Fund-level impact decision-making tools for asset allocators

Acknowledgements

AUTHORS

Dean Hand, Chief Research Officer

Emily Lamica, Manager, Research

Jacob Tate, Senior Research Associate and Team Lead, Data Structure and Analysis

Hongyu Pan, Associate, Research

REVIEWERS AND CONTRIBUTORS

The following individuals played an important role in reviewing and contributing to sections of the report: Tatum McConnell, David Richmond, Christian Rosenholm, Ron Sinha and Sophia Sunderji.

GUIDANCE AND INPUT

The development of this methodology included consulting with investors, academics, evaluators, analytics service providers and other practitioners. The methodology presented in this approach has been shaped by significant input, guidance, advice and debate from the impact investing ecosystem, as detailed in Appendix I.

The following table includes organizations that contributed comments and reflections on this draft methodology:

ABC Impact

AXA

BlueMark / Tideline

British International Investments

Calvert Impact Capital

Catalyst Fund

Developing World Markets

EDG

Johnson & Johnson

LCA Consultants

Lightrock

Net Purpose

Oxford University

Rally Assets

Saïd Business School

STOA

Wharton School, University of Pennsylvania

U.S. International Development Finance Corporation

ABOUT THE GLOBAL IMPACT INVESTING NETWORK (GIIN)

The Global Impact Investing Network, Inc. (GIIN) is the global champion of impact investing, dedicated to increasing the scale and effectiveness of impact investing around the world. Impact investments are

investments made into companies, organizations and funds with the intention to generate positive, measurable, social and environmental impact alongside a financial return. Impact investments can be made in both emerging and developed markets and target a range of returns from below market to above market rate, depending upon investors' objectives. The GIIN builds critical infrastructure and supports activities, education and research that help accelerate the development of a coherent impact investing industry. For more information, visit www.thegiin.org.

Purpose of this document

The GIIN has developed a portfolio-wide approach to inform impact choices in the investment process. This approach is used by two distinct, asset-class-agnostic impact prototype tools to enable rigorous decision-making. These two prototype tools are intended as proof-of-concepts, demonstrating what is feasible in impact analytics. The ultimate objective of this body of work is to provide analytic impact tools that offer a starting point for asset allocators to set data-driven impact targets in a measurable, streamlined way and compare fund impact performance using quality-adjusted life years (QALYs). Impact is nuanced and inherently multi-dimensional. These two distinct tools offer one input of many that investors can use as they assess potential fund opportunities from an impact perspective.

Target audience

The fund-level methodological approach and proof-of-concept prototypes seek to enable asset allocators to begin making more informed impact decisions based on quality of life for end beneficiaries, the scale of social or environmental need, and amount of capital available for deployment toward impact strategies. This approach primarily targets "asset allocators," namely IAOs such as pension funds and insurance companies, sovereign wealth funds, DFIs and other investors allocating capital via funds or intermediaries with the intent to generate positive social or environmental outcomes, alongside financial returns. Other investor types, such as asset managers, may also find utility in applying these prototype tools and are welcome to do so.

Invitation to comment

The GIIN welcomes input from investors, enterprises, field builders, researchers, advisors and other stakeholders on the prototype tools. Your feedback, reflections and critiques are essential to enhance these tools for consistent and rigorous fund-level impact comparisons. Share your input here by January 2025.

For more details, refer to the invitation to comment at the end of this paper.

Demand for fund-level impact performance tools

As investors seek to respond to the consequences of the climate crisis and growing social inequities, holistic portfolio construction with an impact lens is a critical strategy for asset allocators.[i] Institutional asset owners (IAOs), development finance institutions (DFIs) and other asset allocators making investments indirectly via intermediaries have a powerful opportunity to allocate capital in more efficient and effective ways to optimize both impact and financial performance.

Collectively, asset managers grew their funding from institutional asset owners by a compound annual growth rate of 32% between 2017 and 2022.[ii] Some IAOs identify broad impact objectives, most commonly

across climate, housing and energy, with less than half of IAOs setting specific quantitative targets for social or environmental outcomes.[iii] Established fund structures can limit asset owner influence, and asset owners have reported challenges in gauging the impact associated with their portfolios.[iv] Because of this, translating impact intentions into real-world results requires effective selection of and engagement with asset managers.[v] In particular, translating impact intentions into real-world actions requires not just engagement and alignment but also effective target setting to direct capital strategically.

Asset allocators seeking positive social and environmental outcomes often face significant challenges. They lack standardized impact analytic tools for informed decision-making, especially when setting data-driven targets, conducting impact due diligence and selecting or appointing managers. This makes it difficult for cross-sector or intra-sector comparisons using rigorous impact units, as investors increasingly make choices that span impact themes, sectors and business models. Effective target setting and alignment on impact expectations between allocators and managers is crucial. Additionally, robust, portfolio-wide impact tools are needed to facilitate data-driven choices and cross-sector comparisons.

Tool One: Impact Target Setting Tool

Access the prototype tool on impact target setting here to explore how investors can set data-driven impact targets at the fund-level.

Once asset allocators have selected managers or funds, they can engage with their managers and advisors to set data-driven impact targets. The impact target setting approach requires identifying the total amount of capital needed to fill a social or environmental challenge, the scale of the social or environmental need and the amount of capital that an asset allocator estimates they have available for an impact theme or strategy, at the global, market, regional or country level in a given year.

$$\frac{\text{Total investment gap (\$ USD)}}{\text{Scale of the social or environmental need (in impact units)}} = \text{Investment cost per impact unit}$$

$$\frac{\text{Amount of capital available for deployment (\$ USD)}}{\text{Investment cost per impact unit}} = \text{Fund impact target}$$

Where:

Total investment gap: The yearly amount of capital required to fill a social or environmental need by 2030. The investment gap figures are taken from the United Nations Trade and Development (UNCTAD) Investments Gap Report on the Sustainable Development Goals (SDGs) and for some impact themes, from other credible third-party datasets.[vi] This value can reflect the capital required by the private sector to fill social and environmental gaps in a given geography. However, use of public or government funding as an input is not represented in this calculation, since public institutions play a separate role in addressing societal and climate issues. For information on public funding needs, see UNCTAD's SDG cost estimate.

Scale of the social or environmental need: The size of the challenge, as measured in a relevant impact unit, such as the number of people experiencing food insecurity, or the amount of renewable energy

required in MWh. The scale of need figure is drawn from the SDG Indicators Database or World Bank datasets and mapped to specific SDG sub-indicators at the global and country level.[vii] The scale of the challenge data points can also pull from national or local datasets available within specific countries to allow for more tailored impact target setting. All figures representing the scale of the social or environmental need are annualized, representing the size of the gap in a given year based on the latest available data.

Amount of capital available for deployment toward an impact strategy: The capital that an asset allocator has available may vary based on its investment thesis, investment and impact policies and philosophy, asset allocations across a spectrum, and specific fund structures. This figure should capture risk probability and geographic context.

r (risk probability): The impact target can be adjusted to account for the impact risk associated with the likelihood of achieving a given impact target, based on five indices that can help adjust for risk: [viii]

- Corruption risk: Transparency International's Corruption Perceptions Index (CPI)[ix]
- Inequality risk: World Bank Group's Gini Coefficient[x]
- Labor rights: International Trade Union Confederation's Global Rights Index[xi]
- Financial, business and monetary policy risk: The Fraser Institute's Economic Freedom Index[xii]
- Government stability: World Bank Group's Governance Indicators [xiii]

These risks were selected based on investor feedback on specific types of impact and business risk that are relevant for impact targets and achievement of impact along with desk research on index availability. Realized impact can vary based on both systemic risk that is uncontrollable by an organization and non-systemic risk that can be influenced by an organization. The impact target setting tool incorporates the likelihood of achieving a given impact target, factoring in geography, socio-economic and political risks and stage of business. However, other impact risks, such as drop-off risk, stakeholder participation risk and evidence risk, among others, are not accounted for in this model quantitatively.[xiv] Investors can conduct an impact risk assessment, determine the likelihood and severity of each and adjust impact targets and strategy accordingly.

The GIIN has built a composite risk indicator that normalizes each of the five selected publicly available indices, equally weights each of them, calculates a variance score, and aggregates those risk scores at the regional level with a population weighting and a lower and upper bound to reflect risk by country and region. See Appendix III for the data input summary of the composite risk indicator.

Investors can use the resulting composite index to understand the risk associated with achieving an impact target and explore those country and regional risks in more detail. As with any individual tool, investors are naturally expected to additionally take on their own risk assessments as they set their impact targets.

Geographic context: This methodology can be applied at the following levels with third-party dataset inputs adjusted to the appropriate context and scale, namely:

- Global: for funds operating across multiple geographies or worldwide.
- Market type: emerging market or developed market.

- Regional: East Asia; Latin America and the Caribbean; Middle East and North Africa; Oceania; South Asia; Southeast Asia; sub-Saharan Africa; Western, Northern and Southern Europe; and the U.S. and Canada.
- Country: In many cases, countries or local areas will have available investment costs to solve a social or environmental gap that are contextualized. Investors may also have access to national or local datasets on the scale of the social or environmental need within their context of operations. In these cases, users are encouraged to input their own investment cost to yield an impact target that better reflects their local context.

Application Example: Clean water and sanitation (SDG 6.1)

The UN estimated the funding gap to achieve universal access to drinking water is $68,249,845,958 USD. The UN SDG Stats repository indicates that 1,920,785,804 people are not using safely managed drinking water services.

$$\frac{\text{Total investment needed}}{\text{Total population not using safely managed drinking water services in 2030}} = \frac{\$68,249,845,958\ \text{USD}}{1,920,785,804\ \text{individuals}} = \$35.5\ \text{USD / individual}$$

$$\frac{\text{Capital available for deployment (USD \$)}}{\text{Investment cost per individual}} = \frac{\$100,000,000\ \text{USD}}{\$35.5\ \text{USD / individual}} = 2,816,901\ \text{individuals}$$

Naturally, the investment cost and associated impact target for achieving universal and equitable access to safe and affordable drinking water in the U.S. and Canada will look different from the needs in sub-Saharan Africa. This methodology also uses regional data inputs to set impact targets relevant for a geographic context.

In the U.S. and Canada, the UN estimated the funding gap to achieve universal access to drinking water is $3,186,913,963 USD in the U.S. and $458,276,820 USD in Canada. The UN SDG Stats repository indicates that 64,413,508 and 6,952,242 individuals need access in the U.S. and Canada, respectively.

$$\frac{\text{Investment needed in Canada}}{\text{Population not using safely managed drinking water services expected in 2030 in Canada}} = \frac{\$458,276,820\ \text{USD}}{6,952,242\ \text{individuals}} = \$69.5\ \text{USD / individual}$$

$$\frac{\text{Investment needed in US}}{\text{Population not using safely managed drinking water services expected in 2030 in U.S.}} = \frac{\$3,186,913,963\ \text{USD}}{64,413,508\ \text{individuals}} = \$49.5\ \text{USD / individual}$$

When starting with country level data, calculating the overall regional impact target in U.S. and Canada requires the weighting of each country within the region. This is determined by the proportion of the country's population that's in need of safe drinking water out of the region's total population in need.

Weighted proportion for Canada:

$$\frac{6{,}952{,}242 \text{ individuals}}{6{,}952{,}242 + 64{,}413{,}508 \text{ individual}} = 9.3\%$$

Weighted proportion for the U.S.:

$$\frac{64{,}413{,}508 \text{ individuals}}{6{,}952{,}242 + 64{,}413{,}508 \text{ individual}} = 90.7\%$$

Thus, the investment cost per individual in U.S. and Canada is:

($69.5 USD x 9.3%) + ($49.5 USD x 90.7%) = $51.3 USD.

Assuming the capital available for deployment at a particular fund is $1 million USD, its estimated impact target is 1,949,318 individuals for the region.

$$\frac{\text{Capital available for deployment (USD \$)}}{\text{Investment cost per individual}} = \frac{\$100{,}000{,}000 \text{ USD}}{\$51.3 \text{ USD / individual}} = 1{,}949{,}318 \text{ individuals}$$

Application Example: Affordable and clean energy (SDG 7)

Affordable and clean energy is an example where the International Energy Agency (IEA) provides a dataset that includes the capital cost per kw across various renewable power generation technologies. The IEA estimated that the capital costs for developing large scale solar photovoltaics is $1,120 USD/kw in United States and $1,420 USD/kw in Ethiopia.

Assuming the capital available for deployment at a particular fund is $1 million USD, its estimated impact target is 89,286 kw in U.S. and 70,422 kw in Ethiopia.

$$\frac{\text{Capital available for deployment (USD \$)}}{\text{Investment cost per kw in U.S.}} = \frac{\$100{,}000{,}000 \text{ USD}}{\$1{,}120 \text{ USD / individual}} = 89{,}286 \text{ kw}$$

$$\frac{\text{Capital available for deployment (USD \$)}}{\text{Investment cost per kw in Ethiopia}} = \frac{\$100{,}000{,}000 \text{ USD}}{\$1{,}420 \text{ USD / individual}} = 70{,}422 \text{ kw}$$

Use case example

A pension fund in the U.K. built a financial and impact thesis using a theory of change to meet the expectations that their beneficiaries have of their pension. This logic model is shaped by both the pension's return and diversification strategy for asset classes and geographic allocations, and a set of impact priorities that ensure sufficient retirement savings and improve the social context for beneficiaries. The pension has modeled their liabilities for their beneficiary profile over the next 40 years and identified that quality education, access to healthcare and clean energy are three key themes that would improve the social context for beneficiaries. Most of its beneficiaries are teachers.

Consequently, the pension fund is planning to allocate $300 million USD through a closed-ended debt fund to an impact asset manager focused on quality primary and secondary education in emerging markets. The pension fund has appointed an asset manager to consider the social, environmental and governance risks and assessed investment opportunities that enable equitable learning opportunities for children and decent employment for teachers at schools. As the pension fund engages with its appointed manager to assess the impact theory of change and its fit with its mandate, they can begin to identify a universe of investments. Evaluating those investments will require assessing performance relative to impact targets.

The pension fund can use the Impact Target Setting Tool to input the following information: their own capital available for deployment for this asset manager ($300 million USD), the target SDG (SDG 4: quality education), and region(s) of exposure based on the fund's geographic focus (sub-Saharan Africa, Southeast Asia, Latin America and the Caribbean) to receive an appropriate regional impact target for achieving quality primary and secondary education. This data point, adjusted for the social, economic and political risk in the regions of operation, can then be taken to the appointed manager to engage in a dialogue on expected impact return and alignment. Together, the manager and pension fund can work toward measuring and managing impact across the investments in the fund manager's portfolio, adjusting annually based on revised impact targets available in the tool that reflect the scale of educational need in emerging markets and the size of the investment gap.

Tool Two: Impact Investing QALY Explorer

Access the prototype tool on asset manager selection and appointment here to explore how asset allocators can compare impact across sectors and impact themes at the fund-level in practice.

Investors focused on environmental impact themes, such as climate change mitigation, primarily rely on greenhouse gas (GHG) emissions as a consistent, measurable indicator to assess and compare climate impact. Social impact themes need a similarly valid and reliable measure to compare impact. Social impact themes can range from housing and healthcare to education and financial inclusion, making it difficult to incorporate a single measure. Sector-specific impact metrics, such as number of patients accessing healthcare services or number of quality hospitals built, are critical when interpreting impact performance within impact themes. However, more broadly asset allocators can look to quality of life to make comparisons across the portfolio in different sectors. Comparison across social impact themes based on quality of life has the potential to radically shift how asset allocators and managers channel capital.

Quality-adjusted life years (QALY)

The QALY approach allows asset allocators to compare impact performance within and across social impact categories by developing a quality of life unit applied to impact investments at the fund-level. A QALY is a quality-adjusted life year — the amount of a life year lived on a relative, bounded scale of quality (measured between 0 and 1). This measure was developed initially in the healthcare sector as an academic standard for measuring the effects of healthcare interventions on individuals' quality of life. QALYs track the effect of interventions on both additional life years and the overall wellness of the individual. Tracking only life years would privilege actions that may solely extend lifespans without improving them, while including both factors offers a measure of both breadth and depth. Over time, QALYs have become a key standard used to measure the effectiveness of interventions within and across sectors.[xv] Since the outcomes associated with impact investments on end beneficiaries typically result in either an improvement in welfare or an increase in lifespan, impact can be represented in QALYs.

The United Nations Environment Programme (UNEP) has developed a series of life cycle assessments in collaboration with LCA Consultants and Dr. Bo Weidema, and the GIIN aims to leverage this work for facilitating meaningful cross-sector impact comparisons for asset allocators across different social impact investment themes.[xvi] Together, UNEP and LCA Consultants have built a map of impact pathways that incorporate SDG indicators and sub-indicators to connect them to intrinsic harms and benefits to humanity. Based on its mapping of impact pathways, UNEP and LCA Consultants have quantified the intrinsic benefits by standardizing to QALYs.[xvii] After evaluating over 100 impact pathways, LCA Consultants concluded that there was sufficient academic evidence to quantify the intrinsic harms and benefits of approximately 75 impact pathways, which are either designated as instrumental or intrinsic to quality of life and are mapped to the best available research on their contribution to global QALYs.[xviii] The resulting UN Life Cycle Assessment and decades of prior work conducted and made publicly available by LCA and Dr. Bo Weidema offers a rigorous, robust and transparent approach to QALY quantification, and one that can be applied to impact investment decision-making.

The second component of the QALY evaluation is the calculation of life years gained through a program. To address equity concerns, the GIIN's QALY model adopts the equal value of life year gained (EVLYG) method, ensuring that the value assigned to an additional life year is consistent across contexts. By building on

existing publicly available impact pathways and QALY quantification, the GIIN enhances the UNEP and LCA Consultants methodology by equalizing EVLYG across all countries, thereby preventing the devaluation of life years based on geographical or situational differences.

The LCA Consultants calculated QALY opportunity per impact pathway per country and divided it by the total population in each country, resulting in QALY per capita. However, we recognize that for some impact pathways, the entire population may not be affected. Thus, the GIIN also added a dispersal modifier for QALY per amount of capital, which acts as a tuning variable. This dispersal modifier considers whether the intervention is acute (targeting a specific, localized group), disperse (affecting a broader, more generalized population), or mixed, and helps refine the QALY by adjusting for the proportion of the population likely to benefit from the intervention. These map to multipliers of 1 (broadly affecting the whole population), 1.5 (mixed effects) and 2 (highly targeted to a population or high intensity of intervention), respectively. Since the UNEP data provides per-person data even for harms that are not equally distributed to every single person across a country, the dispersal modifier increases the addressable QALYs of an intervention that is targeted towards those more affected.

In cases where funds target multiple countries and impact pathways, asset allocators can aggregate the QALYs calculated for each pathway within each region to determine the total impact. Using the UNEP and LCA QALY datafiles, allocators can calculate the social impact opportunity for each pathway and then sum those values across all relevant geographies.

A QALY approach offers a holistic and human-centered way to measure social impact. QALYs focus on health and well-being by capturing improvements in both life quality and longevity, making it ideal for evaluating social and environmental benefits. This allows for standardized, cross-sector comparisons of impact, which is crucial for asset allocators, and provides an option for asset allocators that is a non-monetized mechanism and removes the distortion from a purely financial focus. Finally, QALYs align with ethical and equity considerations by prioritizing improvements in well-being, especially for disadvantaged populations.

The QALY of an investment in a given year can be calculated as:

$$x = (\alpha_i * \beta_{i,j}) * p$$

Where:

x = Expected change in quality of life
α_i = Dispersal modifier (α)[1] for an impact pathway (i)[2]
$\beta_{i,j}$ = QALY opportunity (β)[3] per person per impact pathway (i) per country (j)[4]
p = programmatic effectiveness (percent of needs met)[5]

[1] An estimate used in QALY calculations to account for the distribution of an intervention's impact across a population. Input required.
[2] Selected in drop-down options within the impact investing QALY explorer tool, aligning to calculations provided by UNEP and LCA Consultants. Input required.
[3] As calculated by UNEP and LCA Consultants.
[4] Country of intervention. Input required.
[5] An estimated percentage of needs met by the intervention to the targeted population. Input required.

$$Q = (x * y) + (EVLYG * z)$$

Where: [6, 7]

x = Expected change in quality of life[8]
y = Number of end-beneficiaries targeted through impact theory of change[9]
EVLYG = Equal value of life year gained, representing the value of every additional year of life for a given individual associated with the intervention[10]
z = The number of life years created from the investment[11]

Asset allocators selecting between several funds can use the Impact Investing QALY Explorer to make an informed allocation decision as follows:

Application of the Impact Investing QALY Explorer

Asset allocators selecting between several funds can use the QALY tool to make an informed allocation decision as follows:

Identify potential funds with an impact strategy and theory of change: Asset allocators identify multiple funds for consideration. In this scenario, two funds are identified:

- Fund A focuses on water, sanitation and hygiene (WASH), including investments in clean water facilities in India, related to SDG 6: Clean water and sanitation, and education, including investments in improving the education system in Nepal, related to SDG 4: Quality education.
- Fund B focuses on WASH, including investments in clean water facilities in Bangladesh, related to SDG 6: Clean water and sanitation, and decent work, including investments in reducing unemployment rate in Botswana, related to SDG 8: Decent work.

Capture relevant inputs based on due diligence assessments for each potential fund: Asset allocators gather the relevant data inputs for the QALY methodology, namely the expected number of individuals that may be impacted and the estimated percent of needs addressed to meet specific country-level targets, which can be specified as a percent relative to total need for a social challenge in a country or based on qualitative estimates (low, medium or high impact need covered). Data inputs can be estimated based on discussions and engagement with asset managers, desk research and credible third-party datasets on demographics of the geographic region. The asset allocator gathers additional information from its managers (or potential managers) to learn that Fund A is focused primarily on access to clean drinking water in India, covering 75% of an end-beneficiaries' need for clean water needs in the country. Fund A is focused on access to contraceptives in Nepal, tackling 50% of an end-beneficiaries' need for contraception to support reproductive health. Alongside these impact pathways, an asset allocator can

[6] The first term (x * y) quantifies the impact of increasing the **quality** of life for an end-beneficiary.
[7] The second term (EVLYG * z) quantifies the impact of increasing the **length** of life for an end-beneficiary.
[8] As determined in the above calculation.
[9] Targeted population. Input required.
[10] EVLYG incorporates the total number of life years gained by all affected individuals, which is then adjusted by the value of a life year gained, equalized across all contexts. In line with National Institute for Health and Care Excellence's recommendation, QALYs are discounted by 3.5% a year to reflect increases in uncertainty over time.
[11] In the case of an investment directly attributed to saving lives, asset managers estimate the amount of life years saved. Input required.

estimate that the dispersal modifier for Fund A targeting WASH is mixed, and education is acute, while the dispersal modifier for Fund B targeting WASH is mixed, and decent jobs is acute.

- Fund A: 3000 people for WASH addressing 75% of needs in India with a mixed dispersal modifier (1.5), 1000 people for education addressing 50% of needs in Nepal with an acute dispersal modifier (2).
- Fund B: 3000 people for WASH addressing 75% of needs in Bangladesh with a mixed dispersal modifier (1.5), 4000 people for decent work addressing 50% of needs in Botswana with an acute dispersal modifier (2).

Reference the UNEP and LCA QALY datafiles to obtain the social impact opportunity calculation in the form of a QALY: This information is based on publicly available data.[xix] The QALY social impact opportunity represents the difference between QALYs divided by the remaining life expectancy for the general population compared to those with a health condition, conditional on age and sex.[xx]

- Fund A: Social impact opportunity of **0.00547** (Impact Pathway H7: Health impact, avoidable, clean water and sanitation) in India. Social impact opportunity of **0.07478** (Impact Pathway H29: Insufficient development of skills, formal education system) in Nepal.
- Fund B: Social impact opportunity of **0.00299** (Impact Pathway H7: Health impact, avoidable, clean water and sanitation) in Bangladesh. Social impact opportunity of **0.00457** (Impact Pathway S21: Unemployment, intrinsic value) in Botswana.

Conduct the QALY calculation: Asset allocators can calculate the QALY impact for each fund over its lifetime to enable a cross-sector impact comparison.

- Fund A: Calculate the total QALY as:

Total QALY = [3000*0.75*1.5*0.00547] + [1000*0.5*2*0.07478] = [18.46] + [74.78] = 93.24 QALYs

- Fund B: Calculate the total QALY as:

Total QALY = [3000*0.75*1.5*0.00299] + [4000*0.5*2*0.00457] = [10.09] + [18.28] = 28.37 QALYs

Compare the impact associated with each fund: QALYs allow asset allocators to assess the degree each fund would contribute to specific impact themes and determine which fund will allow for the greatest overall impact.

Make an informed asset manager selection and appointment choice: Asset allocators use the comparative QALY data to make an informed decision. Asset allocators are encouraged to consider a range of factors in informing their decision, including but not limited to, alignment with macro analysis, impact and financial theses, investment policies and philosophy, risks, stakeholder engagement, asset class allocation needs, liquidity and geographic exposure as relevant. Asset allocators have the opportunity to identify funds with the potential to generate the highest total impact based on the QALY methodology and assess impact fund opportunities that align to their impact strategy and enable contribution to the relevant SDGs.

As asset allocators have preferences, requirements or mandates that necessitate specific geographic regions of exposure or impact themes, they may weigh these factors alongside the QALY data and narrow their set of investible opportunities. As there is insufficient QALY data available for calculations, asset allocators may use proxies to estimate inputs.

Use case example: due diligence and manager selection

A long-term insurance company in the U.S. has a mandate to invest in a range of funds and allocate its beneficiaries' funds in alignment with its financial thesis and impact thesis using a theory of change toward beneficiaries having their needs met. This strategy is influenced by the return philosophy, diversification across asset classes and geographic regions, and a set of impact goals that meet financial return requirements and build toward the society that beneficiaries ultimately want to live in. Through analysis of their liabilities and the profiles of their beneficiaries over a 40-year period, the insurance company, along with its advisors, have identified that healthcare and access to clean water are two critical themes that can be influenced.

The insurance company intends to allocate through a variety of asset managers and is working with its advisor to make appropriate manager selections that can meet the long-term liability needs within the asset class parameters and impact priorities that they have identified through its theory of change. The advisor has started to narrow down to several managers that rank well against a practice benchmark and that meet the insurance company's needs. They begin to request information related to geographic exposure across potential funds, the expected number of impacted end beneficiaries as reported by asset managers and the number of end beneficiaries in need based on third-party datasets.

As the insurance company engages with its advisor and potential managers to assess the impact potential of each fund to meet its impact goals related to health and clean water, the team begins to compare the impact on quality of life for end beneficiaries associated with each potential fund. By inputting the impact themes, number of end beneficiaries and proportion of need that each fund tackles in its geographic region (as provided by managers), the insurance company and its advisor can begin to compare the impact between two distinct funds in two different sectors. The resulting QALY figures can help to make a more informed decision on manager selection.

1. Identify potential funds' impact themes:
    a. Fund A: WASH, clean water and sanitation, in India, education, insufficient development of skills, formal education, in Nepal.
    b. Fund B: WASH, clean water and sanitation in Bangladesh, decent work, unemployment, in Botswana.
2. Data collection:
    a. Fund's targeted number of end-beneficiaries by impact theme:
        i. Fund A: 3000 people for WASH in India, 1000 people for education in Nepal
        ii. Fund B: 3000 people for WASH in Bangladesh, 4000 people for decent work in Botswana
    b. Fund's targeted number of lives directly saved (EVLYG)
        i. Neither of these funds focus on directly saving lives.
    c. Percentage of needs addressed (fund's targeted number of end-beneficiaries by country divided by the total impact gap by country)
        i. Fund A: Addresses 75% of WASH impact gap and 50% of education impact gap
        ii. Fund B: Addresses 75% of WASH impact gap and 50% decent work impact gap
    d. Given the impact theory of change, the dispersal modifier would be incorporated as:
        i. Fund A: WASH in India being "mixed" has a modifier of 1.5, and education in Nepal being "acute" has a modifier of 2.
        ii. Fund B: WASH in Bangladesh being "mixed" has a modifier of 1.5, and decent jobs in Botswana being "acute" has a modifier of 2.

e. The tool will incorporate the per person QALY social opportunity data from UNEP and LCA:
    i. Fund A: Shortfall of 0.00547 for WASH, 0.07478 for education
    ii. Fund B: Shortfall of 0.00299 for WASH, 0.00457 for decent work
3. QALY calculation:
    a. Fund A: Total QALY = [3000*0.75*1.5*0.00547] + [1000*0.5*2*0.07478] = [18.46] + [74.78] = 93.24 QALYs

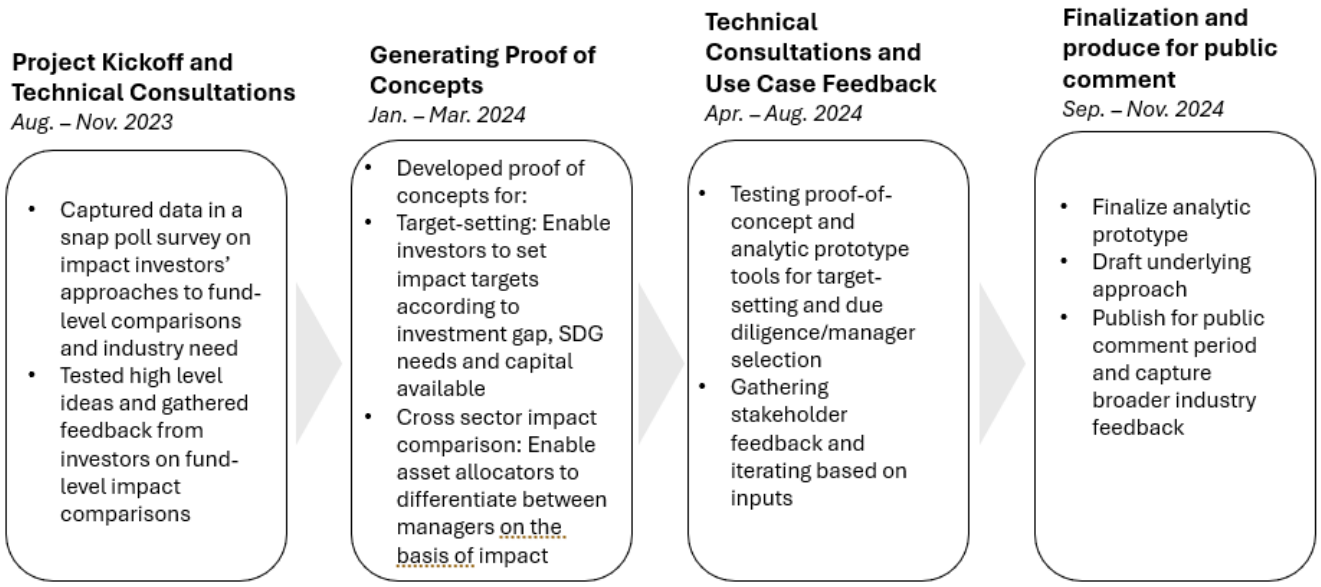
Fund B: Total QALY = [3000*0.75*1.5*0.00299] + [4000*0.5*2*0.00457] = [10.09] + [18.28] = 28.37 QALYs

1. Comparison of impact:
    a. Fund A: 49.7 QALYs
    b. Fund B: 15.87 QALYs
2. Decision-making:
    a. Analyze which fund offers greater impact considering both QALY and other impact relevant considerations, along with investment parameters.
3. Investment selection:
    a. Consider selecting the fund with the highest total impact. In this case, that would mean Fund A, which offers 22.01 QALYs, if no regional or thematic preferences exist.

By using a QALY measurement tool, the insurance company can begin to objectively compare the impact of different funds, allowing them to make informed decisions that maximize the positive outcomes of their investments. This structured approach ensures that the chosen funds align with broader impact goals and SDG targets.

GIIN's development process

The fund-level approach and proof-of-concepts have been developed over a year-long process through engagement with a select group of investors, academics and field-builders. Those stakeholders have been listed in the guidance and input section.



Through this public comment consultation period, the GIIN seeks input and feedback from a diverse set of perspectives to inform further development of this work.

Fund-level tools in a holistic portfolio construction context

Using an impact lens as part of holistic portfolio construction requires a set of fund-level impact analytic tools for the overall portfolio. The Impact Target Setting Tool and Impact Investing QALY Explorer proposed in this draft can help asset allocators to make informed decisions as follows:

How can the fund-level prototypes be used in an investment process?

Impact Target Setting Tool: Asset owners can input their amounts of capital for deployment across various impact strategies into the target-setting tool to create quantitative impact targets relevant for their selected SDG(s) or impact theme(s). This can be applied across asset classes, building multiple impact targets as needed, to then be incorporated into investment manager engagement and dialogues. For example, this may be impact-targets related to decent jobs, equality or climate.

Impact Investing QALY Explorer tool: Asset allocators can input a set number of parameters on various funds. From this, they are able to calculate quality-adjusted life years (QALYs) as to enable cross-sector and manager impact comparisons and inform selection and appointment decisions.

Industry resources and impact tools

The fund-level approach complements existing industry standards, frameworks and tools, with key industry resources highlighted below:

- The **Impact Principles** are critical for investors to apply rigorous measurement and management processes from setting an impact strategy and conducting due diligence to measuring and managing impact.
- **Holistic Portfolio Construction with an Impact Lens** is a report that provides an overview for how institutional asset owners (IAOs) can adopt broad strategies that respond to global social and environmental change, considering the world that beneficiaries want to live in and proactively choosing investments that improve quality of life within IAOs investment processes.
- **IRIS+** is a set of tools and guidance for investors to translate impact intentions into measurable results. Investors can use it to conduct research, perform due diligence, set goals, measure progress using standardized metrics and report results to key stakeholders.
- **COMPASS** is a methodology that enables investors to conduct standardized impact analysis and compare investments on the basis of impact.
- **GIIN Benchmarks** are decision-useful analytic tools that compare investment-level impact results in a sector relative to peer groups and to SDG thresholds.

- **World Benchmarking Alliance** provides company-level benchmarks to compare company performance in a sector.
- The **Impact Frontiers Reporting Norms** offer a pilot approach to reporting on impact in a standardized way.
- **60 decibels** offer end beneficiaries' perspectives through in-depth client studies and produce reports and benchmarks presenting the experiences of end beneficiaries.
- The **Impact Frontiers: Impact-Finance Handbook** provides an approach for assessing both impact and financial performance in an integrated way, including expected impact ratings, to inform portfolio construction choices.
- **BlueMark's Fund ID** is a rating system that offers investors an objective assessment of a fund's impact strategy and progress. It evaluates key aspects such as impact and ESG strategy, governance, management processes and reported results, providing a clear overview of a fund's strengths and areas for improvement.

Caveats and limitations

Gaps in third-party datasets

For some impact themes, there are several relevant and up-to-date datasets available from credible international organizations, such as the World Bank and the UN. In other cases, third-party data on investment gaps, cost estimates and the social or environmental landscape is limited. Investors can incorporate their own third-party datasets available in their local operating contexts as they are available. The prototype tool will also continue to update as new data, or more timely data, become available over time.

Breadth of impact indicators represented

Not all impact indicators or outcomes are available, because this mapping requires the availability of consistent data across both investment costs and scale of the social or environmental challenge for specific impact themes and associated SDG sub-indicators. The UN provides specific calculations for their SDG investment gap analysis, so there's some impact information available for all SDGs at a limited breadth. The application of this prototype tool will expand as the universe of available data expands.

Time horizon alignment

Third-party datasets are not always collected and published in alignment, which can result in differing time horizons across datasets relating to investment gaps and the scale of the social or environmental challenge. There can also be inconsistent data inputs based on third-party publications. For example, the investment cost to increase the yield of one hectare of cropland by 1% is derived from a 2015 publication whereas cost estimates related to increasing access to affordable healthcare are derived from a 2016 publication, at the country-level. Macro-level events, such as inflation and systemic risks that affect a region or the globe also affect data inputs and resulting impact outputs. Additionally, asset allocators set impact targets over varying horizons and fund structures, geographies, sectors of investment and impact themes, so these can influence when impact results are realized. While the prototype tool allows for impact targets annually as per the point-in-time data inputs, investors are encouraged to revise their impact targets and apply the resulting output in a way that aligns to their fund structure, instrument and timing.

Integration of impact risk

Realized impact can vary based on both systemic risk that an organization can't control and non-systemic risk that can be influenced by an organization. This tool incorporates the likelihood of achieving a given impact target, including geographic, socio-economic, political and stage of business risks. However other impact risks, such as drop-off risk, stakeholder participation risk and evidence risk, are not accounted for in this model quantitatively.[xxi] Investors are encouraged to conduct an impact risk assessment, determine the likelihood and severity of each and adjust impact targets and strategy accordingly.

Linear relationship between capital invested and target impact

The mathematical formula assumes that any asset class or investment instrument achieves the same impact, and that impact has a linear relationship with the amount of capital invested. Similarly, a change in QALY assumes linearity across all individuals affected. Given that different asset allocators operate through bespoke fund structures across various investment strategies, investors are encouraged to use the impact targets derived from the tool as a data input to help identify relevant quantitative impact targets that are appropriate for the context of their funds.

Emerging market skew

The prototypes rely on SDG databases, which can sometimes have more data available for emerging markets, especially given that the SDGs were primarily intended for emerging markets. However, this methodological approach is applicable to both developed and emerging markets and investors are encouraged to use it as such.

Inherent focus on social impact themes

The QALY approach assumes that longevity of human life and improved quality of life are inherently good. This approach also assumes that there is only intrinsic value for humans and not non-human animals or non-sentient entities, rendering this approach primarily useful for comparisons across indicators within social impact themes, while greenhouse gas emissions remain primarily useful for understanding environmental-related themes, including impact on life on land and life below water.

Invitation to comment

The GIIN invites industry stakeholders including investors, field builders, researchers, monitoring and evaluation experts, advisors and any others interested, to engage with the prototype tools and share your thoughts, reflections, feedback and most importantly, critiques.

To share your input and help shape this industry impact tool, please visit this page and help strengthen this work to enable consistent, rigorous impact comparisons at the fund-level. Comments are welcome through January 2025.

Some discussion questions to consider as you engage with the prototype tools:

- What do you see as potential use cases for these tools?
- Are there any specific questions or clarifications you would like about this methodology?
- What aspects of the methodology do you find effective or valuable?

- What concerns or limitations do you see in this approach?
- Do you have any additional insights or recommendations?

Appendices

Appendix I: Methodology Development

GUIDING PRINCIPLES

To guide the development of this methodology, the GIIN strives to adhere to the following principles:

1. **Rigor**: A methodology should generate statistically valid, contextualized conclusions about the positive and negative social and environmental results associated with impact investments.
2. **Independence**: Methodological choices and analyses will be informed by third-party and statistical evidence to the extent that such information is available.
3. **Replicability**: Given the same inputs, any entity that followed this methodology will arrive at the same outputs and conclusions.
4. **Transparency**: All methodological choices and assumptions will be documented and made publicly available; this discussion paper will also be open to public comment.
5. **Mindfulness of incentives**: Any analytic methodology will incentivize a given set of behaviors and behavior changes; any known incentives should be documented and shared transparently, and the methodology's design should seek to minimize any possible, inadvertent negative effects that may result from the application and uptake of its analytic approach.

DEVELOPMENT PROCESS

The development of this work began in the fall of 2023, with an initial survey sent to GIIN members to understand current practices in aggregating impact at the fund level and to identify any challenges they face with such methodologies. The feedback from this snap poll highlighted key pain points and provided insight into the specific areas where support from GIIN's methodology development could be most valuable.

Originally, this project was intended to follow the approach of COMPASS, a methodology-first initiative with the aim to eventually create a fully integrated tool. However, based on feedback from investors, it became clear that producing a methodology alongside a practical tool would provide

greater utility. In response, we adjusted the scope, focusing specifically on aspects of impact aggregation where accompanying prototypes would be most valuable. This led to the development of a targeted methodology and tools that address two central needs: impact target setting and impact comparison within or across sectors.

Throughout the process, we conducted technical consultations with a diverse group of investors and field builders to validate our approach. These consultations helped ensure confidence in the data sources underlying our models and confirmed alignment with the broader investment process, further strengthening the methodology's relevance and applicability.

Appendix II: List of terms

- **Asset allocators:** Any investors making investments indirectly through funds or intermediaries.
- **Asset managers:** Investors who make investments directly into companies, projects or real assets.
- **Impact investments:** Investments made with the intention of generating positive, measurable social and environmental impact alongside a financial return. They can be across asset classes, in both emerging and developed markets, and target a range of returns from below-market to above-market-rate, depending on the investors' strategic goals.
- **Impact lens:** A holistic approach to portfolio construction that integrates an impact thesis with a financial thesis. This approach ensures that alongside meeting financial obligations, the investment portfolio is intentionally designed to address the long-term interests of ultimate beneficiaries, including specific social, environmental and economic outcomes of relevance to the beneficiaries.
- **Impact target:** A quantitative impact goal against which to assess progress.
- **Impact theme:** The type of strategic objectives or approaches investors or enterprises employ to achieve the primary social or environmental effect they intend to deliver.
- **Investment beliefs:** These set the direction for investment policy, investment practice and organizational culture. They help define how the asset owner will create investment value, in the context of future uncertainty, risk and opportunity.
- **Quality-adjusted life year (QALY):** The amount of a life-year lived on a relative, bounded scale of quality (measured between 0 and 1). This measure was developed initially in the healthcare sector as an academic standard for measuring the effects of different types of healthcare interventions on individuals' quality of life. QALYs track the effect of interventions on both additional life years and the overall wellness of the individual. Tracking only life years would privilege actions that may solely extend lifespans without improving them while including both factors offers a measure of both breadth and depth.

Appendix III: Data input summary of the composite risk indicator

Our methodology for assessing risk in the Impact Target Setting Tool involves analyzing country-level data across five key indices:

- **Corruption risk**: Transparency International's Corruption Perceptions Index (CPI)
- **Inequality risk**: World Bank Group's Gini Coefficient
- **Labor rights**: International Trade Union Confederation's Global Rights Index
- **Financial, business and monetary policy risk**: The Fraser Institute's Economic Freedom Index
- **Government stability**: World Bank Group's Governance Indicators

Each index was normalized to a common scale ranging from 0 to 1, allowing for comparability. These indices were equally weighted, and we calculated the average of the normalized scores to produce a country-level mean. The mean value facilitated categorization into risk levels: high, medium or low. Using the 33rd and 66th percentiles (.361939 and .52655), we defined risk levels as follows: scores below .361939 indicate low risk, scores above .52655 signify high risk, and scores between these percentiles represent medium risk.

Though these analyses are performed at the country level, they are further aggregated to regional and emerging or developed market levels. This approach enables investors to set impact targets aligned with broader investment theses that may focus on regional or market-based and emerging or developed scopes, supporting strategic target-setting across diverse portfolios.

Appendix IV: List of sources

Endnotes

Hand, D., & Gilbert, S. (2023). Holistic portfolio construction with an impact lens: A vital approach for institutional asset owners in a changing world. Global Impact Investing Network. https://thegiin.org/publication/research/holistic-portfolio-construction-with-an-impact-lens-a-vital-approach-for-institutional-asset-owners-in-a-changing-world/

Hand, D., Sunderji, S., & Pardo, N. M. (2023). 2023 GIINsight series. Global Impact Investing Network. https://thegiin.org/publication/research/2023-giinsight-series/

Hand, D., Sunderji, S., & Kommineni, U. (2021). Institutional asset owners: Approaches to setting social and environmental goals. Global Impact Investing Network. https://thegiin.org/publication/research/institutional-asset-owners-approaches-to-setting-social-and-environmental-goals/

Sunderji, S., & Ringel, B. (2021). Institutional asset owners: Strategies for engaging with asset managers for impact. Global Impact Investing Network. https://thegiin.org/publication/research/institutional-asset-owners-strategies-for-engaging-with-asset-managers-for-impact/

UNCTAD. (2023). SDG Investment Trends Monitor. Assessment of the Investment Gap by SDG Sector. United Nations Conference on Trade and Development. https://unctad.org/system/files/official-document/diaemisc2023d6app1_en.pdf

United Nations Statistics Division. (n.d.). SDG indicators: Metadata repository. United Nations. Retrieved from https://unstats.un.org/sdgs/metadata/

Bertelsmann Stiftung. (n.d.). BTI Transformation Index methodology: Criteria and indicators. BTI Project. Retrieved from https://bti-project.org/en/methodology

Transparency International. (2022). Corruption perceptions index 2022. Transparency International. Retrieved from https://www.transparency.org/en/cpi/2022

World Bank. (n.d.). Gini index. The World Bank. Retrieved from https://data.worldbank.org/indicator/SI.POV.GINI?skipRedirection=true&view=map

International Trade Union Confederation. (n.d.). Global rights index. International Trade Union Confederation. Retrieved from https://www.ituc-csi.org/global-rights-index#:~:text=Each%20year%2C%20the%20ITUC%20Global,rights%20by%20governments%20and%20employers

Fraser Institute. (n.d.). Economic freedom. Fraser Institute. Retrieved from https://www.fraserinstitute.org/studies/economic-freedom

World Bank. (n.d.). Worldwide governance indicators. The World Bank. Retrieved from https://www.worldbank.org/en/publication/worldwide-governance-indicators

Impact Frontiers. (n.d.). Impact risk. Impact Frontiers. Retrieved from https://impactfrontiers.org/norms/five-dimensions-of-impact/impact-risk/

International Cost-Effectiveness Analysis Registry. (n.d.). Cost-effectiveness, the QALY, and the EVLYG. ICER. Retrieved from https://icer.org/our-approach/methods-process/cost-effectiveness-the-qaly-and-the-evlyg/

LCA Network. (n.d.). Who we are. LCA Network. Retrieved from https://lca-net.com/about/who-we-are/

LCA Network. (2022). Data files on LCA impact pathway mapping. LCA Network. Retrieved from https://lca-net.com/publications/show/4640/

LCA Network. (2022). Relative importance of sustainability impact pathways: A first rough assessment. LCA Network. Retrieved from https://lca-net.com/files/Relative-importance-of-sustainability-impact-pathways_A-first-rough-assessment_20220815.pdf

Wailoo, A. (2022). A Guide to Calculation Severity Shortfall for NICE Evaluations. University of Sheffield. Retrieved from https://www.sheffield.ac.uk/media/57671/download?attachment?attachment#:~:text=Severity%20is%20to%20be%20calculated,conditional%20on%20age%20and%20sex

Bibliography

Bass, R., Hand, D., McCarthy, K., Sunderji, S., & Nova, N. (2021). COMPASS: The Methodology for Comparing and Assessing Impact. In *Global Impact Investing Network*. Global Impact Investing Network. https://thegiin.org/publication/research/compass-the-methodology-for-comparing-and-assessing-impact/

Campbell, J. D., Whittington, M. D., & Pearson, S. D. (2023). An Alternative Measure of Health for Value Assessment: The Equal Value Life-Year. *PharmacoEconomics*, *41*(10), 1175–1182. https://doi.org/10.1007/s40273-023-01302-6

FAO (Food and Agriculture Organization), IFAD (International Fund for Agricultural Development), & WFP (World Food Programme). (2015). *Achieving Zero Hunger: The critical role of investments in social protection and agriculture*. FAO.

Ghose, A., Lissandrini, M., Hansen, E. R., & Weidema, B. P. (2021). A core ontology for modeling life cycle sustainability assessment on the Semantic Web. *Journal of Industrial Ecology*, *26*(3), 731–747. https://doi.org/10.1111/jiec.13220

Global Education Monitoring Report Team. (2020). *Global education monitoring report summary, 2020: Inclusion and education: all means all*. UNESCO.

Hutton, G., & Varughese, M. (2016). *the Costs of meeting the 2030 Sustainable Development Goal targets on Drinking Water, Sanitation, and Hygiene*. WSP (Water and Sanitation Program).

IEA (International Energy Agency). (2022). *World Energy Outlook 2022*. IEA (International Energy Agency).

MacKillop, E., & Sheard, S. (2018). Quantifying life: Understanding the history of Quality-Adjusted Life-Years (QALYs). *Social Science & Medicine*, *211*, 359–366. https://doi.org/10.1016/j.socscimed.2018.07.004

Mehdi Mikou, Rozenberg, J., Elco Eduard Koks, James, C., & Tatiana Peralta Quiros. (2019). Assessing Rural Accessibility and Rural Roads Investment Needs Using Open Source Data. *Social Science Research Network*.

Oughton, E. J., Comini, N., Foster, V., & Hall, J. W. (2022). Policy choices can help keep 4G and 5G universal broadband affordable. *Technological Forecasting and Social Change*, *176*, 121409. https://doi.org/10.1016/j.techfore.2021.121409

Paulson Institute, the Nature Conservancy, & Cornell Atkinson Center for Sustainability. (2020). *Financing Nature: Closing the Global Biodiversity Financing Gap*.

Rosegrant, M. W., Sulser, T. B., Mason-D'Croz, D., Cenacchi, N., Nin-Pratt, A., Dunston, S., Zhu, T., Ringler, C., Wiebe, K. D., Robinson, S., Willenbockel, D., Xie, H., Kwon, H.-Y., Johnson, T., Thomas, T. S., Wimmer, F., Schaldach, R., Nelson, G. C., & Willaarts, B. (2017). *Quantitative foresight modeling to inform the CGIAR research portfolio*. Intl Food Policy Res Inst.

Schneider, P. (2021). The QALY is ableist: on the unethical implications of health states worse than dead. *Quality of Life Research*. https://doi.org/10.1007/s11136-021-03052-4

Stenberg, K., Hanssen, O., Edejer, T. T.-T., Bertram, M., Brindley, C., Meshreky, A., Rosen, J. E., Stover, J., Verboom, P., Sanders, R., & Soucat, A. (2017). Financing transformative health systems towards achievement of the health Sustainable Development Goals: a model for projected resource needs in 67 low-income and middle-income countries. *The Lancet Global Health*, *5*(9), e875–e887. https://doi.org/10.1016/s2214-109x(17)30263-2

Strong, C., Kuzma, S., Vionnet, S., & Reig, P. (2020). Achieving Abundance: Understanding the Cost of a Sustainable Water Future. *World Resources Institute*.

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, *5*(4), 297–323. https://doi.org/10.1007/BF00122574

UNCTAD. (2023). SDG investment is growing, but too slowly: The investment gap is now $4 trillion, up from $2.5 in 2015. In *UNCTAD*. https://unctad.org/publication/sdg-investment-trends-monitor-issue-4#:~:text=UNCTAD's%20review%20at%20the%20midpoint,over%20the%20next%20eight%20years.

UNEP (UN Environmental Programme). (2022). *The State of Finance for Nature in the G20 report*. UNEP.

UNFPA (United Nations Population Fund). (2020). *Costing the Three Transformative Results*.

von Neumann, J., & Morgenstern, O. (1947). *Theory of games and economic behavior* (2nd ed.). Princeton University Press.

Weidema, B. P. (2022). Relative importance of sustainability impact pathways – A first rough assessment. In *LCA Consultants*. LCA Consultants. https://lca-net.com/publications/show/relative-importance-of-sustainability-impact-pathways-a-first-rough-assessment/

About the Global Impact Investing Network (GIIN): The Global Impact Investing Network (GIIN) is the global champion of impact investing, dedicated to increasing the scale and effectiveness of impact investing around the world. The GIIN builds critical infrastructure and supports activities, education and research that help accelerate the development of a coherent impact investing industry. For more information, see www.thegiin.org. Contact the GIIN Please direct any comments or questions about this paper to research@thegiin.org. To download industry research by the GIIN and others, please visit https://thegiin.org/research.

[i] https://thegiin.org/publication/research/holistic-portfolio-construction-with-an-impact-lens-a-vital-approach-for-institutional-asset-owners-in-a-changing-world/

[ii] https://thegiin.org/publication/research/2023-giinsight-series/ - Impact Investing Activity, Allocations and Performance GIINsight brief

[iii] https://thegiin.org/publication/research/institutional-asset-owners-approaches-to-setting-social-and-environmental-goals/

[iv] https://thegiin.org/publication/research/institutional-asset-owners-approaches-to-setting-social-and-environmental-goals/

[v] https://thegiin.org/publication/research/institutional-asset-owners-strategies-for-engaging-with-asset-managers-for-impact/

[vi] https://unctad.org/system/files/official-document/diaemisc2023d6app1_en.pdf

[vii] https://unstats.un.org/sdgs/metadata/

[viii] https://bti-project.org/en/methodology

[ix] https://www.transparency.org/en/cpi/2022

[x] https://data.worldbank.org/indicator/SI.POV.GINI?skipRedirection=true&view=map

[xi] https://www.ituc-csi.org/global-rights-index#:~:text=Each%20year%2C%20the%20ITUC%20Global,rights%20by%20governments%20and%20employers.

[xii] https://www.fraserinstitute.org/studies/economic-freedom

[xiii] https://www.worldbank.org/en/publication/worldwide-governance-indicators

[xiv] https://impactfrontiers.org/norms/five-dimensions-of-impact/impact-risk/

[xv] https://icer.org/our-approach/methods-process/cost-effectiveness-the-qaly-and-the-evlyg/

[xvi] https://lca-net.com/about/who-we-are/

[xvii] Data files on LCA impact pathway mapping – https://lca-net.com/publications/show/4640/

[xviii] https://lca-net.com/files/Relative-importance-of-sustainability-impact-pathways_A-first-rough-assessment_20220815.pdf

[xix] Data files on LCA impact pathway mapping – https://lca-net.com/publications/show/4640/

[xx] https://www.sheffield.ac.uk/media/57671/download?attachment?attachment#:~:text=Severity%20is%20to%20be%20calculated,conditional%20on%20age%20and%20sex.

[xxi] https://impactfrontiers.org/norms/five-dimensions-of-impact/impact-risk/