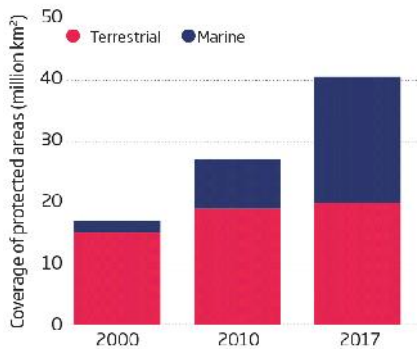
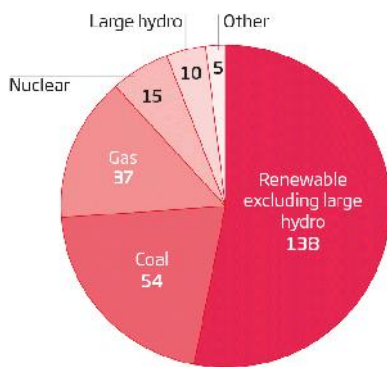


Reasons to be hopeful...

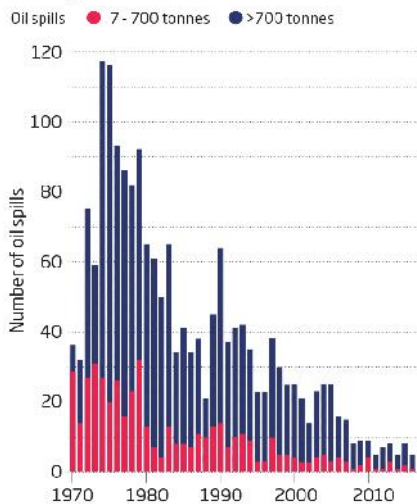
The extent of protected areas is increasing, particularly in the oceans



In 2016, for the second year in a row, renewables accounted for more than half of the new power capacity added globally (in gigawatts)



The number of oil spills has dropped markedly in recent decades



Harvard University. Rather, the movement wants to highlight positive stories to show people that seemingly insurmountable environmental problems can be fixed.

“There’s a lot of really good stuff going on around the world where people are working out solutions,” says conservation biologist Stuart Pimm of Duke University in North Carolina. “We are learning how to do things at an extraordinary rate.”

For example, between 2004 and 2012, government-led initiatives cut the rate of deforestation in the Brazilian Amazon by 80 per cent. Today, nearly half of the Amazon’s original rainforest is protected or part of an indigenous reserve. Worldwide, more land is being returned to nature than is being cleared of trees to make way for agriculture. In the oceans, many whale populations are recovering thanks to the 1982 moratorium on whaling, and oil spills are at an all-time low (see graphic).

Perhaps the most significant change for the better has come from the energy sector. Due largely to shifts in China and the US, the coal industry appears to have peaked in the last three years. A key driver has been the Chinese government’s desire to clean up its polluted skies. Meanwhile, renewable energy is on the rise. In 2016, global solar capacity jumped by 25 per cent, largely thanks to falling costs and enormous expansion in China.

The combined effects of the death of coal and the rise of renewables are causing ripples where they are most needed. Over the last few years, global greenhouse gas emissions have plateaued – the first time this has happened during a period of economic growth.

Several industry reports, including one from the International Energy Agency (IEA), suggest the move away from coal, the dirtiest of fossil fuels, is likely to be permanent. “I don’t view this as simply a positive blip,” says Philippe Benoit, former head of the energy efficiency and environment division of the IEA. “I think it’s a reflection of fundamental shifts that are taking place within the energy sector, within other parts of society, as well as a significantly increased awareness and commitment from political leaders to put in place the policies to lead to emissions reductions.” This turnaround in energy production, and its consequences for future climate change, is emblematic of the optimists’ message – that although we are not yet out of the woods, the tide is turning.

Affirmative power

Pessimists, however, will point out that although coal may be declining, it still accounts for 41 per cent of the electricity generated each year. Clearly, whether you’re feeling optimistic or pessimistic about the fate of the planet depends on which data you’re looking at – and in some cases, how you look at it. But perhaps that’s missing the point.

Going back to the movement’s roots, Knowlton says part of its aim is to inspire the next generation of planetary doctors. “Bad news without solutions is not very helpful,” she says. That mentality extends beyond professional conservation biologists to the general population. “If you give people

negative, threatening messages, they don't engage, they pretend it's not happening, because you've given them no alternative," says Balmford.

So is feeling hopeful about the future truly a better motivator than fear? There is some evidence that fearful messages about climate change can lead people to tune out rather than take action. For instance, a 2011 survey of 97 students by Matthew Feinberg and Robb Willer at the University of California, Berkeley, found that people's belief in climate change diminished after reading a message that spelled out the devastation global warming will cause and the possibly catastrophic consequences.

There is also evidence that positive messaging motivates people. Robert Gifford at the University of Victoria in Canada and Louise Comeau of Royal Roads University studied the effect on 1000 people. Participants were made to read either sacrificial statements – such as “I am going to have less freedom to make the choices I want if we are going to solve climate change” and “I am going to have to get used to driving less, turning off the lights, and turning down the heat” – or positive statements, such as “My neighbourhood will be a healthier place to live if we walk more to cut greenhouse gases” and “I know someone who lowered their energy bills and I can too”. They were then asked how likely they were to take action to help the environment over the next 12 months. Those in the motivational group were significantly more likely to say they would reduce their car usage, for example, or install energy-efficient windows than those in the other group.



Deforestation rates in the Amazon have dropped dramatically

People who feel hopeful about the future are more likely to take action to improve it, according to a study by Kathryn Stevenson and Nils Peterson of North Carolina State University. Their team surveyed about 1200 children aged 11 to 14 attending schools in their state. They found that those who felt hopeful about the future were also those who did the most environmentally friendly things, such as close the fridge door, turn lights off and encourage their family to do the same. Those who reported being concerned rather than hopeful were less likely to cut their energy use, say, and those who were despairing about the future tended towards inaction.

Maria Ojala of Örebro University in Sweden found that people who felt hopeful about humanity's ability to combat climate change were more likely to cut their home energy use than others who simply had a good knowledge of the effects of climate change or had altruistic values.

Does this mean optimism could even turn climate change deniers and spur them into action? Paul Bain at the University of Queensland in Australia and his colleagues surveyed 347 people, 128 of whom said they did not believe either that climate change was happening or, if it was, that humans were responsible. All read a statement about acting on climate change framed in one of three ways: the first suggested it could lead to a society with greater interpersonal warmth; the second that it would bring economic development; and the third talked of the environmental and health risks of not acting. Later, they rated themselves on how likely they were to do things such as support environmental causes and write to politicians about particular issues.

“Does this mean optimism could even spur climate deniers into action?”

Although the deniers were broadly less likely to take action than people convinced of anthropogenic climate change, those who had read messages framed in terms of warmth or development of a future society said they were more likely to act than those who read about the risks of climate change.

Taken together, these studies suggest hope encourages people to take action. However, Matthew Hornsey and Kelly Fielding at the University of Queensland found the opposite to be true. Their team wanted to know whether the hopeful message that emissions have plateaued in recent years is worth publicising to inspire people to further action. They gave 431 participants one of three messages: a neutral one describing how emissions are measured, a positive one about how the rate of emissions has slowed in recent years that they said showed “the reductions that are needed are finally happening”, and a pessimistic one pointing out that emissions are still rising and “the reductions that are needed are not happening”. They then asked people whether the message made them feel they wanted to do more to respond to climate change. Those who read the pessimistic message felt more motivated than those who read the optimistic or neutral messages. The negative message worked, the researchers say, because it elicited feelings of distress and worry, whereas the positive one led people to feel more complacent about the risk.



[China is shutting down industrial plants to improve air pollution](#)

What are we to make of this conflicting evidence? “I think it’s different strokes for different folks for different behaviours,” Gifford says. Hornsey suggests a way of using these differences. “The fear messages are probably going to be more effective for people who are already on board with the notion of human-caused climate change,” he says, whereas climate sceptics might be more likely to write them off. Those already working to solve environmental problems, on the other hand, might be most in need of a boost since they see the grim reality every day.

This shows we need both kinds of message, agrees Knowlton. “We’re saturated with doom and gloom, we need something in addition to it,” she says.

“How many times are you going to tell people that it’s terrible?” says Pimm. “I think you make progress not by coming out and saying, it’s awful, we’re all going to die, but by telling people what they can do.” That is the crux of the movement, says Knowlton: not to be optimistic for the sake of it, but to share what has worked in practice.

Perhaps the best sign that optimism is taking hold is a change that Rockström detects in public attitude towards climate change. “The whole concept [of] sustainability has tipped. Until very recently, the environmental agenda was largely a question of ethics and morality. It was a sacrifice.” Now, he says, “sustainability is seen as the only way to deliver a stable economy. We are into a completely new paradigm”.