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## **Climate Psych**

### **A Review of the Psychological and Economic Factors that Shape Attitudes on Global Warming**

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#### **Introduction**

In the twenty years since NASA scientist Dr. James Hansen told Congress that global warming had arrived, global efforts to understand and address this new kind of ecological challenge have advanced fitfully. Scientific understanding of the phenomena has proceeded apace, with the vast majority of geo-physical scientists today accepting that global warming is occurring and that its causes are primarily anthropogenic. Our capacity to measure and model climate change has also advanced substantially, with a variety of new instrumentation and analytical methods allowing us to more accurately measure and track the pace of climate change and increasingly complicated and sophisticated computer models allowing us to project those changes far into the future and model possible climate impacts.

While scientific understanding of the phenomena has both advanced substantially and painted an increasingly dire portrait of our ecological future should we fail to address the climate crisis, political efforts to address the crisis have not advanced nearly so far. Whatever one thinks of the Kyoto framework established in 1997 to address global warming, the nations that were party to that agreement have made little headway toward reducing global greenhouse gas (GHG) emissions. Indeed the pace of global GHG emissions has accelerated in the years since, as developing nations such as China and India have experienced rapid economic growth and, with that growth, seen dramatic increases in their GHG emissions. Even developed nations have struggled to meet their modest Kyoto commitments, finding the deed of reducing domestic carbon emissions without prompting substantial negative economic impacts and public backlash in response to rising energy prices difficult to reconcile with the words that constitute their Kyoto commitments.

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<sup>1</sup> Andrew Heller and Teryn Norris conducted background research for this report.

No doubt these difficulties are in part simply a function of the many nations, interests, and actors involved struggling to address a challenge that is profoundly different in both scale and kind than past ecological problems. Yet there is also the question of public will to address the crisis. While the basic dynamics of geo-physical forces contributing to climate change are well understood by the physical sciences, the complicated dynamics of our response to the crisis are poorly understood at best by social scientists. Indeed, perhaps reflecting public engagement of the issue itself, what little longitudinal data on the evolution of public opinion about climate change and what to do about it that exists is by and large scant, superficial, and episodic.

### **What We Know**

Since the emerging problem of global warming first burst onto the public stage in the late 1980s, opinion researchers have, on a semi-regular basis, attempted to measure opinion on the subject. In the United States, Gallup, Pew, the New York Times, and other media polls have asked Americans about the basics: do they believe that global warming is occurring, do they believe that it is human caused, do they consider it a serious problem, do they think that the federal government should take action to reduce greenhouse gas emissions. Since the beginning, and continuing all the way into the present, public opinion on all of these questions has been remarkably consistent. Roughly two-thirds of Americans have consistently told pollsters that global warming is occurring now or will soon have effects.

By about the same majority, most Americans agree that global warming is at least in part human caused, with this majority roughly equally divided between those believing that global warming is entirely caused by humans and those who believe it to be a combination of human and natural causes. While some scientists and environmentalists have expressed alarm that large majorities of Americans do not agree that global warming is entirely human caused, sometimes going so far as to suggest that significant majorities of Americans do not believe that global warming is primarily caused by humans, what the data actually appears to show is that while they may not be prepared to rule out natural phenomena entirely as playing some role in warming, significant majorities of Americans accept that human activities play a significant role in warming. Consistent with this interpretation of the data, about the same two-thirds majority of Americans has consistently supported government action to reduce greenhouse gas emissions since 1989.

But consistently over 20 years, only roughly 35 – 40 percent of the public worry about global warming “a great deal” and only about one-third consider it a “serious personal threat.” Moreover, when asked in open-ended formats to name the most serious problems facing the country, virtually no Americans volunteer global warming. Even other environmental problems, such as air and water pollution, are often rated higher priorities by voters than global warming, which is less visible and less experienced personally than many other problems.

What is arguably most remarkable about U.S. public opinion on global warming has been both its stability and its inelasticity in response to new developments, greater scientific understanding of the problem, and greater attention from both media and politicians. Public opinion about global warming has remained largely unchanged through periods of intensive media attention and periods of neglect, good economic times and bad, the relatively activist Clinton years and the skeptical Bush years.

Nonetheless, there have been some notable features of public opinion that have evolved or varied over this period. Over the last decade and a half, we have seen the emergence of an issue public, one that while relatively small exists where none did before. The size and influence of this public probably peaked in the year after the release of Al Gore's "An Inconvenient Truth". It would appear to be smaller and less active now than over the last several years, having been eclipsed by the Presidential election and the extraordinary engagement of liberal issue publics in the Obama campaign and by the current economic crisis.

Expressed public tolerance for costly measures to address global warming has also appeared to vary with macro-economic conditions, with the public expressing greater willingness to tolerate economic costs in order to address climate change in good economic times than in bad.

And increasingly over this time period, those who self-identify as Democrats and liberals have become more likely to accept the reality of global warming and support action to address it while those who self-identify as Republicans and conservatives have become less likely to accept that global warming is a scientific fact or to support government action to address it.

The other related evolution in public attitudes relates to attitudes about energy rather than global warming. Concerns about rising energy prices and dependence on oil have risen to the top of the American public's concerns in recent years. Americans have also increasingly come to see investment in alternative energy sources as a critical step towards righting the American economy and ensuring America's economic competitiveness in the coming decades.

### **Exceptional American Opinion?**

The public opinion picture throughout much of the rest of the developed world, by contrast, looks quite a bit different than the American picture. Here, global warming has become a top public concern, with broad public acceptance of global warming science and strong support for national and international action approaching unanimity. No doubt, substantial cultural differences generally, and particular differences in political culture account for some part of this divergence. Moreover, while there are substantial differences between various political factions in most other developed nations, virtually all major political factions in these nations accept the reality of global warming – in contrast to the United States, where a significant faction of the Republican Party continues to deny global warming science.

Yet beyond these obvious differences, there may be more similarity than might at first meet the eye. Despite broad attitudinal acceptance of the reality of global warming and expressed support for actions to address it, Europe, Canada, and Japan have done little to actually reduce emissions. Europe has embraced ambitious emissions reduction goals and put in place a far-reaching set of policies ostensibly intended to achieve them. Yet Europe has also consistently taken actions to undermine both its emissions reduction goals and policies. Canada has done even less, embracing international agreements to reduce emissions while continuing to develop its fossil fuel resources and seeing its emissions rise thirty percent since 2000.

The disconnect between expressed public opinion on these matters and political action to address them can no doubt be explained in part by the ability of various interested parties (affected industries, etc.) to influence the political process. But it also suggests that public opinion, particularly opinion as it is expressed to and measured by survey researchers, may be a good deal more complicated than has typically been represented.

On virtually any other subject which might rise to the top of the public agenda, as global warming has in recent years in Canada and Europe, one would expect that there might be significant consequences for elected officials and political parties that failed to respond to public priorities in a timely fashion. Should these parties fail to respond, for instance, to public demand for economic growth or reform, job creation, new national security priorities, or similar issues, they could usually expect to find themselves out of power. Yet there have been no such consequences for elected officials failing to reduce emissions, or even enact policies to do so. Indeed, to the degree that there have been observed consequences in response to global warming policy, they have by and large been in reaction to economic impacts of proposed emissions reduction policies not to a failure to effectively implement such policies.

As such, it would seem at least possible that expressed public attitudes about climate change may in many cases represent proxies for other concerns. There appears to be a fair amount of anecdotal data that public concern about global warming in Canada, the UK, and Europe rose in close relationship with public concern about and objection to U.S. unilateralism in other domains. Opposition to the Iraq War, in particular, galvanized tremendous public opposition to the U.S. approach to international affairs as it evolved during the Bush years. As such, we might consider that what voters around the world have been telling pollsters about global warming may have less to do with what they expect their own nations to do about climate change and more about what they expect their leaders to do in relation to U.S. obstructionism and unilateralism on the subject.

Strong, rhetorical embrace of far reaching, multi-lateral agreements to reduce emissions may be more what these publics are looking for from their leaders, as opposed to draconian and immediate actions to reduce emissions. That rhetorical embrace without concomitant actions to actually reduce emissions has largely been a winning political combination in Canada and Europe both supports this

thesis and suggests why both governing and opposition parties have adopted this approach. Moreover, this dynamic may also in significant part explain the rising partisan polarization of attitudes on the issue in the United States, with liberal Americans, like national publics in Canada and Europe, expressing greater concern about climate change as proxy for a larger set of objections to what these publics have perceived as a radical, unilateral, and reactionary U.S. administration.

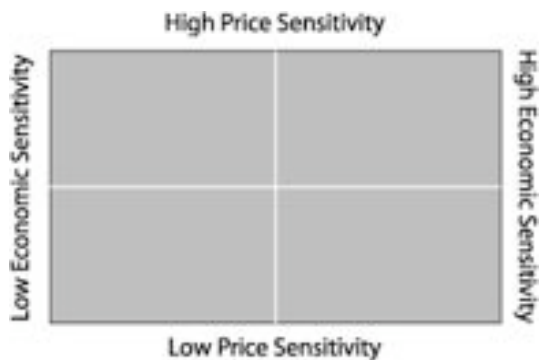
### **Towards a New Model for Understanding Public Opinion on Climate and Energy**

A careful parsing of public opinion data about climate and energy raises more questions than it answers. Why is a problem that is increasingly understood to represent the greatest threat that human civilizations have ever faced not a higher salience concern for publics around the world? Why has opinion in the United States been so static for so many years and why did it spike in much of the rest of the developed world in the years between 2003 and 2007? Why has opinion in the United States become ever more polarized while opinion elsewhere has become increasingly monolithic? Why has it been so difficult for political leadership the world over to implement policies to address the problem even when public opinion has ostensibly been broadly supportive of doing so? Why, even in nations in which public acceptance of global warming science and support for action is virtually unanimous, do economic concerns continue to trump ecological action?

In order to gain greater clarity about these questions we are well served to look to the fields of political economy and political psychology. From political economy, we draw on the concept that political and economic systems are deeply interconnected, evolve together, and inform, shape, and constrain one another. From political psychology, we draw on the idea that much political thought and behavior, like almost all forms of thought and behavior, is highly motivated by a variety of psychological needs and cognitive reasoning patterns that, as much as facts, argument, and interest-based calculations, define and constrain the practice of democratic politics.

Applied to the politics of climate and energy, the field of political economy would suggest that potential and actual economic impacts would significantly constrain political efforts to reduce carbon emissions and that political considerations would significantly shape efforts to create truer pollution markets, whether through eliminating subsidies to or pricing pollution emanating from incumbent energy technologies. As these dynamics relate to public opinion, there are at least two major factors that we have good reason to believe shape public opinion on climate and energy, the first being perceptions related to effects that climate and energy policies may have on energy prices, the second being perceptions related to the effects that climate and energy policies may have on the larger economy.

**Figure 1 Political Economy of Carbon**



From the political psychology literature, we can similarly look to two key dimensions. The first relates to the psychology of risk, which we would expect to shape assessments of global warming risk and therefore perceived salience of the issue. We know that people are more likely to fear threats that are easily visualized, that are proximate to them in both time and space, and that demonstrate immoral agency (e.g. terrorists, not lightning). Global warming does not easily meet any of these criteria, which probably explains in large part why the issue has largely resisted all efforts to increase its salience.

While public communications campaigns in recent years have attempted to increase the salience of global warming by offering increasingly dire and apocalyptic predictions of future impacts, these efforts appear largely to have failed. Even before the current economic crisis, there was little evidence that public concern about global warming had risen in response to concerted and well financed efforts to do so. The lesson of recent years would appear to be that even apocalyptic threats, when their impacts are relatively far off in the future, difficult to imagine or visualize, and emanating from our everyday activities, not an external and hostile source, are not easily summoned.

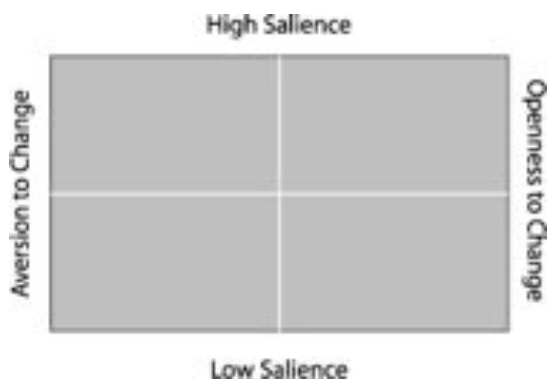
The second key psychological dimension driving global warming opinion relates to the psychology of political identity and ideology, which we would expect to shape both reactions to various narratives about the cause and meaning of climate change and to various solutions. Several decades of social psychology have demonstrated the psychological correlates of political behavior and ideology. While a full review of that research is beyond the scope of this memo, suffice it to say that the well established consensus among social psychologists is that political cognition is motivated, which is to say that people reason about politics and construct political identities and affiliations in no small part in order to meet a variety of personal psychological needs. This is true of liberals and conservatives alike but for the purposes of understanding partisan polarization of public opinion on global warming, the psychology of conservatism is most relevant.

Key psychological correlates of conservatism include mortality salience, the need for cognitive closure, discomfort with ambiguity, traditionalism (the belief that traditional ways of doing things work best), social dominance orientation, and, in

the inverse, emotional stability and openness to experience. More importantly for this discussion, psychologists have identified an important mechanism that mediates the relationship between the psychological correlates of conservatism and conservative ideology and political attitudes, System Justification Theory. System Justification Theory builds upon earlier work on ego justification and group justification to suggest that many people have a psychological need to maintain a positive view of the existing social order, whatever it may be. This need manifests itself, not surprisingly, in the strongly held need to perceive existing social relations as fair, legitimate, and desirable, even in contexts in which those relations substantively disadvantage the individual in question.

Many observers have suggested, some backed by a good deal of data, that former Vice President Al Gore's leading role in the global warming debate has had much to do with rising partisan polarization around the issue. And while this almost certainly has played a role, it is worth considering that there may be other significant psychological dynamics at play as well. Dr. John Jost, a leading political psychologist at New York University, recently demonstrated that much of the partisan divide on global warming could be explained by System Justification Theory. Calls for economic sacrifice, major changes to our lifestyles, and the immorality of continuing "business as usual" - meaning the going on about the business of our daily lives in the face of looming ecological catastrophe - are almost tailor made to trigger system justification amongst a substantial portion of the American electorate.

**Figure 2 Political Psychology of Global Warming**



Together, political economy and political psychology probably can define much of the variance in public opinion on climate and energy, with political psychology shaping the salience of the global warming threat, the reaction to narratives that are perceived to "blame" human activities for the problem, and ideological receptivity to particular proposed solutions and political economy shaping the sensitivity to price and economic impacts associated with particular policies.

### **A New Way Forward?**

Over the last several years, many advocates of action to address global warming have begun to shift their discourse and public communications away from limiting emissions to mitigate global warming and toward a focus on investing in a clean energy economy. Viewed through the prisms of political psychology and political economy, this approach has much to recommend it.

Making the clean energy shift reorients policies to address global warming around problems such as improving the economy, finding energy sources that are cheaper and cleaner, reducing oil dependence, and making America's energy future less dependent upon resources that we do not control that are both more proximate in time and personal experience for most Americans and more easily understood and visualized. It should come as no surprise, given what we know about how people perceive threats, that all of these problems are much more salient politically than global warming.

Doing so also redefines the solutions to these problems in ways that do not suggest that Americans must sacrifice or fundamentally change their way of life. A clean energy future is one in which most Americans will go about their daily lives in much the same way that they do today, they will just power those lives with energy technologies that do not emit carbon. Again, given what we know about system justification and the psychology of conservatism, it should come as no surprise that, in contrast to attitudes towards global warming and policies to cap carbon emissions, policies to promote and invest in clean energy technology command substantial majorities among partisans of both political parties.

Finally, it is worth considering, given the apparent constraints in America's political economy on policies that would significantly raise energy prices, whether strategies that centrally depend upon establishing and maintaining high carbon prices are advisable. There is little evidence to date that publics, either in the United States or abroad, have much tolerance for high energy prices, particularly when they are imposed with the explicit intention of driving behavior changes to address a low salience problem. Americans appear more willing to countenance energy taxes or other fees when those measures are understood as measures to raise revenue for the explicit purpose of financing clean energy technologies that they desire and believe the nation needs for its future prosperity. Even so, public tolerance for such measure appears to be highly constrained. As such, it may be worth considering whether an alternative path to low carbon economy might be fashioned that primarily depends upon low carbon prices and high levels of public technology investment rather than high carbon prices coupled with high levels of private technology investment.