

Esquire

WHATEVER HAPPENED TO ● Saving THE Planet?

It was supposed to be the defining issue of our time: the planet was dying and it was our job to save it. And for a while it looked like we were coming together to do just that. Except we couldn't agree at Copenhagen, the banks went bust, swallowing all our money, and then emails hacked from a research unit at a UK University gave the climate change sceptics the stick they needed to beat our global consensus to a pulp.

But that doesn't mean the issue has gone away. Just to clarify, there is virtually no mainstream debate about the role greenhouse gases play in global warming. The debate is to what extent we are responsible for recent rises, what effect

this will have on our future, and how we should deal with these changes.

Our inclination is to go with the majority of scientists who believe the industrial revolution profoundly changed the delicate balance of our ecosystem and that corrective measures are necessary to avoid catastrophe. However, that doesn't mean we should close our minds to other viewpoints. If the planet really is in big trouble, everyone needs to be involved in finding a solution.

So here are fifteen academics, scientists and writers, interviewed exclusively for *Esquire* Middle East. Their views are thought-provoking, often wildly conflicting and all utterly compelling





Dr Bjørn Lomborg
Associate professor of statistics,
Department of

Political Science, University of Aarhus, Denmark

Global warming is not a current threat but a future one. It will cause more heat deaths, flooding and lower agricultural productivity in hot areas. But it will also result in longer growing seasons, more precipitation and fewer cold deaths in most places.

Attempts to terrify people about climate change have backfired. Political posturing by celebrity activists and scientists has undermined years of important work on the matter. What has been really exaggerated is what would happen to major cities if the problem is not addressed immediately. In fact virtually nothing will happen to them. There was a 30cm sea level rise in the last 150 years without any drastic consequences. These cities can be protected cheaply and easily in the future.

To change course, politicians must admit that the approach we pursued for the past two decades has failed. The Copenhagen climate conference showed us that promising to cut carbon emissions is a dead-end strategy. We were just asked by our decision makers to cross our fingers for another decade after years of failed attempts.

We should put a greater effort into producing cheaper, more widely-used green energy. We need to invest more money in research and development. Increasing fossil fuel prices is the wrong answer. A global deal committed to spending 0.2 percent of GDP to develop non-carbon-emitting energy technologies will lead to this breakthrough needed for a carbon-free future. This is a much cheaper solution to cut carbon emissions and it would also reduce global warming a lot faster.

"SPENDING MONEY ON USELESS EMISSION REDUCTIONS WON'T HELP FUTURE GENERATIONS AS MUCH AS ALLEVIATING POVERTY, AIR POLLUTION, SLAVERY AND WAR"

HOT AIR

Annual CO₂ emissions (in thousands of metric tons) and percentage of global total

1	China	6,538,367.00	22.30%
2	United States	5,838,381.00	19.91%
3	India	1,612,362.00	5.50%
4	Russia	1,537,357.00	5.24%
5	Japan	1,254,543.00	4.28%
6	Germany	787,936.00	2.69%
7	Canada	557,340.00	1.90%
8	UK	539,617.00	1.84%
9	South Korea	503,321.00	1.72%
10	Iran	495,987.00	1.69%

[Source: The Carbon Dioxide Information Analysis Center]



Hadi Dowlatbadi
Canada research chair and professor of Applied

Mathematics and Global Change, University of British Columbia

Climate change is a serious problem, but war, poverty, hunger, chemical weapons and other human afflictions are much greater issues. There is evidence to show that climate change will harm some people — populations near coastal areas will be affected by rising sea levels. However, other people may benefit from climate change. For instance, more deaths are caused by extreme cold than from heat waves. Ecosystems will probably be affected, but they already suffer more from land use change and deforestation.

As for the Arabian Peninsula region, it will be impacted more by population growth and its heavy reliance on energy, space conditioning, fresh water and imported foods, which are all unsustainable in the long run. Climate change is very much unlikely to worsen issues compared to these other drivers of local change.

Anthropogenic and other natural processes, I believe, are causing temperature changes on a scale never seen before. So spending money on useless emission reductions won't help future generations as much as alleviating poverty, air pollution, slavery, the lack of women's rights and war.

ALL INTERVIEWS BY SHARIFA AL BADI.
BOXOUTS BY ORLANDO CROWCROFT



John Elkington
Co-founder of SustainAbility (sustainability.com),

and Volans Ventures (volans.com), johnelkington.com

Intense cycles of climate change have occurred throughout history. That said, the CO₂ content of the planet's atmosphere has been building fairly rapidly since the Industrial Revolution began. Scientists are increasingly confident that extreme weather events like 2005's Hurricane Katrina in the USA are linked to global warming. Their projection is that, even if the effects of climate change are not yet a major threat, they very soon will be.

I don't think it's out of control, but there is a growing sense that it could soon get to that point. Two things worry me intensely: the prospect of vast quantities of methane, a very powerful greenhouse gas, being released from thawing tundra in places like Canada and Siberia; and, second, there is the growing evidence that the carbon dioxide that is happily being absorbed by the world's oceans isn't simply precipitating out into cold storage in the ocean depths, but is instead making the oceans more acidic. This has extremely grave implications for coral reefs and marine creatures.

One of my favourite innovators has been Stewart Brand. In his latest book, he has switched from self-sufficient solutions to a range of proposals that most environmentalists aren't going to like at all. These include massively increasing investment in nuclear power, the widespread adoption of GM crops, a rapid shift of populations to cities and the deployment of a range of geo-engineering technologies — which could well include space umbrellas, to shade the Earth from the Sun. Sadly, I agree with him.

Am I confident we can find a solution? History shows that all civilisations collapse in the end, generally because they over-tax their environment. We seem to be headed down that route, with a global population of nine billion people predicted by 2050 — compared with less than three billion when I was born. But extraordinary times bring forth extraordinary leaders and innovators, so I choose to be optimistic. →



James Hoggan

Author of *Climate Cover-Up: The Crusade to Deny*

and co-founder of DeSmogBlog.com

Climate change is not a matter of belief but one of overwhelming science. **With every major scientific academy in the world agreeing that climate change is a serious problem it would be foolish of me not to believe them.** Though perhaps not so foolish if I owned an oil company or a coal-fired power plant.

We cannot attribute every drought or flood to global warming. But the steady desertification in the mid-latitudes matches the models and predictions of climate change effects. In addition, resource wars breaking out in places like Darfur are early warning signs of things to come.

Rising sea levels, melting ice caps, regional climate changes, desertification, rising levels of CO₂ in the ocean, acidification... these are all dangerous markers being reported in scientific journals. So the rising level of scepticism on the issue is fascinating and alarming. It's thanks to the huge investments in disinformation and poor mainstream media performance. The result is that people are still in doubt.

Honesty must be demanded from the media, the corporate sector must accept responsibility and governments must step forward. They need to put a price on carbon adjacent to the cost of dumping waste ingredients of it in the atmosphere. If this is done the market will be forced to find other affordable solutions. It's time to be innovative.

Many energy technologies are already established and they would be economically preferable if consumers were paying the true cost of fossil fuels. The transition maybe expensive in the short term, but economies of scale and technological solutions will emerge when people, governments and organisations focus their attention and investment dollars to the task.

"IN THE LONG RUN YOU CAN WRITE OFF MOST COASTAL CITIES AND INFRASTRUCTURE"

SUN CITY

Why solar panels aren't all they're cracked up to be

BY ORLANDO CROWCROFT, EDITOR *MIDDLE EAST ARCHITECT*

It is both a logical and widely-held assumption that the sunny Middle East is a natural home for solar power. But the actual value of photovoltaic (PV) panels (those that generate electricity) in this region is debatable. While they may look good, there are actually far better ways to save energy in the desert.

"Developers like PV solar panels because they are visible," says Nicholas Lander, senior associate at Inhabit, a green consultancy. "People look at them and say: 'Hey, check out that building, it's got solar panels so it must be green.' Well, that's not the case; really it's just

saying: 'Here is my nod to the environment.'"

The problem is not solar itself, but a one-size-fits-all attitude that is common in the world of green design. Solar panels are an excellent option for off-grid houses in the mountains, but even covering the entire façade of a Dubai office tower would provide only two percent of its energy needs.

The real drain on most office developments is lighting, which can account for up to fifty percent of a building's total power draw, and the residual heat of the sun beating down on glass façades. Installing shading

systems, or even blinds that close when a room isn't being used, can save up to fifteen percent of cooling costs.

Misconceptions like this have led many to criticise the principles of green design. Frank Gehry recently said the U.S. Green Building Council's LEED ranking system was bogus and served little purpose other than good PR. Gehry has taken a beating for his comments, but the world-famous architect has a point. Shutting blinds and switching off lights doesn't scream sustainability like a roof full of solar panels.

But when the priority is profit, developers are likely to go for what sells rather than what works.



Bradley N. Opdyke

Senior lecturer, Research School of Earth Sciences, The Australian National University

The timescale of the changes we are going to see goes beyond a single human lifetime, which makes the problem even more difficult to deal with. Last year's **Climategate scandal was sad and undermines a lot of good science. It was just what the deniers were looking for. They are a lot better funded and far more media-savvy than the scientists.**

But this doesn't change the basic story. Think about all the climate-related events you are aware of and magnify them — and add rising sea levels to this. Not much will happen right away, but in the long run you can write off most coastal cities and infrastructure. Poor, underdeveloped countries will be more vulnerable, period.

As for a solution: urge people to stop using fossil-fuel based power. It is that simple. But first, it is important simply to realise as a global community that we have a serious problem to deal with.



Phelim McAleer

Journalist, writer and producer of *Not Evil Just Wrong* and *Mine Your Own Business*

The fluctuations of temperature we see now are normal and there is no scientific evidence to support the idea that global warming is harmful. So it does not matter what scientists say; science is about facts, it is not decided by a democratic vote.

However, there is much evidence to show that poverty and a lack of development kills millions every year. And the worst places for environmental degradation are the poorest places on earth.

Therefore, **if we prevent people from getting cheap energy, it will destroy our children's future** — the "solutions" to global warming will increase these problems. Unfortunately, governments are so concerned with the issue because it appeals to the "saving the world" sentiment that politicians love. In reality it is only a winner with their fellow elite, not working people.



Christopher Monckton

Third Viscount Monckton of Brenchley
Politician, writer and hereditary peer, deputy leader of the UK Independence Party

The climate has changed for 4.5 billion years and will continue to change. Today's temperatures are not unprecedented, and there is scientific evidence that supports the idea that a rising climate isn't that bad at all. At least four-fifths of the world's species live in the tropics, which are warm and wet, while only one percent live at the Poles, which are cold and dry.

A recent survey of active climatologists showed that ninety-seven percent believe that adding greenhouse gases to the atmosphere will cause some warming. I believe that too: it is a simple matter to demonstrate, using the fundamental equation of radiative transfer. But there has never been consensus on how much warming a given proportionate increase of CO₂ will cause. Mainstream media outlets have concealed this fact. We know nothing about how to quantify the temperature feedback that accounts for two-thirds of global warming. The IPCC (Intergovernmental Panel on Climate Change) has exaggerated the warming effect of CO₂ approximately six-fold. Without this exaggeration, there is no climate problem.

The record of governments using other people's money to "pick winners" in new technology has been dreadful. There is no need for any international treaty to tell the free market to develop new technologies; we should do it ourselves if there is profit in doing so. Vast tracts of agricultural land are no longer being used to grow food for those who need it; instead bio-fuel is being produced for people who don't need it. Thus we have a doubling of world food prices, which the World Bank attributes almost entirely to this bio-fuel scam. Now we have mass starvation in poorer nations and food riots that are almost unreported in the mainstream news media.

The most important thing to do is to bring poverty to an end. The poorest nations have the highest birth rates, so **the only way to stabilise the world's population, and thus reduce our environmental footprint, is to raise the standard of living for the poor.** The fastest way to do that is to give them the cheapest form of electricity possible. Let's be clear: global warming is not a real environmental problem. Deforestation, pollution and human encroachment on habitats of rare and vulnerable species are real problems. The "precautionary principle", as applied by governments today, is unspeakably cruel.



Professor Ian Plimer

School of Earth and Environmental Sciences, University of Adelaide, author of *Heaven and Earth: Global Warming – The Missing Science*

Science is married to evidence and historical evidence shows us that prosperity, longevity and population increase during warm periods. During the Dark Ages and Little Ice Age, there was famine, social unrest and massive depopulation.

We are being asked to accept that the last thirty years of a three hundred-year warming period are due to human activity – yet the preceding 270 years were natural. Such extraordinary ideas need extraordinary evidence. This has not been forthcoming. It still has to be proved that human emissions of CO₂, which constitute three percent of total annual CO₂ emissions, drive climate change. CO₂ alongside H₂O keeps our planet afloat.

As for the future, the Stone Age did not end because we ran out of stone. Similarly, the fossil fuel age will not end because we ran out of fuel. It will be due to cheaper, more efficient energy. Ideological energy, such as wind and solar, requires massive subsidies and still can't provide large amounts of energy. We do, however, have nuclear power available.

When I see whole communities depopulated from climate change, then I will worry about climate change. So the correct solution to this non-problem is to do nothing. **The gamble of spending large sums of money on policy solutions that aren't underpinned by enough evidence is too great. Pollution is a worse problem – it kills.** CO₂, on the other hand, is plant food. Without it there would be no life on earth.

As for carbon trading, why create a new non-transparent financial instrument when previous instruments have failed?



Gavin Schmidt

Gavin A. Schmidt,
climate modeller at the NASA Goddard

Institute for Space Studies (GISS)

Global warming is a chronic problem and at present there is no sense of emergency. Climate change is not being controlled so its rate of change is also uncontrolled. However, we have a choice, as a society, in making things better. **Decisions made now will impact climate change in the future. If nothing is done we could see major rises in temperature.** The vulnerable countries are those with a lot of people and infrastructure close to sea level. Bangladesh, Egypt and China are a few. In addition, countries in arid regions that depend on rainfall and mountain snowpack water storage will be affected.

Last year's email scandal was mostly noise used to distract people from the fact that the science is unchanged. The rising level of scepticism will fade with time. Right now there is a recession and people are focusing on other things.

The chances of new technologies like carbon capture saving us are small. It might happen but it's unlikely to come in time. On the one hand, carbon trading theoretically does help, but it is not going to happen if we give too many credits to big polluters or the price of carbon is too low.

MASDAR CITY

Abu Dhabi's green city

Designed by Foster + Partners, Masdar is an amazing concept: a \$22 billion zero-carbon city with a research university, funded by the Abu Dhabi government.

But in the wake of the financial crisis, rumours have abounded that it will be scaled back. There were two high-profile resignations this summer, forcing Masdar's chief executive to say publically that work would continue as planned. No-one from the company has been available for comment in recent months, though they have issued a further press release to say a revised plan will be published. So for now we can only speculate about what is going on behind the scenes, and hope that the bold vision one day does become reality.



Kim Carstensen
Head of WWF Global Climate Initiative.
See www.panda.org

Climate change is a like a time bomb. Scientific research shows that risks of extreme climate impacts increase dramatically with small increases in the global mean temperature. Already we are dealing with melting glaciers, bleaching of corals, droughts, low agriculture, rising sea levels and water shortages, as well as heat strokes in hot areas.

The results of Copenhagen were disappointing, although I do feel optimistic about the new commitments to climate change evident in emerging economies. One of the most important things achieved last year was the agreement that we must stay below the two degrees Celsius warming threshold — although this is only in theory and not yet in practice. To achieve this, countries would have to implement what they presented in Copenhagen. **Every year of delay equals permanent damage to environments, economies and societies.**

The Climatic Research Unit of the University of East Anglia has been under attack since hacked emails were released. Climate sceptics claimed that those emails showed scientists were manipulating data to support theories of manmade global warming. Lord Oxburgh led an independent inquiry last March of eleven scientific papers from the CRU, published over twenty years. He saw, “absolutely no evidence of any impropriety whatsoever”. This independent review confirms the WWF’s confidence in climate science.

As such, we need to move the discussion from whether climate change is real to how we can find solutions. The WWF believes that polluting countries should move towards a low carbon economy while trying to find ways to help vulnerable countries build their armour against climate change.

We can also become much more efficient in how we use energy, which would also mean huge savings on energy bills. And we can shift to new energy sources such as wind power or solar energy. Carbon Capture and Storage (CCS) could play an important role in reducing CO₂ in the atmosphere in the future. However, more research is recommended on that matter.



David Tindall
Associate professor, Centre for Applied Conservation Research, University of British Columbia

I consistently hear that the IPCC is “conservative” in its assessments. The problem we face is probably worse than the IPCC asserts — and the IPCC’s conclusions are already alarming.

So there will likely be a negative impact because we have adapted to the current situation over a long period of time. Some animal and plant species will become extinct and there will likely be mass migration to major cities.

It should be noted that there will be advantages and disadvantages. In Canada, for example, the growing range for various types of agriculture will increase. And new shipping routes will emerge in the Arctic. However, the net effect will probably be negative.

While we need to explore technological solutions, we should not base our policies on the assumption that we will find a quick solution. **We cannot continue to believe that we are separate from nature or assume that technology can solve all of our problems.** Carbon trading could, perhaps, form part of an integrated solution. But it has to be part of a system that ensures there is a net decrease in carbon release.

There will likely be very substantial climate change before we get our act together. But I try to be optimistic. We have solved other problems like ozone depletion, so perhaps it will possible to rise to the challenge.

FUTURE PROOFING

Ideas that one day might just save the world

Carbon Capture and Storage is the big hope. You take CO₂ at source (say from coal-fired power stations), pipe it and trap it somewhere, probably underground in aquifers, coal seams or depleted oil and gas fields.

The costs are still prohibitive and the technology is uncertain, but it just might be a real game changer.

Volcanic eruptions, which can emit millions of tonnes of sulphur, can have a cooling effect on the climate. So some scientists suggest **releasing sulphur into the atmosphere**. Drawbacks include acid rain and the temporary nature of the solution — stop releasing and temperatures rise again.

Physicist Klaus Lackner has proposed machines that would suck CO₂ out of the air. They’re dubbed **fake trees** because it’s the same job real trees do but 1,000 times faster. The carbon would then be stored (see Carbon Capture), or hydrogen could be added to the CO₂, converting it back into liquid hydrocarbons.

James Lovelock, creator of the Gaia hypothesis, proposes the use of

ocean pipes to bring deep, nutrient-rich waters to the surface that would feed huge **algal blooms** that would suck up carbon dioxide from the atmosphere and sink it to the bottom of the ocean as they died.

Some researchers suggest **fertilising the ocean with iron** to create huge plankton blooms. This would suck up some CO₂. This has already been tried by some companies to sell carbon credits, but not enough conclusive evidence of its effectiveness is in, plus it could potentially harm marine ecosystems.

Other more far-fetched (and expensive) ideas include using small **mirrors in space** to deflect sunlight, or covering portions of the planet with reflective films to bounce sunlight back into space.

Researchers at Leeds University in the UK have developed **BituBlocks**, as an alternative to bricks. They’re about six times stronger than concrete and made from waste products like recycled glass, metal slag, sewage sludge and incinerator ash, bound together with bitumen.





Warren Meyer
Holds a BS in Mechanical & Aerospace

engineering; runs www.climate-skeptic.com

I don't deny that global warming is happening. The climate is always changing without help from man. The period from 1600 to 1800 was one of the coldest in the last five thousand years, so it's natural we see warming now. What I do deny is that the temperature will be five to ten degrees higher because of man. I believe most people on the scientific end of the debate agree that direct warming from man's CO₂ alone will be relatively modest — in the order of one degree Celsius by the year 2100. That's according to the IPCC.

Furthermore, the amount of unusual climate change is grossly exaggerated. Extreme events have always existed. The climate has thirty-year cycles, two hundred-year cycles and so on. We don't even know what normal is, so how can we say what we are seeing is abnormal?

While we would all welcome a move away from fossil fuels, there is nothing we can do about it if the technology is not ready. All we will get is over-spending on dead-end technology. Present alternatives are rich peoples' toys; **there are perhaps billions of people in Asia coming out of poverty and they can only do that by burning fossil fuels.** Do we want our children to be one degree cooler at the cost of putting billions in poverty?

Many people, particularly the young, want to save the world in order to deal with their own feelings of insignificance. However, this current obsession has gutted the environmental movement. Personally I am interested in protecting wilderness. My charity of choice preserves the Amazon and the number one cause of deforestation there is the ethanol programme that's supposed to fight CO₂.

"WHILE WE WOULD ALL WELCOME A MOVE AWAY FROM FOSSIL FUELS, THERE IS NOTHING WE CAN DO ABOUT IT IF THE TECHNOLOGY IS NOT READY"

GREEN CODES

Building rules that will change the UAE

Sustainable design might soon become a key feature in this region. Abu Dhabi recently introduced its Estidama system, which requires every new building in the emirate to adhere to strict guidelines before it is awarded a green ranking. Not only will buildings be evaluated and checked during the design phase, but also during construction and for up to five years after they reach full capacity. The regulations go far beyond any equivalent in the U.S. and even parts of Europe. They are not yet compulsory, but it is widely believed they soon will be.



Carl Zimmer
Science writer for the *New York Times*, author, blogger and Fellow at Yale

University's Morse College. See carlzimmer.com

Human-driven climate change has already had measurable effects on the planet. Arctic ice is thinning, glaciers are shrinking, species are changing their ranges and some are disappearing. There's no reason to think these trends will stop just because we don't like them. And, because we have put so many greenhouse gases into the atmosphere, climate change may turn into a runaway feedback loop. But if we act now and cut emissions, we can ward away threat.

We have had the warmest decade of the past 150 years. Climate scientist, Jason Evans, showed that **temperatures in the Middle East will go up four-degrees-Celsius and rainfall will decrease. This will cause agricultural land to shrink, and the pH of the Arabian Peninsula waters will drop, affecting coral reefs and wildlife.** Every country in the world is going to be affected. Bolivia is already having a water crisis and low lying island maybe drowned sooner or later. Coastal cities will also have to start making changes.

To prevent all this, we have to reduce our own carbon dioxide emissions and re-think our energy-using strategies.



Rima Habib
Associate professor, Department of Environmental Health, American

University of Beirut

Based on the UN Intergovernmental Panel on Climate Change, there are many obvious climatic changes including temperature increases, sea level rises, Arctic sea shrinkage, ocean acidification and more frequent extreme weather events.

Less developed nations will suffer the most. Some of the countries listed by the World Bank that are at a high risk are Malawi (drought), Bangladesh (flooding), Vietnam (rising sea levels), most of Sudan (deficits in the agriculture sector) and the Philippines (prone to frequent and intense storms). Some cities are at an increased risk from extreme weather events; others will be at an increased risk from coastal flooding and erosion. Temperature rises will be multiplied by the heat island effect. Humidity will decrease and air quality will deteriorate.

According to the WHO Regional Office for the Eastern Mediterranean, **the Middle East is, "one of the most vulnerable regions to climate change because of its arid nature and reliance on rain-fed food production."**

At this stage we might be at a tipping point, or even have passed the stage which will lead to irreversible change. So now is the time for action. Reduction of emissions from the current 385ppm (parts per million) concentrations to 350ppm or below is necessary. There are other possible schemes. Carbon Capture and Storage (CCS) would capture CO₂ from large point sources (power plants), transporting (via pipelines) and storing it in geological land-sites or below the seabed. However, the technology will not be available on time as it's not expected before 2030. Carbon trading seems like a sound policy for reducing emissions, but it appears to have failed overall as there has been no significant reduction of emissions since the programme's beginning.

There has always been a level of scepticism, fuelled by a few reports that global warming is part of a natural climatic cycle. This kind of heated scientific debate is typical of the major questions that define a generation. **E**