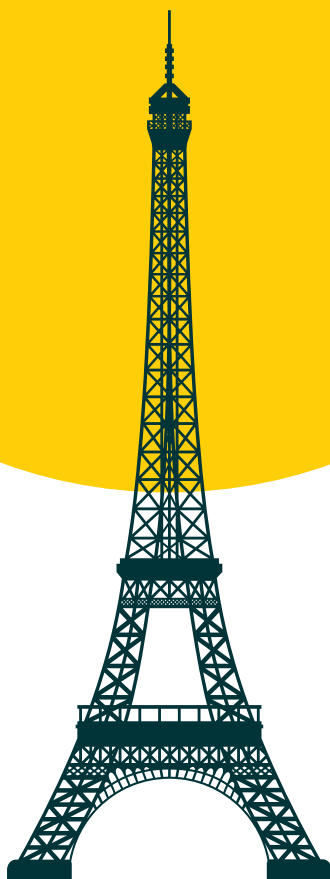


# Paris 2015

## Getting a global agreement on climate change



# Paris 2015: getting a global agreement on climate change

A report by Christian Aid, Green Alliance, Greenpeace, RSPB, and WWF

**Lead author:** Rebecca Willis

## Acknowledgements

With thanks to the following for their assistance in producing this publication: Alastair Harper, Matthew Spencer, Frieda Metternich, Karen Crane, Michael Jacobs, Gareth Morgan, Harry Huyton, Tom Viita, Ruth Davis, Alison Doig, John Lanchbery, Camilla Born, Ben Stafford, Rose Dickinson, Barry Johnston, Penny Evans, Helen Dennis, Murray Birt, Dominic White, Luke James, Bernadette Fischler, Gwen Harrison, Elena Perez, Brigitta Huckstein, Tracy Carty, Leo Hickman, Mohamed Adow, Rachel Garthwaite, Kate Pumphrey and Sol Oyuela.

© Green Alliance, 2014

Green Alliance's work is licensed under a Creative Commons Attribution-Noncommercial-No derivative works 3.0 unported licence. This does not replace copyright but gives certain rights without having to ask Green Alliance for permission.

Under this licence, our work may be shared freely. This provides the freedom to copy, distribute and transmit this work on to others, provided Green Alliance is credited as the author and text is unaltered. This work must not be resold or used for commercial purposes. These conditions can be waived under certain circumstances with the written permission of Green Alliance. For more information about this licence go to <http://creativecommons.org/licenses/by-nc-nd/3.0/>



Published by Green Alliance  
August 2014

ISBN 978-1-909980-18-1

Green Alliance  
36 Buckingham Palace Road  
London SW1W 0RE

T 020 7233 7433  
[ga@green-alliance.org.uk](mailto:ga@green-alliance.org.uk)  
[www.green-alliance.org.uk](http://www.green-alliance.org.uk)  
blog: [greenallianceblog.org.uk](http://greenallianceblog.org.uk)  
twitter: @GreenAllianceUK

The Green Alliance Trust  
Registered charity no. 1045395  
Company limited by guarantee  
(England and Wales) no. 3037633  
Registered at the above address

Designed by Howdy, printed by Park Lane Press

# Contents

<u>Summary</u>	2
<u>What needs to be agreed?</u>	4
<u>From Rio to Paris: what has changed since 1992?</u>	8
<u>Prospects for an agreement</u>	11
<u>Why a global agreement is needed</u>	12

# Summary

At the Paris summit in December 2015, 196 countries will meet to sign a new climate change agreement. But how likely is it that it will be meaningful and make a difference to climate action on the ground?

Not only is a deal possible but, with the right political leadership, it can lead to ambitious outcomes that will have a real impact on tackling climate change.

Countries like the US and China are working to ensure an outcome is likely in 2015; and the years since the 2009 Copenhagen negotiations have seen some significant breakthroughs.

The 2009 negotiations were fraught and chaotic, with a last minute agreement emerging after frantic scenes on the conference floor. Yet international negotiations remain vital for countries to build on national approaches, providing reassurance that they are not acting alone, and making it easier for nations to work together towards a low carbon future.

This is why the 2015 Paris summit is important. To ensure meaningful action on climate change, the deal must contain the following elements:

- ambitious action before and after 2020
- a strong legal framework and clear rules
- a central role for equity
- a long term approach
- public finance for adaptation and the low carbon transition
- a framework for action on deforestation and land use
- clear links to the 2015 Sustainable Development Goals

A strong deal will make a significant difference to the ability of individual countries to tackle climate change. It will provide a clear signal to business, to guide investment toward low carbon outcomes. It will reduce the competitiveness impacts of national policies, and create a simpler, more predictable framework for companies operating in different countries.

Vitaly, a strong climate deal will help to meet international development aims, which are at increasing risk from rising global temperatures. Eliminating poverty, improving health and building security are all outcomes linked to tackling climate change.

And it will also bring huge benefits to the natural environment by helping to avoid biodiversity loss and the degradation of ecosystems upon which we all depend.

“

So the question now is whether we will have the courage to act before it's too late. And how we answer will have a profound impact on the world that we leave behind not just to you, but to your children and to your grandchildren.”

US President Barack Obama,  
Georgetown Address, June 2013<sup>1</sup>

# What needs to be agreed?

In December 2015, countries will meet in Paris to sign a global agreement on climate change. But what should be in it? The 2015 agreement will be different from those that came before. In the early years of climate negotiations, the focus was on setting 'top-down' targets, which drove national action. Today, the emphasis has shifted. Individual countries are being asked to come forward with their own ambitions and plans for carbon reduction. Agreement at the global level is needed to ensure that countries' pledged contributions add up to sufficient global action, providing financial support for adaptation and the low carbon transition, while ensuring transparency to enhance co-operation.

A good agreement will provide an enabling framework, allowing individual countries to do more than they could alone. Agreement is needed and possible on the following elements of a global deal:

## **Ambitious action before and after 2020**

Countries are aiming to reach agreement in Paris on a deal that will come into force from 2020. This means ensuring each nation pledges its own 'nationally determined contribution' for post-2020 action, no later than March 2015.

But, at the Durban talks in 2011, countries also agreed to accelerate action before 2020.<sup>2</sup> Limiting climate change in the long term depends on cumulative emissions so, if less is done now, greater effort will be needed in the future. Failure to act now will make it harder to limit temperature rises to less than 2°C, much less 1.5°C, above pre-industrial levels.<sup>3</sup> Emissions reduction pledges for the period up to 2020 have been made by more than 90 countries but, added together, these are, in the words of the UN, "far from sufficient to close the emissions gap."<sup>4</sup>

The agreement should include ambitious national plans for action from 2020 onwards, and a package of pre-2020 action, with more ambitious national mitigation pledges, better delivery of existing financial commitments and more action in key sectors, such as energy efficiency, renewable energy deployment and forest protection.

## **A strong legal framework and clear rules**

To ensure action on the ground, governments and businesses must be confident that countries will deliver on the promises they make in the agreement, with processes to account for action and ensure transparency.

The international agreement must have a clear legal basis that works for different national constitutions. Negotiations are already working towards finding the right legal design to ensure both certainty and the broadest participation.

The legal form of the agreement should inspire confidence that commitments will be delivered in a timely and credible manner by national governments. This should be supported by a clear, shared accounting system and robust, transparent monitoring and reporting requirements.



The American economy is already beginning to feel the effects of climate change. These impacts will likely grow materially over the next five to 25 years and affect the future performance of today's business and investment decisions.”

*Risky business: the economic risks of climate change in the US<sup>5</sup>*

### **A central role for equity**

If the climate challenge is to be met effectively, and the resulting global agreement is to be supported by the 196 potential country signatories, it must be seen as fair for all. This means the agreement must recognise both the different contributions of countries to climate change and the changing nature of the global economy. It must acknowledge where nations have more responsibility and where they have more capacity to tackle climate change.

The agreement must allow for comparisons of national contributions, using appropriate indicators of national responsibilities and capabilities, to encourage ambition and ensure that climate action links with strategies for poverty alleviation and sustainable development.

### **A long term approach**

The agreement reached in Paris should not be seen as static. Instead, it should establish a framework to build from, with rolling commitments to reduce emissions and support adaptation. This should be on a five year cycle, with a ratchet mechanism over time built into the system and a clear, long term goal.

There are two reasons for this. First, carbon targets will need to be revised in the light of emerging science. Second, as confidence in the agreement grows, and countries implement low carbon strategies, there will be more evidence of the social and economic benefits of action and greater confidence amongst investors; this will lead to a virtuous circle of action, and the possibility of greater ambition in future international negotiations.

The agreement should include a forward looking regime of five year commitment periods with a one-way ratchet mechanism to enable enhanced ambition; it should move towards a goal to phase out pollution from fossil fuels by 2050 and phase in clean energy technologies.

### **Public finance for adaptation and the low carbon transition**

A global climate agreement is much more likely, and will be much more effective, if it provides finance to support action on adaptation and mitigation. Countries have already agreed to scale climate finance up to \$100 billion a year by 2020. They have also established the delivery mechanism for a significant portion of that funding, in the form of a Green Climate Fund. Fully capitalised and with strong leadership, the fund could become a transformational institution, with the ability to influence other international financial institutions and the wider investment environment.

Moreover, the UN Framework Convention on Climate Change's finance discussions are not taking place in isolation, but are part of broader efforts to reform international financial frameworks to deliver sustainable development. These include negotiations to deliver enhanced public finance for development, which will be discussed intensively during 2015, and efforts to help redirect private capital from high to low carbon investments.

The agreement should include commitments to scaled up public finance, to support adaptation and mitigation action, aligned with other public finance for development; and wider efforts should be made to secure private sector investment in the low carbon economy.

### **A framework for action on deforestation and land use**

Forest protection and support for sustainable land management will be a crucial part of a new agreement. The REDD+ programme, agreed in Warsaw in 2013, sets out guidelines for reducing emissions from deforestation in developing countries. These cover such issues as biodiversity, social impacts and governance, and finance for action to meet these guidelines. This approach can provide the foundation for further action on stronger ecosystem protection, poverty alleviation in rural communities, support for sustainable agriculture and better climate resilience in vulnerable communities.

Any new agreement covering forest protection, land use and agriculture should be properly financed, have clear rules for emissions accounting and involve local communities in decision making. It should ensure better biodiversity, ecosystem protection and restoration, and include support for sustainable agriculture and increased climate resilience.

### **Clear links to the 2015 Sustainable Development Goals**

Goals for international development are also being discussed in 2014 and 2015, in a separate UN process. The aim is to agree a new set of Sustainable Development Goals (SDGs) in 2015, to replace the Millennium Development Goals. This timing provides an unprecedented opportunity to set a clear path for international development for the next generation. Action on climate change is essential to meeting development aims, including poverty eradication, health, education, food and energy security.

The agreements on climate change and SDGs should be seen as complementary, with opportunities for mutual benefit in areas such as low carbon development, climate adaptation and resilience, and new flows of finance.<sup>6</sup>



“

I challenge you to bring to the Summit bold pledges. Innovate, scale up, co-operate and deliver concrete action that will close the emissions gap and put us on track for an ambitious legal agreement.”

UN Secretary-General  
Ban Ki-moon<sup>7</sup>

# From Rio to Paris: what has changed since 1992?

It's over twenty years since the first treaty, signed at the 1992 Rio Earth Summit, when countries agreed to limit their emissions of greenhouse gases. The intervening years have seen far reaching changes in the understanding of, and response to, climate change.

## **Greater scientific certainty**

There has been a steady increase in scientific understanding. The recent reports by the Intergovernmental Panel on Climate Change show that human induced changes to the climate are already taking place, with significant effects on earth systems.<sup>8</sup>

## **Broader national action**

Increasing knowledge of climate change impacts has prompted extensive responses from governments, business and civil society. Nine out of ten Europeans, for example, now think that climate change is a serious problem.<sup>9</sup> Many countries have developed comprehensive legislation on climate. The UK was the first country, with its historic 2008 Climate Change Act, to set statutory targets for emissions reduction. Mexico now has a General Law on Climate Change; Nigeria has a National Climate Change Policy and Response Strategy; and China will shortly consult on a national climate change law. Altogether, 66 countries, which represent around 88 per cent of global emissions, now have climate legislation in place.<sup>10</sup>

September 2014	December 2014	Early 2015
UN Secretary General Ban Ki-moon hosts a summit for heads of state and government, as well as leaders from business, finance and civil society, to catalyse action on climate change	UN climate negotiations: ministers meet in Lima to discuss the post-2020 agreement and pre-2020 action	Countries submit proposed plans on targets and contributions to the UN by March 2015, to be reviewed in advance of the Paris summit

## Economic investment

Alongside rising concerns, businesses are seeing opportunities too: markets in low carbon goods and services now amount to £3.4 trillion and have outperformed the mainstream economy since the onset of the financial crisis.<sup>11</sup> Meanwhile, the cost of renewable energy has fallen markedly as markets have expanded.<sup>12</sup>

There is an appetite for action on climate change. But global warming has not been reduced to safe levels.<sup>13</sup> The world is currently on track for warming of at least 3 to 4°C by 2100,<sup>14</sup> which would have far reaching consequences for food security, fresh water availability, and the frequency and intensity of storms.<sup>15</sup> At this level of climate change, the efficacy of adaptation strategies would be severely limited.

## This is why the Paris summit is important

A strong international agreement will:

- allow countries to push ahead with strategies and policies for carbon emissions reduction, knowing that others are doing likewise;
- provide a predictable framework for a global low carbon economy;
- allow developing countries to pursue low carbon development strategies and adapt to the effects of climate change;
- improve international efforts to protect the natural environment.



September  
2015

UN agreement on  
Sustainable  
Development Goals

December  
2015

Paris climate summit

2015-2020

International action  
continues, including  
continuation of the  
Kyoto agreement,  
ratification of the Paris  
agreement and  
development of  
institutions

2021

Formal date for  
implementation of the  
Paris agreement

“

We are the first generation to understand the consequences of a high carbon economy on the planet, on future prosperity and, in particular, on the most vulnerable around the world. Let us be the generation that stands up and takes the responsibility conveyed by that knowledge.”

Christiana Figueres, executive secretary, UN Framework Convention on Climate Change, May 2014<sup>16</sup>

# Prospects for an agreement



Both sides recognize that, given the latest scientific understanding of accelerating climate change and the urgent need to intensify global efforts to reduce greenhouse gas emissions, forceful, nationally appropriate action by the United States and China – including large scale co-operative action – is more critical than ever.”

Joint US-China Statement on Climate Change, April 2013<sup>17</sup>

While international climate negotiations are always complex and fraught, there are strong reasons for optimism about the outcome of the 2015 summit.

## **The US and China have shifted their positions**

The past five years have seen significant shifts in position from the most influential countries, notably China and the US. Despite a divided Congress, President Obama has committed to reducing emissions, making climate change a defining issue of his second term. China has an ambitious strategy to grow its renewables sector, with tough new laws on air pollution and strong action on limiting coal consumption. Last year, the two countries signed an agreement to work together on carbon reduction in crucial sectors including transport and energy efficiency.

## **A clear timetable**

The agreement reached in Durban in 2011, together with discussions in Warsaw in 2013, set a clear timetable. This should mean that negotiations are more ordered and less last minute than the Copenhagen talks. Although there are a large number of issues to be resolved, the institutional framework is much more developed than it was in 2009, including a functioning reporting system and the Green Climate Fund.

## **The case for action is understood**

The benefits of action, and the consequences of inaction, are becoming ever clearer. Businesses are mobilising to call for a strong agreement, with a new coalition, representing more than 500 global companies, forming in June 2014.<sup>18</sup> Mounting evidence on the impacts of climate change, which is increasing the risk of extreme events, from the recent winter flooding in the UK to Typhoon Haiyan in the Philippines, is underlining the case for action.

This does not make a strong global agreement automatic or easy. But it does raise the prospect of serious multilateral co-operation to achieve a common goal.

# Why a global agreement is needed

There is clear evidence that global co-operation will help to bolster individual countries' efforts on carbon reduction, and increase overall ambition to tackle climate change. Above all, a global agreement provides more clarity and certainty, which will improve prospects for the global economy, for international development and for the natural environment.

## The IPCC reports: growing evidence, greater consensus

The Intergovernmental Panel on Climate Change published its Fifth Assessment in 2014, summarising the work of thousands of scientists across the world. The message was, in the panel's own words, "unequivocal". Concentrations of carbon dioxide and other greenhouse gases are now higher than they have been for nearly a million years, long before human society began. The burning of fossil fuels is the main reason behind this increase. Without strong action, temperatures are very likely to exceed the 2°C target that governments have committed to. This will result in serious consequences including sea level rises, heatwaves, loss of snow and ice cover, disruptions to agriculture and food production, and greater extremes of drought and rainfall.

### IPCC working groups

October 2013

March 2014

April 2014

The physical science basis

Impacts, adaptation and vulnerability

Mitigation of climate change

In its 2013 report, for the first time the IPCC put a number on the total amount of carbon that can be emitted, while keeping within the 2°C target. Keeping within this limit would require the emission of no more than 880 gigatonnes of carbon. This is, in effect, a global carbon budget. Yet, by 2011, 530 gigatonnes, or nearly two thirds of the total budget, had already been spent. Emissions must peak soon, and then decline steeply, to stay within the 2°C limit.

## Economic prosperity

There is consensus among business leaders that a strong global agreement will improve economic prosperity in the UK, the EU and elsewhere. Early action will help to avoid the economic cost of climate impacts, which could amount to between five and 20 per cent of GDP, depending on the level of warming.<sup>19</sup> There are additional economic benefits in low carbon investment, but signals need to be clear and consistent.

Spending on low carbon goods and services is strong and growing.<sup>20</sup> However, in many parts of the world it remains a small proportion of overall investment. As the World Economic Forum states, "progress in green investment continues to be outpaced by investment in fossil fuel intensive, inefficient infrastructure".<sup>21</sup> While low carbon investment is encouraged, so too is fossil fuel investment, resulting in conflicting

“

Taking action now will not only solve the problem of protecting the planet, but it will be a tremendous boost for economies.”

Dr Jim Yong Kim, president,  
World Bank, 2014<sup>22</sup>

signals to business. By making the wrong types of infrastructure investments now, we are condemning ourselves to more costly adjustments later.

International Energy Agency research warns that delayed action would result in substantial additional costs, as high carbon investments made now would quickly lose their utility and value.<sup>23</sup> In the UK, the Committee on Climate Change has identified that the UK could save £100 billion from early action.<sup>24</sup>

Investment in clean energy and transport systems also brings other economic benefits. It reduces vulnerability to volatile fossil fuel prices and improves local air quality which improves quality of life, saves lives and reduces healthcare spending.<sup>25</sup>

The best way to remove conflicting messages and set clear goals for investment would be to secure an agreement at the global level.

A global agreement would allow national governments to introduce stronger policies to cut emissions, without risking impacts on international competitiveness. A clear international framework for carbon reduction would reward low carbon growth, and deter high carbon investment, wherever companies are located.

Without a climate agreement, the outlook for business and the economic development of the poorest looks more challenging. Supply chains, particularly of agricultural products like wheat, rice and maize, will be affected, with consequent effects on price.<sup>27</sup> Disruption from extreme weather events will result in significant losses. The World Economic Forum's report on global risks estimates the total economic losses from Hurricane Katrina at \$125 billion, and from Hurricane Sandy at \$70 billion for the states of New York and New Jersey alone.<sup>28</sup>

### **International development and climate change**

The UK plays a leading role in efforts to support international development and poverty eradication, linked to the Millennium Development Goals, and the new Sustainable Development Goals to be agreed through the UN in 2015.

The UK supports developing countries in their efforts to reduce poverty, improve health outcomes, and promote food security and access to energy. Action on climate change is essential to meeting all these outcomes. The Overseas Development Institute (ODI) carried out a thorough review of the impacts of climate change on different development goals and found that climate change had an impact on all of the goals, directly or indirectly. Direct impacts include food security, availability of water, and health outcomes. These, in turn, affect other development goals, such as gender equality, education and human rights (see the ODI's 'billiard ball' model overleaf).

“

If the working group 2 report on impacts describes a potential train wreck and working group 1 identifies the driver, the working group 3 report on mitigation explains how to avoid the crash. But it also suggests that the brakes are not working.”

Dr Celine Herweijer, partner,  
PwC<sup>26</sup>



“

The lack of action on climate change not only risks putting prosperity out of reach of millions of people in the developing world, it threatens to roll back decades of sustainable development.”

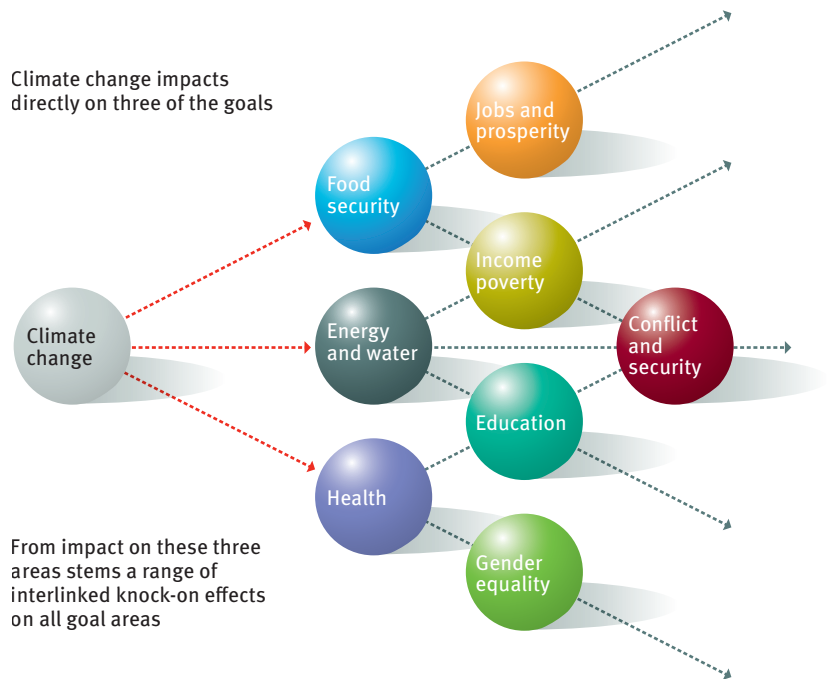
World Bank, 2012<sup>29</sup>

“

I was very struck by the fact that the impacts of climate change are undermining a whole range of human rights: rights to food, safe water and health and education. But it is also displacing people, which is very likely to cause not just human distress but potentially conflict. So for me it's a very, very serious issue of human rights.”

Mary Robinson, UN special envoy for climate change, 2013<sup>30</sup>

## The billiard ball model: the impact of climate change on development goals<sup>31</sup>



The IPCC is clear that climate change will exacerbate poverty in most developing countries. This is due to a complex range of factors, but particularly food price increases.<sup>32</sup> It notes that, in the years since its previous report in 2007, there have been rapid food price increases, following climate extremes in key producing systems.

A similar picture emerges on health. A study, by *The Lancet* and University College London, stated that climate change is the biggest global health threat of the 21st century.<sup>33</sup> Climate change influences disease patterns, food, water, sanitation, extreme events, shelter and human settlements, which in turn affect health outcomes. Infant mortality is closely linked to under nutrition and food insecurity, both affected by climate change.<sup>34</sup>

Reducing carbon emissions will help to mitigate these effects; meanwhile, there are economic, health and social opportunities in low carbon development pathways. Decentralised low carbon energy, for example, such as solar and wind, can provide electricity for the 70 per cent of sub-Saharan Africans who currently have no access. Growth in off grid solar has given 2.5 million households in Kenya access to energy.<sup>35</sup>

2015 provides a crucial opportunity to align development goals with action on climate change, given the discussions around the Sustainable



Climate change will amplify existing social, political and resource stresses, shifting the tipping point at which conflict ignites, rather than directly causing it. Climate change is likely to increase the frequency, scale and duration of humanitarian crises. It is also likely to change patterns of migration, making border security an ongoing concern, especially in the developed world.”

UK Ministry of Defence, *Global strategic trends out to 2040*<sup>41</sup>

Development Goals. The Paris agreement needs to acknowledge the importance of climate change mitigation to development and the necessity of finance, both to adapt to climate change and to invest in low carbon economic pathways.

### **Global security**

Climate change is also likely to affect global security, with defence experts warning of increased conflict, humanitarian crises and refugee movements.<sup>36</sup> The Pentagon refers to climate change impacts as a “threat multiplier” which aggravates poverty, political instability and social tensions.<sup>37</sup>

### **Ecosystems and biodiversity**

A strong climate agreement is essential to protecting ecosystems and biodiversity, both in the UK and elsewhere. Biodiversity is already in decline globally, and climate change will amplify this, significantly increasing the risk of extinctions. The speed of change is of particular concern, as it is unprecedented in geological history, and outpaces the ability of many species to adapt.<sup>38</sup> Academic analysis suggests that for each additional degree of warming a further ten per cent level of extinction is likely.<sup>39</sup>

With climate change of up to 2°C average warming, conservation strategies will be more challenging and expensive, but if temperatures rise further more major interventions will be required, such as deliberate relocation of species or major ecosystem engineering projects, and in some cases they will be impossible.<sup>40</sup> Prevention, through emissions reduction, is cheaper and more effective than a cure.

Ecosystem protection and restoration is of central importance to the economy. The landmark TEEB study (The Economics of Ecosystems and Biodiversity) estimates the future annual costs of biodiversity loss at between £1.4 and £3.1 trillion.<sup>42</sup> Consultants PwC say business is already being affected by declining biodiversity, through increased resource costs or reduced productivity in agriculture.<sup>43</sup>

Protecting and restoring ecosystems such as forests and peatlands also helps to reduce emissions. About one quarter of all human-induced emissions comes from agriculture, forestry and other land use, mainly tropical deforestation and peatland degradation. This is recognised in global climate talks. The REDD+ initiative has the dual aim of reducing greenhouse gases and protecting forests in developing countries. Negotiations are underway to provide a financing mechanism, rewarding developing countries for protecting forests.

“

Tropical forests play an absolutely critical role in ensuring the stability of the global climate; they are vital in providing global food, water and energy security; and let us not forget that reducing deforestation is also very likely the single most effective way of avoiding the mass extinction of animals and plants.”

HRH the Prince of Wales,  
May 2013<sup>44</sup>

# Endnotes

- <sup>1</sup> 'Remarks by the President on Climate Change', 25 June 2013, Georgetown University, Washington, DC
- <sup>2</sup> The 'Durban Platform for Enhanced Action', or ADP, agreed two workstreams: one on developing an agreement in 2015 to take effect in 2020; the other to increase ambition between now and 2020. See: unfccc.int/bodies/body/6645.php
- <sup>3</sup> The UN Framework Convention on Climate Change will consider strengthening the goal to 1.5°C by 2015, on the basis of best scientific knowledge available, see: unfccc.int/key\_steps/cancun\_agreements/items/6132.php
- <sup>4</sup> UNFCCC, October 2013, UNFCCC/TP/2014/8, *Updated compilation of information on mitigation benefits of actions, initiatives and options to enhance mitigation ambition*
- <sup>5</sup> The Risky Business Project is co-chaired by Michael Bloomberg, Hank Paulson and Tom Steyer to look at the economic risks of climate change; June 2014, *Risky business: the economic risks of climate change in the US*
- <sup>6</sup> CAFOD, April 2014, *Discussion paper: Doubling climate ambition: how the post-2015 and UNFCCC processes complement each other*
- <sup>7</sup> Secretary-General's address to the General Assembly, New York, September 2013
- <sup>8</sup> Intergovernmental Panel on Climate Change, September 2013, *Climate change 2013: the physical science basis*
- <sup>9</sup> European Commission, 2014, *Special Eurobarometer 409: Climate change report*
- <sup>10</sup> GLOBE International, January 2014, *GLOBE climate legislation study, fourth edition: review of climate change legislation in 66 countries*
- <sup>11</sup> Green Alliance, 2013, *The global green race: a business review of UK competitiveness in low carbon markets*
- <sup>12</sup> International Renewable Energy Agency, November 2012, *Renewable power generation costs: summary for policymakers*
- <sup>13</sup> The goal of limiting warming to less than two degrees Celsius was agreed at the Copenhagen UN climate conference and given formal status at the UNFCCC negotiations in Cancun, 2010
- <sup>14</sup> UNEP, November 2010, *The emissions gap report: are the Copenhagen Accord pledges sufficient to limit global warming to 2 degrees C or 1.5 degrees C?*
- <sup>15</sup> Intergovernmental Panel on Climate Change, 2014, *Climate Change 2014: impacts, adaptation and vulnerability*
- <sup>16</sup> Speaking in London, 7 May 2014
- <sup>17</sup> Office of the Spokesperson Washington, DC, media note, 13 April 2013, 'Joint US-China Statement on Climate Change'
- <sup>18</sup> The 'We Mean Business' coalition is a group of existing business coalitions arguing for strong climate action
- <sup>19</sup> EU Climate Change Expert Group 'EG Science', July 2008, *The 2°C target: background on impacts, emission pathways, mitigation options and costs*
- <sup>20</sup> Green Alliance, 2013, *The global green race: a business review of UK competitiveness in low carbon markets*
- <sup>21</sup> World Economic Forum, 2013, *Green investment report*
- <sup>22</sup> World Bank news, 11 April 2014, 'Heads of World Bank, IMF & UN Discuss Climate Risks & Policies with Finance Ministers'
- <sup>23</sup> IEA, 2013, *World energy outlook*
- <sup>24</sup> Committee on Climate Change, December 2013, *Fourth carbon budget review, part 2: The cost-effective path to the 2050 target*
- <sup>25</sup> OECD, 2014, *The cost of air pollution*
- <sup>26</sup> PwC comment on IPCC Working Group 3 report, April 2014, pwc.blogs.com/press\_room/2014/04/pwc-comment-on-ipcc-working-group-3-report-on-climate-change-mitigation.html
- <sup>27</sup> IPCC, 2014, *Climate change 2014: impacts, adaptation and vulnerability*
- <sup>28</sup> World Economic Forum, *Global risks 2013, eighth edition*
- <sup>29</sup> World Bank & Potsdam Institute for Climate Impact Research and Climate Analytics, November 2012, *Turn down the heat: why a 4degC warmer world must be avoided*, page ix
- <sup>30</sup> Mary Robinson speaking to RTCC, September 2013, www.rtcc.org/2013/09/19/mary-robinson-climate-change-is-a-serious-issue-of-human-rights/
- <sup>31</sup> The 'billiard ball' model is from: Overseas Development Institute, 2014, *Zero poverty... think again*, and is reproduced with ODI's kind permission
- <sup>32</sup> Intergovernmental Panel on Climate Change, 2014, *Climate change 2014: impacts, adaptation and vulnerability*
- <sup>33</sup> *The Lancet* and University College London Institute for Global Health Commission, May 2009, *Managing the health effects of climate change*
- <sup>34</sup> Ibid
- <sup>35</sup> Green Alliance, April 2014, *The low carbon energy lift: powering faster development in sub-Saharan Africa*
- <sup>36</sup> This is emphasised in reports by RUSI, the IPCC and the Ministry of Defence, for example.
- <sup>37</sup> US Department of Defense, 2014, *Quadriennial defense review*
- <sup>38</sup> Professor Chris Thomas, 2012, 'Nature conservation at 4degC' in *Climate change: biodiversity and people on the front line*, RSPB, Natural England and WWF-UK
- <sup>39</sup> Ibid
- <sup>40</sup> Ibid
- <sup>41</sup> Ministry of Defence, October 2013, *Global strategic trends out to 2040*, fourth edition, DCDC
- <sup>42</sup> TEEB, 2012, *The economics of ecosystems and biodiversity in business and enterprise*
- <sup>43</sup> PwC for the World Economic Forum, January 2010, *Biodiversity and business risk*
- <sup>44</sup> Prince Charles, 8 May 2013 speech to a meeting on tropical forest science, St James's Palace



Green Alliance  
36 Buckingham Palace Road  
London SW1W 0RE  
T 020 7233 7433  
ga@green-alliance.org.uk  
www.green-alliance.org.uk

blog: [greenallianceblog.org.uk](http://greenallianceblog.org.uk)  
twitter: @GreenAllianceUK

The Green Alliance Trust  
Registered charity no. 1045395  
Company limited by guarantee  
(England and Wales) no. 3037633  
Registered at the above address



Printed by the environmental Waterless  
Offset process using vegetable-oil based  
inks on totally chlorine free paper using at  
least 51% post consumer waste.