Crafting local opportunities to meet global challenges

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Introduction

Given the global nature of climate change it is understandable that many policy initiatives are based on a top-down approach using monetary incentives, technical solutions and emission quotas. In the spirit of this exploratory workshop we would like to propose an alternative focus from a behavioral and institutional perspective and draw from insights from complex adaptive systems theory.

Our main message is that policies aimed at issues at the global scale need to focus on two key areas: 1) facilitating local initiatives and 2) providing mechanisms for the dissemination of knowledge and experience of the outcomes of such initiatives at various localities. Global-scale policies may also facilitate and coordinate standards and monitor activities undertaken at multiple levels that are critical to local initiatives, but the specifics of large-scale institutional mechanisms and enforcement are likely best crafted at the national or regional scale (such as European Union). Global-scale policies should avoid the temptation to impose emission targets and the creation of artificial markets of carbon emissions. Without effective governance mechanisms at the global scale, policies adopted at this level may do little to improve the situation or, as we discuss below, may make it worse. Further, policies adopted at this level are likely to be presented to the world as *panaceas* which never work as universally as claimed (Ostrom, Janssen, and Anderies, 2007).

One argument made against such local solutions is the problem of 'leakage' (Bushnell et al. 2008). Leakage reduces the efficiency of local initiatives because producers and consumers can avoid costly actions by translocating activities. Furthermore, reshuffling of who buys from whom leads to an additional problem in a globalizing world. For example, Dutch consumers can reduce their carbon footprint by buying, on paper, electricity generated by nuclear power in France.

Because of such problems of a mismatch between the scales at which the problem occurs and at which the policy acts, global initiatives, in theory, are more efficient. However, to develop a global policy that can be effectively enforced seems to be very challenging in practice. Besides the track record of dysfunctional international agreements on various topics and the political inability to enforce such agreements (Young, 2002; Gibson et al. 2005), there is considerable evidence that people don't trust their federal or national governments and, at least, trust them less than governments at the local level (Nye, 1997; Levi and Stroker, 2000). Furthermore, the use of emission quotas likely may trigger perverse secondary effects based on creative carbon accounting. Such strategic responses have been observed for other environmental issues, such as fisheries (Clark, 2007).

Rather than exploring theoretical solutions that are practical impossibilities, what does looking to empirically-based studies tell us about long term technological and

economic change? To change human behavior such studies suggest that we need to take three things into account:

1) The effect of how problems are framed on peoples' perceptions and decisions,
2) the social norms related to the behavior that is the target of policy action,
3) the fact that people are social animals.

Lessons from empirical studies

Salience and Framing of the problem

Almost all human activities contribute to CO_2-eq emissions. However, most of these activities are directed toward achieving goals that are not related to environmental protection (Lindenberg & Steg, 2007). Thus, climate change is not a salient problem in every day decision making. Lindenberg and Steg suggest that environmental (normative) goals have to be translated to specific decision situations and that problems should be framed in such a way as to be compatible with the goals that are followed by people in everyday life. For example, it might be more efficient to give people feedback on how much money they save by reducing air conditioner or heating use than by increasing their energy costs with a 'climate-tax'. The former approach is consistent with goals followed in everyday life and therefore might spill over to other areas (i.e. energy might be saved also in other ways; see e.g. Tögersen & Ölander, 2003) and be adapted more easily to technological and social changes. The latter might be seen as just one more instance of money stolen by the government. This might lead to rejection of such a tax or of the government that introduced it. It might even engender a negative attitude towards environmental protection in general. We therefore propose to reframe the climate change problem in terms of tangible problems at local and regional scales. There might be a quite diverse set of problem framings given that local circumstances differ.

A wide range of instruments – from infrastructure and command-and-control measures to measures of persuasion and organization – has been proposed and investigated (for an overview, see e.g. Kaufmann-Hayoz & Gutscher, 2001). None of the measures resulted as an ultimate solution but for most situations an effective and efficient combination of measures can be found. Instead of trying to develop one magic instrument that affects all activities and directs them towards the equilibrium levels where their marginal benefits and costs equalize, we may focus on various types of policies that fit the people's motivations in decision making such as diverse mechanisms that reduce local pollution levels and local costs of producing electricity and water, and at same time generate a positive contribution to reducing carbon emissions. .

Changing habits and social norms

Bowles (2008) recently reviewed the insights from behavioral studies on the importance of the effect of norms on decision making and concludes that not taking account of social norms in policy making can lead to perverse results. In a classic study of Gneezy and Rustichini (2000) a day care in Israel is discussed where an introduction of fees for being late in collecting children changed the framing of the problem. It led to an increase of the number of latecomers since the care provided during the time between when the daycare officially closed and when parents came to pick up their children came seen as an economic good. The parents then came even later – feeling entitled to a good they were

paying for. The daycare responded by removing the fees. After returning to the old system, being late was considered to be free. Frey (1993) further showed that such a change of perspective might spill over to other areas where it destroys intrinsic motivations and replaces them by economic reasoning. Many changes of behavior in relation to climate change might depend on normative behavior, i.e. doing the right thing. A focus on price instruments may lead to the perception that it is acceptable to pollute as long as you are paying for it (i.e. your cash payment will be used to cancel the damage your pollution caused).

From psychological studies, we learn that framing the problem in a social context might trigger the social animal within humans. Schultz et al. (2007) and Mumford (2007) report that messages with social references have been more effective than factual information in changing behavior. For example, statements like "x% of guests in this hotel recycle towels" instead of listing the amount of water saved when one recycles. With regard to energy consumption we wonder how effective statements like "how long will consumers in the USA feel comfortable sponsor terrorists by driving in SUVs" might be. Such statements are about setting the context in which people make decisions and it has been argued that human decision making is context sensitive (Frank, 2007) Frank (2007) discusses how changing perceptions of what is an acceptable standard of living caused by the activities of a few extremely wealthy individuals is driving a very destructive consumption spiral. However, such changing perceptions can work in the opposite direction with powerful effect.

Building codes and technological standards

Municipalities throughout the USA adopt, or chose not to adopt, building codes, which reduce the costs for builders operating in several jurisdictions, as well as create standardized levels of housing safety. The most commonly used building code is the International Building Code and associated International Fire, Plumbing, Residential, Mechanical and Fuel Gas Codes. Increasingly jurisdictions are adopting variations of this code that incorporate building practices that reduce costs, particularly energy costs, during a building's life cycle. In some cities, builders can chose to pay a penalty to build in a traditional manner, which incentivizes the new "green" building practices.

Multi-level decision making

Although we have focused our discussion on local initiatives, we have to take into account the global nature of the climate change. The recent interest in governance seems to suggest that we can do with less government interventions (Jordan et al. 2005). We expect that command and control, market-based, and voluntary agreements are all part of the mix of policies required for climate change policy. An important criterion concerning which type of policy to use depends on the ability of the responsible body to monitor and enforce policies. Carbon emission rights that include reforestation which is 1) difficult to monitor, 2) surrounded by debates about the actual net emissions of land use change, and 3) suffer from lack of clarity concerning who is responsible will be prone to unanticipated behavior and will be ineffective policies. Requiring and enforcing minimum technological standards might be more suitable for a governmental intervention at the national or regional level.

At an national and international level governments and other actors can also facilitate local initiatives and experimentation by exchanging information on successes and failures, by organizing competitions like an X prize for cheap 100 miles-per-gallon cars (http://www.xprize.org/), and by providing information about sustainable solutions (green Universities).

We have to take into account that some consumers and producers will relocate and that some countries will free ride such as in the case of fiscal paradises for more wealthy individuals. Nevertheless, we would expect that successes of local initiatives may spread and trigger changes at larger scales as we have seen in the USA where over 700 mayors have signed the US Conference of Mayors Climate Protection Agreement, and various states have adopted climate change policies. Positive competition among cities for who is doing the "most" to protect their city as well as the world may do more good than punitive measures ineffectively imposed from the international agreements.

Main conclusion

We strongly discourage the use specific global emission reduction targets as the main goal of climate change policy. We suggest, rather, to frame the abstract climate change problem in terms of challenges that are salient for people at the local level. Instead of policies that dictate on how much to emit, focus on standards that define practices related to the performance of economic activities (building codes etc.). Frame problems in the social and normative context of individuals, and combine price policy with normative elements. Finally, we need more understanding of which type of institutional arrangements fit best at particular levels of scale.

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