

Climate Change and National Self-Interest

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Abstract Mitigation of climate change is often described as a tragedy of the commons. According to this theoretical framework, it is collectively rational for present-generation countries to mitigate climate change, but not individually rational to do so. It is rather in national self-interest to ‘free-ride’ on the mitigation actions of other countries. In this paper, I discuss two arguments criticizing this view. According to these arguments, it is in most cases individually rational for present-generation countries to mitigate, i.e., it is in their national self-interest. The first argument focuses on national self-interest in terms of economic efficiency, the second on national self-interest in terms of national security. I conclude that the critical arguments to a large extent are tenable, but that they seem to underestimate the significance of those cases in which it is not in national self-interest to mitigate climate change. In these cases the tragedy of the commons framework is still applicable.

Keywords Climate change · Economic efficiency · Mitigation · National security · Self-interest

Mitigation of Climate Change as a Tragedy of the Commons

Mitigation of climate change is often presented as a tragedy of the commons, pinpointing the risk of ‘free-riding’ on the mitigation actions of others. For example, the Intergovernmental Panel on Climate Change recently stated:

Climate change is a global commons problem, meaning reduction in emissions by any jurisdiction carries an economic cost, but the benefits (in the form of

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reduced damages from climate change) are spread around the world ... [the] public good characteristics of climate protection (non-excludability and non-rivalry) create incentives for actors to ‘free ride’ on other actors’ investments in mitigation. ... International cooperation is necessary to significantly mitigate climate change because of the global nature of the problem... (IPCC 2014, pp. 1007–1008).

This view of mitigation of climate change as a tragedy of the commons has been analysed in a clear way by Stephen Gardiner:

A Tragedy of the Commons is essentially a Prisoner’s Dilemma involving a common resource. This has become the standard analytical model for understanding regional and global environmental problems in general, and climate change is no exception. Typically, the reasoning goes as follows. Imagine climate change as an international problem and conceive of the relevant parties as individual countries, who represent the interests of their citizens in perpetuity ... On the one hand, no one wants serious climate change. Hence, each country prefers the outcome produced by everyone restricting their individual emissions over the outcome produced by no one doing so, and so it is collectively rational to cooperate and restrict global emissions. But, on the other hand, each country prefers to free ride on the actions of others. Hence, when each country has the power to decide whether or not she will restrict her emissions, each prefers not to do so, whatever the others do (Gardiner 2006, p. 400).

Gardiner explains how to resolve commons problems in general and refers to Garrett Hardin who talks about “mutual coercion, mutually agreed upon” (Hardin 1968). By introducing a system of sanctions the option of free riding is foreclosed and what is collectively rational becomes also individually rational (Gardiner 2006). However, when applying this resolution to climate change practical problems arise, because of the lack of “an effective system of global governance” (Gardiner 2006, p. 401). Mitigation of climate change seems to require global regulation of greenhouse gas (GHG) emissions and the lack of an adequate global regime “makes this difficult, if not impossible” (Gardiner 2006, p. 401).

Now, Gardiner finds the problem of mitigation of climate change misdiagnosed if it is conceived of as a classical tragedy of the commons. It neglects the intergenerational aspects of the problem (Gardiner 2006). However, this is not the line of critique that I will focus on in this paper. I will rather discuss the classical view—let us call it the Standard View—in another way, namely by focusing on national self-interest.

According to the Standard View, it is not (mainly and profoundly) in national self-interest to mitigate climate change. It is not individually rational for individual states to undertake mitigation action. The aim of this paper is to investigate to what extent this view is adequate. I will do so by discussing two arguments that criticize this view. According to these two *con* arguments, it is in most cases individually rational for countries to mitigate. It is in most cases in their national self-interest. The arguments focus on two different aspects of national self-interest, economic

efficiency and national security, respectively. Let us start with the *con* argument from economic efficiency.

The *con* Argument from Economic Efficiency

In his recent book, Nicholas Stern states:

[T]he investments and actions [recommended in this book] significantly reduce the carbon in economies but do so at the same time as delivering positive economic and social benefits to nations, even if one puts aside the value of the emissions reductions. In this sense, most of what is necessary for emissions reductions over the next two decades is in the self-interest of the individual nations (Stern 2015, p. 85).

The argument for this view is also developed in a Working Paper by Fergus Green, Stern's colleague. Since Green explicitly addresses the issue of mitigation of climate change as a global tragedy of the commons, I will focus on his paper rather than Stern's book.

Green criticizes explicitly the IPCC statement quoted above about mitigation of climate change being a global commons problem and tries to show that mitigation of climate change actually is in national self-interest (Green 2015, p. 2).

Green interprets national self-interest in terms of economic efficiency. An action is in national self-interest for a state if it increases the discounted value of economic resources available in the state to produce welfare (i.e., preference-satisfaction), or, in other words, if it increases "the size of the economic pie" available for distribution in the state (Green 2015, p. 4).

This is how Green summarizes the conventional view of mitigation of climate change as a tragedy of the commons and his alternative theoretical framework:

Social scientists have long assumed that actions by states to reduce their greenhouse gas emissions are not in their self-interest because the domestic costs outweigh the domestic benefits and they can "free-ride" on the emissions reductions achieved by others states. Climate change action, on this logic, is a global "tragedy of the commons" and "prisoner's dilemma". While this view is increasingly being challenged by theory and evidence suggesting that much mitigation action would be in states' self-interest, this emerging literature is fragmented and has not succeeded in overturning the traditional assumptions, at least not in key social science reference works such as the reports of Working Group III of the Intergovernmental Panel on Climate Change. This paper seeks to rectify this problem by developing a unified conceptual framework for advancing and evaluating claims about the extent of mitigation action that could be done in states' self-interest, defined (for the sake of facilitating debate) in terms of economic efficiency (Green 2015, p. 1).

Although Green himself is attracted to broader conceptions of national self-interest such as those including social welfare, individual well-being, social justice and sustainable development, he chooses to define national self-interest in the narrow

way of economic efficiency monists. He does so “for the sake of facilitating the debate”. If his argument works with such a narrow definition, it will work also with broader conceptions (Green 2015, pp. 2, 3).

According to Green, a mitigation action is nationally net-beneficial if it has the dual effect of reducing GHG emissions and increasing economic efficiency. He distinguishes two types of such actions.

Some mitigation actions are directly nationally net-beneficial, i.e., they are net-beneficial on their own without any further action. The effects of such mitigation actions can be more efficient uses of energy, but also co-impacts in terms of, for example, public health (reduced air pollution) and technology development (new clean technologies). Green points out that even if some mitigation actions may be net-costly for private companies, co-impacts will for many mitigation actions make them nationally net-beneficial (Green 2015, pp. 6–13).

Other mitigation actions are contingently nationally net-beneficial, i.e., they are net-beneficial together with other actions by the state or group of states. They are contingent upon these other actions being taken. An example of such an additional action is carbon taxation. Such taxation would not only increase economic efficiency by stimulating more efficient uses of energy, but also yield additional revenues for the government (Green 2015, pp. 13–26).

Green does not rule out the tragedy of the commons framework entirely. He only stresses that it should be rejected in most cases. Examples of situations/sectors where mitigation might remain nationally net-costly “once major energy, carbon, and material efficiency gains are exhausted” are “industrial sectors like steel, aluminium and cement”, and “transport sectors like international aviation and shipping”. To some extent, limitation of “exported fossil fuels” may also be nationally net-costly (Green 2015, p. 23). In such cases, mitigation of climate change will turn out to be a tragedy of the commons with a risk for free-riding. Green stresses, however, that cases like these are likely to constitute a minority. In most cases, mitigation actions would be nationally net-beneficial (Green 2015, pp. 23, 24).

What are the implications for action of Green’s view? It is that mitigation should be carried out “inside-out” rather than “outside-in”, i.e., by overcoming domestic barriers (in national self-interest) rather than implementing international agreements (global governance). International cooperation is necessary on some issues. On others it is not necessary but still important. However, it plays a secondary role (Green 2015, pp. 30, 31).

Let us turn to three possible objections to the argument from economic efficiency. An objection to the whole idea of estimating the economic benefits and costs of mitigation action has been presented by Clive Spash. He argues that it simply cannot be done, because we know too little about what degree of control is needed (Spash 2002, p. 178).

To this objection Green might respond that it is certainly difficult to carry out such estimations, but that his argument concerns primarily who has the burden of proof, those who maintain that mitigation is nationally net-costly or those who maintain that it is nationally net-beneficial. Green states:

The paper has also adduced theory and partial evidence that, in combination, provides a strong *prima facie* case that most of the mitigation action needed to decarbonise the global economy this century ... is likely to be in nationally net-beneficial, and therefore nationally self-interested ... Accordingly, the paper has argued that scholars and practitioners should adopt this conclusion as their default assumption, shifting the burden of proving that action is nationally net-costly onto those who wish to make that claim (Green 2015, p. 32).

Thus, while admitting that more empirical evidence is needed he believes that we have strong *prima facie* reasons to view mitigation action as being (in most cases) nationally net-beneficial, i.e., in national self-interest.

Another objection is that it is not in national self-interest to mitigate climate change, because the effects will be seen mainly in the future and will be of no real significance for the present generation.

To this objection Green might respond that national self-interest actually does extend into the future. According Robin Attfield, it might even extend into the next few generations:

The limits of the implications of enlightened self-interest are prone to depend on different understandings of identity, and whether the self whose interest is to be interpreted lapses with individual death or, as is plausible with corporations and states, extends into at least the next few generations (Attfield 2014, p. 183).

However, in the quotation from Stern above, we see that Stern is more cautious and holds the more narrow view—which seems more in line with Green’s approach—that “most of what is necessary for emissions reductions over the *next two decades* is in the self-interest of the individual nations” (Stern 2015, p. 85; my italics). On any of these two views, however, it could be argued that it is in the national self-interest to mitigate climate change. If we start substantial mitigation action now, global warming will continue for some years ahead but stop at 2 °C or even 1.5 °C within the next decades [as is aimed for in the recent Paris Agreement (UNFCCC 2015, Article 2)].

A third objection is that even if Green is right when arguing that mitigation in most cases is in national self-interest in terms of economic efficiency, and even if he admits the existence of exceptions, he still seems to underestimate some of these exceptions. This concerns some sectors in society and some countries in which these sectors are of special national significance. Here are two examples.

Richard Heede showed that almost two-thirds of the historic GHG emissions can be attributed to 90 commercial and state-owned entities producing fossil fuels (and cement), and many of these are based in countries like Mexico, Venezuela, Brazil, Saudi Arabia, Abu Dhabi, Kuwait, Iran, Nigeria, Libya and Indonesia (Heede 2013). So, mitigation of climate change might still be a tragedy of the commons for the fossil fuel producing countries in which these companies are based. It is in their national self-interest to continue to produce fossil fuels and at the same time free-ride on the mitigation actions of others. As we saw above, Green is very much aware

of the problems in the fossil fuel producing sector, but he seems to underestimate its significance for some countries that are very dependent on domestic fossil fuel production.

However, while Green is very much aware of the problems in the fossil fuel producing sector, he does not seem to be aware of the problems in the livestock sector (or at least he does not mention them). As the United Nations Food and Agriculture Organization (FAO) stressed, the livestock sector is a very significant contributor of GHG emissions. FAO stated that approximately 14.5% of the global GHG emissions originate from this sector (Gerber et al. 2013, p. xii). In a similar way as some countries are very dependent on domestic fossil fuel production, some countries are very dependent on domestic livestock production. This holds, in particular, for some developing countries—for example, Paraguay—in which the livestock sector is much larger than, for example, the transport sector [in developed countries, on the other hand, the transport sector is much larger than the livestock sector (Pitesky et al. 2009)]. One option for mitigation of climate change in the livestock sector is to change the mode of beef production to more intensive production with concentrated feed. In this way, productivity would be improved, since the cattle would reach slaughter weight quicker than in traditional production with cattle grazing on pastures, and thereby emit less GHGs over lifetime (mainly methane from enteric fermentation; Garnett 2009; Gerber et al. 2013, pp. xii–xiii). However, many farmers in developing countries would probably resist a change from traditional production to more intensive production. It is not a feasible option to them. Another mitigation option is reduced livestock production (Garnett 2009; Wirsenius et al. 2011; Nordgren 2012). However, this is probably not an attractive option, either, since livestock production is so important in these countries, not least to consumers in the growing middle class. So, in some developing countries with a relatively large livestock sector (although it may be small in absolute terms), it is probably not in national self-interest to mitigate climate change by changing to more intensive production or by reducing production. In these cases, mitigation of climate change would still be a tragedy of the commons. For these countries, it would be individually rational, i.e., in line with self-interest, to free-ride on the mitigation actions of others.

How would Green respond to the third objection that he underestimates certain exceptions? He could still maintain that mitigation action is nationally net-beneficial in most cases, even if in cases like these it could be nationally net-costly, i.e., not be in national self-interest. In cases like these, mitigation of climate change would certainly be a tragedy of the commons.

To conclude, the first two objections do not hold water. The third objection, however, carries some weight. For some countries—due to strong dependence on particular types of production associated with high GHG emissions—mitigation action might be net-costly and therefore not in their national self-interest.

So, when it comes to the overall picture the *con* argument from economic efficiency is a tenable argument against the Standard View. In most cases mitigation is not a tragedy of the commons. However, as we have seen, there are countries for which mitigation action in some sectors is not in national self-interest. This means that the Standard View is partly correct. The argument from economic efficiency

underestimates the existence of certain exceptions. In these cases the tragedy of the commons framework is still applicable.

Now, it is possible to add another argument for mitigation being in national self-interest, namely an argument from national security, and this non-economic argument might be relevant also to countries for which mitigation would be net-costly. This argument provides additional criticism of the Standard View. Let us turn to this *con* argument.

The *con* Argument from National Security

The second reason why mitigation of climate change is not (in most cases) a tragedy of the commons—as suggested by the Standard View—is national security. Climate change is a threat to present-day national security and it is in each country’s self-interest to mitigate it. It is individually rational for states to mitigate climate change for national security reasons. It is a matter of self-defense.

It should be noted that this argument from national security can be found in various political contexts. Here is an example. This is how the US Secretary of State John Kerry recently described the national security threats of climate change:

[T]he reason I have made climate change a priority in my current role as Secretary of State is not simply because climate change is a threat to the environment. It’s because—by fueling extreme weather events, undermining our military readiness, exacerbating conflicts around the world—climate change is a threat to the security of the United States and, indeed, to the security and stability of countries everywhere ... And when you factor in all of these things, my friends, you can see why, when we talk about the impacts of climate change, we’re not just up against some really serious ecological challenges. We also have to prepare ourselves for the potential social and political consequences that stem from crop failures, water shortages, famine, outbreaks of epidemic disease, which we saw a near brush with Ebola in three African countries last year. And we have to heighten our national security readiness to deal with the possible destruction of vital infrastructure and the mass movement of refugees, particularly in parts of the world that already provide fertile ground for violent extremism and terror (Kerry 2015).

There is no universally accepted definition of “national security”. “National security” was originally a military term but has today a broader meaning. For my purposes, I stipulate the following definition: National security is a state of affairs in which a nation and its citizens are protected against serious threats to their existence and way of life. Threats to national security include war but also various political, social, economic and environmental threats. Protection may concern mitigation of threats in the short term, middle term, and long term (cf. Barnett 2001).

Only in recent years climate change has emerged as a threat to national security. At first it was recognized that climate change could be a security threat to some developing countries and regions. Examples were atoll-countries such as Tuvalu or Kiribati threatened by sea-level rise, Inuit communities threatened by thinner ice

restricting hunting, the deltas in Bangladesh threatened by flooding, Papua New Guinea threatened by diseases spread by mosquitoes due to changed temperature and rainfall patterns (Barnett 2001).

However, we now see a change from climate change being seen as a security threat to *some* countries to a security threat to *all* countries, and from being seen as a security threat to *developing* countries to a security threat also to *developed* countries. An indication of this can be found in Kerry's argument above. We also see it in the recent Paris Agreement:

Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions (UNFCCC 2015, Paris Agreement, p. 1).

The likely background to this change in attitude is that adverse effects of climate change are increasingly being observed and experienced. They are not merely something to be experienced by future generations. The first scientific reports are coming, indicating a correlation between climate change and present phenomena such as extreme weather events, increased sea levels, flooding, drought and socio-economic tensions (Karl et al. 2009; Pall et al. 2011; Min et al. 2011; Peterson et al. 2013; Kelley et al. 2015). Moreover, we see present-day adverse effects not only in developing countries, but also in developed countries. One example of the latter is the US, another the UK (Karl et al. 2009; Pall et al. 2011; Peterson et al. 2013). This is how the direct adverse effects in the US are described in the report *Global Climate Change Impacts in the United States*:

- Precipitation has increased an average of about 5% over the past 50 years. Projections of future precipitation generally indicate that northern areas will become wetter, and southern areas, particularly in the West, will become drier.
- The amount of rain falling in the heaviest downpours has increased approximately 20% on average in the past century, and this trend is very likely to continue, with the largest increases in the wettest places.
- Many types of extreme weather events, such as heat waves and regional droughts, have become more frequent and intense during the past 40–50 years.
- The destructive energy of Atlantic hurricanes has increased in recent decades. The intensity of these storms is likely to increase in this century.
- In the eastern Pacific, the strongest hurricanes have become stronger since the 1980s, even while the total number of storms has decreased.
- Sea level has risen along most of the US coast over the last 50 years, and will rise more in the future.
- Cold-season storm tracks are shifting northward and the strongest storms are likely to become stronger and more frequent.
- Arctic sea ice is declining rapidly and this is very likely to continue (Karl et al. 2009, p. 27).

Now, the argument from national security can be formulated as an argument against the view that mitigation of climate change is a tragedy of the commons. Contrary to what is assumed by the Standard View, it is in most cases rational for individual countries to mitigate climate change. For reasons of national security, it is in their national self-interest. Therefore, to the extent this national self-interest exists, no prisoner's dilemma/tragedy of the commons exists.

Let me outline three possible objections to this *con* argument from national security. The first is that the argument overstates the prevalence of present generation threats. Because the effects of present-day mitigation actions will be seen mainly in the future and will be of little consequence for the present generation, it is not in the interest of national security to mitigate.

A response is that if, as indicated above, national self-interest encompasses at least the next two decades, then it would be in the interest of national security to mitigate. Some effects of mitigation would be observed within this period of time.

A second possible objection is that even if climate change is a present-day direct threat to some countries, it is not an urgent national security problem for most countries.

A response to this objection could be that even if this would be true, climate change might still be a serious indirect threat. As former US Secretary of Defense Chuck Hagel recently stated:

The military has defined climate change as a global threat multiplier that could exacerbate instigators of conflict such as resource disputes, ethnic tensions and economic discontent. Preparing for climate change is about *risk*—even if we do not understand every aspect of the scientific predictions, we know that the consequences of not acting may be significant (Hagel 2015).

So, adverse effects in other parts of the world—for example in developing countries—might indirectly influence developed countries. National security requires that this risk is addressed.

A third objection is that for many developing countries it is better for national security reasons to focus on adaptation rather than mitigation. Here is one example of this kind of argument:

Many developing countries, especially in Africa, contribute only very small amounts to the world total of greenhouse gas emissions. For them, the reduction of such emissions is not a priority, and the more important issue is to find ways to reduce their vulnerability to the projected climate change which is being imposed upon them largely as a result of emissions from developed countries. This priority does not accord with the ultimate objective of the United Nations Framework Convention on Climate change, which is to achieve stabilization of greenhouse gas emissions (Bwango et al. 2000, p. 145).

This argument has been put forward by many developing countries in international negotiations. Since they have not caused climate change, mitigation of climate change in terms of reduction of GHG emissions is not a national priority. The

priority is rather to reduce their vulnerability to the adverse effects of climate change. They need support for adaptation and for improving their resilience.

A response is that adaptation is certainly in the national security interest of developing countries. However, adaptation is not enough. As various societal sectors in developing countries develop, it is in the long term national security interest also of the developing countries to mitigate climate change by using clean technologies rather than technologies leading to high GHG emissions. We see a recognition of this in the Paris Agreement:

Developing country Parties should continue enhancing their mitigation efforts, and are encouraged *to move over time* towards economy-wide emission reduction or limitation targets in the light of different national circumstances (UNFCCC 2015, Paris Agreement, Article 4:4; my italics).

The least developed countries and small island developing States may prepare and communicate strategies, plans and actions for *low greenhouse gas development reflecting their special circumstances* (UNFCCC 2015, Paris Agreement, Article 4:6; my italics).

In conclusion, the first two objections are to be rejected. The third objection, however, is to some extent tenable. For developing countries adaptation and increased resilience have higher national priority than mitigation action, although mitigation action is still important in the long term.

Thus, in general terms the *con* argument from national security is a tenable argument against the Standard View. This view is incorrect regarding the national self-interest of developed countries and also regarding the long term national self-interest of developing countries. For most countries mitigation action is individually rational for reasons of national security. It is not a tragedy of the commons. However, the Standard View tends to be correct regarding the short term national self-interest of developing countries. In these countries, adaptation and improved resilience have higher priority than mitigation. Like the *con* argument from economic efficiency, the *con* argument from national security underestimates the existence of exceptions.

Conclusion

My overall conclusion is that in most cases it is in national self-interest to mitigate climate change, as suggested by the *con* argument from economic efficiency and the *con* argument from national security. These two arguments against the Standard View are to a large extent tenable. However, they underestimate certain exceptions. The *con* argument from economic efficiency underestimates, for example, that to countries that are very dependent on domestic fossil fuel production and countries that are very dependent on domestic livestock production mitigation action may be nationally net-costly. Moreover, the *con* argument from national security underestimates that to many developing countries adaptation and improved resilience is more in national self-interest—has higher priority—than mitigation action. To the

extent the *con* arguments are tenable, the Standard View is incorrect when describing mitigation of climate change as (mainly and profoundly) a tragedy of the commons. There are some exceptions, however, and in these cases the Standard View is correct. In these cases, mitigation of climate change is not in national self-interest and the tragedy of the commons framework is still applicable.

Let me finish by emphasizing that it is important to see the differences between the *con* argument from economic efficiency and the *con* argument from national security. They both stress that it is in national self-interest to mitigate climate change, but they do so from completely different perspectives. This is clearly seen when looking at the metaphors illustrating the arguments. As we saw above, the *con* argument from economic efficiency can be illustrated by an economic pie metaphor. It is in national self-interest to increase the national economic pie, and mitigation of climate change can contribute to this end. The *con* argument from national security, on the other hand, can be illustrated by a metaphor of self-defense. It is in the self-interest of nation-states to defend themselves from threats caused by climate change, and mitigation can protect from these threats. These metaphors have different implications for action. The economic pie metaphor suggests that mitigation can be economically net-beneficial. It is a matter of doing things in a less costly way. The self-defense metaphor suggests that mitigation may cost (almost) whatever it takes. It is a matter of survival in a kind of war.

However, these two metaphors stressing national self-interest stand in clear contrast to the ‘burden-sharing’ metaphor of the Standard View. This burden-sharing metaphor has dominated the debate on mitigation of climate change at least since the agreement on the United Nations Framework Convention on Climate Change in 1992. This agreement emphasizes “the importance of appropriate burden sharing among the developed country Parties” (UNFCCC 1992). The metaphor stresses the collective obligation of present-generation developed nation-states to mitigate climate change for the well-being of people all over the world as well as of future generations.

How do these arguments and metaphors relate to the main positions in political philosophy? The arguments and metaphors focusing on national self-interest fit well a kind of realism (the normative view that national obligations are to be based on national self-interest) and perhaps even a kind of communitarianism (obligations are constrained by community boundaries). The argument and metaphor of burden-sharing fit well a type of cosmopolitanism (some obligations apply to all countries).

It should be noted that in this paper I have not been defending realism (or communitarianism). I only argue that national self-interest is sufficient for substantial mitigation action, and that it therefore is possible in most cases to justify mitigation action on the basis of realism (and communitarianism). It is certainly also possible to justify mitigation action on the basis of cosmopolitanism, as adherents of the Standard View tend to do. With this in mind, I conclude with the following enlightening statement by Attfield:

Indeed some of the policies required to tackle global environmental problems (such as global warming) can be supported on a realist basis of national self-

interest, or again on a communitarian basis, as well as on the basis of a cosmopolitan ethic (Attfield 2014, p. 183).

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