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Transcript

The Art and the Science of International Climate Change

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Chris Huhne MP:

I am delighted to be here today, and to give the last of a series of three speeches about climate change. Three weeks ago, I spoke about the economics of climate change. The case for green growth. Two weeks ago, I spoke about the geopolitics of climate change. About how it threatens our security in ways we haven't yet grasped.

Today, I will talk about the science of climate change, and what it tells us about the timetable we have. And the global negotiations, and how long it will take to reach an agreement. It is the tale of two timetables: the scientific, and the political. But first, let us remember how we got here.

The basics

Nearly two centuries ago, a French mathematician and physicist named Joseph Fourier wondered why the Earth was warm enough to support life. We are the best part of 100 million miles away from the sun. The planet ought to be much colder. Fourier considered a new possibility: that the atmosphere that we breathe also traps heat. In 1827, he described the greenhouse effect.

Let me put that into perspective. Our understanding of the greenhouse effect has been around longer than the periodic table. It predates the study of genetics and the theory of evolution. It's not only well-understood – it essential to life. Energy from the sun passes through the atmosphere and warms the earth. The earth radiates heat, which is absorbed by the trace gases in the atmosphere. The warming is fed back, and amplified. Without it, our planet would be some 33 degrees colder.

Over millennia, global temperatures and weather patterns vary. A natural equilibrium keeps it all in balance. Given enough time, Nature is largely self-correcting.

Changes

But since Fourier made his discovery, things have changed. Much of the planet has industrialised. Its population has soared. We have moved from small scale agriculture to large scale industry. We have swapped horses for horsepower. And we are emitting more greenhouse gas than ever before. The amount of carbon dioxide in our atmosphere is rising. Concentrations of CO₂ have grown by 40 percent since pre-industrial times. Two thirds of that increase has happened in the last 50 years.

With all this extra greenhouse gas floating about, we would expect the Earth's surface to get warmer. And so it has: by about 0.8 degrees in the last century. Much of this warming has occurred in the last 50 years. From 1960, temperatures have risen at an average rate of 0.13 degrees per decade. The ten warmest years on record were all from 1998 onwards.

So the basic science is clear. It tells us these three things: greenhouse gases warm the planet. Global emissions continue to climb. And the world is warming up. It is a compelling picture, and one supported by a growing body of evidence. Arctic sea ice is melting. Since 1900, global sea levels have risen by more than eight inches. Severe droughts are now twice as common as they were in 1970. Research suggests human action doubled the risk of the 2003 European heatwave. And climate change made the autumn 2000 floods in the UK about twice as likely. Every major scientific institution in the world concurs: the Royal Society, the US National Academy of Sciences, the *Academie des sciences*. Change on this scale cannot be explained by anything else.

There is no computer model of world temperature and climate that can explain what has happened without greenhouse-gas induced global warming. None. Unless we act to curb greenhouse gas emissions, continued warming is not a matter of speculation. It is inevitable. And scientists fear it will accelerate.

Thresholds

As temperatures rise, so does the risk of crossing dangerous thresholds in the climate system – leading to sudden, irreversible change. The Amazon rainforest holds about 10% of all the carbon stored in ecosystems. If it dries out, scientists fear it could release more carbon than it absorbs. Warmer temperatures and more frequent droughts would kill more trees, releasing more carbon. Arctic ice helps to regulate global temperature by reflecting sunlight back into space. As it melts, it exposes dark ocean beneath, which absorbs more heat, melting more ice and amplifying the warming.

The dangers

We cannot risk setting off these climate chain reactions. Let us be clear: the kind of world where global warming hits three or four degrees is not the kind of world we want to live in.

It is not about sunbathing in the Scottish Highlands. It will likely be a nastier, more brutal world. Climate change above 2 degrees is called catastrophic for a reason.

Warmer air carries more water. Humidity means storms, hurricanes, flash floods. Understanding these risks means setting aside ideology and being clear-eyed about the dangers. Forget the political posturing, and listen to the people who are paid to think about risk.

In 2009, the Association of British Insurers said – and I quote – ‘our assessment of climate change convinces us that the threat is real and is with us now’. Last month, more than 70 European companies, including Ikea and Coca Cola, asked the European Union to aim for more ambitious carbon cuts.

Scientists tell us we must act. Businesses tell us we must act. Even militaries tell us we must act. We have a democratic responsibility to answer the call. Government governs with the consent of the people. That consent is given only in exchange for basic assurances: that government will provide and protect. Climate change threatens our ability to do both.

Government cannot sit idle. If it were any other threat to our very existence, we would act. We would not shirk from our duty to provide our people with clean water, or enough food, or protection from invasion. A stable climate is no different.

The deadline

Luckily, there is a growing political consensus, as we saw in Cancun; and a plan. We need to keep global warming to within 2 degrees of pre-industrial levels to avoid the worst effects of climate change. That doesn't sound ambitious. The kind of timescales used in climate science - looking ahead to 2050, or back to the 19th century - can give the impression that this is all quite distant.

Nothing could be further from the truth. Unfortunately, in our complex climate system, there is a delayed reaction between emissions and warming. We could turn off the engine today, but the flywheel is still spinning. It will not come to rest for some time. Temperatures have risen by 0.8 degrees already. Even if we completely stopped all emissions, today, they would still rise by about half a degree.

That takes us more than halfway toward our limit. Next time someone mentions the 2 degree limit, remember that we are already 1.3 degrees along the way.

So this is not an abstract discussion. There will come a time when it is too late to turn this thing around. That time is rapidly approaching. If we do nothing now, it will cost us more to do something later – environmentally, economically, and politically. Sticking to our 2 degree limit means global emissions must peak by 2020 at the latest. To avoid radical upheaval, we need to shift the world economy onto a low-carbon path by the middle of the decade.

What does this mean?

This Parliament will end in 2015. If we have not achieved a global deal by then, we will struggle to peak emissions by 2020. It will be more expensive, more divisive, and more difficult. This is the last Parliament with a chance to avoid catastrophic climate change.

The gap

The good news is that we have already started. Every major economy in the world has targets that will curb carbon emissions. The US plans to cut its emissions by 17 percent. China wants to reduce the carbon intensity of its economy by between 40 and 45 percent. Brazil has targets to reduce its emissions by at least a third below projected levels.

These countries – along with all major economies – are making progress on the practical programmes to deliver their commitments. The bad news is that – although it is significant – it is not enough. We have rather a long way to go. Current global pledges will only get us halfway to a safer path.

If every pledge made at Copenhagen was implemented in full, we would still be some 5 Gigatonnes short of our target. To give you a sense of scale, that's the equivalent of total global emissions from cars, trucks and buses in 2005. Over the next ten years, emissions must rise less than they did between 2009 and 2010.

So there is a gap between the scientific reality and the political response. How can we close it?

Finding a fair and just answer to that question is the one of the sternest tests of diplomacy we have ever faced. Therein lies the art of international climate change: the co-operation and negotiation that will lead us to a safer, cleaner future.

The solution

We must do three things. First, we need to walk the walk. We need to change the investment landscape, locking in low-carbon energy and infrastructure. That means demonstrating we can build a thriving low carbon economy here in the UK – and more widely in the EU. It also means demonstrating the advantage of low-carbon growth. Not just in developed but also in developing countries, which can leapfrog our old technologies and take advantage of new ones. The best way to get electricity to a village in India might not be to connect to an old grid, but with solar power and decentralised storage. We must show that the pathway to prosperity for all the world's people does not lie with pollution.

Second, we need to rebuild public and political support for action at home and abroad. That means using soft diplomacy to shift the politics and build coalitions. Explaining the case for action not just on environmental grounds, but on economic and security grounds as well. Using targeted financial and practical support to help developing countries build cleaner, more climate resilient economies.

And third, we need to come together to forge a new agreement on global emissions. That means further developing the global legal framework over the next few years. And working with major economies to build the political conditions that must be met before a deal can be signed.

These three tasks must be carried out with clarity of purpose and strength of ambition. We cannot afford to ignore any one approach, or favour another. We must pursue each with vigour.

Working from home

The first step is to get our own house in order. So we are already cutting carbon out of our economy. My department's 2050 Pathways project helps people engage with what our energy future will look like. The Green Deal, our pioneering programme, will improve the energy efficiency of Britain's homes and businesses.

Our reform of the electricity market will rebuild our energy economy, securing the next generation of clean energy infrastructure. The renewable heat incentive and carbon capture and storage projects are breaking new ground.

And the Green Investment Bank will channel substantial private investment into low-carbon technology. We are also committing to deep carbon cuts. Earlier this year, we set the Fourth Carbon Budget, for the period from 2023 – 2027. It is the most ambitious act of environmental business planning in our history. In fifteen years' time, our net emissions will be half what they were in 1990. No other country has binding targets that far ahead – or that ambitious.

Cross-border action

All this will help. But it will not be enough. The UK emits less than 2% of the world's CO₂. So the second step is to work together, across borders and across sectors, to build a low-carbon coalition. Partly, this is about advocacy. About using our influence and our experience to bring others into the realm of high ambition. Taking the case for action to security communities. Working through UK business leaders, championing the case abroad for ambitious action and a clear legal framework.

Together with our partners across Europe, we are pushing to raise the European emissions reduction target. It is a hard sell, but the tides are moving in our favour. We look forward to an ambitious and professional Danish presidency of the EU, where I hope to make a real push for a higher target. We are also arguing for ambition in the G8, the G20, and the Major Economies Forum. And we will be a powerful advocate for change when we host the third Clean Energy Ministerial here in London in 2012.

Working with our partners also means delivering on our promises outside the negotiations. Using financial support and soft diplomacy to help countries reduce their emissions, protect the poorest and most vulnerable from the impacts of climate change, and build up the foundations for a global deal.

In a time of austerity, we have pledged £2.9 billion of international climate finance. This will help developing countries reduce poverty through low-carbon growth, adapt to climate change, and tackle deforestation.

In Bangladesh we will help 15 million more people to protect themselves against the effects of climate change and natural disasters by building embankments and shelters, promoting climate resilient crops, and improving access to safe drinking water.

The Clean Technology Fund, which is part-funded by UK Fast-Start finance, helping to catalyse clean energy production on a large scale in the developing world.

It's expected to provide 18 million people with low-carbon, affordable transport, provide over 12 megawatts of clean electricity – and thousands of jobs. We have helped half a million households in Nepal to make a living from forestry, raising income by 60 percent and saving 1.2 million tonnes of CO₂ every year.

We support the Climate and Development Knowledge Network to help developing countries access the data they need to build climate resilience, adopt low-carbon growth and tackle poverty. And we are supporting the World Bank's Partnership for Market Readiness, to help developing countries set up their own carbon trading systems to cut emissions.

Global deal

The third step is to work together as a people – and a planet. This is a whole-world problem. It demands a whole-world solution. Without it, we face a future with poisoned political relations and carbon tariffs. Climate change is a new kind of foreign policy problem. It demands multilateral solutions, but the dividing lines are blurry. There are no neat ideological splits. Relations between the developed and developing world are hugely complicated, and domestic politics are hugely variable.

This is a complex, multi-year process. It deals with issues that cut to the very heart of national sovereignty. That is why the global process is so important. It provides a place where decision makers' minds can be focussed on the bigger picture. Countries know they must do something. But no-one wants to go first. No-one wants to be out in front, exposing their economy to competitive risks.

Yes, we can cut carbon out of our own economy. Yes, we can come to regional agreements and make pledges on emissions. But it is increasingly clear that only a binding global deal, ambitious and far-sighted, can deliver the carbon emission cuts we need – and provide assurance against competition. The alternative is not an alternative; a voluntary agreement is a false promise. It will not send a clear policy signal.

Incoherent climate regimes will not provide the clarity or certainty that investors crave. It will be seen as a retreat.

Only an overarching legal framework can ensure the compliance and certainty that will underpin the low-carbon transition. And the only way to build that framework is through the United Nations.

Negotiations

The annual cycle of UNFCCC meetings is in danger of slipping into a damaging rhythm. Expectations begin to build; we begin to manage them. The negotiations themselves are tough. Progress is made, but no final deal is reached. Commentators either praise or bury the process, according to taste. The circus packs up, and climate change slips back off the front pages for another year. Governments, NGOs and businesses have ramped up each UN meeting as being the be all and end all of tackling climate change. This has held us back in the push for a global treaty – and has undermined the domestic case for action.

The chorus of doubters grows louder by the year. ‘Nothing real is ever achieved’, they cry. ‘A treaty is never going to happen. We should focus our energies elsewhere.’ We need to shatter these dangerous illusions. We no longer have time to indulge them. The UNFCCC is not the end; it is the means to the end.

Yes, it is difficult. There are few international agreements quite as complex as this. Yes, we will continue to make progress in stages, not in a single defining moment. We cannot expect to bring 194 countries to an understanding in two weeks, or even two months.

So how do we reconcile incremental progress with the immovable deadline for action? The answer is to zoom out and look at the big picture. We are not at the beginning of this process.

Consider the Montreal Protocol: work did not stop when the agreement was signed. On funding, technology and information, the UN is still helping developing countries reach their targets. The initial text provided a basic platform for action; revisions tightened targets. Similarly, the climate negotiations did not start at Copenhagen.

They did not start at Kyoto. We decided to collectively limit our emissions nearly twenty years ago. It was in 1992, at the Earth Summit in Rio, that the United Nations Framework Convention on Climate Change was conceived.

The first review of commitments made in Rio led to the Berlin Mandate in 1995; two years later, the negotiations concluded with the Kyoto Protocol, which capped the emissions of industrialised countries. But the political will for a treaty was weak.

Copenhagen is held up as the grim peak of this political failure. Yet the pledges made in 2009 could, if met fully, could take us 60 percent of the way to our goal for 2020. Last year, the Cancun Agreements restored a sense of progress, bringing promises made in Copenhagen within the UN Framework. Taking significant steps on forestry, finance, and the review process.

Each of these steps take us closer to a global deal. But they are not simply milestones. They are also protecting our planet – right now. Thanks to the pledges made at or in the run up to Copenhagen, climate legislation in 16 of the world's largest economies has moved steadily forward.

In a few months, we will meet at Durban for the seventeenth Conference of the Parties. What can we hope to achieve?

A comprehensive treaty framework looks unlikely. That will have to wait. From 2013, there will be new political leadership in the world's major economies. We hope to have put the global recession behind us. The stars may be more closely aligned in favour of a binding legal deal. In the meantime, there is much to be done. There are three things we must look to in South Africa.

Durban – and beyond

First, we must reinforce the fragile momentum that gathered at Cancun. That means doing the tough and gritty negotiating that lays the foundations for a binding deal. We are establishing the architecture of a future global climate regime. The green fund, systems and rules for measuring and verifying emissions, mechanisms to support technology development and so on are not mere trimming, but are load bearing structures in a global deal. Without them, it will remain elusive.

Second, we must take the commitments made at Cancun and bring them forcefully and visibly to life. We have pledges that will get us more than halfway toward a cost-effective trajectory to 2 degrees. In the short term, we must focus on their delivery. We must put the rules in place to ensure the commitments are robust, and the reductions they deliver are rigorous and quantified. And we need to look further ahead, understanding what we need to do in the short and medium term to build on these pledges.

And third, we must begin to strip away the thorns from the toughest issue of all: the legal form of a future climate deal. Legal form has become a defining question in the politics of international climate change. The successor to the Kyoto Protocol, whatever form it takes, will be our second chance to get it right. We cannot afford another.

This is going to require imagination and flexibility on all sides. The EU has said it will consider extending the Kyoto Protocol, and I stand by that. But we must find ways of bringing the rest of the world into a legal framework. And we need a route map to a single treaty solution in the future. For although the scientific evidence continues to grow, climate change is getting less political attention now than it did two years ago.

There is a vacuum, and the forces of low ambition are looking to fill it. It is time to reaffirm our political commitment to a global solution.

Ambition

I stand for high ambition, and high achievement. That means an immovable commitment a global, legally binding treaty to limit emissions – and concrete, measurable actions to deliver it. Nothing else can do, or will do.

We must summon the courage to commit to ambition without reserve. We must draw on our strengths and confront our weaknesses. We must agree a climate deal that is fair, firm, and final. Abandoning ambition in the face of short-term economic or political pressures would be a dereliction of duty.

It would mean ripping up that chapter of the social contract which holds that government should exist to protect the people. Winston Churchill – the patron saint of the Coalition, as he was both a Liberal and Conservative – once said that ‘an appeaser is someone that feeds a crocodile, hoping that it will eat him last’.

Giving in to the forces of low ambition would be an act of climate appeasement. This is our Munich moment. Every country must commit itself in full to meeting this common but differentiated challenge. Yes, we are all starting from different positions. History matters. But at one stage or another, we must fix a point in time. We cannot wait for every country to become equal, because that would mean waiting for an eternity.

At some point, we must draw a line and say: this starts now. This starts here.

From today, for the first time, humankind will work together as one in defence of our most precious inheritance. From today, we acknowledge that we are held to a higher responsibility. One that transcends profit and loss, and peace and war, and trade and aid.

From today, we commit to work not to the prejudices of the past, but in service of a greater and more lasting good. The planet earth, and the life it sustains.

Thank you very much.