New mapping tool to support the search for high-quality nature-based carbon credits

September 26 2022

NUS Professor Koh Lian Pin (right) and his research team collaborated with ST Engineering Geo-Insights to develop the Carbon Prospecting Dashboard. The dashboard pictured in the screens helps policymakers and investors identify the location of nature-based projects, and calculate the estimated yield of carbon credits and return-on-investment and quantify the co-benefits of the projects. Credit: National University of Singapore

An interactive mapping software that will support the prospecting,

development and management of nature-based carbon credit projects worldwide was launched on Sept. 22 at the World Economic Forum—Champions for Nature event in New York during Climate Week NYC 2022. The open-access platform (http://carbonprospecting.org), dubbed the Carbon Prospecting Dashboard, was jointly developed by the Center for Nature-based Climate Solutions (CNCS), a research center under the National University of Singapore (NUS) Faculty of Science, and ST Engineering's satellite data and geospatial analytics business, ST Engineering Geo-Insights.

This first-of-its-kind dashboard supports the preservation of carbon-rich, natural ecosystems, such as tropical forests and mangroves, by helping policymakers and investors identify where nature-based projects can be developed as potential sources of high-quality carbon credits. The platform enables users to calculate the estimated yield of carbon credits and their financial return-on-investment, based on user-defined assumptions such as project duration, costs and carbon prices.

The platform also allows users to quantify the other positive benefits of projects, such as improving food security, ensuring clean water supply, and conserving key biodiversity areas. Information on such co-benefits can help increase the price transparency of carbon credits, and the search for high-quality carbon offsets.

Enabling carbon prospecting

The Carbon Prospecting Dashboard is a product of recently published peer-reviewed studies, and ongoing research led by CNCS researchers, and will help to fill major research and development gaps that have hampered the implementation of nature-based climate solutions globally. These gaps include uncertainties over where the most promising carbon stocks are located, how future increases in carbon prices will enhance

the economic prospects of nature protection, and where natural ecosystems are benefiting society the most.

Currently, the demand for high-quality nature-based carbon credits outstrips supply. Carbon is increasingly valued as a commodity, and this dashboard helps to shorten the often complicated and costly carbon prospecting process by identifying the most promising carbon project sites to deliver the greatest benefit for the climate, biodiversity and people.

With deforestation being a major contributor to greenhouse gas emissions, conserving nature through high-quality carbon projects can help to turn off the tap of emissions while helping to draw down the amount of carbon dioxide in the atmosphere. This dashboard supports governments, businesses and civil society to work with nature to address the dual global crises—of climate change and biodiversity loss.

"This made-in-Singapore dashboard could be a game-changer for nature-based climate solutions globally. Carbon finance has the potential to channel much-needed funding to forest and mangrove conservation to tackle climate change and safeguard precious biodiversity. However, the lack of timely access to reliable data on the costs and benefits of prospective projects has been a major obstacle for many nature-based carbon projects to get off the ground. With this platform, policymakers and investors have the information they need at their fingertips," said Professor Koh Lian Pin, Director of NUS CNCS.

"ST Engineering brings to this joint effort its geospatial analytics capabilities and experience in providing value-added insights to broad industry sectors. This cloud-based platform for carbon prospecting will position us well in the future development of a digital Monitoring, Reporting and Verification platform to expand our nature-based carbon solutions toward decarbonization," said Mr. Goh Ing Nam, General

Manager of ST Engineering Geo-Insights.

"Protecting and restoring forests, mangroves, and other carbon rich ecosystems is essential if we are to avoid the most dangerous impacts of climate change. CarbonProspecting.org and the science it is based on comes at a critical time for our planet and helps make protecting nature more accessible, more investable, and better able to scale at speed," said Dr. M. Sanjayan, Chief Executive Officer of Conservation International.

"Nature-based carbon solutions could solve a third of the climate-change problem; protecting and managing intact habitat delivers more than just carbon, it can also slow the extinction crisis. Tools like this will make it easier for companies and states to become carbon and nature positive," said Professor Hugh Possingham, Queensland Chief Scientist in Australia.

"To protect biodiversity—and stop the deforestation that contributes to so much carbon emissions and global heating—we need to know where the forests and their carbon are. This vitally important tool provides that information," said Professor Stuart Pimm, Doris Duke Professor of Conservation at Duke University.

Provided by National University of Singapore

Citation: New mapping tool to support the search for high-quality nature-based carbon credits (2022, September 26) retrieved 16 July 2024 from https://phys.org/news/2022-09-tool-high-quality-nature-based-carbon-credits.html