Organization’s published estimates of the number of deaths and amount of disease that will be caused by global warming, Broome advances a rough estimate that one’s lifetime emissions will wipe out more than six months of healthy human life. Other theorists, such as Nolt (2011) and Hiller (2011) also argue against the in consequentialism of personal individual emissions on the basis of the very consequential harmful impact of individuals’ personal emissions over the course of a lifetime or as derived from lifetime emissions.

Hyams and Fawcett (2013) claim that we can doubt whether Broome is right to assume that a duty to avoid harm should be applied to an action set as a whole rather than to individual actions. They believe that it is unacceptable, for example, to say that you have fulfilled your duty not to harm someone by driving into her when you did in fact drive into her, but you also caused a different car not to drive into her and so caused no net increase in the number of cars driving into her (Hyams & Fawcett, 2013, p. 95).

This point is intuitively appealing but seems to miss the preventative rationale of offsetting. As previously stated, there need be no harm that the individual causes if one’s individual actions must accumulate in order to produce harm, but this accumulation is thwarted. The cumulative nature of climate change means that individual contributions are not, by themselves, sufficient to increase the concentration of CO2 in the atmosphere above a threshold of harmfulness. Rather, they must accumulate past absorptive levels, which are a function of oceanic and terrestrial sinks that remove CO2 from the atmosphere. Offsets aim to increase capacities for CO2 absorption.

There is good reason for such accumulation, as opposed to individual acts of emissions, to be considered when testing whether the duty not to harm has been violated. Importantly and even in light of techniques of probabilistic event attribution for climate change from researchers such as Lott et al. (2021), there is no easily discoverable causal pathway between a lone individual’s GHG emissions and specific harmful events (e.g. droughts, hurricanes; Hartzell-Nichols, 2012, p. 99). Perhaps advancements in attribution science will allow for a more fine-grained atomistic link between harms and individuals.
However, given that individual emissions cannot be readily or, at least, straightforwardly linked to specific harms, but cumulative lifetime emissions can, we have reason to apply the duty not to harm to one’s overall emissions level. This points the way to yet another objection based on the idea of separateness, and whereas this subsection examined the separateness of persons vis-à-vis offsetting, the next subsection focuses on the separateness of actions.

3.3. Separateness-based Objections

An advocate of offsetting, adopting a consequentialist framework, could claim that an individual who offsets makes no difference. By this logic, the individual’s actions of emitting and offsetting, taken together in concert, are morally neutral. But, why should they be taken together? They are distinct acts, and any harm from emitting is separate from any good from offsetting.

Deigan (2022) notes something along the lines of the above objection. He claims that the problem with preventative accounts of offsetting, such as the one Broome advances, is that it requires the offsetting to be connected to the would-be harmful acts in ‘the right way’ (Deigan, 2022, p. 10). Deigan employs the following example:

Suppose I pick up a loaded gun, aim it at someone, and pull the trigger. Normally, pulling the trigger would be an act that is wrong because harmful. But in this case, it turns out, I had carefully unloaded the gun after picking it up, so the trigger pulling wasn’t harmful. My unloading the gun prevented the trigger pulling from being harmful. (2022, p. 218)

This is how offsetting on a preventive model would work. The problem for Deigan is that, in order for this to happen, the offsetting and the potential harm must be linked in the right way. What this means in the above example is that:

I have to unload my gun to prevent myself from doing harm. If I unload someone else’s gun, that might prevent someone else from doing harm—a good thing, to be sure—but it doesn’t prevent my trigger-pullings from harming. (2022, pp. 218–219)

The prevention account requires that offsetting actions interfere in some way with the effects of the actions they are supposed to offset. When it comes to carbon offsetting, the problem is that it does not remove the same molecules that one emits (Broome, 2012, p. 85) and the molecules of CO$_2$ that one has emitted ‘will wreak their damage’ (Ibid, 89) even when one has fully offset one’s emissions. These remarks from Broome seem to challenge his own position of offsetting as a genuine preemptive. If this is right, then offsetting actions cannot be understood as preempting the harm that emissions would have caused. This is because offsetting does not necessarily affect the consequences of the actions that they are supposed to offset (Deigan, 2022, p. 219).

The carbon-offsetting advocate has resources against this line of attack, and the defense stems from the nature of the harms associated with climate change. The first characteristic to note is that climate change is a time-lagged phenomenon (Hartzell-Nichols, 2012, p. 98), which raises particular challenges to conceptions of its harmfulness (Gardiner, 2011; Jamieson, 2014). As also noted before, rather than having a straightforward, immediate or direct impact on the climate, carbon emissions accumulate in the atmosphere and cause climatic changes over long stretches of time. CO$_2$ molecules can
stay in the atmosphere for long periods, which range from decades to many thousands of years (Archer et al., 2009). Over time, these gases are removed from the atmosphere by chemical reactions or by emissions sinks, such as the oceans and vegetation, which absorb greenhouse gases from the atmosphere. As a result of human activities, however, these gases are entering the atmosphere more quickly than they are being removed, and thus their concentrations are increasing. The concentration of GHG in the atmosphere is the source of the greenhouse effect, and climate change is being caused by the cumulative buildup of GHGs in the atmosphere. The IPCC (2014) characterizes climate changes as, by and large, an incremental phenomenon with nonlinear features. The level of GHG concentration in the atmosphere, not the current level of emissions, determines the extent of the warming effect.

The feature of climate change as being time-lagged, coupled with the fact that it is the level of concentration of GHG in the atmosphere that is causal in the production of climate change harms, means that no current flow of GHG emissions determines harmfulness. Thus, while it is true that offsetting does not remove my molecules, as Deigan points out, there is nothing special about my molecules. My molecules will not harm by themselves. What will generate harm is the addition of my molecules to other such molecules in the atmosphere past the point of absorptive capacities, which increases the level of GHG concentration. Arguably, there is no such addition caused by my emitting action when offsetting genuinely works because the concentration level ought to stay the same. Greenhouse gases are widespread in the atmosphere, which means that the climate stands to benefit from offset emissions regardless of where these occur because of the overall decreased level of GHG concentration. If we see the Earth’s temperature as depending on the balance between incoming and outgoing GHG, and, if carbon offsetting works, then there ought to be no disruption to this balance because of one’s emitting actions, if offset.

Moreover, the causal pathway between my molecules and any particular harm is as unknowable and convoluted as the pathway that might make my same CO₂ molecules become captured in a carbon sink. Thus, it could be the case that, as far-fetched as this may sound, it is as possible that my same molecules will be captured as it is that my same molecules will contribute toward harming specific people. It is also possible that someone else’s molecules will be absorbed by a new carbon sink or that new molecules will not be released by some other party that otherwise would have released them. This is meant to keep the level of GHG concentration the same as before one’s act of emission, and if this is achieved, then the causal link between one’s emissions and harms that are due to such concentration can be severed. Any harmful consequences that may be attributed to an agent arise in virtue of the agent’s contribution to increased levels of GHG concentration, but we may not attribute such increase in concentration if the agent’s contributions to this increase are at net zero over her lifetime. Long story short, one’s emissions don’t increase concentration if offset. What is offset or countered may not be one’s particular molecules of CO₂ but the increase in the level of concentration that could otherwise occur in virtue of adding these. However, the latter matters when linking agents to harm and not the former inasmuch as any link to harm of the former derives from the latter.

Offsetting does not need to remove the very same molecules that one emits in order to prevent harm occurring in virtue of one’s contributions. If the moral significance of one’s emissions arises only over time and in aggregation, then the harm that comes through
one’s activities may be zero if one’s net contribution to harm is zero. Deigan’s position amounts to an invitation to view each emission as distinct and separate and morally judged on its own. However, this is not how theorists argue in favor of the moral significance of individual emissions in virtue of their harmfulness.\textsuperscript{15} We have already noted that theorists who argue against the inconsequentialism of personal individual emissions do so on the basis of the substantial harmful impact of one’s personal emissions over the course of one’s lifetime or as derived from this. In this way, one’s contributions to climate change harms consist of the tally of one’s emission over their lifetime, which means that, on the whole, there may be no net increase of harm.

The separateness objection loses its bite when one considers that what is morally significant is the whole or total contribution of an individual over a lifetime. Arguably, contributions to the harms of climate should be viewed in their totality and not separate at least because we would not be able to understand the significance of individual emissions if we viewed them separately and in isolation from each other.

To conclude this section, the above considered three objections to offsetting that can be overcome by a preemptive account of the morality of carbon offsets. The gist is that one’s emissions may cause no net increase in harms associated with climate change if they are genuinely offset through an effective scheme. The preemptive account can answer the objections presented here because they all focus on the harmfulness of individual emissions of CO\textsubscript{2}, and if individual emissions are only harmful when considered in the aggregate and when the concentration levels pass absorptive capacities, then preemption seems possible.

4. Moral Equivalence and the Conditionals in the Room

This section tempers some of the above defenses of carbon offsets. Such tempering is needed to acknowledge the assumptions granted at the outset and the narrow focus on harm from climatic changes as the only moral criterion by which to judge carbon offsetting.

Given the previous section, it could seem that the action of not emitting and the combined actions of emitting and offsetting are morally on par with each other. As the consequence (in terms of overall carbon emissions) of emitting and offsetting is the same as the consequence of not emitting, the claim could be that the two options are morally equivalent (Hyams & Fawcett, 2013, p. 94). This is misleading. In order to appreciate this, we must review aspects of the preceding in a different light.

The idea of moral equivalence could be supported by the following claim: if carbon offsets are effective, then there is no harm in emitting and offsetting just like there is no harm when not emitting.\textsuperscript{16} In light of this, there are two conditionals that we can isolate, which speak in favor of the purported equivalence between the emitting and offsetting pair and not emitting. These are the assumption of efficacy in carbon nullification and the implied assumption that what matters morally is only the harm from climatic changes that attaches to the pair of actions (i.e. emit and offset) under consideration. However, the truth of both of these can be undermined.

To start with the latter, the assumption of efficacy has been contested. Since the preceding focuses on individuals voluntary purchases of offsets, it is important to look into the so-called ‘over-the-counter’ or OTC voluntary carbon market. In order to address
initial market problems such as fragmentation, transparency, lack of commonly accepted rules on issues such quality and quality, non-governmental organizations have developed certification schemes that aimed to set standards for different aspects, such as greenhouse quantification, social aspects, monitoring, reporting and verification, as well as for the registration of verified emissions reductions. Currently, the leading standards for credit certification include the Voluntary Carbon Standard, Plan Vivo, the Gold Standard, the American Carbon Registry, Climate Action Reserve, and the Verified Carbon Standard Program. Each industry standard relies on different methodologies for measuring and verifying emissions reductions. In spite of the progress made by the voluntary carbon market since its inception, structural challenges remain. These are partly caused by the variety and diversity of standards with various scopes and approaches, which has failed to generate transparency and has led to confusion among market participants regarding the assessment of the quality and integrity of the carbon offsetting schemes.

Furthermore, we can pinpoint at least two significant problems that plague efficiency claims: measuring and additionality. To start with the first, there is difficulty in measuring contributions from offsets. For example, when it comes to carbon offsetting through forestation, calculating the amount of CO₂ that is stored in a forest is exceedingly problematic given that the only precise way would likely require cutting the forest down and then burning it. Another problem is that many carbon calculations assume that planted trees will endure over time, but this need not be the case. Many things can happen to shorten the lifespan of trees, such as storms, fires, disease, or deforestation. Carbon storage in trees is temporary and its temporality cannot be ascertained with precision. Because of such issues, offsetting companies, such as Carbon Neutral, are moving away from this option, but measuring problems remain (Russell, 2007). Not only are there measuring problems on the offsetting side, but there are uncertainties regarding how to estimate the carbon emissions on the emission side. For example, there is disagreement about how to measure emissions from aircrafts when variables such as cargo load, weather conditions, or flight altitude may impact carbon numbers.

The second problem is that of additionality (Gillenwater, 2012, p. 3; Michaelowa et al., 2019, p. 1212). When it comes to offsets, additionality is basically a counterfactual. It asks whether purchasing a certain offset would lead to a reduction of greenhouse gas emissions that would otherwise not have happened (Gillenwater, 2012, p. 4). To exemplify, suppose that one decides to support a project aimed at replacing a coal power plant with wind turbines. In order for it to count as an additional reduction in greenhouse gases, it would have to be the case that the turbines would otherwise not have been built absent one’s contribution. Only then would one’s purchase result in an additional reduction in greenhouse gases. There are clearer cases. If someone is about to cut down a portion of a forest and you pay them not to, then you will have reduced the greenhouse gas emissions associated with deforestation. However, in general, it is very difficult to determine whether a project meets additionality standards (Schneider & La Hoz Theuer, 2019, p. 392). At the very least, it requires rigorous and transparent accounting, which is something that offsetting schemes have been criticized as lacking. To note, there is substantial and extensive skepticism about the additionality and thus, the effectiveness of offsetting projects (Benecke, 2009; Newell, 2012).
Finally, even if offsetting was effective in providing genuine reductions of carbon, another legitimate challenge is that carbon offsets only imperfectly account for harms (Kamm, 2006). Consider an example that illustrates the problem: a flight from Vienna to Lisbon contributes to an increase of pulmonary conditions or diseases for those living under its flight path. The solution to this kind of imperfect correspondence case, where carbon offsetting only counters one sort of harm (of which there are many), is that some activities may be impermissible for other reasons (Lawford-Smith & Tuckwell, 2020, p. 5). Carbon offsetting is meant to target and preempt the harm associated with the greenhouse effect, which is created through the rise in GHG concentration when total levels of GHG are emitted past the level of absorption. So, this sort of case is not necessarily a mark against carbon offsetting as a means of neutralizing climate change harms reduction (Broadhead & Placani, 2021, p. 411). It, however, underscores the fact that moral permissibility by means of carbon offsetting has limits.17

Harms from pollution associated with individual emissions cannot be offset, but one might note that CO₂ is not a pollutant. In fact, CO₂ is an essential gas for our biosphere. If particular emissions were linked to discrete harms, then, those harms could not be undone. However, given that particular emissions are far from so linked when it comes to climate change harms, then carbon offsetting could work if only because it is not a true case of offsetting, but rather a preemptive. This means that offsetting is not taken to compensate for harm but to preempt it from occurring at all.

In addition to the problems already noted, carbon offsetting as a practice invites a particular ‘bookkeeping’ perspective that relies on numbers to tell the whole story about climate change and our duties. This focus on carbon numbers invites a skewed point of view on things that are valuable for yet other reasons. Numbers are not the whole story. Consider that offsetting is sometimes realized through reforestation projects (e.g. REDD). About this, Broome (2012, p. 78) states: ‘Standing trees have a value for the world, since they lock up carbon’. This is an unfortunate statement. Forests are more than just places in which to dump our carbon. They are lived-in habitats of immense value to all animals, human and non-human alike.

Offsetting is also realized through clean drinking water projects and efficient cook stoves (e.g. Fuel Efficient Stoves for North Darfur Women). These too are more than ways in which to reduce carbon. Individuals and entire communities benefit from these projects: from fulfilling basic human needs to alleviating burdens that fall disproportionately onto girls and women. The above is not to say that these are not good things through which one’s carbon emissions may be offset, but rather it is to say that carbon reduction is not the only thing that makes them good or, in other words, carbon numbers cannot provide the whole story.

This wider perspective invites further consideration of other moral dimensions that impact any claim as to the moral equivalency of not emitting and emitting and offsetting. Just as the numbers cannot provide a comprehensive view, harm from climate change is also not the only metric by which to judge carbon emissions and offsetting schemes. Isolating this harm as the only criterion on the basis of which the moral evaluation of emitting and offsetting and not emitting is a truncated and narrow perspective that fails to account for other morally salient features. Albeit extremely important, harm from climatic changes that offsets are meant to counter is just one criterion for moral assessment.
Thus, when we search for moral equivalence between the pair of arrangements: emit and offset and don’t emit, then although, for the sake of the argument, there is no harm in either of these, the absence of harm does not make them on a par. There are other reasons why not emitting can be said to be a morally superior option in addition to those that have already been discussed throughout the essay. The reasons that will be briefly highlighted here stem from uncertainty and justice.

The uncertainty consideration relates to the efficacy problems sketched out above. The gist is that we cannot be sure that the emissions created will be, in actuality, effectively countered. The reasons why there is room for doubt came down to measuring and additionality problems. Of course, there are ways in which such uncertainty may be alleviated, such as doing our due diligence and relying on offsets that are certified. Moreover, we can purchase offsets that aim to counter more than estimated carbon emissions in order to allow for a margin of error or reach negative emissions. Nevertheless, given the uncertainty surrounding offsets’ ability to do precisely what it is that they are supposed to do and the certainty that by not emitting we remove ourselves from being implicated in climate change harm through our emission, then the choice would favor not emitting.

Setting aside the empirical uncertainty about carbon offsets, we can turn to justice considerations, which also favor the view that not emitting is the superior option. There are a few aspects of justice that are important to note here. One aspect is universizability and the other is climate colonialism.

The problem of universizability arises because current anthropogenic emissions exceed available offsetting options. Presumably, we could develop new ways to offset and, indeed, new ways of offsetting are being developed; however, it seems that at least for the moment the claim holds. If there is a practical limit to the number of carbon sinks we can enhance or develop, then offsetting all emissions is not possible. This would make offsetting as a practice impossible to universalize. This means that not everyone could discharge their duty not to harm through offsetting, which raises questions about the fairness of offsetting as a means to fulfill this duty.

It seems that the currently low prices for offsets depend on partial compliance. The offsetting system is likely to collapse if compliance levels increase because people will be less likely to buy offsets at higher prices, which implies, rather paradoxically, that the offsetting system would be undermined by its own success (Spiekermann, 2014, p. 29). Offsetting would then work as an exception and not the rule, which again raises doubts about its universizability.

Another justice-related feature is that of climate colonialism, which is raised among others by Olúfẹmi O. Táiwò (2019) who defines it as: ‘the deepening or expansion of foreign domination through climate initiatives that exploit poorer nations’ resources or otherwise compromises their sovereignty.’ There are many problems stemming from this, but one of the crucial ones is that most of the available land that is used for offsetting projects is in poor countries and is occupied by people who lack the political means necessary for participation in decision-making. These people are then effectively forced to compete for the lands that deliver their basic needs with individuals and companies from the world’s richest countries (Táiwò, 2019). The fact that they often lose out comes as little surprise.
To exemplify, Amnesty International’s ‘Families Torn Apart’ report (2018) concluded that the Sengwer people of Embobut forest in Kenya were violently evicted from their homes and cast out of their ancestral lands as part of a government plan to, among other things, reduce emissions from deforestation and forest degradation (REDD+). This was done without the consent of these indigenous people. Moreover, claims of compensation from the government were marred by accusations of corruption and the exclusion of legitimate forest dwellers. Another example comes from the Oakland Institute ‘The Darker Side of Green: Plantation Forestry and Carbon Violence in Uganda’ (Lyons et al., 2014), which reports that the acquisition of land in Uganda by Green Resources, a Norwegian-registered plantation forestry company led to forced evictions and the denial of access to land vital for growing food and grazing livestock.

Broome claims that offsetting projects such as REDD and other offsetting schemes are a means of redistributing wealth from rich countries to poorer ones (Broome, 2012, p. 78). Although redistribution of wealth is a way of fulfilling justice claims, any such redistribution cannot come at the cost of people’s rights. Examples such as those above illustrate the fact that indigenous people, who are given little or no say, may be subject to gross human rights abuses and other negative consequences stemming from the pursuit of offsetting projects. These problems must be addressed. Carbon offsetting can be accomplished without sacrificing people’s rights. At the very least, people should be compensated if their rights are infringed (i.e. if setbacks to their interests are justified).

The above highlighted some reasons why not emitting seems preferable to offsetting emissions by pointing out serious concerns that currently mar the latter option. These reasons stemmed from the uncertainty surrounding the efficacy of offsetting, as well as moral dimensions besides harm from climatic changes that negatively impact offsetting in its current forms. Some of these aspects can be alleviated by establishing a high bar that offsetting schemes need to meet in order to be considered as a morally viable option.

5. Conclusion

This essay addressed various moral dimension of offsetting individuals’ luxury emissions. In particular, it answered three objections to carbon offsetting: from the indulgences analogy, from the directness of the duty not to harm, and from separateness. The essay argued that advocates for offsetting can defend against all these criticisms by pointing to particularities of individual emissions’ harmfulness, as well as the preemptive nature of offsetting. However, the essay then showed that, in spite of this, there are good reasons to regard not emitting as the better option. Although carbon offsetting can provide individuals with another way to discharge their duty not to harm, not emitting remains the superior moral choice. The reason for this is two-fold: there are many problems surrounding offsetting that should, but have not been, overcome; and, there are viable options to renounce or mitigate one’s personal emissions.

Notes

1. For an account of moral offsetting, see, Foerster (2019).
2. Cf., Hayward (2007). ‘Human Rights Versus Emissions Rights: Climate Justice and the Equitable Distribution of Ecological Space.’ *Ethics & International Affairs*, 21(4), 431–450; Baatz (2014). ‘Climate Change and Individual Duties to Reduce GHG Emissions.’ *Ethics, Policy & Environment*, 17(1), pp. 1–19; Schlosberg (2019). Further uses for the luxury/subsistence distinction: Impacts, ceilings, and adaptation. *The British Journal of Politics and International Relations*, 21, pp. 295–302.

3. A fuller, albeit not exhaustive, list can be found in Qu et al. (2013). ‘Household carbon dioxide emissions from peasants and herdsmen in northwestern arid-alpine regions, China.’ *Energy Policy*, 57, p. 134, where subsistence CO₂ emissions are ‘the necessary emissions from the fundamental consumption of the household, including the CO₂ emissions due to use of coal, LPG, gasoline and diesel oil, and the CO₂ emissions from the production, transportation and service processes of goods and services, such as electricity, food, clothing, medicine and medical care subsistence CO₂ emissions.’

4. See, Sinnott-Armstrong (2005).

5. Qu, J. et al., ibid., also provide a fuller list of luxury emissions (from households); they are ‘CO₂ emissions due to the consumption of education, recreation, transportation and communication services.’

6. Contributions come from, among others, Almassi, B. (2012). ‘Climate change and the ethics of individual emissions: a response to Sinnott-Armstrong’, *Perspectives: International Postgraduate Journal of Philosophy*, 4, pp. 4–21; Gunnemyr, M. (2019). ‘Causing Global Warming’, *Ethical Theory and Moral Practice*, 22, pp. 399–424; Hiller (2011). ‘Climate change and individual responsibility’, *Monist*, 94, pp. 349–368; Hourdequin, M. (2010). ‘Climate, collective action and individual ethical obligations’, *Environmental Values*, 19, pp. 443–464; Kingston and Sinnott-Armstrong (2018). ‘What’s wrong with joyguzzling?’, *Ethical Theory and Moral Practice*, 21, pp. 169–186; Nolt (2011). ‘How harmful are the average American’s greenhouse gas emissions?’ *Ethics, Policy and Environment*, 14, pp. 3–10; Sandberg, J. (2011). ‘My emissions make no difference: climate change and the argument from inconsequentialism’, *Environmental Ethics*, 33, pp. 229–248; Sandler, R. (2010). ‘Ethical theory and the problem of inconsequentialism: why environmental ethicists should be virtue-oriented ethicists’, *Journal of Agricultural and Environmental Ethics*, 23, pp. 167–183; Zoller, D. (2015). ‘Moral responsibility for distant collective harms’, *Ethical Theory and Moral Practice*, 18, pp. 995–1010.

7. The way in which individual emissions are linked to harm will be discussed later on.

8. Thanks go to an anonymous reviewer who sought greater clarification of these points.

9. It is interesting to note that the current pandemic has brought with it a similar kind of change in people’s behavior. Unfortunately, the effects, so far at least, seem to be record levels of CO₂ concentration in spite of the reduction in emissions and massive costs to industries (e.g. tourism) and wellbeing. According to the World Meteorological Organization (2020): the industrial slowdown due to the COVID-19 pandemic has not curbed record levels of greenhouse gases which are trapping heat in the atmosphere, increasing temperatures and driving more extreme weather, ice melt, sea-level rise and ocean acidification. ‘The lockdown has cut emissions of many pollutants and greenhouse gases such as carbon dioxide. But any impact on CO₂ concentrations … is in fact no bigger than the normal year to year fluctuations in the carbon cycle and the high natural variability in carbon sinks like vegetation.’

10. Stephen Gardiner describes as moral corruption the subversion of our moral discourse to our own ends. For selfish reasons we do not want to change our luxury emitting behavior. For more on this problem, see: Christian Baatz (2016) ‘Can We Have It Both Ways?’ *Environmental Values* 25(1): 29–49; Dale Jamieson (2013) ‘Some Whats, Whys and Wories of Geoengineering,’ *Climatic Change* 121: 527–37; Ross Mittiga (2019) ‘What’s the problem with geo-engineering?’ *Social Theory and Practice* 45(3): 471–499; Alan Robock (2008) ‘20 Reasons Why Geoengineering May Be a Bad Idea,’ *Bulletin of Atomic Scientists* 64(2): 14–59.

11. For instance, Wynes and Nichols (2017) recommend four widely applicable high-impact actions with the potential to contribute to systemic change and substantially reduce annual personal emissions: having one fewer child, living car-free, avoiding airplane travel, eating a plant-based diet. Thank you to an anonymous reviewer for raising these issues.
12. Sandel (2012, p. 76) directs his attack toward countries: ‘Letting rich countries buy their way out of meaningful changes in their own wasteful habits reinforces a bad attitude – that nature is a dumping ground for those who can afford it.’ However, this objection can apply to individuals as well.

13. Additionality, in the words of Michaelowa et al. (2019, p. 1212), ‘requires any mitigation activity that is considered for a market-based mechanism to demonstrate that the corresponding emission reductions would not have happened in the absence of the support from the market-based mechanism. Additionality is key to ensuring that no fictitious carbon units, i.e. units that do not represent real emission reductions, compromise global carbon markets.’

14. This number is based on estimates from the World Health Organization (2009) report: ‘Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks,’ and David Frame’s ‘Personal and intergenerational carbon footprints’ (forthcoming).

15. There are other grounds beside harmfulness that theorists point to when arguing that individuals have duties to reduce personal GHG emissions (e.g. virtue). However, as was noted at the outset, what is considered here is the argument from harm.

16. Harm here refers to harm from climate change and not other kinds of harm that offsets are not meant to counter.

17. As pointed out by an anonymous reviewer, these limits include the emission of other pollutants (e.g. SO₂) that carbon offsetting may not counteract.

18. There are yet other reasons in favor of not emitting, which stem from various morally problematic aspects of luxury emitting. However, as was noted at the outset, this essay cannot provide an exhaustive treatment and restricts focus to luxury emissions’ harmfulness, as well as an investigation of the moral dimensions of offsetting.

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