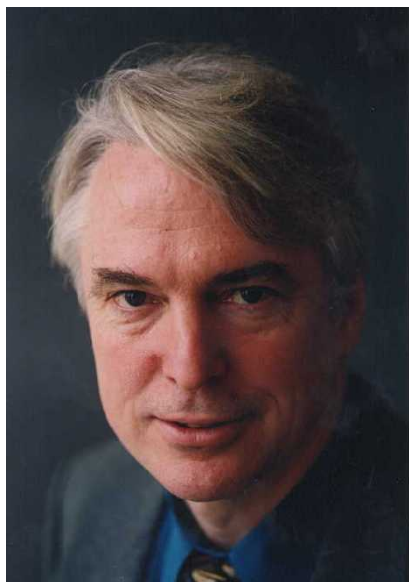


## An interview with Professor Steve Rayner

Article from the Web Magazine [www.changingclimate.org](http://www.changingclimate.org)

By David Ballard, one of *changingclimate*'s founding editors.

### Introduction



*Professor Steve Rayner*

Are governments and scientists colluding to stop effective action on climate change? This is the question implicit in Oxford academic, Steve Rayner's, call for scientists to go on "knowledge strike" in the run-up to the 2002 Earth Summit. In two articles published by the UK Guardian newspaper the professor of Science in Society at Oxford's Saïd business school suggested that governments were using the excuse that more research is needed before they can make decisions. Scientists keen for more money to extend their research may be investing in this view. In the following interview we find out why Professor Rayner is also such a long- term opponent of the Kyoto Protocols.

### ***Climate change and the moral imperative***

**David:** You've got an interesting background. Not many people working in the IPCC have a grounding in millenarianism; can you explain what that is?

**Steve:** In classical terms millenarianism refers specifically to the prophecy of the second coming of Christ and the thousand years of peace and perfection on earth that would follow that event. Generally among social scientists it's used to refer to a whole range of utopian movements in which change comes from outside, that change is imminent and where it will produce a radical transformation in the social order such that the mighty will be laid low and humbled and the meek exalted. So it really refers to any one of a whole range of ideas that have occurred historically in the mediaeval period and right through to the twentieth century. A classic example being cargo cults in Papua New Guinea where people seeing the goods that the white Australians and

others would have would abandon their gardens and go out to construct a jetty or an airstrip in the belief that their ancestors would come and bring the same sort of goodies to them. Very often millenarian movements have also involved wholesale destruction of existing wealth as a precondition of this transformation.

**David:** This is sounding a bit like many people's view of climate change.

**Steve:** Well, I've actually had very explicit discussions with some people from the NGO movement in which the parallels have emerged quite strongly. Where they have felt that the prospect of climate change presented a moral imperative. So you have the force for change coming from outside the human system, in this case it's coming from nature rather than from the Gods, but certainly the notion that there needs to be a radical redistribution of resources and that indeed if that redistribution of resources doesn't occur that there will be some kind of catastrophic failure in which we shall all suffer. Interestingly enough some of the most sustainable social systems in history have been those built on the most appalling inequalities. One looks at the great irrigation empires in ancient history, or the Chinese empire and so on. Therefore the scenario might not be powerful agency for change at all but in fact could equally well be a scenario which would entrench existing inequality and disparity of power. Confronted with that possibility, the person I was in conversation with said, "in that case we're all screwed!"

**David:** It sounds like you do see the external threat of the millenarianism people, but the hoped for transformation: this is the moment in history when we'll make the transition to something juster, as being a very questionable outcome of this process.

**Steve:** Millenarian movements have seldom been successful and when they've occurred the result has usually been that they've been rather violently suppressed and the regimes that follow them have been ones that we would consider as somewhat oppressive so the historical record isn't encouraging in that case. But I'm also an optimist so I'm hoping that trend is not destiny that we can as a society break out of that historical pattern.

### ***A US perspective***

**David:** To many people not living in the United States the US can easily appear to be a blockage to transformation. You lived in the US for twenty-three years so I'd be interested in your perspective on how it is for Americans and climate change at this point in history.

**Steve:** I think Europeans have a very mistaken view of the American situation in respect to climate change and one which is unfortunately counter productive. It's hugely ironic to my mind that certainly almost all of the early scientific work through the 70s and 80s on climate change was conducted in the US. If it weren't for research funded by the US Department of Energy it's questionable whether climate change would even now be on the popular agenda. So I think one needs to bear that factor in mind.

Secondly, I think part of the problem in terms of trying to locate America within an international response to climate change stems from the rather strident efforts on behalf of activists to establish blame, both the non-governmental activists within the US and also the government's own popular movements. Particularly in tropical countries, the notion that somehow or other that there was an historical responsibility that the US had to make good for the fact that its industrial expansion had occurred in such a way to generate large quantities of carbon dioxide. This gets quite complicated

but basically we're looking at very different ideas of what's fair and America is very much a country established on a fairness principle. What you might call the priority principle: first come first served. In fact it's enshrined in western water law where in the western US, first in time is first in right for water use. It's also enshrined incidentally in the patent system. The whole idea of a patent was to give the first person to have an idea the ability to exploit that idea. It's also very much consistent with a lands right approach from a society which had an expanding frontier.

You have this principle of priority in which there is a moral obligation to be productive, and dynamic and creative. If in the process you create problems for future generations you expect them to deal with them in the same way you responded to the conditions you inherited from your forefathers.

I think what the Europeans and the tropical countries adopted in looking at the US was a very different set of moral principles. Certainly for the developing world it was the principle of parity which is basically, "everybody should have the same". So comes the notion therefore that everybody on the planet has a personal chunk of the atmosphere or a personal entitlement and if some other group of people had used up my chunk that they had to compensate me for it.

Incidentally it's worth noting that the leaders of those countries, although they assert the parity principle based on the size of their population for claiming emissions rights, have not yet come up with a mechanism for the internal distribution of those emissions rights on the parity principle. What that means essentially is that if implemented this process would be likely to result in wealth transfers from the poor of the North to the wealthy of the South. Because if you, for example, have a high gasoline tax it tends to be poorer people who drive older gas-guzzling cars and then you're using that to pay carbon credits to the South and that generally speaking goes to the governments and there's no mechanism being proposed for how that gets to the poorest of the less industrialised countries. It's that kind of a symmetry which gets noticed by people in the US.

**David:** You've got very different world views of the developing world and the Americans in terms of obligations.

**Steve:** Americans don't like it when people turn round and say you owe it to us on the basis of this historical record. On the other hand Americans for the most part are decent people, well intentioned and I think a different approach, had it been made to the US, which was actually more of an appeal for support and help for the development of the developing world might have received a more sympathetic reception. So I think the whole blame game which has been part of the international debate here right from the beginning has been very counter productive with respect to US cooperation.

### ***Critique of the Kyoto protocol***

**David:** How do you think the rest of the world might engage more constructively with the US in future?

**Steve:** The most important thing is to get off the idea that the way to solve the climate issue is essentially through intergovernmental cooperation. I sometimes confuse people when I say I've been a critic of the Kyoto Protocol since 1988. They say, "Don't you mean 1998 when it came into being?"

"No," I say, "1988." because at that time I wrote a series of articles with the American anthropologist, Luther Girler, where we made several propositions one of which was that the big treaty approach to climate change was probably not the best

route to take if you were serious about wanting to bring about climate policies. We recognised that in fact there was probably a dozen countries that were critical. Clearly the current big emitters like the US the then Soviet Union probably Britain, Germany and France, and you'd want to look at countries like India, China and Indonesia because of its large population and forest cover, Brazil because of its land cover and so on. We felt that the more parties you tried to get involved in the issue the more difficult and complex it would become. The moment you get Saudi Arabia into the mix you know the kind of trouble that's caused.

Another issue that we felt was important is that governments exist to protect national interests and the national interest is always shaped by the interest of the governing elites. We felt it was unlikely that those governing elites were going to be able to put aside their own self-interest in pursuance of the more general global good so we were sceptical about going down that treaty path in the first place. What we advocated was to take advantage of what we saw as an emerging situation in which linkages across national boundaries of non-governmental groupings were becoming more important in people's lives. So we felt that the possibility for cross-national contacts among scientific groups, environmental organisations, women's groups, citizen's organisations and professional and commercial organisations, multinational corporations and so on represented a possibility of mobilizing people's concerns at a sub governmental level.

This is particularly important in the US as American citizens for the most part don't look to the federal government to provide leadership on most issues. Americans expect the federal government to provide defence, certain elements of basic infrastructure such as the interstate highway system which was originally a defence infrastructure to move the army around after the second world war. Other than that they prefer the federal government to stay out of their lives. They look more to the state government, the local government, the private sector and philanthropic organisations to provide leadership. That contrasts with the situation in Europe where there's still a strong expectation that government provide leadership. So I think if Europeans and those in the less industrialised parts of the world want to collaborate with the Americans on climate issues the answer is to look for opportunities to deal directly with the state governments like New Jersey which have produced an impressive climate action plan and to deal with corporations and to deal with NGOs directly.

### ***Adaptation versus mitigation***

**David:** You've played a role in working group 3 of the IPCC. How have your views been received?

**Steve:** I've been quite a long-standing critic of the IPCC, hopefully a friendly critic, but I'd always been concerned about two things. One was mitigation and adaptation being seen as two separate things, another one was the separation of climate change from the broader sustainable development agenda. I don't think that those things are usefully separated. If we were doing sustainable development we wouldn't be having a separate climate change issue and is it possible to tackle climate change without tackling the equity issues involved? I would argue not and therefore you can't actually deal with climate change without actually addressing the important issues raised by sustainable development with respect to poverty and so on and so forth.

I think the reason for the separation of mitigation and adaptation is interesting. I remember in the 1980s you couldn't talk about adaptation. I was living in Tennessee

at the time, it just struck me it was like trying to talk to southern Baptists about sex education. The very attempt to talk about it was seen as a way of undermining the mitigation agenda. If you talk about adaptation then you're encouraging people to believe that you can continue to emit greenhouse gases and you're encouraging the bad behaviour just the same way as they see telling kids about sex is encouraging them to go and have it.

**David:** My first reaction to seeing your work was tainted by that and it wasn't until I met you that I saw it wasn't as simple as this.

**Steve:** Fortunately that's changed and adaptation is on the agenda. People recognise that even if we were to mitigate successfully tomorrow there is a legacy of past emissions that means that we are going to continue to see impacts. We know the prospect of mitigating effectively tomorrow is non-existent so we are going to need to adapt. Not to address the adaptation issue would be in my mind wholly immoral.

I'm actually an optimist in the long term, at least as far as the developed world is concerned. The days of fossil fuels are numbered for reasons that have nothing to do with climate change. I would not be surprised if in a hundred years time our descendants look back on our concern with climate change with the same amusement as we look back on the debate in parliament in the late nineteenth century in which MP said at the current rate London will be six feet deep in horse manure by 1950. However, there is going to be a lengthy transformation even under that optimistic scenario and the thing about climate impacts is that they affect vulnerable populations in marginal areas or marginal populations in vulnerable areas whichever way you want to put it and that's both species and human populations. So the issue's not about grand things like will life on earth survive? It's about how many more poor people in developing countries we're willing to sit around and let see go hungry, get sick and die young, than we sit around and watch going hungry, getting sick and dying young now, and it's about how many natural species we're prepared to lose in the transition.

### ***The possibility of social transformation***

**David:** It's a moral issue.

**Steve:** It's a moral issue, it's not really a scientific issue. That's the optimistic scenario. The pessimistic scenario is when one realises that human beings have never abandoned an energy source. We still burn as much biomass today on the planet as we did two hundred years ago, we just don't do it in the UK and the US. We burn cow dung and wood in India and Indonesia. Unless we can do something we have never done before which is find a way of getting rid of an energy source as well as bringing new and cleaner energy sources online then the problem increases considerably.

But I think the other reason why people focussed on mitigation rather than adaptation historically was this southern Baptist syndrome. Another is that it seems like something you can measure. Once you've committed yourself to this intergovernmental process of treaties among states, targets and timetables you've got to have something you can measure. You can measure reductions in greenhouse gases in a way that its very hard to measure adaptation measures It's a bit like the story of the drunk looking for his keys under the lamppost because that's where the light is, not where the car is. We've favoured mitigation because it's much more compatible with that big politics agenda.

**David:** I haven't heard of the transformation during the industrial revolution being caused by people measuring horse dung.

**Steve:** Right, (laughter) exactly!

**David:** It was a completely different agenda and yet we act as if that policy of measuring horse dung and measuring charcoal use will bring about a transformation of society.

**Steve:** There was never an act of parliament to get horses off London streets.

### ***The role of consciousness***

**David:** Ok, so let's go from that to the challenge of transformation. William D Ruckelhaus was an Environment Protection Agency administrator under Nixon and Reagan and he regarded this as the biggest change challenge in human history. He believes that a conscious transformation to sustainable development is essential. He sees this as needing to be done consciously whereas the agrarian revolution and the industrial revolution could be unconscious, largely organic processes. I wondered, first of all, your view on his perspective and secondly, how can social science contribute to this challenge?

**Steve:** Well, as I've already indicated I think we are on the verge of a major change in how the world is going to produce most of its energy and I think there is a trajectory through natural gas, bio gas, gaseous hydrogen to provide liquid fuels through the development of fuel cells, increased efficiencies in solar photovoltaics and so on whereby we will really transform our energy use in the industrialised world and the post-industrialised world beyond recognition.

Now the question as to what extent does this have to be a conscious directed process and I think this is part of the fundamental problem that we face in looking at climate change and indeed in looking at sustainable development in the light of the Johannesburg conference. There is a tendency in looking at these things as problems to be solved and if you look at them as problems to be solved then you think about a rational agenda and a planned set of mechanisms by which you will solve them. Now there's two problems with this: One is what if they're not problems? In other words what if they are not susceptible to solutions as such but are better considered as conditions under which we have to make our decisions about life?

Secondly, related to that is, if indeed they are not problems to be solved by the implementation of a rational agenda how do you go about dealing with them?

**David:** Can I comment on the first thing you say. The classic thing about large systems change and particularly with environmental implications is that there's a significant delay between action and response and the delay takes place far away from the person taking the decision that's the thing which makes this thing so hard. Bearing in mind what you're saying if you add that dimension of system delay into the picture it makes it a lot harder and that may be why Ruckelhaus was arguing for the consciousness in this.

**Steve:** Well there's also this whole tradition about the notion that civilisation advances as it becomes more conscious of the things that it does and I think it was Whitehead who said that is actually back to front: civilisation advances as it automates more functions of human life and therefore frees us to think about new things. I have to wonder to what extent the debate about consciousness and change is an argument about preferences for philosophical positions with respect to anticipation of the future.

There are of course different kinds of consciousness and if Ruckelhaus means an anticipatory consciousness where actually looking ahead and planning in relation to

trying to bring about that fundamental change I am sceptical as to whether that's a realistic description of the way human behaviour works. Now if we're talking about increasing the consciousness of individuals about what they do in their lives but then allow that lots of people going off doing different things in different directions provides a process of creativity, and that we can put our trust in the process without knowing the outcomes then I think we're talking about a different idea of consciousness.

I don't know which one he has in mind but I would suspect that generally speaking American administrators of all kinds prefer a goal directed planning approach where there are bottom lines, where there are milestones, where you can have monitoring of performance. At least they claim to prefer that, now whether they actually implement that in practice is of course another issue. That's the ideal model of decision-making in America.

### ***The view of a social scientist***

**David:** If we leave how American administrators see foresight and consciousness and ask how you as a social scientist with an interesting and diverse view of the world see social science informing those who wish to participate in creating the future you're talking about.

**Steve.** There are two levels: enrolling people who wish to participate; and enrolling those who couldn't care less, and we need to do both. I think we do both by engaging people at levels where they see themselves to be effective and where they also see themselves to have interests at stake. Very few of us can see ourselves as having interests at stake at the global level and we certainly don't see ourselves as being affected and I think this is another reason why the mitigation agenda is not the best place to start with respect to developing climate change policies.

I advocated starting with the adaptation agenda because I think if you can show people how things like extreme weather events can actually threaten their way of life it can mobilize them locally to do something about protecting themselves from those changes and at the same time through that process allow them to learn that of course you can't simply adapt ad infinitum as the impacts get worse and worse and worse. Therefore they will develop for themselves a commitment to the mitigation approach, at the same time there will be new technologies becoming available which will make it easier for people to pursue that mitigation approach.

**David:** What you're saying doesn't sound at odds to the Kyoto process it sounds complementary. It sounds as though this process of adaptation engagement could put some much needed energy into the Kyoto process.

**Steve:** Ideologically the environmental movement has to say the Kyoto process is a start and people indeed have said the journey of a thousand miles starts with a single step but are you stepping forwards or backwards is the question. In fact when I published "Human Choice and Climate Change" one reviewer said if people took the policy recommendations seriously it would bring the Kyoto process grinding to a halt. I was tempted to write a response that since it seems to be going backwards that wouldn't be too bad a thing would it? I accept that there are some political pressures to say that what I am proposing would be a complement to the Kyoto process but I think there is a danger in the Kyoto process in that it sets up expectations which even if met are not going to make a significant impact on greenhouse gas concentrations. I think that by emphasising targets and timetables it could result in a slower transition

away from a carbon intensive economy and system because people will say ok we've met the targets.

I think an approach which says, "Are we putting the right processes in place to transform the industrial system, to transform global inequality and poverty?" has the potential to bring about that transformation much more quickly. It involves a certain level of trust in process and that's the difficult part for people. I think the whole Kyoto thing is a discourse of distrust. It's all about monitoring, it's all about how much money's on the table. If I put money on the table is this going to be for measures that wouldn't otherwise have been taken? How can you demonstrate that? How much carbon are you really going to save? It's draining a lot of energy from people instead of looking and saying, "What are the kind of processes that we want to put in place that are going to create a world that's going to be a better world for everybody?" You just look at those two kinds of discourse and feel what's in your stomach, it's a very different feeling.

**David:** Beautifully put. You've been very generous with your time. If you could just answer your own question from your heart: What sort of processes do we need at this point in history? We're not expecting perfect answers!

**Steve:** I think they have to be processes which focus on engaging people within the frameworks of their own lives, where they can see that what they are doing or what they are being asked to do is relevant to their own lives, improves their own lives and in the process produces positive externalities for the planet. In other words, the slogan "think globally and act locally" is back to front. Very few people have that capability. "Think locally and act globally" is the way to go.

**David:** Thank you very much.

*This interview first appeared on the web magazine [www.changingclimate.org](http://www.changingclimate.org), a demonstration project on the communication of climate change hosted at the Environmental Change Institute in the School of Geography at the University of Oxford and funded by the Esmée Fairbairn Trust. The project ran from April 2001 for 2 years and the site remained live until 2004 with some of the content transferring onto a new site at the ECI. The founding editors were David and Susan Ballard and the site was designed by the consultancy 4cee.*