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How to stop climate change: the easy way

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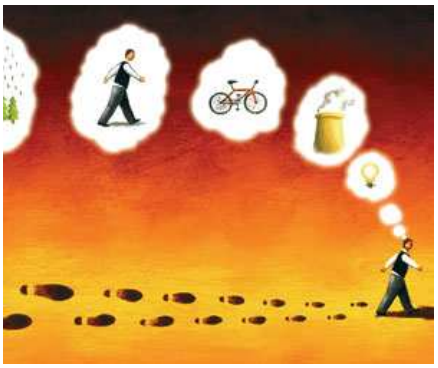
Changing your light bulbs may not be enough to save a single polar bear, but there *are* things we can do collectively - and easily - that will really make a measurable difference in the battle against global warming. Mark Lynas has a three-part plan. Illustration by James Fryer



We have about 100 months left. If global greenhouse gas emissions have not begun to decline by the end of 2015, then our chances of restraining climate change to within the two degrees "safety line" - the level of warming below which the impacts are severe but tolerable - diminish day by day thereafter. This is what the latest science now demands: the peaking of emissions within eight years, worldwide cuts of 60 per cent by 2030, and 80 per cent or more by 2050. Above two degrees, our chances of crossing "tipping points" in the earth's system - such as the collapse of the Amazon rainforest, or the release of methane from thawing Siberian permafrost - is much higher.

Despite this urgent timetable, our roads continue to heave with traffic. Power companies draft blueprints for new coal-fired plants. The skies over England are criss-crossed with vapour trails from aircraft travelling some of the busiest routes in the world. Global emissions, far from decreasing, remain on a steep upward curve of almost exponential growth.

Sure, there are some encouraging signs. Media coverage of climate change remains high, and a worldwide popular movement - now perhaps upwards of a million people - is mobilising. But with so little time left, we must recognise that most people won't do anything to save the planet unless we make it much, much easier for them. This essay outlines my three-part strategy for stopping climate change - the easy way.

STEP ONE: Stop debating, start doing

Although there is now a very broad consensus on climate in the media and politics, opinion polls show that many people still harbour doubts about climate change. One of the peculiarities of the climate debate is that although more than 99 per cent of international climate change scientists agree on the causes of global warming, the denial lobby still only has to produce one contrarian to undermine the consensus in the public mind. Similarly, changes in our understanding can be magnified and distorted to suggest that, because we don't know everything, therefore we must know nothing. Thus, data from one glacier that apparently bucks the global trend can be wielded as a trump card against all the accumulated knowledge of climate science.

This partly reflects a perhaps healthy scepticism in the public mind about believing "experts". But there is also a darker force at work: doubt undermines responsibility for action. If you don't know for sure that global warming isn't caused by sunspots or cosmic rays, then it's OK to go on driving and flying without feeling as if you're doing something bad. When it comes to global warming, many people - subconsciously at least - actually *want* to be lied to.

This is where the psychology gets interesting. Most green campaigners assume that information leads to action, and that deeper knowledge will undermine denial. Actually, the reverse may well be true: the more disempowered that people feel about a huge, scary issue like climate change, the more unwilling they may be to believe it is a problem. This sounds illogical, but it makes sense. If people don't feel they can do very much about climate change, they will prefer to cling to any tempting doubts that are dangled their way. Presenting people with more gloom-and-doom scenarios, however true they might be, may thus serve to reinforce denial.

Most campaigners try to mitigate this by also offering people easy things they can do: the "just change your light

bulbs" approach. However, most people intuitively understand that an enormous problem cannot be solved by a tiny solution; that changing your light bulbs will not save a single polar bear. They are right, of course. So how can we mobilise collective action on a sufficiently grand scale to make a measurable contribution to solving the problem?

The American political strategists Ted Nordhaus and Michael Shellenberger make a specific proposal in a recent paper, and this forms the first plank of my three-part strategy to tackle global warming. Stop debating, they say, and start doing. Instead of confronting deeply established patterns of behaviour head on, let's start focusing on preparing for the impacts of global warming that are already inevitable. That means working on flood defences for vulnerable towns, helping to drought-proof agriculture and population centres, and adapting to sea-level rise in low-lying areas.

By sidestepping the tedious causality argument (is it us or natural cycles?), focusing on global warming preparedness can also help reopen the mitigation agenda. Shifting sandbags is empowering because you feel as if you're doing something tangible and useful. But accepting the need for adaptation and preparation implicitly involves accepting the reality of global warming, and therefore the eventual need to cut emissions. Many more people may be prepared to accept the change - the introduction of personal carbon allowances, for example - that this will inevitably mean.

In any case, adaptation is now essential because of the one degree or so of additional global warming that is already locked into the system thanks to past emissions. With proper planning, we can not only save thousands of human lives, but also try to protect natural ecosystems by establishing new "refuge" coral reefs in cooler waters or helping species to migrate as temperature zones shift.

STEP TWO: Focus on the big wins

But this is a long-term agenda, and we don't have much time. Hence my second proposal, which is for a much clearer focus on win-win strategies for immediate emissions reductions. These are things we would want to be doing anyway, even if global warming had never been thought of. Reducing deforestation in the tropics is a big win-win. Inherently desirable, this by itself would reduce global carbon emissions by 10 per cent or more. All it takes is money: we have to pay countries such as Brazil and Indonesia to leave their forests alone rather than chop them down to sell to us as plywood and furniture.

There are obvious win-win strategies in the domestic sector. Better insulation makes living conditions more comfortable and reduces fuel bills. Even without climate change we'd still want to be getting cars out of town centres to reduce air pollution and improve the urban experience. Getting more children to walk and cycle to school improves their physical health and helps to tackle obesity. Enforcing speed limits (and reducing them further) would save hundreds of lives a year, and give some respite from the incessant noise pollution of speeding traffic.

Quality-of-life issues are by their nature subjective, so we need to focus on things that most people will agree on. Partly, this depends on how an issue is framed: most people don't want motorists to be unjustifiably hounded, but nor are they likely to oppose a measure that is about saving children's lives. The ban on smoking in public, for instance, was accepted precisely because the issue was correctly framed, and quickly became imbued with a sense of inevitability.

There is also a high degree of consensus about the desirability of localisation: protecting and encouraging small shops and local businesses, privileging farmers' markets over supermarkets, helping build stronger and more cohesive communities by reducing the need for travel, and so on. The fact that all of these measures will also reduce carbon emissions simply underlines the need for a more determined approach to their implementation. A much longer-term agenda here might be the reconnecting of people with their place and surroundings, helping them feel more rooted in their communities and proud of what is distinctive about their own areas. We are bringing up children who often have no direct experience of nature any more. Tree houses are replaced with Nintendos, the unsupervised exercise of playing outdoors replaced with structured exercise of sporting events. The author Richard Louv terms this "nature deficit disorder" and asks whether this disconnection might have something to do with the alienation and boredom that many youngsters feel today.

STEP THREE: Use technology

But there are some areas of high-carbon behaviour that people will always be reluctant to give up, and this brings me to the third and final part of my strategy to deal with global warming - technology.

Today we face a situation where a global population of potentially nine billion or so by 2050 continues to demand a steadily increasing consumer lifestyle. There is nothing we can do to stop this, and nor should we try. But it does put humanity on a very real collision course with the planet, so we are going to have to throw every technological tool we have at the problem to try to meet people's aspirations without worsening our climatic predicament. Some of this will involve technology leapfrogging: helping developing countries skip over our dirty phase of industrialisation, by instal ling solar power in remote, off-grid areas of Africa and Asia, for example. We also need to help developing countries

make choices that put fossil fuels at the bottom of the energy shopping list, by helping them use carbon capture and storage technology as well as nuclear power. Both have obvious drawbacks, but I would rather see China building two nuclear reactors a week than two coal-fired plants.

The localisation agenda can only go so far: in an age of carbon-fuelled globalisation, we need to figure out ways to transport people and goods long distances without increasing emissions. Aviation in particular is crying out for a techno-fix. Humanity went from the first manned flight in 1903 to putting a man on the moon in 1969. I think we should give the aviation industry 15 years to find a low- carbon way to shuttle people between continents - or get taxed out of existence. I believe with this kind of incentive, designers would come up with ideas none of us today could even conceive of.

The technological challenge is not just to come up with new inventions, but - in the words of Robert Socolow and Stephen Pacala from Princeton University - "to scale up what we already know how to do". In their concept of "stabilisation wedges", each wedge represents a billion tonnes of carbon shaved off the upward trend of emissions over the next 50 years. Building two million one-megawatt wind turbines, for example, is a wedge, as are two million hectares of solar panels, a 700-fold increase from today's deployment. There are many more wedges in the fields of transport, power generation and energy efficiency. As the two researchers say, this reduces a "heroic challenge" merely to a set of "monumental tasks". No one said it would be easy.

Perhaps the most controversial technological option of all is one that we need to keep strictly in reserve for real emergencies - geo-engineering. Here, some proposals have more merit than others, whether they be seeding the oceans with iron filings or putting up solar mirrors in space. None of them is an alternative to reducing emissions, but one just might be a valuable piece of insurance against the worst-case climate change scenarios. Believe me, pretty much anything is better than five or six degrees of global warming.

This may seem like a depressing conclusion, but it's really an optimistic one. If we fail to reduce emissions quickly enough and find ourselves frying, we must throw everything we possibly can at the problem to counteract the warming process, however temporarily. At no point - I repeat, at no point - do we give up and admit that all is lost. If we go over two degrees, then we have to try and stop ourselves going over three. If we fail to stabilise emissions by 2015, then we have to try and stabilise them by 2016 or 2020. If people continue to demand economic growth, then we have to try to deliver than growth in a low-carbon way. It will never be too late. As long as people and nature remain alive on this planet, we will still have everything to fight for.

Mark Lynas is the New Statesman's environment correspondent, and author of "Six Degrees: Our Future on a Hotter Planet", published by Fourth Estate