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What should one do about climate change?

A rejection of individual carbon budgets as the
basis for moral judgment

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Abstract

What should individuals do about climate change? Each person only accounts for a tiny fraction of the global amount of greenhouse gas emissions and climate change is to no small part an institutional problem. Nonetheless, I argue that a moral obligation for individual emission reduction exists. To do so, I show how climate change asks different types of moral questions from individuals and collectives. By discussing and rejecting several existing positions on the matter, I motivate imperfect obligations as the most adequate framework to account for individual climate obligations. Furthermore, I explain how attempts to further specify them such as Christian Baatz's fair share approach were unsuccessful. In particular, I argue that individual carbon budgets should not be used as the main determinant of the moral status of individual action. Lastly, I outline how my arguments may have relevant implications for economic policy in the form of carbon pricing.

Abstract (German)

Was sollten Einzelpersonen gegen den Klimawandel tun? Jede*r Einzelne ist nur für einen winzigen Bruchteil der weltweiten Treibhausgasemissionen verantwortlich, und der Klimawandel ist zu einem nicht geringen Teil ein institutionelles Problem. Dennoch argumentiere ich, dass es eine moralische Verpflichtung zur individuellen Emissionsreduzierung gibt. Zu diesem Zweck zeige ich, wie der Klimawandel unterschiedliche Arten von moralischen Fragen an Individuen und Kollektive stellt. Indem ich mehrere bestehende Positionen zu diesem Thema diskutiere und zurückweise, begründe ich imperfekte Pflichten als den angemessensten Rahmen, um individuelle Klimapflichten zu begründen. Darüber hinaus erkläre ich, warum Versuche sie weiter zu spezifizieren, wie der Fair-Share-Ansatz von Christian Baatz, erfolglos waren. Insbesondere zeige ich auf, dass individuelle Emissionsbudgets nicht als Hauptdeterminante für den moralischen Status individuellen Handelns herangezogen werden sollten. Abschließend skizziere ich, wie sich meine Argumente auf die Wirtschaftspolitik in Form von CO₂-Preisen auswirken.

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1. Introduction

We are all part of climate change. On the one hand, climate change is the direct result of human greenhouse gas emissions, which we all contribute towards. On the other hand, climate change causes global harm that will affect everybody. Furthermore, both the contribution towards climate change as well as the exposure to its harm are distributed unequally.

But what exactly does that mean for each of us individually? In this thesis, I ask what individuals are obligated to do about climate change. In particular, I focus on the moral status of private emissions and emission reductions. My question is whether individuals are morally obligated to reduce their emissions or keep them below a certain level.

I do not think this question requires much motivation. The importance of climate change is well known and each of us directly faces the exact question of this thesis, ‘what should one do about climate change?’. Therefore, I want to motivate the kind of *answer* that I am looking for instead.

First of all, I do not aim to provide an answer on the permissiveness of any specific emission-producing action. In other words, there will not be a list of permissible and non-permissible actions, or a formula to determine the permissiveness of any specific action. In the context of emissions, the permissiveness of actions is typically illustrated with actions such as flying, driving, eating meat, or having children. These actions are contrasted with their more emission-friendly counterparts like taking the train or bike, plant-based diets, and various forms of anti-natalism. Each of these actions, as well as many others, surely deserve their own dedicated and detailed discussion, which would also have to involve empirical arguments. In this thesis, instead of questioning the permissibility of specific actions, I want to find out whether there are general properties of individual climate-change-related obligations that can be uncovered. In other words, I approach the question of individual obligations through the search for qualities that more specific positions should satisfy.

Second, my strategy to find such an answer is to first consider a range of existing positions on the question of individual climate obligations. In particular, I will motivate a notion of imperfect obligations as the most suitable framework for individual climate obligations. Furthermore, I will closely discuss and criticize

Christian Baatz's fair Share approach as one specification of such imperfect duties. Through a rejection of this specific position, I argue to uncover a general insight about how individual climate obligations should look like. To be more specific, my main claim is that *individual carbon budgets should not be used as the main determinant of the morality of individual actions*.

Lastly, I want to briefly clarify that my main concern in this thesis is the moral status of individual or private emissions. Therefore, whenever I refer to obligations, I mean obligations to reduce greenhouse gas emissions. This does not mean, that I think individuals have no other responsibilities or obligations concerning climate change or the environment in general. I firmly believe that among the most important things for individuals to do is to take political action, for example in the form of voting, or generally taking part in actions that shape the political discourse, such as by joining climate protests.

The thesis is structured as follows: I begin with some preliminary remarks that put the scope and background of my arguments into perspective (2), followed by a brief presentation of two conflicting extreme positions that frame the spectrum of positions (3). After that, I introduce a failed attempt to find a middle-ground position, which functions to motivate imperfect obligations (4). Finally, I present the fair share approach by Christian Baatz (5), which I refute on the grounds of a general argument against individual carbon budgets as the foundation of obligations (6). I proceed with collecting what can be learned from my refusal of individual carbon budgets (7) and illustrate the relevance of these considerations with a short application to economic policy in the form of carbon pricing (8). I end by drawing a brief conclusion (9).

2. Preliminaries

To begin my investigation into individual climate obligations, it is worthwhile to make some preliminary remarks to set the underlying framework. This includes a justification of why I am concerned with the role of individuals (2.1), and a look into the harmfulness of private emissions (2.2).

The climate crisis itself needs little introduction. The synthesis report of the Intergovernmental Panel on Climate Change (IPCC) offers a comprehensive summary of the state of knowledge of climate change.¹ To summarize, humans cause climate change by excessively emitting greenhouse gases and climate change is already having harmful effects in the present. Furthermore, continued greenhouse gas emissions will make future harms continuously worse, which means that we need to achieve net-zero emissions as fast as possible.

2.1. Why be concerned with individuals?

Before I begin to lay out my arguments, it is worthwhile to briefly explain why I even concern myself with the ethical role of individuals in the first place. Other authors addressing the ethical implications of climate change for individuals have proposed similar defenses.²

In summary, my position is that climate change is a problem that first and foremost needs to be addressed on an institutional and political level where large-scale changes need to be implemented, but at the same time, climate change still has moral implications for individuals. In particular, I claim that from a moral point of view, collectives and individuals each face different questions concerning climate change.

2.1.1. On individual and collective responsibility

Climate change is the result of human action. In that sense, individuals collectively cause climate change, which is why the question of climate obligations for individuals arises. However, it can be misleading to reduce climate change to be the result of the

¹ IPCC et al., “IPCC, 2023.”

² See e.g., Collins, “Climate Obligations and Social Norms,” 2–3; Baatz, “Climate Change and Individual Obligations to Reduce GHG Emissions,” 1–2.

aggregate of individual decisions and actions. This is due to the inherent institutional or political nature of climate change. While it is true that individuals are causing climate change, other entities such as governments and large corporations are relevant agents as well.

The concept of an individual carbon footprint is by now widely known, but what is lesser known is that the term's popularity largely resulted from a huge BP (British Petroleum) advertising campaign in 2004.³ The irony of one of the largest fossil fuel companies pointing towards individual consumers to be mindful of their environmental impact is obvious. The narrative behind the advertising campaign is that we can solve the problem if only individuals realize their responsibility to be mindful of their contribution to climate change and act accordingly.

This anecdote illustrates my position on the role of individual responsibility. While the nature of individual climate obligations still needs to be specified, it will certainly be the case that for any individual, fewer emissions are always better, all else being equal. Without individual emission reductions, the harms of climate change are impossible to avert.

At the same time, institutional and political change is necessary as well. Large corporations and governments have access to much more effective means of emission reduction than individuals. Furthermore, it is their task to enable sustainable consumer choice in the first place. For example, no individual can switch their personal electricity supply to renewable energy, if adequate infrastructure does not exist.

Generally speaking, I believe that framing the question of how to avert climate change primarily in terms of how individuals should act is misleading. Instead, my view is that climate change opens two different questions for individuals and collectives such as governments, corporations, or communities.⁴

2.1.2. Two kinds of questions of climate responsibility

As a collective, we face the imperative to reduce emissions to net zero quickly enough to stay below 1.5° or 2° Celsius of average surface temperature warming. To do so,

³ <https://mashable.com/feature/carbon-footprint-pr-campaign-sham>. Last accessed 05.08.2023

⁴ A similar distinction of different responsibilities to the one I am advocating for here can for example also be found in John Broome's distinction between public morality and private morality. Broome, *Climate Matters: Ethics in a Warming World*, 64–68.

climate scientists have calculated a global carbon budget, which we need to constrain ourselves to. To accomplish this is, in my view, first and foremost an institutional or political challenge, because it requires large-scale transformations that go way beyond of what individuals can accomplish. Hence, the collective questions of climate change come along the lines of, “how do we solve climate change?” or “how do we constrain global warming to x degrees?”, or “how do we reduce emissions to net zero?”

In particular, for this collective challenge it is important to directly consider the total amount of emissions worldwide as the defining variable of interest. In other words, the climate does not care about the particular actions that cause emissions. Whether we burn natural gas or coal and whether we use this energy to power a hospital or fuel a private jet. On the collective level, the aggregate quantities of emissions matter most.

In contrast to that, while the climate does not care, I argue that we as individuals do care about more than the mere number of emissions of individual actions. From the assumption that it matters for what purpose we use emissions follows that there should be moral criteria that determine the permissibility of private emissions. In particular, one of my central points in this thesis is that on the level of individual morality, it is mistaken to focus on the amount of private emissions as the sole determinant of moral status.

This leads to the second question of climate change, which is directed at individuals. This question comes along the lines of “under which conditions are private emissions justified?”. The question reflects that individual emissions do contribute to climate change and therefore need to be reduced. At the same time, it does burden individuals with the responsibility to solve climate change.

The reason for that is that we cannot meaningfully reduce the collective problem of climate change into an aggregation of individually caused emissions to assess the morality of individual action. It would be misleading to conceive of the global amount of emissions as a sum of individual emissions resulting from private decisions and actions. Consider for instance that the provisions of many public goods causes emissions in a way that no individual can influence by changing their consumption behaviour. Hence, these emissions cannot sensibly be ascribed to particular individuals.

Instead of claiming that individuals and collectives face different questions, one can alternatively argue that they face the same question, but the answers are governed by different principles. John Broome, referring to a distinction between public and private morality, argues that in the context of climate change, governments primarily face obligations of beneficence, whereas individuals face obligations of justice.⁵

Explicating whether my framing of two different questions, Broome's approach of one question and two governing moral principles, or some other possibility is most adequate is beyond the scope of this thesis. What matters is that there are good reasons to differentiate climate-change-induced moral demands between individuals and collectives. Therefore, I see myself justified in investigating the moral status of individual contributions to climate change through personal emissions.

2.2. What harm do private emissions do?

The last of my preliminary background concerns is the question of what harm individual emissions do. The extent of the harmfulness of private emissions is a relevant factor for moral concerns. A sufficient answer to this question would, however, be its stand-alone research project and cannot be done here. Nonetheless, authors addressing this question have found some general insights which I will briefly present. In short, the point is that the harm of private emissions is by far *not* zero.

2.2.1. Harm of the average American

One attempt to explicitly tackle the question of how harmful the average American's emissions are was proposed by John Nolt.⁶ The initial complication he points out is that before quantifying the caused harm, even meaningfully specifying the amount of emissions of the average American' is difficult. Overall, the problem is that no data matches individual actions to emissions. A complicating factor is that one would have to specify how responsibility for emissions is distributed along a supply chain and the demand side.

⁵ Broome, 13–14.

⁶ Nolt, "How Harmful Are the Average American's Greenhouse Gas Emissions?"

Because of that, Nolt chose to work with per capita averages, where the drawback is that the 'average American' simply does not exist. This means that the resulting figures could well be over- or underestimated depending on the distribution of emission intensity over the population.⁷

Nolt calculates the per capita fraction of the total increase in atmospheric greenhouse concentration that can be ascribed to the US.⁸ To do so, he works out the US contribution to global emissions and the expected increase in atmospheric greenhouse gas concentrations over the current lifetime of an average American. The result is that on average, an American is responsible for one two-billionth of the increase in greenhouse gases until 2040.⁹ This fraction only appears to be incredibly small until one considers the vast amount of people that will be harmed by climate change in the future.¹⁰ He concludes that “the average American causes through his/her greenhouse gas emissions the serious suffering and/or deaths of two future people”.¹¹

Nolt is well aware that his calculations are only rudimentary since they involve the use of several average values and other simplifying assumptions. As a result, he disclaims that the final figure of harm caused could be wrong with multiple orders of magnitude in both directions.

2.2.2. Monetary cost of private emissions

A second attempt that I want to briefly present is by Broome, who working with a social cost of carbon of \$40 per ton,¹² calculates the lifetime emissions of a typical academic to cause harm approximately equal to \$40,000.¹³ These figures give an idea about very rough estimations of emission harms and serve the purpose of illustrating that individual emissions do some amount of harm.

Broome emphasizes atmospheric instability as a central property of our climate as a chaotic system. This means that small external changes to the atmosphere can escalate

⁷ Nolt, 4.

⁸ Nolt, 5.

⁹ Nolt, 8.

¹⁰ In calculating the total harm of climate change Nolt does directly consider the lives of (far) future generations. He does, however, not include any discussion of discount factors. This should be pointed out as a potentially serious caveat, however, it is not feasible to discuss the implications in detail here.

¹¹ Nolt, “How Harmful Are the Average American’s Greenhouse Gas Emissions?” 9.

¹² A carbon price of \$40 had been proposed by the Obama administration at the time.

¹³ Broome, “Against Denialism,” 111.

into large-scale disturbances, which is a phenomenon referred to as the butterfly effect.¹⁴ This matters because it underlines the difficulties of ascribing atmospheric consequences to individual instances of greenhouse gas emissions. What can be learned from Broome is that beyond a general degree of missing precisions, quantitative accounts of the harm of emissions are further complicated by the instability of the climate system, which is a feature that has not frequently been taken into account by other authors.

This preliminary investigation concludes that the assumption that contributions to climate change caused by individual agents or actions are negligible does not hold. While it might be true that the order of magnitude of climate change as a whole is not influenced by any single individual, it is nonetheless the case that the emissions of individuals harm. How large these harms are is a question that has to be answered elsewhere. What matters for now, as Broome points out, is that this harm may be small, but it is certainly not zero.¹⁵ Lastly, the fact that private emissions cause at least some harm is another justification for why there is something morally relevant to say about them.

¹⁴ Broome, 112.

¹⁵ Broome, 111.

3. Introducing climate obligations: two extreme positions

To introduce the discussion of individual climate obligations, I present two polar opposite positions on whether individual climate obligations exist, which is helpful in getting an overview of the existing literature. First, there is the position that individuals have *no* obligation to reduce their personal emissions and the second position is that private emissions are always morally wrong, which means that individuals have the obligation to cut down all their emissions to (net) zero.

Although both positions have their appealing qualities, I do not think that either of these extreme positions constitutes a convincing answer. Instead, they can be thought of as two endpoints of a spectrum of possible positions. As such, they illustrate a lower and upper boundary of restrictiveness of climate obligations. Since they primarily serve this illustrative purpose of opening the playing field, I will only briefly present both positions.

3.1. Sinnott-Armstrong's denial of individual emission reduction obligations

The first possible position on individual climate obligations is that they do not exist. After all, why should one refrain from eating meat, flying, and driving if by doing so one does supposedly not make climate change any less bad? Concerns along these lines have been raised by Walter Sinnott-Armstrong who together with Ewan Kingston prominently argued that there is nothing inherently wrong with an individual action that produces CO₂ emissions, such as the wasteful driving of a gas-intensive car.¹⁶

For Sinnott-Armstrong collective responsibilities do not translate into individual responsibilities without further justification.¹⁷ Put simply, the fact that we together are responsible for climate change does not mean that any single member of us has the responsibility to fix the problem. Instead, he argues that the responsibility to act in the right ways to counteract the harms of climate change lies with governments.

Sinnott-Armstrong concedes that intuitively he feels that actions such as wasteful driving must surely be morally wrong. A mere intuition is, however, insufficient, which is why he attempts to apply a range of well-known existing moral principles in the

¹⁶ Sinnott-Armstrong, "It's Not My Fault"; Kingston and Sinnott-Armstrong, "What's Wrong with Joyguzzling?"

¹⁷ Sinnott-Armstrong, "It's Not My Fault," 295.

hope of argumentatively confirming his intuition.¹⁸ The problem is that none of the principles he discusses gives a good reason why an action like wasteful driving by an individual should be immoral. In essence, the source of the difficulties for the moral principles he discusses to find fault with wasteful driving comes down to the question of harm. He argues that the emissions of a single action do not contribute to global warming in a way that causes an increase in harm, or that the abstention of such an action does not prevent any of the harms done by climate change.¹⁹

In conclusion, Sinnott-Armstrong gives some argumentative weight to the sentiment that individual actions in large collective problems like climate change are morally irrelevant since they cannot alter any of the effects. In principle, he may be right to point out that the relationship between individual and collective responsibilities is not straightforward and that the real responsibility to avert catastrophic climate change ultimately is in the hands of governments. A full dismissal of individual obligations to reduce greenhouse emissions, however, is a quite drastic position.

3.2. Broome's net zero obligation

Before I say more about Sinnott-Armstrong's denial of individual emission reduction obligations, I proceed by presenting an opposite position. In his 2012 book 'Climate Matters', Broome takes the stance that individual climate obligations not only exist but that they in fact demand from us not to cause any net emissions at all.²⁰

Broome approaches climate change from a different angle in that he primarily focuses on climate change and greenhouse gas emissions as an injustice. Initially, he establishes a difference between so-called obligations of goodness and obligations of justice.²¹ There are general obligations of goodness, which means that morality demands from us that we make the world a better place in some form or another. These obligations are contrasted with obligations of justice, which are characterized by the fact that we owe them to particular people because they are in place to guarantee them

¹⁸ Sinnott-Armstrong, 297–98.

¹⁹ Sinnott-Armstrong, 289–99. Sinnott-Armstrong's argument that individual actions do not meaningfully contribute to the harms of climate change conflicts with the arguments I have presented previously in section 2.2. The conflict is in large part based on a different understanding of what exactly a notion of causal contribution to climate change entails. I will not resolve this tension here.

²⁰ Broome, *Climate Matters: Ethics in a Warming World*.

²¹ Broome, 50–53.

a certain right. Breaking an obligation of justice therein necessarily entails doing an injustice to others.

Broome argues that private emissions, especially those by wealthy people, because of the uncompensated harm that they cause are in most cases unjust. He diagnoses private emissions with the following seven properties, which are for the most part self-explanatory.²² Private emissions are the result of something we do, not something we omit to do (1); they do serious harm (2); the harm they do is not accidental (3); we do not compensate the victims of the harms we cause (4); emissions typically result from actions we perform in our benefit (5); the harms are not reciprocal (6)²³; we could reduce our emissions easily (7). In conjunction, these properties explain why private emissions constitute an injustice.

The problem for individuals is that there is no way for them to compensate those they unjustly harm with their emissions. This applies to both people currently living as well as future generations. Broome's proposed solution is to consider offsetting as a way to individually achieve a net-zero carbon footprint and thereby not cause any additional harm overall. He concludes that individuals face the obligation to offset all of their emissions to achieve personal net-zero emissions.²⁴

²² Broome, 55–59.

²³ Broome's point is that rich people who emit a lot of CO₂ do more harm to others than to themselves. He contrasts this to a traffic jam, where every participant is equally causing the congestion but at the same time is harmed to the same extent by the delay.

²⁴ Broome, *Climate Matters: Ethics in a Warming World*, 79.

4. The search for a middle-ground position

What connects Broome's and Sinnott-Armstrong's positions is that they are both susceptible to concerns of moral demandingness. Sinnott-Armstrong lets individuals off the hook too easily when he claims that there are no obligations to reduce one's emissions, while Broome demands too much by claiming that nearly all personal emissions should be cut.²⁵

Moral demandingness is generally a problem that arises in the discussion of collective action problems, such as climate change and individual emission reductions.²⁶ In particular, moral positions risk running into the following two difficulties. The first is to find fault with an action that appears not to make a difference towards the greater outcome. This is where Sinnott-Armstrong struggles as he is unable to find such an argument.

The second challenge is that once an argument to find fault with emissions is found, the question arises whether or not that is a sufficient reason to morally refute all emissions. In other words, if one argues that every small individual contribution to climate change makes matters worse, are all of these contributions objectionable? This is where Broome's argument ended up, advocating a position that objects to nearly all emissions.

In that sense, the two positions not only reach opposite conclusions but they can also be thought of as two ends on a demandingness spectrum. Without requiring a rigorous discussion of what moral demandingness is, it is plausible that a reasonable amount of demandingness is a desirable quality for moral positions. For that reason and the fact that Sinnott-Armstrong and Broome both reach unsatisfactory conclusions, I proceed with my search for a position on individual climate obligations as some middle ground between the extremes.

²⁵ Apart from mere demandingness objections, Broome's position is also particularly vulnerable to more practical concerns regarding the feasibility and suitability of off-setting as a widespread tool to individually achieve net-zero emissions. For a more detailed version of this criticism see e.g. Spiekermann, "Buying Low, Flying High"; Stefansson, "Should I Offset or Should I Do More Good?"

²⁶ I owe the framing of moral positions requiring too little or too much from individuals in collective impact problems to Felix Pinkert.

4.1. Expected utility

Being concerned with collective action problems in a more general form, authors like Peter Singer and Shelly Kagan have argued how individual actions should be based on expected utility calculations.²⁷ This sort of reasoning has also been explicitly applied to climate change, for example by Christopher Morgan-Knapp and Charles Goodman.²⁸

The primary reason I mention the expected utility approach is not because I view it as a particularly promising position. On the contrary, what is most interesting about it in the context of this thesis, is the way it was refuted by Julia Nefsky, which I will present in the next section (4.2). For now, I will keep the presentation of the position rather brief and focus on the counterarguments.

The expected utility reasoning as summarized by Nefsky functions in two steps.²⁹ First, it denies that individual actions do not make a difference and instead claims that there is always at least a tiny possibility that an individual contribution makes a difference. In the context of climate change, this means that tipping points or other catastrophic events, such as floods or droughts, are caused when a certain threshold of emissions is passed, and every individual has a theoretical chance to personally cause the emission increase that leads to the overshooting of this threshold.

The second point is that while the probability of being responsible for the passing of the threshold is small, the inflicted harm is potentially huge. In conjunction, these two facts may produce a significantly sized expected value. In conclusion, whether or not specific actions are permissible is determined by the ratio between this expected harm of personal emissions and the achieved benefit or utility.

The expected utility approach initially appears to pass the challenge of over- and under-demandingness. In opposition to Sinnott-Armstrong's and Broome's respective positions, the expected utility argument does neither rule out all emissions nor make private emissions generally permissible. Instead, private emissions are morally impermissible, if the personal benefit is outweighed by the expected harm. In that way, it constitutes an ethical position where some emissions are permissible, while others

²⁷ Kagan, "Do I Make a Difference?"; Singer, "Utilitarianism and Vegetarianism."

²⁸ Morgan-Knapp and Goodman, "Consequentialism, Climate Harm and Individual Obligations."

²⁹ Nefsky, "Climate Change and Individual Obligations: A Dilemma for the Expected Utility Approach, and the Need for an Imperfect View," 204.

are not, which, as I have stated in the previous section, is the kind of position I am looking for.

4.2. Against expected utility

Nefsky directly challenges that the expected utility reasoning is such a middle-ground and instead claims that the expected utility approach will eventually converge into one of the two extremes by either being overly demanding or unable to find fault with the skeptical position.³⁰ Again, the ethical discussion comes back to the question of the efficacy of individual emissions, since the (expected) causation of harm is supposedly required to find fault with emissions.³¹

4.2.1. Expected utility is unable to find fault with private emissions

The expected utility argument hinges on the fact that each contribution could potentially tip over a certain threshold. Nefsky argues that this threshold view is problematic for a global phenomenon, such as climate change.³² Because there is a constant global stream of actions that produce greenhouse gas emissions, it is either impossible or implausible to attribute the tipping point effect to one specific action. If the amount of emissions would indeed be large enough that the emissions of one of my actions would lead to the crossing of some tipping point, then by not acting the threshold would still be crossed instantly after. Under this interpretation of the expected utility argument, it becomes equivalent to the skeptic position of Sinnott-Armstrong, since the expected harm of individual emission converges to zero.

What Nefsky portrays as the most plausible way to avoid this conclusion is the possibility of a global emissions peak.³³ At the moment of global maximum emissions, my choice to abstain from a polluting action does make a difference. The problem here is that the expected utility approach now deals with an even smaller probability since it is highly unlikely that global emissions will peak at any given moment. Of course, the smaller the probability for my action to make a difference, the larger the benefit

³⁰ Nefsky, 211.

³¹ This notion is explicitly challenged by Nefsky, "How You Can Help, without Making a Difference."

³² Nefsky, "Climate Change and Individual Obligations: A Dilemma for the Expected Utility Approach, and the Need for an Imperfect View," 205.

³³ Nefsky, 206.

for my own sake can be justified, which again points towards a more skeptical position. Thus, Nefsky illustrates how the expected utility approach is in danger of asking too little.

4.2.2. Expected utility is overly restrictive

In addition to requiring too little, there is the possibility of being interpreted in a way that asks too much and requires implausibly strong verdicts. Nefsky points out how the expected utility calculations that determine the permissibility of an action leave out important background information. One can imagine situations, where two different people face a decision to perform a similar action, which would result in roughly the same cost-benefit analysis.³⁴ She gives the example of a lavish person, who in Sinnott-Armstrong's sense wants to aimlessly drive around in an SUV for fun on the weekend and an environmentally conscious person, who strives to live as sustainably as possible, yet takes car rides into the nearby mountains to go hiking on the weekends.

Nefsky's criticism is that the expected utility verdict would need to be the same for both people, given that the benefit and emissions from their respective car rides are in the same proportions. To Nefsky, this is a counterintuitive verdict.³⁵ It is easy to imagine similar situations, where we would grant certain people an action that emits a certain amount of CO₂ while denying it to others. Nefsky discusses and refutes several counterarguments that proponents of the expected utility argument might propose and concludes that the position is simply not able to make sense of individual climate obligations.³⁶

4.2.3. The root cause of all problems: pro tanto wrongness

The most interesting part about the discussion of the expected utility approach is Nefsky's diagnosis of why it fails in the way that it does. To repeat, she argues that the expected utility approach fails, because depending on how it is interpreted, it either becomes a skeptic position or it yields overly demanding verdicts. In that way, Nefsky's discussion connects to the spectrum of the respective positions of Sinnott-

³⁴ Nefsky, 207–9.

³⁵ Nefsky, 209.

³⁶ Nefsky, 210.

Armstrong and Broome that I have presented above, and the expected utility approach is not a viable candidate for a theory that is situated somewhere in between these two poles.

Where the expected utility approach fails, according to Nefsky, is in its aim to find a criterion according to which certain actions become *pro tanto* wrong.³⁷ What she means by that is that the approach attempts to declare certain actions as wrong in every given instance, unless there is a sufficient reason speaking in favor of it. This is embodied in the part of the argument that holds that private emissions entail large enough expected harm to be considered morally wrong if they are not outweighed by their benefit. Nefsky sees this as a general hurdle for responses to the inefficacy problem, in that approaches that achieve non-skeptical positions have difficulties not ending up on the other end of the spectrum.

4.3. Change in perspective: imperfect obligations

Nefsky's proposed solution is to consider *imperfect obligations*, by which she means obligations to abstain from certain actions enough of the time.³⁸ In contrast to the previously discussed positions, where actions are *pro tanto* wrong, i.e., wrong at any time unless sufficient counteracting reason, imperfect obligations declare certain actions as wrong if they are performed too much or too often. This formulation does of course lead to the question of what counts as 'too much'. Nefsky does not provide an answer herself, as her concerns are on a more abstract level, and she leaves the details to be spelled out by more specific positions.

In general terms, Nefsky argues that from individual imperfect climate obligations follows that one ought to keep personal emissions low enough. Based on one's current living standard, this obligation may translate into an obligation to reduce emissions but does so in a way that considers the bigger picture and temporal aspects in that individuals ought to make choices such that they do not emit too much over time. With the position spelled out in that way, one is no longer stuck to end up in one of the extreme positions.

³⁷ Nefsky, 211.

³⁸ Nefsky, 212. Note that Nefsky does not necessarily mean imperfect obligations in the Kantian sense. The concepts are similar and an imperfect duty in Nefsky's sense may also be one in the Kantian sense or not.

Skepticism is avoided because there is a clear obligation not to emit too much, which means that individuals are not off the hook. At the same time, no particular action is pro tanto wrong in the sense that it generally ought not to be performed without sufficient reason. Coming back to Nefsky's example of the two drivers, an imperfect obligations perspective can find plausible arguments as to why the lavish person ought not to go on a Sunday joyride, while the environmentally mindful person is morally not required to abstain from her drive into the mountains to go hiking, because imperfect obligations take the relevant lifestyle choices these two people previously made into account.

For this thesis, I accept Nefsky's arguments in favor of imperfect obligations as the most plausible framework to accommodate individual climate obligations. Instead of looking for counterarguments to her position, I will treat her as a foundation and see where further specifications of her position lead to. For that reason, I consider Christian Batz's fair share approach.

Before continuing, let me briefly summarize what I have presented so far. In the search for individual emission reduction obligations, I propose that it helps to frame the question along a spectrum that is bound by two extreme positions, which hold that emissions are either categorically unjust and therefore immoral, or that there are no direct obligations for individuals respectively. My point is that a convincing answer to the question of individual climate obligations has to be situated somewhere in between these polar positions. Therefore, I have presented Nefsky's arguments of why an expected utility approach does not work as a middle-ground position, because it collapses to one of the two extreme positions and that an account of imperfect obligations can truly be considered to be viable in this way. Nefsky's notion of imperfect obligations is to be understood as an obligation to not cause too many emissions, where what is to be counted as 'too much' is to be determined by a narrower approach. Hence, the next step in the direction of a more concrete answer to the question of what an individual ought to do, or rather, how much CO₂ an individual is permitted to emit, I now turn to Baatz's fair share approach.

5. Specifying imperfect obligations: the fair share approach

Baatz, similar to Sinnott-Armstrong and Broome explicitly sets out to answer the question of whether individuals are morally obligated to reduce their personal emissions. In particular, he argues that personal responsibility goes beyond efforts to promote climate-friendly institutions, e.g., by voting in national elections, in that individual climate responsibility explicitly encompasses obligations to directly reduce private emissions.³⁹

5.1. The initial formulation of fair shares

Baatz's starting point is the fact that global emissions need to be reduced to prevent the further harms of climate change, which turns emissions into a scarce good. He thereby addresses the issue from a distributive standpoint, which leads him to conclude that emissions should be allocated in a just way, such that each individual gets a *fair share* of the global emission budget.⁴⁰

This illustrates how his position is connected to imperfect obligations because what was missing in Nefsky's argument in favor of imperfect obligations was a principle to determine what counts as 'too much'. Implicitly, Baatz answers this question by claiming that individuals are not acting morally wrong when their emissions stay below or equal to their personal fair share.

There are two challenges for Baatz to address to defend his position. First, he needs to specify how to determine the fair shares, i.e., argue for some egalitarian principle according to which the global emissions budget ought to be distributed. The second question is to justify the notion of fair shares themselves, where the challenge is to argue why emissions below a fair share are permissible while emissions beyond the fair share are objectionable. I will first present Baatz's stance towards both of these questions before I critically engage with the second question in particular.

³⁹ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 569.

⁴⁰ Baatz, "Climate Change and Individual Obligations to Reduce GHG Emissions," 3.

5.1.1. How to divide the global carbon budget?

The first question is ultimately more a question of climate justice than one of individual ethics. This does, of course, not make it any less important, but it is not as closely related to the point Baatz wants to make. For his main thesis, which is to argue that individual obligations to reduce emissions exist, it would in principle be enough to just assume that some distribution of emission rights exists. However, there is still something to be learned for his framework by considering what such a distribution could look like in detail.

Baatz discusses a small range of different specifications of fair share allocations, such as dividing the global carbon budget by the number of the current world population and thereby assigning each person an equal share of the total.⁴¹ This view, as well as similar specifications quickly run into serious troubles. For example, Baatz admits that it is unreasonable not to consider different energy needs and capabilities, e.g., access to renewable energy sources. Generally speaking, the distributive question of allocating a fixed global emissions budget is not easily resolved.⁴²

While the specifics of the distribution are only of secondary importance for Baatz, he does consider the more general implications of such distribution schemes for his position.⁴³ Depending on how one specifies the individual fair shares, Baatz expects to arrive at roughly two to three tons of CO₂ per person per year, which, for the average European, would result in a six-fold reduction.⁴⁴ As a result, compliance would require drastic large-scale changes in one's lifestyle.

5.1.2. Demandingness of fair shares and subsistence emissions

In this context, Baatz argues that in determining climate obligations, one needs to be aware of the notion of *subsistence emissions*, which is the amount of emissions necessary for living a decent life. He gives the example of an elderly woman living in a rural part of the US without adequate availability of public transport. The woman

⁴¹ Baatz, 5.

⁴² For an overview of different positions and a more detailed rejection of the equal-per-capita distribution see e.g. Caney, "Just Emissions." Furthermore, it needs to be noted that in addition to the theoretical difficulties of deciding on how a just distribution of emission rights could look like, there would of course be tremendous practical difficulties in actually enforcing such a distribution on a global scale.

⁴³ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 586.

⁴⁴ Baatz, "Climate Change and Individual Obligations to Reduce GHG Emissions," 9.

thus requires a car to be able to perform important actions such as buying groceries or spending time with friends, which means that she is most likely not able to stay beneath three tons of emissions per year without drastic personal sacrifices. Baatz claims that these sacrifices would be severe enough to prohibit a decent life for the woman such that she would lack access to central capabilities in the sense of Martha Nussbaum.⁴⁵

The point of these considerations is to show that subsistence emissions determined by criteria for a decent life can be quite high in Western countries and will be incompatible with emission caps of below three tons. This means that fair shares as a purely distributive concept face a significant challenge: can fair shares be compatible with what can reasonably be expected from people given the social and economic structures they find themselves in?⁴⁶

For Baatz, it is important to realize that personal emissions are not only shaped by individual lifestyle choices but the surrounding social and economic structures. Furthermore, he stresses that moral obligations can only function if they do not imply sacrifices that are too demanding. The point is that whether or not a certain level of emission reduction can be demanded from an individual does not only depend on the absolute level of reduction defined by the fair share. Accordingly, determining what we can reasonably demand from an individual should be dependent on the possibilities a person has available, hence we have to consider their specific situation.⁴⁷ In particular, he claims that “on the level of abstract analysis we cannot say more than that individuals have the moral obligation to reduce emissions as far as can *reasonably* be demanded from them”⁴⁸, where reasonable demandingness is contingent on the specific circumstances of an individual and can only be determined on a case-by-case basis.

These considerations of moral demandingness initially lead Baatz to conclude that individuals may not generally be required to reduce their emissions to the level of their

⁴⁵ Baatz, 10.

⁴⁶ A connection that Baatz does not consider directly is how expensive tastes, i.e., requiring a comparatively higher level of wealth to achieve a certain amount of welfare, tie into his justification of subsistence emissions.

⁴⁷ Of course, the same argument about the importance of surrounding structural conditions would also apply in the other direction. We can demand comparatively more from individuals living in a country with easy access to environmentally friendly infrastructure, such as e.g., a high share of renewable energies.

⁴⁸ Baatz, “Climate Change and Individual Obligations to Reduce GHG Emissions,” 10 emphasis original.

fair share if doing so would exceed what can reasonably be demanded from them.⁴⁹ In later publications, he revises this position to include concerns of moral demandingness directly into the notion of the fair share in the sense that external factors which prevent individuals from reducing their emissions to the level of the fair share without unreasonable sacrifices become included in the budget.⁵⁰

5.2. Fair shares all things considered

The second challenge to specify Baatz's fair share position is to justify the notion of fair shares as a moral principle. In other words, why are emissions up to the point of one's fair share permissible? For Baatz, the fair share resembles the emission entitlement in the sense of subsistence emissions of individuals all things considered. This stems from the fact that emissions currently still play an essential part in our socio-economic infrastructure. Since the emission entitlement resembles an upper boundary, the notion of a fair share all things considered, effectively functions as a personal moral emissions budget that individuals have at their disposal.

At the same time, Baatz still views fair shares as a collective principle in the sense that the size of the fair share depends on the collective emission budget and more importantly it holds that the actions of others are relevant for whether or not exceeding one's budget is morally wrong. In particular, he claims that exceeding the fair share is only wrong if by doing so one contributes to a harmful action, which would not be the case if some other people do not exceed their fair share respectively.⁵¹

In two later papers, one of which co-authored with Lieske Voget-Kleschin, Baatz further develops the notion of fair shares as budgets all things considered. To make their concept of fair shares easier to work with, Baatz and Voget-Kleschin summarize their position in the following way:

⁴⁹ Baatz, 10.

⁵⁰ Baatz, "Reply to My Critics," 161.

⁵¹ Baatz, 161.

„The [fair share approach] stipulates that an individual A's GHG emissions are morally wrong if:

- 1) A exceeds her fair share of emissions entitlements, and
- 2) by emitting, A contributes to a harmful activity“⁵²

The first condition is straightforward. It holds that each individual is entitled to a certain amount of emissions which enables the person to live a decent life and takes into account the specifics of the individual needs and relevant structural circumstances. Furthermore, exceeding individually is only wrong if doing so actually leads to exceeding on the collective level, in other words, one is permitted to exceed one's budget if somebody else does not use up their full entitlement, which is expressed by the second condition. To make sense of this second condition, it is important to point out that Baatz and Voget-Kleschin operate under the assumption that harmful climate change only happens if the global emission budget is exceeded.⁵³ Hence, for emissions to be morally wrong, both necessary conditions above need to be met simultaneously.

The formulation of the fair share in terms of the two necessary conditions is a significant change to the original idea of a fair share that Baatz proposed in his original paper. As I have already mentioned above, the original argument was that exceeding one's fair share may be permissible because of demandingness concerns, for example, if one is dependent on carbon-intensive structures. The more recent and revised position is that these demandingness concerns directly enlarge the person's fair share such that the concept of a fair share is supposed to be a notion of an emissions entitlement all things considered.⁵⁴ This change implies several problems that I will address in the next section.

Lastly, Baatz and Lieske Voget-Kleschin, more closely justify why individuals face emission reduction obligations. They point out that to have an obligation to reduce emissions, there needs to be a causal connection between one's actions to the harms of climate change.⁵⁵ In other words, any position that argues for such individual

⁵² Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 577; Baatz, "Reply to My Critics," 161.

⁵³ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 576.

⁵⁴ Baatz, "Reply to My Critics," 162.

⁵⁵ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 577f.

obligations needs to address the inconsequentialism challenge that individual contributions do not make a difference and are therefore morally irrelevant.

5.2.1. Causal significance of small contributions

I have already discussed some attempts to address this issue: while Sinnott-Armstrong denies that there is any meaningful causal connection between an individual's private emissions and the harms of climate change, Broome and proponents of expected utility reasoning claim that individual actions have at least a small chance to cause harm, for example in the form of tipping points. Baatz and Voget-Kleschin take yet a different route and address the issue by referring to the theory of necessary elements of a sufficient set (NESS), developed by Matthew Braham and Martin van Hees.⁵⁶

As the name suggests, NESS defines causal contribution as being part of a necessary element of a sufficient set, which explains under what conditions small individual contributions to a larger outcome are relevant or not. The key argument is to make a specification of how individuals can be causally connected to an outcome by means of contribution. The benefit of considering NESS is that moral blameworthiness becomes decoupled from being individually causally responsible for certain harms. In other words, it makes finding fault with emissions possible, without the need to prove that any person's specific emissions caused a certain harm of climate change, which is overall an intuitive position.

This approach thereby differs from Sinnott-Armstrong's perspective on the situation in that individuals and their contribution to the global emission level are not considered in isolation, which is an important point to make. NESS differs from expected utility reasoning in the sense that an individual's contribution does not need to be the drop that causes the tipping point, i.e., the expected harm. Rather, it is simply a necessary component of that, which makes for a more plausible case. Lastly, I want to briefly note that Nefsky proposed a similar argument of how individual contributions can be causally relevant, without counterfactually changing the outcome.⁵⁷

In summary, Baatz and Voget-Kleschin present a position that tries to make sense of the individual's role in the global fight against climate change and the need for drastic

⁵⁶ Braham and Van Hees, "Degrees of Causation."

⁵⁷ Nefsky, "How You Can Help, without Making a Difference."

emission reduction. They argue that the global emissions budget needs to be justly distributed to individuals in a way that recognizes the specific circumstances they find themselves in. This results in individual emission entitlements that resemble the maximum amount an individual is permitted, given that everybody else complies. While the fair share approach does not specify any precise level of emission reduction it allows for more broad implications since it is plausible that most people, especially those who are globally wealthy, are currently exceeding their subsistence emissions. The fair share approach therefore implies that most of us do face an obligation to reduce our current emissions.⁵⁸

⁵⁸ Baatz, “Climate Change and Individual Obligations to Reduce GHG Emissions,” 12.

6. Criticism of the fair share approach: against individual carbon budgets

The fair share approach as presented by Baatz and Voget-Kleschin does have some initial appeal. It appears to satisfy the conditions to be a legitimate middle-ground position in the sense of being positioned between the two extremes of Sinnott-Armstrong and Broome since it holds that some emissions are wrong, while others are not. Moreover, the fact that the size of the individual entitlement is directly responsive to the specific circumstances of a given individual is a desirable quality, because the structural surroundings of individuals do matter. Lastly, the fair share argument seems to be compatible with Nefsky's call for an imperfect obligation perspective, with which I generally agree. Considering these points, the fair share approach is a viable candidate for an answer to the question of individual climate obligations. In the following, I will more closely examine, whether the fair share approach succeeds in establishing individual emission reduction obligations plausibly and convincingly.

6.1. Fair share as a quantitative notion: individual emission budgets

First of all, it is important to note that Baatz mixes a distributive perspective (fair share as an allocation of global emission rights) with a more general reasonably demandingness position (fair share as what can reasonably be demanded).⁵⁹ In particular, it is unclear what role the distributive part and the consideration of the global emissions budget truly play in arriving at Baatz's conclusions, i.e., how the demandingness concerns and the distributive argument practically interact.

There is an essential quality of the fair share approach that so far, has not received direct attention: the very notion of a fair share is a *quantitative term*. Implicitly, this has been recognized in the discussion, whenever the 'size' of the fair share or the emissions entitlement was mentioned. Additionally, I have previously intentionally referred to the fair share as an individual emission *budget*. In the following, I will criticize that the quantitative nature of fair shares causes serious troubles for the overall position. Moreover, I will work out why individual carbon budgets are generally not an adequate moral framework to constitute individual climate obligations. In other

⁵⁹ I thank Felix Pinkert for spelling this out explicitly.

words, my objection is against the notion of *determining* individual climate obligations in quantitative terms primarily.

6.1.1. How to determine fair shares?

The first problem of the quantitative perspective is that individual emission budgets are prohibitively difficult to determine, where the point is to realize that a quantitatively framed question demands a number as an answer. Determining the numeric extent of a fair share is difficult in two ways: first, there is the already discussed problem of finding an adequate and agreeable distributive criterion to justly divide the global emission budget among individuals. Moreover, a question that leads to further troubles is how future generations' emissions entitlements are to be included in the distributive calculations of the present global carbon budget.

In addition to that one would need to individually specify by how much the fair share changes as a function of the relevant structural background conditions. All of these tasks are conceptually difficult and practically impossible to calculate for an individual. The second main reason why individual emission budgets are problematic is that it is questionable how the attribution of emissions to individuals would even work in the first place. This thought of Nolt was previously presented in section 2.2.1. What should be taken away from that is that the whole notion of individual emission budgets may rest on the false premise that such a thing as individually caused emissions or emissions attributable to individuals even exists.

Overall, the problem so far is that the quantitative nature of individual emission budgets implies a false sense of precision. Intuitively, I find that there is something uneasy about specifying moral demands in terms of a number, that is nearly impossible to know both practically, but importantly on a theoretical level. Baatz implicitly tries to avoid these issues caused by quantitative considerations by constructing individual obligations in terms of what can reasonably be demanded, whereby he moves the moral criterion from 'do not exceed your fair share, which is x tonnes of CO₂' to 'reduce your emissions as much as reasonably possible'. The problem does, however, persist since the quantitative nature of the position is not changed by framing individual budgets in terms of reasonable demandingness, because the obligation to reduce as much as demandable is effectively still a maxim of the kind 'reduce your emissions by x tonnes'. Arguably, my criticism could be addressed by defining the budget not as a

single number, but as a range, which makes them epistemically more approachable since it allows for less precise estimates of both the required budget and the personal footprint. This might make the practical aspect of my criticism less severe, however, it would not answer to the conceptual criticism I will develop in the next paragraphs.

6.1.2. Overshooting

The next point I want to address is that the framing of individual climate obligations in terms of personal emission budgets is not only impractical but conceptually problematic. I will do so in two steps: first, I argue that private emission caps fail to serve their purpose as budgets because they are not binding. Second, my criticism is that this perspective of individual obligations is inadequate because it mistakes the role of individual responsibility and therein leads to a fundamental issue of emission absolutism.

What is troubling about the notion of individual emission budgets, and Baatz's specifications in particular is that they simply do not serve their function as budgets, because they are overshooting the global emission limit. Baatz himself acknowledges this fact in two ways. Firstly, he recognizes that the global carbon budget is so small that merely dividing it among the population in any sensible way results in necessary emission reductions that are beyond what is reasonably demandable for many. He therefore argues that his notion of a fair share is to be understood as an emission entitlement all things considered, which implies that the total sum of fair shares will add up to a number greater than the collective emission budget.⁶⁰

Granted, the fact that individual emission caps overshoot the global budget is by itself not necessarily a reason to reject them, as I have explained in section 1.2. I agree with Baatz, that a mere distribution of the global emission budget to individuals without recognition of individual needs such as subsistence emissions is not feasible from a demandingness standpoint. What troubles me, is why the fair share should conceptually still be treated as a budget, in the sense that it should not be unilaterally exceeded, given that the sum of individual fair shares exceeds the global budget even under full compliance.

⁶⁰ Baatz, "Reply to My Critics," 162.

6.1.3. Non-binding budgets are not budgets

In essence, my point is that it does not make sense to treat the fair shares as budgets if they sum up to some arbitrary number. Note that Baatz and Voget-Kleschin do not consider individual fair shares as subsistence emissions in isolation, because whether or not exceeding one's fair share is morally wrong in their view depends on whether or not everyone else exerts their full entitlement.⁶¹ In other words, one is permitted to emit more than one's fair share, as long as the total sum of fair shares is not exceeded. This implies that the moral weight of individual fair shares is borne by their sum, i.e., some contingent quantity of emissions that is generally larger than the planetary budget.

What is entirely missing in this argument is a justification of this sum of fair shares as a quantity that is desirable not to overshoot or why it is permissible to exceed one's limit when others leave room in theirs, because the fact that individual fair shares consist of an adjusted percentage of the global emission budget meaning that the sum of fair shares does not generally equal the global limit.⁶²

In my view, there is a mistake of category here. To make individual budgets work one either has to stick to the existing global budget as a binding collective constraint and define individual budgets as true shares. As a result, the individual budgets are binding under full compliance in the sense that unilaterally exceeding an individual budget leads to overshooting of the collective budget. Alternatively, one can start from the other direction, formulating individual budgets bottom-up, but then one needs to argue why they are individually binding, for example by using individual subsistence emissions as the upper boundary that ought not to be exceeded individually, irrespective of what others do. What does not work, is to set individual budgets, that sum up to an arbitrary amount larger than the planetary boundary and hinge their moral status on whether or not they lead to overshooting of this arbitrary amount or not.

⁶¹ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 580.

⁶² Generally speaking, every collective emission limit is of course better than infinite emission growth. In particular, it is not the case that things do not matter anymore after overstepping the global emission budget, instead, it would still be important to overshoot the 2° limit by as little as possible. The question only is why an emission limit larger than the global emission budget should still be conceptualized as a budget.

6.2. The underlying misleading conception of individual responsibility

I claim that the fact that individual emission budgets such as Baatz's fair shares overshoot the global emissions limit is symptomatic of a larger conceptual mistake. As I have outlined in section 1.2 I do not believe that individuals face full responsibility for climate change in the sense that every single individual is obligated to act in such a way that their actions unilaterally correspond to the global emission limit. Baatz and Voget-Kleschin do take the opposite stance, in that they explicitly claim that "[in] an ideal situation, no one exceeds her fair share and the total [...] emissions budget does not cause harmful climate change."⁶³ I take issue with two implications of this statement.

Firstly, it highlights the relevance of my criticism in the previous section. Given that the fair shares as they define them generally sum up to a number larger than the global budget, it is not the case, that harmful climate change is averted when everybody sticks to their fair shares.

Secondly, it exemplifies how the notion of individual climate budgets puts the wrong kind of responsibility in the hands of individuals. The claim that harmful climate change is averted when all individuals act in the right way simply ignores the fundamental institutional and structural aspects of climate change, in the sense that the aggregate emission level that determines the extent of climate change cannot be reduced to an aggregate of individual decisions and actions alone. In a way, Baatz himself effectively makes a similar argument when he points out the overdemandiness concerns of a mere distribution of the global emissions budget. My point is that it would not only be overly demanding to obligate individuals to bear the full responsibility of achieving the necessary global emissions reductions as a result of adequate individual sacrifices.

Lastly, even if am wrong and it would be true that individuals ought to be responsible for climate change in the sense that all individual actions need to conform to the collective climate goals, there is still the problem of the sum of fair shares exceeding the global limit. Based on Baatz's and Voget-Kleschin's responsibility starting point, a position like Broome's absolute moral refusal of private emissions would be much more adequate than the fair share approach.

⁶³ Baatz and Voget-Kleschin, "Individuals' Contributions to Harmful Climate Change," 576.

There is another responsibility-related reason why individual climate budgets are problematic. The notion of an emission entitlement formulated as a quantitative concept implies a form of emission absolution. What that means is that it seems to be the case that the *type* of action does not matter from a moral point of view, as long as the budget is not exceeded. Emission budgets thereby function as a justification of all actions that fall within their boundaries and conversely rule out all emissions beyond the budget. Additionally, action-relevant context cannot be included in the moral verdict, when it is solely based on whether or not the budget has been exceeded. I will later illustrate this issue in the context of economic policies such as carbon prices.

7. What can be learned from the fair share approach failure?

Leading up to the previous section, the content of this thesis has followed a clear direction of progression. I have introduced two extreme positions about individual emission obligations with Broome and Sinnott-Armstrong respectively. Furthermore, I have presented Nefsky's rejection of an expected utility position as a possible middle-ground and her argument for the adoption of imperfect obligations. Lastly, I have discussed Baatz's fair share view as a way to specify the boundaries that Nefsky's more general position leaves open to fill. In that sense, I aimed to continuously build up toward a conclusive answer to the question of individual climate obligations by going over different positions and adapting their shortcomings in proceeding to the next one.

The apparent problem is that there are strong reasons to reject the fair share approach, as I have detailed in the previous section. However, this does not mean that my search for an answer has hit a dead-end. On the contrary, I think that my rejection of Baatz's specific fair share position on the grounds of a general dismissal of individual moral carbon budgets is nonetheless useful for the question of individual emission reduction obligations. For the remainder of this thesis, I will elaborate on how that is the case. In particular, this will involve a change of perspective on why imperfect climate obligations should be interpreted qualitatively.

7.1. Viewing imperfect obligations in qualitative terms

The way I have outlined the situation when describing Nefsky's proposal to consider imperfect obligations as the solution for the question of individual climate obligations was that these obligations need to be specified by defining their boundaries, i.e., defining what counts as 'too much' or 'too little'. Nefsky herself writes that this is to be done by a further position.⁶⁴ But what if that is the wrong way to ask the question? The problem is that any question involving the term 'how much' leads to the expectation of a quantitative answer. This makes any such position vulnerable to the criticism against individual moral carbon budgets I have voiced in the previous section. This indicates, that perhaps the questions itself has been the problem all along.

⁶⁴ Nefsky, "Climate Change and Individual Obligations: A Dilemma for the Expected Utility Approach, and the Need for an Imperfect View," 213.

There is an alternative perspective one can take when confronted with the position that one should not cause ‘too much’ emissions. The notion of ‘too much’ inherently implies that only a certain amount of emissions is permissible. Now, instead of asking how much ‘too much’ is, one can generally ask *which* emissions are permissible. This is a promising change in perspective because it shifts the focus away from the search for an answer in quantitative terms. I still believe that imperfect obligations are the most suitable framework to account for the ethical role of individual action and climate change, the point I want to make is that it is a mistake to solely interpret imperfect obligations in a quantitatively oriented manner.

7.2. Different answers on different levels of discussion

Baatz motivated his fair share position with the observation that the fact that we need to globally reduce greenhouse gas emissions, turns them into a scarce good. A global emissions budget is not only a plausible thought but is calculated by scientists. As a result, it makes sense that collective entities think of emissions by referring to carbon budgets, and resulting emission reduction aims. Hence, on the collective level, where the task is to avert catastrophic climate change, it makes sense to focus on the quantitative variable of total emissions rather than the qualitative. The mistake is to directly transfer this line of thought to the individual level.

For any given individual action, our moral judgment is sensitive to the qualitative aspect of emissions. This was part of Nefsky’s reasoning in the example of the two drivers I have presented in section 4.2. What matters is that the difference in responsibility, between the collective and the individual level has implications for how one should determine the morality of emissions, namely that the collective question of how to reduce emissions to zero lends itself to a quantitative framing, whereas the individual question of permissive emissions lends itself more towards a qualitative framing.⁶⁵ Hence, my point is that emission budgets as a concept work well on a collective level, but they do not work on an individual level.

⁶⁵ Note that this distinction is meant to function as a spectrum. I do not think that individual morality of emissions should be entirely determined by qualitative aspects without regarding the quantitative side whatsoever. Rather, my point is that for individuals, quality is the more important factor, and vice versa for collectives.

What the fair share approach gets right is that there should be an obligation for everyone to do their part towards the common goal of global emission reduction and recognize that all emissions contribute to the harms of climate change. However, as I have argued, I believe that it is not helpful to determine the extent of this demanded contribution in terms of a percentage of the total emissions budget, or any other individual carbon budget in general. This is due to the difference in the kind of ethical questions individuals face in comparison to collectives.

Baatz's underlying picture of individual responsibility, which I have highlighted previously (6.2), suggests that if everyone would act in the right way, harmful climate change would be averted. With his notion of fair shares, he attempts to put a certain percentage of the total responsibility in the hands of each individual.

This is reflected in the way Baatz causally ties individual contributions to the global harms of climate change, in particular with the usage of NESS theory, on which he bases the moral blameworthiness of individual small contributions. The problem is that NESS requires that an individual's contribution is large enough to be a necessary part of the sufficient set, i.e., an individual's contribution is what causes the global carbon amount to overshoot the budget.

8. Economic collective solutions and individual absolution

Toward the end of this thesis, I want to illustrate my arguments with a brief discussion of an example. Market-based solutions to climate change typically come in the form of carbon pricing. This can either be directly implemented via a carbon tax or by setting up a cap-and-trade system.

In the context of my arguments in this thesis, such carbon prices immediately open the following question: if I pay a socially adequate price for my emissions, does that mean that there no longer is anything wrong with them? My argument is that this question is analogous to the discussion of the problems of individual moral carbon budgets above.

One way economists engage with climate change and private emissions is from the perspective of externality-induced market failure. In the case of externalities, individual emissions have a harmful effect on others that the emitting individuals do not consider when making decisions, which results in an equilibrium where emissions exceed the socially optimal level. The problem stems from the fact that market prices of emission-intensive actions are lower than the socially optimal prices because the social cost of emissions is not captured, which issue can be fixed with an adequately sized carbon price. Economists accordingly define the so-called social cost of carbon as the monetary value of the total damage of one additional tonne of CO₂. In an optimal or efficient equilibrium, the market price would equal this social cost of carbon.

On the aggregate level, carbon prices work as a convenient tool for quantity reductions, either directly with cap-and-trade systems or indirectly with the use of taxation. Therefore, they are an integral part of national and international climate policies. Of course, these policy instruments have direct implications for individuals who for example get exposed to changes in commodity prices.

What is important to realize is that by implementing the adequate carbon price, one would effectively create a situation of individual moral carbon budgets, where the size of the budget is determined by the individual's willingness to pay. In other words, when emissions are permissible, as long as one pays the carbon price, then the total permissible amount of emissions for any given individual will equal their total ability to pay. In that way, carbon prices without further moral principles implicitly mirror moral judgments based on individual carbon budgets.

This is problematic for all the reasons against individual carbon budgets, which I have argued for above in addition to the fact that the size of the individual budgets when determined by market factors will have an even harder time being justified than the fair shares as subsistence emissions entitlements. Therefore, on an individual level, we need an additional moral principle to judge action types that are not entirely determined by the status of individual carbon budgets. In more practical terms, the point of these considerations is that an implementation of carbon prices must be sensitive to setting the right incentives on the individual level.

9. Conclusion

So what is it that individuals should do about climate change? This was the overarching question that I was hoping to address with this thesis and I will be the first to admit that I did not particularly answer this question. Instead, I addressed a small subpart of the overall question, namely the question of individual emission reduction.

Whatever the answer to the overall question of individual action in the context of climate change is, I think it is more than plausible that emission reduction will be an integral part of that answer, especially for those living in wealthy countries. Therefore, my goal was to learn something about what it takes to obligate individuals to reduce their personal emissions, and under what framework such obligations work.

The challenge was to find a way around the problem of how to make sense of tiny contributions to terrible harm, which is the relation between individual emissions and climate change. I have followed Nefsky's argument in favor of imperfect obligations and extended the motivation of her position by situating it in between the larger context of Sinnott-Armstrong and Broome.

Instead of questioning Nefsky's position more thoroughly, I have chosen to closely engage with Baatz's fair share approach as an implicit specification of the extent of imperfect climate obligations. I have used this narrow focus on the fair share approach to uncover that it should be rejected based on relying on individual climate budgets. I do believe that this argument of mine can be generalized into a rejection of personal emission budgets as the basis of moral judgment of individual actions overall.

This does still not answer the big question of what individuals should do, or the sub-question of whether individual emission reduction obligations exist. But what my arguments do achieve is to point out a general quality that the answers to both of these questions should be sensitive to. When it comes to the role of individuals in the fight against climate change, one should not aim to divide the collective responsibility into separate portions and distribute them among individuals.

In summary, my conclusion is that for individuals, it is not the most helpful way to primarily address the issue of what one ought to do in terms of a fixed quantified measure. Of course, it is still important how much individuals do. In particular, most of us need to sincerely face the question, of whether what we currently do is not too little.

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