

Take Back Control: Two Futures (or how to beat the climate emergency)

Introduction: the Environment Agency

First of all, thank you very much for the invitation to speak to you this evening. My name is James Bevan and I'm the Chief Executive of the Environment Agency. The clue to what we do is in the name: we protect and enhance the environment. We do that in manifold ways, including by regulating the businesses that can pollute it in order to protect our air, water and soils; by enhancing nature to create new habitats and restore damaged ones; by building and maintaining flood defences to protect lives and livelihoods, and by warning, informing and supporting communities when flooding threatens. But if you want a short summary of what we do it's this: we create a better place. At the heart of doing that is tackling the biggest threat we all face – the climate emergency.

And it's that emergency that I want to talk to you about this evening. I'm going to speak for around 20 minutes then open it up for your questions and observations, and I really am interested in hearing your thoughts.

Wolfson College

But let me start by praising the great institution that is Wolfson College and all of you who make it so. The vision of your first President, Sir Isaiah Berlin, that the College should operate in ways that were "new, untrammelled and unpyramided" is as relevant today as it was in 1966. Your progressive ethos is shown in how the College is leading the way amongst universities on the environment. You aim to be the first zero carbon higher education institution, with a 75% carbon reduction from your estate already on track to be achieved by the end of next month, and the goal of achieving Net Zero in 2030. You have the Earth Emergency Cluster to contribute your expertise to global discussions on the climate and ecological crises. And you have your Green Team – the staff and students on the ground who are the driving force behind these and other initiatives, and without whom they simply would not be happening. So Wolfson is the ideal place to discuss the climate emergency.

The climate emergency

You hear a lot about that emergency these days, much of it depressing. So tonight I'm going to try something different: I'm going to look into my crystal ball and give you two versions of the future. Both are possible. The first future we might end up with is both depressing and scary. The second is the opposite of that: it's reassuring and uplifting. Realising that second, better, future is also entirely possible, provided we do the right things. And we can, because we have agency. So tonight I am going to tell you how we can beat the climate emergency by – to coin a phrase that has been much used in a different context – taking back control.

Futurology

But before I polish up my crystal ball, a health warning about futurology. It's a lot harder than it looks. I know this from my own bitter experience. Seventeen years ago, when your distinguished President Tim Hitchens and I were both diplomats, the Foreign Office sent me to Harvard for a year to improve my mind. They didn't send Tim, on the grounds that his mind did not need it.

And while I was at Harvard in 2005, I wrote a paper on The World In 2020, in which – based on the best analysis and future studies then available – I sought to identify what that world would be like, in order to help the Foreign Office prepare for it.

I looked out that paper a few days ago when preparing for this speech. It turns out that – a bit like the BBC weather forecast – I got about 50% of my predictions right. One of those was the (frankly fairly safe) prediction that the world would stay unstable and unpredictable. It also included a prediction that I am a bit prouder of getting right, though not of the fact that it happened: that by 2020 the world would experience a major pandemic.

But among the many things I got wrong were that I failed to identify the greatest threat that we would face in the decade in which we now stand. I thought the future would be much like the past (another safe and often wrong assumption) and therefore that the greatest threats to us all would remain terrorism and nuclear weapons. Wrong – because as we now see, and few would dispute, the greatest of all threats – to our lives, our livelihoods, our world and our future – is neither of those. It's the climate emergency.

So I offer these thoughts tonight with a degree of entirely justified humility. I should also add, in defence of what I got wrong in 2006, that most other people who try to predict the future get it wrong. Let me quote you a few others who did:

Western Union, the US telegraph company, in an internal memo written in 1876: "This "telephone" has too many shortcomings to be seriously considered as a means of communication".

Lord Kelvin, the distinguished scientist and President of the Royal Society, in 1895: "Heavier than air flying machines are impossible".

Hal Warner, of the then silent movie company Warner Brothers in 1927: "Who the hell wants to hear actors talk?"

Popular Mechanics, the US magazine, in 1949: "Computers in the future may weigh no more than 1.5 tons". And my personal favourite, the Decca Record company in 1962, rejecting a little-known pop group from Liverpool: "We don't like their sound and guitar music is on the way out". That was the Beatles.

There is always a choice: we have agency

Existential climate dread is now a thing, particularly among young people.

One of the main reasons is that we feel we are powerless in the face of the threat. Studies have shown that fighter pilots experience less stress than train commuters. The reason is that while the fighter pilot may sometimes be in danger she is also in control, whereas the commuter awaiting a badly delayed train to get to the office in time for a meeting is not in control. The big fact about climate change is that we are actually in control of it. We decide what happens to our planet. We can choose the future we want.

Future A: do nothing – let events control us

Doing nothing in the face of climate change is itself a choice. So let's call that Future A. We can carry on running our lives and our economies more or less as we have since the start of the industrial revolution, based on energy derived from carbon. In which case we will continue to put more and more carbon dioxide and other greenhouse gases into the atmosphere, causing more global warming.

The effect of that is well known because it's already happening. It will mean that sea levels continue to rise, as the glaciers and polar ice caps melt. Since most of the world's population live near or on the coasts, or in low lying areas, and since once land has been swallowed by the sea it's gone forever, that is an existential threat. More global warming will also mean more extreme weather, as the rising heat drives more intense storms, rainfall, flooding, heatwaves, drought and wildfires. That will pose obvious immediate threats to lives and livelihoods, but also more subtle ones: to our food supply as it becomes harder to grow the things on which we all depend; to human health as climate change increases both the risks of disease and extreme weather puts more stress on human physical and mental wellbeing; to ecosystems as plants and animals find they cannot cope with the changes; to peace and stability, as growing resource scarcity drives a potential rise in conflict; and to justice and equity, as the people who are least responsible for climate change – the world's poor – find themselves the most vulnerable to its effects.

Those effects are global but where we will feel them is local. So let me illustrate what this version of the future would mean for where we are today, Oxford.

Oxford is a lovely place. It was founded as a river crossing on the Thames and the string of braided watercourses which traverse the city give it much of its character. It has many agreeable homes, a lot of them built on drained marshland. It's surrounded by beautiful countryside, has good quality of life, a strong knowledge and services economy, modern infrastructure, easy rail and road connections to London and the rest of the country, and an attractive combination of the traditional (punting, swimming in the Cherwell) and the modern (Wolfson College). You don't need me to tell you it is also the oldest university in the English-speaking world and that it has some of the finest collections of buildings in the world, many dating from Anglo-Saxon times.

Every single one of those things is at risk if we don't act on climate.

In that version of the future the city of Oxford itself is at risk, as more frequent and more violent flooding makes it less and less liveable and disrupts daily life more and more frequently. Homes and businesses are at risk, as it becomes harder and harder to keep the water out of places built on floodplain or drained marsh. By 2100 the countryside around Oxford and the abundant wildlife it contains is dying, as extreme temperatures, drought and climate-driven disease takes hold.

Quality of life is dropping, as pollution makes the air harder to breathe, water scarcer and more expensive, and the weather something to fear rather than a subject of polite conversation at bus stops. If you liked angling, you can forget about that because river temperatures are so high that most local fish species are extinct. The city's infrastructure and its links to the rest of the country are collapsing as the stress of much higher temperatures and much greater and more violent rainfall starts to damage roads, rail and utility supplies faster than they can be repaired. The city's economy is in freefall as a result of the associated disruption to supply chains and the fact that it's both a lot harder and a lot less attractive for tourists and students to come here. Even the very buildings of Oxford are falling apart as a result of the kicking the more extreme climate is giving them. And the student class of 2100 cannot believe that anyone ever jumped off Magdalen Bridge into the Cherwell on May Morning because all that remains of the Cherwell is a puddle that won't break your fall but will definitely break your ankles.

Future B: take back control – build the future we want

This may sound like bad science fiction. It isn't. All of these things can happen, to Oxford and the rest of the world, and they will happen unless we take back control and tackle the climate emergency.

Some are already happening. The hottest temperature in the UK ever recorded – 38.7 degrees – happened in 2019 in a place that I gather has been a friendly rival of yours for something like the last 800 years, Cambridge. The highest rainfall ever recorded in the UK fell in 2015 when a gauge at Honister Pass in Cumbria recorded 341mm of rain in 24 hours: that rain caused some of the worst flooding in living memory. 2020 saw the wettest February on record in the UK, with some areas experiencing a month's worth of rain in 24 hours and some getting over 400% of their average monthly rainfall – causing the Met Office to have to introduce two new colours to their rainfall maps to show this, and also causing river levels to break records across the country. On 16 February 2020 the Environment Agency had 600 flood warnings and alerts in place, the highest ever.

But none of the extreme outcomes I have identified for the world of 2100 need to happen. We can build the future we actually want.

We can do that in two simple ways: by tackling the cause of climate change through putting less carbon into the atmosphere so that we reduce the speed and extent of climate change, so-called mitigation; and by tackling the effects of climate change by making our places, our infrastructure and our economy resilient to its impacts, so-called adaptation.

The Environment Agency is playing its part in this.

We are a major player on mitigation. We regulate most of the greenhouse-gas emitting industries in this country, and with those industries are progressively reducing their emissions. We run the UK Emissions Trading Scheme which caps and reduces the emissions from aviation, steel and other heavy industries. We are a major player on adaptation. We build flood defences that will better protect communities in the face of growing flood risk. We work with planners and developers to create places that will be more resilient to climate shocks. We manage drought risk. We work to restore and enhance nature: planting trees, creating new habitat for wildlife, restoring peat bogs, returning rivers to their natural courses after the Victorians engineered many into straight drains, opening up rivers to fish and so on – all of which both helps mitigate climate change, because trees and peat bogs trap the carbon that causes it, and helps adapt to its effects, because thriving nature is more resilient to shocks.

And, like you here at Wolfson College, we are trying to walk the walk ourselves, with a commitment to make the EA a Net Zero organisation by 2030.

Let me underline two really important points about tackling climate change.

First, if we get this right we can not just make things a lot less bad than they otherwise would be, but a lot better than they are now. We can build better places for people and wildlife, unlock sustainable inclusive economic growth, and create a fairer, more just world.

And second, each one of us has agency. We can take back control in our own daily lives. Food accounts for up to 30% of our individual carbon footprints: so eat local, seasonal food and less meat and dairy. Travel can account for another third of our carbon: so walk or cycle, take trains or buses rather than cars, and if you need to drive then use electric vehicles as much as possible. Heating our homes is the other major slug of carbon in our individual lifestyles: so keep your central heating at no more than 19 degrees C, get double glazing, insulate your walls and roof, switch to a renewable energy tariff and consider fitting solar panels.

Finally, if you want to make an even bigger difference, three little words: have less stuff. Resource consumption is the other big X factor in our individual carbon footprints, because every single thing we have has embedded emissions – the carbon emitted from its production and transport to us, and from its eventual disposal: so have fewer things, use them for longer, and share them with others.

If we tackle the climate emergency in the right way at all levels – global, national, local, individual – we will succeed. And if we do here's what Oxford will look like in 2100 under Future B.

The city will be at ease with itself and its rivers. The risk of frequent flooding will still be there, but the threat it poses to Oxford's people, places and economy will have reduced. That's because the EA's flood schemes – some hard engineering but a lot of them natural flood management, using trees and fields to store water – will have reduced the risk of property flooding

materialising; and because – working with the planners and developers, we will have helped design a city which is more resilient to the effects of flooding when it does happen. The countryside around Oxford will be greener and bluer, and it will have more healthy and more abundant wildlife than it does now. Quality of life will be higher, with cleaner air, purer water, and better places for people to live, work and play. Fish will be more not less abundant in the local watercourses. While the weather will still be more exciting than it was – because the amount of carbon we have already put into the atmosphere means some further climate change is inevitable – it will not be life-threatening and the city's upgraded infrastructure will cope easily. The city's economy will be even stronger than it is now, not least because the knowledge economy – Oxford's USP – will draw in more investment, jobs and talent because it is itself part of the solution to a changing climate. Tourists and students will still flock to the city, but will live in it and move around it in ways that don't cause harm to the planet. The glorious buildings – including the modern architecture – that make Oxford what it is will still stand and inspire future generations. And while the Cherwell will be a thriving watercourse, it will still be just as dumb to try jumping off Magdalen Bridge into it as it ever was.

Reasons to be cheerful: why the future is already looking brighter

I'm an optimist about climate, because while humans have consistently shown they can do very dumb things, as a species we have also shown a consistent ability to think our way out of whatever scrapes we have got ourselves into.

And I have become a good deal more optimistic in the last five years. That's because in that time we have seen a shift in how all the key players think about climate. Ordinary people all around the world are now seeing the damaging effects of a changing climate and demanding action. That is putting pressure on governments around the world to act, and they are: the commitments made at COP26 last November – if implemented – will get us much closer to the climate stable world we want. Meanwhile – whether or not their own governments are acting – businesses are doing it anyway, disinvesting from carbon and investing in renewable technology not just because it's the right thing to do but because it's the smart thing to do for businesses that want to continue to make money. Meanwhile ordinary citizens are taking back control by opting for low carbon lifestyles and pressing their own governments to act.

Last but not least, our scientists, researchers and academics – many of you and your colleagues around the world – are identifying new ways to tackle the climate emergency and its effects and build better economies and societies. So enough futurology. I prefer to go by what they say in Silicon Valley: "the best way to predict the future is to invent it".

Conclusion

I and you started with Sir Isaiah Berlin. Let me finish there too. As most of you will know, in 1994, towards the end of his life, Sir Isaiah accepted an

honorary degree from the University of Toronto, and prepared what he called a message to the 21st century which was read on his behalf at the ceremony. If we do the right things now, that message works too for the generation of 2100. So I will finish by quoting the final words of Sir Isaiah's message about the 21st century, addressed this time to those who will follow us into the next one:

"I congratulate you on your good fortune; I regret that I shall not see this brighter future, which I am convinced is coming. With all the gloom that I have been spreading, I am glad to end on an optimistic note. There really are good reasons to think that it is justified".