

When is it Permissible to Impose and Offset Risks?: A Response to Barry and Cullity*

Brian Berkey

Abstract: Christian Barry and Garrett Cullity argue that there is a morally important distinction between offsetting by “sequestering” and offsetting by “forestalling.” They further claim that offsetting by sequestering will often make risk-imposing actions permissible, while offsetting by forestalling typically will not. In this paper, I highlight some reasons to be skeptical about their view, and suggest an alternative account of the conditions in which offsetting can make a risk-imposing action permissible. In addition, I note a significant implication of my argument for the ethics of greenhouse gas offsetting.

In a recent paper in this journal,¹ Christian Barry and Garrett Cullity argue that while some methods of offsetting risks that one has imposed can make the set of actions consisting of the

* I am grateful to audiences at the 2022 MANCEPT Workshops, the 2022 PPE Society Conference, the 2023 Rocky Mountain Ethics Congress, and the University of Maryland Philosophy Department. Michael Bukoski provided excellent comments at the Rocky Mountain Ethics Congress session. I owe special thanks for a number of very helpful conversations to Craig Agule and Kritika Maheshwari. I have also benefitted from discussions with Amy Berg, Justin Bernstein, Lea Bourguignon, Fabrizio Cariani, Diogo Carneiro, Chetan Cetty, Richard Yetter Chappell, Owen Clifton, Abby Concha, Elizabeth Edenberg, David Faraci, Ben Ferguson, Mike Gadomski, Molly Gardner, Max Hayward, Marcus Hedahl, Julian Jonker, Stephen Kershner, Jon Kwan, Hallie Liberto, Nici Mulkeen, David O’Brien, Aidan Penn, Govind Persad, Alex Prescott-Couch, Pierce Randall, Greg Robson, Tom Rowe, Paolo Santorio, and Tony Smith,

¹ Christian Barry and Garrett Cullity, “Offsetting and Risk Imposition,” *Ethics* 132 (2022): 352-81.

risk-imposing one(s) and the risk-offsetting one(s) “risk imposition permissible,”² other methods cannot render the relevant risk-imposing actions permissible. Specifically, they argue that there is a morally important distinction between what they call “offsetting by sequestering”³ and what they call “offsetting by forestalling.”⁴ And they claim that because of the way in which this distinction matters, offsetting by sequestering will at least often make risk-imposing actions permissible, while offsetting by forestalling will tend not to succeed in making such actions permissible.

Paradigm cases of offsetting by sequestering involve removing an amount of risk-causing material from the environment that is equivalent to the amount that one’s risk-imposing actions released. For example, Amy might attempt to offset her share of the greenhouse gas emissions generated by a flight that she took by giving an amount of money to an offsetting program that plants trees that is estimated to, in effect, make her share of the CO₂ that the program’s efforts will capture equivalent to her share of the emissions from the flight.⁵ Offsetting by forestalling,

² Ibid., 356. A set of actions is risk imposition permissible if it is not impermissible in virtue of any risks that it, or any of its component actions, might impose on individuals or groups. Barry and Cullity note that actions or sets of actions that are risk-imposition permissible might be impermissible all-things-considered, in virtue of features other than risk-imposition. Their argument is directed only at determining when a set of actions that includes at least one risk-imposing one and at least one risk-offsetting one is risk-imposition permissible. Similarly, my focus here is limited to assessing when offsetting risks that one has imposed can make a set of actions risk-imposition permissible. For ease of exposition, in the remainder of the paper I will use ‘permissible’ to mean ‘risk imposition permissible’.

³ Ibid., 354.

⁴ Ibid.

⁵ Ibid.

on the other hand, involves preventing others from releasing an amount of risk-causing material into the environment that is equivalent to the amount that one's own actions have released. For example, Craig might attempt to offset his share of greenhouse gas emissions from a flight by paying to supply others with cleaner cooking stoves that will release fewer greenhouse gas molecules than the stoves that they would otherwise have used, such that the net effect of his taking the flight and supplying the cleaner stoves is the same, in terms of emissions, as the net effect would have been had he neither taken the flight nor supplied the stoves.⁶

In this paper, I will highlight some reasons to be skeptical about the view defended by Barry and Cullity, and suggest an alternative account of the conditions that must be met in order for a set of actions that includes at least one risk-imposing one and at least one risk-offsetting one to be permissible. I will begin, in section I, by describing Barry and Cullity's view and the central arguments that they offer in its defense. In section II, I will provide some reasons to think that their view ought to be rejected, and suggest an alternative account that seems to me both independently plausible and consistent with the most powerful source of the appeal of Barry and

⁶ Ibid. This way of framing how we might think about offsetting emissions from a flight is not obviously correct, since it takes the net effect of one's refraining from taking the flight to be a reduction in emissions, in comparison to one's taking it, that is equivalent to one's proportionate share of the flight's total emissions. The marginal effect on emissions of one's taking the flight, however, is almost certainly much less than one's proportionate share of the flight's total emissions. The difference between the net effect of one's taking the flight and the net effect of one's not taking it, then, is likely much less than the difference between the net effect of one's supplying the cleaner stoves and the net effect of one's not supplying them. Despite this, there are good reasons for offsetting programs to require that individuals' contributions are sufficient to offset their proportionate share of emissions, since this is the only way to ensure that the aggregate effects of, for example, one flight's worth of offsetting reduces net emissions by an amount that is equivalent to what the flight releases.

Cullity's view. I will conclude, in section III, by briefly explaining why the view that I suggest in section II appears to have fairly radical implications for the case of greenhouse gas emissions offsetting.

I. BARRY AND CULLITY'S VIEW

Barry and Cullity claim that a set of actions that includes at least one risk-imposing one and at least one risk-offsetting one is permissible only if it imposes no excessive risks on others in relation to any of four distinct baselines against which the risks that the set of actions imposes must be assessed. Their arguments in defense of the need to include each of these baselines depend largely on their intuitive reactions to cases.⁷ The first two baselines that they endorse, and the arguments that they offer in support of them, seem to me fairly uncontroversial, so I will describe them only briefly, in order to provide the necessary background for my discussion of the third baseline, against which my objections will be directed.⁸

They begin with a simple case of offsetting by sequestering:⁹

⁷ *Ibid.*, 375. While I believe that there are reasons to avoid relying as heavily on intuitions about cases as Barry and Cullity do, I will not challenge their methodological approach here.

⁸ The fourth baseline that they defend is a combination of the first three (they refer to it as the "Combined Baseline" (*Ibid.*, 369)), which they endorse in order to address cases that combine the features that lead them to endorse the first three. Because of this, my objections to the third baseline apply to the fourth as well, but only because it incorporates the features of the third against which my objections are directed. I will not, then, discuss the fourth baseline independently.

⁹ *Ibid.*, 353. I formulate the case a bit differently than Barry and Cullity. The morally relevant features are, however, identical.

Boating and Extracting: A goes boating in a local river. His boat trip releases 100 units of a toxin, T, which imposes an increased risk of cancer on the people in the town downstream. Specifically, A's trip, considered on its own, increases the expected harm that the downstreamers will face by one cancer death. While he is boating, A also runs a toxin extractor in the river, which removes 100 units of T from the river.

In this case, the cancer risk faced by the downstreamers given both A's boating and his extracting is identical to the risk that they would have faced had he neither gone boating nor run the extractor. Barry and Cullity judge, plausibly, that the set of actions consisting in A's boating and his extracting is permissible.¹⁰ If this judgment is correct, then at least part of the explanation of why it is correct is that this set of actions does not increase the expected harm that the downstreamers face. As Barry and Cullity point out, invoking this claim as part of the explanation of the permissibility of the set of actions in *Boating and Extracting* implicitly involves a comparison of the expected harm that the downstreamers face after the performance of the actions in that set against the expected harm that they would face in a baseline scenario.¹¹ Here, the baseline is simply the expected harm that the downstreamers would have faced had A refrained from performing all of the actions in the set – that is, had he neither gone boating nor run the extractor. Barry and Cullity call this the *Standard Baseline*,¹² and assert that a necessary

¹⁰ *Ibid.*, 355.

¹¹ *Ibid.*, 360.

¹² *Ibid.*, p. 360. Here is their full formulation: “The Standard Baseline for assessing how much risk is imposed on a population by an action or set of actions S is the prospect of harm faced by that population without the performance of S.”

condition for the (risk imposition) permissibility of a set of actions is that it does not impose excessive risks on any individual or group in relation to the Standard Baseline.¹³ This condition is, it seems to me, both correct and uncontroversial.

The need for a second baseline is made clear by a case that Barry and Cullity call *Business Opportunity*:¹⁴

Business Opportunity: The downstreamers, concerned about the amount of toxin T in the river, pool some money and hire A, who owns a toxin extractor, to extract 100 units of T from the river. A runs his extractor, removes 100 units of T from the river, and then goes boating, releasing 100 units of T into the river.

It is clear that in this case, A's extracting cannot contribute to making his boating permissible. This is, as Barry and Cullity point out, because A has an independent obligation to extract 100 units of T that is grounded in his agreement with the downstreamers to do so in exchange for payment.¹⁵ More generally, risk-reducing actions that one is independently obligated to perform must be precluded from counting as offsetting risks that one imposes by performing other actions in a way that can make the relevant set of actions permissible. Barry and Cullity capture this requirement by endorsing what they call the *Moralized Baseline*.¹⁶ In *Business Opportunity*, this

¹³ *Ibid.*, 363.

¹⁴ *Ibid.*, 353. Again, I formulate the case slightly differently than Barry and Cullity, without altering any of the morally relevant features.

¹⁵ *Ibid.*, 363-64.

¹⁶ *Ibid.*, 364.

Baseline is the expected harm that the downstreamers face with the performance of A's independently required extracting, but without the performance of the other actions in the relevant set (i.e. his toxin-releasing boating).¹⁷ Again, Barry and Cullity claim that a necessary condition for the permissibility of a set of actions is that it does not impose excessive risks on any individual or group in relation to this Baseline.¹⁸ Because the set of actions consisting in A's boating and extracting in *Business Opportunity* does impose risks, in relation to this Baseline, corresponding to one additional expected cancer death on the downstreamers, this condition explains, in a way that seems clearly correct, why the set of A's actions in this case is not permissible.

Barry and Cullity's reason for thinking that there is a need for a third baseline derives from their intuition in the following case:¹⁹

Boating and Buying Off: A's neighbor Ned intends to go boating, which would release 100 units of toxin T into the river (and he has no intention to do any extracting). A pays Ned to cancel his boat trip, and then goes boating himself, releasing 100 units of T into the river.

¹⁷ Ibid., 364-65. Here is their full formulation: "When a set of actions S contains some action or actions A that fulfill an independent obligation to reduce the risk to which population P is exposed, the Moralized Baseline for assessing how much risk is imposed on a population by S is the prospect of harm faced by that population with the performance of A, but without the performance of the other actions in S."

¹⁸ Ibid., 365.

¹⁹ Ibid., 366. Once again, I have reformulated the case slightly without altering any of the morally relevant features.

Barry and Cullity claim that, intuitively, the set of A's actions in this case is not permissible.²⁰ In relation to both the Standard and Moralized Baselines, however, this set of actions at least might impose no risk on the downstreamers. Assessing the expected harm with respect to the Standard Baseline requires considering the amount of T that would be in the river if A neither paid Ned to cancel his trip nor went boating himself. And that amount would be identical to what is there given the set of A's actions in the case. In addition, all that is required to generate the same result with respect to the Moralized Baseline is the assumption that A has no independent obligation to prevent Ned from taking his boat trip at the cost that is necessary to buy him off. Whatever we might think more generally about the extent to which we might have obligations to take on costs in order to prevent other agents from imposing excessive risks on people, there are surely cases in which we do not have independent obligations to do so. We can, then, accept for the sake of argument that *Boating and Buying Off* is such a case.

Barry and Cullity claim that in order to capture the intuition that the set of A's actions in this case is not permissible, we ought to accept what they call the *Attributional Baseline*.²¹ In the case, this Baseline is the expected harm that the downstreamers face without Ned's boating and without the performance of the actions in the set.²² Once again, Barry and Cullity claim that a necessary condition of the permissibility of a set of actions is that it does not impose excessive risks on any individual or group in relation to this Baseline.

²⁰ Ibid.

²¹ Ibid., 367.

²² Ibid. Here is their full formulation: "When a set of actions S might prevent someone else's risk imposition, the Attributional Baseline for assessing how much risk is imposed on a population by S is the prospect of harm faced by that population without the other person's risk imposition and without the performance of S."

In relation to the Attributional Baseline, A's set of actions in *Boating and Buying Off* imposes the risk of one expected cancer death on the downstreamers, and is therefore impermissible. This is because in the baseline scenario Ned does not go boating, and A neither pays Ned nor goes boating. Between A and Ned, then, no molecules of T are added to the river in the Baseline scenario. In the case, however, A does go boating, and therefore releases 100 units of T into the river.

In effect, the Attributional Baseline is formulated so as to ensure that agents do not receive offsetting credit for preventing others from performing risk-imposing actions. Endorsing this Baseline, then, involves accepting that one cannot make it the case that a risk-imposing action that she performs is permissible by making it part of a set of actions that includes one that prevents someone else from performing an action that would have imposed an identical risk on the relevant others.

If we accept the Attributional Baseline, then it is clear that we would be committed to accepting that there is a morally important distinction between offsetting by sequestering and offsetting by forestalling. Specifically, we would be committed to accepting that, at least in general, we cannot receive offsetting credit for forestalling that could make our own risk-imposing actions permissible, while we can receive such credit for sequestering. And this, of course, would have significant implications for how we might, through offsetting, make our otherwise wrongful greenhouse gas emitting activities permissible.

II. DOUBTS ABOUT BARRY AND CULLITY'S VIEW, AND AN ALTERNATIVE

In my view, there is something importantly right about the intuition to which Barry and Cullity appeal in *Boating and Buying Off*. It does seem objectionable for A to, in effect, simply replace

Ned's (by hypothesis impermissible) boating with his own equally risk-imposing boat trip.²³ One part of the explanation for this is that A's boating has all of the same morally objectionable features that would have made Ned's boating impermissible – most importantly, it releases 100 units of T and thereby imposes an expected harm of one cancer death on the downstreamers. A further fact that seems to me important is that if we accepted that A could justify his boating by appeal to the fact that he forestalled Ned's equally risk-imposing boat trip, we would be allowing that A can permissibly take advantage of the fact that Ned wrongfully intends to go boating in order to create for himself a justification for acting in a way that would otherwise be impermissible, and that benefits only himself (and any others who join his boat trip).²⁴ In order to see why we might think that this fact can provide support for the intuition in *Boating and Buying Off*, while at the same time offering a basis for an alternative to Barry and Cullity's view that can avoid some of its potentially troubling implications, it will be helpful to consider some additional cases.

First, however, it is important to note that the claim that A attempts to take advantage of Ned's intended wrongdoing in order to acquire an offsetting justification for his boating is most clearly true if we assume that he has no alternative sequestering option for offsetting the risk that his trip would impose. Imagine, for example, that extractors for toxin T simply do not exist. If

²³ Ibid. 375.

²⁴ Of course, sometimes the wrongful intentions of others do clearly contribute to generating permissions for individuals to act in ways that would otherwise be wrongful. For example, if I wrongfully intend to kill someone, a third party can permissibly inflict necessary and proportionate harm on me in order to defend my intended victim's life. What provides the justification for acting in a way that would otherwise be impermissible in this kind of case is, however, the interests of my intended victim, and not the interests of the third-party defender.

this is the case, then it is not permissible for anyone to go boating in the river, since no amount of enjoyment that one might experience from taking a boat trip could justify imposing the expected harm of one cancer death on the downstreamers. In this case, then, the prospect of forestalling Ned's wrongful boat trip is the only remotely plausible basis for a potential justification that A could offer for going boating himself. But because accepting this as a justification would permit A to simply substitute his own action for Ned's intended wrongful action, and because it would permit A to take advantage of Ned's wrongful intention in order to acquire a justification for acting in a way that would otherwise be impermissible, we should not accept it. The downstreamers would have a legitimate complaint against A's boating, to the effect that he has acted in a way that, under the circumstances, no one is permitted to act because of the risks to which they are subjected as a result. Even if A is not independently obligated to prevent Ned from taking his wrongful boat trip at some cost to himself, then, it is not permissible for him to simply substitute his own boating for Ned's.

Now consider the following case, in which both sequestering and forestalling are available to A:

Boating and Two Equally Costly Offsetting Options: A wants to go boating, but does not want to wrongfully increase the cancer risk faced by the downstreamers. He can run a toxin extractor and remove 100 units of T from the river (the same amount that his trip would release), at the cost of \$100. His neighbor Ned is planning to go boating without extracting, which would release 100 units of T into the river. Ned is willing to cancel his trip if he is paid \$100.

Barry and Cullity's view implies that if A runs the extractor, his boating is permissible, but that if he instead buys off Ned, it is impermissible. Furthermore, it implies that if A buys off Ned rather than running the extractor, his boating is impermissible for precisely the same reasons that it was impermissible in the above version of *Boating and Buying Off* in which no sequestering option was available. This is because in both cases the set of actions consisting in A's boating and his forestalling Ned's trip fails, in identical ways and to the same extent, to avoid imposing excessive risk on the downstreamers in the relation to the Attributional Baseline.

This, however, seems to me to be an implausible implication of Barry and Cullity's view. If, as Barry and Cullity themselves hold, the set of actions consisting in A's boating and his extracting is permissible, then A would not, by buying off Ned rather than extracting, be purporting to acquire a justification for performing a risk-imposing action that would otherwise be impermissible for anyone to perform (i.e. boating). Nor would he be taking advantage of Ned's intended wrongdoing to (purportedly) acquire a justification for acting in a way that would benefit himself, but that would be impermissible in the absence of Ned's wrongful intention.

It seems to me that, because A could permissibly boat and extract regardless of Ned's wrongful intentions, at least some of the reasons that plausibly explain why A acts wrongly in *Boating and Buying Off* do not provide grounds for thinking that A would act impermissibly by boating and buying off Ned in *Boating and Two Equally Costly Offsetting Options*. So long as there is an uncontroversially permissible set of actions that includes boating that is available to A, the downstreamers, it seems to me, have much more limited grounds to object to a set of actions consisting in A's boating and his buying off Ned. It may still be that it is morally better for A to extract rather than buying off Ned in this case. Perhaps it is even impermissible for him to buy off Ned rather than extracting. But the degree of wrongdoing (or, perhaps better, the

seriousness of the wrong) involved in boating and buying off Ned is, contrary to what is implied by Barry and Cullity's view, significantly lower here than it is in *Boating and Buying Off*.

Next, consider the following slight variant on the previous case:

Boating and Cheaply Buying Off: A wants to go boating, but does not want to wrongfully increase the cancer risk faced by the downstreamers. He can run a toxin extractor and remove 100 units of T from the river (the same amount that his trip would release), at the cost of \$100. His neighbor Ned is planning to go boating without extracting, which would release 100 units of T into the river. Ned is willing to cancel his trip if he is paid \$50.

It seems to me that, intuitively, the set of actions consisting in A's boating and his buying off Ned for \$50 is not only not permissible, but is also significantly more objectionable than his boating and buying off (rather than extracting) in *Boating and Two Equally Costly Offsetting Options*.²⁵ This, however, is in one way puzzling. After all, the downstreamers are no worse off if Ned is paid \$50 to cancel his trip than they would be if he were paid \$100, and A is, of course, better off if he is able to reduce what would otherwise be the amount of toxin in the river by 100 units more cheaply than he otherwise could.²⁶ What, then, could justify the intuition here?

²⁵ I suspect that not everyone will share this intuition. In my view, however, the reasons that I will offer for concluding, on reflection, that it is correct should persuade those who do not initially share it. My argument, then, does not assign any independent weight to my intuition – instead, I merely note that I have the intuition in order to ask what, if anything, might justify believing that it is correct.

²⁶ Ned, of course, is worse off if he is paid only \$50 than he would be if he were paid \$100. But since he wrongfully intends to go boating without extracting, surely his interests being promoted to a lesser degree cannot be

In my view, the most important factor that supports concluding that A's buying off Ned for \$50 in *Boating and Cheaply Buying Off* is more objectionable than his buying him off for \$100 in *Boating and Two Equally Costly Offsetting Options* is that in the former case, but not in the latter, A takes advantage of Ned's intended wrongdoing in order to purportedly make it permissible for him to go boating more cheaply than he could have in the absence of that intended wrongdoing. A plausible general principle that would capture this thought is that we should not allow that one person's wrongful intentions can make it easier and/or less costly for others to permissibly engage in risk-imposing activities.

To see why a principle of this kind can not only capture Barry and Cullity's intuition in *Boating and Buying Off*, but also avoids some implausible implications of their view, consider the following extension of *Boating and Cheaply Buying Off*:

Boating and Three Potential Offsetting Options: A wants to go boating, but does not want to wrongfully increase the cancer risk faced by the downstreamers. There is already 1000 units of T in the river, which leaves the downstreamers facing the expected of harm of ten cancer deaths. A is considering three options to offset the effects of his boating. First, he can run a toxin extractor and remove 100 units of T from the river (the same amount that his trip would release), at the cost of \$100. Second, he can pay his neighbor Ned \$50 to cancel his planned boat trip, which would release 100 units of T into the river (Ned is planning to go boating without extracting). Lastly, he can combine buying off Ned for \$50 with \$50 worth of extracting, which would remove 50 units of T from the river.

what makes A buying him off for \$50 in this case more objectionable than buying him off for \$100 in the previous case.

The downstreamers have very strong reasons to prefer that A chooses the third option. If he chooses either the first or second option, then there will, in the end, be 1100 units of T in the river.²⁷ But if he chooses the third option, then there will, in the end, be only 1050 units in the river.²⁸ It is implausible, then, that the first option is permissible while the third is impermissible. This, however, is what Barry and Cullity's view implies.²⁹

To see why their view implies this, note that the Attributional Baseline requires assessing the risk that the downstreamers face given all of the actions in the relevant set against the risk that they would face without any of the actions in the set, and without any forestalled risk impositions by others. This means that the total of 1050 units of T that would be in the river after

²⁷ If he chooses the first option, then both he and Ned will add 100 units to the original 1000, and he will then extract 100 of the resulting 1200 units, for a resulting total of 1100. If he chooses the second option, he will add 100 units to the original 1000, and will do no extracting, but Ned will not add any units, again for a resulting total of 1100.

²⁸ His boat trip adds 100 to the original 1000, he extracts 50, and Ned does not add any, for a resulting total of 1050.

²⁹ At one point they suggest that preemptive forestalling might be a justified means of offsetting if it is necessary in order to reduce the overall risk faced by those subjected to risks by the relevant actions ("Offsetting and Risk Imposition," 366). There are, however, two features of their discussion that make it clear that they do not think that, in general, achieving risk reductions in relation to sequestering options that their view implies are permissible is sufficient to justify employing forestalling as (part of) an approach to offsetting. First, their formulation of the Attributional Baseline, and their claim that avoiding imposing excessive risks in relation to it is a necessary condition of the permissibility of a set of actions, implies that no offsetting credit can be permitted for any forestalling. And second, in discussing a case in which one forestalls someone else's risk imposition in a way that reduces the overall risks to those subjected to those risks, they claim that this reduction is insufficient to justify a set of actions that involves imposing risks and forestalling someone else's risk imposition (Ibid., 378-9).

A chooses the third option must be assessed against a baseline of 1000 units that would be in the river if A neither went boating nor did any extracting, and if Ned did not take his forestalled boat trip. Since an extra 50 units of T would (we can stipulate) impose an expected harm of half of a cancer death on the downstreamers, it is clear that A's set of actions in the third option does impose an excessive risk on the downstreamers in relation to the Attributional Baseline, and is therefore impermissible on Barry and Cullity's view.

In contrast, A's set of actions in the first (sequestering only) option, despite being significantly worse for the downstreamers (and equally costly to him), imposes no risks on the downstreamers in relation to any of the Baselines that Barry and Cullity endorse, and is therefore, on their view, permissible. If we think, as I have suggested we should, that any view according to which the first option is permissible while the third is impermissible should be rejected, then we must reject their view and endorse an alternative.

My discussion thus far suggests that an alternative view ought to assign a somewhat different kind of importance to the distinction between sequestering and forestalling, and, relatedly, to treat the relationship between the wrongful intentions of others and the costs of offsetting to those who aim to avoid imposing unjustified risks on others, as morally important as well. Specifically, the reasons that I have offered for thinking that we ought to reject views that would allow an agent to take advantage of the wrongful intentions of others in order to make otherwise impermissible risk-imposing actions permissible, or to make it less costly for them to permissibly offset their risk-impositions than it would otherwise be, suggest that a plausible view will require that the amount of resources that an agent directs to offsetting their risk-imposition be no less than what would be required to fully offset the relevant risks via sequestering. The cost of sequestering, then, should be treated as a kind of baseline – it sets the minimum cost that

one must take on in order for a set of actions that includes at least one risk-imposing action to be permissible. Holding this amount of cost fixed, then, one ought to employ whatever combination of offsetting methods (i.e. sequestering and forestalling) would maximally limit the total risk to which those subjected are exposed.

This view, like Barry and Cullity's, implies that A's boating in *Boating and Buying Off* is impermissible; since there is no sequestering option available, A cannot permissibly take advantage of Ned's wrongful intention to go boating in order to acquire a justification for going himself and substituting his trip for Ned's. But unlike Barry and Cullity's, the view that I have suggested does not rule the third option in *Boating and Three Potential Offsetting Options* to be impermissible. Instead, it plausibly implies that if A goes boating, he is required to offset by both forestalling Ned's trip and doing at least \$50 worth of extracting.

III. GREENHOUSE GAS EMISSION OFFSETTING

If we make certain assumptions that are at least plausible, the view that I have suggested appears to have fairly radical implications for the ethics of greenhouse gas emissions offsetting. To see why, assume for the sake of argument that, at least for "luxury emissions,"³⁰ – that is, roughly, emissions that are not necessary in order to provide for people's basic needs – emitting without offsetting is impermissible. I have argued that any view that permits agents to take advantage of the wrongful intentions of others in order to make it less costly than it would otherwise be to permissibly engage in risk-imposing acts ought to be rejected. If this is correct, then surely any view that would allow agents to take advantage of the fact that others have actually carried out

³⁰ See Henry Shue, "Subsistence Emissions and Luxury Emissions," *Law & Policy* 15 (1993): 39-60.

their wrongful intentions in order to make it less costly than it would otherwise be to permissibly engage in risk-imposing acts ought to be rejected for similar reasons.

It is possible, however, for others' wrongful actions to make it the case that the amount that offset providers charge for offsets is lower than it would be in the absence of those wrongful actions. Importantly, this is the case not primarily because these wrongful actions open up opportunities for offsetting by forestalling, but instead because they leave many more of the least costly means of offsetting, including many sequestering offsets, available for those who do choose to offset.

If producing luxury emissions without offsetting is impermissible, then, the relatively low cost of emissions offsets is largely explained by the fact that so many people are impermissibly refraining from offsetting their emissions. If everyone offset their luxury emissions, then the least costly means of offsetting would be exhausted much more quickly, and offset providers would have to start employing more costly means, which would in turn lead them to have to charge more for offsets.

If failing to offset luxury emissions is impermissible, then, my view implies that those who produce luxury emissions are obligated to spend as much on offsetting as would be required to offset by sequestering in conditions in which everyone who produced such emissions also offset those emissions. Of course, it is difficult to estimate, even roughly, what the cost of (sequestering) offsets would be if everyone was committed to offsetting their emissions. Just one of many reasons for this is that if everyone was committed to offsetting their emissions, it seems very likely that most people would also emit at least somewhat less than they in fact do. This would, to some extent, mitigate the increased cost of offsets that would be expected if demand

for them greatly increased. But surely it would not prevent the cost from rising quite dramatically.

Those of us who believe that producing luxury emissions without offsetting them is impermissible, and therefore aim to offset our emissions in a way, and to an extent, that can make the set of actions consisting in those through which we make ourselves responsible for emissions and those by which we offset those emissions, then, ought to purchase offsets that far exceed what offset providers claim is required in order to offset our emissions. If we do not do this, then we are, in effect, relying on and taking advantage of the fact that others are wrongfully refraining from offsetting their emissions in order to make it (as we might mistakenly believe) less costly for us to permissibly engage in risk-imposing emitting activity.