

New report shows novel ways to reduce risk and increase returns in forest carbon credit investments

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Forest carbon projects face high risk from wildfire and other weather and climate hazards

New research from Imperial College Business School and Terraformation finds that bundling as few as six forest carbon projects can reduce investment risk by half

The report provides investors and policymakers new insight into how forest carbon investments can yield financial returns while mitigating the effects of climate change

16 January 2023 — Investors wanting to finance forest carbon credit projects, while mitigating portfolio risk, should look to diversified investment portfolios in the tropics, according to a new report authored by Imperial College Business School and Terraformation.

According to the new paper, *Forestry-Backed Assets Design*, published today by The Singapore Green Finance Centre – an initiative of the Centre for Climate Finance & Investment at Imperial College Business School and Singapore Management University, and backed by the Monetary Authority of Singapore and leading global financial institutions – bundling forest investments across forest ages, geographies, and ecosystems can reduce investment risk by half or more.

While the viability of forest carbon projects hinges on a wide diversity of factors, the study sheds light in particular on the biodiversity potential of forest projects as well as wildfire risk vulnerability, leveraging support from the Leverhulme Centre for Wildfires, Environment and Society.

While risk pooling is common in a variety of Asset Backed Securities (ABS), including mortgages and credit cards, it has been less explored in the context of forestry projects. As the carbon market takes off, this security design could help make forests a more predictable asset class with a wide range of investors.

The paper also demonstrates the prevalence of geographies in the tropics (regions surrounding the equator) with both high carbon capture potential and high biodiversity restoration potential.

This overlap, the authors note, provides clear evidence of a link between carbon sequestration forestry projects and biodiversity preservation, and suggests a natural alignment between ambitious biodiversity and climate mitigation objectives. The authors believe these geographies of overlap will become the most attractive locations for forest carbon investors in the future.

The report is co-authored by Enrico Biffis, an Associate Professor of Actuarial Finance at Imperial College Business School, alongside Giuseppe Brandi, also from Imperial, as well as authors from Terraformation, a forest tech startup. It is the first in a forthcoming series on novel insights into forest carbon investments.

Enrico Biffis, Associate Professor of Actuarial Finance at Imperial College Business School and co-author of the report, said:

The findings are important for forestry asset originators, investors and forestry management companies, as well as policymakers and governmental agencies interested in understanding which forestry assets may need tailored intervention to make them more appealing to market participants interested in carbon-based assets.

Andrea Snavelly, Finance Manager at Terraformation and paper co-author, said:

This paper provides important insights into the value of diversification for forestry-backed asset design that have been largely unexplored up until this point. It is our hope that this research can be useful to practitioners, regulators and academics alike to promote wider participation in this asset class.

The new paper, *Forestry-Backed Assets Design*, is available for download here.

(<https://www.singaporegreenfinance.com/research/>)

About the Singapore Green Finance Centre

The Singapore Green Finance Centre is an initiative of Imperial College Business School and Singapore Management University, backed by the Monetary Authority of Singapore and leading global financial institutions.

About the Centre for Climate Finance & Investment

The Centre for Climate Finance & Investment at Imperial College Business School aims to unlock solutions within capital markets to address the challenges posed by climate change. Through collaboration between academics and practitioners, the Centre aims to create a new understanding of the risks and investment opportunities arising in this changing climate; through climate scenarios, nature based-solutions, renewable energy, and climate-resilient infrastructure.

About Terraformation

Terraformation is replanting the world's forests to stabilize our climate, restore nature, and build thriving communities. The company hosts a forest carbon accelerator, supporting early-stage forestry teams to launch, build, and scale biodiverse reforestation projects. In addition to producing high-quality, verified carbon credits, these projects generate complementary sustainable revenue streams

to support local economies.

Terraformation's current partner network spans five continents and includes diverse landowners and organizations. It was founded in 2019 by Yishan Wong, former CEO of Reddit.

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