

Is Long-Term Climate Policy Feasible?

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Question Two: How can we balance today's pressing needs with long term risks? How can public officials, especially in low income countries, address today's short- term pressing needs while preparing for tomorrow's climate-related impacts and surprises?

The chances of enlightened long-term climate policy are likely to be best when there is cumulative evidence of a worsening trend in climate parameters, sufficient time remains before catastrophic outcomes are anticipated to materialize, low-cost options exist, incremental implementation is feasible and aid is available for those needing external help. Some approaches could help lay the groundwork. Regional indices of the state of the climate and likely medium-term changes would assist deliberations and transparency on how to manage climate change. A liability system, with voluntary contributions by countries based on share of aggregated emissions, would enable payment of climate impact related damages. Investing in "infrastructures" (e.g. coastal defences, resettlement) could prove a useful (pre)commitment strategy to manage climate change in the long run.

The first decade of the 21st century witnessed the ascent of climate change to a high priority environmental, and increasingly political, issue. Global climate change as an environmental issue originates from the aggregation of greenhouse gas

emissions (GHGs) around the world, mixing in the atmospheric layers, yet it generates region-specific impacts which may vary widely. Mitigation of GHGs and adaptation to climate change are seen as the major policy options, yet this is an incomplete perspective as we shall see below. Climate change is a long-term policy challenge that easily exceeds the time frame of human generations (often put at 25 years) and political generations (which may be much shorter) (Sprinz 2009). How can we reconcile the short term with the long term? In the following, I embark on a few tentative answers why we should be cautiously optimistic on managing long-term climate change.

First, I will define long-term policy challenges and use global climate change as an illustrative example. The second section will briefly highlight the political reference world before turning to some mechanisms on how to connect the short term with the long term in the third section. The fourth section will list additional policy instruments before concluding with a few topics we need to know more about to wisely manage climate change.

1. Climate change as a long-term policy challenge

In more formal terms, long-term policy challenges can "be defined as public policy issues that last at least one human generation, exhibit deep uncertainty exacerbated by the depth of time, and engender public goods aspects both at the stage of problem generation as well as at the response stage" (Sprinz 2009).

Global climate change (GCC) fulfills all three prerequisites.

First, GCC has essentially originated from the accumulation of GHG emissions since the onset of industrialization in the developed world. Both adaptation measures in the absence of strong mitigation and a transition to a low-carbon future will take at least one human generation.

Second, as Robert Lempert suggests, deep uncertainty exists when central parameters are not known or agreed upon by decision-makers (Lempert 2002).

While we may know that a low-carbon transition is technically feasible, we have no agreed upon scheme for major economic and political actors on how to reach this end. Furthermore, no credible financial mechanism yet exists for long-term adaptation measures to counter the effects of climate change.

Third, lack of knowledge and/or free-riding behavior in terms of GHG emissions led to the current situation as well as anticipated future climatic and social impacts,

i.e., a common "bad" was created. Assembling a sufficiently stable coalition of powerful actors to reduce future emissions has been the challenge that was not conclusively resolved at the international negotiations in late 2009 at Copenhagen. While adaptation to climate change is less of a public good problem for those who wish to limit climatic damages due to regional costs and benefits, the most vulnerable countries, foremost the least developed countries with anticipated high climatic impacts, will need sufficient assistance to cope with climate impacts.

2. The political reference world

The long-term policy challenge of climate change is embedded in a daunting policy world where many actors are present in each political system as well as across political systems, and pursue multiple agendas simultaneously (of which climate change is just one). In addition, policy agendas are often incoherent, and political competition in and between political parties or political factions characterize politics. Many countries of the world have already overstretched their obligations in terms of intergenerational public liabilities, i.e., they are often fiscally indebted to future generations with more than one or multiple gross domestic products. The recent global financial and sovereign financial crises have exasperated these problems. Few countries have outlined credible and feasible ways to manage these long-term policy challenges.

Despite the trends of globalization over the past four centuries, it is important to recognize that the nation-state is still the dominant actor in world politics with the right to tax its citizens, make war and peace, and deliver welfare, both nationally and transnationally. On the one hand, international treaty-making certainly has entangled many countries in webs of cooperation, but these are not yet known to be robust and highly effective. On the other hand, many cooperation issues are difficult to solve, and given the absence of a credible world government, we should not be surprised that more desirable social outcomes have not yet been reached.

While developed countries have been the dominant emitter of GHGs during the 19th and 20th century, this position has been taken over by the developing countries in the early 21st century. This change is beginning to impact their respective roles and responsibilities for climate governance.

Against this political reference world, the management of long-term climate change is challenging because it has to contend with rival polity themes for attention, compete for political capital, as well as material resources.

3. Connecting the short term with the long-term?

We can conceive of the politics of long-term climate change as running on two different, asynchronic clocks; the first one is the short-term clock, the second is the long-term clock. Whereas the former metaphorically reflects the expected remaining time of a government or legislature, the second clock symbolizes the longer-term challenges that accumulate if the short-term political program does not anticipate its often undesirable long-term consequences. Climate change is one of these creeping or wicked problems that arises on the long-term clock. For more than a quarter century, we have been well aware that some major problem with anthropogenic climate change might exist.

The short-term clock of climate change is represented by examples such as extreme monsoon precipitation episodes that exceed by far standard expectations of water throughput, extreme heat and extreme drought periods impacting humans, or crop failures. Each of them requires a short-term response which resembles disaster relief. Single episodes rarely exceed the ability of countries or the community of countries to cope with *if* they made an all-out effort. The latter is rarely the case for understandable reasons: Few, if any, countries invest sufficiently in resources, infrastructure, and procedures because they have an incentive to free-ride on the help by the rest of the world, that is, countries that expect to be adversely impacted anticipate that they can rely on the rest of the world in the case that a rare and extreme disaster strikes.

It would also be inefficient to make unilateral all-out efforts on climate change, given that other priorities compete for attention and resources. In addition, the rest of the world has incentives not to wholeheartedly aid countries in need as they often have to hold back some resources for themselves, and all-out efforts are unpopular in most donor countries as compared to partial aid. Political survival on the short-term clock is often the aspiration of political leaders in all types of political systems. As a consequence, single extreme events are prone to be responded to by short-term responses as they also advance the chances of (re-) selection of political leaders for political office. If extreme events are catalytic in nature, i.e., seen as "sea-changes," long-term policy will have a chance to garner immediate support either by changed old political elites or the ascent of new elites with different political programs.

If there is a cumulation of extreme events or other devastating climate impacts, either actual or anticipated, chances for long-term policy programs should improve. The role of research would consist of providing transparency about past performance of particular parameters (such as historical flood markings, time series of precipitation, or crop statistics). The response to such information increases the chances to invest in appropriate longer-term infrastructures, resources for relief (such as storage of emergency food), and response procedures actually simulated in advance. Only very wealthy and far-sighted societies will be able to afford and actually implement a fully anticipatory long-term climate strategy "“ given available knowledge at the time of decision-making. Robust adaptive decision-making can help focus on the likely short-term decisions that ought to be taken in order to arrive at desirable long-term future outcomes.

The chances of enlightened long-term climate policy, both with respect to adaptation and mitigation, are likely to be best when there is cumulative evidence of a worsening trend in climate parameters, sufficient time is left before catastrophic outcomes are anticipated to materialize, low-cost options exist, incremental implementation is feasible, and for those in need of external assistance, aid is available. Unfortunately, all these conditions are rarely met.

We actually have reasons to be cautiously optimistic about the political management of long-term climate change. Current research by Detlef Sprinz and Michael Aklin (2010) indicates that political factors such as relative political capacity (a measure of the quality of government) and the degree of democracy have reduced per capita carbon emissions over the past 35 years in over 100 countries of the world. The pattern for developed and developing countries is, however, different. For developed countries "“ which show little difference in their democracy scores "“ increases in political capacity (to be explained below) increase their ability to reduce per capita carbon emissions, whereas for developing countries, it is the degree of democracy that increases their long-term ability to mitigate. Both effects are long-term. Two preliminary conclusions can be derived from this.

First, relative political capacity, i.e., the ability to extract taxes from one's population as compared to other countries (once factors such as resource endowment, size of the agricultural sector, etc. are taken account of) is one way to gauge the steering ability of governments. Taxes are a regular source of income for governments. A government that is not sufficiently able to extract taxes from its

populace is also unlikely to be an effective guardian of its climate future, be it adaptation or mitigation policy.

Second, our findings suggest that for developing countries, incremental increases in their democracy score go along with long-term per capita mitigation. We can conjecture that aspects of the supply of policies and the demand for policies have a long-term pro-mitigation bend the more a developing country becomes more democratic. Future research will have to disentangle these components.

4. Specific policy tools

A few design options may help to strengthen long-term climate policy. Let me suggest three such factors.

First, *transparency* is often helpful in raising issues, igniting debate about potential solutions, and keeping a priority from slipping away easily. We will continue to be in need of assessments of climate change, preferably at a resolution of particular use to the populace as well as decision-makers. A plethora of NGOs in many developed countries have mounted displays of the current state of public debts long before the current financial crisis. Even a casual observer ought to be astounded about the amounts and the rate of change while walking by. While such instruments have often not prevented further increases in intergenerational public liabilities, the ground for debate was laid in several countries once governments used public resources in the current financial crisis and the markets began to doubt sovereign solvency. A reasonably easy to understand indicator or index of the regional state of the climate and its likely array of medium-term changes would assist deliberations on how to manage climate change.

Second, even if we ceased to emit anthropogenic GHGs now, we are very likely to witness climate-related damages. It would be surprising if nobody asked for compensation to cope with them. Since international cooperation of sufficient depth has proven difficult, a liability system for climate change should be created on a voluntary basis among those who have emitted GHGs (Sprinz 2009). Interested parties (countries, companies and others) would make contributions to the fund based on their share of aggregated emissions. A neutral climate court would make awards with respect to the climate-related component of damages that compensation is sought for. Such awards would be proportional to the total share of emissions covered by the fund, in effect indemnifying itself from compensation for the non-covered share of emissions. Awards would only be made to members of

the fund to stimulate membership. In order to reduce the wait until an award, partial awards could be made in the form of advance payments to cover adaptation costs with the remaining amount left for compensation. The greatest challenge will be to form a group of actors of sufficient size which "seeks" such structured exposure and settlement as opposed to the court of the media or international and domestic pressures. As countries have created financial compensation mechanisms for oil spills from tankers and for damages created by the release of radioactive substances, it is quite conceivable that such a mechanism could be created for climate change in the foreseeable future.

Third, investing in "infrastructures" could be useful as a (pre-) commitment strategy to manage climate change in the long run. Infrastructures of sufficient size bind political and economic capital and are not easily reversed. Prudent long-term support for R&D measures may be one option; others include coastal defense infrastructures, resettlement of people from high-impact areas, regulating the environmental impact of companies or advance market commitments. As long as they do not become a hindrance for further advancement at a later stage (e.g., support for the coal-fired German electricity sector in the second half of 20th century), pre-commitment strategies are likely to beat the wait-and-see option.

5. What should we know more about?

Reconciling short-term and long-term measures to limit the magnitude and impact of climate change is a formidable challenge. Yet other major transitions around the world - towards secularization, urbanization, the first and the second demographic transition, globalization, as well as the shift from a dominant agricultural sector via industrialization to services - will have looked rather futuristic when first set in motion, yet are now staples for historical (and forward-looking) analysis. As Thomas Princen (2009) has argued, humans have the ability both for short- and long-term decision-making; it is not impossible to advance short-term goals and make substantial progress on long-term goals during a lifetime.

A range of challenges for research remain to be answered in the pursuit of long-term climate policy. First, which are the *mechanisms* by which democratic governments can foster long-term policies despite their deliberative and sometimes confrontational mode of politics? Democracies always involve some decentralized form of decision-making, not least decentralized decisions by voters which keep political decision-makers in power or replace them by alternative personnel.

Second, how can we build robust policy designs that limit the challenge of time-inconsistent decision-making, i.e., make it unlikely that governments revert long-term policy decisions that are climate-friendly because of short-term incentives? Changes that were enacted and lead to substantial economies of scale, e.g., highly efficient environmental technologies, may be hard to abandon by successor governments or industrialists due to their ex post profitability. However, we need to know more specifically the characteristics of configurations of actors and the characteristics of initial decisions taken, to prevent time-inconsistent decision-making.

Third, how can we give decision-makers incentives to pursue positive climate legacies that may lead them to lose office now, yet keep their policy and desirable policy outcomes intact? This amounts to learning more about creating legacies before decision-makers become agnostic about their own political future.

Given short-term temptations, long-term climate policy will be contested. We need a competition of ideas and innovations on how to improve the balance in favor of long-term climate policy. A credible global deal to advance a low-GHG future is very unlikely, and we should expect that something more like a "sandwich solution" will emerge that combines elements of international decision-making with domestic, regional, and sectoral experimentation to advance the long-term management of climate change. We only have to remember that in an imperfect world, postponing decisions on our long-term future will deliver benign outcomes only by chance. Taking short-term decisions that leave the options for benign long-term outcomes open and create political, economic, and social constituencies that will benefit a more benign climate future will enhance our chances to reach that goal.

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