

Environmental Insights

Guest: Nick Stern

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- Rob Stavins: Welcome to [Environmental Insights](#), a new podcast from the [Harvard Environmental Economics Program](#). I'm your host, [Robert Stavins](#), a professor here at the Harvard Kennedy School and director of the [Harvard Environmental Economics Program](#). And today we're really very fortunate to have with us [Nick Stern](#), the IG Patel Professor of Economics and Government and Chairman of the [Grantham Research Institute on Climate Change and Environment](#) at the [London School of Economics](#). He was previously chief economist and senior vice president at the World Bank and is probably best known as director of the Stern Review on the Economics of Climate Change, which was published in 2006. Welcome, Nick.
- Nick Stern: Thank you very much, Rob. It's a pleasure to be here at the Kennedy School.
- Rob Stavins: Great. Great to see you. Now, before we talk about your current thinking on climate change economics and climate change policy, what I'd love to do is to go back. And when I say go back, I do mean go way back. So tell us where you grew up.
- Nick Stern: I grew up in West London, a bit of West London called Brentford. Having been born about three miles further to the center in a place called Hammersmith. So I essentially grew up in West London.
- Rob Stavins: And where did you go to both what we would call here at least, primary school or high school?
- Nick Stern: I went to local primary school and then high school was in Hammersmith. Then we had what was known as direct grant schools or grammar schools, which were selective and exam 11. Fortunately most of the UK doesn't do that anymore, but it was basically local schools.
- Rob Stavins: And then college?
- Nick Stern: I did a mathematics degree at Cambridge and that's three years, the usual UK degree length. And then I switched to economics and studied economics in Cambridge for another year. And I had the immense good fortune that when I switched to economics, my supervisor was James Mirrlees, Jim Mirrlees, a great, great public economist, mathematical economists, development economist, who subsequently won the Nobel Prize.
- Rob Stavins: And from there then, then that led to a PhD?
- Nick Stern: Yes, I did the doctorate at Oxford actually because Jim Mirrlees, who was teaching me in my first year economics, very quickly got a chair, I think he was

31, at Oxford. So he said, "Do you want to come along?" And I said, "Absolutely, I do." And off we went to Oxford and I stayed there for 10 years, first finishing my PhD and then as a teacher.

Rob Stavins: And then when you left Oxford, where was next in your career?

Nick Stern: I went slightly to the North, to the University of Warwick. That was in 1978 and that was a young, up and coming university. And it up and came pretty quickly actually. It's one of the best universities in the UK now. And I had eight happy years there and then moved to the London School Of Economics in 1986. I've been attached to the London School Of Economics since 1986, although I deviated for about a dozen years, first as chief economist of the European Bank for reconstruction and development, which was about investing in the central Europe and the former Soviet Union after the fall of the Berlin Wall, and then at the World Bank. And then I had three years at her Majesty's Treasury with Gordon Brown as Chancellor of the Exchequer or Finance Minister and Tony Blair as Prime Minister. And that's where the Stern Review was written.

Rob Stavins: Now, before we get to the Stern Review and your time in government, when you were at the World Bank, which is I think when I first met you, I would have thought of you at the time as a development economist. But clearly most people now, if they have not known your whole history, would probably characterize you either as economist or environmental economist or climate change economist. So did that evolution, to whatever degree that characterization is fair, did that evolution take place as a result of what became known as the Stern Review? Or did it take place and that led to the Stern Review?

Nick Stern: It was somewhere between the two.

Rob Stavins: Okay.

Nick Stern: I am still a development economist. That's what attracted me into economics. I wanted to understand how peoples' lives change, how development advances, how for some people it doesn't or goes backwards. What is it that shapes the way in which individuals, communities, societies advance or decline, from the economics point of view, particularly around standard of living? And that has been with me all my life. That's why I changed actually from mathematics to economics. So that is indeed what I did. Economics and public policy, economics of development, economics of growth, from the beginning of my academic career, which in the late 1960s to around the early 2000s and I joined the treasury in 2003. So that was quite a long period where development economics was what I did and public policy was what I did. Because I did the Journal of Public Economics for many years with Tony Atkinson. But then when I joined the treasury, I had to think about British public policy. I had to think about Africa because I was asked to write the report to commission for Africa under Tony Blair.

But I became more and more interested in environment and climate issues. And when the GH Summit of 2005, which was about development, particularly Africa and climate, met, it made quite good progress on Africa committing to supportive policies on trade, committing to doubling aid for Africa in five years or so. But that G8 Summit in 2005 didn't get very far at all on climate. And I sat down afterwards with Gordon Brown who was then the finance minister or Chancellor of the Exchequer, wondering or thinking through why we did well on one of the two subjects, Africa, and didn't do so well on the other. And we concluded actually the world's leaders really didn't understand what climate was about. Some of their aides had asked why Tony Blair was introducing a marginal subject. These were presidents and prime ministers, why would they be talking about climate? And that was 2005. So we took the view that actually it's only when these things move to center stage and economics and finance that the whole of government indeed, partially true the population at large, really takes notice and engages with the issues.

So we said, "Well, why don't we have a look at the economics of climate change and see how it can become or should become a finance minister, prime ministerial issue?" It seems strange to ask that question now when it's so dominant, but that's where we were in 2005. So Gordon Brown said, "Well, you've just done a review of Africa for the Commission for Africa, of development in Africa. So why don't we have a review of the economics of climate change?" And I knew a bit about climate change. I wasn't a specialist before we began, but I went to the best scientists in the world and educated myself quickly from them. I did know something, of course, like any informed social scientists should about climate, but it hadn't been a specialty. And once you start thinking about this, you can't stop. And I haven't stopped since then.

- Rob Stavins: So the suggestion for the report actually came from Gordon Brown to you in discussions between the two of you? Is that how it-
- Nick Stern: Yes, it came from a joint dissection, the two of us, of the G8 Summit. It was G8 then because Russia was still in. The G8 Summit in 2005 where we'd had two subjects. One had gone well with strong engagement, Africa, across the G8. Another, the only people engaged at that summit was Jacques Chirac of France and Tony Blair of the UK. The others' eyes just glazed over. It's clear they hadn't thought about it, didn't particularly want to think about it.
- Rob Stavins: So my recollection is that Tony Blair very much took ownership for the report. I mean in a positive way, when it came out. Is that a fair description from ... This side of the Atlantic, that's the way it appeared, that this was really, Tony Blair was very happy with this and he was putting it forward to the world.
- Nick Stern: Yes, he did. But Gordon Brown did too. These were very particular times in the UK where there was great jostling for position between Gordon Brown and Tony Blair. And there had been a pact between them, that after two elections, Tony Blair would hand over as Prime Minister to Gordon Brown. And that pact had not yet been delivered on. Gordon Brown was not happy about that. So there

was some tension between the two, some competition between the two. And they're two very talented politicians. Very smart, thoughtful people. Very committed to doing good in the world in a rather generalized sense of doing good. But they were competitive. So it was quite a funny circumstance. The two main sponsors of this report, Gordon Brown and Tony Blair, were also in competition for prominence.

But I think it's fair to say that Tony Blair had been very committed on climate. Gordon, who's rather academic in many ways, wanted to think it through. So we did the report and Gordon really did come on board. So I think it's fair to say the two of them championed it. But Tony Blair had a, fair to say that Tony Blair at that point as Prime Minister had a longer-term commitment on climate then, had the higher profile.

Rob Stavins: And what was your staff like for doing the report? Was it your existing staff that you already had or did people get seconded from other ministries to come and work on it for awhile? What was the story there?

Nick Stern: We recruited about a dozen people from across government and from the treasury itself, from the Department for International Development, the overseas development systems, bits of the UK government. Those particularly. But we also had a Department for Energy, which was within what was then a Ministry of Business and Economics outside the treasury. So we called people in from different parts across government. On the whole, they were very good and we made a couple of hires. We hired a climate scientist, someone who'd just finished their PhD on climate science, to keep us in good contact with climate scientists, which was fundamental. So basically that dozen people, must've been nine or 10 internally and two or three outside hires, one or two secondments of people who got interested who turned out to be very good and very helpful – one from the Bank of England, one from Oxford who had worked at the World Bank, older people who knew a lot about the subject and saw this as an opportunity, wanted to pitch in. They were very good too.

Rob Stavins: So my recollection is that you came to Harvard, I remember the room we were in, and made a presentation to a small group of faculty about the report. I think before it was completed. There was someone with you, perhaps Alex. What was his last name?

Nick Stern: Alex Bowen.

Rob Stavins: Exactly.

Nick Stern: Alex was the one who was seconded from the Bank of England and he had spent the last few years as Secretary Of the Monetary Policy Committee, which in some ways is a very important, some ways very interesting, and some ways, perhaps rather tedious job where you're totally focused on the current movements of prices and output and demand so that the Monetary Policy

Committee can make up their mind whether to raise interest rates, lower interest rates, or keep them the same. So the normal thing was you deliberate and deliberate and pour over the numbers and you keep interest rates the same. So it's not always very exciting, although it sometimes is too exciting.

Alex had wanted to get involved in something else in public policy. He was a very important part of the group.

Rob Stavins: So we're going to get to the present, but I still want to stay on the Stern Review for one more moment here. As you look back on it now, because it's become iconic really within the history of both scholarship on climate change economics and also scholarship and contributions by public intellectuals to the discussions around climate change policy. So as you look back on it now, what do you think was best about it? And also if there's something you could do differently now with that report, what would you do?

Nick Stern: I think it had its distinctive characteristics, which gave it an advantage in calling on public attention. One was that we came at it as a group of people, and particularly myself in relation to this remark, who had spent their lives in public policy, in economics, in economic growth, economic development, tax expenditure issues, with an interest in an area but not a focus in an area. So I came at it as someone who lived their life in policy and then started to grapple with something that I was aware of but hadn't been deep into.

So I think there was that sense of impartiality which comes from not having been deep into the subject before. You could ... It has its disadvantages because I had to learn very quickly, but I think coming at it with an open mind, and I did come at it with an open mind and so did the rest of the team mainly. They had not been deep in that area before except for one or two of them who we hired as specialists.

So that I think was one part of the story. The second is it came from the Ministry of Finance. It came from the treasury, our economics, finance ministry. So this was not a "bunch of tree huggers" trying to pull everybody in their direction. This was a group of mostly economists looking at this from the point of view of economics and thinking about public policy from the point of view of a Ministry of Finance.

I think those particular parts of the story, the idea that we weren't party pre at the beginning and that we were sitting there in a Ministry of Finance, a UK Treasury. I think those two things were distinctive, so it gave us, as it were, a chance. Then I think the public profile came from the commitment of Tony Blair and Gordon Brown to the argument. They looked and they listened and they said, "Yes, we have to take this out there." So I think those were ingredients in its public profile. And then of course the quality of the report was down to us and we had to work. And I haven't found actually any mistakes. It's 700 pages. I have found the odd typo.

Rob Stavins: Is there anything though you would do differently in terms of the process you went through to put it together, the way you launched it, et cetera?

Nick Stern: There probably are some things I would have done differently. The economics which we brought at that stage was largely the economics of growth, the economics of development, and the economics of public policy in the context of risk. And I think I would've been more radical if I did it again. But I learned that along the way. Radical in the sense of recognizing this even more strongly as being about, for many people in the world, something existential, to recognize even more strongly that unmanaged climate change destroys lives or likely destroys lives on a massive scale. So I think if I did it again, but this is what you learn on the job of course, I'd have made the whole story of risk still bigger. It obviously was center stage, but I'd have made the whole story of risk much, much bigger.

Rob Stavins: So that's interesting that you highlight the risk, because as you certainly know and will recall, that at least in the economics community, some of the findings that came out of the Stern Review were controversial. And my late colleague and your friend, Marty Weitzman, was in a sense critical, in another sense full of praise. Because he said you came to the right conclusions for the wrong reasons. You remember that observation of his? If so, can you elaborate on it?

Nick Stern: Yes, with great sadness because we lost Marty very recently and he was a dear friend from 1972. We met at MIT as young academics and he came to University of Warwick to visit us. Marty was a complete one off, one of the most original people I've met. So we talk about Marty with great sadness but also with great admiration, and the points he makes and made were always, always important.

And I should say that Marty and I got closer and closer on these issues as time went by. And essentially Marty said that it's the risk of catastrophe that's at the heart of this story. And he's right, was right, is right. But it's not the only thing at the heart of the story. And Marty argued that we got to our conclusions largely because of our treatment of discounting and he felt that the center stage should have been risk. My reaction was that risk was at center stage and I agree with you Marty, that it could have been even bigger and perhaps should have been bigger. So we didn't disagree on that. We probably did disagree on discounting, although that went away as time went by.

And here's the issue. In economics, discounting is about the relative valuation of something that occurs in the future relative to something that occurs now. That something is usually treated as a good. So if you take some output and you say, "how much is an extra unit of output in the future," call it in 50 years time, "worth relative to unit of output now?" And that's a relative valuation. Economics is in large measure, not only, but in large measure about relative valuations and that's the discount factor. That's the fundamental concept. The discount rate is the proportional rate of full of the discount factor. But the fundamental concept is the discount factor, which is the relative valuation. So as soon as you express it that way, that's why economics is helpful, actually. If you

express a concept reasonably clearly, then you can see what would shape any measurement or judgment about that concept. So relative valuation of a good appearing in the future versus the valuation now.

That will surely depend as soon as you've said that sentence on circumstances in the future. If you think the future will be spectacularly rich, then there's a case for making evaluation of an extra unit then rather low. That's a value judgment of course, but that's a value judgment many people would come to I think quite quickly and agree upon. But of course the counterpart of that is if the future could be very poor or devastated relative to now, then you'd put a high valuation. And that says immediately that you cannot import your discounting from outside the analysis or outside the model because this is a question for policy as to what we do about climate change. And that in turn determines whether there's a big risk of being very poor or not as a result of the devastation of unmanaged climate change.

So the discounting story and the risk story are intimately linked and the mistake that economists were making, and I am afraid some of them still make, is to think that you can import the discounting judgments, be that expresses discount factors or discount rates. from outside that they are something, in our language, exogenous to our analysis.

When I think once you've defined what discounting means, it's completely obvious that they couldn't be, they couldn't be exogenous because we are taking decisions within these models about whether the world runs the risk of being very poor. And I think if you express it that way, you can see why Marty and I became much closer on this as time went by because Marty was emphasizing the risks quite rightly so. I was too. Marty even more. He was right on that. He, I think, came to see very clearly that this had to influence your approach to discounting. So we came together.

Rob Stavins: Yes. Well, Marty certainly became more and more aggressive in his own thinking about the imperative of action on climate change, particularly focused of course as you said, in terms of the risk of small probability but catastrophic outcomes, which did drive a lot of his thinking.

Nick Stern: I also think that Marty came to see that this wasn't just tail risks. This wasn't sort of low probabilities of catastrophic events. It was quite high probabilities of catastrophic events. Now, if you build models where five or six degrees is a really likely or possible outcome or even three or four degrees, those are very, very unpleasant worlds. So it's not just tail risk. The center of these distributions from unmanaged climate change are also very, very worrying and I think you could use the word catastrophic.

Rob Stavins: So from that, I'd like to turn to the policy world because you've remained, and perhaps even increasingly over time, engaged in the policy world with regards to climate change. So would you characterize your thinking in terms of the progress around the world where the world stands? And I'm thinking we could

be thinking both in terms of international climate negotiations under the United Nations Framework Convention on Climate Change or in terms of the domestic action in various countries. Would you characterize your thinking as being optimistic or pessimistic? Where are you in terms of the progress that's been made up to this point in time?

Nick Stern:

I'm extremely optimistic now about what we can do. Because since the Stern Review, as we've been discussing, the science has looked more and more worrying. Every intergovernmental panel on climate change report that comes out has more worry from the science than the last. So that extra risk or enhanced view of risk has just gone on and on. That's much more worrying. But the change in technology in the last dozen years, 13 years since the Stern Review, has been quite remarkable. Remember, that was one year before the iPhone. Look at what we can do now in terms of managing energy systems, transport system, cities, processes which are at the heart of the story, and in deforesting land. So much better as a result of that technology. Who would have thought now that offshore wind in the UK is competing out fossil fuels in power generation? Who would have thought just a dozen years ago that all the major car companies are talking about the end of the era of the internal combustion engine? And quite right too. And the electric cars are going to be much more efficient and better as well as zero carbon if electricity comes the right way.

So the technical progress has been quite remarkable and it's come on the back of only modestly good policy. So I get quite optimistic when you think about the technological change that has occurred on the back of quite ordinary policy when we could have much better policy and have still faster technical progress. So those two things cut the opposite way. The science looks much more worrying, but technical progress has moved faster than we anticipated, much faster they anticipated then. An important lesson for economists there, how do we foster rapid technical change, which our subjects should be much better at. The political will, it depends where you look.

I've been working in India now for more than 45 years, in China for more than 30 years. Those are the two most important countries in the world. China's the biggest emitter. Probably 15 years from now, India will be the biggest emitter. They're both changed in their view on this story. They recognize how much climate change matters to them and they recognize that they are big players. They can't just say other people who were more responsible in the past should do this and we don't have to. That's gone. At the same time, the understanding that others have in large measure been responsible for creating this problem has not gone all together. But they do recognize their role in this and they actually see the advantages of the new technologies. So India and China moving in positive directions.

Europe, after being an early leader and then slowed down a bit as they were struggling with the financial crisis and so on, is starting to pick up. United States, well, it all depends where you look. If you look at the White House, then it's

hard to argue that there has been unambiguous positive progress in understanding climate. Although it was strong under the Obama Administration, it's not strong under the Trump Administration on climate. I think that's not a controversial statement. But of course where you look in the United States, you have cities and states and firms which are very strong as well.

So science, much more worrying; technology, very promising; political will, it depends where you look. But I am enormously optimistic about what we can do, but deeply, deeply worried about what we will do because we are absolutely not moving fast enough.

Rob Stavins: So speaking about not moving fast enough, we're coming to the end of our time, but there's one question I want to end with because you've had a tremendous amount of experience, as is clear in the economics of climate change and in climate change policy. And something new has arisen that, to people of our age, is quite striking perhaps, and that's the youth movement. I mean there is this striking youth movement in Europe and in the United States regarding climate change. What's your reaction to what they've been saying and what they're asking for?

Nick Stern: I think the last three, four years with the youth of the world has been enormously encouraging, actually inspiring. I appear on platforms now with 16-year-olds and they're absolutely on top of the science. They know what it's all about. Why? Because the current generation people up to 2025 have learned climate at school. It's not some mysterious thing. It's actually very clear that when molecules oscillate at the same rate as the infrared, which is bouncing off the world of the surface of the earth, they interfere and stop it escaping. For them it's pretty straightforward and they're on top of the numbers as well. So I've been very impressed by the young and they are quite rightly putting pressure on us. The next two decades will be absolutely decisive. The world economy will roughly double and we have to cut emissions by 40%, at least, just for two degrees.

The next two decades are critical and the young see that. They see it clearly. And so what I think the next steps now are to sit down with the young, and we're doing that and I'm sure you are doing that too, and work out what we have to do. And there, the idea that there is a very attractive way forward, that we have the growth story of the 21st century in our hands, we can build cities where we can move and breathe. We can have ecosystems which are robust and fruitful. And we can do that whilst we increase our standards of living. But to do that, we have to change quickly, we have to change strongly, and we have to manage that change. There it seems to me the young people will be with us on driving that change. They will insist that we do. And that I think is the most optimistic of the features, big stories of the world that we've seen in the last three or four years.

Rob Stavins: Well, that's a wonderful place to conclude. So let me say thank you. Thank you very much, Nick, for taking time to join us today. Our guest today has been [Nick](#)

[Stern](#), the IG Patel Professor of Economics and Government, and the Chairman of the [Grantham Research Institute on Climate Change and Environment](#) at the [London School of Economics](#). Please join us again for the next episode of [Environmental Insights: Conversations on Policy and Practice](#) from the [Harvard Environmental Economics Program](#). I'm your host, Rob Stavins. Thank you for listening.