

nuveen

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Impact insights

3.1: Unlocking impact for mission-aligned investors

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Many foundations direct only a fraction of assets toward their mission — impact investing in public fixed income markets can offer a compelling opportunity to close that gap

Endowments and foundations exist to advance social good, doing so through intentional grantmaking and related activity. Yet a quiet paradox exists at the heart of how most operate: the vast pool of capital that sustains grantmaking over time is rarely invested with the same sense of purpose.

For most private foundations and charitable endowments, financial returns remain the primary objective of the investment portfolio — leaving mission-related considerations largely absent from the investment process. A significant opportunity exists to imbue mission-aligned tilts into the asset portfolio. To the extent public fixed income is among the allocation mix, the asset class affords an untapped opportunity to align corpus with mission.

Conventional approaches to managing endowment and foundation assets are driven by tax-based qualifying distribution laws and long-standing spending policies. This is true across geographies and legal structures. In the United States, for example, the Internal Revenue Service requires an annual payout of roughly 5%.¹ In the United Kingdom, the top 300 trusts and foundations directed approximately 7% of net assets to grantmaking in 2024.² Australia recently raised its minimum distribution threshold to 6% for philanthropic funds.³ Endowments and foundations are so focused on these distributions, that they often lose sight of a powerful lever at their disposal — managing the investment portfolio for impactful, mission-aligned, non-concessionary returns.

Qualifying distributions



Grants

The traditional philanthropic tool. Directs disbursements from an endowment or foundation with no expectation of financial return.



Program Related Investments (PRI)

Any investment expected to produce below market rate returns. May include concessionary loans, guarantees, equity, or other investments in support of mission-related goals or nonprofit organizations.



Impact Investments

Investments that support social and environmental outcomes while generating market-rate or above financial returns. May be referred to as mission-related investments (MRI).

Does not count as qualified distribution

Impact investing in public fixed income markets offers a compelling path to deploying capital in ways that serve both mission and portfolio simultaneously. Unlike program related investments (PRIs), which intentionally accept below-market returns in exchange for societal impact, Nuveen’s approach to impact investing seeks attractive absolute and relative returns comparable to peer fixed income solutions. The opportunity set in public debt markets offers the potential to construct liquid, diversified broad market and credit solutions while deploying capital in support of social, sustainable, and environmental outcomes. Through a strategic bond allocation, endowments and foundations have the potential to harness more of their corpus in service of their mission — achieving far more than grants alone.



Impact investing can deliver market-rate returns, removing a longstanding barrier to adoption.

Ambitious goals relating to climate, decarbonization, protecting nature, housing affordability, community resources, and international development demand unprecedented levels of capital. Not-for-profit investors are well-positioned to move beyond grantmaking towards mission-aligned portfolios that aim to deliver both competitive financial returns and measurable, positive outcomes.

The majority of foundations express interest in impact investing, but utilization remains minimal. One study by the Skoll Foundation found that the average allocation to impact investments was 27% of a foundation’s overall endowment.⁴

And this is primarily driven by a subset of foundations that invest more than half of their assets in impact investments. One of the largest barriers to wider adoption is the misconception that impact investments are assumed to have more risk and deliver concessionary returns. However, academic research and industry data demonstrate that impact investments across major asset classes can achieve competitive risk-adjusted returns compared to conventional counterparts.⁵ Today, impact investing has matured beyond niche strategies, into scalable, liquid, and market-competitive solutions.

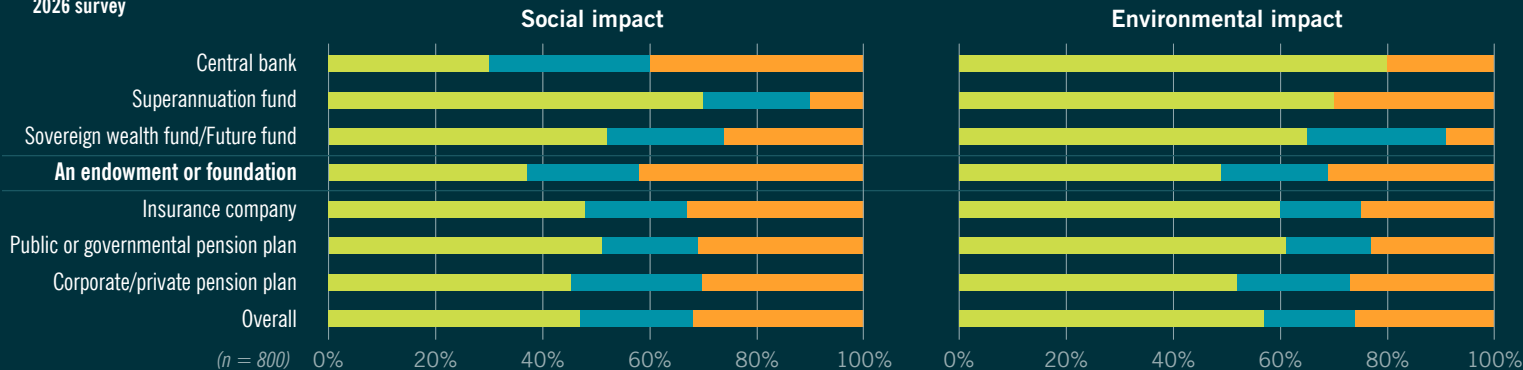


While investors are increasingly considering environmental and social impact in investment decisions, allocation remains low.

Q: Please indicate which of the following factors your organization considers when making investment decisions.

Nuveen Equilibrium
2026 survey

■ Yes ■ Not currently, but plan to start in next 12 months ■ No, and do not plan to start in near future



Source: Nuveen Equilibrium Survey 2026.

Considerations for mission-aligned investors

- **Align investment portfolio with the foundation’s mission and beliefs:**
If philanthropists and donors want to see their dollars do good, mission-aligned impact investing strategies can amplify grantmaking dollars by using the investment portfolio as a means to communicate with corporations, change behaviors, or enhance relationships with other stakeholders.
- **Understand non-concessionary approaches:**
As is consistent with all investment holdings, impact securities must represent attractive relative value and are subject to the same fundamental credit analysis as any opportunity that we underwrite.
- **In our view, impact investing in public fixed income is non-concessionary:** competitive performance and maximizing social impact are not mutually exclusive. As such, these investments can help contribute to the foundation’s mission as well as their long-term financial stability and growth.



Fixed income impact investing provides both competitive returns and similar volatility relative to traditional fixed income indices

As one of the world’s largest asset classes, fixed income holds trillions in untapped potential to drive scalable, real-world impact. Meanwhile, investing for impact in public fixed income markets can be implemented in pursuit of the same goals as “traditional” fixed income solutions, including capital preservation, income generator, portfolio diversification, differentiated source of alpha, and the ability to hedge against equity market volatility.

For mission-aligned investors, activating their fixed income allocation for impact represents an opportunity to deploy catalytical capital at a scale and pace that few other asset classes allow.

TRADITIONAL AND IMPACT FIXED INCOME INDEX RETURNS. 2015 – 2026

The Bloomberg Global Green Bond Index outperformed the Global Aggregate in three of the past five years, delivering a 2.08% return so far in 2026 compared to the 1.15% for the broader global index.

Impact fixed income strategies tend to skew toward credit, which historically carries higher yields — meaning impact-oriented portfolios are not necessarily more conservative than their conventional counterparts and may, in some cases, offer a yield advantage while maintaining a similar volatility profile.

	5-year standard deviation	Standard deviation
		1/1/15 – 6/30/26
Bloomberg U.S. Treasury Index (US Tsy)	5.62	4.74
Bloomberg U.S. Aggregate Bond Index (US Agg)	6.37	4.83
Bloomberg Global Aggregate Bond Index USD Hedged (Glb Agg)	4.90	3.86
Bloomberg MSCI U.S. Green Bond Index (USD GB)	5.51	4.51
Bloomberg MSCI Global Green Bond Index USD Hedged (Glb GB)	6.50	5.03

Source: Bloomberg. 5-year standard deviation from 7/1/21 – 6/30/26 and 126 month standard deviation from 1/1/15 – 6/20/26. The indices and corresponding color designations above are also reflected in the table below.

Calendar Year Index Returns — Ranked Highest to Lowest

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
USD GB 1.36%	Glb Agg 3.95%	USD GB 4.08%	Glb GB 2.01%	Glb GB 9.65%	USD GB 8.34%	Glb Agg -1.39%	Glb Agg -11.22%	Glb GB 9.55%	Glb GB 3.83%	USD GB 7.40%	Glb GB 2.08%
Glb GB 1.05%	Glb GB 3.44%	Glb GB 3.98%	Glb Agg 1.76%	USD GB 8.99%	US Tsy 8.0%	US Agg -1.54%	USD GB -12.25%	Glb Agg 7.15%	Glb Agg 3.40%	US Agg 7.30%	Glb Agg 1.15%
Glb Agg 1.02%	US Agg 2.65%	US Agg 3.54%	US Tsy 0.86%	US Agg 8.72%	US Agg 7.51%	USD GB -1.58%	US Tsy -12.46%	USD GB 6.56%	USD GB 3.01%	US Tsy 6.32%	USD GB 0.90%
US Tsy 0.84%	USD GB 1.45%	Glb Agg 3.04%	US Agg 0.01%	Glb Agg 8.22%	Glb GB 6.67%	Glb GB -2.30%	US Agg -13.01%	US Agg 5.53%	US Agg 1.25%	Glb Agg 4.86%	US Agg 0.62%
US Agg 0.55%	US Tsy 1.04%	US Tsy 2.31%	USD GB -0.14%	US Tsy 6.86%	Glb Agg 5.58%	US Tsy -2.32%	Glb GB -17.01%	US Tsy 4.05%	US Tsy 0.58%	Glb GB 4.10%	US Tsy 0.28%

Source: Bloomberg. Data as of 30 June 2026



Scalability and catalytic capital — public fixed income markets are built for the size of the problem

While endowments and foundations typically hold a low average allocation to fixed income, generally ranging from 10% to 20%, the impact potential of these allocations remains largely untapped.^{6,7}

This represents a significant missed opportunity. Research from McKinsey⁸ indicates that achieving net-zero emissions by 2050 will require an additional \$3.5 trillion annually relative to current spending trends in physical assets. The UN estimates that \$5.4 to \$6.4 trillion is needed annually to meet the Sustainable Development Goals.⁹ Philanthropy and private market investments cannot fill these gaps on their own. The most pressing social and environmental challenges demand capital at a scale that, in our view, no other asset class can realistically deliver fast enough.

Fixed income is uniquely built for this problem. The size of public debt markets allows companies and governments to raise capital at a volume that private markets currently cannot match. The Bloomberg Global Aggregate Bond Index (which represents investment grade public debt in multiple currencies) recently measured in at over US\$74 trillion. The scale and breadth of the markets within this universe provides borrowers of all shapes and sizes with real-time information about the cost of debt capital for a range of capital expenditures (CapEx) and strategic initiatives. With vast global investor demand and established market infrastructure, capital can be mobilized at extraordinary speed and scale, as illustrated at right.

1| Rapid capital deployment

Fixed income issuance mobilized capital for international COVID-19 relief efforts. U.S. corporate and municipal bond issuance hit historic highs during this period,¹⁰ while the European Union’s €800 billion plan to support recovery measures was financed through issuance of green and social bonds.¹¹

2| Scale

In early 2026, Central American Bank for Economic Integration (CABEI) issued a \$2 billion sustainability bond, the largest social/sustainability bond issued by a Latin American development bank.¹² Proceeds financed various social projects including affordable infrastructure and housing, education and vocational training, access to essential services, and small and medium-sized enterprises (SME) lending to women. The bond was more than four times oversubscribed, with an order book exceeding \$9.3 billion.

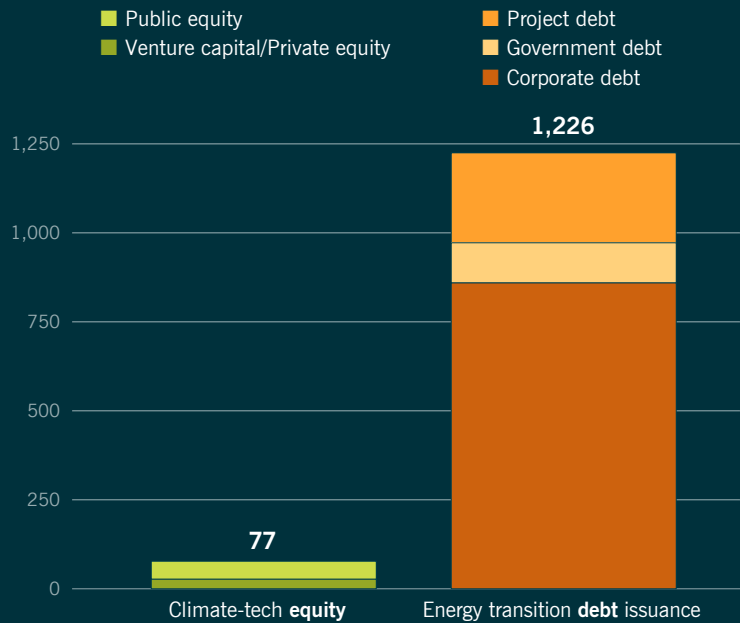
3| Diverse opportunity set

Over the past two decades, the public debt market has seen a quantum leap in environmentally and socially aligned issuance from sources other than the largest, global multilateral development banks and corporations. Issuance now spans all corners of the globe, in most key sectors of the bond market.

TYPES OF FINANCE BEING RAISED FOR CLIMATE AND ENERGY TRANSITION PURPOSES.

In 2025, fixed income issuance accounted for 94% of capital raised for climate and energy transition purposes, totaling \$1.23 trillion — underscoring the expansive opportunity set relative to public and private equity-related opportunities.

Billions (\$)



Source: BloombergNEF.



Direct and measurable

Unlike equity investments, which fund an entire enterprise, or general obligation bonds, use of proceeds bonds enable investors to direct capital to specific projects and programs driving outcomes of their choosing. Additionally, transparent outcome-based reporting makes results more visible and accessible, and helps hold issuers accountable.

Mission-aligned investments



CONSERVATION

Wildlife: World Bank's first-of-its-kind "Rhino Bond," a \$150 million outcome-based security that directs would-be coupon payments toward conservation and breeding programs for the endangered black rhino in protected areas in South Africa. Nuveen was lead order.

Nature: World Bank's Amazon Reforestation Bond, the first bond to link investor financial returns to measurable carbon removal through native reforestation efforts in Brazil's state of Pará, boosting biodiversity and supporting local communities.



SUPPORTIVE AFFORDABLE HOUSING

California's No Place Like Home program deployed nearly \$2 billion in bond proceeds to develop permanent supportive housing for chronically homeless individuals with mental illness, resulting in over 3,000 housing units occupied by tenants earning 30% AMI or below. The bond supported wraparound services such as counseling and skill development to tenants to help them maintain stable long-term housing.



SOCIAL JUSTICE AND INCLUSION

The Ford Foundation's inaugural social bond doubled its annual endowment giving to over \$1 billion to support racial justice organizations and communities disrupted by COVID-19. Grants included support to organizations such as the Mexican American Legal Defense and Education Fund, NAACP Legal Defense and Educational Fund, Women With A Vision, and the Mississippi Center for Cultural Production.



HEALTHCARE

The International Finance Facility for Immunisation's (IFFIm) Vaccine Bond program directed proceeds to multiple non-profits to fund COVID-19 vaccine research, production, education, and distribution efforts globally.

Bonds from HealthRIGHT 360 helped fund its seven programs across 11 California counties, delivering integrated medical, dental, behavioral health, substance use disorder treatment, and re-entry services.



YOUTH AND EDUCATION

Corporación Andina de Fomento's (CAF) inaugural Children and Youth Bond, structured in alignment with UNICEF's Child-Lens Investing Framework, aims to mobilize \$1 billion for social projects benefiting children and adolescents. Proceeds finance health and education infrastructure, teacher training, scholarships, primary healthcare, and early childhood care for the 115 million children and adolescents in the region at risk due to poverty, inequality, and violence.

The Government of Victoria's (Australia) sustainability bond financed various green and social projects, including affordable housing for vulnerable populations and funding for special school upgrades and resources to create high-quality teaching spaces for students with disabilities to learn and explore.



CASE STUDY

Making clean cookstove programs cleaner with debt financing



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IMPACT ISSUER

UpEnergy

USE OF PROCEEDS

Energy efficient, cleaner cooking devices in Ghana

IMPACT THEME

Renewable Energy & Climate Change

SDG ALIGNMENT — PRIMARY

7. Affordable & Clean Energy



SDG ALIGNMENT — SECONDARY

13. Climate Action



SDG ALIGNMENT — TERTIARY

3. Good Health and Well-Being



The early 2026 collapse of KOKO Networks in Kenya reinforced how challenging it can be to successfully provide low-cost, low-emissions cooking equipment at scale in developing countries. Yet we believe the ultimate goals of reducing greenhouse gas (GHG) emissions and deforestation while improving indoor air quality are worth pursuing. And we further believe the public fixed income market offers a solution that protects investors and enhances the probability of successful execution.

We often talk about fixed income as the asset class for risk management or risk mitigation. At a high level, bonds help dampen volatility associated with risky assets held in investor portfolios and can be used to “immunize” long-term liabilities. These are examples of portfolio-level risk management strategies. Meanwhile, comprehensive and diligent credit underwriting is the foundation for issuer-level risk management.

Zooming in to individual credit instruments: blended finance transactions, debt conversions, and other innovative structures offer a host of idiosyncratic de-risking mechanisms. The flexibility of issuers and underwriters to structure individual deals and securities is far greater than in equities. Individual bonds can be de-risked through features including partial to full coupon or principal guarantees, first-loss tranches, and insurance wrappers.

In December 2025, Nuveen’s ESG/impact fixed income team invested \$79 million in the World Bank’s \$200 million Clean Cooking Outcome Bond, making it the lead order and largest holder of the transaction. We believe the structure and key stakeholders of the Outcome Bond exemplify how the bond market can serve as both financing mechanism and reducer of execution risk for projects like UpEnergy’s clean cookstove program in Ghana.

Nuveen has worked with The World Bank on several outcome bonds that directly tie bondholders’ return to the success of the programs financed.

March 2022

Wildlife Conservation Bond (“Rhino Bond”)

February 2023

Emission Reduction Linked Notes

August 2024

Amazon Reforestation-Linked Bond

December 2025

Clean Cooking Outcome Bond

April 2026

Spekboom Restoration Outcome Bond





“While an ITMO is technically a carbon credit, most carbon credits are not ITMOs.”

The potential impact from clean cookstoves

The International Energy Agency (IEA) estimates that over two billion people, or “nearly one third of the global population, still cook their meals over open fires or on basic stoves, breathing in harmful smoke released from burning coal, charcoal, firewood, agricultural wastes, and animal dung.” This entrenched behavior leads to a variety of negative impacts. The IEA cites millions of premature deaths annually due to in-home air pollution;¹³ the United Nations attributes roughly 3% of global greenhouse gas (GHG) emissions to the cooking sector;¹⁴ and various sources conclude that deforestation for firewood and charcoal is higher in Africa than on any other continent.

Ghana, a sub-Saharan country in West Africa with a population of 35 million people, faces these health and environmental challenges. According to the World Health Organization, only 31% of the population had access to clean cooking fuels as of 2022, despite 85% of Ghana’s population being connected to the electrical grid that same year, per World Bank data.¹⁵ The country didn’t meet its goal of transitioning at least 50% of the population to using liquid petroleum gas (LPG) as their primary cooking fuel by 2015. As part of the Republic of Ghana’s National Energy Compact, the country seeks to increase access to clean cooking solutions via the rollout of five million modern biomass, LPG and electric cookstoves through 2030 to caterers, schools, and households in both rural and urban areas.

Nuveen’s investment in the December 2025 Outcome Bond will help pursue that goal by subsidizing the cost of new stoves and establishing a network for distribution and support through the local project developer, UpEnergy. The project intends to distribute 415,000 cleaner cooking devices (245,000 electric, 170,000 improved biomass) and is expected to reduce greenhouse gas emissions by more than 1.8 million tons of carbon dioxide equivalent (CO₂e), according to the World Bank.¹⁶ The emissions reduction will generate carbon credits, which is the basis for subsidizing clean cookstove programs throughout Africa and Asia. However, the structure of this particular bond and the unique elements of these specific carbon credits are why we believe this deal can help UpEnergy and Ghana succeed where previous similar ventures have come up short.

Understanding the Outcome Bond

Our team favors carbon reduction and removal credits, and avoids deals linked to avoidance credits, which we believe require too many theoretical assumptions.

For this Outcome Bond, the carbon reduction credits are authorized by Ghana as Internationally Transferred Mitigation Outcomes (ITMOs). ITMOs were established under Article 6.2 of the Paris Agreement, allowing countries to trade emission reductions based on bilateral agreements. Ratified in 2015, the Paris Agreement also established Nationally Determined Contributions (NDCs) for each sovereign signatory (or party to the treaty). NDCs are updated every five years and represent transparent communication of each country’s ambitions to reduce GHG emissions.¹⁷

As an ITMO, both Ghana and (in this instance) Switzerland authorize the credits before they can be sold to a buyer seeking to reduce its own emissions. We believe the comprehensive authorization and accounting process reduces the risk of fraud or unjustified assumptions. KOKO’s problems in Kenya were exacerbated when the government wouldn’t authorize it to sell its carbon credits. Our confidence in this bond is informed by Ghana’s authorization.

The ITMOs generated by UpEnergy’s program will be purchased by a not-for-profit Swiss entity to offset CO₂ emissions associated with the import of motor fuel into Switzerland. KliK Foundation was founded by the country’s motor fuel importers to comply with the industry’s legal obligations under the Swiss CO₂ Act, which mandates private companies to offset transportation-related GHG emissions. Klik’s experience in carbon credit markets further informs our positive view of the transaction, as this is a highly credible and sophisticated offtaker. We also drew confidence from a completed bilateral ITMO transfer between these same two partner countries based on another clean cookstove program several months before the bond was issued. And if certain cookstove distribution and ITMO targets are not met, the scheduled disbursements can be held back. We view these structural bondholder protections favorably. As part of our team’s engagement with the issuer and due diligence of the deal, Nuveen requested an annual investor update in order to monitor project milestones and impact.





In a conventional World Bank (general obligation) bond, a fixed coupon is paid to the bondholder semiannually until maturity. The Outcome Bond retains the World Bank's AAA credit rating, but pays a below-market-rate coupon to bondholders.

The coupon savings is used to finance a specific project or program. In this case, UpEnergy's cookstove program receives the funding. But rather than provide all of the funding upfront, UpEnergy will receive it in four scheduled disbursements between December 2025 and June 2028. Undisbursed amounts are returned to bondholders at that final date, even though the bond's maturity is March 2032.

Meanwhile, if the project generates the anticipated ITMOs, investors will ultimately receive a higher overall coupon payment than the amount initially diverted to the project. In this Outcome Bond, the distribution of cookstoves and generation of ITMOs sold to KliK will generate the enhanced bondholder return. Our confidence in the positive outcome is enhanced by UpEnergy's experience running successful cookstove projects in Africa, including operations in Ghana that predate the bond.

Putting it all together

One of the biggest challenges for global decarbonization is the concept of "Just Transition." Ideally, developing economies can avoid the carbon intensity associated with 19th and 20th century industrial development while advancing quality of life without constraint.

We believe ITMOs represent a potential tool for transitioning to a low-carbon economy in an inclusive and equitable way.

The Devil is in the Details

The two best-known global carbon credit methodologies are Verra and Gold Standard for the Global Goals. UpEnergy uses Gold Standard, which is fully aligned to the Paris Agreement beginning with 2026 vintages.

KOKO was not using either of these approaches. Under its carbon credit calculations, KOKO assumed that 93% of deforestation tied to cooking fuel was non-renewable. This number is known as the Fraction of Non-Renewable Biomass, or fNRB, and it represents whether cooking fuels are harvested at a rate that exceeds its natural or sustainable growth rate. High fNRBs (greater than ~75-80%) indicate the risk of rapid depletion or deforestation, leading to degraded land and loss of natural carbon sinks. Low fNRBs (less than ~25-30%) indicate that natural forest growth can help offset cooking-related emissions.

KOKO's 93% fNRB was close to Kenya's 2012 national estimate of 92%, which expired in 2017.¹⁸ The default global fNRB is now 30%, but it is widely accepted that there are regional/continental differences, as well as large differences between countries and within countries. Kenya's default fNRB was 29% as of 2025.¹⁹ In the end, KOKO's approach grossly overestimated the amount of carbon emission reduction by shifting to clean cookstoves.

UpEnergy uses an fNRB of 35% for its programs in Ghana, which aligns with the country's official, national baseline.





While complex, ITMOs make sense for both countries in the bilateral agreement. An advanced economy like Switzerland doesn't have the opportunity to reduce cookstove emissions. In an emerging economy like Ghana, there is limited capital to reduce cooking-related GHG emissions. Outcome bonds, linked to ITMOs, can become the financial tool to efficiently match two countries' interrelated emissions goals.

Deal structure for Clean Cookstove Outcome Bond



For more information, please visit us at nuveen.com

Endnotes

1 [How Do Foundations Make Money? Investments and Payout Rules - LegalClarity](#)
2 [Trusts and Foundations](#)
3 [Government misses another critical opportunity to encourage more giving in Australia - Philanthropy ...](#)
4 [Can-Foundation-Endowments-Achieve-Greater-Impact-1.pdf](#)
5 [Scaling Solutions: The Fixed Income Opportunity Hiding in Plain Sight - Tideline](#)
6 [CCSF 2024 Press Release.pdf](#)
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19 <https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-33-v3.pdf>

The data shown is for all global fixed income accounts managed with an explicit impact objective, is provided for informational purposes only and may not reflect current positioning of the portfolio. The report represents bonds that are classified under the Strategy’s proprietary impact framework and for which relevant data are available. All impact data are sourced from publicly available issuer disclosures at the bond or project level when possible, or the program or issuer level if not.

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Important information on risk

Past performance is no guarantee of future results. All investments carry a certain degree of risk, including the possible loss of principal, and there is no assurance that an investment will provide positive performance over any period of time. Certain products and services may not be available to all entities or persons. There is no guarantee that investment objectives will be achieved. See the applicable product literature for details.

It is not possible to invest in an index. Indexes are unmanaged and do not incur management fees, costs or expenses. In no way should the performance of an index be considered indicative of, or a guarantee of, future performance.

Investing in fixed income investments involves risks such as market risk, credit risk, interest rate/duration risk, call risk, tax risk, political and economic risk, derivatives risk, and income risk. Credit risk refers to an issuer’s ability to make interest and principal payments when due. Typically the value of, and income generated by, fixed income investments will decrease or increase based on changes in market interest rates.

Responsible investing incorporates Environmental Social Governance (ESG) factors that may affect exposure to issuers, sectors, industries, limiting the type and number of investment opportunities available, which could result in excluding investments that perform well. Because its social screens exclude some investments, the strategy may not be able to take advantage of the same opportunities or market trends as strategies that do not use such criteria.

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