

# Scientists develop sustainable investing framework

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Scientists at The City University of New York (CUNY) and Harvard University, in partnership with UBS Asset Management, have developed a scientific framework to inform investment decisions that make positive contributions to sustainable environmental stewardship and human well-being. Among the beneficiaries are the U.N. Sustainable

Development Goals that promote access to clean water, maintaining human health, food security and biodiversity protection.

The research group jointly led by Dr. Charles J. Vörösmarty, founding director of the Environmental Sciences Initiative at the Advanced Science Research Center (ASRC) at the Graduate Center, CUNY and Dr. John D. Spengler, the Akira Yamaguchi Professor of Environmental Health and Human Habitation at the Harvard T.H. Chan School of Public Health, described both the team's overall strategic vision and working framework in a Policy Forum article published in the journal *Science* on February 2. Environmentally sustainable investments in the United States now total one-fifth of all professionally managed assets in this country with rapid expansion of this asset pool anticipated for many years to come.

"Other frameworks for measuring corporate sustainability focus on how internal corporate production processes at the facility level support environmental integrity or human beneficiaries, but give limited guidance for assessing the longer-term impact of business practices," said Vörösmarty. "Our proposed framework relies on scientifically-based metrics to help investors evaluate how companies' actions, products and services support the environment and human well-being. Indeed, this is a new calculus for sustainable investing."

The research teams from CUNY and Harvard are testing this framework by analyzing the environmental and health benefits of a \$2.1 billion portfolio of public equities managed by UBS Asset Management on behalf of PGGM, the Dutch pension fund. Four challenge areas are being considered: water, climate change mitigation, [human health](#) and [food security](#).

The team leveraged recent advances in several scientific disciplines, including earth observation and modeling, epidemiology, and [public](#)

[health](#), and linked these data to corporate operational and financial data to show how products and services can contribute to more sustainable environmental and human systems. The research suggests a new way to assess the sustainability of corporations for investors, who are increasingly interested in this investment approach. A key is to provide systematic, transparent, and verifiable metrics of success based on well-accepted scientific approaches, in contrast to the self-disclosure of beneficial actions that are claimed typically by companies themselves.

"We need to reframe sustainable development in terms of building our collective natural, human and social capital," Spengler said. "In order to do this our financial institutions need clear signals that the goods and services of companies are actually healing natural systems and providing for the wellbeing of society."

The paper lays out practical steps toward achieving this vision of investment in sustainability efforts outlined by the UN Sustainable Development Goals by proposing a formal dialogue space for information-sharing and best practices, that brings together the financial sector with auditors, corporate and nonprofit executives, and scientists.

"Institutional investors are facing growing pressure to invest sustainably, and to measure the positive environmental and social impacts of their portfolio. Developing the right approach to the UN Sustainable Development goals requires expertise beyond fundamental investing, including scientific research, data collection and management," said Dr. Dinah A. Koehler, executive director and head of research on the Sustainable Investor's team at UBS Asset Management. "The groundbreaking impact measurement framework, developed in partnership with two premier academic institutions, provides investors with transparency into the impact of their portfolios on targeted environmental and social challenges."

For investors, this work provides an invaluable system to evaluate corporate practices, the impacts of which vary within the context of business operations in different regions and business sectors. Doing so allows for direct comparisons between companies—an important consideration when identifying how to make investments that have beneficial environmental and social impacts.

"The metrics we have been developing are designed to shape investment decisions and to transform the way companies are identified and chosen by asset managers—not just based on their profitability but also as bona fide contributors to sustainability," Vörösmarty said. "The global effect of this transformation would likely be valued at trillions of dollars in terms of its impact in helping to limit climate change, reduce water pollution and supply stresses, foster human health and counter the widespread loss of ecosystem services."

Collaborating with a global investment manager such as UBS Asset Management provided the researchers access to a portfolio with which they could analyze the performance of their proposed framework, giving real-world data rather than hypothetical modeling.

"As an investor, one of our most important goals is to measure the tangible effects of our investments against the Sustainable Development Goals we selected," said Piet Klop, senior adviser of responsible investment at PGGM. "The approach that CUNY and Harvard have pioneered is of great interest to us due to its focus on product impacts and a methodology that is scientific and scalable."

**More information:** C.J. Vörösmarty et al., "Scientifically assess impacts of sustainable investments," *Science* (2018).

[science.sciencemag.org/cgi/doi ... 1126/science.aao3895](https://science.sciencemag.org/cgi/doi/10.1126/science.aao3895)

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