



31 Q&A

BJØRN LOMBORG

AUTHOR AND FORMER DIRECTOR OF THE ENVIRONMENTAL ASSESSMENT INSTITUTE OF COPENHAGEN

Are governments doing enough to mitigate the effects of climate change?

// No, they are doing too much of the wrong things, and too little of what will actually work. All the focus has been on immediate carbon cuts, although studies show that the cost will be vastly greater than the benefit. Take the EU's 20-20-20 policy, which aims to cut greenhouse gas emissions to 20% below 1990 levels by 2020 and ensure 20% renewable energy. This will cost US\$250bn (£152bn) every year for the rest of the century, yet only result in a 0.05°C reduction in temperature. That's a temperature reduction that we can't even measure, at a cost that we almost can't afford. This is not smart. As long as it is much more costly to use green energy than fossil fuels, it will remain a boutique thing for rich, well-meaning westerners. Instead, we need to get green energy to be so cheap that everyone including developing countries, (and particularly the emerging giants such as China and India), want to use it.

Buildings are a major source of carbon emissions: what do you believe are the most effective ways to reduce them?

// There are many cost-effective ways to reduce emissions from buildings. If something really is cost effective, it will happen by itself because it is a cheaper solution. Instead, many westerners get hugely subsidised solar panels, which cost much more than the benefit they provide. Germany led the world in putting up solar panels — and the result is inefficient, uncompetitive technology sitting on rooftops in a fairly cloudy country, delivering a trivial 0.1% of Germany's total energy supply and postponing the effects of global warming by seven hours in 2100.

Opinion**Angus McIntosh FRICS**

Head of research, King Sturge

'It is increasingly recognised that Energy Performance Certificates have done little to lower carbon footprints. The price of energy will not change behaviour — the Actium/King Sturge TOCS survey suggests that energy is only 3% of the cost of occupying an office. The Green Deal might have some impact, but if the Carbon Reduction Commitment becomes a tax, perhaps more progress will be made. All these ideas tend to focus on energy in use. The work now being done by the British Council for Offices is to look at the whole-life carbon footprint of a building, from its construction to its final destruction. An insulated building will not, by itself, save energy. Sustainability is to do with behaviour — social and economic sustainability may ultimately have a far bigger impact on reducing our carbon footprint.'

32

Who is most successfully driving the sustainability agenda?

// The agenda has been predicated too much on feel-good politicians making unrealistic, hugely expensive promises. And then we've had an entrenched policy grouping that has claimed globally warming wasn't real. Both groups have managed to do nothing to actually drive the sustainability agenda to a point where real solutions will be forthcoming. So we need to reformulate our policies in the smart middle ground, where we acknowledge global warming as an important issue that needs to be dealt with intelligently, through focus not on subsidies but on innovation into cheaper green technology.

34 Case study**GOOGLE**

Google builds energy-efficient offices and wind-powered data storage centres to help reduce its environmental impact, and to date has invested around US\$250m (£150m) in renewable energy projects in the US and Germany. Its latest is a US\$168m (£100m) stake in Brightsource Energy's Ivanpah solar project, a 392MW solar thermal facility under construction in California's Mojave Desert. Set to be the world's largest when completed in 2013, the complex will use 170,000 mirrors to track and reflect the sun's rays on to boilers at the top of three solar receiving towers. Heating water to 500°C, the resulting steam will drive turbines to produce enough electricity for more than 140,000 homes. The project is predicted to offset 3.5m tonnes of CO₂ over its 30-year life span. ivanpahsolar.com

33 Case study**SKANSKA/ARUP RETROFIT PARTNERSHIP**

It can be a challenge convincing clients that it's worth carrying out large-scale retrofit and refurbishment initiatives. Consultant Arup and contractor Skanska have teamed up to sell the benefits of major intervention — and claim their slice of a market that's already worth £10bn. As part of the partnership, the pair will integrate architectural, engineering and financial risk analysis to show how to boost value through specific physical interventions. It's early days, but there are already several showcase projects lined up, including improving properties' energy carbon and water efficiency.

Find out more about the partnership at arup.com

The Ivanpah solar project in California will use thousands of mirrors to capture energy from the sun

