



Tackling climate change



Climate change matters. Even moderate shifts in climate affect the natural world, the species and places WWF works to protect, and the six billion people who inhabit the planet.

Today, we're facing a major threat of environmental catastrophe due to climate change – which is why WWF has been working on the issue and warning of the potential risks for nearly two decades. And it's why what we are doing is more important, more urgent, than ever.

This special publication will tell you more about why and how we are tackling climate change, and what you can do to help. The worst of this crisis can be avoided – but only if we act now.

Simply put... what is climate change?

Climate change is a long-term warming or cooling of the planet. Over the 4.5 billion years that the Earth has existed, the climate has changed many times.

For the past 13,000 years, the Earth's average temperature has gradually increased. But... recently, the warming has accelerated. The Earth is now three-quarters of a degree hotter than it was 100 years ago. That may not seem a very big increase at all – but it's huge for such a short time span.

Then – and now

There's one significant difference between previous periods of warming and the one we're experiencing today. In the past, warming has been brought about by natural cycles and has taken thousands of years, so species have had time to adapt. But this time, the cause is human activity. We've been pumping carbon dioxide (CO₂) and other gases such as methane – known together as 'greenhouse gases' – into the atmosphere at ever-increasing rates since the Industrial Revolution more than 250 years ago. And now we're paying the price.

How global warming happens

Every time we turn on a light switch, heat our home, drive a car, use a computer, watch television or cook a meal, we consume energy. At present, most of the energy we use comes from 'fossil fuels' – so called because they've been created over millions of years by the slow decay of vegetation and other living matter.

The three fossil fuels we burn are coal, oil and natural gas, each of which has carbon in its make-up. When we burn them, they mix with oxygen in the atmosphere – and the result is CO₂. Another major source of greenhouse gases is deforestation – the earth's forests contain huge quantities of carbon locked up in trees and soils. When these forests are chopped down, the damage to biodiversity is huge – and the carbon they contain is released into the atmosphere.

The greenhouse gases form a blanket around the Earth. This blanket traps heat that would otherwise escape into outer space. As each year passes and we pump out more greenhouse gases, the blanket thickens and the planet's temperature rises. The result: global warming.

How can we stop global warming?

WWF's work shows that we can still avoid the worst impacts of global warming. By using energy much more efficiently, and moving to clean, renewable sources of energy such as wind and solar power, we can drastically reduce our reliance on fossil fuels. And by working to stop deforestation, we can help save biodiversity and the climate at the same time.

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Why does WWF work on climate change?

Climate change is perhaps the greatest threat to endangered species and habitats, and WWF's work to protect them. Recent scientific research tells us that if the average global temperature rises by just 2°C above the level recorded in pre-industrial times, the consequences for people and nature will be devastating – as many as 30% of all species of animals and plants could be lost, up to 40% of the Amazon rainforest could die back this century, and many of the world's coral reefs will perish. Millions of people, particularly the poorest people in vulnerable areas, will also be at risk.

And that's with just a 2°C rise in temperature! Climate scientists tell us that temperatures could rise by up to 6°C this century (and they could go even higher) if we carry on with 'business as usual'. Already the Arctic summer sea ice is shrinking faster than we anticipated even a few years ago and the oceans are becoming warmer and more acidic, threatening many forms of sea life.

To keep warming below 2°C, global emissions of greenhouse gases must start to drop in the next few years and fall by at least 80% from 1990 levels by 2050. That is a huge challenge – but WWF's work around the globe shows that it can be achieved, provided the world acts with urgency and determination.

What is WWF doing to tackle climate change?

WWF is a world leader in the fight to reduce global greenhouse gas emissions so that the average temperature rise stays well under 2°C. And we're helping vulnerable species, habitats and people adapt to the climate change impacts that are already unavoidable.

Climate change is a global threat that needs a global solution, and as a global organisation WWF is uniquely placed to tackle this issue. From finding alternatives to deforestation in the Amazon to advising on policies that will protect the Arctic, WWF is fighting climate change on all fronts. And with nearly 50 years of expertise behind us, WWF is a respected voice at the highest national and international levels. In the UK our experts meet regularly with government officials, ministers and businesses to press for action on climate change and other environmental issues.

And on the international stage we are playing a key role in pushing for a new and strong UN agreement on climate change.

Away from politics, we work on the ground in vulnerable regions to protect wildlife, habitats and poor communities and to help them cope with the impacts of climate change. That's because the well-being of people and nature is intimately linked: people can't thrive without a flourishing natural environment, and nature can't thrive without careful stewardship by people. We all share the same planet, the same limited natural resources and, ultimately, the same future.

Act now!

We can tackle dangerous climate change – but 'business as usual' is no longer an option. We face a huge challenge but it is not yet too late to head off the worst impacts – provided we take serious action, now.



Safeguarding the natural world

For nearly five decades, WWF has been working to preserve endangered species and their natural habitats – but now, because of climate change, many of them are under even greater pressure.

We're working around the world to support the people and wildlife who are most vulnerable to climate change impacts that are now unavoidable – and we continue to tackle other threats such as illegal logging, poaching and pollution.



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The Himalayas

The Himalayas – the rooftop of the world – spread majestically across India, Nepal and Bhutan. The region has everything from the world's highest peaks to rolling alpine

meadows, and more than 10,000 plant types and 750 bird species are to be found in the eastern Himalayas alone. These exceptional natural habitats are home not only to millions of people, but also to threatened species such as the Bengal tiger, Asian elephant, greater one-horned rhino, red panda and snow leopard.

As the planet warms, so the great glaciers in the Himalayas are melting and retreating. And as these extraordinary bodies of ice shrink, the risk of catastrophic flooding followed by long-term drought increases – threatening nature, people and their livelihoods.

WWF action

WWF is working globally to bring about a reduction in greenhouse gas emissions that will protect the Himalayan glaciers. Locally, we focus on restoring and reconnecting 50,000 sq km of forests, grasslands and wetlands across the eastern Himalayas. Our goal is that plant and animal species can thrive and that the needs of local communities are met without harming the environment.

In the Langtang National Park in Nepal, for example, we're helping local people assess the dangers posed by climate change, and to devise ways in which they can adapt to protect their environment and their livelihoods in the future.

Wildlife focus: the snow leopard

This elusive animal favours alpine habitats above the tree line – but rising temperatures are causing the snow to recede and its living area to shrink. The milder climate also means that farmers can move their livestock higher and into the snow leopard's territory. This is not only harming fragile mountain grasslands, but is also bringing the already endangered big cat into direct conflict with humans.

While WWF is fighting to stop poaching and the illegal trade in animal fur and body parts, we're also working to protect the leopard's habitat so it can continue to roam widely, hunt and breed. In addition, we promote the use of pens to protect livestock and have helped set up community-managed compensation schemes for farmers whose livestock have been killed by snow leopards.



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The Coral Triangle

The Coral Triangle covers more than six million sq km of the Pacific – an area containing some of the most world's most precious coral reefs, and spanning a number of countries including Indonesia, Malaysia and Papua New Guinea.

The range of its marine life is breathtaking – some 3,000 species of reef fish and more than 20 species of marine mammals including dolphins, whales and dugongs. Six of the world's seven species of marine turtles are also found here, along with whale sharks and manta rays.

Coral reefs can be harmed by even slight changes in temperature – and in many parts of the world, coral is already dying as the sea water warms. If the world warms by more than 2°C, most of the world's reefs face severe damage. Another result of the growing levels of greenhouse gases in the atmosphere is that the seas are soaking up more carbon and becoming more acidic – further threatening coral and other sea life.

WWF action

WWF has been working in the Coral Triangle area for more than 20 years. Local people can't do anything about the global sea temperature or the seas becoming more acidic,

but we're helping them to reduce destructive fishing practices so that local stresses on the coral are reduced and the reef has a fighting chance. We're also working with communities – which are themselves highly vulnerable to rising sea levels caused by climate change – to help them lobby for action so that their voices can be heard on the global stage.

The Arctic

The Arctic is in trouble. The loss of vast areas of summer sea ice to climate change is dramatically affecting polar bears and other wildlife, as well as indigenous people whose way of life is disappearing as they are forced to abandon their hunting grounds. And while sea ice reflects heat, the darker ocean absorbs it – further contributing to the rise in global temperatures.

WWF action

WWF strives to maintain a healthy Arctic environment which ensures a vibrant future for wildlife and indigenous people alike. We do this by working to reduce greenhouse gas emissions globally and addressing regional threats such as shipping, fisheries, and oil and gas activities.

Thanks to our presence in seven Arctic countries, we constantly inform governments about the impacts of climate change on the region, where we monitor effects on wildlife and gather important data from a number of Arctic-based projects. We're also working with local communities to adapt to changes already taking place – helping them to develop new livelihoods such as sustainable tourist activities in already popular destinations such as Svalbard.

Wildlife focus: the marine turtle

Marine turtles have survived in the Earth's seas and coastal regions for more than 100 million years – but today, they're in drastic decline. This is partly due to hunting and poaching, and thousands of marine turtles die each year when they become accidentally caught in fishing gear. But now climate change is threatening the coral reefs where they feed.

WWF is working to protect reefs around the world. For example, in the Mesoamerican Reef off the coast of Central America – the Atlantic Ocean's largest coral reef and an area favoured by marine turtles – we and our partners are monitoring climate change impacts and working with local people to devise plans that will help them adapt to climate change and protect the reef and its marine wildlife.

We also work on many other aspects of marine turtle conservation – not least by challenging the trade in live animals and marine turtle products.



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Wildlife focus: the polar bear

As many as 25,000 polar bears roam the Arctic. That may seem a sizeable number, but the species is listed as 'vulnerable' by the International Union for the Conservation of Nature.

Climate change is the biggest threat to the polar bear. Recent summer thawing of Arctic sea ice has broken all records, making access to prey more difficult. This in turn makes it harder for bears to put on enough weight to survive the longer ice-free months and for females to produce sufficient milk for their young. This could lead to decreasing birth rates and smaller offspring which are less likely to survive to adulthood. Scientists now believe that summer sea ice in the Arctic could disappear within 5-30 years – and if that happens, polar bear numbers could plunge catastrophically.



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The Amazon

Home to at least 10% of the world's species, the Amazon rainforest is quite simply the greatest concentration of nature on Earth – but widespread deforestation has already reduced its area by 20%. Scientists now tell us that if we don't tackle climate change, the region will dry out and much of the rainforest could be lost. The knock-on effects on food production across South America and beyond, and on the livelihoods of millions of people, would be stark.

The trees of this giant forest lock up billions of tonnes of carbon. This carbon is released into the atmosphere when the trees are felled or die. So loss of vast areas

of the Amazon to either chainsaws or climate change would accelerate global warming with profound consequences for us all.

WWF action

WWF has been active across the Amazon – an area covering eight countries – for more than 40 years. Here and around the world, we work with local people on responsible forest and floodplain management, and to promote global schemes that will compensate developing countries for leaving forests standing. We also help establish protected areas and tackle the causes of deforestation, such as poorly-planned road construction. Protecting forests here, and in other areas such as Papua New Guinea, the Congo and Borneo, is a crucial part of our international action to tackle climate change.

Yangtze River Basin

The Yangtze River Basin is a unique system of forest, rivers and lakes, covering an area seven times the size of the United Kingdom. Four hundred million people, one third of China's population, share the basin

with many rare species. The best known include the giant panda, the Siberian crane, the snow leopard and the Yangtze River dolphin. The basin is under huge pressure due to the threat of climate change and the growing needs of the people who live in the region. With funding from HSBC, WWF has been active in the region since 2002.

WWF action

As a member of the HSBC Climate Partnership, we're working with local partners to reconnect 50 networks of lakes to the Yangtze. In so doing, we're helping to reduce the impact of climate change on people and their livelihoods by managing the growing threat of flood water. We're also restoring wetland networks to provide better-quality drinking water, particularly for Shanghai. In addition, we're planning to help Shanghai and Baoding reduce their greenhouse gas emissions so that they become models for cities, towns and businesses. And, more than that, we plan to raise awareness of climate change, its threats and solutions, throughout the whole of China.

None of our work, none of our successes, would be possible without our supporters.

If you would like to join WWF in making a genuine difference to the future of our planet, turn to page 12.

Tackling climate change in the UK

WWF is well known for its action on species and habitats throughout the world – but here in the UK, we're hard at work too.

And with good reason – the UK is already experiencing climate change impacts and, unless greenhouse gas emissions are tackled urgently, we are likely to experience hotter, drier summers and warmer, wetter winters with a greater risk of flooding. These changes will not only affect our habitats and species, but will also have a serious impact on our own lifestyles.

Globally, the UK is the eighth largest emitter of greenhouse gases. The products sold by UK international financial markets are major contributors to global emissions. The UK also plays a critical role in international politics – and, partly thanks to WWF's campaigning, it is the first country to adopt a Climate Change Act that sets legally binding targets that aim to reduce greenhouse gas emissions to a sustainable level.

WWF's work is aimed at ensuring that government in London, Belfast, Cardiff and Edinburgh, as well as local and regional authorities, business and industry, schools and the public, are all involved in tackling the challenge of climate change.

- After intense lobbying by WWF and others, the UK government has committed itself to reduce the UK's greenhouse gas emissions by at least 80% by 2050. WWF is now working to ensure that the new Climate Change Act is implemented properly, and leads to real action on the ground.
- WWF is campaigning for strong legislation with strict limits on the amount of CO₂ that new and replacement power stations can emit. We're therefore calling on the government to reject any plans for new coal-fired power stations that don't conform to these standards – this includes the one proposed for Kingsnorth in Kent.
- Nearly one third of all UK emissions come from our homes. WWF campaigning has already helped result in government plans for all new housing to be zero-carbon by 2016. Our recent *How Low?* report also shows that emissions reductions of 80% can be achieved in existing housing and we've launched a major public campaign to help bring this about.

- We're calling on government and business to promote investment in energy efficiency – especially in our homes – and clean, renewable sources of energy.
- In the UK we take more flights per person than in any other country. If we're serious about tackling climate change, the increasing threat posed by aviation can't be ignored. That's why WWF is opposed to the expansion of Heathrow airport and is campaigning to reduce aviation emissions.
- As the Scottish Climate Change Bill makes its way through the parliamentary process, 20,000 WWF supporters have written to the government in Holyrood demanding strong and effective legislation.
- Many of our environmental laws and policies are agreed at the European level, and so we work with WWF offices in other EU member states to ensure that the EU lives up to its promise to be a world leader in the global effort to tackle climate change.

For more information, go online to www.wwf.org.uk/climatechange



“We have to act and we have to act now. All the signals from the Earth system and the climate system show us we are on a path that will have enormous and unacceptable consequences”

Nicholas Stern, author of the *Stern Review on the Economic Impacts of Climate Change*

Tackling global climate change

2009 – a crucial year

In December, nations from across the world will gather in Copenhagen to draw up a new international agreement on climate change. WWF is working to ensure that this global climate deal delivers the major cuts in greenhouse gas emissions from fossil fuels and deforestation that are needed to prevent environmental catastrophe. It must also help developing countries to grow their economies in a low-carbon way, whilst helping the poorest nations cope with climate change impacts that have largely been caused by the industrialised world.

The Kyoto Protocol set greenhouse gas reduction targets for the developed world, but these targets only take us to 2012 and are not strong enough to tackle dangerous climate change. That's why a global climate deal in

Copenhagen this year is so important – we need a global agreement that can take over when the current Kyoto targets expire, and that can deliver much more rigorous, and enforceable, reductions than before.

Already, a great deal of work has been done in advance of this conference. WWF, as one of the leading independent organisations at the UN negotiations, has been involved in lobbying, debating and advising all the way to the conference table. We are working as a global network, bringing together our experts from all the key countries – from China to Russia, from Europe to South Africa, from the US to India – to encourage our leaders to work for the best deal possible.



Why do we need a global deal?

If average global temperatures rise more than 2°C above the level recorded in pre-industrial times, the consequences for people and nature will be devastating.

That's why climate change is the conservation issue highest on the global agenda, attracting the attention of political leaders and communities everywhere. "Climate change is no longer just an environmental issue, but now lies at the heart of international politics and economics," says Dr Keith Allott, who leads our work on the issue. "Only focused, rapid action at all levels can help the world to address the dangers of global warming."

At long last, attitudes are beginning to shift. In the US,

the Obama administration has signalled decisive action. Global partnerships are being formed with China, India and other emerging economic powers. But as the economic downturn retains its grip, the EU is backing away from its climate commitments, and other rich countries are stalling. So there's still much to be done – and WWF is at the forefront of developing solutions and political lobbying.

During the coming year, we'll be asking our supporters to campaign with us for an ambitious global deal. For more information, go online to wwf.org.uk/globaldeal



You can make a difference!

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If the world continues to consume natural resources and generate greenhouse gases at present rates – in other words, we keep a 'business as usual' attitude – within 25 years we would need the equivalent of two planets to keep up with humanity's demands. Clearly, this is not an option!

WWF puts pressure on government and industry to alter our over-consuming, over-polluting lifestyle, and to build a future where people and nature thrive within their fair share of the Earth's natural resources.

There are steps we can each take to make our daily lives more sustainable – steps that will send a clear signal to government and industry that there's a demand and a need for change.

- First... use WWF's online Footprint Calculator* to measure your impact on the environment. It takes less than five minutes – and you might get some surprises!
- Save energy in your home – do you have double glazing, cavity wall and loft insulation, and an efficient modern boiler?

- Think before you travel – personal transport accounts for 18% of the UK's greenhouse gas emissions.
- Think about what you eat – can you cut back on meat and dairy products on some days? It may surprise you but these produce a lot of greenhouse gases, and so are an even more important issue than food miles and packaging.
- Think before you buy – check energy-efficiency ratings on electrical goods and, even more importantly, can you manage without that latest gadget?
- As a general election approaches, your MP and the other candidates will be taking the political temperature. Tell them that climate change matters to you – they'll listen.

- Help WWF campaign for a strong global climate deal: take action at wwf.org.uk/strongclimatedeal

*wwf.org.uk/footprint



“Earth Hour was a dramatic global expression of the strength of support for action on climate change. It’s just the beginning of WWF’s campaign to ensure a binding global deal at Copenhagen this year. We intend to keep up the pressure.”

WWF-UK Chief Executive, David Nussbaum



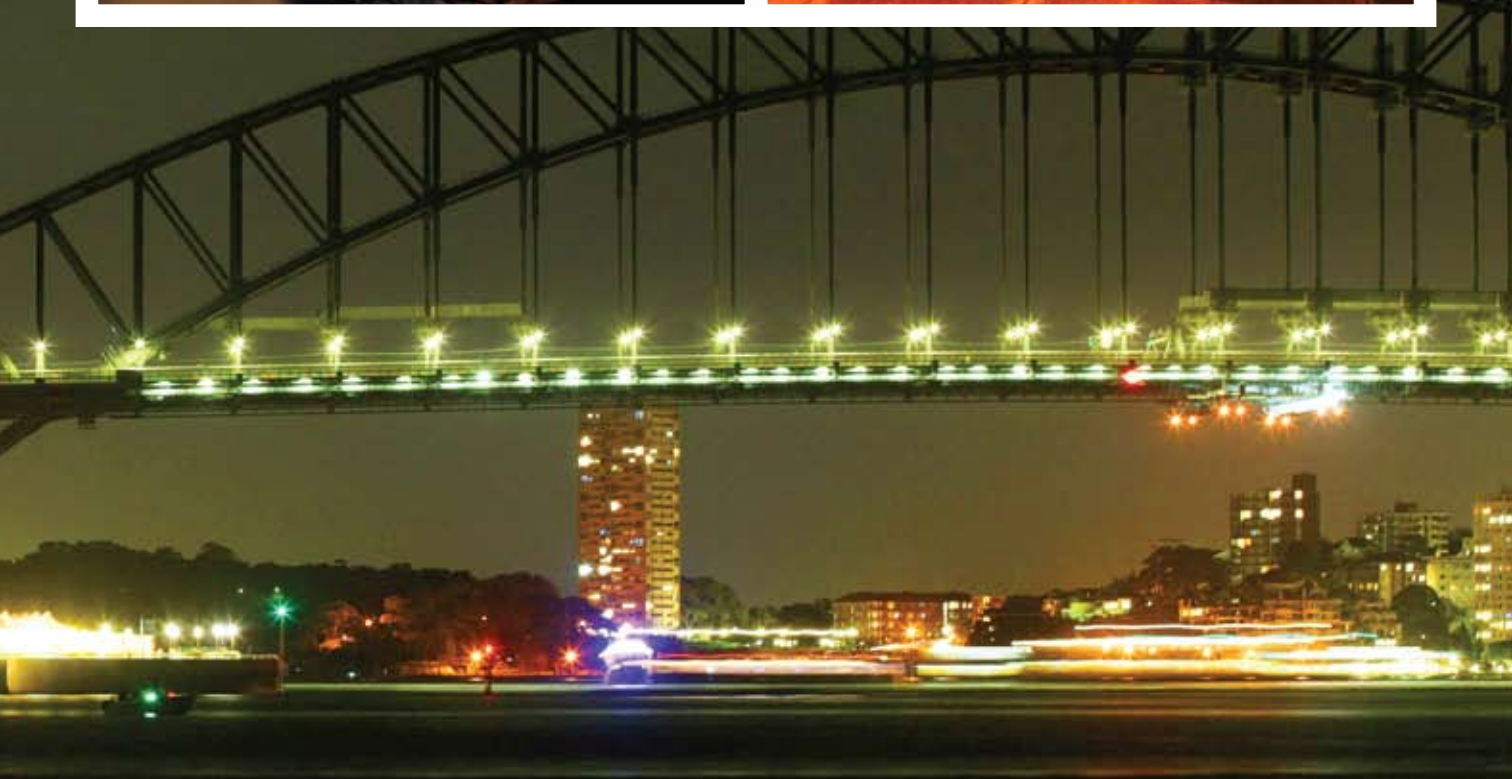
WWF's Earth Hour 2009



© Rowan Griffiths / WWF-UK



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On a Saturday night in March, hundreds of millions of people across the planet switched off their lights as part of WWF's global Earth Hour, drawing attention to the urgency of world action on climate change. Nearly 4,000

cities and towns, including 70 national capitals, took part. A hundred cities and towns in the UK, more than 1,000 schools and nearly 700 businesses also participated. Iconic landmarks such as Big Ben, the Sydney Opera House,

the Acropolis, the pyramids of Giza, the Eiffel Tower and the Empire State Building were plunged into darkness for 60 minutes as part of the largest global action of its kind yet seen.

And finally...

Human activities are already causing significant changes to our climate. If we carry on as we are, those changes will reach a scale and speed that will devastate our already fragile environment. We are the cause of the problem... but we can also be the solution.

Do we continue to plunder the Earth – or strive to protect it for ourselves and future generations?

WWF relies on the voluntary support of our members and other valued supporters to finance much of our work. For further information about all WWF's activities, what you can do and how you can help make a genuine difference to endangered species, the environment and the planet, go online to our comprehensive and frequently updated website – wwf.org.uk

The mission of WWF is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- reducing pollution and wasteful consumption



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