

# To the young people of Fridays for Future: Science supports you!

Statement of scientists at the University of Luxembourg

The signatories, scientists at the University of Luxembourg wish to express their support to the young people of Fridays for Future. Scientific evidence shows: The human impact on climate is real and the progressive degradation of natural resources and pollution is threatening the health and survival of a wide range of life forms, including humans.

The students are correct: In our era, the Anthropocene, humans have significantly changed the functioning of the entire Earth system. There is an urgent need to prioritise the protection and integrity of both biosphere and atmosphere. This protection will require taking a hard look at the socio-political and economic relations of power and (in)equity, and the differential access to resources and knowledge that constitute them.

Climate change will only deepen biophysical and socio-economic pressures. To mitigate its severe effects, a drastic reduction of greenhouse gas emissions is necessary. In order to prevent further massive loss of animal and plant species and keep our ecosystems in balance we need to fundamentally change our economy, our politics, our life styles, as well as our ways of thinking and acting.

At the University of Luxembourg, we address a range of sustainability challenges in our research and teaching; our activities focus on salient issues such as climate change, environmental degradation, inequality, as well as challenges in local and regional development (for a detailed overview, see <https://www.en.uni.lu/sustainability>). Science has a role to play by providing analysis, critique, experimentation, observation and reflection.

Given the wide range of problems we need to engage in a broad approach that spans the natural and engineering sciences, social sciences and the humanities.

Research in the engineering and natural sciences is working towards innovations in renewable energy, energy efficiency, water management, sustainable construction, materials and deconstruction, as well as on tracking changes in sea level, the Earth's crust and atmosphere.

In the social sciences, we teach and conduct research in the domains of urban and regional development, spatial justice, sustainable transitions and societal transformations, food systems, alternative economies, circular economy, urban policy and planning, and implications of digitalization. The aim is to examine socio-economic, political, ecological, regulatory and societal aspects of sustainability. Technological optimisations are necessary but not sufficient in themselves.

We also strive to better understand the complex interactions between society, technology, and the environment. Collaborative research can bring experts from the natural and engineering sciences, social sciences and humanities in conversation with practitioners, to develop more sustainable solutions together with the people and in the place where they can be implemented.

We are acutely aware of the concerns that the students have, we realise that there is so much more work to be done! For this reason, we applaud the students in Luxembourg for raising their voice and for insisting that our environment needs priority.

Scientists at the University aim to contribute to these discussions internationally, nationally, and locally. In this vein, we collaborate with schools to support education in and for sustainability.

Youth engaged in Fridays for Future are not prophets of doom. Their concerns are justified and well founded. It is our understanding, too, that a sustainable society and the protection of our life support systems require radical changes in policies, in business, and in personal life styles. They are right to demand real change.

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This statement in support of Fridays for Future is also in line with scientists4future (for more information see Scientists4Future or <https://www.scientists4future.org/statement-text>)