

ORIGIN OF THE SPECIES

Loss of species and habitats is a looming threat

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We are approaching critical tipping points for nature as well as climate. [Over half of the world's GDP is moderately or highly dependent on nature](#) and, in 2021, the [WEF Global Risk Report](#) has extreme weather, climate action failure, human environmental damage and biodiversity loss as four of the top five most likely global risks - from a survey of over 800 business, civic and political leaders. It would seem that business-as-usual is no longer good for business.

The HM Treasury/Dasgupta report on the Economics of Biodiversity was released in February 2021 and makes sobering reading. [Biodiversity is declining faster than at any time in human history](#). Current extinction rates, for example, are around 100 to 1,000 times higher than the baseline rate, and they are increasing. This is fuelling extreme risk and uncertainty for our economies and well-being.

The safeguarding of natural ecosystems is crucial if we are to meet both biodiversity and climate goals. [Stopping deforestation and restoring forests, for example, is one of the best options available to halt climate change](#); it also brings vast benefits for biodiversity. Such win-win scenarios are central to nature-based solutions and climate solutions.

[A 2019 intergovernmental report](#) found that nature is declining globally at rates unprecedented in human history – and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely. The Report finds that around 1 million animal and plant species are now threatened with extinction, many within decades, more than ever before in human history. These trends are likely to continue until 2050.

The 2020 Living Planet report points to a [68% fall in wildlife populations since 1970](#). In the report, Sir David Attenborough suggests that we need: “systemic shifts in how we produce food, create energy, manage our oceans and use materials. But above all it will require a change in perspective. A change from viewing nature as something that’s optional or ‘nice to have’ to the single greatest ally we have in restoring balance to our world.”

FLEXIBLE DESIGNS

Flexible buildings are the key to carbon savings

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The most significant factor in a building’s carbon footprint is the embodied energy and carbon used in the materials and the construction process. Estimates from the Carbon Compass report suggest that it takes at least 50 years to offset the embodied carbon with carbon savings from the running of the building.

The logic would then suggest that making any building last as long as possible is key to real carbon savings and achieving net zero over the lifetime of the structure. Given that no-one can predict what the need will be in 30 years or more, it is important to design new buildings with a range of alternative uses in future. In that way, apartments can be re-purposed as workspaces, or shops, or hotels - and back again.

This notion of adaptability over the lifetime of a building is a focus of Ellen McArthur’s Circular Economy Foundation. [New concepts and techniques, such as modular units and moveable interior walls, are bringing greater flexibility and resource-efficiency into residential and commercial buildings](#). These methods support the efficient and effective use of a building during its lifetime, such as repurposing a commercial building into housing, using modularity to downsize a home or an office, or supporting sharing and mixed functionality.

One of [the largest benefit of flexible architecture is the ability to keep the built environment relevant and useful](#) as time goes on. Occupant needs can change drastically even in the span of just a decade, and this typically results in the need for buildings to undergo renovations or other updates. Flexible architecture proposes a solution to this. An example is the [Serene House HCMC](#), a mixed-use development in Vietnam. It’s a prefabricated structure, and it features ample flexibility for occupants. Most of the furnishings are movable, and the design blends the inside and outside to encourage movement and a wide range of uses. In fact, it’s so flexible that it can be disassembled if needed.

FURTHER READING

How investing in nature can help tackle the biodiversity and climate crises



Nature loss and climate change are linked – and there are great benefits for people and planet if they are tackled together. Image: REUTERS/Photo VR/Alamy

