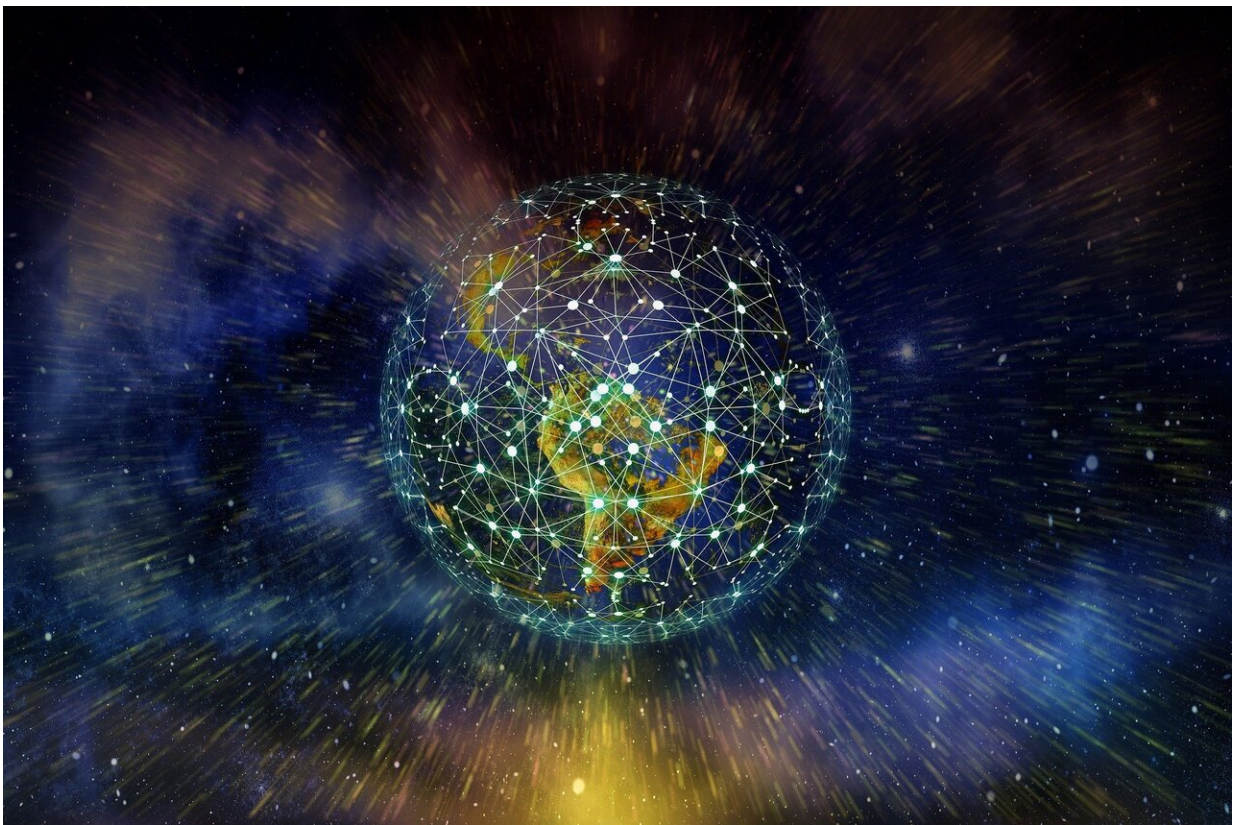


Experts call for shift in global decision-making to tackle impact of urban expansion, avoid 'planetary catastrophe'

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Leading scientists are calling for an urgent step change in global governance to save the future of worldwide cities and the planet at large.

Cities are growing at an unprecedented rate, putting overwhelming pressures on exploited land, scarce resources, and fragile ecosystems.

The bold proposals, led by experts from the Universities of Bristol, Oxford and Yale, are set out in a *Science* journal [article](#), proposing a new global advisory system to address the alarming impacts of urban expansion. This system would fulfill a similar function as the Intergovernmental Panel on Climate Change (IPCC) does for climate change.

Lead author Dr. Jessica Espey, a specialist in international governance of sustainable development at the University of Bristol, said, "Climate change commands great global attention, but there's a huge blind spot when it comes to looking at the devastating impact vast urban growth has on the planet.

"Much greater international collaboration is critical to help better manage the sustainable growth of our cities and protect the vital Earth systems, including water, air, and land, on which we all depend."

More than half (55%) of the world's population now live in cities and this proportion is set to rise to nearly two thirds by 2050, according to a recent [World Cities Report](#).

Urban areas combined account for around three quarters of carbon dioxide emissions, as acknowledged by the IPCC, yet their expansion is not being collectively governed at a multilateral level. Besides exacerbating climate change and air quality issues, cities are also dramatically reshaping all four of Earth's main systems: the hydrosphere, atmosphere, biosphere, and geosphere.

Co-author Prof Karen Seto, Professor of Geography and Urbanization Science at the Yale School of the Environment and an IPCC author, said,

"Urban land expansion across the world is one of the biggest drivers of habitat and biodiversity loss."

"It occurs not only because of the land being reclaimed and occupied by cities, but also due to deeper fragmentation of the remaining undeveloped land. This interrupts wildlife and ecological areas, in addition to increasing risks from fire, pests, and diseases that may spread more easily."

Waste disposal, harmful emissions from industry and transport, and developing land all contribute to the drastic decline of biodiversity. Even so-called green alternatives, such as energy-efficient technologies like LED lighting can have detrimental effects, such as suppressing the production of melatonin, the hormone that regulates sleep patterns in humans and other organisms.

Professor Michael Keith, Director of the Peak Urban Research Program at Oxford University, which convened the authors and other world leaders in global urban policy, said, "It's time for world leaders to sit up and realize that tackling [climate change](#) isn't possible if we don't look at how we design, build, finance and manage the world's cities."

Co-author Tim Schwanen, Professor of Transport Geography at the University of Oxford, calls for stronger policies to harness cities' potential to drive technological and social innovation to minimize urbanization's negative impacts.

Prof Schwanen said, "Developing cities around [public transport](#), cycling and walking can improve public health and social integration while minimizing emissions and consumption of land and natural resources."

Despite the massive and far-reaching consequences of urban expansion, most global policymaking forums seldom discuss the issue and are not

consulting systematically enough with the relevant scientists who could offer important insights or innovative solutions.

Dr. Espey, formerly a director of the United Nations' Sustainable Development Solutions Network, said, "Although it's encouraging the UN Secretary General has recently created a new independent scientific advisory panel, there is currently no representation for urban science. This must change if we are to address some of the most pressing global challenges collectively and effectively."

The authors propose a new Urban Science advisory system, which would work in tandem with the UN General Assembly, to highlight relevant issues and put the latest information on the transformative impact of urban growth to policy makers' radars.

Co-author Professor Susan Parnell, Chair in Human Geography at the University of Bristol, added, "this doesn't have to be a large, costly exercise on such a grand scale as the IPCC—other models are possible. What remains abundantly and increasingly clear is this change needs to happen now, so we don't sleepwalk into another planetary catastrophe."

More information: Jessica Espey et al, Designing policy for Earth's urban future, *Science* (2024). [DOI: 10.1126/science.adi6636](https://doi.org/10.1126/science.adi6636).
www.science.org/doi/10.1126/science.adi6636

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