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# Research for the Common Good

## How are we responding to headwinds on global climate action?

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1. Vision
2. Programmes
3. The Challenge: Headwinds on global climate action
4. How we are responding:
  - *Research*
  - *Impact & engagement*
  - *Education*



# Oxford Smith School: Our Impact Philosophy

## Research to drive the green transition – transforming economies and governance to make people and nature thrive together

The Smith School of Enterprise and Environment at the University of Oxford was founded in 2008 by the philanthropy of Sir Martin Smith. With a global, multi-disciplinary faculty of scholars and practitioners and a core team, we are one of the University's leading centres for climate and nature. The Oxford Smith School delivers research to support businesses and governments adopt sustainable models without compromising economic growth, while redefining what growth means. We achieve real-world impact through research and teaching at the intersection of business, policy, economics, and sustainability.

### Our Impact Philosophy

- Collaborating with governments, businesses, financial institutions, international organizations
- Providing policy-relevant research on environmental challenges, opportunities and solutions
- Working across economics, law, biology, energy, finance, development studies, geography, engineering, anthropology, behavioural science, physics, engineering, among other studies
- Teaching and training future leaders in sustainable business, finance, environmental law and policy
- Using our convening power to provide a trusted space for collaboration and action across sectorial and political divides

"We are set apart by our collective entrepreneurial spirit and drive for real world impact based on world-class research. The world must accelerate the green transition from as many angles as possible, and our research programmes are chosen as the best levers to drive the needed global transformation. Our work has already shaped global understanding of sustainability, and our aim is nothing less than global systems transformation."



**Professor Mette Morsing**, Director of Oxford Smith School of Enterprise and Environment

**Research**

**Education**

**Impact**



# Vision

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Transforming economies and governance  
to ensure people and nature thrive  
together



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1. Vision

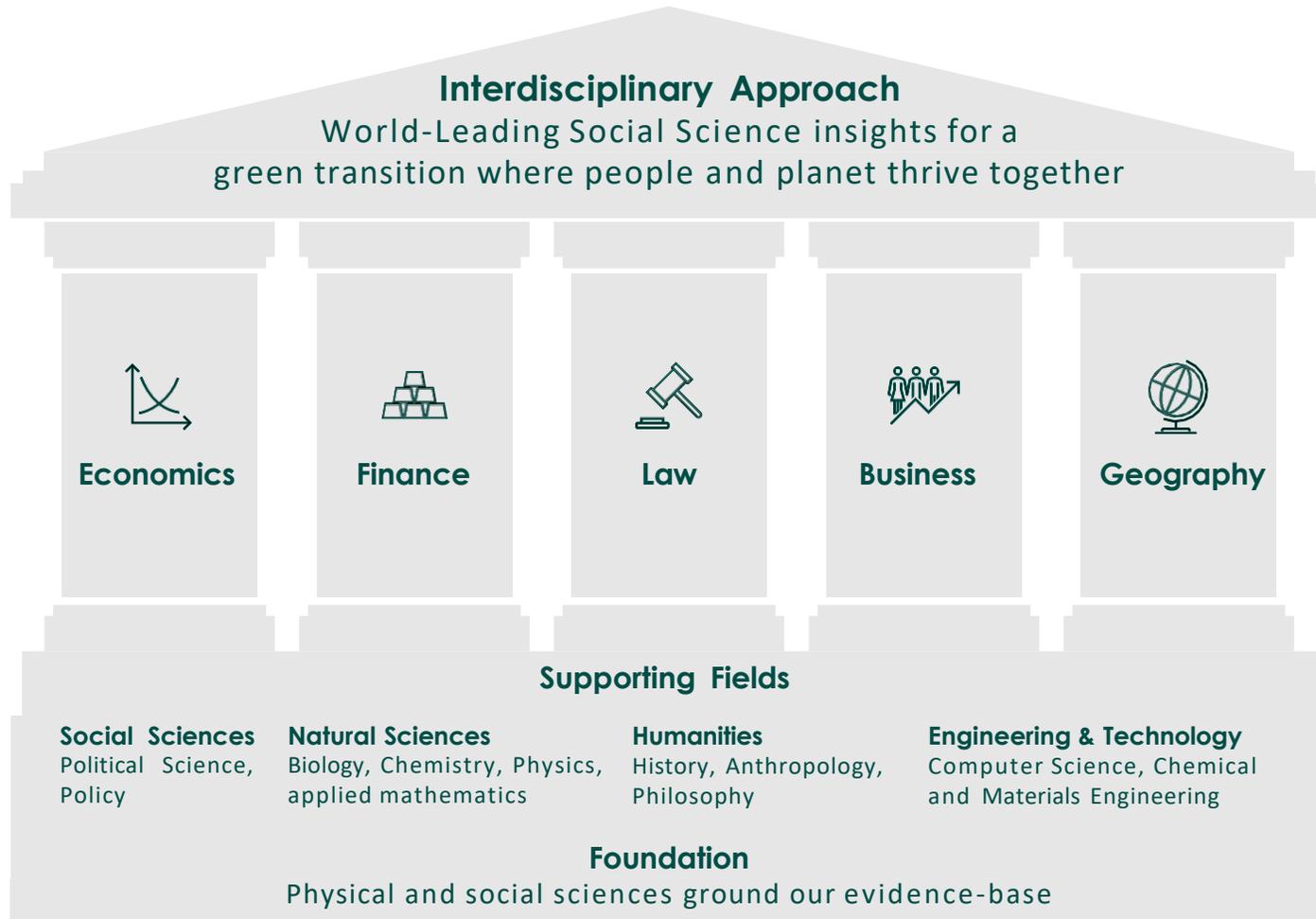
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# Approach



## Interdisciplinary Approach

Based on a foundation of physical and social sciences, the School centers on five core disciplines complemented by a diverse set of supporting fields

## Research Themes

We use our interdisciplinary approach to address nine key research themes across the Smith School:

- Climate Science
- Nature and Biodiversity
- Energy
- Food
- Water
- Sustainable Economy & Innovation
- Finance
- Law

# Some of our research programmes and Principal Investigators



**Professor Mette Morsing**  
 Director of the Oxford Smith School,  
 expert in corporate sustainability,  
 leadership, and governance

## Nature-Based Solutions Initiative



**Professor Nathalie Seddon**  
 Professor of Biodiversity  
 Founding Director of the Nature-  
 based Solutions Initiative

## Future of Cooling



**Dr Radhika Khosla**  
 Asc Prof, Research Director of the  
 Oxford India Centre for Sustainable  
 Development

## REACH Water Programme



**Professor Rob Hope**  
 Professor of Water Policy, Director of  
 REACH

## Regenerative Economy



**Dr Caitlin McElroy**  
 Departmental Research Lecturer,  
 Enterprise and the Environment and  
 Programme Director, Executive  
 Education

## Oxford Net Zero and CO<sub>2</sub>RE



**Dr Steve Smith**  
 Asc Prof, Executive Director of Oxford  
 Net Zero and CO<sub>2</sub>RE (UK's national  
 carbon dioxide removal research hub)

## Climate Compatible Growth



**Professor Sam Fankhauser**  
 Professor of Climate Change  
 Economics and Policy

## Economics of Sustainability



**Professor Cameron Hepburn**  
 Battcock Professor of Environmental  
 Economics

## Sustainable Finance Group



**Dr Ben Caldecott**  
 Director of Oxford Sustainable Finance  
 Group, Lombard Odier Associate  
 Professor of Sustainable Finance



**Dr Alex Money**  
 Director, Innovative Infrastructure  
 Investment Programme

## Complexity Economics



**Professor Doyne Farmer**  
 Baillie Gifford Professor of Complex  
 Systems Science

## Future of Food Programme



**Dr Mike Clark**  
 Asc Prof, Sustainable Food Solutions  
*Joint appointment with Biology*

## Sustainable Law Programme



**Dr Thom Wetzer**  
 Director, Oxford Sustainable Law  
 Programme



**Dr Ben Franta**  
 Asc Prof, Climate Litigation Lab



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# We are facing headwinds on global climate action

## Headwinds

- Backtracking on environmental policies
- Biggest emitters (US, India, China) failing to attend COP
- Tariffs as a threat to international trade order/rules
- Misinformation around clean energy costs

## Solutions

- The co-benefits of climate action
- Better understanding of behavioural incentives
- Synergy between climate action and future savings (lower cost of living)
- The prohibitive costs of climate *inaction*



*False Flags?* Despite the negativity, 60% of British people support net zero (YouGov, 11 November 2025). Oxford (INET) [research](#) shows that policymakers consistently and vastly underestimate public support for climate action.

Image created using Generative AI.

## COMMON CLAIM

- “Climate policies are too expensive and hurt the economy.”**
- “Renewables are unreliable; we need fossil fuels for stable energy.”**
- “Climate change is exaggerated or uncertain.”**
- “Fossil fuels are necessary for economic growth.”**
- “Climate policy will raise energy prices.”**
- “Other countries (e.g., China, India) pollute more, so our action doesn’t matter.”**
- “We should focus on adaptation instead of cutting emissions.”**
- “Technology will solve the problem later; we shouldn’t rush.”**
- “Environmental regulations kill jobs.”**

## What the Science/Evidence tells us

The economic costs of *inaction* are far higher. Studies (IPCC, IEA, IMF) consistently show that emissions cuts and clean energy investment generate long-term economic benefits and reduce climate-related losses.

Modern grids with diverse renewables, storage, and demand management can be highly reliable. Many regions already operate with high renewable shares (e.g., >50–80%) without compromising stability.

There is overwhelming scientific agreement that climate change is real, human-caused, and accelerating. Uncertainty is mostly about *how bad* the impacts will be, not whether they are happening.

Economic growth has already been decoupled from fossil fuel use in many countries. Clean energy is now cheaper than new fossil-fuel generation in most of the world.

While some policies can temporarily increase prices, renewable energy reduces costs over time. Solar and wind are now the cheapest sources of new power. Fossil fuels remain volatile and often more expensive.

Climate change is cumulative. Every country’s emissions contribute to warming. Moreover, China and India are rapidly expanding renewables and have per-capita emissions far lower than many Western countries. Global action is required from everyone.

Adaptation is necessary but cannot replace mitigation. Without emissions cuts, adaptation costs become unmanageable and many impacts (extreme heat, sea level rise) exceed human ability to adapt.

Future technologies (like direct air capture) may help, but cannot replace immediate emissions reductions. Delaying action increases costs and locks in long-lasting warming.

Clean energy sectors create jobs. Job declines in fossil industries should be managed with strong transition, skilling, and re-skilling policies.



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# How we are responding – Research

- **REACH Water Programme:** From 2015–25, improved water security for 10mn people in 16 countries across Africa and Asia through community co-led investments in water services and policy.
- **Nature-Based Solutions Initiative:** has led to a rise in consideration of nature in science, policy, and practice, and helped enshrine nature-based solutions in UNFCCC and Paris Agreement pledges as well as business agendas.
- **Carbon removals:** works across scaling new technologies and practices alongside policy, and houses 3 world-leading removals initiatives: The State of Carbon Dioxide Removal research consortium convening over 50 leading scholars of removals, CO2RE as the UK's leading greenhouse gas removal hub connecting innovators, demonstrator projects and policy interventions, and leading academics of the cross-University Oxford Net Zero initiative.
- **Future of Cooling:** Over 200 million people are likely be displaced by extreme heat by 2050. Putting human wellbeing at the centre, the Programme develops solutions across urban design and architecture, infrastructure, energy consumption, and innovation in cooling chemicals that can save billions of tonnes of CO2 emissions and thousands of lives per year.
- **Sustainable Law:** the *Climate Policy Hub*; the *Science and the Law* programme producing peer-reviewed scientific research to inform legal actions addressing climate change; the *Climate Litigation Lab* developing new tools to enable legal actions addressing climate damage, disinformation and greenwashing.
- **Sustainable Finance:** The programme's groundbreaking work has led to the adoption of climate-related financial risk principles. This significantly changed the supervision of financial firms and investors in the UK and helped catalyse a global movement on climate change across financial institutions and financial supervision on disclosure of climate-related risks.
- **Sustainable Food Solutions:** works on solutions that cut across climate, biodiversity, and human wellbeing. Engages the entire food system including production systems, financial and corporate structures, consumption habits, and the role of business, policy, and finance.
- **Economics of the Renewable Energy Transition:** Completely replacing fossil fuels with clean energy by 2050 will save us trillions. Researchers analysed thousands of transition cost scenarios produced by major energy models, and used data on 45 years of solar energy costs, 37 years of wind energy costs and 25 years for battery storage.



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# Some formats that we use for translating impact

## New numbers based on published research/ proven methods

**Opportunity cost of UK dependence on Russian oil and gas – Analysis**

Emma Walsh, Anupama Sen, Cameron Hepburn

Oxford Smith School of Enterprise and the Environment | Analysis | 21 March 2022

Source: [Rapid Analysis - Russian Gas](#)

**Impact on solar energy costs of tripling renewables capacity by 2030**

Rupert Way, Cameron Hepburn

Oxford Smith School of Enterprise and the Environment | Analysis | 17 May 2023

Source: [Rapid Analysis - Tripling Renewables](#)

## Briefs of key actionable conclusions from research expertise or publications

**Policy brief**

**Deployment support for geological Greenhouse Gas Removals (GGR) in the UK**

**Summary**

- GGR plays a strategic role in counterbalancing residual emissions from hard-to-abate sectors in the UK's pathway to net zero, and in limiting global warming.
- Under the Climate Change Committee's Balanced Net Zero scenario, the UK will need 5 MtCO<sub>2</sub>/year of geological GGR by 2030, scaling to 68 MtCO<sub>2</sub>/year by 2050.
- Current UK GGR deployment is negligible, and there is a strong need for multiple policy interventions to provide certainty to developers (supply) and buyers (demand) to grow a market at the speed and scale required for net zero.
- We present a typology of barriers to geological GGR deployment based on literature and evidence. Key barriers to deployment are the lack of inherent demand for removals, access to finance, and lack of regulatory support frameworks (e.g. for accounting, and Monitoring, Reporting and Verification - MRV).
- We identify three categories of policy interventions to address these barriers: demand-based (creating a demand for GGR), supply-based (facilitating the production of GGR), and business environment-related interventions (creating institutional and regulatory frameworks).
- We set out three Policy Bundles to enable the scaling up of geological GGR: a government-sponsored approach to boost early demand for GGR, a market-based approach with complementary supply-side policies, and a hybrid approach which combines a voluntary GGR market with government guarantees of trading volumes or prices.
- Our analysis suggests that government intervention will be essential to kick-start a market for GGR. A government-sponsored approach with procurement auctions could help boost early GGR demand; the 2030 GGR ambition of 6 MtCO<sub>2</sub>/year could cost £300 million/year, which could be recouped through general taxation or from estimated carbon tax/ETS revenues of nearly £5 billion/year. Market commitments from the private sector are growing but still currently are insufficient to achieve this scale.
- Over time, this could evolve into a hybrid approach, with the future endpoint being a self-sustaining market for GGR, potentially integrating with the UK Emissions Trading Scheme (ETS). All approaches would need government-set and enforced regulatory standards around accounting, MRV and Environment, Health, and Safety (EHS) standards.

June 2022

Nijia Zhou, Mirte Boot, Conor Hickey, Sam Fankhauser, Anupama Sen, Steve Smith

Source: [Policy Brief - GGR](#)

**Policy brief**

**A clean energy transition powered by modern renewables can turbocharge the UK economy, and net zero transition**

**Summary**

- Research shows that moving to a clean energy system by around 2050 in line with global climate commitments is expected to save the world at least £10 trillion (\$12 trillion) in energy costs, compared to continuing our current levels of fossil fuel use. This equates to savings of approximately £1,200 per person, based on a population of 8 billion. Additionally, it is expected to save hundreds of trillions of pounds globally by reducing the severity of climate change and associated impacts such as heatwaves, wildfires, storms, and floods.
- Analysts have consistently and systematically overestimated the future costs of key green energy technologies. But solar and wind are now the cheapest new sources of electricity in the UK, and globally, and evidence shows that the faster we decarbonise, the faster the costs of clean energy will continue to fall, the larger the savings will be, and the sooner they will be realised.
- For the UK, as a country with significant net fossil fuel imports, the savings from a fast transition to a decarbonised and largely domestic energy system could be proportionately higher, while also improving resilience to supply chain shocks. Realising these savings would require policies to focus on ramping up modern clean energy technologies rather than propping up fossil fuels.
- As the penetration of renewables in the energy system increases, investments in energy storage and flexibility technologies will be required; however, progress in these technologies is well underway, and integration costs will likely be more than offset by large savings due to electrification elsewhere in the economy. The same innovation and learning dynamics that drive down solar and wind energy costs also apply to batteries, power grid technologies, and some energy storage technologies, including green hydrogen, underscoring the need for investment in these technologies now.
- The UK, like every other country racing to decarbonise, faces policy challenges this decade. But if the skills transition for UK workers is managed well, the evidence suggests that green jobs can add higher economic value, may carry a wage premium, may not be as spatially concentrated as high-carbon (non-green) jobs, and that for some technologies green jobs could be more resilient to automation than non-green jobs.

June 2023

Lennart Baumgärtner, Cameron Hepburn, Anupama Sen, Rupert Way

Source: [Policy Brief – renewable costs](#)

# Supply-led example: Future of Cooling

## I. Shaping the Narrative

- Connecting Future of Cooling Programme's findings with ongoing public policy debate on extreme heat
- [G20 policy brief](#), [COP26 webinar series](#), [WEF articles](#)
- Coverage in online, print and TV media based on research publications



Policy change



**Future of Cooling** **ssee** **OXFORD MARTIN SCHOOL** **UNIVERSITY OF OXFORD**

*New online course:*  
**Resilience to Extreme Heat**

Billions of people worldwide will be exposed to heat stress by mid-century because they do not have the capacity to adapt

This course provides information, tools and approaches for informed planning and decision-making

For anyone in planning or decision-making roles – those who have responsibility for part of the solution but need to understand the whole system to evaluate and implement best options

Launching this summer; teaching starts October 2023

## II. Providing data or tools

- Publishing research articles
- Developing library of Cooling solutions
- Systems mapping
- Developing online course on sustainable cooling for decision makers
- [UNEP Gap Report and Cities Handbook](#); [IPCC 6<sup>th</sup> Assessment Report](#).

## III. Responding to Enquiries

- UK Parliament [briefing](#) – POST Note on cooling
- Responding to UK Parliament Environmental Audit Committee call for new topics for enquiry – proposing Heat Resilience and Sustainable Cooling

**Environmental Audit Committee** @CommonsEAC

Following three fantastic pitches, the Committee are pleased to announce that we will take forward a short inquiry inspired by the presentation 'A National Strategy for #HeatResilience' from @unioxford academics. Further details will be announced in the coming months.

**UK Parliament**

**Committees**

UK Parliament > Business > Committees > Environmental Audit Committee > Heat resilience and sustainable cooling > Inquiry

**How can we learn to live with rising UK temperatures, and what steps should we take to adapt to their effects?**

3 July 2023

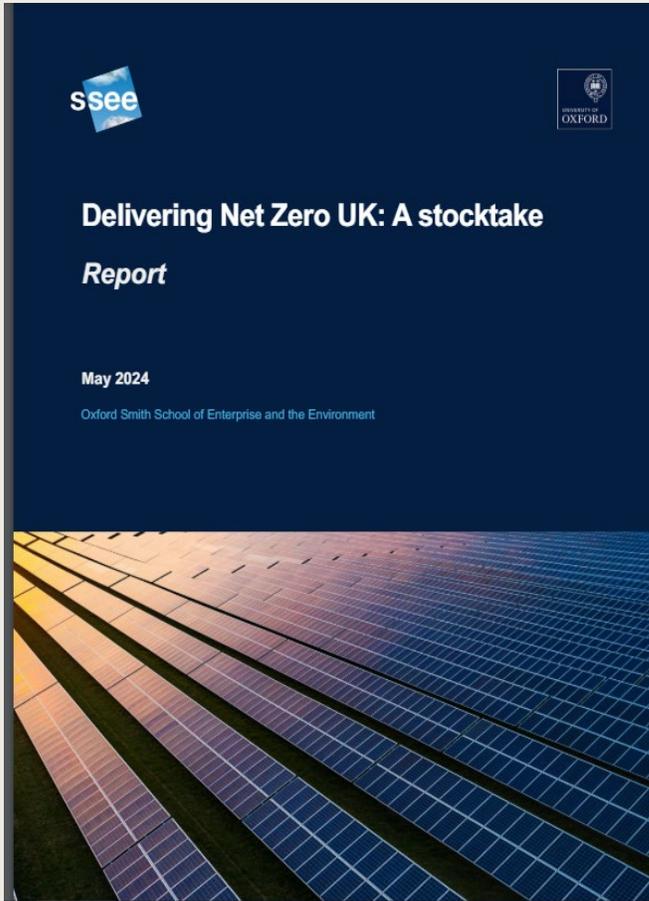
## IV. Participating in Advisory Committees

Future of Cooling researchers appointed expert advisors to UK parliamentary enquiry on heat resilience and sustainable cooling

Shaping questions that go into the enquiry, making recommendations on witnesses, drafting outcome document for government

# Demand-led example : Cost of UK Net Zero

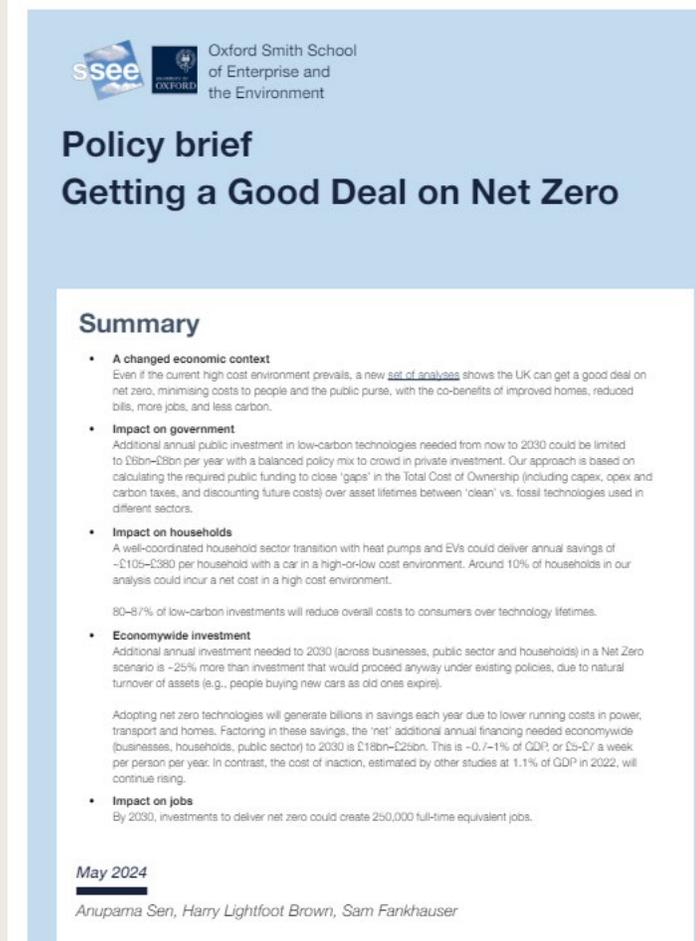
Technical Report...



Source: [SSEE Policy Brief](#)



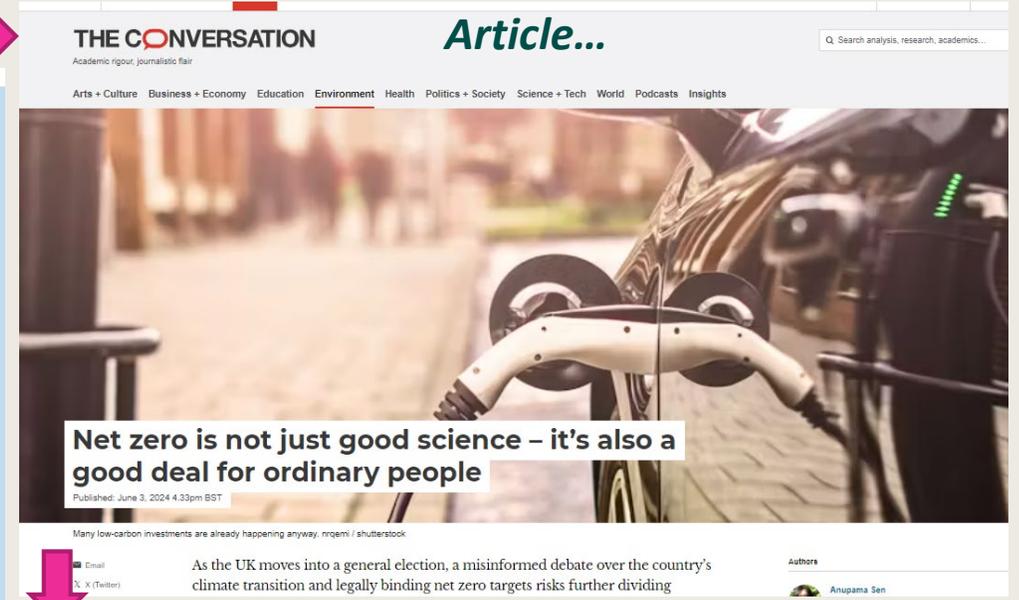
Policy Brief...



Source: [SSEE Policy Brief](#)



Article...



Meetings with...



Cited in...



Source: [The Conversation](#)



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# Global Youth Climate Training

- **A free, online initiative empowering young people aged 16–35 with the skills, knowledge and confidence to shape and influence climate policy**
- Launched in 2023, the programme sets the global standard for inclusive, high-impact climate education.
- Designed to demystify UNFCCC negotiations ahead of COP28, the programme has trained 5,000+ young leaders from across 177 countries on key topics like Climate Finance, Loss & Damage, and Adaptation.
- Our open-access, multilingual model (available in English, Mandarin, Spanish, Arabic, French and Portuguese) ensures accessibility for young people globally, especially those from the Most Affected People and Areas (MAPA), who have comprised over 60% of participants.
- Each year, the programme offers a limited number of competitive bursaries to support outstanding participants in attending the UN Climate Change Conference (COP).
- **Winner of the University of Oxford Vice Chancellor’s Award for Environmental Sustainability, 2024**



Global Youth Climate Training participants at COP29 supported by Oxford Smith School Bursaries

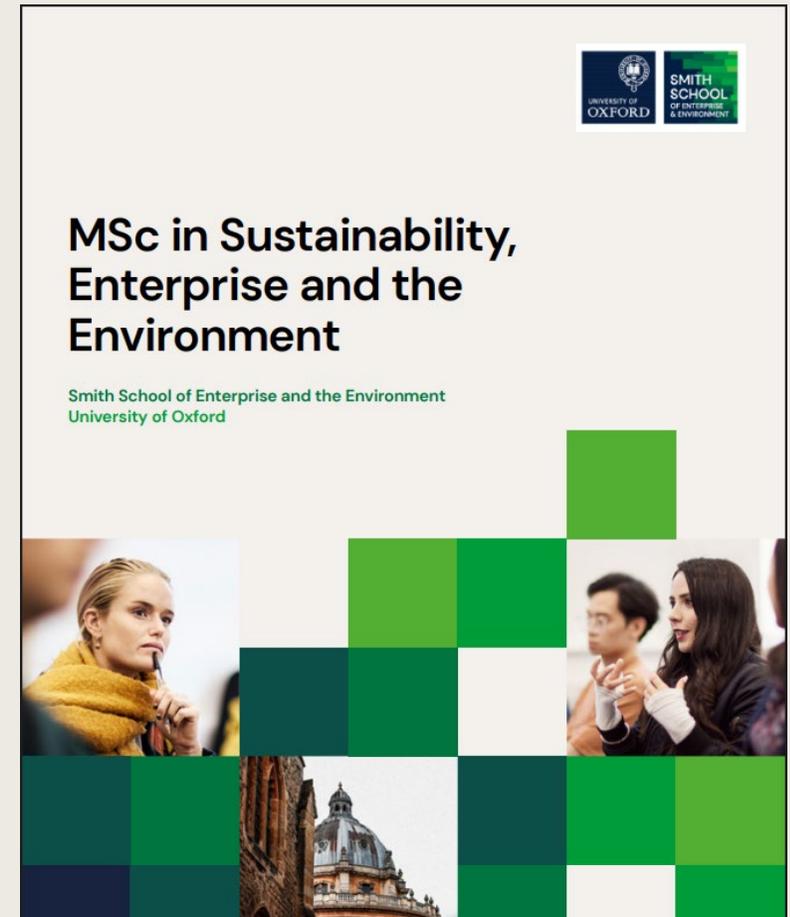
# Summer SCENE

- **Sustainability, Climate and Environmental Education online course with 50 fully funded places for policy makers in the Global South**
- Summer SCENE empowers a youth and early career audience (<30 yrs of age) from over 100 countries (so far) in the Global South to engage with sustainability policy.
- After exploring a range of sustainability topics, students work to develop a policy recommendation for world leaders to be published at the end of the course. In 2025, the winning brief will be presented at COP30 in Brazil.
- **Delivered in a live webinar format, the course provides opportunities for participants to network with peers, world-renowned Oxford faculty and experts, and student facilitators on current Oxford MSc and DPhil courses**



# MSc Sustainability, Enterprise & the Environment

- Our MSc in Sustainability, Enterprise and the Environment (MSc SEE) – receiving one of highest numbers of applications to Oxford MSc courses – aims to address two pervasive and unmet challenges of our time: making the transition to a zero-carbon and environmentally sustainable economic model, whilst simultaneously enabling sustainable development for everyone.
- The course views these challenges through the lenses of finance, economics and enterprise – both public and private – whilst also leveraging the environmental, systems and data sciences.
- MSc SEE will equip students with the rigorous academic knowledge and applied skills needed to understand and accelerate the transition to a zero-carbon, environmentally sustainable economic model.





# The African Nature Fellowship

- A bold, collaborative initiative with the African Natural Capital Alliance (ANCA) and the African Leadership University (ALU) to empower African leaders in sustainable development and resilience
- The African Nature Fellowship programme supports cohorts of professionals on a year-long course to gain deep expertise in natural capital and biodiversity valuation, strengthen leadership capacity, and join a collaborative pan-African network of experts. Participants span a wide range of sectors, including finance, conservation, law, indigenous communities and technology.
- By equipping emerging leaders with cutting-edge knowledge, practical skills, and powerful networks, this course supports a more resilient, prosperous future rooted in the protection and regeneration of Africa's natural capital. The programme helps leaders transform their communities and help secure the continent's environmental and economic wellbeing for generations to come.



# In summary...

- We face continuing global headwinds on climate action.
- Much of this is rooted in misconceptions around what the science tells us.
- **Research for the public good** should aim at providing robust evidence on the twin crises of nature and climate.
- But it's not just about academic research. Research needs to be translated and made accessible.
- We continue to engage with governments, businesses and civil society through three pillars:  
*Research + Impact + Education*

