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A New Conception of Planning in the Era of Climate Change

By Stephen M. Wheeler

Abstract

Climate change represents the largest planning challenge humanity has ever faced. Past planning has not only failed to confront the global warming crisis, but has helped increase emissions. Climate action plans being developed by governments at all levels still do not address underlying drivers of the problem such as unsustainable levels of population, consumption, and inequity. Nor do debates around climate change planning address the core reasons why societies to date have been unable to deal with such sustainability challenges: dysfunctional democracy, poorly regulated capitalism, and unhealthy social ecologies. Achieving a sustainable, carbon-neutral society requires that planning confront these realities and develop a new conception of itself as a far more proactive endeavor to help societies prepare for a sustainable future.

Keywords: Climate change; global warming; planning; sustainability; social ecology

The field of planning emerged in the nineteenth and early twentieth centuries largely in response to the crises of that time, including needs for sanitation, clean water, decent housing, parks, open space, efficient transportation systems, and social welfare. During the twentieth century, the discipline broadened to include new specialties such as environmental planning, energy planning, and international development planning. Now we have a new crisis that demands a whole new conceptualization of the field. Climate change goes beyond any previous human challenge in that it requires a more comprehensive, sustained, and effective approach to planning our future. Muddling through in a generally desirable direction is no longer enough. As a species we have no choice but to reduce our net greenhouse gas emissions to virtually zero within a couple of generations. That's a challenge of an entirely different order. For anyone who wants to know the consequences of failing to meet this challenge, I recommend Mark Lynas' book *Six Degrees: Our Future on a Hotter Planet* (Lynas 2008). The picture is not pretty.

In this brief essay, I want to make a few main points. First, for many decades now industrial society and professions such as planning have not only failed to respond to the increasing certainty of global warming,

but have actively helped create the crisis. Second, climate change debates and action plans continue to ignore the most important factors fueling the problem—excessive population, consumption, and inequity—as well as underlying causes of our inability to deal with the issue—dysfunctional democracy, poorly regulated capitalism, and unhealthy social ecologies. And third, achieving a sustainable, carbon-neutral society requires that planning confront these realities and develop a new conception of itself as a far more proactive endeavor to help societies evolve and prepare for a sustainable future.

For most of us, including myself, the extreme urgency of climate change only became apparent in the decade of the 2000s, in response to the film *An Inconvenient Truth*, reports from the Intergovernmental Panel on Climate Change (IPCC), and events such as Hurricane Katrina. Knowledge of the possibility of global warming goes back well into the nineteenth century. British physicist John Tyndall found in 1859 that water vapor and carbon dioxide in the atmosphere could trap heat, a phenomenon he called the “greenhouse effect.” In 1896, Svante Arrhenius, a Swedish Nobel prize-winner and one of the foremost scientists of his day, calculated that a doubling of carbon dioxide in the atmosphere from the burning of coal would produce a global warming of about 5 degrees Celsius, only slightly above the amount predicted today. In the early twentieth century British engineer Guy Stewart Callendar gathered data from the world’s most reliable weather stations and calculated annual average temperatures, finding they had increased more than 0.2 degrees Celsius between 1890 and 1935. By the 1930s industrial society had knowledge both of the basic mechanisms of climate change and of its possible existence.

In the 1950s scientists showed that anthropogenic climate change is likely to occur within a shorter time frame than previously thought, just a few generations. Roger Revelle and Hans Suess determined in 1957 that the oceans would not in fact absorb most of the carbon dioxide produced by humans. Two years later, Bert Bolin and Erik Eriksson calculated that atmospheric CO₂ levels would probably rise 25 percent by the year 2000. The actual increase was 36 percent (Weart 2008). Charles Keeling developed the first observational data that atmospheric CO₂ levels were rising at a rapid rate. Far from being bottled up in academia, such findings rapidly made it into the public eye. Features on global warming appeared in *Time* magazine (1956), *Science* (Landsburg 1958), and *Scientific American* (Plass 1959). However, no action was taken, by planners or any other profession, to address this enormous potential threat to our future.

By the 1970s, concerns about the sustainability of human civilization had emerged for many other reasons including overpopulation, resource depletion, and pollution. *The Limits to Growth* (Meadows et al. 1972) illustrated these dangerous trends most dramatically, and first

advanced the concept of sustainable development. Prestigious scientific organizations also weighed in on climate change. The 1977 National Academy of Sciences report *Energy and Climate* estimated that carbon dioxide concentrations were on track to increase an astounding 4 to 8 times by the 2150-2200 period, and global temperatures were likely to rise 6 degrees Celsius (Geophysics Study Committee 1977). The organization noted that the geological record showed temperature increases of this amount had been accompanied by sea level rises of 100 meters, more than enough to swamp the world's coastal cities. In 1979 an equally prestigious National Research Council review, entitled "Carbon Dioxide and Climate: A Scientific Assessment," reached similar conclusions (National Research Council 1979). Also that year, an influential group of leading scientists advising the U.S. Department of Defense, known as the Jaxons, produced a report entitled *The Long Term Impact of Atmospheric Carbon Dioxide on Climate* (MacDonald et al., 1979). This document predicted that atmospheric carbon dioxide levels would double by about 2035, leading to an average global warming of 2-3° C, with much stronger warming at the poles. A final call for action was the *Global 2000* report, produced in 1980 by President Jimmy Carter's Council on Environmental Quality (CEQ 1980).

All of these sustainability concerns should have led to dramatic action, by both the planning profession (whose main concern after all is for the future) and society at large. But that did not happen. Rather than being seen as wake-up calls, reports such *The Limits to Growth* and *Global 2000* were roundly attacked by those supporting the track now known in climate policy circles as "business as usual," or BAU. The U.S. and many other countries were in the midst of a neoconservative turn, and planners, whatever their personal reservations, continued to facilitate the rapid expansion of suburbia, resource-consumptive lifestyles, expanded motor vehicle use, and ever-rising economic production. Even Marxist critics of planning rarely questioned the desirability of rapid growth in economic production.

Many of us who came of age at that time had a sense that industrial society's directions were profoundly unsustainable. However, until recently it has not been clear what form disaster would take. Some writers, such as Paul and Ann Ehrlich, feared overpopulation, perhaps combined with famine, disease, and warfare. Others focused on the nuclear arms race. More recently, the public's attentions has been commanded by potential disasters in the form of the thinning ozone layer, declining water resources, peak oil, precarious food availability, and global pandemics. So far we have escaped them all, but climate change is different. Despite the best efforts of climate change deniers—many of them funded by the fossil fuel industry—it is the crisis we cannot avoid.

Planning has played a main role in this run-up to disaster. Although they often hold little political or economic power, planners have been the ones to organize approval of the sprawling subdivisions, freeways, fossil-fuel-burning power plants, big box stores, and pro-growth economic development strategies that have led to excessive greenhouse gas emissions. They have been the ones with the responsibility of framing alternatives for the public and decision-makers, who too often have failed to present or argue for sustainable development strategies instead of BAU. For example, transportation planners in metropolitan planning organizations typically develop several policy alternatives for their regional transportation plans and associated environmental review documents, but each of these alternatives has usually accommodated roughly similar and large increases in vehicle miles traveled and fuel use, and thus greenhouse gas emissions. Despite requests from environmentalists, these agencies have not included greenhouse gases in their analyses, until very recently. No alternative, even for public education purposes, was what we today would call a sustainability strategy—producing actual decreases in motor vehicle travel and emissions. Even if planning agencies lacked power to implement them, placing hypothetical sustainability scenarios in the public eye might have led elected officials and the public toward more constructive action.

For their part, even academic planners with relatively secure jobs have failed to address climate change or the whole sorry picture of an unsustainable society. The earliest article in the *Journal of the American Planning Association* specifically addressing global warming appeared in 1990, and then the topic virtually disappeared again until the mid-2000s. Papers or sessions addressing climate change were conspicuously absent at Association of Collegiate Schools of Planning conferences until the late 2000s. Even conferences of relatively progressive planning researchers working in fields closely related to climate change failed to address the topic. I remember in the late 1990s asking the several hundred attendees at one of the annual UCLA Lake Arrowhead symposiums on Transportation, Land Use, and the Environment why no one was discussing strategies to reduce global warming emissions. There were several moments of awkward silence, and then the discussion moved on as though I had not spoken (several individuals later thanked me privately for raising the subject). I assumed that most considered the issue either too big, or too risky and political.

The starting point, then, for dealing with the climate change challenge is to face up to our history of complicity, both as a society and as a profession, in promoting a profoundly unsustainable status quo. Then we must ask what we can do to change this situation.

My second main point is that although many of us in the planning profession are now addressing climate change, for the most part we are still not focusing on the right things. As I showed in a survey of the first generation of state and local climate plans in the United States (Wheeler 2008), governments typically focus on initiatives such as requiring municipal buildings to be LEED-certified, converting public fleets to use hybrid technology or alternative fuels, requiring utilities to produce certain percentages of power from renewable sources, and developing incentives for homeowners and businesses to retrofit buildings to be more energy efficient or to produce power on-site. All of these things are well and good, but not enough. Some jurisdictions, such as the State of California, have gone much farther to develop broad planning frameworks to reduce greenhouse gases through scores of different actions. If political will remains consistent—a very big “if”—California may in fact be able to meet its 2020 emission reduction goals. However, it is unlikely to meet its more sweeping 2050 goal of 80 percent reductions unless it devises ways to change the basic lifestyles of its citizens, the nature of its economy, and the form of its cities and towns. The odds that it will do such things are not good. Climate change planning in virtually every jurisdiction is hamstrung by questionable political commitment, public understanding, and resource availability—a social ecology, in other words, that is just not up to the task.

Climate action plans tend to focus on technical or economic fixes. None addresses the fundamental drivers of the problem. At a global scale, those drivers are population, affluence (consumption), technology, and equity. To express this symbolically, we can modify a formula proposed by Paul Ehrlich and John Holdren in the 1970s to say “I=PATE” (in other words, Impact is a function of Population, Affluence, Technology, and Equity; Ehrlich and Holdren didn’t include the last of these). If global population is high, and if a growing number of those people very reasonably want to share an affluent lifestyle (“equity”), then even with relatively clean technology the impacts will be unsustainable. Therefore, some of these fundamental factors must change. Most likely, we must start planning for a global population that is both smaller and vastly less consumptive. That is the planning challenge ahead, if we really want to hold global warming to a remotely tolerable level.

None of us yet quite grasps the magnitude of the necessary change. Although the Obama Administration has done many good things related to climate change, it is promoting relatively conventional economic development strategies that emphasize continual growth in production of material goods, a recipe for further global warming. To really address climate change, we as planners must help the public understand how society might consume less, move around less, live in

smaller houses, and reduce its population. The tendency instead is to latch onto new technologies, such as high-speed rail, as a savior. The real need in this case is for *less* mobility (i.e., lower consumption of travel), since any form of motorized transportation uses resources and generates greenhouse gas emissions (the potential of an all-electric, all-renewable system is still far distant). To focus on technological solutions in such cases is often a way to avoid addressing the necessity of changes in these more important areas.

The equity dimension of the problem is perhaps the most overlooked. As long as huge gulfs exist worldwide between rich and poor, the latter will have a strong moral and practical case for seeking similar affluence for themselves, in the process cloaking the planet in greenhouse gases. The only long-term solution is to reduce inequality—through progressive taxation and a whole range of programs assisting the least well-off—and to find a sustainable level of consumption that can be shared equitably by the entire global population. In other words, we need to plan an economy around simplicity not affluence, find creative ways to promote sustainable lifestyles, and emphasize family planning, equal rights for women, high-quality education and health care for all, and related programs that might stabilize and reduce population. Such goals should be the planning frontier.

Of course, we, as planners, cannot usually talk about such things. It is not politically viable. Our entire existing economy depends on rising consumption. The public is not interested in changing its behavior or talking about population control. Entrenched political, corporate, and media interests immediately pounce upon radical proposals of any sort. On a personal level, it is very difficult to find jobs promoting such fundamental social change. So we run up against the core causes of our unsustainable society: the fact that we do not have a political system strong enough to plan for the long term or to stand up to moneyed interests; nor a public knowledgeable and wise enough to demand these things; nor an overall social ecology capable of addressing crises such as climate change. In other words: planning needs to address the conditions that make it impossible to plan. It needs to help develop a healthy and functional society that is capable of creating a sustainable future.

This new conception of planning as a task of developing a healthy social ecology is a stretch, I know, compared to the prosaic tasks and often powerless situation that many planners find themselves in. How are we to find ways to promote structural reform within a society so hugely resistant to change? To this conundrum I have a few responses.

First, we have no choice but to try. Rapid social evolution is the challenge and ethical responsibility of our age. We can work individually at

whatever facet of the situation possible, developing new models, building coalitions, changing incentives, posing sustainability alternatives and visions for the public. We can do these things while attempting not to become attached to the end results, but to the process instead of laying the seeds for a sustainable society. Hopefully we can also support one another in this process, and have some fun doing it.

Second, even within our more prosaic tasks we must take every opportunity to help each other understand what is really going on at this time in history. Acknowledgement of the dysfunction of our present society is the starting point for social change, just like the acknowledgement of any personal problem is the beginning of personal change. We need to talk to the public about the nature of our poorly functioning social ecology, and find diplomatic ways to describe the powerful forces and counterproductive social movements within it, hopefully with humor and without undue blame on individuals. We also need to patiently lay out again and again potential paths toward a healthy society and sustainable future, trying to express those alternatives in a language accessible to everybody.

Last, we need to be highly strategic. Trying to practice transformative planning in many jurisdictions is simply not possible—the forces against it are too huge and the opportunities for positive action too small. Instead, we can look for other opportunities or places. This is where strategy comes in. Planners already work in a large range of non-traditional jobs and workplaces that should be considered planning if they help build a healthy social ecology for the future. Among these existing and new planning-related activities: working for a wide variety of nonprofit organizations, including advocacy organizations that develop alternative visions; teaching young people how to understand their lives and world; framing stories through the media that help people understand the context of their time; running for elective office and using political or economic power to change society; and developing new best practices and models of healthy, nurturing, and ecologically responsible development.

Through these and other activities we can work to construct a society capable of dealing with challenges such as climate change. The process may not be as fast as we would wish, but even while we work for slow improvement of the underlying health of our social ecology, we can do our best to help others understand the need for rapid transformation, and promote creative ways to accomplish that.

This vision of planning is of course highly normative and political. It promotes strong, radical change in a particular direction. But then all planning is normative and political, most especially the supposedly

objective, expert-driven type found within twentieth century modernity, which too often served to advance the interests of global capital and western cultures. Moreover, the direction that this new vision of planning aims for is a more-or-less universal one: the goal of coexisting on a small planet, of protecting all species, of bringing out the best in humans individually and collectively, and of dealing with all sustainability challenges, including climate change. Planning so as to avoid the worst forms of global warming is not the biased agenda of one person or community; it is an imperative for humanity, a norm on which much of the world can agree.

A great many other planning theories and strategies are of course important as well—related to social diversity, social movements, institutions, economic geography, public process, technology and information, and gender, race, and class. The overarching challenge of the next few generations will be that of learning to live sustainably on the planet. Whatever our niche, this objective must guide our work. It is time to re-conceptualize the field of planning so that it can take its proper place leading this effort.

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