

Climate Emergency, solutions and the role of universities

Prof Dr Raimund Bleischwitz from UCL The Bartlett School of Environment Energy & Resources (BSEER) tells us about a new socio-political movement, which uses nonviolent resistance to protest against a potential climate breakdown and ecological collapse, and the transformational power of universities

The activists from Fridays for Future and Extinction Rebellion are widely recognised as a new socio-political movement, which uses nonviolent resistance to protest against a potential climate breakdown, biodiversity loss and the risks of human extinction and ecological collapse. We support their objectives and urge people and decision makers to act. Evidence from the research is overwhelming:

- The recent Global Environmental Outlook of the UN Environment Programme (GEO6) expects human health in dire straits unless action is taken; it establishes, for instance, that air pollution causes 7 million deaths annually and sudden-onset disasters have displaced 24.5 million people in 118 countries in 2016, three times more than conflict did.
- The Intergovernmental Panel on Climate Change (IPCC) has released a special report with a comparison between global warming of 1.5°C and 2°C above pre-industrial levels, pointing at risks of more hothouse days and higher sea level rise, more severe impacts on biodiversity and amplified exposure of islands and low-lying coastal areas.
- The Lancet Countdown tracks a range of indicators in health and climate change and impacts on labour

capacity, vector-borne diseases and food security, all with potential to disrupt core public infrastructures and services.

- Resource scarcity is on the rise, in particular, access to water, food and fertile land. The International Resource Panel (IRP) shows a responsibility gap, as the material footprint associated with high levels of consumption is thirteen times higher in rich countries compared to low-income groups.

UCL is committed towards Grand Challenges

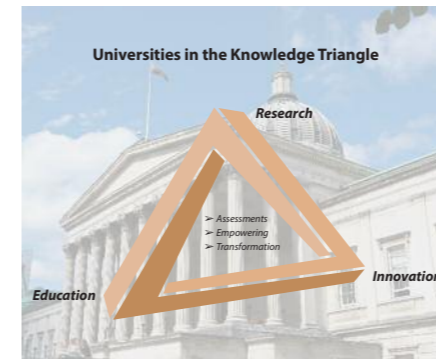
All those reports have been rigorously reviewed and represent a consensus across researchers worldwide. UCL is proud to support the delivery of those scientific signals and is committed to world-leading education and research to meet Grand Challenges. As alarming as it may sound, however, UCL research underlines feasibility and co-benefits of a range of strategies. Stringent actions can and should be taken now, such as:

- Energy and resource efficiency in the manufacturing industry to save costs and enable sustainable investments adding \$2 trillion annually to the global economy;
- Solar-powered irrigation in Africa and other developing countries to

feed the malnourished people around the world and to produce 'more crop per drop';

- Switch from diesel and other combustion engines to e-buses and other forms of low carbon mobility in urban areas to clean the air. Mobility will be designed to become a service (Maaslab).
- Individual action matters too, such as using a bike, walking or sharing a car and drive less, adopting healthy food patterns and enjoying soft tourism.

The time window has been open since the international agreement (UNFCCC) was signed and ratified in the early nineties of the last century. Much has been delayed since due to lobbying, bad politics and behavioural inertia – yet, much can and should be done now and in the next years and decades. It is very important to keep the momentum and not to postpone action. The outcome of the European elections in May 2019 underlines the voice of the people pushing for climate action. What other agenda can be more relevant for our common future? Young Europeans want the Union to become a beacon of sustainability, a place that respects the rights and livelihoods of all its citizens and the environment. Smart and comprehensive strategies are needed, with



alignment towards the UN Sustainable Development Goals (SDGs), in areas of energy, housing and urban development, food and water. A circular economy will help to address interlinkages and creation of public values.

It is good to see the younger generation and civil society reclaiming space in the public debate and put pressure on decision makers. Some of their activities might be debatable or perhaps even considered illegal – yet, those who are denying the science of climate change and those who postpone climate action are to be criticised and have their share in creating anger and mistrust.

The Transformers: Universities as catalysts of change

Universities have a role to play in the transformational changes ahead. Research is already driving evidence on integrated assessments and risks. It also helps to develop the solutions. The particular strength of universities transcends the wellsprings of fundamental research and application – fit for the 21st century, it stretches into understanding processes of change and identifying trigger points. The space of universities in innovation systems is no longer confined to patenting and publications, contemporary research analyses actors and institutions and recommends roadmaps into a better future. In line with findings from Judy

B. Rosener and Elaine P. Maimon on leadership, we underline skill development about systems thinking outside-the-box and creating new knowledge through collaboration and shared ownership. Universities become catalysts of change.

While a bachelor degree prepares students for a first job via strong foundations in critical thinking, problem-solving tools and communications, it is also clear that life-long learning and strategic thinking will be needed to shape the future towards the SDGs in all countries. Our world-class post-graduate programmes do just that:

The MSc in Sustainable Resources: Economics, Policy and Transitions (SRes) makes people experts in the areas of the circular economy, resource efficiency and sustainable resource management.

The MSc on Economics and Policy of Energy and the Environment (EPEE) equips future leaders with all relevant skills and knowledge about a low carbon development.

The MSc on Energy Systems and Data Analytics (ESDA) provides an academically leading and industrially relevant study of energy systems through the lens of data analytics.

Being located at the No. 1 faculty in the world on the built environment ('The Bartlett'), our other programmes enable students to become leaders in smart buildings and digital engineering (SBDE), Health, wellbeing and sustainable buildings (HWBSB), Environmental design and engineering (EDE) and the challenges of sustainable heritage (ISH) and the data science for it (DSCH).

There is also a range of dedicated PhD programmes (such as a Centre for

Doctoral Training on energy resilience and the built environment, ERBE) and an increasing appetite to strengthen third-age learning and executive education – our ambition is to inspire and train leaders to move from business development into market-shaping transformations. All education programmes thrive on a rapid exchange with research, for example, on modelling, global low carbon shipping and on islands and are designed to co-produce knowledge with our partners from outside the university.

Research findings suggest a committed few can influence the majority and sweep away tyranny and social constraints. Erica Chenoweth and others explain the nonviolent overthrows of Bouteflika in Algeria and Bashir in Sudan by their "law of 2.5%": if such moderate share in a society decides to engage in civil disobedience, they attract others and trigger change. A little more of 25% is needed to move from experimental niches and upscale to a tipping point in social convention for unrelenting landslide changes.

No need to wait for a majority. No reason to become complacent. Get engaged and stay tuned.



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