

## Explore scientific research at Global warming & Environmental Science - Global Warming and Planning the Sustainable future

Ajah Uzoigwe James

Earth Environment and Climate Care Ambassadors, Nigeria, E-mail:  
citycleanersinternational@gmail.com

### Market Analysis

Climate change is a result of the greatest market failure that the world has seen, Sir Nicholas Stern, whose review last year warned of the economic and social costs of climate change, said tonight.

Delivering the Royal Economic Society (RES) public lecture in Manchester, ahead of next week's world summit on climate change in Bali, Sir Nicholas said targets and trading must be at the heart of a global agreement to reduce greenhouse gas emissions. "The problem of climate change involves a fundamental failure of markets: those who damage others by emitting greenhouse gases generally do not pay," said Sir Nicholas.

"Climate change is a result of the greatest market failure the world has seen. The evidence on the seriousness of the risks from inaction or delayed action is now overwhelming. We risk damages on a scale larger than the two world wars of the last century. The problem is global and the response must be collaboration on a global scale." He added that rich countries must lead the way in taking action. "That means adopting ambitious emissions reduction targets; encouraging effective market mechanisms; supporting programs to combat deforestation; promoting rapid technological progress to mitigate the effects of climate change; and honoring their aid commitments to the developing world," he said. Sir Nicholas used the RES lecture - entitled, Climate Change, Ethics and the Economics of the Global Deal - to set out a six-point global deal for tackling climate change.

The first involves rich countries reducing their greenhouse emissions by at least 80% - either directly or through trading schemes - in order that the overall 50% reduction in global emissions by 2050 is met. Secondly he called for substantial trade between countries, including rich and poor countries, in greenhouse gas emissions. The third point requires a major reform of the clean development mechanism, a Kyoto protocol mechanism that allows developing countries to sell emission reductions, but does not penalize them for emissions themselves, making it a "one-sided trade mechanism", said Sir Nicholas.

He also argued for an international program to combat deforestation, which contributes 15-20% of greenhouse gas emissions. "For \$10-15bn (£4.8-7.2bn) per year, a program could be constructed that could stop up to half the deforestation," he said. There also needs to be urgent promotion of rapid technological advance for climate change mitigation, said Sir Nicholas.

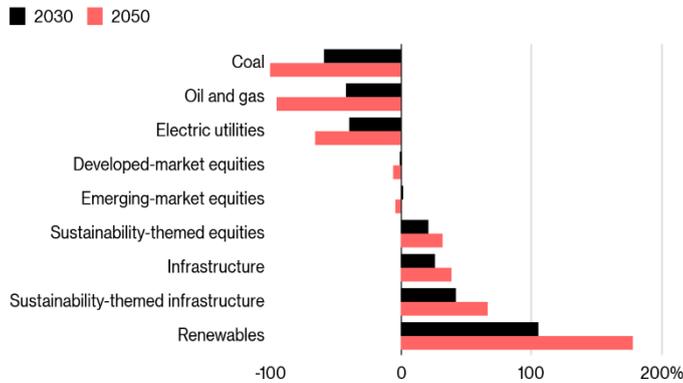
Carbon capture and storage (CCS) for coal is particularly urgent since coal-fired electric power is currently the dominant technology round the world and emerging nations will be investing heavily in these technologies, he said. "For \$5bn a year, in terms of feed-in tariffs (which could be reduced as carbon prices rise), it should be possible to create 30 commercial scale coal-fired CCS stations within seven or eight years. Unless the rich world demonstrates, and quickly, that CCS works, developing countries cannot be expected to commit to this technology." The final plank in Sir Nicholas's action plan is for rich countries to honor their commitments to 0.7% of GDP in aid by 2015. This would yield increases in flows of \$150-200bn per year. The extra costs developing countries face as a result of climate change are likely to be upwards of \$80bn per year and it is vital that extra resources are available for new initiatives. "The problem is deeply inequitable with the rich countries having caused the bulk of current stocks of greenhouse gases and the poor countries being hit earliest and hardest - which means that the rich countries must take the lead," he said.

"Within different countries, there will be different choices of instruments - such as taxes, trading and standards - and different technological mixes.

"In all countries, there is scope for energy efficiency, which both reduces emissions and saves money. But trading must be a central part of the story because it can provide the international incentives for participation, and promote efficiency and equity, while controlling quantities of emissions.

**Climate Winners and Losers**

Fossil fuels, utilities stand to lose the most if global warming is kept to 2°C

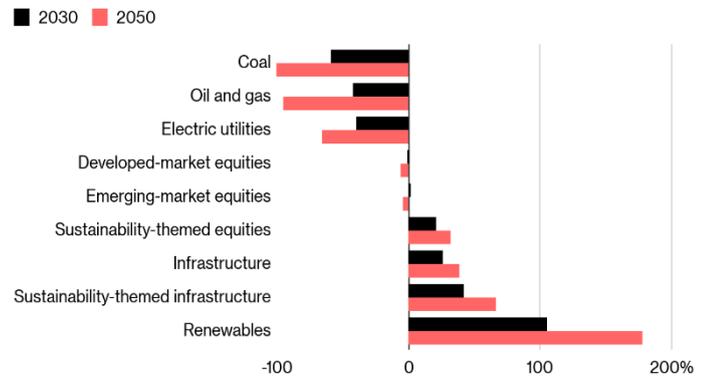


Projected cumulative percentage impact if global warming is held to 2° Celsius  
Source: Mercer, "Investing in a Time of Climate Change" (2019)

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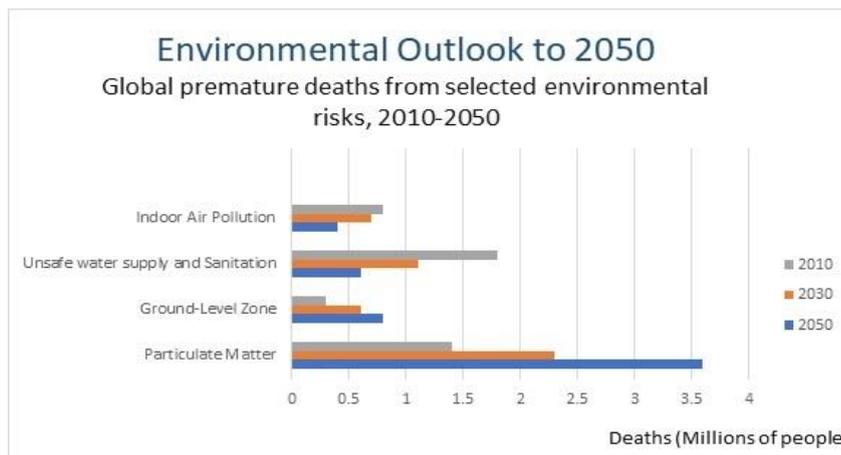
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**Importance & Scope:**

Environmental Toxicology and Health is a multidisciplinary field of study in the Environmental Sciences and is intended to provide a venue for presenting and discussing fundamental and applied research advances relevant to the issues of local/global environments, human/animal health, and occupational safety. It provides a forum for professionals in academia, industry, and government involvement in the use, protection, and management of the chemicals in the environment for the enhancement of human health and occupational safety. It occupies an important niche among lethal concentration and public policy. It focuses on the applications of sciences and technologies in environmental decision-making, regulations, and management, and the development of science-based solutions of local/global issues of environment, health, and safety.

**Target Audience:**

- Environmental Toxicology Students, Scientists
- Environmental Toxicology Researchers
- Environmental Toxicology Faculty
- Environmental Toxicology Associations and Societies
- Noble laureates in Health Care and Medicine
- Toxicology Professionals

- Business Entrepreneurs
- Training Institutes
- Software developing companies
- Data Management Companies
- Professors
- Young Researchers
- Students
- Technical Staff

**Related Companies/Industries:**

- Red Gold
- Reinhart Food Service
- Safeway
- Sensient
- Skjodt Barrett
- Starbucks
- Trilliant Food & Nutrition
- Tyson
- U.S. Foods
- Van Drunen Farms
- Vivolac Cultures
- Zentis
- Aurum Medicare Pte Ltd,
- Aventis Pharma Mfg Pte Ltd,
- Ayuryoga Clinic of Ayurveda & Yoga Pte Ltd,
- Bago Laboratories Pte Ltd,
- Beacons Pharmaceuticals Pte Ltd,
- Beecham Pharmaceuticals (Pte) Ltd,

**Related Associations and Societies:**

- Related Societies: Society of Environmental Toxicology and Chemistry (SETAC)
- Carolinas Society of Environmental Toxicology and Chemistry (SETAC)
- Asia Pacific Association of Medical Toxicology
- Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT)
- American Academy of Clinical Toxicology
- European Society of Toxicology In Vitro (ESTIV) European Association of Poison Centers and Clinical Toxicologists (EAPCCT) Society of Toxicology (SOT)
- International Union of Toxicology (IUTOX)
- American Academy of Clinical Toxicology (AACT) | American Board of Toxicology (ABT)
- Academy of Toxicological Sciences. Diet & Nutrition conferences The German Society for Nutrition Medicine.