



Measuring Impact: Metrics for Global Change A Columbia University Case Study

As the Social Impact and ESG investment sectors have grown, a crucial question has emerged – how to measure impact? This Columbia audiovisual case study is the second in the Social Impact Investing series. It builds on and develops issues introduced in the 2019 case “Doing Well by Doing Good: An Introduction to Impact Investing.”

This case explores the history of the debate on measurement in the Social Impact Investing sector from the 1990’s to 2020, as new metrics were developed such as IRIS+ by the Global Impact Investing Network (GIIN), the United Nations’ Principles of Responsible Investing (PRI), and the International Finance Corporation’s (IFC) Impact Operating Principles. The case incorporates interviews with industry leaders and practitioners: Amit Bouri, CEO & Co-Founder of the Global Impact Investing Network (GIIN), Durreen Shahnaz, CEO and Founder of Impact Investment Exchange (IIX); ; Leslie Norton, Columnist at Barron’s; Jed Emerson, Founder of Blended Value; Linda Eling-Lee, Global Head of Research at MSCI’s ESG Research Group; Donnel Baird, Founder of BlocPower; ; and Sasha Dichter, Co-Founder of 60 Decibels.

The case includes the following elements:

- Video Introduction and Discussions: Available online
- Written Case Study: This Document
- Annex A: Additional Images

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A New Industry is Born

As was outlined in the 2019 Columbia Case, “Doing Well by Doing Good,” the Social Impact Investment movement took shape in the 1990’s, and had its origins in both asset management and philanthropy. It grew out of the investing approach of certain large family offices, asset managers, and mutual funds. Such funds began to offer what became known as Socially Responsible Investing (SRI) to meet investors’ demand for financial returns through “exclusionary screening” by excluding industries such as adult entertainment, gambling, arms, and tobacco. The anti-apartheid movement gave this special focus, as more and more funds were asked to find ways to exclude investments in companies doing business with the apartheid government in South Africa.

Another important contributor to the development of the movement was philanthropy, which had become increasingly disillusioned with the ability of traditional aid to solve problems, as was famously described by Dambisa Moyo in her book “Dead Aid.”¹ These two movements came together formally in 2008 at a conference in Bellagio, Italy where, with the support and funding of the Rockefeller Foundation, leaders from the investing and philanthropy world met and agreed to birth an industry which would intentionally pursue financial returns in addition to social and environmental impact. The world of Social Impact Investing was born.

The United Nations (UN) has provided frontline leadership in the incorporation of sustainability in business. John Ruggie, the Secretary-General’s Special Envoy on Business and Ethics, oversaw the process for the establishment of the UN Global Compact in New York on 26 July 2000 and Georg Kell became inaugural head of the agency. These and other global initiatives led to the United Nations Sustainable Development Goals (SDGs) adopted by all United Nations Member States in 2015 as a call for action by all countries - poor, rich and middle-income - to promote prosperity while protecting the environment and addressing a range of urgent global challenges. It was recognized that ending poverty must go hand-in-hand with strategies that build economic growth and speak to a range of social needs including education, health, equality, and job opportunities, while tackling climate change and working to preserve our oceans and forests². The public, private, and non-profit sectors have increasingly been required to work together in financing and promoting the SDGs.

The 2018 Global Sustainable Investment Review published by the Global Sustainable Investment Alliance describes impact investing as a small, growing but vibrant segment of the broader sustainable and responsible investing universe³. Other strategies associated with sustainable or socially responsible investing include: negative/exclusionary screening, positive/best-in-class screening, ESG investing, thematic investing, active ownership, and impact investing. According to GIIN industry surveys, by 2013, the industry had grown to \$25.4 billion. It further grew to \$35.4 billion in 2015⁴ and to \$715 billion by 2019⁵. In the face of the challenge of low interest rates in developed economies, global asset managers seeking low

¹ Dambisa Moyo, *Dead Aid: Why Aid is Not Working and How There is a Better Way for Africa* (Farrar, Straus and Giroux, 2009).

² United Nations website, “Sustainable Development Goals” (SDGs), <https://sustainabledevelopment.un.org/>

³ 2018 Global Sustainable Investing Review

⁴ GIIN, *Impact Investing Trends* (2015), https://thegiin.org/assets/GIIN_Impact%20InvestingTrends%20Report.pdf

⁵ GIIN 2020 Annual Impact Survey, <https://thegiin.org/research/publication/impinv-survey-2020>

correlation between traditional asset classes and private markets now see impact investing as an attractive diversification option.

The Problem of Measurement

But while the industry grew spectacularly in the late 2000's, it realized it had a crucial problem – how to measure impact? While the financial services industry had developed complex metrics and indicators for financial returns and risk, it did not have a language or metrics to measure social costs and benefits. What was the additionality (incremental benefit) or otherwise from a water treatment plant in a rural community in Africa? If an investment – such as a solar light company – promised both financial and environmental returns, how were these to be measured? Might the impact of reduced carbon dioxide (CO₂) emitted be quantified? If an investment in a healthy lunch provider creates both financial returns and health benefits to its customers, how can this be measured? What is the value of an improved environment? Can it be measured and quantified in small increments?

Most foundations and philanthropies had tended to measure units of activity or output rather than outcomes. To measure social outcomes, a baseline had to be defined and sometimes the cost of measuring the baseline might exceed the benefit of the investment. The biggest barrier to social impact measurement has thus been the amount of time and resources it takes to measure outcomes, as compared to measurable benefits. Many impact investors thus face a Goldilocks Dilemma: if they spend too little time tracking the outcomes, they may be unable to demonstrate impact and lose the confidence of investors. But if they spend too much time on it, the cost may exceed the benefit and impact is lost⁶. This is especially true for small- to medium-sized impact investors with a very limited supply of both time and resources. To solve this problem, the industry has evolved means of assessing impact that are rigorous enough to justify development activities to public and private funders, while also being simple enough not to require a disproportionate investment of resources - for example, theory of change, randomized assignment, instrumental variables, difference-in-differences.

As the industry grew from 2015, large investors and asset managers, including development finance institutions, foundations, family offices and private equity managers, intentionally pursued impact through investments in infrastructure, water, sanitation and hygiene, healthcare, and Information & Communication Technology (ICT) sectors. As a push factor, according to the GIIN, many of these investors considered a desire to contribute to a global agenda, such as the UN Sustainable Development Goals (SDGs) or the Paris Climate Accord, as a “very important” motivator for making these impact investments⁷. Most impact investors matched their existing portfolios to the SDGs to ease measurement rather than establishing new funds. However, gender lens investing often necessitated the creation of new funds such as the United States International Development Finance Corporation (US IDFC)'s \$1bn 2X Global Women's Initiative launched in 2019, which focused its investments on women in developing markets. The biggest challenges, however, remained the measurement of the outcomes of these SDG investments and the need to attribute quality-of-life changes to specific impact assets.

⁶ Pioneers' post, Christian Jahn & Susan Tischendorf (2020), <https://www.pioneerspost.com/news-views/20200225/how-do-we-stop-impact-metrics-becoming-counterproductive>

⁷ GIIN, 2019 Annual Impact Investor Survey, Page 4, https://thegiin.org/assets/GIIN_2019%20Annual%20Impact%20Investor%20Survey_webfile.pdf

In his book “The Purpose of Capital⁸,” Jed Emerson describes how investors have continued to act with a deeper consideration of the meaning of money. There is growing consensus amongst investors and asset owners that “Value is whole and non-divisible and a blend of economic, social and environmental elements.”⁹ These ideas flow from the concept of the triple bottom line made popular by John Elkington in the mid-to-late 1990s, whereby the social or environmental impact and the financial return have equal importance and reinforce each other. There was thus a need to monetize all three forms of return for ease of integration and comparability. Herein lies the problem of measurement.

The History of Measuring Impact

As industry leaders struggled with these issues, many turned to other sectors for answers. The life insurance and legal industries long had a need to measure the financial value of human life, to prevent adverse selection, ensure risk-based premiums, and ensure that fair rewards are paid. There are three key considerations in the pricing of life insurance: mortality expectations, a discount rate, and loading (expense and profit). The net premium of a life insurance policy represents the discounted value of the future death benefit using probability-of-dying tables (mortality expectations)¹⁰.

In the 1960s, many countries in Africa became embroiled in civil conflicts after independence from European colonialists, for example the Congo upheaval between 1960-1965 and the Nigerian-Biafran war in 1967-1970, which birthed humanitarian organizations such as the World Food Programme (WFP) (1961), Médecins Sans Frontiers (1971,) and program expansion for missions like the Caritas Movement and the International Committee of the Red Cross (ICRC). These missions measured impact based on the number of children fed, child mortality, number of children supplied vitamin supplements, and number of rescue airlifts operated during conflict, for example.

By the 1970s, the international development industry, led by multilateral development banks such as the World Bank, expanded global lending by focusing attention on poverty eradication. The Bank addressed human capital development through people-centered activities rather than physical construction. Agriculture, healthcare, and education thus received significant attention. By the 1980s, in a bid to measure the impact of the Bank’s investments on people as its mandate shifted to poverty reduction, there was an increased hiring of experts from a broad array of disciplines, including impact evaluation specialists, social scientists, and public policy experts. The environmental and social impact of Bank-funded projects also became a predominant issue in investee countries, and the World Bank responded by focusing attention on the ESG (Environmental, Social, Governance) impact of investments by improving transparency and community satisfaction. In 2001, Mexico’s innovative Conditional Cash Transfer (CCT) program (then Oportunidades, and later Prospera) was subject to external evaluation and found to be impressive. The evaluation showed that the program was well targeted to the poor and had engendered promising changes in households’ human capital¹¹.

⁸ Jed Emerson (2018), *The Purpose of Capital*, <https://www.purposeofcapital.org/the-purpose-of-capital>

⁹ Quote from Jed Emerson in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Emerson come from this interview, unless otherwise attributed.

¹⁰ See Figure 1 in Annex A for mortality tables

¹¹ World Bank Group, Paul J. Gertler, Sebastian Martinez, Patrick Premand et al; *Impact Evaluation in Practice Handbook*; <https://openknowledge.worldbank.org/handle/10986/25030>

The World Bank subsequently ran a series of “Turning Promises to Evidence” workshops. The impact evaluations were carried out using a combination of randomized assignment, theory of change (logic model), instrumental variables, regression discontinuity design, difference-in-differences, and matching. The logic model, which originated in the United States Agency for International Development (USAID) evaluation practices starting in the 1960’s, is a common form of outlining a theory of change. It lays out the linkages in a logic model according to input, activities, output, outcomes, and ultimately impact. These econometric techniques helped overcome the challenges of policy makers measuring and reporting inputs, activities, and outputs rather than outcomes. The use of control groups in estimating the true impact of an intervention in the treatment group was not a recommended practice, as it often required denying the control group food, education, or social services in order to determine impact. Also, despite the World Bank Group’s loan book growth from \$1.7 bn in 1969 to \$17 bn in 1987¹², the estimation of the social impact often occurred years after the program ended and required extensive and sometimes expensive evaluation, with the social benefits difficult to monetize.

The success of Mohammed Yunus’ Grameen Bank (founded in 1983) as a microfinance lending institution and his subsequent Nobel Prize for Peace in 1996, led to the expansion of the impact investing industry in the 1990’s and early 2000’s. Impact investment microcredit funds such as “ADA – Appui au Développement Autonome” in Luxembourg (1994), Symbiotics (1996), Acumen (2001), ResponsAbility (2003), and others began lending to the industry. One of the first developed standards for social impact measurement was the Social Return on Investment (SROI) developed by Social Value International (SVI), a group of 2,000 professionals across the globe. According to the SVI, SROI is “a framework based on social generally accepted accounting principles (SGAAP) that can be used to help manage and understand social, economic and environmental outcomes.” SROI was developed from social accounting and cost benefit analysis and puts a monetary value on social benefits, comparing public and private benefits to costs¹³. In its simplest form, the SROI ratio can be calculated as:

$$\text{SROI ratio} = \frac{\text{Present Value of Impact}}{\text{Value of Inputs}}$$

It can take the form of a percentage Return on Investment (ROI), a ratio, or a Net Present Value (NPV) in monetary terms.

Considering the concentration of private equity options for impact investing, Howard Buffett developed a metric (iIRR), or Impact Rate of Return – a twist on the well-known financial metric, Internal Rate of Return (IRR), used to measure private equity funds’ performance. This metric internalizes the external costs and benefits in evaluating impact investments in addition to financial returns¹⁴.

¹² World Bank Group Archivists Chronology (1944-2013), <http://pubdocs.worldbank.org/en/186241442500110286/PDF-World-Bank-Group-Archivists-Chronology-1944-2013.pdf>

¹³ A Guide to Social Return on Investment (2012), Nicholls, Jeremy, Eilis Lawlor, Eva Neitzert, and Tim Godspeed

¹⁴ Columbia University, Howard Buffett & William Eimicke, Social Value Investing; <https://sipa.columbia.edu/irr>

Twin Problems – Data Collection and Valuations

One of the key issues that emerged as the Social Impact Investing industry began to develop its own metrics to measure social impact was that each investment posed two problems.

First, how can investors collect raw data, like the number of lives lost or saved, tons of carbon emitted, the preservation of aquatic life, and the value of increased years of schooling? Beyond this, how can investors monetize or assign value to it? The difficulty in scaling up investments lies in the complexity of estimating value for the social and natural environment, the lack of a marketplace to determine price, the high costs to enable scale-up, and an absence of clarity and transparency.

Secondly, determination of valuation through exits or publicly listed outcomes and a measurement framework¹⁵ are equally hard. The objective should be to get impact investing to have a route to market, enabling large-scale funding flows to the SDGs. These principles are available on the major stock exchanges and a further stratification may be required to raise financing according to SDG themes – for example, water purification, water conservation, biodiversity, or hunger. In doing this, the principles of additionality (whether the target social outcomes would have occurred without the investment) as important considerations in thinking about impact will be brought to the fore as capital raises, entrepreneurial activity, and remodeling of existing structures become focused on the incremental benefits. Therefore, a thematic approach may be the most proactive way of incorporating scientific measurement standards and valuation techniques by professional valuers without an expensive or overly complex system.

The Task Force on Climate-Related Financial Disclosures (TCFD) was created in 2015 by the Financial Stability Board (FSB) to develop consistent climate-related financial risk disclosures for use by companies, banks, and investors in providing information to stakeholders. The United Nations Environment Programme Finance Initiative (UNEP FI) and twenty of the world's leading asset managers and owners conducted the TCFD pilot project for investors. Participants in the pilot developed scenarios, models, metrics, and a risk assessment tool to enable investors to assess climate risk across their portfolios. Technical partners included Carbon Delta (now MSCI) and Vivid Economics.¹⁶

Between 2016-18, a sizable cross-section of the market came together to agree on the definition of impact and the types of data that one would therefore expect to find in any good impact framework and impact report. These norms provided a logic for sharing information about impact goals and performance across value chains, amongst people and planet, enterprises, investment intermediaries, advisors, and asset owners. This was known as the Impact Management Project (IMP) and included a broad section of stakeholders, including the United Nations Development Programme (UNDP), hence a focus on the measurement of SDG progress. These norms have been agreed to by over 2,000 practitioners globally. With a focus through 2021, the IMP is building consensus around standards in three areas: processes for managing impact (practice), frameworks and indicators for measuring and reporting impact (performance), and valuation for comparing impact (benchmarking).

¹⁵ Trialogue Knowledge Hub, Monique Mathys Graaff, <https://www.youtube.com/watch?v=Xab9SEwc2eE>

¹⁶ UNEP/FSB <https://www.unepfi.org/climate-change/tcfd/#:~:text=The%20Task%20Force%20on%20Climate,in%20providing%20information%20to%20stakeholders.>

In April 2019, the International Finance Corporation (IFC) launched its nine Operating Principles for Impact Management, a framework for investors who agree to publicly demonstrate a commitment to implementing a global standard for managing impact investments (see Figure 2). The Principles had 98 signatories (June 2020) who are required to publish an annual disclosure statement in which they describe how each principle is incorporated in the investment process and the extent of their alignment with each principle. Every signatory is also required to provide regular independent verification of the alignment of its impact management systems with the Principles. Independent verification may be conducted as part of a financial audit or through a portfolio/fund performance evaluation. The terms are flexible, allowing the verification to be performed either by an external third party or by an internal unit of the signatory¹⁷.

Environmental, Social and Governance (ESG) Integration

The size of the ESG market globally is estimated at over \$30 trillion because ESG integration is largely implemented through the public equity markets, which are valued at \$85 trillion globally¹⁸. This shows that the ESG market, though sizable, holds room for significant growth. According to predictions by Bank of America, another \$20 trillion is set to flow into ESG funds over the next two decades, which the firm called a “tsunami of assets.” To put this growth into context, as of December 2019 the entire S&P 500 was worth about \$25.6 trillion¹⁹.

ESG utilizes datasets about a company obtained from a variety of sources to assess the company’s environmental, social, and governance footprints and its impact on the organization’s sustainability. Sustainable and Responsible Investing (SRI) focuses on values and ESG is a subset of the overall SRI class, while Impact Investing prioritizes an investment’s intention to do good. Due to the relative ease of integration within existing public equity markets compared to impact investing, the ESG market has gained widespread acceptance for the estimation of a company or portfolio’s long-term risks and opportunities which may not be captured in traditional financial statements²⁰. According to Leslie Norton at Barron’s, ESG issues include governance, labor practices, supply chain, data security, human rights and environmental policies and emissions. Norton points out that investor sentiment suggests that ESG is one of the best ways to capture long-term risk in public companies, but unfortunately these tail risks are difficult to measure until they have a financial impact.

Recently, critics have suggested that although ESG ratings constitute a positive “first step” in the direction of truly effective impact investing, the current ESG standards measure investor risk rather than the overall impact of a company’s products and processes on society. As examples, they point to the negative impact of fossil fuels (Exxon, BP) and the health impacts of soft drinks (Coca Cola, Pepsi), which they say are minimized in ESG ratings systems that place too much emphasis on corporate governance (the “G” in ESG) over the actual impact on human health and well-being. (footnote 24: For instance, see Hans Taparia’s sharp critique in the Stanford Social Innovation Review (July 2021) https://ssir.org/articles/entry/the_world_may_be_better_off_without_esg_investing)

¹⁷ IFC Operating Principles for Impact Management (2019), <https://www.impactprinciples.org/principles>

¹⁸ Deutsche Bank estimate of the value of global equity markets (December 2019), <https://www.cnbc.com/2019/12/24/global-stock-markets-gained-17-trillion-in-value-in-2019.html>

¹⁹ CNBC, (2019), Your Full Guide to Sustainable Investing. <https://www.cnbc.com/2019/12/14/your-complete-guide-to-socially-responsible-investing.html>

²⁰ See Figure 2 in Annex A for MSCI’s ESG growth timeline

To address the challenge of subjective measurement of ESG risks and opportunities, Linda Eling-Lee, Head, ESG Research at MSCI, the world's leading ESG index provider, points out that MSCI rates over 8,500 companies²¹ (14,000 issuers including subsidiaries), countries, mutual funds, and Exchange Traded Funds (ETFs). The firm does not rely solely on company self-sustainability disclosures for its ESG risk measurement across over 1,500 indexes²². MSCI determines ESG risks using regulatory datasets, company information in media, and technology-based models (Artificial Intelligence [AI] & Machine Learning (ML)) for nowcasting and forecasting. An evaluation is then made through an internal committee process.

Research by Guido Giese, Linda Eling-Lee *et al.* (2019) published in the Journal of Portfolio Management showed that companies' ESG information was transmitted to their valuation and performance, both through their systematic risk profile (lower costs of capital and higher valuations) and their idiosyncratic risk profile (higher profitability and lower exposures to tail risk). The research also suggests that changes in a company's ESG characteristics may be a useful financial indicator.²³

However, ESG indexes, while mitigating long-term risk, may have lower short-term returns. An important disclaimer on Blackrock's I-shares ESG MSCI Emerging Market Exchange Traded Fund (ESGE) notes that "a fund's environmental, social and governance ("ESG") investment strategy limits the types and number of investment opportunities available to the fund and as a result, the fund may underperform other funds that do not have an ESG focus (See Figure 3 in Annex A). A fund's ESG investment strategy may result in the fund investing in securities or industry sectors that underperform the market as a whole or underperform other funds screened for ESG standards."

GIIN – Developing a Common Taxonomy

One of the first groups to approach the problem of impact measurement was the Global Impact Investment Network (GIIN), the global champion of impact investing dedicated to increasing its scale and impact around the world. Of the two key problems of measurement, it focused on what it saw as the key issue of creating a common nomenclature to define, track, and report relevant social and environmental performance. Additionally, this scarcity of consistent, credible non-financial performance metrics also prevented fair comparisons between various opportunities and the development of robust benchmarks. For example, if a Kenyan fund's investment is to be compared to an Australian fund's investment in terms of social impact, both funds need to measure social impact in the same way, using the same language. Taking this a step further, how can these investors take this impact from an operational level to a portfolio level?

Founded in 2009, GIIN's mission is to increase the scale and effectiveness of impact investing around the world. GIIN seeks to accelerate the industry's development through focused leadership and collective action through multiple pillars: convening impact investors to facilitate knowledge exchange, highlighting innovative investment approaches, building the evidence base for the industry, and producing valuable

²¹ Quote from Linda-Eling Lee in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Lee come from this interview, unless otherwise attributed.

²² MSCI ESG website, <https://www.msci.com/esg-ratings>

²³ Journal of Portfolio Management, Vol. 45 No.5, How ESG affects portfolio valuation, Guido Giese, Linda Eling-Lee et al, (2019), <https://www.msci.com/documents/10199/03d6faef-2394-44e9-a119-4ca130909226>

tools and resources. Amit Bouri, the CEO of GIIN, recognized the industry need for GIIN when he interviewed over 50 impact investors and realized that impact investing isn't a way of conducting specific financial transactions, but rather a global movement and market that is focused on driving investment capital to high-impact projects²⁴. He recognized early on that credible, comparable impact data is needed to inform impact investment decisions and drive greater impact results. And the lack of standard impact measurement nomenclature and practices can easily hinder this growth. GIIN now houses the IRIS+ System of impact measurement, which includes a standard vocabulary for investment.

The IRIS Catalog was founded as a result of a convening of pioneering impact investors by the Rockefeller Foundation in 2008. The group recognized this issue of impact nomenclature, and the Rockefeller Foundation, Acumen and B Lab began efforts to create common metrics for reporting the performance of impact capital. In late 2009, GIIN became the home of the IRIS Catalog of Metrics and of industry efforts to build its critical impact measurement infrastructure.

For Bouri, the gaping need was obvious. There was a strong incentive to help accelerate the development of impact investing and the reason it matters, as it directly translates to capital moving and scaling faster. And scale would not be possible if everyone developed their own ways of measuring impact – this would be fragmented, subscale, and dysfunctional.

Today, this has evolved into the IRIS+ System, so that investors and companies have a common understanding of how to effectively measure and manage their impact and offer crucial metrics on how to improve that impact over time. The IRIS Catalog of Metrics incorporates and builds on sector-specific efforts in order to provide a common language that enables comparison and communication across the breadth of organizations prioritizing social and environmental impact.

IRIS+ has developed more than hundreds of standard terms, such as “lives impacted,” “full-time employees,” and “clients served,” among others²⁵. These are segregated by SDGs, thematic areas (energy, healthcare, and housing) and dimensions of impact (what, who, how much, contribution, risk)²⁶. In a further attempt to create symmetry, the IRIS+ system aligns with over 50 standard bodies and therefore covers a diversity of industry types and disclosure materials.

By using IRIS+, impact investors and social enterprises alike are building and promoting transparency, credibility, and accountability in the use of impact data for decision making. In 2011, 29 leading impact investors signed a letter of support for the Catalog of IRIS Metrics, recognizing standardized social and environmental performance as an industry best practice and strongly encouraging peer “impact investment funds and their portfolio companies to adopt IRIS Metrics for their performance reporting.”²⁷ GIIN is constantly evolving this system to add new metrics to the catalog in areas where gaps surface.

BlocPower – Unleashing the Power of a Metric

²⁴ Quote from Amit Bouri in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Bouri come from this interview, unless otherwise attributed.

²⁵ Refer to Figure 7 in Annex A.

²⁶ Refer to Figure 8 in Annex A.

²⁷ GIIN (2011), *Twenty-Nine Impact Investors Sign Letter of Support for IRIS Initiative*, <https://thegiin.org/assets/binary-data/MEDIA/pdf/000/000/19-1.pdf>

One example of a company who made good use of GIIN's new system is BlocPower. Founded in 2012 at Columbia University, BlocPower is a Brooklyn-based energy technology startup rapidly greening American cities. Since its inception, the company has completed energy projects in nearly 1,000 buildings and delivers results ahead of schedule and under budget. BlocPower utilizes its proprietary software for analysis, leasing, project management, and monitoring of urban clean energy projects and its customers are saving 20-40% on their energy bills each year.

Donnel Baird, the company's founder, describes BlocPower as a technology platform that connects utilities, governments, and building owners to clean energy technology and equipment. The company uses machine learning, software applications, and structured financial products to analyze, install, and finance clean energy equipment in urban buildings. They focus mainly on small- and medium-sized buildings in urban environments²⁸.

Baird describes the company's impact as occurring in multiple ways. One is economic benefits: given that energy costs are quite high in urban communities, BlocPower's equipment reduces energy costs annually so that customers can reinvest saved money. Second is through job creation: BlocPower has partnered with Green City Force to train and employ graduates of the New York City Housing Authority (NYCHA) resident training program. Third is environmental benefits. By helping customers switch to clean energy and technology, the company's operations reduce the greenhouse gases emitted. Finally, there is a public health impact. By greening buildings and installing clean energy equipment, there is a reduction in the quantity of indoor air pollutants.

The beauty of the model is that impact is core to the business model: by measuring the performance of the core business, BlocPower is essentially measuring impact. For example, the number of projects completed is considered an impact measurement, as the projects are in financially underserved urban buildings. The amount of energy savings generated monthly is an impact measurement and in terms of employment, the number of contractors and construction jobs are generated on a "per building" or "per project" basis.

Beyond this, there is a need to find comparable metrics to measure and compare impact which comes from multiple sources. The base metrics for people employed, costs saved, and Greenhouse Gasses (GhG) reduced is adapted from the IRIS database. For more energy and greening based metrics, BlocPower follows standardization protocols from the City of New York and the Global Governance Protocols for Energy, similar to GIIN.

As of 2017, BlocPower's work has resulted in: the reduction of CO₂ emissions by 578 metric tons (equivalent to taking 125 cars off the road each year); retrofitted 864 buildings, and produced USD \$430,000 in annual energy bill savings²⁹. BlocPower remains laser-focused on growing this impact. As Baird states, "When we think about impact, we don't think so much about how do we come up with a framework to measure it, as much as how do we really go out and create this impact."

60 Decibels – Solving the Problem of Data Collection

²⁸ Quote from Donnel Baird in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Baird come from this interview, unless otherwise attributed.

²⁹ BlocPower (2017), Impact Report. Refer to Figure 9 in Annex A.

While the GIIN helped groups such as BlocPower communicate the various elements of their value proposition, the key question of how to collect data remained. Data collection in the field was hard, time-consuming, and costly. Additionally, it was hard to check the veracity of the information provided. For social enterprises, this created challenges in understanding how their product was received by their consumers, how it addressed their problems, and how they could make their businesses more impactful. For investors, it meant that despite having robust metrics in place, it was difficult to get the right data to actually quantify the impact promised. This is where 60 Decibels fits in. The company was founded at Acumen and spun out as an independent entity in 2019. It is an end-to-end impact measurement company that has innovated a Lean Data approach that helps collect high-quality data from customers, employees, and beneficiaries at a low cost.

Founded in 2001, Acumen recognized this problem immediately. Acumen is a leading impact investment fund investing in social enterprises that serve low-income communities in developing countries across Sub-Saharan Africa, South Asia, Latin America, and the United States. Acumen realized early on that there was a gap in the impact measurement space, and began creating innovative tools to fill that gap. In their investing cycle, they found it increasingly difficult to bridge the divide between the ambitious impact predicted and the actual data provided by their investee companies. As a rule, they didn't ask a social entrepreneur to share data that couldn't be produced in the normal course of business. Instead, Acumen used proxy data metrics to deduce the actual impact. In this way, they had breadth of data, but no real depth.

For Sasha Dichter³⁰, the founder of 60 Decibels, the main question was, "Do we have a system that is making us any smarter about how to create social impact?" The answer to that was a resounding "no." And that's how the idea of Lean Data was born.

Initially built within Acumen, Lean Data fundamentally focusses on customers and on listening to their voices as a way to get past the complexity of data measurement and collection. There was a keen emphasis on talking to the intended customers and beneficiaries and bringing them into the process of understanding impact. Lean Data innovates by using mobile phones as a low-cost way of collecting data: 60 Decibels' researchers call end-customers on their mobile phones and ask them about how a product or service has impacted their lives. Voice-based surveys have many advantages over SMS surveys: much higher response rates (typically 65% for 60 Decibels), they work for both literate and illiterate customers, and they allow for longer surveys and richer, qualitative responses. 60 Decibels has built a network of over 800 researchers in more than 50 countries who make these calls and ask questions to collect qualitative and quantitative data. Following this, the 60 Decibels team analyzes the data and provides actionable recommendations for the entrepreneur or investor. When the Lean Data team realized that there was a need for these services in the impact investing industry for social entrepreneurs and impact investors, they transitioned out of Acumen in 2019 to create 60 Decibels.

There was an obvious heavy lift in creating this robust and intensive framework, distributed infrastructure, and analytical software, but as Dichter says, there is a beauty in being able to "connect with people in their own place, speak their language to describe their experiences, and turn that into comparable data." As of

³⁰ Quote from Sasha Dichter in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Dichter come from this interview, unless otherwise attributed.

July 2021, 60 Decibels has worked with more than 550 companies and listened to 180,000 customers in over 50 countries³¹.

D.light – Lean Data in Action

D.light is providing a suite of low-cost solar energy solutions for households in Kenya without access to reliable energy. Founded in 2007, D.light has the goal of eliminating kerosene as a home energy source and is looking to transform the way people use and pay for energy around the world. Acumen invested in D.light in 2008 and has since used Lean Data to capture the impact the company has made.

“I now enjoy bright light for the whole night, unlike kerosene lamps that get used up before we sleep,” says Elizabeth Maina, a D.light customer in Kenya³².

More than 60 million people around the world are benefiting from D.light’s solar solutions. By replacing a kerosene lamp with a D.light product, a consumer can expect monthly cost savings of up to 10-25%, increased health and safety from the elimination of kerosene fumes and fires, and increased productivity due to the superior quality of light. In total, D.light’s lanterns have allowed customers to save more than \$5 billion in energy-related expenses. Twenty-three million tons of carbon emissions have been offset and 34 billion hours have been created for working and studying³³.

Impact Investment Exchange (IIX) and Pioneering Digital Impact Verification

Inspired at the Rockefeller Foundation’s impact investor meeting at the Bellagio Center, Durreen Shahnaz started the Impact Investment Exchange (IIX) in 2009, a pioneer in impact investing and impact measurement, whose academic research on impact measurement was heavily used for the original IRIS at GIIN. IIX’s mission is rooted in the perspective of giving a value and a voice to women and underserved communities around the world. IIX achieves this through four key pillars of work: investing, measuring impact, raising capital, and bridging knowledge gaps. IIX’s stated aim is to empower marginalized people, particularly women, and protect the planet by scaling the positive impact of sustainable SMEs.

For Shahnaz, there was an urgent need to bring innovation to the financial system so that it benefited the underserved, encapsulated in the company’s motto to “connect the Back Streets of underserved communities to the Wall Streets of the world.” IIX attempted to do this working to systematically integrate the value and voices of the marginalized in its financing solutions. One such solution was the creation of Impact Partners,³⁴ Asia’s largest and most successful equity and deb crowdfunding platform, whose activities are centered on supporting sustainable SMEs to grow their business and scale their impact, as well as to connect them to global accredited impact investors for capital raise. Launched in 2011, IIX Impact Partners had closed over 77 deals by 2021, unlocking US\$108M investment capital and US\$88M in follow-on investments in sustainable SMEs.

Since inception, IIX has worked in 53 countries, and as of the middle of 2021, unlocked over USD \$215 million and created over 100 million new livelihoods. It was important for Shahnaz to bring together

³¹ Source: 60 Decibels

³² Acumen (2017), Energy Impact Report

³³ AS taken from Acumen’s website, <https://acumen.org/investment/d-light/>

³⁴ Quote from Durreen Shahnaz in interview with Robin Lewis, Chaarvi Badani, and Chukwuebuka Emebinah. All further quotations of Shahnaz come from this interview, unless otherwise attributed.

multiple stakeholders and take a holistic approach, and she anticipates that IIX will continue to play this role in the impact investment ecosystem.

IIX also has pioneered methodologies and tools aimed at helping measure and verify impact for each stakeholder in their process. To bring the value of women and other underserved communities to the fore of financial markets, IIX conducts impact assessments using its proprietary Sustainability Pyramid methodology, which is designed to capture the entire spectrum of a sustainable SME's environmental and social impact. IIX's impact assessments are unique in several respects. First, they aim to assess not just the outputs produced by an SME, but their *outcomes* – that is, the long-term changes experienced in the customers' lives. By quantifying these changes, IIX's goal is to produce data and insights that systematically track how the SME is improving in areas such as gender equality. Second, its system is designed to be forward-looking: IIX projects an SME's expected future impact, then assesses its performance post-investment to ensure it is on track. This is aimed at maximizing transparency for investors, enabling them to allocate capital to SMEs with the highest potential impact. Thirdly, IIX attempts to verify the SME's impact against responses from end beneficiaries, with the goal of preventing "impact-washing."

Shahnaz explains the impact of the tool in this way: "Assume there is a hospital with 200 beds. That's great, but it's just the beginning. It's important to think about how the hospital is actually changing the lives of people who are using the beds."

Building off of Shahnaz's proprietary impact measurement methodology, with a decade of proven track record in unlocking US\$215M in privat-sector capital, IIX developed IIX Values™ – a data-driven impact verification solution for SMEs to better measure, analyze, and verify their positive social and environmental impact. The platform uses IIX's unique Risk-Return-Impact (RRI) framework, which correlates the risk profile of the SME with its potential to generate financial and social return

While collecting impact data is not new in sustainable investing, listening to women—especially those in underserved communities—is still a radical idea. IIX Values™ aims to bridge this gap by leveraging mobile technology to collect customer and beneficiary feedback at scale. With the data gathered through the digital impact measurement and verification solutions, IIX Values™ goal is to create a database of real-time information that can be used by ecosystem actors – including investors, donors, and corporates – to make more inclusive investment and business decisions.

IIX's Impact Assessment in Action: IIX Women's Livelihood Bond™ Series Impact Measurement Framework

An example of the impact measurement tool at work is IIX's Women's Livelihood Bond™ (WLB) Series, which has mobilized US\$48 million to empower over +815,000 women in Asia through sustainable livelihoods. IIX used its proprietary methodology to design an impact measurement framework that goes beyond tracking the number of women (outputs) to assessing how their lives are impacted (outcomes). This includes measuring primary outcomes related to women's economic empowerment (increased income, financial resilience, productivity, ownership of assets, and access to market), secondary outcomes (multigenerational impact, community resilience enhanced, and climate action efforts), and tertiary outcomes (improved gender equality and women's agency in underserved communities; catalytic impact of the WLB on the broader gender lens investing movement). See Annex A Figure 11 for IIX's WLB impact assessment framework.

IIX provides investors with semi-annual reports that track each of these outcomes and provides them with an estimated Social Return on Investment – typically the WLB Series investments generate \$3 of social value for every \$1 invested. These reports rely on annual impact verifications done through IIX Values which use mobile technology to conduct digital surveys at scale in a cost-effective manner and collect data directly from the women on the ground. This aims to ensure that the women impacted have a value and a voice, and that investors receive transparent impact reports and it helps IIX mitigate risks by having direct contact with women employees, supply chain workers, and clients on the ground.

IIX works with the International Capital Markets Association (ICMA) on this approach in its role heading the working group on impact measurement. The WLB Series, which comply with ICMA’s Social Bond Principles, has been featured as a case study on the platform and been used to inform on Social and Green Bond issuers on how to confirm impact with their target population in order to mitigate the risk of impact-washing.

The Future of Impact Measurement

As evidenced above, there has been a growing movement to build the impact measurement practice. Various independent actors have come together to grow various aspects of impact measurement, from impact metrics to data collection. The GIIN Investor Forum is a reflection of that: the event has a dedicated track that focuses on sharing impact measuring strategies and developments, and oversees 1,000+ attendees from more than 500 impactful organizations across over 60 countries.

We see that socially responsible investors and enterprises cannot claim to “do good” without actively measuring the impact of their impact allocation. There is a growing consensus that investors need to be mindful of the impact they are creating, actively measuring it, and working to increase it. But despite the movement to build a consensus, there is still a long way to go. There are multiple frameworks, processes, and methods to choose from. Taking this argument further, investors have the option to pick the impact measurement process that can showcase their portfolio in the best light as a way of cherry-picking.

Hence, there remains a need to build one common method that investors follow to build genuine comparability of projects. Investors can choose from GIIN, PRI, SDGs, ESG and many other such metrics that suit the industry’s needs. Each tool has its positives and negatives, and this presents an opportunity for industry leaders to enable a convergence of standards for sustainability self-reporting and an effective regulatory framework. The Sustainable Accounting Standards Board (SASB) is primed to play a leading role in managing the process for the convergence of sustainability standards, working with relevant stakeholders to lessen the burden of compliance, minimize confusion amongst industry players, and enable greater levels of compliance across the world.

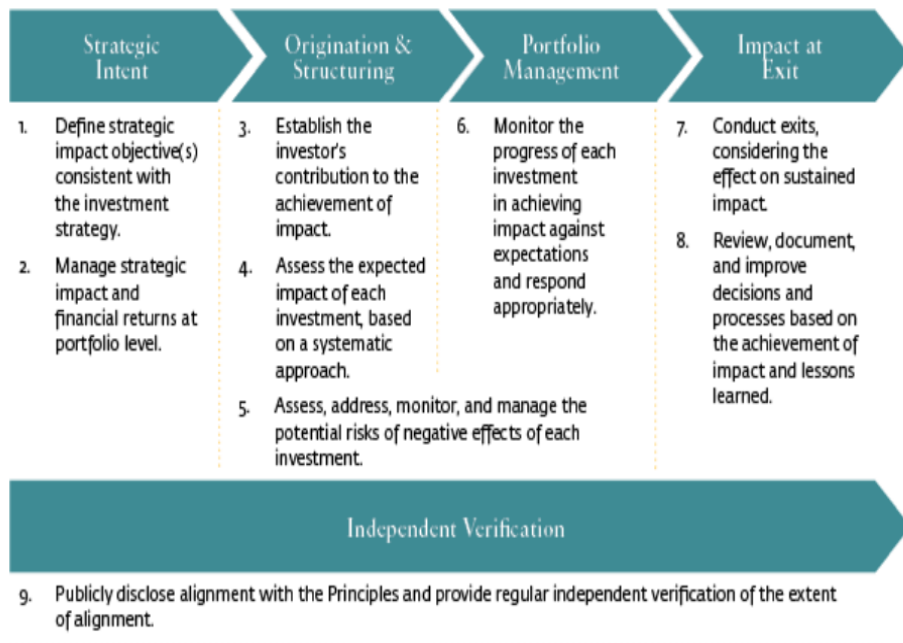
Times and circumstances change, so investors and corporations need rigorous processes for assessing the financial and social impact of their investments. This debate can twist and turn with the changing opportunities and imperatives of the marketplace, of public policy, and of philanthropy.

**Measuring Impact: Metrics for Global Change
Annex A – Original Documents**

Age	Male			Female		
	Composite	Non-Smoker	Smoker	Composite	Non-Smoker	Smoker
20	0.10%	0.10%	0.13%	0.05%	0.05%	0.06%
25	0.11	0.10	0.16	0.05	0.05	0.08
30	0.11	0.10	0.18	0.07	0.06	0.10
35	0.12	0.11	0.20	0.10	0.09	0.15
40	0.17	0.15	0.28	0.13	0.12	0.21
45	0.27	0.23	0.46	0.19	0.17	0.31
50	0.38	0.33	0.65	0.31	0.28	0.54
55	0.62	0.55	1.06	0.51	0.47	0.91
60	0.99	0.89	1.63	0.80	0.74	1.40
65	1.69	1.55	2.66	1.19	1.11	2.03
70	2.58	2.41	3.79	1.78	1.68	2.98
75	4.19	4.00	5.73	2.79	2.66	4.52
80	7.01	6.79	9.01	4.39	4.24	6.70
85	11.66	11.41	14.01	7.45	7.28	10.54

Figure 1: Mortality tables (i.e., the probability of dying for smokers and non-smokers, male and female at different ages³⁵)

Principles to assure investors that impact funds are managed in a robust fashion.



³⁵ CFA Program Level III Volume 2, p. 410), Behavioral Finance, Individual Investors, and Institutional Investors

Figure 2: Operating principles of impact management³⁶



Figure 3: ESG Growth Timeline³⁷

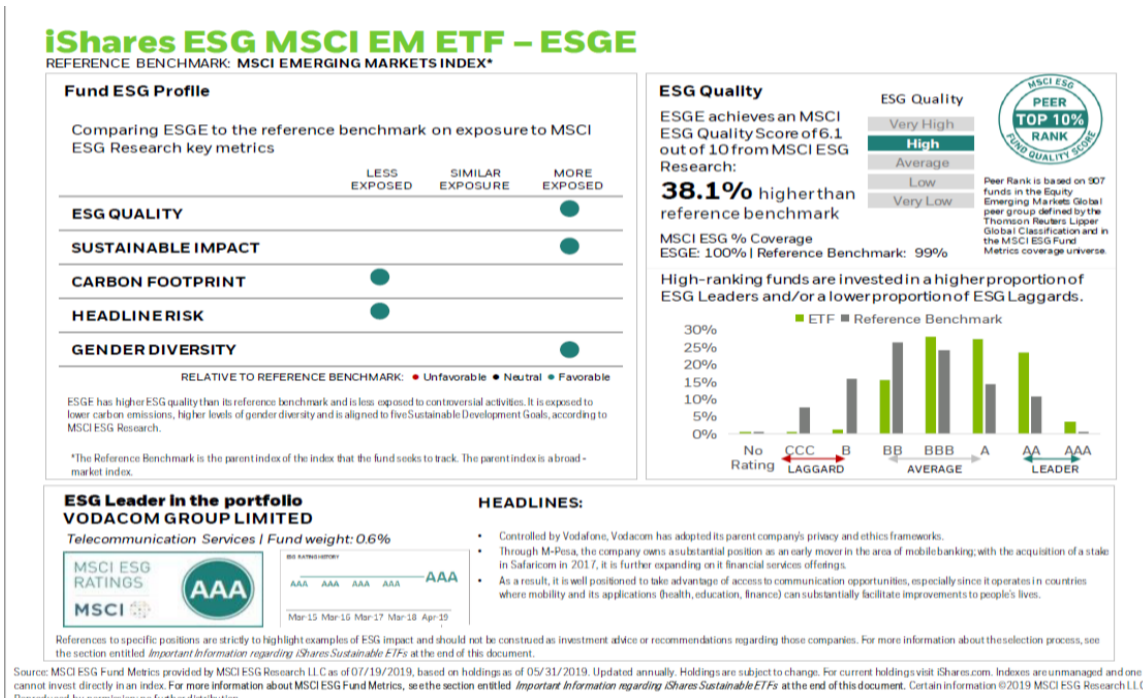


Figure 4: Sample MSCI ESG Report (1/3)

³⁶ IFC Impact Operating Principles; <https://www.impactprinciples.org/principles>

³⁷ MSCI 30 years' of ESG indexes (2020) <https://www.msci.com/esg-indexes>

iShares ESG MSCI EM ETF – ESGE

REFERENCE BENCHMARK: MSCI EMERGING MARKETS INDEX*

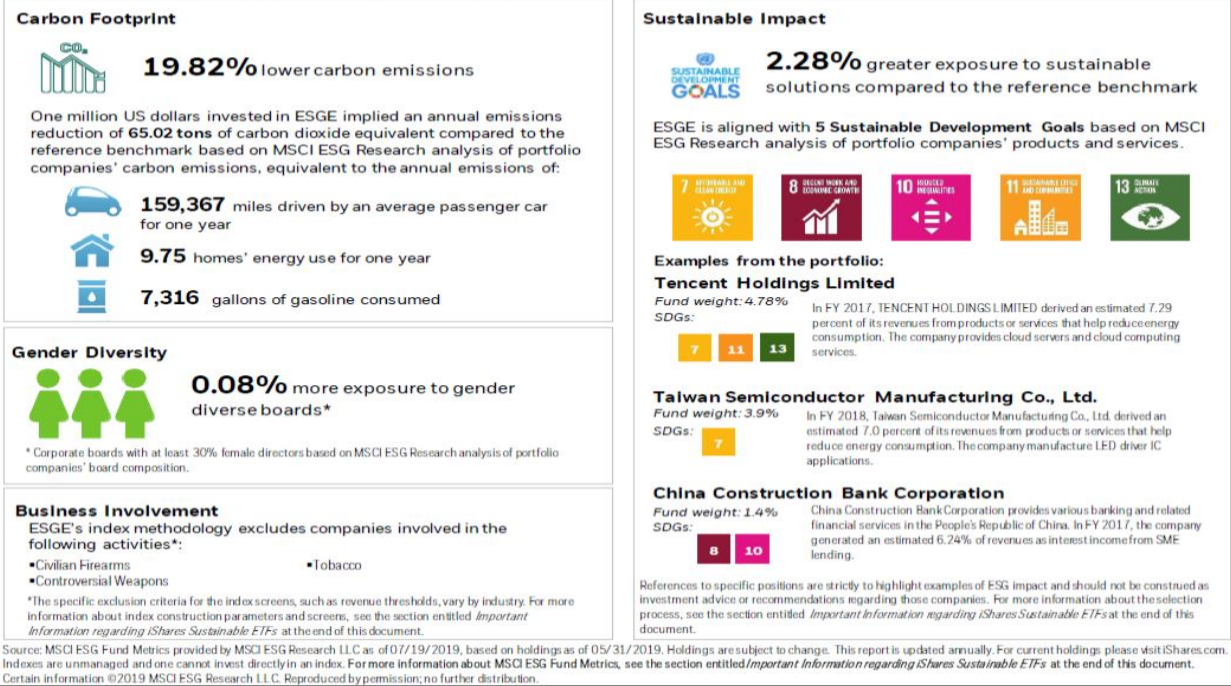


Figure 5: Sample MSCI ESG Report (2/3)

Important information regarding iShares ETFs

Ca carefully consider the Funds' investment objectives, risk factors, and charges and expenses before investing. This and other information can be found in the Funds' prospectuses or, if available, the summary prospectuses which may be obtained by visiting www.iShares.com or www.blackrock.com. Read the prospectus carefully before investing.

Investing involves risk, including possible loss of principal.

Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments.

International investing involves risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets, in concentrations of single countries or smaller capital markets.

A fund's environmental, social and governance ("ESG") investment strategy limits the types and number of investment opportunities available to the fund and, as a result, the fund may underperform other funds that do not have an ESG focus. A fund's ESG investment strategy may result in the fund investing in securities or industry sectors that underperform the market as a whole or underperform other funds screened for ESG standards

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Figure 6: Sample MSCI ESG Report (3/3)

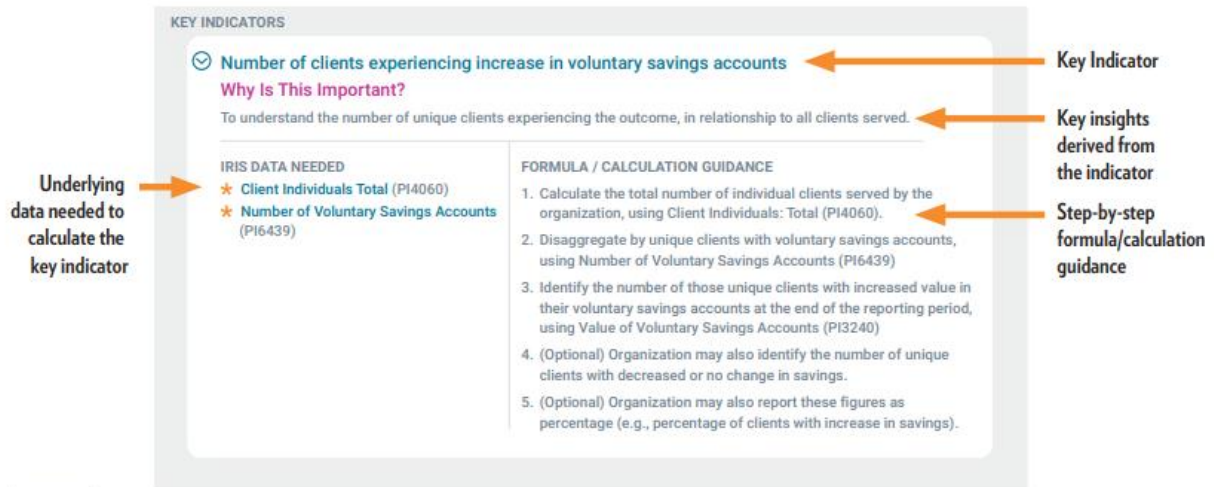


Figure 7: Detailed description of an IRIS metric³⁸

³⁸ GIIN, *IRIS+ Core Metrics Sets* (<https://iris.thegiin.org/document/iris-core-metrics-sets/>)

IRIS Catalog of Metrics

IRIS metrics are designed to measure the social, environmental and financial performance of an investment.

To use IRIS metrics—and the resulting data—as part of the investment management process, IRIS metrics should be used and analyzed in generally accepted sets and according to well-defined objectives. To access generally accepted Core Metrics Sets by Theme or Sustainable Development Goal (SDG), [set up a profile](#).

← Filter based on your investment priorities and focus areas.

Alphabetical ↓

- Impact Category
 - Agriculture
 - Air
 - Biodiversity & Ecosystems
 - Climate
 - Diversity & Inclusion
 - Education
 - Employment
 - Energy
 - Financial Services
 - Health
 - Real Estate
 - Land
 - Oceans & Coastal Zones
 - Pollution
 - Waste
 - Water
 - Cross Category
- SDGs
- Dimensions of Impact
 - Operational Impact
 - Product Service Impact
 - Focus
 - Investment Lens

Accounts Payable (FP2852)
Value, at the end of the reporting period, of all outstanding debts that must be paid by the organization within a given period of time in order to avoid default.

Accounts Receivable (FP2213)
Value, at the end of the reporting period, of the organization's outstanding debts from clients who received goods or services on credit.

Active Borrowers per Loan Officer (PI9250)
Number of active borrowers (clients) per loan officer at the organization as of the end of the reporting period.

After-sale Client Support (PI4180)
Indicates whether the organization provides support to its clients after the sale of its product/service.

Anti-Discrimination Policy (OI9331)
Indicates whether the organization has specific, written anti-discrimination policy in place for its employees and a system to monitor compliance of this policy.

Area of Adjacent Protected Land (PI5750)
Area of protected land that shares a boundary with the organization's protected land as of the end of the reporting period.

Area of Buildings Reused (PI9170)
Area of buildings projected to be renovated/remodeled that qualify for building reuse as a result of investments made by the organization during the reporting period.

Area of Community Facilities Financed (PI4765)
Area of community facilities projected to be constructed or preserved as a result of investments made by the organization during the reporting period.

Figure 8: Filters and categorization of IRIS metrics³⁹

³⁹ As taken from IRIS website, <https://iris.thegiin.org/metrics/>

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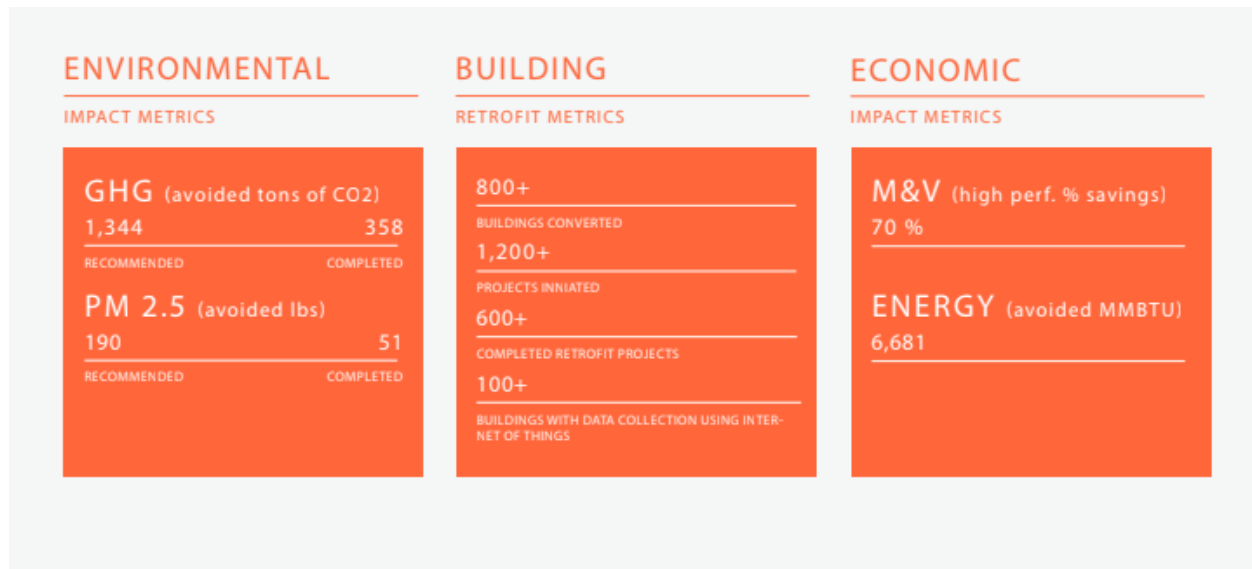


Figure 9: BlocPower's Impact Metrics⁴⁰

⁴⁰ BlocPower (2017), *Impact Report*

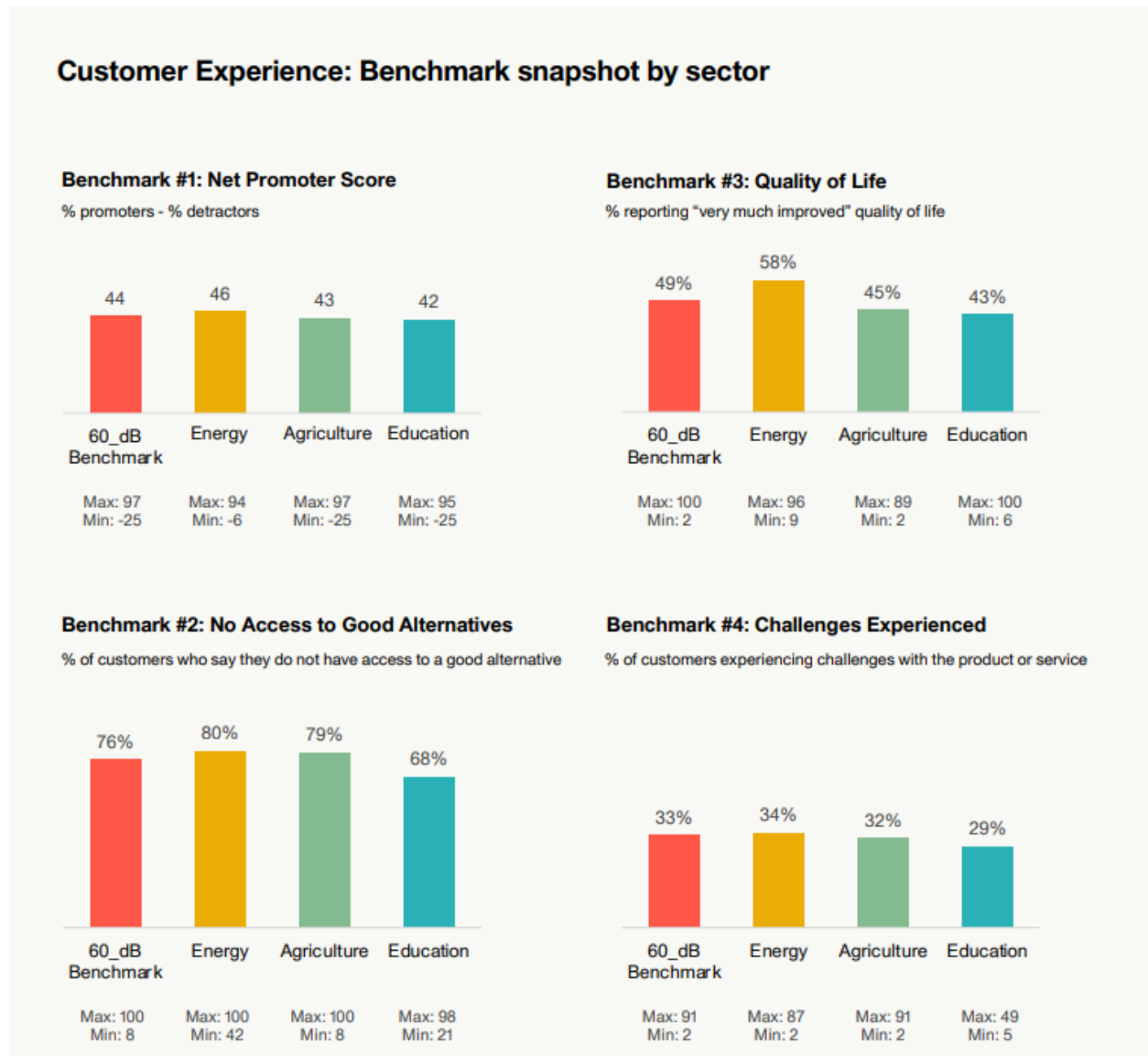


Figure 10: Example of 60 Decibel’s impact⁴¹

⁴¹ 60 Decibels (2019), *A Simpler Way to Measure Impact*

FIGURE 1: KEY CHALLENGES IN MEASURING IMPACT THROUGH THE LENS OF IMPROVING HEALTH CARE FOR UNDERSERVED WOMEN

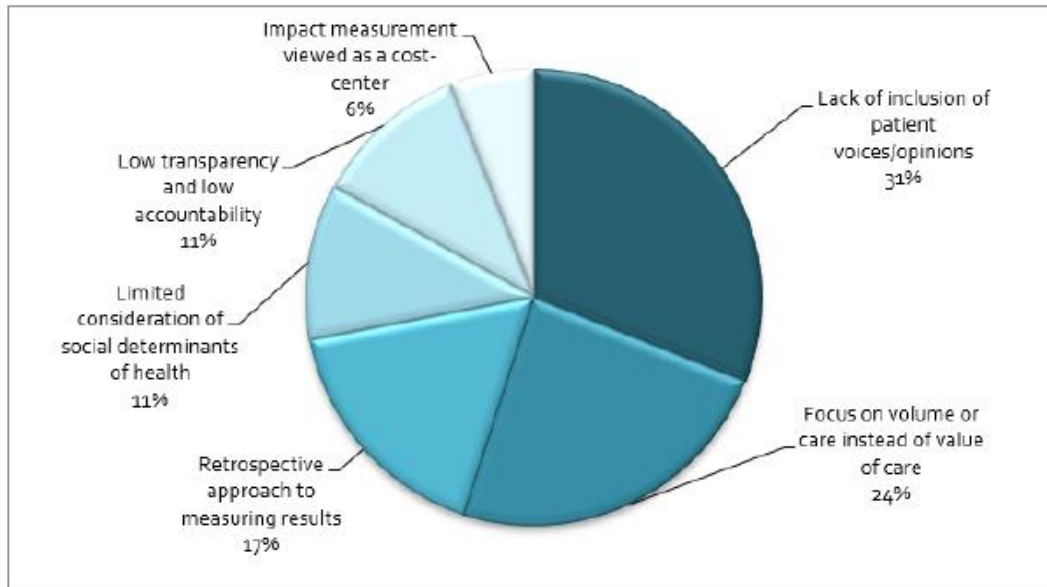


Figure 11: Gaps and Opportunities analysis that led to IIX’s Women’s Health Impact Assessment Toolkit⁴²

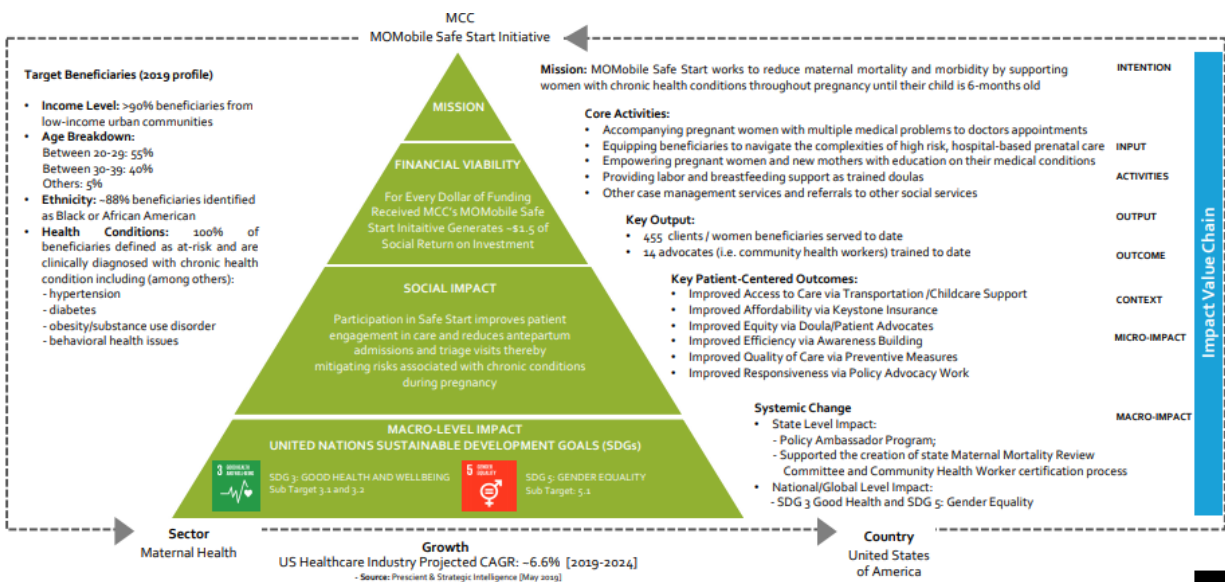


Figure 12: MCC MOMobile Safe Start Initiative’s Impact using IIX’s toolkit⁴³

⁴² IIX, *Women’s Health Impact Assessment Toolkit: Overview*

⁴³ IIX, *Maternity Care Coalition Impact Assessment*