



## Position Paper

# Impact Investing in Infrastructure

Turning Potential into Practice: What does it take to implement Impact Investing in Infrastructure?

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# 1. EXECUTIVE SUMMARY

The European Commission recognises the financial sector as a key enabler in achieving Europe's long-term sustainability vision. Mobilising significant private capital is not only urgent but indispensable for driving the systemic transformation needed to meet environmental and social objectives. In this context, impact investing offers a targeted and effective strategy to direct investment towards initiatives that advance sustainable growth, competitiveness, and innovation, in line with the European Green Deal<sup>1</sup>, Clean Industrial Deal<sup>2</sup>, and Social Economy Action Plan<sup>3</sup>.



This paper explores how impact investing can be effectively applied to the infrastructure asset class, providing actionable insights and recommendations for investors and policymakers. Impact investing – defined by the Global Impact Investing Network (GIIN) as investing with the intention to generate positive, measurable social or environmental impact alongside a financial return (GIIN, 2025b) – demands strong strategic coherence, robust impact measurement frameworks, and a clear theory of change. A deeper understanding of how this approach translates to established asset classes such as infrastructure is critical for scaling the market and ensuring integrity.

Infrastructure spans essential sectors such as energy, transport, water, and social services. Its long-term horizon, capital intensity, and centrality to societal well-being make it particularly well-suited to impact investing – yet these same characteristics introduce complexity and risk that require thoughtful structuring and stewardship.

This paper acknowledges the contributions of EU frameworks like the Sustainable Finance Disclosure Regulation (SFDR) and the EU Taxonomy in advancing transparency and standardisation. However, these frameworks currently fall short of fully addressing the unique characteristics and requirements of impact investing within infrastructure.

To realise the full potential of infrastructure as an impact asset class, the integration of a lifecycle-spanning impact management approach is essential. This includes defining intentionality, measuring outcomes with rigor, and articulating investor contribution. At the same time, advancing regulatory clarity and alignment is essential – not only to strengthen the positioning of infrastructure within the impact investing ecosystem but also to support broader recognition and integration of impact investing as a distinct investment approach.

<sup>1</sup> [European Green Deal: Communication from the EU Commission \(11.12.2019\).](#)

<sup>2</sup> [Clean Industrial Deal: Communication from the EU Commission \(26.02.2025\).](#)

<sup>3</sup> [European action plan for social economy - Commission communication \(2021\).](#)

## 2. INTENTION, SCOPE & STRUCTURE

We use this paper to demonstrate how impact investing can be operationalised within the infrastructure asset class. Our goal is to provide a foundation for reflecting on opportunities and challenges in implementing impact investing in this space. It is intended as a practical resource for investors and decision-makers, encouraging the integration of impact investing strategies into infrastructure projects. Additionally, it seeks to spark discussion, drive momentum in this vital economic sector, and invite cooperation and collaboration towards a more sustainable future.



The paper builds upon the foundational position paper [“Impact Investing in Alternative Investments – Why Private Market Investments Are Particularly Suited for Impact-Generating Investments”](#), published in collaboration with Bundesverband Alternative Investments e.V. (BAI), Bundesinitiative Impact Investing (BIII), and Advanced Impact Research (AIR). While the foundational paper outlines the characteristics of impact investments and contrasts them with sustainable investments as defined by the SFDR, this paper aims to translate the concept of impact investing into actionable guidance specific to the infrastructure asset class. For further details and key definitions referenced in this paper, readers are encouraged to consult the foundational position paper. Consistent with the foundational paper, the focus here is also on private markets – accordingly, all discussions of capital allocation refer specifically to private capital.

The term “impact investment” is commonly used in the market to refer to both individual investments (assets) and investment products (funds) that meet the characteristics of impact investments. In many sections, this paper predominantly examines the asset level; however, due to the close interconnection between both levels, consistent consideration is given to the product level. A fund’s impact investing framework and strategy serve as guiding principles that determine the types of assets it invests in. How-

ever, while the fund sets the overarching parameters, the level of detail in the fund’s strategy can vary depending on the homogeneity of the target asset class. Thus, the various characteristics and requirements of impact investments may need to be defined at both the portfolio and asset levels when establishing impact infrastructure portfolios. This two-tiered approach helps manage complexity while supporting a robust and transparent framework for impact measurement and management.

The structure of this paper is as follows: The introduction sets the stage by presenting infrastructure as an asset class, outlining the core concepts of impact investing, and providing an overview of the relevant regulatory landscape. It also highlights the general challenges specific to infrastructure in the context of impact investing. The remainder of the paper explores the core characteristics of impact investing – including intentionality, impact measurement and management (IMM), and both asset and investor impact – and examines the opportunities and challenges of applying these principles to infrastructure investments. Each section is supported by case studies from various infrastructure sectors, illustrating how these impact concepts are implemented in practice. Brief reflections on insights and practical challenges accompany the presentation of the case studies.

## 3. INTRODUCTION

### 3.1 INFRASTRUCTURE AS AN ASSET CLASS

Infrastructure is a diverse asset class encompassing investments across various sectors, including transportation, energy, water, and social infrastructure such as schools and hospitals. Literature offers different approaches and multiple perspectives on defining infrastructure. The OECD adopts a broad definition, categorising public utility systems – such as roads, utilities, and public buildings – under the umbrella of infrastructure.<sup>4</sup> In contrast, the World Bank classifies infrastructure based on the services provided, identifying key sectors such as energy, transport, water and sewage, information and communication technology (ICT), and municipal solid waste.<sup>5</sup>

A functional perspective on infrastructure highlights its role in service provision. One way to categorise this asset class is by distinguishing between economic infrastructure, where users typically pay for access, and social

infrastructure (Chambers et al., 2020, p. 326–327). When assessing infrastructure's suitability for impact investing, economic infrastructure often requires a more detailed evaluation of services compared to social infrastructure, as societal value recognition in the latter tends to be less contested.

However, the distinction between economic and social infrastructure is not always clear-cut. For instance, private social infrastructure, such as private schools, blurs these boundaries. While the implications of this distinction for impact investing are an important topic, a detailed examination of its limitations and consequences falls outside the scope of this paper.

**Figure 1:** Non-exhaustive overview of types of infrastructure

Economic Infrastructure					Social Infrastructure
Energy	Utilities	Clean Tech	Transportation	Telecommunications	
Energy generation including renewable energy	Power utilities (grid, storage, pipelines), water utilities, waste management	Energy efficiency, carbon capture, clean fuels	Roads, bridges, airports, railways, ports	Broadband networks, cell towers, communication systems	Schools, hospitals, public housing, government buildings

**Source:** own illustration.

According to the BAI definition, the infrastructure asset class includes direct investments in infrastructure projects as well as funds that invest in such projects indirectly (BAI 2022, p. 14). A distinguishing feature of infrastructure investments is their typically long duration and stable, predictable cash flows, with returns driven primarily by ongoing income rather than potential capital gains from resale.

These core characteristics – particularly the high degree of control in direct investments and the long-term nature of infrastructure – make the asset class well-suited for impact investing. However, as the following discussion will explore,

the involvement of multiple stakeholders, the various development stages, the diversity of sub-asset classes and the wide-ranging societal impacts introduce considerable complexity when applying impact investing characteristics to infrastructure investments.

Infrastructure is a diverse and essential asset class that offers strong alignment with impact investing due to its long-term nature, stable returns, and significant societal relevance. While its complexity requires thoughtful structuring, it presents a unique opportunity to generate measurable social and environmental impact across sectors such as energy, transport, and social services.

4. [OECD Glossary](#), p. 268.

5. [Worldbank Glossary](#).



## 3.2 IMPACT INVESTING AS A CONCEPT

Currently, no commonly agreed definition of impact investing exists. That is why in the foundational paper existing definitions in the market were assessed to gain an unders-

tanding of the core characteristics of impact investing. Reiterating the results of the analysis, among the existing definitions, five common characteristics were identified.

**Figure 2:** Overview of the analysis of existing definitions of impact investments

Dimensions	GIIN (2025b)	Impact Europe (2024)	BIII (2023)	FNG (2023)	IFD (2021)	SpainNAB (2023)	DVFA (2023)
Intentionality	✓	✓	✓	✓	✓	✓	✓
Investment process	IMM	IMM	IMM	Impact Channels & Measurability	IMM	IMM	Impact Channels & Measurability
Asset impact	Positive asset impact	Positive investee additionality ("C" impacts)	Significant, net positive asset impact	Significant positive asset impact	Net positive Impact (Investor & asset)	Investee additionality	Net positive company impact
Investor impact	Positive investor contribution	Positive investor additionality	Significant, net positive investor impact	Significant positive investor impact	Additionality	Investor additionality	Positive investor impact

*Source: BAI & BIII, 2024, p. 8.*

First, all analysed definitions argue impact investments must have clear objectives (**intentionality**) to generate positive social or environmental impacts (GIIN, 2025b). This is key to distinguishing them from other sustainability-related investments (FIR & France Invest, 2021). Clear intentionality involves establishing a theory of change or impact thesis (BIII, 2023; IFD, 2021).

Second, most definitions involve impact measurement and management (IMM) throughout the investment process, from sourcing to exit, to enhance decision-making and real-world impact (GIIN, 2025a; BIII, 2023). IMM includes setting impact targets, monitoring performance, and using data to improve future processes.

Third, **positive asset impact** is also a characteristic common to all analysed definitions of impact investments. Impact investments are usually expected to create positive social or environmental impacts, while mitigating negative impacts (GIIN, 2025b).

The fourth characteristic is positive **investor impact**, with some definitions distinguishing between asset and investor impact. GIIN's guidance for impact in listed equities refers to investor contribution. Others, like Impact Europe or BIII, explicitly use this differentiation. Some definitions also use "additionality" instead of investor impact or investor contribution. The concept of investor impact is often used to distinguish products that generate impact from products that are just aligned with impact (BAI & BIII, 2024).

The final characteristic is that impact investments aim for **financial returns**, which can range from below market rate to risk-adjusted market rate, distinguishing them from pure philanthropy, that is not explicitly mentioned in figure 2 and 3 (GIIN, 2025a).

**Figure 3:** Common characteristics of impact generating investments

Core characteristics of impact generating investments	
1	Intentionality
2	Impact management and measurement
3	Significant, net positive asset impact
4	Significant, net positive investor impact
5	Financial return

**Source:** BAI & BIII, 2024.

For an investment to be classified as an impact investment, these characteristics should be integrated into the investment strategy. They can be part of both a single investment strategy and the overarching strategy of a fund. Depending on the complexity of the mandate, it may be necessary to clarify the characteristics at both levels.

Impact investing requires clear intentionality, impact measurement & management, as well as positive investor and asset contributions and financial returns.

### 3.3 REGULATORY CONTEXT

Recent policy developments in the European Union (EU) – particularly the transition from the Green Deal to the Clean Industrial Deal – underscore the pivotal role of infrastructure as a strategic lever in achieving both sustainability and competitiveness objectives. Initially, the Green Deal of the European Commission aimed for a climate-neutral economy by 2050. It has since evolved into the Clean Industrial Deal, which places greater emphasis on the competitiveness and resilience of European industry. While the Green Deal primarily established ambitious environmental targets and regulations for emissions reduction, the Clean Industrial Deal seeks to bolster key European industries, promote investments in clean technologies, and reduce dependence on third countries. This strategic shift towards industrial resilience, energy security, and green innovation has led to increased demand for investments in renewable energy systems, smart grids, clean transport, digital connectivity, as well as education and research facilities.

Consequently, infrastructure is increasingly recognised not merely as the physical backbone of the green transition but as a high-impact, investable asset class at the confluence of environmental, social, and economic priori-

ties. In this context, impact investing provides a structured framework for strategically allocating capital to drive critical transformations. As part of the EU Sustainable Finance Agenda, the European Commission has introduced regulations designed to assist the reallocation of capital. These regulatory efforts aim to create investment products that align with investor demand for sustainability while addressing the capital intensity of the transition.

However, in practice, regulations such as the SFDR and the EU Taxonomy are broad in scope and do not always account for the specific characteristics and requirements of certain asset classes, such as infrastructure. This lack of specificity can hinder effective capital flows into these sectors and dilute regulatory intent.



Regarding impact investing, neither the SFDR nor the EU Taxonomy currently map impact investing within their frameworks. Although the Platform on Sustainable Finance's proposal "on categorization of products under the SFDR" does not mention how impact products can be mapped to the suggested categories, it explicitly recommends developing a shared understanding of impact investing within the EU Sustainable Finance Framework and clarifying its relationship to the Taxonomy (PSF, 2024, p.73). A proposal for a potential categorisation of impact products based on the core characteristics of impact investing has been outlined in the foundational paper (BAI & BIII, 2024). In parallel, a taskforce composed of experts from BAI and BIII is actively developing a proposal for a dedicated impact investing product category, including criteria that define such a class.

Recent EU policy shifts – from the Green Deal to the Clean Industrial Deal – highlight infrastructure as a strategic investment priority, yet current sustainable finance regulations lack the specificity to fully support its potential. Clarifying the role of impact investing and giving dedicated attention to infrastructure as an asset class within the SFDR and EU Taxonomy frameworks is essential to unlocking private capital for transformative infrastructure projects.

### 3.4. GENERAL CHALLENGES

Although infrastructure is a highly diverse asset class, it shares core characteristics that present challenges in applying impact investing and sustainable investment principles for investors, asset managers, and developers alike.

The working group identified four main challenges: (1) the broad scope of the asset class, (2) the existence of distinct development stages, (3) a steep investment profile, and (4) the variety of financing structures.

#### Diversity of the asset class

Starting with the first challenge, the diversity within the infrastructure asset class means that projects can vary significantly in type, scale, and impact. For example, a renewable energy project has vastly different impact metrics and risk considerations compared to a highway or a data center investment. As a result, establishing a standardised impact measurement framework is either infeasible or would be too generalised to be meaningful. This complexity makes it difficult to evaluate and compare the social

and environmental outcomes across projects. Reliable, transparent, and informative impact assessments require tailored approaches and significant resources, creating hurdles for investors seeking to integrate impact goals into their infrastructure portfolios.

Moreover, the regulatory landscape often fails to adequately address the complexity and unique characteristics of this asset class, despite infrastructure's crucial role in driving the societal transformations needed today. A key example is the application of Principal Adverse Impact Indicators (PAIs) under the SFDR, where determining the most appropriate level of assessment – whether at the asset, developer, or asset manager level – remains an open question.

#### Development Stages

Secondly, from a value chain perspective, infrastructure projects progress through distinct development stages, including development, construction, operation, and end-of-life management. The likelihood of successful project implementation generally increases as a project advances through these stages. However, the development phase often exposes investors to the highest risks, while tangible results – both financial and impact-related – are typically generated during the operational phase. To ensure alignment between capital deployment and impact objectives, investors must adopt stage-appropriate metrics and investment strategies, particularly given the long-time horizons involved in infrastructure development.

#### Steep investment profile

The complexity of infrastructure development is further compounded by the third challenge: the steep investment profile of infrastructure projects. These investments typically require high upfront capital expenditures, followed by significantly lower costs during the operational and usage phases. This creates a potential misalignment between capital-intensive development and start-up phases, where financial commitments are highest, and the operational phase, where ecological or social impact is most visibly generated.

In light of this, current regulatory requirements – such as those under the SFDR and the ESMA Fund Name Guidelines – can conflict with the realities of infrastructure investments. These regulations impose stringent thresholds for sustainable investment quotas at specific points in time.



This point-in-time logic does not align with infrastructure's development model, where in particular early-stage investments involve establishing holding structures and financing enabling measures – essential acquisition costs and setup processes that are crucial for infrastructure but not currently recognised under the regulatory framework. This creates challenges in aligning early-phase infrastructure projects with existing requirements for sustainable investments.

As a result, infrastructure projects with long development timelines and significant upfront capital needs risk being excluded from sustainable financing classifications, despite their long-term contribution to sustainability goals.

The EU Taxonomy Regulation offers the closest regulatory framework to the concept of impact investing. In the context of economic activities that contribute to the climate change mitigation objective, the Taxonomy defines a sustainable activity primarily in terms of downstream value creation (e.g. for renewable energy assets, when the energy is already being generated or distributed). Although the Taxonomy also includes construction activities as sustainable, it lacks clear guidance on what this entails, and the resource-intensive early development phase is often overlooked.

Early-stage development phases are essential for the achievement of downstream impact and involve long-term processes such as site identification, permitting, coordination with key suppliers and stakeholder consultation processes. These processes represent not only a significant cost factor but also a risk of failure. Given their critical role in shaping project success, regulatory incentives should be designed to support early-stage capital investments and allow for sustainable classification before impact is physically realised.

For impact investing, a key challenge is the development of appropriate impact measurement frameworks that allow investors to attribute impact at the development stage while avoiding double counting of potential future gains. Ensuring a fair and transparent attribution model will be essential to fostering greater investor participation in the early, high-risk phases of sustainable infrastructure projects.

## Range of financing structure

Lastly, the broad range of financing options available for infrastructure – such as debt, equity, and green bonds – presents challenges in applying impact investing, as it complicates the measurement and attribution of an investor's specific contribution to social and environmental outcomes.

In summary, infrastructure is a highly diverse asset class that carries heightened risks during early-stage development, including construction delays, cost overruns, regulatory hurdles, and political uncertainties. These risks are particularly pronounced in the capital-intensive initial phases, where substantial financial commitments are required upfront. However, the tangible impacts of infrastructure investments – such as improved services or environmental benefits – typically do not materialise until the operational stage.

This raises an open question: how can impact be mapped in the early stages, and how can impact measurement frameworks be effectively applied? This challenge is particularly relevant for impact investors who seek measurable, tangible social or environmental returns within a defined time frame.

Furthermore, the current regulatory framework does not adequately address this gap in impact attribution, especially given the diverse forms of capital provision in the infrastructure sector. Addressing these challenges will require enhanced impact measurement methodologies and a more nuanced regulatory approach that accounts for the long-term nature and phased development of infrastructure investments.

The complex phased nature of infrastructure investments – combined with high upfront costs and long-term impact realisation – poses unique challenges for impact measurement and regulatory alignment. To unlock infrastructure's full potential for sustainable development, tailored frameworks and more nuanced regulation are essential.

### 3.5. INTRODUCTION INTO CASE STUDIES

As mentioned in the challenges section of the introduction, infrastructure is a highly diverse asset class, where projects and the application of impact concepts can vary significantly. For this reason, we have included case studies at the end of each chapter to provide concrete examples of how these concepts can be applied across different sub-asset classes.

The case studies are examples provided by the authors, who work with a wide range of infrastructure types. The concepts and actions described reflect selected elements of the managers' impact strategies, may vary by product, are not exhaustive, and are not exclusive to a single sub-asset class. Their purpose is to offer practical insights and building blocks that can be adapted or combined when designing an impact strategy for infrastructure investments.

The following table provides an overview of the eight case studies featured throughout this paper.

	Solar	Wind	Battery Energy Storage System (BESS)
<b>Sub-Asset Class</b>	Renewable Energy – Utility scale solar	Renewable Energy – Onshore wind	Utility scale battery storage
<b>Asset Example</b>	Equity investment in the development of an open-field solar photovoltaic (PV) project in Europe from early stage or active development to operations	Equity investment in a ready-to-build onshore wind farm in Europe, covering the full project lifecycle from construction to operations	Equity investment in battery storage project in Europe, from early construction to operational deployment, in conjunction with growing renewable energy capacity
<b>Investment Strategy</b>	Investment in open-field solar PV projects in markets with high initial carbon intensity of electricity grids	Target markets with favourable wind resources and high carbon intensity to support accelerated energy transition	Target assets that provide grid services such as frequency regulation, peak shaving, load shifting, and renewable energy firming in capacity-constrained grids
<b>Impact Objective</b>	Primary: Increased renewable energy penetration and decarbonisation of the energy sector Secondary: Biodiversity integration and community engagement	Increased renewable energy penetration and decarbonisation of the energy sector	Increased renewable energy penetration, enhanced energy system flexibility and therefore acceleration of decarbonisation

	Efficiency	Clean Fuel
<b>Sub-Asset Class</b>	Clean Tech – Energy efficiency	Clean Tech – Clean fuel
<b>Asset Example</b>	Large-scale energy retrofits targeting public and commercial buildings across Central and Eastern Europe  The project includes high-efficiency HVAC system upgrades, LED lighting replacement and digital energy management systems	Development of a green hydrogen based sustainable aviation fuel (eSAF) facility in northern Europe
<b>Investment Strategy</b>	Investment in energy-efficient technologies and retrofits across commercial and industrial sectors in Europe	Pan-European hybrid strategy with investments into the entire value chain, from renewable electricity generation, to production of green hydrogen, to production of green e-fuels
<b>Impact Objective</b>	Reduction in energy consumption and carbon emissions, and improvement in energy security and system resilience	Decarbonisation of the so-called “hard-to-abate” sectors in industry and transportation by building new renewable energy capacity and new electrolyser capacity in low LCOE (levelized cost of electricity) regions and providing clean fuel alternatives

	Data Center	Fibre	Day Care
<b>Sub-Asset Class</b>	Telecommunication – Data Center	Telecommunication – Fibre	Social Infrastructure – Day Care Facilities
<b>Asset Example</b>	Construction and operating a Sustainable/Green Data Center (Equity)	Developing, constructing and operating fibre networks for private households, businesses and/or public institutions (Equity)	Construction of day care facilities (Kindergartens) in western Germany
<b>Investment Strategy</b>	Investment in greenfield projects of sustainable, decentralised and locally integrated data centers in Europe	Investment in fibre optic companies and/or projects for rural and suburban areas in Europe	Investment in locally integrated day care facilities in Europe comprising construction, operation, and provision of high-quality early childhood education
<b>Impact Objective</b>	Increase and provide energy-efficient data centers that support digital and resilient infrastructure while minimising environmental impact	Provide affordable and equitable access to fibre networks, especially in disadvantaged areas, in line with environmental and social standards, supporting sustainable industrialisation and foster innovation	Address the lack of regional childcare places.; Highlight the importance of early childhood education for improving educational levels, enabling self-determined lives, and promoting equal opportunities



## Case Studies Discussion

For the selection of case studies, we relied on the expertise of the contributors to this paper. Particular emphasis was placed on examples from renewable energy and related technologies. This reflects a slightly skewed representation toward certain sub-asset classes within the investment strategies of the contributors, but it also mirrors where impact investing is most commonly applied within the infrastructure asset class today.

During the discussion of impact objectives, we decided to also include secondary impacts in some of the case studies. For example, the solar case study also provides insights into its secondary impact on biodiversity preservation. Although impacts can be achieved in various ways by infrastructure products, the group concluded that the focus of an impact strategy should be placed where the investment can make the most significant contribution. Other impacts should be considered secondary but can still be acknowledged and included.

The introduction to each case study includes both a description of a single asset, which serves as the basis for some of the examples used in the paper (e.g. asset impact and impact pathway), as well as an overview of the broader investment strategy to provide context at the portfolio or product level (e.g. investor impact and IMM).



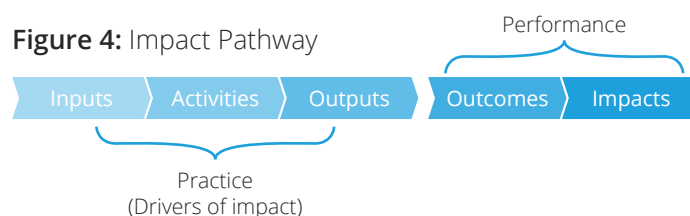
# 4. INTENTIONALITY IN INFRASTRUCTURE

## 4.1. CONCEPTS & FRAMEWORKS

Intentionality is defined by the GIIN as a clear objective to contribute to measurable positive social or environmental impact through investment alongside a financial return (GIIN, 2025a). The intention, or strategic impact objective, is set ex-ante (i.e. before the investment decision) and is accompanied by an impact thesis or theory of change that outlines the objective and impact targets based on this thesis.

The theory of change is often elaborated as an impact pathway, wherein the rationale for the invested and provided resources is mapped to the final intended impact. Typical stages within the pathway include inputs, activities, and outputs, which are aligned with measurable performance indicators that ultimately lead to the desired outcomes and impacts. Impact pathways may be developed for an entire investment product or disaggregated to inform individual investment decisions.

**Figure 4:** Impact Pathway



**Source:** IMP, 2024.

Establishing intentionality as part of designing an impact product often involves mapping and aligning the investment strategy with widely recognised goals, such as the Sustainable Development Goals (SDGs). The SDG Indicator Framework provides targets and indicators linked to the 17 goals, which are often used in practice to map out the impact pathway.

There are a number of tools and frameworks that provide support in formulating a strategic impact objective and accompanying impact targets based on the investment's asset class. One example is the SDG-ESG Infrastructure Investment Framework, developed through a collaboration led by Global Real Estate Sustainability Benchmark (GRESB), the University of Cambridge Institute for Sustainability Leadership (CISL), and Africa Investor (Ai) at the request of the Asset Owner Advisory Committee (AOAC). Initiated during the 2019 CFA Climate and ESG Asset Ow-

ner Summit, this framework helps measure infrastructure assets' contributions to the SDGs.

Other impact investing tools, while not infrastructure-specific, include the SDG Action Manager, GIIN IRIS+, and ISAR UNCTAD. These tools are designed for pure impact investing contexts, whereas infrastructure, as a quasi-impact investment case, requires tailored application of such frameworks.

Additionally, the UNPRI's "Bridging the Gap" guide provides an SDG-focused approach for infrastructure investment but operates at the investor level rather than the asset level, serving as a complement to the SDG-ESG Infrastructure Investment Framework.

Intentionality lies at the core of impact investing and is expressed through a clearly defined, ex-ante impact objective supported by a theory of change.

## 4.2. APPLICATION TO INFRASTRUCTURE

Infrastructure investments represent an asset class with unique characteristics that provide essential services and systems necessary for the functioning of society and economies. Due to their role in addressing social needs, infrastructure projects often contribute to achieving the SDGs. In this context, the link between inputs and outcomes or impacts tends to be more direct compared to other investment types. This raises the question: Can infrastructure investments inherently be considered as pursuing an impact objective by their nature?

It is commonly contended that infrastructure investments intrinsically fulfil the requirement for intentionality. However, impact investing necessitates that an impact thesis be explicitly defined within an investment strategy prior to the deployment of any capital. This raises the question of how this principle is practically applied in the context of infrastructure.

Despite their societal importance, numerous traditional infrastructure investments lack this explicit objective. Investment decisions are predominantly influenced by economic considerations, with social or environmental benefits often perceived as secondary outcomes. Some might argue that projects like wind farms inherently generate positive impacts, rendering a formal impact thesis un-

necessary. Nonetheless, the critical distinction lies in the establishment of ex-ante goals, which ensure a structured and deliberate approach to achieving impact. Without clearly defined objectives, impact performance cannot be effectively managed or tracked. Embedding intentionality into an investment strategy is therefore crucial to making it proactive rather than incidental.

Infrastructure plays a pivotal role in achieving the SDGs and meeting the targets set by the Paris Agreement. Nevertheless, it is also a significant contributor to global greenhouse gas emissions. According to the United Nations Environment Programme (UNEP), infrastructure is accountable for a substantial share of global emissions, particularly in sectors such as energy, transportation, and construction. This presents a challenge, as not all infrastructure investments result in positive environmental outcomes. Investments in traditional, carbon-intensive projects – such as highways or fossil fuel power plants – often lack alignment with ecological sustainability, which complicates their qualification as impact investments.

This provokes several key questions. Firstly, does a contribution to one dimension of impact (e.g. social benefits) suffice for an investment to be classified as impact investing?

Typically, investors concentrate on one SDG; however, conflicts can arise when considering the entire spectrum of goals. These conflicts necessitate prioritisation and a clearer determination of which impact areas an investment must contribute to, or where it has the most material impact. The chapter on asset impact will explore these open questions in greater detail ([see chapter 5 on asset impact](#)).

A key risk arising from the above considerations is impact washing, where investors label infrastructure projects as sustainable or impact-driven without a genuine focus on impact goals. This can undermine public trust in private infrastructure investments and highlights the need for clear standards for impact measurement and management, such as those provided by the GIIN.

To summarise, while infrastructure as an asset class has the potential to generate significant positive social and environmental effects, simply providing essential services or supporting the SDGs does not automatically qualify it as an impact investment. Without a clear intention to achieve positive impact, infrastructure investments remain indis-

tinguishable from traditional investments. Furthermore, retroactively labelling an infrastructure investment as an “impact product” introduces the risk of impact washing.

Ultimately, while infrastructure investments do not always pursue explicit impact objectives, their societal role provides an inherent potential to create positive outcomes. As a result, infrastructure investments often occupy a middle ground between traditional and impact investing. To fully align with impact investing, an ex-ante impact strategy must be established, accompanied by a careful assessment of target asset types and the definition of clear goals and measurement frameworks. By doing so, it can be ensured that infrastructure investments contribute meaningfully to sustainable development while maintaining accountability and transparency in the impact approach.

Infrastructure holds strong inherent potential to drive social and environmental progress but realising this potential as true impact investing requires clear, ex-ante objectives and robust measurement frameworks. By embedding intentionality into investment strategies, infrastructure can move from incidental to deliberate impact, supporting sustainable development with transparency and accountability.

### 4.3. INTENTIONALITY IN THE REGULATORY CONTEXT

Building on the foundation of the EU Green Deal, the EU Clean Industrial Deal outlines strategic priorities to address the interlinked challenges of climate change, global competitiveness, and dependency on critical raw materials. While the Green Deal sets a long-term vision for achieving a climate-neutral economy by 2050, the Industrial Deal reframes decarbonisation not just as a necessity, but as a driver of industrial growth. It aims to foster conditions that enable businesses to invest and compete effectively within the EU.

A cornerstone of this broader sustainability agenda is the EU Taxonomy. As a key component of the EU’s sustainable finance framework, the Taxonomy directs investments towards economic activities essential for the green transition, in alignment with the Green Deal objectives. It provides a classification system with defined criteria for activities contributing to a net-zero pathway by 2050 and other environmental goals.

The EU Taxonomy can be interpreted as an implicit “impact objective”, offering a standardised pathway that maps economic activities to environmental and strategic EU goals. This perspective suggests that the framework could reduce the need for explicitly stated investor intentionality – a core principle of traditional impact investing. However, this interpretation remains subject to ongoing debate.

Arguments in favour of this view include the following: firstly, the EU Green Deal sets clear targets for reducing greenhouse gas emissions, enhancing energy efficiency, and achieving climate neutrality by 2050. The EU Taxonomy complements this by providing a framework to assess whether economic activities, including infrastructure projects, contribute to six key environmental objectives, such as climate change mitigation, adaptation, and circular economy transition. This structured classification system aligns with principles of impact investing, which emphasise measurable positive outcomes. By ensuring transparency and accountability, the Taxonomy allows investors to assess how their capital allocations support sustainable activities, effectively embedding an impact-oriented approach into infrastructure investments at asset level.

Infrastructure projects that meet specific sustainability criteria – such as renewable energy development, sustainable transport, and energy-efficient buildings – are explicitly recognised as contributing to the EU’s environmental goals. This classification acts as a de facto impact filter, channelling private capital into sustainability-aligned projects.

Furthermore, by integrating social considerations – such as minimum safeguards on human rights – the framework extends beyond pure environmental impact to address social equity concerns. This partial alignment with impact investing acknowledges the importance of generating both social and environmental outcomes.

This perspective, however, can be challenged on several grounds. Despite its sustainability focus, the EU Taxonomy is primarily a regulatory compliance tool rather than an intentional impact investment framework. While impact investing is built on the deliberate intention to generate positive environmental and social outcomes, the Taxonomy merely classifies activities based on predefined criteria, without requiring intentional impact strategies. Unlike impact investing, the Taxonomy does not require goal setting, impact measurement, or impact management. Inste-



ad, it assigns economic activities to impact areas without defining impact pathways or requiring ongoing evaluation.

Many investors may comply with the Taxonomy for regulatory reasons or to enhance the marketability of their investments, rather than prioritising real world impact as a core investment goal. This distinction between regulatory compliance and intentionality challenges the idea that the framework itself constitutes an impact objective.

On the other hand, the complexity and administrative burden of aligning with the Taxonomy pose significant challenges, particularly for smaller investors or projects. This may limit its effectiveness in driving genuine impact, as the framework can be difficult to navigate.

Further, the rigid classification system could create opportunities for “impact washing” – where projects are labeled as sustainable without delivering meaningful positive outcomes. If investors use the Taxonomy primarily as a marketing tool, rather than a means of improving sustainability, its role as a true impact framework could be undermined.

Finally, absent a final social taxonomy, the draft may suite as broader guidance; however, no formally adopted framework currently exists to support investments targeting social impact objectives.

To conclude, the EU Green Deal, the Clean industrial deal and the EU Taxonomy represent significant steps toward sustainable investing by guiding capital into environmentally beneficial projects. The structured approach of the Taxonomy provides transparency and accountability, supporting investments aligned with the EU's climate and environmental goals. From this perspective, the Taxonomy offers a framework that resonates with selected aspects of impact investing.

However, its primary purpose remains regulatory compliance, not fostering the deliberate intentionality that characterises impact investing. The absence of explicit impact measurement requirements, the risk of impact washing, and the limited emphasis on social impact further challenge the notion that the EU framework functions as a comprehensive impact investment tool.

While the Taxonomy can assist investors in identifying sustainable infrastructure projects, it does not fully replace the principles and methodologies of impact investing, which go beyond classification to actively define, measure, and manage impact outcomes.

The EU Taxonomy offers a valuable framework for aligning infrastructure investments with environmental goals, enhancing transparency and supporting sustainable capital allocation. However, to fully meet impact investing standards, intentionality, goal setting, and active impact management must complement regulatory compliance.



## 4.4. CASE STUDIES - INTENTIONALITY IN PRACTICE

	Solar	Wind	Battery Energy Storage System (BESS)
<b>Inputs &amp; Activities</b>	<p>Investment of capital and expertise</p> <p>Site identification, permitting, procurement, installation and long-term operation</p> <p>Site-specific assessments to minimise ecological impact</p> <p>Tailored community strategies to proactively manage local concerns</p>	<p>Investment of capital and expertise</p> <p>Wind resource assessment, land acquisition, turbine procurement, installation, construction, and grid integration</p> <p>Site-specific environmental impact and climate risk assessments</p> <p>Implementation of community engagement strategies</p>	<p>Investment of capital and expertise</p> <p>Battery procurement and infrastructure development</p> <p>Grid connection and implementation of energy arbitrage and frequency response services</p> <p>Integration with renewable power and deployment in strategic locations</p>
<b>Outputs</b>	<p>New solar capacity (MWp)</p> <p>Renewable energy generated (MWh)</p> <p>Biodiversity Action Plan</p> <p>Community Integration &amp; Action Plan</p>	<p>Renewable energy generated (MWh per year)</p> <p>Site-specific biodiversity measures and ecological monitoring</p>	<p>Megawatt-hours (MWh) of energy stored and discharged</p> <p>Reduction in curtailment of renewable energy</p>
<b>Outcomes</b>	<p>Avoided GHG emissions</p> <p>Species diversity compared to baseline</p> <p>Enhanced community acceptance compared to baseline or through project lead times</p>	<p>Reduction in GHG emissions (CO<sub>2</sub> avoided per year) compared to baseline</p> <p>Enhanced community acceptance through early engagement</p>	<p>Increased renewable energy utilisation through storage and firming</p> <p>Reduction in GHG emissions</p> <p>Reduced curtailment of solar and wind generation</p>
<b>Impact</b>	<p>Contribution to a 1.5°C aligned energy system</p> <p>Awareness and engagement on integrated biodiversity measures</p> <p>Community-wide acceptance of PV projects</p>	<p>Contribution to national and global climate targets (Paris Agreement, SDGs)</p>	<p>Acceleration of the transition to a decarbonised grid</p> <p>Increased renewable energy integration across the energy system</p> <p>Contribution to a 1.5°C-aligned energy system and long-term climate goals</p>

	Efficiency	Clean Fuel
<b>Inputs &amp; Activities</b>	<p>Investment of capital and expertise</p> <p>Retrofitting buildings with high-efficiency equipment</p> <p>Implementing industrial energy management systems</p> <p>Deploying smart grid solutions</p>	<p>Investment of capital and expertise</p> <p>Access to green energy sources and offtakers (established networks in the region)</p> <p>Development of new electrolyser capacity to produce green hydrogen</p> <p>Sourcing CO<sub>2</sub> captured via CCU and enriching hydrogen to eSAF</p>
<b>Outputs</b>	<p>Reduction in energy consumption (kWh savings)</p> <p>Decrease in operational costs for businesses and consumers</p>	<p>New electrolyser capacity for green hydrogen (MW)</p> <p>New production capacity for RFNBO compliant eSAF (tons per year)</p>
<b>Outcomes</b>	<p>Lower GHG emissions from reduced energy demand (CO<sub>2</sub> avoided per year)</p>	<p>Low-cost alternatives to hard-to-abate sectors (green hydrogen/eSAF)</p> <p>Replacement of carbon intensive energy sources (grey hydrogen/traditional aviation fuel)</p> <p>GHG emission avoidance due to replacement (CO<sub>2</sub> per year)</p> <p>Capacity for the 2030 ambition in ReFuelEU (in tons of RFNBO compliant fuel supplied)</p>
<b>Impact</b>	<p>Contribution to a 1.5°C-aligned energy system through demand-side decarbonisation</p> <p>Reduced need for new power generation and grid infrastructure</p>	<p>Decarbonisation of hard-to-abate sectors (e.g. aviation)</p> <p>Contribution to EU decarbonisation objectives ReFuelEU, Fit for 55 and EU Green Deal</p>





	Data Center	Fibre	Day Care
<b>Inputs &amp; Activities</b>	<p>Investment of capital and expertise</p> <p>Site and asset specific assessments</p> <p>Access to renewable energy sources and grid connections</p> <p>Implementing energy-efficient technologies, e.g. using energy- and resource-saving construction methods</p> <p>Establishing a system for reusing waste heat in local infrastructure</p>	<p>Investment of capital and expertise</p> <p>Assessment of fiber optic companies/projects and their planned or covered areas</p> <p>Partnerships with local governments and communities for deployment and adoption</p> <p>Integration of environmental and social standards in company/project processes</p>	<p>Investment of capital and expertise</p> <p>Enhancing the property according to ecological and social criteria</p> <p>Building new childcare facilities</p> <p>Implementing sustainable building practices</p> <p>Developing and supporting innovative educational programs within childcare facilities</p>
<b>Outputs</b>	<p>(Planned) Taxonomy-aligned CAPEX/Return in Mio. EUR</p> <p>Carbon footprint</p> <p>Energy consumption in GWh</p> <p>Share of renewable energy</p> <p>Share of reusing waste heat</p>	<p>Investments in the development and construction of fiber networks in Mio. EUR</p> <p>Number of accesses for private households, businesses and public institutions (Fibre optic expansion rate, Fibre optic connection rate)</p> <p>Share of areas with low broadband availability (underserved) of the operator</p>	<p>Construction of a childcare facility with an innovative educational concept</p> <p>Provision of daycare places for 355 children</p> <p>34% more green areas than the recommended standard per education facility</p>
<b>Outcomes</b>	<p>Taxonomy-aligned CAPEX/Return in Mio. EUR</p> <p>Reduction in energy consumption and Carbon Footprint/Intensity</p> <p>Low Power-Usage-Efficiency (PUE)</p>	<p>Increased availability of access to fibre networks based on number of clients/contracts per year</p> <p>Increased construction and operation of fibre optic networks (e.g. in underserved areas)</p>	<p>Additional childcare places through new facilities promote high-quality early childhood education</p> <p>Increased parental employment and equal opportunities for single parents</p>
<b>Impact</b>	<p>Strengthens the resilience and Decarbonisation of digital infrastructure and minimisation of the ecological footprint of data processing and storage,</p> <p>Contributing to EU Green Deal and the Clean Industrial Deal</p>	<p>Upgrade infrastructure and retrofit industries by increasing access to communications technology and striving to provide universal and affordable access to the Internet, especially in disadvantaged areas, in line with environmental and social standard</p>	<p>Addressing acute shortage of early childhood care and promoting sustainability and educational quality</p> <p>Children gain access to high-quality education from the start, which is essential for developing equal opportunities</p> <p>Facilitated Return to workplace for women contributes to gender equality</p>

## 5. ASSET IMPACT IN INFRASTRUCTURE

### Case Studies Discussion - Intentionality

The case studies illustrate different impact pathways designed to support the strategic impact objectives of the respective investments. Some case studies provide insights into the impact pathway at the asset level, focusing on specific outputs and outcomes linked to the impact objective. Others take a broader perspective, encompassing an investment strategy that may pursue multiple impact objectives. While some examples concentrate on a single (primary) impact objective, others incorporate secondary objectives or present a combination of goals without prioritising one in particular – especially in cases involving social impact.

For impact investment products, it can be beneficial to combine a high-level impact pathway at the investment strategy level with more concrete pathways tailored to individual asset-level investment decisions.

All impact pathways outline a roadmap of activities and inputs that are aligned with the strategic impact objectives of the investment strategy. These roadmaps are established prior to capital deployment and serve to embed intentionality into investment processes.

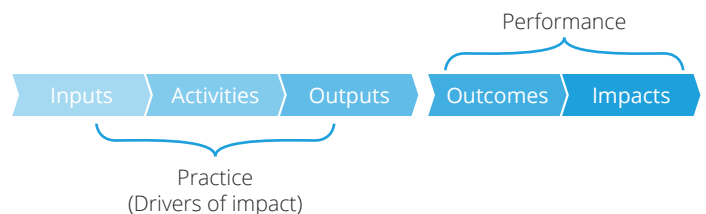
One of the key challenges in preparing impact pathways for case studies is transitioning from directly measurable inputs, activities, and outputs to the overarching strategic impact objective. Measuring the influence of a single project or product on broader societal goals – such as the Paris Agreement or the SDGs – can be difficult and often depends on broad assumptions. As such, outcomes become a critical link in evaluating impact performance, since this is often where impact targets are situated.

However, outcomes are not always clearly defined and can sometimes be difficult to distinguish from impact itself within the pathway. The case studies reflect different interpretations of outcomes – ranging from changes or events resulting from outputs to improvements in the well-being of people and the environment. In many instances, outcomes are described at a more local level, reflecting effects on specific communities, sectors, or stakeholders directly influenced by the outputs.

### 5.1. CONCEPTS & FRAMEWORKS

The following section takes a closer look at the performance-related components of the impact pathway – namely outcome and impact – at the asset level. It examines the question of how the underlying assets make a positive contribution to the strategic impact objective and the impact targets set as part of the intentionality.

**Figure 5:** Impact Pathway



**Source:** IMP, 2024.

There are different understandings of “outcomes” and “impacts”. The IMP defines two distinct usages (IMP, 2025). The first defines outcome as a change or event resulting from the assets activities and outputs (i.e. a causal link between the drivers of impact and the impact itself). The second defines outcome as the level of well-being for society or the natural environment that results from the outputs of the asset. In this definition, impact then describes the change in the outcomes – the level of well-being – that is achieved by society or the natural environment.

The asset impact itself has different characteristics and can be broken down further. One example is Impact Frontiers’ “five dimensions of impact”, which uses the five dimensions ‘what’, ‘who’, ‘how much’, ‘contribution’ and ‘risk’ to describe asset impact (Impact Frontiers, 2025). This definition includes the outcome the asset is contributing to, the stakeholders involved, the size of the impact, counterfactuals and the risks associated with whether an impact is reached.

In the core characteristics of impact-generating investments as summarised in the foundational paper, the third characteristic related to asset impact refers to ‘significant, net positive asset impact’ (BAI & BIII, 2024). To apply this to the infrastructure asset class, we break down the impact into three questions:

- What positive contribution does the asset make to society or the environment? (Positive asset impact)
- Does the asset have any unintended negative side effects? (Net positive impact)
- Is the positive impact substantial enough? (Significant impact)

Assessing asset-level impact is key to understanding how infrastructure investments contribute meaningfully to social and environmental goals. By focusing on positive contribution, avoiding unintended harm, and ensuring significance, investors can align projects with the core principles of impact investing.

## 5.2. APPLICATION TO INFRASTRUCTURE

The definition of asset impact encompasses the effects that the activities of an underlying asset or company have on the environment and society. When investing in a company, this societal impact is often multi-dimensional. A company typically offers multiple products and services and may influence society through its broader corporate activities – for example, as an employer.

In contrast, infrastructure projects often have more directly attributable societal impacts. A specific project is financed to deliver a defined service, which enables the measurement of asset impact to be more directly linked to the success of service delivery and its tangible outputs (e.g. kilowatt-hours of renewable energy produced). While infrastructure as an asset class is highly diverse, its common feature is the provision of specific services, allowing for clearer attribution of impact through measurable outcomes.

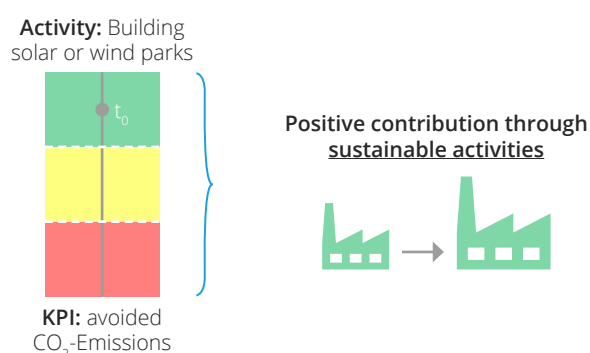
**What positive contribution does the asset make to society or the environment? (Positive asset impact)**

Revisiting the impact pathway, understanding an asset's contribution involves assessing the link between outputs, outcomes, and ultimate impact. The output of the infrastructure asset – its service – is typically the most directly measurable component. These services then contribute to social or environmental outcomes, such as improved well-being or positive changes in environmental conditions.

Infrastructure assets can contribute positively in two main ways:

When an asset provides a service that leads to already sustainable outcomes. In this case, the achieved outcome – for example, a level of well-being or environmental quality – meets or exceeds a threshold that is socially accepted as positive. Maintaining or increasing such outputs supports a sustained positive contribution.

**Figure 6:** Positive Contribution through sustainable activities

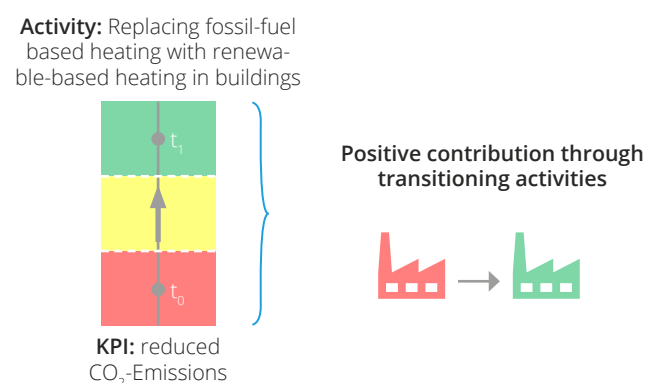


**Source:** own illustration; adopted from Heeb and Kölbel, 2020.

When services are designed to improve unsustainable conditions, the outputs of the service help shift societal or ecological conditions towards more sustainable states.

When previously unsustainable assets are transitioned to improve their impact, positive contributions can result from the transformation of the asset itself. In this case, the modification of outputs and services contributes to improved environmental or social outcomes.

**Figure 7:** Positive contribution through transitioning activities



**Source:** own illustration; adopted from Heeb and Kölbel, 2020.



Despite the general characteristic of infrastructure assets to provide essential services, this alone does not automatically qualify an investment as sustainable or impactful. Infrastructure can also result in significant negative environmental effects. For example, fossil fuel-based energy generation and pipelines are infrastructure assets that fulfil societal functions but also produce climate-damaging emissions. Moreover, the construction phases of infrastructure projects often involve emissions or biodiversity impacts. For this reason, the positive impact created by the infrastructure asset is commonly tested in two additional ways:

- Are there any (unwanted) side effects to the positive impact (net positive)
- Is there enough of the positive impact (significant)

**Does the asset have any unintended negative side effects?**  
(Net positive impact)

Answering this question begins with understanding its intent. The term “netting” implies that various impacts could be aggregated to estimate an overall net effect. However, this would require a universal unit of measurement – for example, converting CO<sub>2</sub> reductions into hospital equivalents – which remains conceptually and practically challenging.

Some methodologies attempt to monetise social and environmental impacts to enable such comparisons. While these approaches are encouraging, they remain complex and are not yet widely adopted. Many societal and ecological outcomes cannot be objectively quantified, making universally accepted metrics difficult to establish.

In the absence of practical netting, an alternative is to recognise the multidimensional nature of infrastructure impact and apply threshold-based assessments across different domains. Additionally, safeguards can help ensure that no significant harm is caused in areas not directly targeted by the impact strategy. This principle is embedded in regulations like the SFDR and the EU Taxonomy, which require that investments “do no significant harm” (DNSH) to other environmental or social objectives.

A known limitation of DNSH is the lack of stringent thresholds or clear binary criteria, which can lead to ambigui-

ty in application. This working group explored the idea of mapping negative impacts to planetary boundaries, which could provide a science-based framework for setting thresholds. As planetary boundary-based models already include such concepts, they may offer a valuable foundation for developing impact investing strategies.

Screening for unintended side effects is a common practice in infrastructure investing. Given the long lifespan and scale of these assets, their financial success is often linked to effective management of environmental and social risks. Early stakeholder engagement, for example, is essential to prevent community opposition or delays. Furthermore, infrastructure projects often require permits that are tied to environmental and social criteria. In the EU, major projects must undergo Environmental Impact Assessments (EIAs), which identify potential impacts and outline mitigation strategies.<sup>6</sup>

**Is the positive impact substantial enough?** (Significant impact)

Beyond avoiding harm, assessing whether an impact is substantial is central to determining whether an investment qualifies as impactful.

One approach is to compare outcomes to predefined thresholds – for example, alignment with the Paris Agreement. However, such benchmarks may not apply universally, especially in areas like social infrastructure. In impact investing, the theory of change often defines what constitutes “significant” within a specific context, making clear threshold-setting essential.

Relying solely on subjective interpretation can lower ambition and reduce comparability across asset classes. This highlights the need to balance contextual relevance with standardised benchmarks. Regulatory objectives such as those defined in the EU Green Deal can help inform significance thresholds, as discussed in the next section.

A pragmatic perspective might consider economic viability as a proxy for societal value. If an infrastructure project reaches implementation, one might assume it fulfils a real need – and thus delivers social benefit. For example, a fourth hospital in an area already well-served would likely not be financially viable, reinforcing the connection between economic demand and meaningful service provision.

6. Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment.

Additionally, the capital-intensive and long-term nature of infrastructure investments – with returns tied to ongoing service delivery – often implies that only projects offering significant contributions progress. However, this logic has its limitations. Markets are imperfect, and not all economic activity aligns with broader societal or environmental value. Determining what constitutes justified demand is a complex issue that lies beyond the scope of this paper.

### Impact across development stages

As outlined in the General Challenges section, infrastructure projects follow distinct stages – development, construction, operation, and end-of-life. While most measurable impact occurs during the operational phase, each stage plays an essential role in achieving long-term impact.

This is further complicated by the fact that investors may not hold infrastructure assets across their full lifecycle. Different stages carry distinct risk-return profiles, and many investors specialise in particular phases – such as early development.

Even when services are not yet being delivered, the development and construction stages are critical. These phases allow for the integration of DNSH strategies and the establishment of parameters such as scale, location, and quality of service.

For instance, a wind farm's impact during operation might be measured by electricity production. In the development phase, the relevant output could be project readiness; during construction, it could be the achievement of build milestones. Though different, these outputs work towards the same long-term impact objective.

This phased view is also acknowledged in regulation. The EU Taxonomy includes the construction phase in its definition of wind energy generation activities.

While asset impact is easier to monitor during operation, investor impact – or additionality – is often strongest during development and construction. This may result in a mismatch between when impact is realised and when investors have the greatest influence – a topic further explored in the next section.

Infrastructure assets offer a distinct opportunity for measurable impact due to their service-oriented nature and direct link between outputs and outcomes. Recognising impact across all project phases – from development to operation – while addressing unintended effects and contextual significance, is essential to harnessing infrastructure's full value in impact investing.

## 5.3. ASSET IMPACT IN THE REGULATORY CONTEXT

The EU regulatory framework can also serve as a basis for identifying asset impact within infrastructure investments. For example, the EU Environmental Taxonomy maps economic activities to specific environmental objectives and outlines requirements for asset impact through its substantial contribution criteria.

In addition to identifying positive contributions, the regulatory framework also supports the evaluation of negative impacts. The SFDR, for instance, outlines a set of Principal Adverse Impact Indicators (PAIs) that should be considered when assessing potential harm. However, it does not provide thresholds or clear guidance on when these indicators become materially harmful. Since PAIs are applied across all asset classes, collecting relevant data for infrastructure can be particularly challenging – especially when the indicators do not fully capture the specific sustainability characteristics or risks of infrastructure projects.

In contrast, the EU Taxonomy provides activity-specific criteria that define what constitutes significant negative environmental impact. This makes it more suitable for evaluating harm in infrastructure projects where applicable. However, because it is currently an environmental taxonomy, the scope is limited to activities with potential for positive environmental contributions. As a result, not all infrastructure asset types – such as social infrastructure – are currently covered.

The Taxonomy also includes Do No Significant Harm (DNSH) criteria for its six environmental objectives. While it includes minimum safeguards for social issues – requiring alignment with international standards such as the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights – these safeguards lack the specificity found in the environmental DNSH criteria. Nevertheless, these social safeguards are far-reaching and can, in practice, be as demanding as sector-specific environmental tests.

The EU regulatory framework also provides reference points for assessing the significance of positive impact. One example is the technical screening criteria defined within the EU Taxonomy, which set the standards for substantial environmental contribution. These criteria cover several infrastructure-related sectors – such as transport, utilities, and telecommunications – but focus exclusively on environmental performance, without consideration of broader societal services.

In many cases, these substantial contribution criteria describe the asset's outputs rather than linking them to concrete outcomes or longer-term impacts. However, they still offer insight into what the EU considers a meaningful contribution to its overarching environmental goals, such as those of the EU Green Deal, and can inform significance assessments. That said, the rigor of these criteria varies. For example, the screening requirement for electricity generation using photovoltaic (PV) technology merely states that electricity must be generated using PV, with no minimum performance or outcome threshold. Such examples highlight the need for complementary, independent impact thresholds.

The significance of social impact is often linked to the stakeholders, the infrastructure asset provides services to. In the Platform on Sustainable Finance's final report on the Social Taxonomy the three social objectives suggested are

- decent work (including value-chain workers),
- adequate living standards and well-being for end-users, and
- inclusive and sustainable communities and societies.

Infrastructure assets by design are often built to provide services to improve one of these three objectives. The report suggests the following three types of substantial contribution:

- avoiding and addressing negative impact,
- enhancing the inherent positive impacts of (i) social goods and services and (ii) basic economic infrastructure, and
- enabling activities.

The second category is particularly relevant for infrastructure assets, as it emphasises their role in delivering core services aligned with the UN Sustainable Development Goals (SDGs) and the European Pillar of Social Rights.

Although the Social Taxonomy remains incomplete and lacks a confirmed implementation timeline, it offers a valuable conceptual framework. In practice, many impact asset managers continue to rely on alternative tools – such as the IRIS+ system – for structuring and demonstrating their impact strategies.

While the EU regulatory framework provides useful starting points for assessing asset impact, its current structure is only partially suited to the complexity of infrastructure. Gaps remain in covering social infrastructure and setting outcome-based impact thresholds.



## 5.4. CASE STUDIES - ASSET IMPACT IN PRACTICE

	Solar	Wind	BESS
<b>Asset Impact Significance</b>	Carbon emissions reduction in line with 1,5°C scenario for energy sector  Baseline comparison for biodiversity and community integration during operation phase	Facilitates energy transition from fossil fuels to renewables  Enhances energy security and diversification by reducing dependence on fossil-based power	Transition Impact: Supports decarbonisation by enabling renewable energy adoption and reducing curtailment
<b>Asset Impact KPIs</b>	Amount of avoided emissions  Amount of installed production capacity (MWp)  Change in flora and fauna diversity compared to a baseline level  Project lead times	Renewable electricity generated (MWh)  CO <sub>2</sub> emissions avoided (tons per year)  Local employment created (direct and indirect jobs)	Total energy stored and dispatched (MWh)  Reduction in CO <sub>2</sub> emissions from displaced fossil fuel use
<b>DNSH</b>	DNSH according to Taxonomy criteria: i) Climate and vulnerability assessment ii) Environmental impact assessment iii) Component recyclability and longevity assessment iv) Minimum social safeguards for component selection  Consideration of material SFDR PAI	Environmental and social impact assessments  Compliance with biodiversity and land-use regulations  Community engagement and benefit-sharing programs  DNSH criteria through EU Taxonomy	Ethical sourcing of battery materials (e.g. lithium, cobalt)  Proper end-of-life battery recycling and disposal  DNSH criteria through EU Taxonomy





	Efficiency	Clean Fuel
<b>Asset Impact Significance</b>	Supports decarbonisation by reducing energy consumption and emissions across industries, buildings, and infrastructure	Additional capacity of green hydrogen and green fuel alternatives in a growing market Green fuels are part of the EU Taxonomy and promoted by the EU e.g. through the Green Deal and ReFuelEU initiative
<b>Asset Impact KPIs</b>	Energy savings achieved (kWh reduction) CO <sub>2</sub> emissions avoided (tons per year) Reduction in energy costs for end users	New electrolyser capacity for green hydrogen (MW) New production capacity for RFNBO compliant eSAF (tons per year) Offtake agreements with industry partners GHG emission avoidance due to replacement (CO <sub>2</sub> e per year)
<b>DNSH</b>	Compliance with environmental regulations for equipment disposal Responsible sourcing of materials for energy-efficiency products DNSH criteria through EU Taxonomy and EU SFDR	EU Taxonomy DNSH for the activity "Manufacture of hydrogen" EU regulation for RFNBO compliance Material PAI of EU SFDR

	Data Center	Fibre	Day Care
<b>Asset Impact Significance</b>	<p>Providing data center-infrastructure for data storage, processing and cloud services with a strong focus on energy efficiency and environmental responsibility</p> <p>Existing data centers are extremely energy-intensive and large quantities of water are required to cool the servers</p> <p>Modern data centers rely on sustainable technologies and renewable energies to reduce their ecological footprint</p> <p>This can lead to significant energy savings and a reduction in CO<sub>2</sub> emissions</p>	<p>Provide affordable and equitable access to fibre networks, especially in disadvantaged areas by development, construction and operation of networks and offering end customer service for private and business customers</p> <p>In Germany expansion of fiber networks and access faces challenges (e.g. complex approval processes, increased construction costs)</p> <p>Provide essential financial resources to cover construction costs, ensuring project feasibility</p> <p>Enable strategic partnerships, enhancing collaboration among stakeholders to accelerate deployment</p>	<p>Address the lack of regional childcare places, especially for children aged three to six</p> <p>Accommodate the increasing employment of both parents and of single parents</p> <p>Highlight the importance of early childhood education and promoting equal opportunities</p>

<p><b>Asset Impact KPIs</b></p>	<p>Taxonomy-aligned CAPEX/ Return in Mio. EUR</p> <p>Reduction in energy consumption and Carbon Footprint/Intensity</p> <p>Low Power-Usage-Efficiency (PUE)</p>	<p>Increased availability of access to fibre networks in urban and sub-urban regions (e.g. in underserved areas)</p> <p>Fibre optic expansion rate = Homes Passed (HP) divided by private households, businesses and public institutions</p> <p>Fibre optic connection rate = Homes Connected (HC) divided by private households, businesses and public institutions</p> <p>Share of Areas with low broadband availability (underserved) investments of the operator</p>	<p>Number of children enrolled in the daycare</p> <p>Number of parents, especially mothers, (re-)joining the workforce</p> <p>Percentage of children meeting school readiness benchmarks</p> <p>Number of enrolled children with special needs</p>
<p><b>DNSH</b></p>	<p>DNSH criteria through EU Taxonomy and EU SFDR</p> <p>Responsible sourcing of materials for energy-efficiency products</p> <p>EU Data Centres Energy Efficiency Code of Conduct</p>	<p>DNSH criteria through EU SFDR</p> <p>Social &amp; Governance: compliant with applicable national and EU environmental, social and governance legislation</p> <p>Supplier/ Contractor: Existence of a code of conduct for contractors and suppliers</p>	<p>DNSH criteria through EU Taxonomy for a range of economic activities and EU SFDR</p>



## 6. INVESTOR IMPACT IN INFRASTRUCTURE

### Case Study Discussion – Asset Impact

In the case studies, we focused not only on the intended impact but also on how that impact is classified as significant, which KPIs are used to measure it, and how potential negative or unintended effects are addressed. Across all cases, the EU Taxonomy and other regulatory frameworks provide helpful guidance, indicators, or policy references to inform these dimensions of impact.

The UN Sustainable Development Goals (SDGs) can also support the assessment of significance. In the infrastructure asset class, impact is frequently linked to SDG 9: “Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.” Determining whether an impact is significant often involves asking which part of the value chain the investment addresses, what the intended ecological or social contribution is, and what barriers or needs exist in that context.

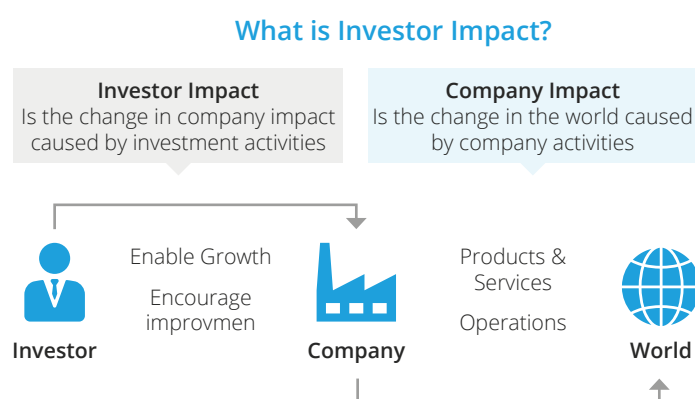
In practice, the emphasis often lies on ecological aspects, in part because they are more easily measured – especially using tools like the EU Taxonomy.

While asset impact is initially defined as part of the intentionality and impact pathway, it is often refined during the investment process based on the characteristics of the specific asset and its operating context. This refinement should always remain grounded in the overarching impact thesis and strategic objectives.

### 6.1. CONCEPTS & FRAMEWORKS

While asset impact is directly linked to the output of the underlying asset, the investor impact describes the influence of the investor on the impact generated on asset level and asks what contribution the investor makes to the impact of the asset with their investment.

**Figure 8:** Investor Impact



**Source:** Heeb and Kölbel, 2020.

There are different types of impact an investor can have on the development of asset impact. Impact Frontiers and Heeb & Kölbel specify these mechanisms further and differentiate between four types of investor impact.



**Figure 9:** Overview channels for investor impact

Investor Impact Mechanism (based on IMP classification)		Description
<b>Grow new/undersupplied capital markets</b>		Allocating capital to impactful companies whose growth is limited by access to financing.
<b>Provide flexible capital</b>		Allocating capital to impactful companies that require flexible financing conditions to grow
<b>Engage actively</b>	<b>Provide non-financial support</b>	Provide resources beyond capital that enhance the growth of impactful companies (e.g., know-how, reputation, network).
	<b>Shareholder engagement</b>	Encouraging management to improve as an active owner (e.g., management dialogue, voting).
<b>Signal that impact matters</b>	<b>Market signals</b>	Sending price signals to the entire market that encourage improvement (e.g., screening based on ESG criteria).
	<b>Non-market signals</b>	Sending signals to society at large that influence the public discourse on pressing challenges.

*Source: Heeb & Kölbel, 2020.*

Caldecott et al noted similar mechanisms within the realm of 'Cost of Capital, Access to Liquidity and Changing Corporate Practices' where the highest potential impact via these transmission mechanisms would be more likely found in private equity and private debt – i.e. linking impact potential to the type of capital provided. This has also been highlighted in the foundational paper on Impact Investing in Alternative Investments (BAI & BII, 2024).

Investor impact is the added value an investor brings to an asset's impact. Potential channels include grow new/undersupplied capital markets, provision of flexible capital and engage actively (by providing non-financial support).

## 6.2. APPLICATION TO INFRASTRUCTURE

Infrastructure investments predominantly take place in private markets. They are generally not publicly traded, and as such tend to be less liquid, longer-term, and characterised by a more direct relationship between the investor and the underlying asset than investments in public markets. Heeb & Kölbel suggest that investor impact in private markets is typically achieved through three main channels:

1. Grow new/undersupplied capital markets
2. Provide flexible capital
3. Engage actively (by providing non-financial support)

Linking these three types of investor impact to infrastructure investments, we need to look at the unique characteristics of investments in infrastructure. The BAI describes the following as core characteristics of infrastructure investments:

1. Targeted (one-way) investments: Investments in infrastructure are characterised as "relationship-specific", meaning they are only justified in the context of a tar-



geted business relationship, such as a contract, license or concession.

2. Irreversible capital investments: Investments are irreversible and can therefore no longer be used for any other purpose. For this reason, an ongoing business relationship with the project is required after the project.
3. Large volume, which requires a long repayment period: Infrastructure investments are not only irreversible, but they must also be large in absolute terms, so the payback period is necessarily long (several decades). Short-term investments would not make sense due to the usually long amortisation period.

Given these characteristics, infrastructure inherently requires flexible, patient capital – aligning closely with the investor impact mechanism of “providing flexible capital”. This suggests that investor impact is often embedded by design in infrastructure financing models.

Similarly, the targeted nature of project finance structures gives investors a direct relationship with the asset and its management. This provides a basis for active engagement – particularly non-financial support through technical expertise or governance oversight. Caldecott et al. highlight that real asset funds often hold significant influence over project sustainability performance, particularly through majority ownership, which enables investors to instruct, sanction, or replace management teams. While debt investors have historically had more limited influence, this is changing: debt financing now increasingly includes sustainability-linked covenants or requirements in both primary issuances and refinancing.

The three forms of investor impact are more or less applicable depending on the stage of the project lifecycle (development, construction, operation, end-of-life) and the financing instrument (equity or debt). Although not mutually exclusive, these mechanisms vary in strength and relevance at different points in time – and not all always result in significant investor impact.

For example, in renewable energy projects, investor impact may take different forms throughout the lifecycle. During the development phase, taking on higher risks may help grow underdeveloped market segments. In the construction and financing phases, the provision of large, long-term capital becomes critical. Engagement and active asset management – offering non-financial expertise –

can help enhance performance during the operation and maintenance phases, potentially extending through to re-powering or decommissioning.

It is also important to note that these mechanisms can be fluid in nature. For instance, engagement can play an important role even in early development or construction phases, and investor influence is not necessarily static across the asset's life. One example of this dynamic effect is market signalling: acquiring projects from developers may free up capital for those developers to reinvest in earlier-stage projects. Caldecott et al. observe that if the market views such transactions as helping to establish or strengthen secondary markets, this can lower perceived risk – and ultimately reduce the cost of capital – for future projects.

Investor impact in infrastructure is often inherent due to the asset class's long-term, capital-intensive nature and direct investor-asset relationships. By providing flexible capital, engaging with asset management, and supporting early-stage or underserved markets, investors can influence sustainability outcomes across the full infrastructure lifecycle.

### 6.3. INVESTOR IMPACT IN THE REGULATORY CONTEXT

The concept of investor impact or additionality is largely missing from the EU's regulatory framework. The SFDR's definition of a sustainable investment for example only refers to the asset or economic activity level. Investor impact or contribution is also not a prerequisite for an Article 8 or Article 9 product under the SFDR (BAI & BIII, 2024). Similarly, the EU Taxonomy's criteria for significant contribution also take place on the level of the economic activity and do not consider investor engagement or who and why capital is provided.

Current EU frameworks do not recognize investor contribution, missing a key component of impact investing.

## 6.4. CASE STUDIES - INVESTOR IMPACT IN PRACTICE

	Solar	Wind	BESS
<b>Grow new/undersupplied markets</b>	Contribute to the decarbonisation of electricity grids in diverse markets while contributing to biodiversity integration and community engagement	Invest in markets where wind resources are strong but underutilised, supporting early-stage renewable infrastructure build-out	Invest in markets with limited storage or grid flexibility to accelerate renewable energy integration and reduce curtailment.
<b>Provide flexible capital</b>	Enable innovative financing solutions including financial participation of communities and early-stage financing of capital-intensive project initiation phase	Enable innovative financing structures to de-risk investments and attract institutional capital and co-investors	Provide catalytic capital to scale battery storage deployment through new financing models, such as revenue stacking and long-term service contracts
<b>Engage actively</b>	Interact with communities, policy makers, regulators, local authorities to communicate positive side effects of Solar PV  Engage with component producer to minimise negative environmental and social effects along upstream value chains	Collaborate with policymakers, regulators, and local stakeholders to improve permitting, planning, and public acceptance of wind projects	Partner with utilities, grid operators, and regulators to support optimal system design, regulatory frameworks, and responsible sourcing and recycling of materials

	Efficiency	Clean Fuel
<b>Grow new/undersupplied markets</b>	Support energy efficiency adoption in markets with aging infrastructure, high energy intensity, or low penetration of modern efficiency technologies  Target sectors where regulatory support is emerging, but investment remains scarce	Green hydrogen and alternative fuels market is still new and relies heavily on first movers  Increased access to private capital/institutional capital by providing a product with a hybrid strategy, diversifying the first mover risk
<b>Provide flexible capital</b>	Enable performance-based financing models that align incentives for efficiency gains, such as energy-as-a-service or pay-for-performance  Facilitate aggregation and standardisation to enable investability at institutional scale	Long-term capital (fund terms of 5+ years) Patient capital (steep investment profile)
<b>Engage actively</b>	Partner with businesses, policymakers, and technology providers to drive adoption.	Interact with governments to secure grant funding  Provide engineering expertise and local networks (power supply and offtake)

	Data Center	Fibre	Day Care
<b>Grow new/undersupplied markets</b>	<p>The demand for data processing and storage is growing continuously, particularly due to increasing digitalisation and cloud technologies</p> <p>In some European countries, including Germany, there are challenges in expanding the necessary infrastructure</p> <p>Financing data center projects can be difficult, especially when integrating new technologies and sustainable practices</p> <p>The portfolio offers investments in modern data centers that generate both financial returns and a positive impact</p>	<p>Growing demand for high-speed internet due to the digitalisation in all industries and for private households</p> <p>But obstacles due to market, increased construction costs and financing obstacles, e.g. for Germany which lags far behind the fibre optic connection rate of other European Countries</p> <p>The portfolio offers investments in developing, constructing and operating open-access fibre networks that generate both financial returns and positive impact</p>	<p>Germany faces a shortage of approximately 380,000 daycare places, with the majority missing in western Germany</p> <p>This gap is driven by demographic trends, increasing female labor force participation, and growing demand for early childhood education</p> <p>However, expansion is hindered by limited public budgets, planning delays, and a shortage of qualified staff</p> <p>Investments in planning, constructing, and operating modern daycare facilities can help address this shortage while creating equal opportunities for children and families</p>
<b>Provide flexible capital</b>	Long-term capital (fund terms of 5+ years)	Long-term capital (fund terms of 10+ years)	Long-term capital (fund terms of 10+ years)
<b>Engage actively</b>	<p>Partner with businesses, policymakers, and technology providers to drive adoption</p> <p>Implementation of ESG requirements in Shareholder agreements</p> <p>Selection of service provider</p>	<p>Interact with communities, policy makers, regulators, local authorities</p> <p>Implementation of ESG requirements in Shareholder agreements</p> <p>ESG action plans at corporate level</p>	<p>Provide non-financial support through Stakeholder engagement</p>

### Case study discussion – Investor Impact

To illustrate how investor impact can be realised in practice, the case studies focus on the three mechanisms most commonly associated with private market investments. These channels of investor impact are not mutually exclusive and may be combined within a single investment strategy.

A key area of discussion among the case study contributors was how to evaluate the significance of investor impact. In private market settings – particularly in equity

investments and early-stage project development – investors can influence outcomes in a variety of ways. However, the significance of this impact does not necessarily depend on exclusivity; a project may still have been viable with another investor, or similar outcomes could potentially have been achieved through alternative capital sources. The focus, rather, lies in assessing the investor's contribution to advancing strategic impact objectives – an exercise that remains largely qualitative.

Another important consideration was how investor impact varies across different points in the capital structure and

across project phases. Generally, direct influence is stronger in early-stage equity investments, while debt financing and operational-phase investments tend to offer more limited, indirect levers for impact.

Nevertheless, the often close relationship between investors and project sponsors – combined with the ability to offer financing alternatives to public capital markets – remains a strong indicator of potential investor impact in infrastructure.



## 7. IMPACT MANAGEMENT & MEASUREMENT IN INFRASTRUCTURE

### 7.1. CONCEPTS & FRAMEWORKS

Impact Measurement and Management (IMM) refers to the processes and tools used to measure, monitor, and manage the social and environmental impacts of investments. The integration of IMM into the investment process is a defining feature of most recognised definitions of impact-aligned or impact-generating investments. IMM typically spans the entire investment lifecycle – from sourcing to exit – and ensures that impact data is used not only for reporting, but also to guide decision-making and enhance real-world outcomes (GIIN, 2025a; BIII, 2023).

IMM generally involves setting clear impact targets before investment, using qualitative or quantitative indicators, and tracking performance against those targets throughout the holding period – and ideally, even after exit. In essence, an IMM framework embeds all elements of an impact strategy – such as intentionality, asset impact, investor contribution, and avoidance of harm – into a structured system for continuous monitoring and improvement.

While there is no single market standard for IMM, a diverse range of frameworks and tools offer guidance on different components of the process. In practice, investment managers often combine multiple standards to design and implement a tailored approach suited to the complexity and focus of their strategy.

Broadly speaking, IMM tools can be categorised into two types:

- Principle- and process-based frameworks, which describe how to manage impact, and
- Measurement tools and indicator sets, which guide what to measure and how.

#### Operating Principles for Impact Management

Among the most widely used process-based standards is the Operating Principles for Impact Management (OPIM), launched in 2019 by the International Finance Corporation (IFC). This global framework helps investors design, implement, and continuously refine robust impact ma-



management systems across the investment lifecycle. The framework serves two core purposes:

- To establish discipline and rigor in impact investing practices, helping to guard against impact-washing; and
- To improve transparency and accountability in how impact is planned, achieved, and reported.

The nine principles are applicable across investor types, asset classes, sectors, and geographies, and can be implemented at both the fund and asset levels. Depending on portfolio complexity and heterogeneity, IMM systems may require varying degrees of granularity at each level.

Figure 10 provides an overview of the nine principles, grouped into four stages of the investment lifecycle: strategic intent, origination and structuring, portfolio management, and exit.

In summary:

**Principle 1:** Define strategic impact objectives

**Principle 2:** Manage impact at the portfolio level

**Principle 3:** Demonstrate investor contribution

**Principle 4:** Assess expected impact before investment

**Principle 5:** Identify and manage potential negative impacts

**Principle 6:** Monitor impact performance on an ongoing basis

**Principle 7:** Consider the sustainability of impact at exit

**Principle 8:** Foster continuous learning and improvement

**Principle 9:** Ensure public transparency and independent verification

**Figure 10:** Operating Principles for Impact Management

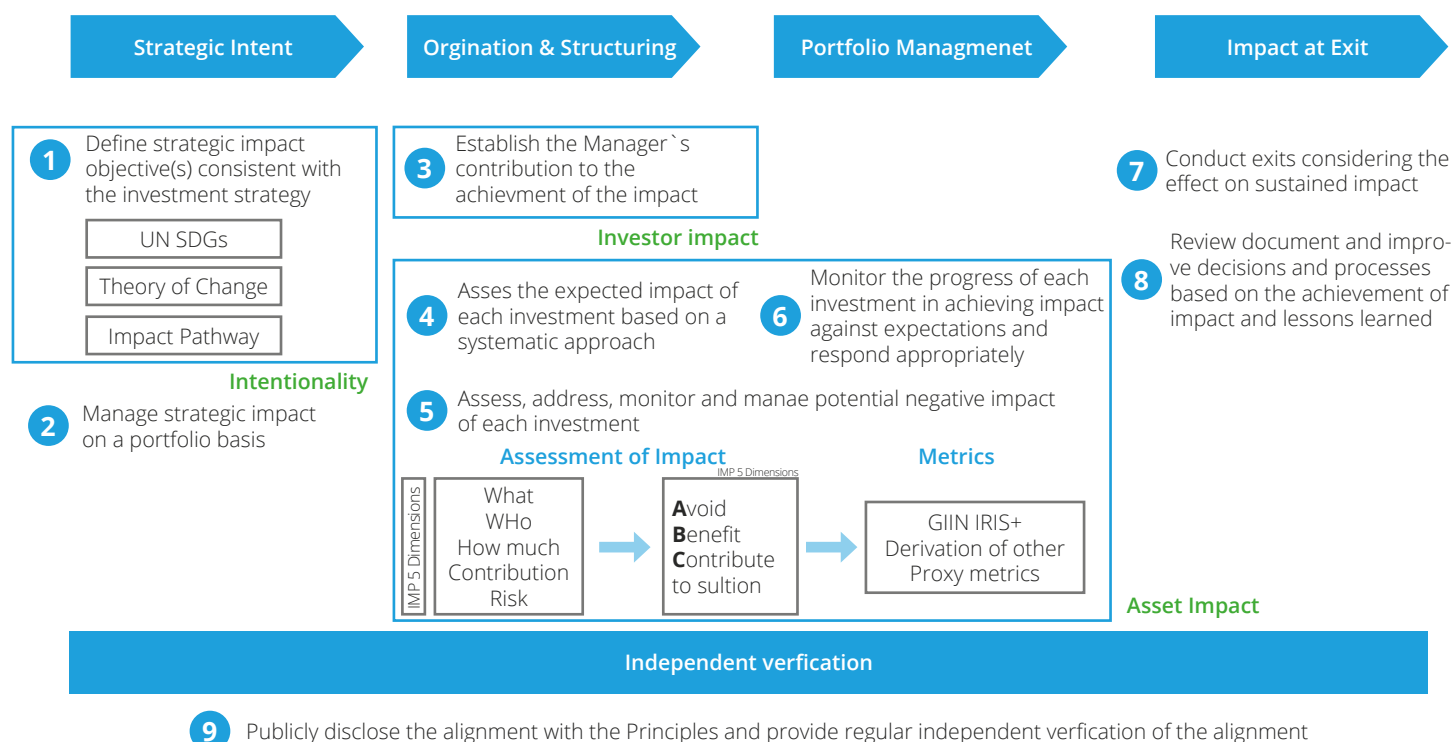


**Source:** OPIM, 2025.

In practice, the OPIM can be complemented by specialised measurement tools such as the Impact Management Project's (IMP) Five Dimensions of Impact (see chapter 5 on asset impact). The ABC Framework – Avoid harm, Benefit stakeholders, contribute to solutions – provides an additional lens to assess an investment's impact profile and further strengthen IMM implementation.

To operationalise the OPIM framework, investors can use metrics such as GIIN's IRIS+ indicators or other proxy measures to track progress toward specific SDGs. These metrics help link IMM back to intentionality and ensure alignment between stated goals and measured outcomes.

Figure 11: Adapted OPIM framework



**Source:** Adapted from ULI, 2021, OPIM, 2025 and Impact Frontiers, 2018.

A robust Impact Measurement and Management system is essential to aligning infrastructure investments with impact objectives. While no single standard dominates, frameworks like the Operating Principles for Impact Management offer a structured approach to integrating impact across the investment lifecycle.

## 7.2. APPLICATION TO INFRASTRUCTURE

Applying an IMM framework to infrastructure investments presents a unique set of challenges due to the scale, complexity, and long-term nature of the asset class. While IMM is intended to assess, manage, and optimise social and environmental outcomes, infrastructure contexts require tailored approaches that reflect their specific dynamics. Based on the particular characteristics of infrastructure, the following issues are especially relevant when designing and implementing IMM systems.

### Diversity of asset class and matching IMM

An investment strategy targeting a diverse mix of infrastructure sub-asset classes requires an IMM framework that can measure and manage impact across a range of contexts. This begins with selecting KPIs that are relevant

for each sub-asset class, mapping them to a unified theory of change, and aggregating insights at the portfolio level.

For strategies focused on a single sub-sector, IMM implementation is typically more straightforward. For example, clean energy funds focused on PV, wind, and hydro generation can often apply a unified set of KPIs tied to energy capacity or production. These metrics can be consistently linked to overarching objectives, such as expanding access to clean energy or reducing emissions.

However, complexity increases when introducing asset types that contribute to broader system effects. For instance, integrating Battery Energy Storage Systems (BESS) into a clean energy impact strategy requires additional IMM considerations. While BESS may reduce emissions by storing energy during periods of high renewable production and discharging during periods of fossil-based input, operating them with an emissions-optimised profile may reduce returns. At the same time, BESS plays a critical role in enabling grid flexibility, improving renewable integration, and enhancing energy security.

To reflect this, IMM frameworks must adapt to capture BESS's systemic contribution to the energy transition. This

means developing tailored impact targets and KPIs that account for energy balancing, emissions displacement, and storage capacity, thereby ensuring alignment with the fund's strategic objectives.

### Indirect, Systemic Impacts and Attribution Challenges

Infrastructure investments frequently lead to broader systemic effects – such as regional economic development, environmental spillovers, or shifts in social equity – that are difficult to quantify. A central challenge is deciding how far IMM frameworks should go in capturing these ripple effects, which may require more complex theories of change and system-level thinking.

Additionally, because infrastructure assets operate over decades, isolating and attributing long-term impacts can be difficult. Policy changes, technological innovation, or shifts in socio-economic conditions may affect outcomes over time, complicating causal attribution. A robust IMM framework should address these dynamics through continuous monitoring, iterative learning, and adaptive management.

Another related challenge lies in linking impact targets to appropriate KPIs. For example, a clean energy fund may aim to contribute to climate mitigation, but linking investments directly to macro-level indicators like atmospheric CO<sub>2</sub> concentration is not feasible. A more practical approach would focus on local or regional indicators – such as supporting electricity grid decarbonisation – while recognising that even these outcomes are shaped by multiple external factors.

Selecting indicators that are both meaningful and measurable is essential. IMM frameworks should aim to define impact goals and KPIs that strike a balance between ambition and practicality, providing useful information for both performance management and accountability.

### Standardisation vs. Contextualisation

While standardised metrics enable comparability across portfolios, infrastructure investments often require adaptation to local social, environmental, and regulatory contexts. Impact can vary widely depending on location, asset type, and stakeholder group.

IMM systems must therefore balance consistency at the portfolio level with flexibility at the project level. This me-

ans applying core metrics where feasible, while also allowing for context-specific indicators and methods where relevance and accuracy demand it.

Implementing IMM in infrastructure requires balancing standardisation with flexibility. Given the sector's diversity, long timeframes, and systemic effects, IMM frameworks must be tailored to reflect sub-asset class differences, local context, and evolving impact dynamics – ensuring meaningful measurement and effective management across the investment lifecycle.

## 7.3. IMM IN THE REGULATORY CONTEXT

Looking at the current regulatory sustainable finance framework, impact measurement and management (IMM) remains largely unaddressed. SFDR's definition of sustainable investments lacks a dedicated IMM process. Although Article 8 and Article 9 products require "sustainability indicators," there are no specific guidelines on how to choose, measure, and manage these indicators. In its definition of "sustainable investments," the SFDR does provide some broad KPIs which can be used to map the economic activities to the environmental objectives, such as "use of energy, renewable energy, raw materials, water and land, on the production of waste, and greenhouse gas emissions, or on its impact on biodiversity and the circular economy" ((EU) 2019/2088).

Further, PAI indicators offer some standardised impact measurement but focus solely on negative impacts. These PAIs are currently not designed for infrastructure investments. Instead, the PAIs for investments in investee companies must be used, which only partially reflect the necessary aspects of infrastructure investments. For example, social PAIs are often not applicable, leading to a loss of integrity in incomplete PAI reporting. Additionally, data aggregation per investment can vary significantly, complicating the comparability and consistency of reports.

Turning to the EU Taxonomy as a guiding framework for impact measurement and management, one could argue that it offers a solid foundation. The Taxonomy outlines detailed criteria for economic activities, thereby capturing the specific characteristics of the infrastructure sub-asset classes it encompasses. Aligning with the EU Taxonomy could be seen as partially fulfilling the requirements of an IMM framework, to the extent that such alignment indicates a substantial contribution to the EU's environmental

objectives. In this sense, alignment with the EU Taxonomy may be considered a sufficient starting point for assessing an investment's environmental impact, particularly as it includes safeguards against significant harm through the DNSH criteria and minimum social safeguards.

However, the EU Taxonomy was primarily designed to channel financial flows toward sustainable economic activities, rather than to serve as a comprehensive IMM framework. Its reliance on binary compliance (taxonomy-aligned or not) limits its ability to fully capture the depth and breadth of an investment's social and environmental impact. While the Taxonomy does provide criteria at the sub-asset class level, in certain areas – such as renewable energy – the requirements are often broad and relatively easy to meet, raising concerns about materiality and robustness in terms of genuine impact. Furthermore, some relevant economic activities, like investments in charging infrastructure, are either not well-defined or omitted entirely.

The omission of certain activities that are part of the development pipeline of infrastructure projects, including pivotal pillars such as clean energy, remains a significant challenge for investors. For example, the development stage is not connected to the economic activity of “Electricity generation from wind power – contribution to climate mitigation”. Additionally, the construction and operation stages are underrepresented in their complexity in the current framework. For instance, grid connection and the building of related infrastructure are not directly linked to the requirements for the construction and operation of clean energy production plants.

Effective impact measurement requires a more nuanced approach – one that tracks change over time, incorporates a broader set of impact indicators, and allows for flexibility to reflect sector-specific dynamics. Frameworks such as the OPIM offer this kind of differentiated dynamic evaluation. In contrast, the Taxonomy serves more as a regulatory checklist than a tool for continuous impact management.

On the one hand, compliance with the EU Taxonomy offers clear advantages, including standardisation and enhanced transparency. These features establish a valuable foundation for fund- or asset-level IMM frameworks. On the other hand, its binary structure limits its capacity to support long-term, holistic impact evaluation – particularly when it comes to weighing both positive and negative effects across environmental, social, and governance (ESG) dimensions. Moreover, adapting the Taxonomy to evolving societal, environmental, or economic priorities is hampered by the slow and rigid legislative process required to incorporate new economic activities. In contrast, principles-based frameworks such as the OPIM provide greater flexibility and adaptability in response to shifting impact priorities.

Applying OPIM to IMM involves a more comprehensive and iterative process. Investors must develop a clear impact proposition that articulates the intended outcomes of their investments, forming the foundation for their IMM strategy. This approach also requires considering the full investment lifecycle – including the exit phase – and hypothesizing about the anticipated impacts. While OPIM mandates regular reporting on investment impact, it does not prescribe standardised reporting formats or metrics. This lack of uniform reporting requirements can be seen as a drawback when compared to the EU Taxonomy, particularly in contexts where consistency, comparability, and regulatory alignment are important.

Overall, current regulatory frameworks such as the EU Taxonomy and the SFDR are not fully adequate as standalone guides for impact measurement and management. In contrast, non-regulatory approaches – such as the nine Impact Principles of OPIM – provide more comprehensive and effective methodologies for assessing and managing impact.

The SFDR and EU Taxonomy provide limited support for dynamic, lifecycle-spanning impact management, highlighting the need for more adaptable, practice-oriented frameworks.



## 7.4. CASE STUDIES - IMM IN PRACTICE

	Solar	Wind	BESS
<b>Impact Objective Integration</b>	Part of the investment strategy: Unique focus on Solar PV projects in markets with energy demand and decarbonisation needs, strategic integration of secondary impacts such as biodiversity and community engagement in order to develop highly integrated projects that minimise environmental impacts or even contribute to biodiversity conservation and deliver a significant impact to local communities, thereby minimising project lead times	Part of the investment strategy: Targeting wind projects that replace fossil fuel generation in carbon-intensive grids  Integration of local employment, community benefit-sharing, and site-specific biodiversity measures to ensure sustainable long-term impact and social acceptance	Part of the investment strategy: Focus on enabling high renewable energy penetration by providing flexible storage solutions  Integration of upstream ethical sourcing and downstream grid decarbonisation, with an emphasis on responsible procurement and disposal through full lifecycle management
<b>Investor Impact Measurement</b>	Focus on Solar PV ensures portfolio impact to be an aggregation of asset impact, capital allocated towards strategy, successful and timely achievement of project milestones	Track capital deployed into new and repowered wind energy projects across markets  Measure investor contribution to energy transition by monitoring renewable electricity generation and avoided emissions across the portfolio	Assess capital deployment into grid-scale storage projects that enhance system flexibility and enable renewable energy integration  Track portfolio-level performance in reducing renewable energy curtailment
<b>Asset Impact Measurement</b>	Set impact targets: Comparing emission target values for 1.5°C compatible energy sector with realised emission values from project, Biodiversity and community integration: Comparison with baseline survey to monitor whether PV project contributed and supported local biodiversity and whether the project is integrated and accepted in local communities	Set and monitor asset-level targets for: Renewable electricity generated (MWh/year) CO <sub>2</sub> emissions avoided (tons/year) Number of households or industrial users served Local job creation and community benefits delivered Biodiversity impact against environmental baseline (e.g. avian species monitoring)	Set and monitor asset-level targets for: Energy stored and dispatched (MWh/year) CO <sub>2</sub> emissions avoided (tons/year) Reduction in renewable energy curtailment (%) Response time and frequency stabilisation metrics Lifecycle tracking of batteries including ethical sourcing and end-of-life management

<p><b>DNSH &amp; Risk Assessment</b></p>	<p>Integration of climate risk and vulnerability assessment in project development, conduction environmental impact assessment as well as component related risk assessments as well as implementing preventive measures targeted at upstream supply chain risks (Supplier Code of Conduct, Risk assessment, Audits, Compliance checks, implementation of mitigating measures in project development in terms of environmental impacts)</p> <p>Set-up of community engagement processes and reporting</p> <p>Integration of compliance with EU Taxonomy criteria and material SFDR PAI</p>	<p>DNSH compliance through comprehensive environmental and climate risk assessments</p> <p>Evaluate land-use and species impact, ensure community consultation, and mitigate upstream risks through procurement standards and oversight</p> <p>Alignment with EU Taxonomy and material SFDR PAI</p>	<p>DNSH includes ethical material sourcing (e.g. lithium, cobalt), safe handling and recycling of batteries, and alignment with EU Taxonomy</p> <p>Conduct lifecycle risk assessments and integrate mitigation strategies</p> <p>Include community engagement in siting and system design stages</p>
<p><b>Impact Management</b></p>	<p>Reporting on investment targets achieved, reporting in line with periodic disclosures under SFDR, separate sustainability report along ESRS</p>	<p>Continuous impact monitoring and KPI reporting aligned with SFDR and national frameworks</p> <p>Annual evaluation of impact targets, supported by an ESMS to ensure adherence to the sustainability strategy</p> <p>Regular investor reporting</p>	<p>Impact managed through performance dashboards and risk registers</p> <p>Periodic SFDR reporting, tracking of CO<sub>2</sub> avoidance, lifecycle metrics, and system contribution to renewable integration</p> <p>Disclosure aligned with EU taxonomy and sector-specific standards</p>

	Efficiency	Clean Fuel
<b>Impact Objective Integration</b>	<p>Part of the investment strategy: Focus on demand-side decarbonisation through energy-efficient technologies and retrofits across buildings, industry, and infrastructure</p> <p>Target sectors with high energy intensity and untapped efficiency potential</p> <p>Enhance system resilience and reduce consumption-based emissions</p>	<p>Investment in the development of new renewable energy and electrolyser capacity in low LCOE regions to facilitate the decarbonisation of so-called 'hard-to-abate' sectors by providing relatively low-cost green hydrogen and clean fuel alternatives for the industry</p> <p>Target asset allocation: 67% renewable energy assets, 33% power-to-X technologies</p>
<b>Investor Impact Measurement</b>	<p>Aggregated energy savings (kWh) and CO<sub>2</sub> emissions avoided across the portfolio</p> <p>Capital deployed into performance-based or energy-as-a-service models</p> <p>Milestone tracking for project delivery, efficiency gains, and measurable reductions in operational energy use</p>	<p>Amount of private/institutional capital raised and deployed into development projects for new green hydrogen and clean fuel production capacity</p> <p>Successful achievement of construction milestones</p> <p>Successful integration of own power supply and offtaker network</p>
<b>Asset Impact Measurement</b>	<p>Set asset-level impact targets and monitor performance against:</p> <p>Annual energy savings (kWh/year)</p> <p>Carbon emissions avoided (CO<sub>2</sub>e/year)</p> <p>Number of high-efficiency installations or retrofits completed</p>	<p>Set impact targets and monitor asset impact:</p> <p>New electrolyser capacity for green hydrogen (MW)</p> <p>New production capacity for RFNBO compliant eSAF (tons per year)</p> <p>Offtake agreements with industry partners</p> <p>GHG emission avoidance due to replacement (CO<sub>2</sub>e per year)</p>
<b>DNSH &amp; Risk Assessment</b>	<p>DNSH compliance through thorough environmental and climate risk assessments across retrofit and equipment installation activities</p> <p>Ensure responsible procurement through supplier codes of conduct and technical standards</p> <p>Ensure alignment with EU Taxonomy DNSH criteria and monitor material SFDR PAI indicators (e.g. energy performance, hazardous substances, waste)</p> <p>Incorporate circular economy principles through equipment durability, recyclability, and end-of-life planning</p>	<p>Integration of sustainability risk assessment in project development (e.g. supply chain risk, climate related risks, biodiversity risks)</p> <p>Environmental impact assessment with implementation of mitigating measures in project development</p> <p>Set-up of community engagement processes and health &amp; safety policies and reporting</p> <p>Integration of compliance with EU Taxonomy DNSH and material SFDR PAI</p>
<b>Impact Management</b>	<p>Continuous impact monitoring and KPI reporting aligned with SFDR and national frameworks</p> <p>Annual evaluation of impact targets, supported by an ESMS to ensure adherence to the sustainability strategy</p> <p>Regular investor reporting</p>	<p>Implementation of ESMS to monitor adherence to sustainability strategy</p> <p>Annual evaluation of impact targets</p> <p>Regular reporting of impact performance to investors</p> <p>Implementation of lessons learned from predecessor funds and existing projects</p>

	Data Center	Fibre	Day Care
<b>Impact Objective Integration</b>	<p>Part of the investment strategy:</p> <p>Acquiring investments whose primary focus is on the construction, acquisition or expansion of sustainable data centers in Europe to strengthen the resilience and decarbonisation of digital infrastructure</p>	<p>Part of the investment strategy:</p> <p>Acquiring investments whose primary focus is on the construction, acquisition or expansion of fibre optic investments for rural and suburban areas in Europe in line with environmental and social standards to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation</p>	<p>Investment in the development of accessible, high-quality daycare facilities to address the regional shortage of childcare places, particularly for children aged three to six</p> <p>The objective is to support work-life balance, increase workforce participation among parents — especially mothers and single parents — and promote early childhood education and equal opportunities</p>
<b>Investor Impact Measurement</b>	<p>Invested capital for construction and operation</p> <p>Share of investments corresponds to the impact target (Development State/Operation)</p> <p>Integration of requirements in Shareholder and Service Level Agreements</p>	<p>Invested capital for construction and operation</p> <p>Share of investments corresponds to the impact target</p> <p>Integration of requirements in Shareholder Agreements</p>	<p>Active engagement with operators, caregivers and parents to address their needs and enhance community impact (tenant satisfaction survey)</p> <p>Increase in parental workforce re-entry, particularly among women and single parents</p> <p>Contribution to regional goals on education access and social inclusion</p>
<b>Asset Impact Measurement</b>	<p>Assessment of expected impact based on the value chain and region</p> <p>Assessment of technical concept and expected positive impact (ESG &amp; Technical Due Diligence) and potential locations</p> <p>Set impact targets and monitor asset impact</p>	<p>Assessment of expected impact based on the value chain and region to supplied</p> <p>Assessment of ESG integration at corporate &amp; project level or implementation in Shareholder/Service Level Agreements</p> <p>Set impact targets and monitor asset impact</p>	<p>Define and monitor asset-level KPIs:</p> <ul style="list-style-type: none"> <li>• Number of children enrolled in daycare</li> <li>• Number of parents (re-) entering the workforce as a result of access to childcare</li> <li>• Percentage of children meeting school readiness benchmarks</li> <li>• Number of children with special educational needs enrolled</li> </ul>



<p><b>DNSH &amp; Risk Assessment</b></p>	<p>Sustainability risk assessment as part of investment process (Technical Due Diligence)</p> <p>Supplier screening and agreements</p> <p>DNSH criteria through EU Taxonomy and EU SFDR</p>	<p>Sustainability risk assessment part of investment process (ESG Due Diligence)</p> <p>DNSH criteria EU SFDR and Materiality Assessment</p> <p>Shareholder Activities (Action Plan for Improvements)</p>	<p>Integration of compliance with EU Taxonomy DNSH and material SFDR PAI for education and infrastructure-related activities</p> <p>Assessment of sustainability risks, including environmental (e.g. energy efficiency, sustainable construction), social (e.g. safeguarding policies), and community impact</p>
<p><b>Impact Management</b></p>	<p>Governance &amp; Responsibility at fund level for the Impact Management</p> <p>Integration in Due diligence process and determination of assessment levels and topics (positive and negative impact)</p> <p>Documentation of Impact assessment for investment decision</p> <p>Integration in Asset Management, e.g. level of SPVs, Service provider, and Monitoring process, e.g. regularly monitoring of impact KPIs at asset and fund level incl. investor reports</p> <p>Documentation actions &amp; engagement with stakeholders</p> <p>Lessons learned from existing projects</p> <p>Cooperation with project participants, predecessor funds</p>	<p>Governance &amp; Responsibility at fund level for the Impact Management</p> <p>Integration in Due diligence process and determination of assessment levels and topics (positive and negative impact)</p> <p>Documentation of Impact assessment for investment decision</p> <p>Integration in Asset Management, e.g. service provider, and Monitoring process, e.g. regularly monitoring of impact KPIs at asset and fund level incl. investor reports</p> <p>Documentation actions &amp; engagement with stakeholders</p> <p>Lessons learned from existing projects</p> <p>Cooperation with project participants, predecessor funds</p>	<p>Ongoing management and monitoring of aforementioned KPIs at both asset and fund level</p> <p>Transparent disclosure of achieved impact (on a quarterly and annual basis)</p> <p>Integration of impact considerations in due diligence and investment decisions</p> <p>Documentation of impact-related activities and stakeholder engagement</p> <p>Feedback loops and lessons learned from existing investments</p>

## 8. OUTLOOK & POLICY CHALLENGES

### Case Study Discussion – IMM

For the purposes of IMM, the main concepts from the case studies discussed in previous sections are combined here to form a practical framework for measuring and managing the impact of infrastructure investments throughout the investment lifecycle. This framework also reflects a synthesis of the nine Operating Principles for Impact Management (OPIM) and is applied across all stages of the investment process: investment strategy, due diligence, portfolio management, and exit.

IMM integrates the strategic impact objective into the investment product's core strategy, setting clear targets and defining both quantitative and qualitative procedures for monitoring progress and achieving those targets. Portfolio-level objectives can be cascaded down to asset-level targets, which is particularly relevant for blind pool structures, where actual portfolio composition depends on capital raised and the evolving pipeline of investable opportunities.

Monitoring the achievement of strategic impact objectives requires ongoing engagement with assets throughout the investment cycle. This may involve asset-level data collection, milestone tracking, and – where necessary – active intervention if impact targets are at risk of not being achieved.

**Infrastructure stands out as an asset class with exceptional potential to deliver meaningful social and environmental impact. Its long-term investment horizon, essential service provision, and direct link between capital deployment and real-world outcomes make it especially well-suited for impact investing. When paired with thoughtful investment strategies and robust impact measurement, infrastructure can drive systemic transformation across sectors such as energy, mobility, water, and social services.**

To fully unlock this potential, infrastructure investments must be anchored in clearly defined, ex-ante impact objectives and supported by rigorous IMM frameworks. These frameworks enable continuous impact oversight throughout the full investment lifecycle – from development through construction and operation to exit.

Within the current regulatory landscape, however, infrastructure is underrepresented. In particular, the static, point-in-time perspective of the SFDR and the binary classification approach of the EU Taxonomy do not adequately account for the long-term, phased development typical of infrastructure investments. To effectively channel capital into this asset class, a more tailored consideration of infrastructure's specific investment characteristics is both necessary and appropriate. Given its central role in enabling the transformation of our economies and societies, infrastructure should be recognised as a cornerstone of sustainable development.

While the EU Taxonomy offers a valuable starting point by linking economic activities to broader environmental and societal goals, principles-based approaches – such as the Operating Principles for Impact Management (OPIM) – combined with tailored IMM strategies, provide the flexibility and depth needed to define investment strategies that prioritise measurable, long-term outcomes while maintaining financial performance.

This paper contributes to the advancement of impact investing in infrastructure by offering both conceptual orientation and practical guidance. The case studies demonstrate how infrastructure can serve as a catalyst for sustainable development when supported by clear inten-

tionality and strong impact management practices. At the same time, important areas remain for further development – particularly in the design of impact-focused portfolios, the definition of significance thresholds, and the integration of impact strategies into evolving regulatory frameworks such as the SFDR.

As investor demand grows for strategies that combine returns with real-world outcomes, infrastructure is well-positioned to become a foundational element of credible, high-impact investment approaches.

### Policy Challenges

#### Harmonisation of definition of impact investing:

The lack of harmonisation of existing impact investing definitions in the EU presents a significant challenge to the uptake of impact investing in the infrastructure sector. The development of a shared EU-wide definition and classification for impact investing would facilitate a consistent application within the sector and the current regulatory environment. Such a definition would need to be principle-based to allow for tailored, innovation-friendly design of impact investment products – of course in line with the existing product regulation and investor protection regime.

**Impact Investing product category:** As part of the SFDR review, a product category for impact investing products could be considered. If impact investing products are spread across various categories or even determined to be “unclassified”, this will remain a significant challenge to the development of a comparable, accessible and usable concept of impact investing that is urgently needed to crowd in private capital for the achievement of the European Union’s objectives. Such a product category would need to be principle-based and reflect the requirements laid out in this paper.

**Infrastructure as an asset class in the SFDR:** Currently, the SFDR does not include a definition of “infrastructure”. It rather falls under the category of “investee companies” via exclusion of the other two categories of “real estate assets” and “sovereign and supranational”. For example, the concept of PAI indicators does not match the specific characteristics for the broad range of infrastructure assets. Infrastructure assets, could be included as an own asset class in the SFDR to counteract this challenge.

#### Inclusion of development stages into the EU Taxonomy:

The Taxonomy is an activity-based concept, which does not reflect development stages in infrastructure asset and the need to deployment of capital before the actual activity or service can be provided. The SFDR does not acknowledge this either. Those development phases could be included in the Taxonomy, to acknowledge the significant relevance of pre-activity phases (e.g. planning, permitting, etc.) to impact creation. These development phases could be recognised either as environmental and social economic activities in their own right or by expanding existing activities to include their development stages. The adjustment of the existing regulatory framework would support and incentivise capital allocation in early project stages, where measurable outputs may not be yet visible, but which are indispensable for the development of new impactful infrastructure.



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## CASE STUDY - SOLAR



### 1. Introduction

#### Sub-Asset Class

- Renewable Energy – Utility scale solar

#### Asset Example

- Equity investment in the development of an open-field solar photovoltaic (PV) project in Europe from early stage or active development to operations

#### Investment Strategy

- Investment in open-field solar PV projects in markets with high initial carbon intensity of electricity grids

#### Impact Objective

- Primary: Increased renewable energy penetration and decarbonisation of the energy sector
- Secondary: Biodiversity integration and community engagement

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Site identification, permitting, procurement, installation and long-term operation
- Site-specific assessments to minimise ecological impact
- Tailored community strategies to proactively manage local concerns

#### Outputs

- New solar capacity (MWp)
- Renewable energy generated (MWh)
- Biodiversity Action Plan
- Community Integration & Action Plan

#### Outcomes

- Avoided GHG emissions
- Species diversity compared to baseline
- Enhanced community acceptance compared to baseline or through project lead times

#### Impact

- Contribution to a 1.5°C aligned energy system
- Awareness and engagement on integrated biodiversity measures
- Community-wide acceptance of PV projects

### 3. Asset Impact

#### Asset Impact Significance

- Carbon emissions reduction in line with 1,5°C scenario for energy sector
- Baseline comparison for biodiversity and community integration during operation Phase

#### Asset Impact KPIs

- Amount of avoided emissions
- Amount of installed production capacity (MWp)
- Change in flora and fauna diversity compared to a baseline level
- Project lead times

#### DNSH

- DNSH according to Taxonomy criteria:
  - Climate and vulnerability assessment
  - Environmental impact assessment
  - Component recyclability and longevity assessment
  - Minimum social safeguards for component selection
- Consideration of material SFDR PAI

### 4. Investor Impact

#### Grow new/undersupplied markets

- Contribute to the decarbonisation of electricity grids in diverse markets while contributing to biodiversity integration and community engagement

#### Provide flexible capital

- Enable innovative financing solutions including financial participation of communities and early-stage financing of capital-intensive project initiation phase

#### Engage actively

- Interact with communities, policy makers, regulators, local authorities to communicate positive side effects of Solar PV
- Engage with component producer to minimize negative environmental and social effects along upstream value chains

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy: Unique focus on Solar PV projects in markets with energy demand and decarbonisation needs, strategic integration of secondary impacts such as biodiversity and community engagement in order to develop highly integrated projects that minimise environmental impacts or even contribute to biodiversity conservation and deliver a significant impact to local communities, thereby minimizing project lead times

#### Investor Impact Measurement

- Focus on Solar PV ensures portfolio impact to be an aggregation of asset impact, capital allocated towards strategy, suc-

cessful and timely achievement of project milestones

#### Asset Impact Measurement

- Set impact targets: Comparing emission target values for 1.5°C compatible energy sector with realized emission values from project, Biodiversity and community integration: Comparison with baseline survey to monitor whether PV project contributed and supported local biodiversity and whether the project is integrated and accepted in local communities

#### DNSH & Risk Assessment

- Integration of climate risk and vulnerability assessment in project development, conduction environmental impact assessment as well as component related risk assessments as well as implementing preventive measures targeted at upstream supply chain risks (Supplier Code of Conduct, Risk assessment, Audits, Compliance checks, implementation of mitigating measures in project development in terms of environmental impacts)
- Set-up of community engagement processes and reporting
- Integration of compliance with EU Taxonomy criteria and material SFDR PAI

#### Impact Management

- Reporting on investment targets achieved, reporting in line with periodic disclosures under SFDR, separate sustainability report along ESRS

## CASE STUDY - WIND



### 1. Introduction

#### Sub-Asset Class

- Renewable Energy – Onshore wind

#### Asset Example

- Equity investment in a ready-to-build onshore wind farm in Europe, covering the full project lifecycle from construction to operations

#### Investment Strategy

- Target markets with favourable wind resources and high carbon intensity to support accelerated energy transition

#### Impact Objective

- Increased renewable energy penetration and decarbonisation of the energy sector

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Wind resource assessment, land acquisition, turbine procurement, installation, construction, and grid integration
- Site-specific environmental impact and climate risk assessments
- Implementation of community engagement strategies

#### Outputs

- Renewable energy generated (MWh per year)
- Site-specific biodiversity measures and ecological monitoring

#### Outcomes

- Reduction in GHG emissions (CO<sub>2</sub> avoided per year) compared to baseline
- Enhanced community acceptance through early engagement

#### Impact

- Contribution to national and global climate targets (Paris Agreement, SDGs)

### 3. Asset Impact

#### Asset Impact Significance

- Facilitates energy transition from fossil fuels to renewables
- Enhances energy security and diversification by reducing dependence on fossil-based power

#### Asset Impact KPIs

- Renewable electricity generated (MWh)
- CO<sub>2</sub> emissions avoided (tons per year)
- Local employment created (direct and indirect jobs)

#### DNSH

- Environmental and social impact assessments
- Compliance with biodiversity and land-use regulations
- Community engagement and benefit-sharing programs
- DNSH criteria through EU Taxonomy

### 4. Investor Impact

#### Grow new/undersupplied markets

- Invest in markets where wind resources are strong but underutilised, supporting early-stage renewable infrastructure build-out

#### Provide flexible capital

- Enable innovative financing structures to de-risk investments and attract institutional capital and co-investors

#### Engage actively

- Collaborate with policymakers, regulators, and local stakeholders to improve permitting, planning, and public acceptance of wind projects

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy: Targeting wind projects that replace fossil fuel generation in carbon-intensive grids
- Integration of local employment, community benefit-sharing, and site-specific biodiversity measures to ensure sustainable long-term impact and social acceptance

#### Investor Impact Measurement

- Track capital deployed into new and repowered wind energy projects across markets
- Measure investor contribution to energy transition by monitoring renewable electricity generation and avoided emissions across the portfolio

#### Asset Impact Measurement

- Set and monitor asset-level targets for:
  - Renewable electricity generated (MWh/year)
  - CO<sub>2</sub> emissions avoided (tons/year)
  - Number of households or industrial users served
  - Local job creation and community benefits delivered
  - Biodiversity impact against environmental baseline (e.g. avian species monitoring)

#### DNSH & Risk Assessment

- DNSH compliance through comprehensive environmental and climate risk assessments
- Evaluate land-use and species impact, ensure community consultation, and mitigate upstream risks through procurement standards and oversight
- Alignment with EU Taxonomy and material SFDR PAI

#### Impact Management

- Continuous impact monitoring and KPI reporting aligned with SFDR and national frameworks
- Annual evaluation of impact targets, supported by an ESMS to ensure adherence to the sustainability strategy
- Regular investor reporting

## CASE STUDY - BESS



### 1. Introduction

#### Sub-Asset Class

- Utility scale battery storage

#### Asset Example

- Equity investment in battery storage project in Europe, from early construction to operational deployment, in conjunction with growing renewable energy capacity

#### Investment Strategy

- Target assets that provide grid services such as frequency regulation, peak shaving, load shifting, and renewable energy firming in capacity-constrained grids

#### Impact Objective

- Increased renewable energy penetration, enhanced energy system flexibility and therefore acceleration of decarbonisation

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Battery procurement and infrastructure development
- Grid connection and implementation of energy arbitrage and frequency response services
- Integration with renewable power and deployment in strategic locations

#### Outputs

- Megawatt-hours (MWh) of energy stored and discharged
- Reduction in curtailment of renewable energy

#### Outcomes

- Increased renewable energy utilisation through storage and firming
- Reduction in GHG emissions
- Reduced curtailment of solar and wind generation

#### Impact

- Acceleration of the transition to a decarbonised grid
- Increased renewable energy integration across the energy system
- Contribution to a 1.5°C-aligned energy system and long-term climate goals

### 3. Asset Impact

#### Asset Impact Significance

- Transition Impact: Supports decarbonisation by enabling renewable energy adoption and reducing curtailment

#### Asset Impact KPIs

- Total energy stored and dispatched (MWh)
- Reduction in CO<sub>2</sub> emissions from displaced fossil fuel use

#### DNSH

- Ethical sourcing of battery materials (e.g. lithium, cobalt)
- Proper end-of-life battery recycling and disposal
- DNSH criteria through EU Taxonomy

### 4. Investor Impact

#### Grow new/undersupplied markets

- Invest in markets with limited storage or grid flexibility to accelerate renewable energy integration and reduce curtailment.

#### Provide flexible capital

- Provide catalytic capital to scale battery storage deployment through new financing models, such as revenue stacking and long-term service contracts

#### Engage actively

- Partner with utilities, grid operators, and regulators to support optimal system design, regulatory frameworks, and responsible sourcing and recycling of materials

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy: Focus on enabling high renewable energy penetration by providing flexible storage solutions
- Integration of upstream ethical sourcing and downstream grid decarbonisation, with an emphasis on responsible procurement and disposal through full lifecycle management

#### Investor Impact Measurement

- Assess capital deployment into grid-scale storage projects that enhance system flexibility and enable renewable energy integration
- Track portfolio-level performance in reducing renewable energy curtailment

#### Asset Impact Measurement

- Set and monitor asset-level targets for:
  - Energy stored and dispatched (MWh/year)
  - CO<sub>2</sub> emissions avoided (tons/year)
  - Reduction in renewable energy curtailment (%)
  - Response time and frequency stabilisation metrics

- Lifecycle tracking of batteries including ethical sourcing and end-of-life management

#### DNSH & Risk Assessment

- DNSH includes ethical material sourcing (e.g. lithium, cobalt), safe handling and recycling of batteries, and alignment with EU Taxonomy
- Conduct lifecycle risk assessments and integrate mitigation strategies
- Include community engagement in siting and system design stages

#### Impact Management

- Impact managed through performance dashboards and risk registers
- Periodic SFDR reporting, tracking of CO<sub>2</sub> avoidance, lifecycle metrics, and system contribution to renewable integration
- Disclosure aligned with EU taxonomy and sector-specific standards

## CASE STUDY - EFFICIENCY



### 1. Introduction

#### Sub-Asset Class

- Clean Tech – Energy efficiency

#### Asset Example

- Large-scale energy retrofits targeting public and commercial buildings across Central and Eastern Europe
- The project includes high-efficiency HVAC system upgrades, LED lighting replacement and digital energy management systems

#### Investment Strategy

- Investment in energy-efficient technologies and retrofits across commercial and industrial sectors in Europe

#### Impact Objective

- Reduction in energy consumption and carbon emissions, and improvement in energy security and system resilience

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Retrofitting buildings with high-efficiency equipment
- Implementing industrial energy management systems
- Deploying smart grid solutions

#### Outputs

- Reduction in energy consumption (kWh savings)
- Decrease in operational costs for businesses and consumers

#### Outcomes

- Lower GHG emissions from reduced energy demand (CO<sub>2</sub> avoided per year)

#### Impact

- Contribution to a 1.5°C-aligned energy system through demand-side decarbonisation
- Reduced need for new power generation and grid infrastructure

### 3. Asset Impact

#### Asset Impact Significance

- Supports decarbonisation by reducing energy consumption and emissions across industries, buildings, and infrastructure

#### Asset Impact KPIs

- Energy savings achieved (kWh reduction)
- CO<sub>2</sub> emissions avoided (tons per year)
- Reduction in energy costs for end users

#### DNSH

- Compliance with environmental regulations for equipment disposal
- Responsible sourcing of materials for energy-efficiency products
- DNSH criteria through EU Taxonomy and EU SFDR

### 4. Investor Impact

#### Grow new/undersupplied markets

- Support energy efficiency adoption in markets with aging infrastructure, high energy intensity, or low penetration of modern efficiency technologies
- Target sectors where regulatory support is emerging, but investment remains scarce

#### Provide flexible capital

- Enable performance-based financing models that align incentives for efficiency gains, such as energy-as-a-service or pay-for-performance
- Facilitate aggregation and standardisation to enable investability at institutional scale

#### Engage actively

- Partner with businesses, policymakers, and technology providers to drive adoption.

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy: Focus on demand-side decarbonisation through energy-efficient technologies and retrofits across buildings, industry, and infrastructure
- Target sectors with high energy intensity and untapped efficiency potential
- Enhance system resilience and reduce consumption-based emissions

#### Investor Impact Measurement

- Aggregated energy savings (kWh) and CO<sub>2</sub> emissions avoided across the portfolio
- Capital deployed into performance-based or energy-as-a-service models
- Milestone tracking for project delivery, efficiency gains, and measurable reductions in operational energy use

#### Asset Impact Measurement

- Set asset-level impact targets and monitor performance against:
- Annual energy savings (kWh/year)
- Carbon emissions avoided (CO<sub>2</sub>e/year)
- Number of high-efficiency installations or retrofits completed

#### DNSH & Risk Assessment

- DNSH compliance through thorough environmental and climate risk assessments across

retrofit and equipment installation activities

- Ensure responsible procurement through supplier codes of conduct and technical standards
- Ensure alignment with EU Taxonomy DNSH criteria and monitor material SFDR PAI indicators (e.g. energy performance, hazardous substances, waste)
- Incorporate circular economy principles through equipment durability, recyclability, and end-of-life planning

#### Impact Management

- Continuous impact monitoring and KPI reporting aligned with SFDR and national frameworks
- Annual evaluation of impact targets, supported by an ESMS to ensure adherence to the sustainability strategy
- Regular investor reporting



## CASE STUDY - CLEAN FUEL



### 1. Introduction

#### Sub-Asset Class

- Clean Tech – Clean fuel

#### Asset Example

- Development of a green hydrogen based sustainable aviation fuel (eSAF) facility in northern Europe

#### Investment Strategy

- Pan-European hybrid strategy with investments into the entire value chain, from renewable electricity generation, to production of green hydrogen, to production of green e-fuels

#### Impact Objective

- Decarbonisation of the so-called “hard-to-abate” sectors in industry and transportation by building new renewable energy capacity and new electrolyser capacity in low LCOE (levelized cost of electricity) regions and providing clean fuel alternatives

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Access to green energy sources and offtakers (established networks in the region)
- Development of new electrolyser capacity to produce green hydrogen
- Sourcing CO<sub>2</sub> captured via CCU and enriching hydrogen to eSAF

#### Outputs

- New electrolyser capacity for green hydrogen (MW)
- New production capacity for RFNBO compliant eSAF (tons per year)

#### Outcomes

- Low-cost alternatives to hard-to-abate sectors (green hydrogen/eSAF)
- Replacement of carbon intensive energy sources (grey hydrogen/traditional aviation fuel)
- GHG emission avoidance due to replacement (CO<sub>2</sub> per year)
- Capacity for the 2030 ambition in ReFuelEU (in tons of RFNBO compliant fuel supplied)

#### Impact

- Decarbonisation of hard-to-abate sectors (e.g. aviation)

- Contribution to EU decarbonisation objectives ReFuelEU, Fit for 55 and EU Green Deal

### 3. Asset Impact

#### Asset Impact Significance

- Additional capacity of green hydrogen and green fuel alternatives in a growing market
- Green fuels are part of the EU Taxonomy and promoted by the EU e.g. through the Green Deal and ReFuelEU initiative

#### Asset Impact KPIs

- New electrolyser capacity for green hydrogen (MW)
- New production capacity for RFNBO compliant eSAF (tons per year)
- Offtake agreements with industry partners
- GHG emission avoidance due to replacement (CO<sub>2</sub>e per year)

#### DNSH

- EU Taxonomy DNSH for the activity “Manufacture of hydrogen”
- EU regulation for RFNBO compliance
- Material PAI of EU SFDR

### 4. Investor Impact

#### Grow new/undersupplied markets

- Green hydrogen and alternative fuels market is still new and relies heavily on first movers
- Increased access to private capital/institutional capital by providing a product with a hybrid strategy, diversifying the first mover risk

#### Provide flexible capital

- Long-term capital (fund terms of 5+ years)
- Patient capital (steep investment profile)

#### Engage actively

- Interact with governments to secure grant funding
- Provide engineering expertise and local networks (power supply and offtake)

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Investment in the development of new renewable energy and electrolyser capacity in low LCOE regions to facilitate the decarbonisation of so-called ‘hard-to-abate’ sectors by providing relatively low-cost green hydrogen and clean fuel alternatives for the industry
- Target asset allocation: 67% renewable energy assets, 33% power-to-X technologies

#### Investor Impact Measurement

- Amount of private/institutional capital raised and deployed into development projects for new green hydrogen and

clean fuel production capacity

- Successful achievement of construction milestones
- Successful integration of own power supply and offtaker network

#### Asset Impact Measurement

- Set impact targets and monitor asset impact:
  - New electrolyser capacity for green hydrogen (MW)
  - New production capacity for RFNBO compliant eSAF (tons per year)
  - Offtake agreements with industry partners
  - GHG emission avoidance due to replacement (CO<sub>2</sub>e per year)

#### DNSH & Risk Assessment

- Integration of sustainability risk assessment in project development (e.g. supply chain risk, climate related risks, biodiversity risks)
- Environmental impact assessment with implementation of mitigating measures in project development
- Set-up of community engagement processes and health & safety policies and reporting
- Integration of compliance with EU Taxonomy DNSH and material SFDR PAI

#### Impact Management

- Implementation of ESMS to monitor adherence to sustainability strategy
- Annual evaluation of impact targets
- Regular reporting of impact performance to investors
- Implementation of lessons learned from predecessor funds and existing projects

## CASE STUDY - DATA CENTER



### 1. Introduction

#### Sub-Asset Class

- Telecommunication – Data Center

#### Asset Example

- Construction and operating a Sustainable/ Green Data Center (Equity)

#### Investment Strategy

- Investment in greenfield projects of sustainable, decentralised and locally integrated data centers in Europe

#### Impact Objective

- Increase and provide energy-efficient data centers that support digital and resilient infrastructure while minimising environmental impact

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Site and asset specific assessments
- Access to renewable energy sources and grid connections
- Implementing energy-efficient technologies, e.g. using energy- and resourcesaving construction methods
- Establishing a system for reusing waste heat in local infrastructure

#### Outputs

- (Planned) Taxonomy-aligned CAPEX/Return in Mio. EUR
- Carbon footprint
- Energy consumption in GWh
- Share of renewable energy
- Share of reusing waste heat

#### Outcomes

- Taxonomy-aligned CAPEX/Return in Mio. EUR
- Reduction in energy consumption and Carbon Footprint/Intensity
- Low Power-Usage-Efficiency (PUE)

#### Impact

- Strengthens the resilience and Decarbonisation of digital infrastructure and minimisation of the ecological footprint of data processing and storage,
- Contributing to EU Green Deal and the Clean Industrial Deal

### 3. Asset Impact

#### Asset Impact Significance

- Providing data center-infrastructure for data storage, processing and cloud services with a strong focus on energy efficiency and environmental responsibility
- Existing data centers are extremely energy-intensive and large quantities of water are required to cool the servers
- Modern data centers rely on sustainable technologies and renewable energies to reduce their ecological footprint
- This can lead to significant energy savings and a reduction in CO<sub>2</sub> emissions

#### Asset Impact KPIs

- Taxonomy-aligned CAPEX/ Return in Mio. EUR
- Reduction in energy consumption and Carbon Footprint/Intensity
- Low Power-Usage-Efficiency (PUE)

#### DNSH

- DNSH criteria through EU Taxonomy and EU SFDR
- Responsible sourcing of materials for energy-efficiency products
- EU Data Centres Energy Efficiency Code of Conduct

### 4. Investor Impact

#### Grow new/undersupplied markets

- The demand for data processing and storage is growing continuously, particularly due to increasing digitalisation and cloud technologies
- In some European countries, including Germany, there are challenges in expanding the necessary infrastructure
- Financing data center projects can be difficult, especially when integrating new technologies and sustainable practices
- The portfolio offers investments in modern data centers that generate both financial returns and a positive impact

#### Provide flexible capital

- Long-term capital (fund terms of 5+ years)

#### Engage actively

- Partner with businesses, policymakers, and technology providers to drive adoption
- Implementation of ESG requirements in Shareholder agreements
- Selection of service provider

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy:
  - Acquiring investments whose primary focus is on the construction, acquisition or expansion of sustainable data

centers in Europe to strengthen the resilience and decarbonisation of digital infrastructure

#### Investor Impact Measurement

- Invested capital for construction and operation
- Share of investments corresponds to the impact target (Development State/Operation)
- Integration of requirements in Shareholder and Service Level Agreements

#### Asset Impact Measurement

- Assessment of expected impact based on the value chain and region
- Assessment of technical concept and expected positive impact (ESG & Technical Due Diligence) and potential locations
- Set impact targets and monitor asset impact

#### DNSH & Risk Assessment

- Sustainability risk assessment as part of investment process (Technical Due Diligence)
- Supplier screening and agreements
- DNSH criteria through EU Taxonomy and EU SFDR

#### Impact Management

- Governance & Responsibility at fund level for the Impact Management
- Integration in Due diligence process and determination of assessment levels and topics (positive and negative impact)
- Documentation of Impact assessment for investment decision
- Integration in Asset Management, e.g. level of SPVs, Service provider, and Monitoring process, e.g. regularly monitoring of impact KPIs at asset and fund level incl. investor reports
- Documentation actions & engagement with stakeholders
- Lessons learned from existing projects
- Cooperation with project participants, predecessor funds

## CASE STUDY - FIBRE



### 1. Introduction

#### Sub-Asset Class

- Telecommunication – Fibre

#### Asset Example

- Developing, constructing and operating fibre networks for private households, businesses and/or public institutions (Equity)

#### Investment Strategy

- Investment in fibre optic companies and/or projects for rural and suburban areas in Europe

#### Impact Objective

- Provide affordable and equitable access to fibre networks, especially in disadvantaged areas, in line with environmental and social standards, supporting sustainable industrialisation and foster innovation

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Assessment of fibre optic companies/projects and their planned or covered areas
- Partnerships with local governments and communities for deployment and adoption
- Integration of environmental and social standards in company/project processes

#### Outputs

- Investments in the development and construction of fibre networks in Mio. EUR
- Number of accesses for private households, businesses and public institutions (Fibre optic expansion rate, Fibre optic connection rate)
- Share of areas with low broadband availability (underserved) of the operator

#### Outcomes

- Increased availability of access to fibre networks based on number of clients/contracts per year
- Increased construction and operation of fibre optic networks (e.g. in underserved areas)

#### Impact

- Upgrade infrastructure and retrofit industries by increasing access to communications technology and striving to provide universal and affordable access

to the Internet, especially in disadvantaged areas, in line with environmental and social standard

### 3. Asset Impact

#### Asset Impact Significance

- Provide affordable and equitable access to fibre networks, especially in disadvantaged areas by development, construction and operation of networks and offering end customer service for private and business customers
- In Germany expansion of fiber networks and accesses faces challenges (e.g. complex approval processes, increased construction costs)
- Provide essential financial resources to cover construction costs, ensuring project feasibility
- Enable strategic partnerships, enhancing collaboration among stakeholders to accelerate deployment

#### Asset Impact KPIs

- Increased availability of access to fibre networks in urban and sub-urban regions (e.g. in underserved areas)
- Fibre optic expansion rate = Homes Passed (HP) divided by private households, businesses and public institutions
- Fibre optic connection rate = Homes Connected (HC) divided by private households, businesses and public institutions
- Share of Areas with low broadband availability (underserved) investments of the operator

#### DNSH

- DNSH criteria through EU SFDR
- Social & Governance: compliant with applicable national and EU environmental, social and governance legislation
- Supplier/ Contractor: Existence of a code of conduct for contractors and suppliers

### 4. Investor Impact

#### Grow new/undersupplied markets

- Growing demand for high-speed internet due to the digitalisation in all industries and for private households
- But obstacles due to market, increased construction costs and financing obstacles, e.g. for Germany which lags far behind the fibre optic connection rate of other European Countries
- The portfolio offers investments in developing, constructing and operating open-access fibre networks that generate both financial returns and positive impact

#### Provide flexible capital

- Long-term capital (fund terms of 10+ years)

#### Engage actively

- Interact with communities, policy makers, regulators, local authorities

- Implementation of ESG requirements in Shareholder agreements
- ESG action plans at corporate level

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Part of the investment strategy:
  - Acquiring investments whose primary focus is on the construction, acquisition or expansion of fibre optic investments for rural and suburban areas in Europe in line with environmental and social standards to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

#### Investor Impact Measurement

- Invested capital for construction and operation
- Share of investments corresponds to the impact target
- Integration of requirements in Shareholder Agreements

#### Asset Impact Measurement

- Assessment of expected impact based on the value chain and region to supplied
- Assessment of ESG integration at corporate & project level or implementation in Shareholder/Service Level Agreements
- Set impact targets and monitor asset impact

#### DNSH & Risk Assessment

- Sustainability risk assessment part of investment process (ESG Due Diligence)
- DNSH criteria EU SFDR and Materiality Assessment
- Shareholder Activities (Action Plan for Improvements)

#### Impact Management

- Governance & Responsibility at fund level for the Impact Management
- Integration in Due diligence process and determination of assessment levels and topics (positive and negative impact)
- Documentation of Impact assessment for investment decision
- Integration in Asset Management, e.g. service provider, and Monitoring process, e.g. regularly monitoring of impact KPIs at asset and fund level incl. investor reports
- Documentation actions & engagement with stakeholders
- Lessons learned from existing projects
- Cooperation with project participants, predecessor funds

## CASE STUDY - DAY CARE



### 1. Introduction

#### Sub-Asset Class

- Social Infrastructure – Day Care Facilities

#### Asset Example

- Construction of day care facilities (Kindergartens) in western Germany

#### Investment Strategy

- Investment in locally integrated day care facilities in Europe comprising construction, operation, and provision of high-quality early childhood education

#### Impact Objective

- Address the lack of regional childcare places.; Highlight the importance of early childhood education for improving educational levels, enabling self-determined lives, and promoting equal opportunities

### 2. Intentionality

#### Inputs & Activities

- Investment of capital and expertise
- Enhancing the property according to ecological and social criteria
- Building new childcare facilities
- Implementing sustainable building practices
- Developing and supporting innovative educational programs within childcare facilities

#### Outputs

- Construction of a childcare facility with an innovative educational concept
- Provision of daycare places for 355 children
- 34% more green areas than the recommended standard per education facility

#### Outcomes

- Additional childcare places through new facilities promote high-quality early childhood education
- Increased parental employment and equal opportunities for single parents

#### Impact

- Addressing acute shortage of early childhood care and promoting sustainability and educational quality
- Children gain access to high-quality education from the start, which is essential for developing equal opportunities

- Facilitated Return to workplace for women contributes to gender equality

### 3. Asset Impact

#### Asset Impact Significance

- Address the lack of regional childcare places, especially for children aged three to six
- Accommodate the increasing employment of both parents and of single parents
- Highlight the importance of early childhood education and promoting equal opportunities

#### Asset Impact KPIs

- Number of children enrolled in the daycare
- Number of parents, especially mothers, (re-)joining the workforce
- Percentage of children meeting school readiness benchmarks
- Number of enrolled children with special needs

#### DNSH

- DNSH criteria through EU Taxonomy for a range of economic activities and EU SFDR

### 4. Investor Impact

#### Grow new/undersupplied markets

- Germany faces a shortage of approximately 380,000 daycare places, with the majority missing in western Germany
- This gap is driven by demographic trends, increasing female labor force participation, and growing demand for early childhood education
- However, expansion is hindered by limited public budgets, planning delays, and a shortage of qualified staff
- Investments in planning, constructing, and operating modern daycare facilities can help address this shortage while creating equal opportunities for children and families

#### Provide flexible capital

- Long-term capital (fund terms of 10+ years)

#### Engage actively

- Provide non-financial support through Stakeholder engagement

### 5. Impact Management & Measurement

#### Impact Objective Integration

- Investment in the development of accessible, high-quality daycare facilities to address the regional shortage of childcare places, particularly for children aged three to six
- The objective is to support work-life balance, increase workforce participation among parents — especially mothers and

- single parents — and promote early childhood education and equal opportunities

#### Investor Impact Measurement

- Active engagement with operators, caregivers and parents to address their needs and enhance community impact (tenant satisfaction survey)
- Increase in parental workforce re-entry, particularly among women and single parents
- Contribution to regional goals on education access and social inclusion

#### Asset Impact Measurement

- Define and monitor asset-level KPIs:
  - Number of children enrolled in daycare
  - Number of parents (re-)entering the workforce as a result of access to childcare
  - Percentage of children meeting school readiness benchmarks
  - Number of children with special educational needs enrolled

#### DNSH & Risk Assessment

- Integration of compliance with EU Taxonomy DNSH and material SFDR PAI for education and infrastructure-related activities
- Assessment of sustainability risks, including environmental (e.g. energy efficiency, sustainable construction), social (e.g. safeguarding policies), and community impact

#### Impact Management

- Ongoing management and monitoring of aforementioned KPIs at both asset and fund level
- Transparent disclosure of achieved impact (on a quarterly and annual basis)
- Integration of impact considerations in due diligence and investment decisions
- Documentation of impact-related activities and stakeholder engagement
- Feedback loops and lessons learned from existing investments





Further information:

[www.bvai.de/en](http://www.bvai.de/en)

[www.bundesinitiative-impact-investing.org/en](http://www.bundesinitiative-impact-investing.org/en)