

Why climate change is intimately tied to biodiversity

There is a financial case for investing in biodiversity



The natural world is a source of beauty and wonder, but it also provides humans with essential services. Jungles, savannahs and mangroves act as buffers against infectious diseases and storm surges. Forests channel moisture into rivers that irrigate crops, while their roots prevent landslides. At a gathering on Monday in Montreal, 196 governments from around the world pledged to protect and restore 30% or more of

the Earth's water and land by 2030.

Lofty promises about preserving the world's biodiversity have been made and broken many times before. One step towards avoiding yet more disappointment is to emphasise the close link between preserving biodiversity and the widely held goal of reaching net-zero carbon emissions.

The destruction of natural environments is depressing, relentless and hard to ignore. The area of coral reefs has halved since the 1950s and the rate of loss is accelerating. Some 10m hectares of forest are lost worldwide every year. Less known is the link between biodiversity and climate change. Each year more than a quarter of the carbon dioxide emitted by industry and agriculture is absorbed by natural ecosystems.

Around the world, investment in the energy transition is accelerating. Spending in 2022 on clean energy, for example, should reach \$1.4trn, roughly a fifth above the pre-pandemic level. Scores of countries and thousands of big companies have plans to get to net-zero emissions within the next 20-30 years. Given that biodiversity has an important role in meeting these

carbon-reduction goals, you might think that it would feature highly in these plans.

Not so. For example, Joe Biden's chief piece of climate legislation, the Inflation Reduction Act, contains about \$400bn of subsidies for clean energy and other initiatives yet has too little to say about biodiversity. Faced with tighter regulation of emissions and carbon-pricing schemes, many bosses are now dedicating more time and cash to cutting their firms' carbon footprints. But most still regard biodiversity as a nice-to-have luxury that is far beyond their remit.

That needs to change. Safeguarding biodiversity is an efficient way to control carbon emissions. More of the rising amounts of government spending being thrown at mitigating and adapting to climate change should be spent on it.

In addition, companies and investment firms that are allocating huge sums to developing clean-energy sources, re-engineering industrial processes and developing carbon-capture technologies should pay more attention to the opportunities from preserving ecosystems. By investing in biodiversity—directing capital to

projects that repair an ecosystem, for example—companies can offset their emissions. By some estimates, schemes to manage carbon-rich peatlands and wetlands and to reforest cleared land could provide more than one-third of the emissions reductions that are needed to prevent more than 2°C of global warming.

Key to marshalling more capital is better measurement, so that the link between investment in natural projects, biodiversity and carbon is made clear. Today some so-called carbon-offset schemes that involve firms paying money to, say, plant a forest, are dubious and opaque—and belong to the realm of con-artists and scams rather than science. Better guidelines and practice can help and so can new technology. Drones and satellites can improve the measurement of biodiversity and accounting systems can measure how spending on biodiversity compares with funnelling cash into other kinds of carbon management.

The services ecology

The planet is in a vicious cycle in which global warming damages ecosystems, in turn impairing their ability to absorb carbon. Over the past 20 years the Amazon has become a net source of carbon dioxide, emitting 13% more than it captures.

Spending money on nature need not only be an act of philanthropy. It can also be attractive for governments and firms investing in mitigating climate change. ■

为什么气候变化与生物多样性密切相关？

投资于生物多样性有其经济意义

自然界是美丽和奇迹的源泉，但它也为人类提供了基本服务。丛林、大草原和红树林是抵御传染病和风暴潮的缓冲器。森林将水分引入灌溉农作物的河流，而森林的根部则防止山体滑坡。周一在蒙特利尔举行的会议上，来自世界各地的 196 个政府承诺，到 2030 年保护和恢复地球上 30% 或更多的水和土地。

关于保护世界生物多样性的崇高承诺以前曾多次作出，也多次被打破。避免再次失望的一个步骤是，强调保护生物多样性与实现净零碳排放这一广受关注的目标之间的密切联系。

自然环境的破坏是令人沮丧的、无情的和难以忽视的。自 20 世纪 50 年代以来，珊瑚礁的面积已经减少了一半，而且损失的速度正在加快。全世界每年约有 1000 万公顷的森林消失。鲜为人知的是生物多样性和气候变化之间的联系。每年工业和农业排放的二氧化碳有四分之一以上被自然生态系统所吸收。

在世界各地，对能源转型的投资正在加速。例如，2022 年用于清洁能源的支出应达到 14 万亿美元，大约比大流行前的水平高出五分之一。数十个国家和数千家大公司都计划在未来 20-30 年内实现净零排放。鉴于生物多样性在实现这些减碳目标方面具有重要作用，你可能会认为它在这些计划中会占有重要地位。

但事实并非如此。例如，乔-拜登的主要气候立法，即《减少通货膨胀法》，包含约 4000 亿美元的清洁能源和其他举措的补贴，但对生物多样性却很少提及。面对更严格的排放监管和碳定价计划，许多老板现在正投入更多的时间和现金来减少他们公司的碳足迹。但大多数人仍然认为生物多样性是一个不错的奢侈品，远远超出了他们的职责范围。

这种情况需要改变。保护生物多样性是控制碳排放的一个有效途径。政府在缓解和适应气候变化方面的支出不断增加，应将更多的资金用于此。

此外，那些将巨额资金用于开发清洁能源、重新设计工业流程和开发碳捕获技术的公司和投资公司应更加关注保护生态系统的机会。通过对生物多样性的投资--例如，将资本引向修复生态系统的项目--公司可以抵消其排放。根据一些估计，管理富含碳的泥炭地和湿地以及重新造林的计划可以提供超过三分之一的减排量，这是防止全球变暖超过 2°C 所需要的。

筹集更多资金的关键是更好的测量，以便明确自然项目投资、生物多样性和碳之间的联系。今天，一些所谓的碳补偿计划，包括公司付钱种植森林，是可疑的和不透明的，属于骗子和骗局的范畴，而不是科学。更好的指导方针和实践可以帮助，新技术也可以。无人机和卫星可以改善生物多样性的测量，会计系统可以衡量生物多样性的支出与将现金投入其他类型的碳管理相比如何。

服务生态学

地球正处于一个恶性循环中，全球变暖破坏了生态系统，反过来又削弱了它们吸收碳的能力。在过去的 20 年里，亚马逊已经成为二氧化碳的净来源，其排放量比其捕获量多 13%。将钱花在大自然上，不只是一种慈善行为。它也可以吸引政府和公司投资于缓解气候变化。■

