ESG Handbook

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LTI/A

Long-term Infrastructure Investors Association

EY

Building a better working world

Contents

LIST OF ACRONYMS

ACA	Assistant to the Contracting Authority
ADB	Asian Development Bank
AFD	French Development Agency
AFDB	African Development Bank
AIMM	Anticipated Impact Measurement and monitoring
AOAC	Asset Owner Advisory Council
APRA	Australian Prudential Regulation Authority
ASSI	Aligned Set of Sustainable infrastructure Indicators
AUM	Assets Under Management
BREAAM	Building Research Establishment Environmental Assessment Method
CAPEX	Capital Expenditure
CDC	Caisse des Dépôts et Consignations Group
CDP	Carbon Disclosure Project
CEEQUAL	The Civil Engineering Environmental QUALity assessment
CFA	Chartered Financial Analyst
CFLI	Climate Finance Leadership Initiative
CGDF	Corporate Governance Development Framework
CISL	Cambridge Institute of Sustainability Leadership
CPI	Climate Policy Initiative
DDQ	Due Diligence Questionnaire
DFI	Development Financial Institution
EBRD	European Development Bank of Reconstruction and Development
EC	European Commission
EDES	Early Detection and Exclusion System
EHS	Environmental, Health and Safety
EIB	European Investment Bank
ENCORE	Exploring Natural Capital Opportunities, Risks and Exposure
EPIC	Embankment Project for Inclusive Capitalism
ESG	Environmental, Social and Governance
ESMP	Environmental and Social Management Plans
FSI	First Sentier Investors
GHG	Green House Gas
GIF	Global Infrastructure Facility
GIH	Global Infrastructure Hub
GIIN	Global Impact Investing Network
GP	General Partner
GPIF	Government Pension Investment Fund (Japan)
GRESB	Global Real Estate Sustainability Benchmark
GRI	Global Reporting Initiative
GSIA	Global Sustainable Investment Alliance
HLEG	High Level Expert Group
HQE	High Quality Environmental Standard
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICP	Infrastructure Cooperation Platform
IEA	International Energy Agency
IFC	International Finance Corporation
IGCC	Investors Group on Climate Change
IIR	International Integrated Reporting
ILO	International Labor Organization
IMP	Impact Project Management
IPCC	Inter Panel on Climate change
ISCA	Infrastructure Sustainability Council of Australia
ISO	International Standardization Organization
ITRCC	Indiana Toll Road Concession Company
IWBI	International WELL Building Institute
LBP AM	La Banque Postale Asset management
LEED	Leadership in Energy and Environmental Design
LP	Limited Partner
LTIC	Long Term Investment Club
LTIIA	Long Term Infrastructure Investors Association
MD&A	Management Discussion and Analysis
MDB	Multilateral Development Bank
MSCI	Morgan Stanley Capital International index
NCE	New Climate Economy
NFRD	Non-Financial Reporting Directive
ODI	Overseas Development Institute
OECD	Organization for Economic Cooperation and Development
OHS	Occupational Health and Safety
OPEX	Operating Expense
OPIM	Operating Principles for Impact Management
PG&E	Pacific Gas & Electric Company
PPE	Political Exposed Person
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PS	Performance Standard
RBC	Royal Bank of Canada

RIAA	**Responsible Investment Association Australasia**
RPI	**Responsible Property Investment**
SARS	**Severe Acute Respiratory Syndrome**
SASB	**Sustainability Accounting Standards Board**
SAVi	**Sustainable Asset Valuation tool**
SDG	**Sustainable Development Goals**
SIFs	**Sustainable Insurance Forum**
SPV	**Special Purpose Vehicle**
TCFD	**Task Force on Climate Change**
TREDIS	**Transportation Economic Development Impact System**
UN	**United Nations**
UN PRI	**United Nations Principles for Responsible Investment**
UNCTAD	**United Nations Conference on Trade and Development**
UNEP FI	**United Nations Environment Programme Finance Initiative**
USS	**Universities Superannuation Scheme**
WTP	**Waste To Power**
WWF	**World Wildlife Fund**

FOREWORD

In just a few years, ESG, also known as sustainable or responsible investing, has moved from a slightly idealistic niche- to front-page, a mainstream dimension for investors, one that strongly influences the performance and resilience of their investment over time. This is particularly the case in infrastructure, in view of its wide reaching and long-term consequences for the community. Indeed, in many cases private investors have been not just accompanying the trend but pioneering evolutions, complementing, or preceding regulatory requirements. A lot of corporates, investors and operators have embarked on communicating their values and sharing their approaches to the subject. It is thus only normal that the Long-Term Infrastructure Investors Association would devote a new, enriched edition of its Handbook to those latest developments. What sets aside this report from other compendiums is the rich variety of examples and illustrations drawn from our members collective experience, reflecting their specific challenges, the management practices, and proprietary methodologies they developed to manage and address them. It shows the appetite and inventiveness at play when it comes to developing bottom up solutions. It also makes a point towards the need to further consolidate and streamline tools and standards so as to be able to refer to commonly accepted market practices.

The timing could not be more appropriate as the current sanitary crisis reveals the weaknesses and lack of resilience of many economic models. So take some time to go through this fascinating opus: I sincerely hope you will find in it inspiration to act, ever more decisively towards a better and more sustainable world.

Thierry DEAU, LTIIA chairman

Handbook established under the responsibility of Francois BERGERE, Executive Director, LTIIA with the support of Maelle Duquoc, Edward Luu, Zineb Ami, and Hien Nguyen, EY Climate Change and Sustainability

One of the main interests of this handbook relies on the integration of contributions from LTIIA's members, which included individual write-ups and responses to a customized survey. Individual contributions were prepared by :

Allianz GI : *J. Atkins* ***| Arpinge:*** *B. Gillio* ***| Blackrock:*** *K. Sherwin* ***| Campbell-Lutyens:*** *J.Wardlaw* ***| CNP-LBPAM:*** *M.Merrilainen* ***| CPI:*** *P. Negreiros* ***| EDHEC Infra:*** *F.Blanc Brude* ***| First Sentier Investors:*** *R. Element* ***| GPSS:*** *A. Ozawa* ***| GRESB:*** *R.Walters, A.Roberto* ***| Guggenheim:*** *J.Pass* ***| Infravia:*** *L. Booth / V.Levita* ***|J .Hancock/Manulife:*** *M-C Rendon* ***| Meridiam:*** *T. Deau, S. Youcefi, G. Borduas* ***| S&P Global:*** *B. Sperling-Tyler* ***| Skandia:*** *H-F Forssmann* ***| STOA:*** *V. Vitiello, M-L. Mazaud* ***| SWEN:*** *I. Combarel* ***| TIIC:*** *J. D Almeida* ***| UN PRI:*** *S.Whistler, A.Heath.*

INTRODUCTION

Much has changed since the previous edition of the Handbook in 2017, with the integration of Environmental, Social and Governance (ESG) into investment decisions transforming from a nice-to-have and niche practice, into a key dimension of infrastructure investing. In only three years, ESG has turned into an imperative mandate for investors as part of their fiduciary duty.

Last warning from mother Nature? As this Handbook is being written, half of the world population is locked down in their homes; medical staffs and other workers in critical occupations are on the front lines; and fear of a global depression is widespread. The COVID-19 pandemic, as any crisis, provides an opportunity to reconsider our way of doing business as usual, and challenges previous certainties[1]. Infrastructure investment, more than ever, will have its part to play in the recovery, as well as in the shift towards a more sustainable social and economic model.

While all thoughts and efforts are concentrated on the ways and means to save lives and rescue the economy, and as we are in the most acute stage of the current coronavirus crisis, we must think about the day after and address longer-term threats to our living standards and lifestyle. The health crisis has revealed serious weaknesses frailties in the governance of many countries. Many political leaders are still climate skeptics, just like many had been coronavirus skeptics before their countries became heavily affected. The current health crisis could be interpreted as a warning signal from mother Nature. We all must realize that the worldwide impact from climate change and loss of biodiversity may be far greater and more irreversible than what we are living through today.

As we move from crisis response to economic recovery, through stimulus packages, one can expect that infrastructure spending will play a key role. As it had been the case in the aftermath of previous economic crises, governments running large public debts and deficits and facing unprecedented fiscal challenges may prove less capable of financing assets, thereby relying more on private sector's resources and expertise to deliver the required infrastructure services. Though temptation will be great to consolidate existing activities and employment by bankrolling quickly the most affected sectors, institutional investors have a historical role to play to steer the economy towards a more sustainable and fairer future. Policy makers, prodded by the civil society and supported by the financial sector through public consultations, must more than ever embed long-termism into their decisions to ensure that we don't bump from one economic shock into another.

Now is a time to reflect collectively on the course of action we want to take, rethink and reshape our vision of the economy. The COVID-19 pandemic reminds us that sustainable development (defined for the very first time in the famous "Our Common Future" Brundtland Report of 1972 as "development that meets the needs of the present without compromising ability of future generations to meet their own needs"), conciliation of social equity, economic, and environmental factors ("People", "Profit" and "Planet"), and more inclusive capitalism, are the way of the future.

The importance of a long-term approach. Capitalism, as an economic system in which countries trade and industries are driven by private owners for profit maximization, has proven conducive to the creation of wealth. Yet, this has oftentimes come at the cost of natural capital depletion and the inability to provide a fair distribution of income to all. In addition, its short-term focus on financial results is frequently criticized for leading to obsolete and unsustainable business models lacking resilience to disruptive events. Inclusive capitalism, by contrast, is "a global movement to engage leaders across business, government, and civil sectors and encourage them to practice and invest in ways that extend the opportunities and benefits of our economic system to everyone."[2] Both sustainability and inclusive capitalism consider risks and opportunities in the long-term, and rest upon the idea that created value and wealth should be more evenly shared across society. At the same time, investors are increasingly realizing that infrastructure investments are inherently correlated with political agendas, whether they are regulated utilities, public-private partnerships (PPPs) or integrating other contractual forms. Infrastructure provides essential public services. This implies a social function that goes beyond that of other companies in fully competitive markets.

LTIIA's members – institutional investors in unlisted infrastructure, such as pension funds, life insurance companies and their asset managers– have, by definition, a long-term view. The likelihood of a downside ESG event (severe environmental pollution, social unrests, governance malpractices or misconducts) that can trigger financial liabilities – not to mention significant reputational risk – grows with a longer hold. Therefore, implementing ESG measures when investing in a project becomes even more important for sustaining financial performance of the investment.

[1] For example, the ban on short-haul domestic air travel on routes with rail journey time up to 2.5h as one of the conditions of the French government' €7bn support for Air France, or the conditions (minimum ticket price and increased flight taxes) the Austrian government has attached to its €600m package to Austrian Airlines to reduce the environmental impacts of the aviation sector

[2] Embankment Project for Inclusive Capitalism

The case for unlisted infrastructure. Infrastructure and ESG dimensions should be natural bedfellows: after all, infrastructure is about providing essential daily-use services to the community, and thus, underpinning economic and social development. In order to ensure a successful integration of ESG factors in this key sector, infrastructure investors should do their share by integrating ESG factors within their day-to-day activities and decisions.

One of the key transformative drivers has been the widespread adoption of the United Nation's Sustainable Development Goals (SDGs) from 2015 on, which provides a framework for infrastructure investors to demonstrate the genuine impact of infrastructure projects on the real economy.

When it comes to ESG integration in alternative investment, infrastructure investors lead the way, with 35% of infrastructure investors having an active ESG policy for the asset class[3], the highest level across alternative assets such as private equity, real estate or natural resources. Essentially, ESG is seen as a risk-mitigation tool, with the Governance (G) dimension getting particular attention from the investor's side. The presence of an active ESG policy, however, does not necessarily significantly affect investment decisions. Less than 2 out of 5 investors have ever changed their investment choices due to ESG 4 . Furthermore, after having invested in a fund, only 3 out of 10 investors require any kind of ESG reporting from their fund managers.

Still, with changing expectations from Limited Partners (LPs) and the society, and a sustainable and fairer future at stake, ESG is no longer a "plus" factor and is becoming a requisite at all stages of the investment lifecycle, from design to active hands-on management.

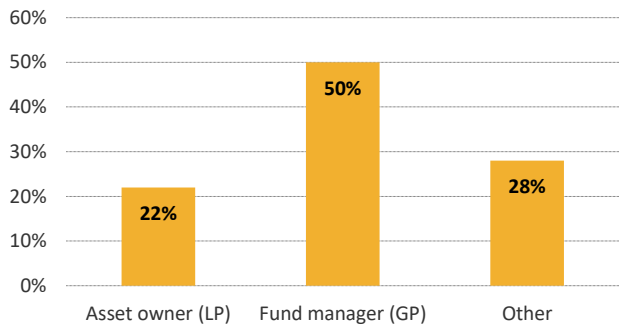
This situation presents our investor community with a double opportunity: *quantitatively*, as we are potentially talking about the biggest global investment opportunity of our time (according to the Organization for Economic Cooperation and Development (OECE), about $70 trillion is needed in infrastructure investment by 2030); and *qualitatively*, as investing in non-listed infrastructure assets through a dedicated vehicle allows a better control by the investors than a presumably more diluted stake in listed assets.

This qualitative opportunity should allow institutional investors to better make their case before public opinions, thus improving the narrative, reinforcing the legitimacy of private sector participation in infrastructure, and eventually bolstering their 'social license' to own and operate key collective assets. Yet, notwithstanding the broad recognition, still too few investors understand what it takes in practice to invest in infrastructure responsibly. It is therefore no longer a matter of "whether" or "when", but "how", for institutional investors to be recognized as legitimate actors in the infrastructure business, contributing solutions to our common future.

The 2020 LTIIA ESG Handbook is meant to provide members, and more broadly the infrastructure investing community, with food for thought, highlighting major ESG trends and recent developments to bear in mind when conducting their day-to-day operations. It includes insightful contributions, illustrations of best practices and case studies from its members (enclosed in green-labelled boxes in the text), as well as structured practical guidelines to make further progress towards informed and responsible investments.

As part of this new edition of the Handbook, we have conducted a survey among our members. The survey was designed to assess and provide us with an aggregate view of where LTIIA members stand, ESG-wise, in terms of internal organization, Investment & Management Practices and how they see the upcoming trends. We have received responses from almost half of our membership, an overall high response rate if we factor in the fact that not all members (in particular those that are not investors stricto sensu) were concerned by the questions selected in the survey. Some questions were more relevant to some respondents than to others, depending on the investor status (a few of them targeting specifically asset owners, as an example), allowing respondents to skip some if they were not within their corporate scope. Most participating members were Asset/Fund managers, the rest being evenly split between Asset owners and others (which could be Advisers, Service providers, Academia/professional associations, or Public/Multilateral institutions).

Figure 1: What is your investor status?



[3] Preqin Article of 16th March 2020: ESG will become more integral in the next 36 months, alternative investors say

[4] Preqin 2020 Global Infra Report

2020 Members Survey

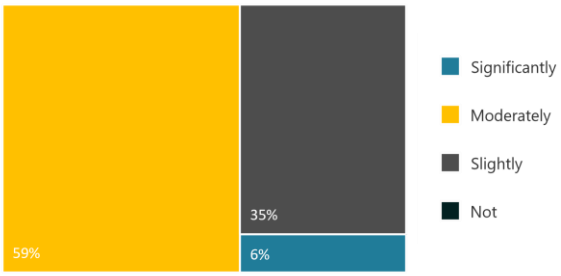
To which extent does the COVID-19 crisis affect your activities?

Beyond the immediate steps required to keep operations running, ensuring continuity of key collective services and keeping collaborators safe (shift to remote work, digitization of administrative procedures (i.e. contracts, payments) or Regular distribution of masks & PPE to all employees), several investors are helping the communities in which they operate, by making donations of supplies and resources in some of the hardest hit areas. Most respondents agree that at this stage, it is still too early to tell how great the impact of COVID-19 will be on their activities.

Asset owners like CalPERS are updating forecasts to factor the impact of COVID-19: Asset returns are being sensitized and stress-tested. InfraVia has performed a detailed risk analysis for each asset, including people safety first, business and financial impact. As an Infrastructure Debt investor, AllianzGI recognize that there are two key issues at play: (i) the underlying risk to the performance of the asset itself from the fall-out of COVID-19, and (ii) the liquidity provided by the equity buffer and available debt service reserve accounts/liquidity facilities for what is expected to be a short- to medium-term disruption. Some fund managers (TIIC) are considering an extension of the investment period of their funds currently being loaded. The EIB backed the creation of a €25 billion Pan-European guarantee fund in response to COVID-19, enabling it to scale up its support for European companies with a focus on SMEs, but not specifically infrastructure oriented.

Overall the COVID-19 health crisis appears to have reinforced convictions around responsible investment practices, especially sustainable infrastructure. According to J. Wardlaw, Campbell Lutyens, "the COVID-19 crisis will only serve to accelerate the integration of ESG considerations into infrastructure investment decision making. The dramatic improvements in air pollution levels over the major cities of the world is really striking. The relevant pressure is not coming from regulators, but citizens who are also the customers of fiduciary managers through their pensions and insurance policies. They are demanding that we do not return to the 'status quo ante'. Build Back Better is resonating.

Figure 2: To which extent does the COVID-19 crisis affect your activities?



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A quickly changing backdrop: ESG from niche to mainstream

The concept of responsible investing is not new and can find its roots as early as in the 18th century. Responsible investing has been a mirror of systems of values at given points in time. John Wesley (1703 – 1791), one of the founders of methodism, outlined in his sermon on "the use of money" his basic tenets of social investing: "What is true of ourselves is equally true of our neighbor. We should not gain all we can by causing injury to another, whether to his trade, his body or his soul." Around the same period of history, the Quakers at their 1758 Philadelphia yearly meeting prohibited their members from participating in and contributing to the slave trade.

In our contemporary world, responsible investing is finding a different yet even stronger echo. In facing the challenges of our century, a significant number of actors in the investment community have committed to embedding Environmental, Social and Governance (ESG) considerations into their day-to-day operations. In only a couple of decades, ESG integration has evolved from a "nice-to-have" practice to a genuine staple of investment management. While it goes without saying that the road ahead is still long, investors increasingly acknowledge that ESG integration is part of their fiduciary duty. More than just a matter of opinion or belief, the existing empirical and academic literature has demonstrated that investors have vested interests in factoring ESG in their investment decisions. Although further and asset class-specific evidence is still needed, it is now commonly accepted that non-financial and financial performances are strongly correlated and can be reconciled.

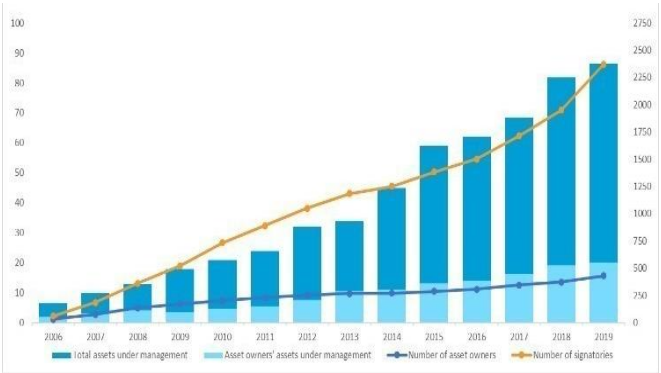
Expectations as to the role the investment industry can play to take up environmental and societal challenges of the 21st century are therefore high. Across all asset classes, the growth momentum is marked by high demand for investment vehicles incorporating ESG topics. It is our collective responsibility to show that sustainable finance can do its part to ensure a better and more livable world for our children.

1.1 Growth momentum for ESG integration across the globe

Statistics from the United Nations' Principles for Responsible Investment (UN PRI), regional Sustainable Investment Forums (SIFs) and surveys conducted by investors provide clear evidence of ESG integration gaining momentum, whether across geographies or asset classes. However, adoption has been unequal across the world, with twice as many Europe-based investors having ESG/impact frameworks compared to their North America-based counterparts (559 vs. 271). Issues related to ESG tend to have more prominent public backing in European countries, and on a range of issues around environmental and social responsibility, the general tone of public discourse in Europe is notably more progressive than in North America.

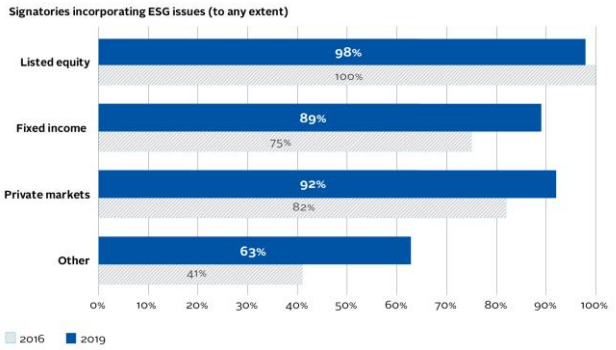
The number of UN PRI signatories, be they investment managers (i.e. organizations that manage or control investment funds, either on their own account or on behalf of others) or asset owners (i.e. organizations that represent the holders of long-term retirement savings, insurance and other assets), has been steadily increasing since 2006 **(cf. Figure 3)**. As PRI signatories, investors commit to reporting on an annual basis, through a Transparency Report, their efforts to meet six voluntary and aspirational principles. Despite the UN PRI's September 2017 decision to strengthen signatory accountability and delist signatories whose progress in implementing the Principles is deemed not sufficient, the latest figures show a continuous increase, accelerating to 3,000 signatories in spring 2020, with a corresponding total of approximately US $90tn of assets under management.

Figure 3: UN PRI signatories' evolution since 2006



The UN PRI 2019 Annual Report indicates that the number of signatories incorporating ESG issues continued to increase across virtually all asset classes between 2016 and 2019 **(cf. Figure 4)**. While the chart does not provide information as per the extent and depth of ESG integration, it brings to light higher barriers to entry in the non-listed / illiquid asset space, where access to non-financial information is more difficult.

Figure 4: ESG issues incorporation among UN PRI signatories



The UN PRI 2019 Annual Report also indicates an increase in the number of signatories between 2018 and 2019 in all geographies **(cf. Figure 5)**.

Figure 5: Change in the number of the UN PRI signatories (2018 – 2019) – UN PRI 2019 Annual Report

Unsurprisingly, Europe and North America concentrate the highest number of signatories, followed by the Asia-Pacific region. While figures provided by the UN PRI cover signatories only, similar positive trends are corroborated by other studies. The 2018 report (**cf. Figure 6**) of the Global Sustainable Investment Alliance provides further confirmation that ESG has been gaining constant momentum across the globe, mainly in developed markets. Furthermore, the proportion of global sustainable investing assets by region (**cf. Figure 7**) indicates that Europe and the United States are the top contributors in absolute terms. The proportion of sustainable investing assets relative to total managed assets between 2014 and 2018 (**cf. Figure 8**) provides information about the pace of the incorporation of ESG topics in investment processes. Australia and New Zealand stand out from the rest, with sustainably invested assets under management increasing from 16.6% in 2014 to 63.2% in 2018. While Europe has lost ground between the same period, with about €1 out of 2 invested sustainably in 2018, the United States and Japan are lagging with respectively $1 out of 4 and ¥1 out of 5 invested sustainably.

Figure 6: Growth of Sustainable Investing Assets by Region in Local Currency (2014 – 2018) – GSIA 2018

	2014	2016	2018	Growth Per Period		Compound Annual Growth Rate (CAGR) 2014–2018
				Growth 2014–2016	Growth 2016–2018	
Europe	€ 9,885	€ 11,045	€ 12,306	12%	11%	6%
United States	$ 6,572	$ 8,723	$ 11,995	33%	38%	16%
Canada (in CAD)	$ 1,011	$ 1,505	$ 2,132	49%	42%	21%
Australia/New Zealand (in AUD)	$ 203	$ 707	$ 1,033	248%	46%	50%
Japan	¥ 840	¥57,056	¥231,952	6692%	307%	308%

Note: Asset values are expressed in billions. All 2018 assets in this report are as of 12/31/17, except for Japan, whose assets are as of 3/31/18.

Figure 7: Proportion of Global Sustainable Investing Assets by Region (2018) – GSIA 2018

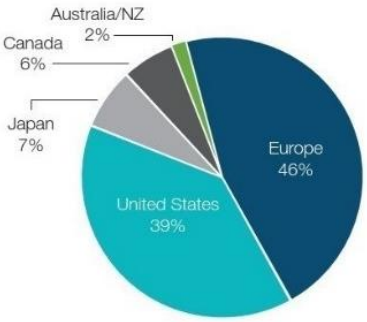
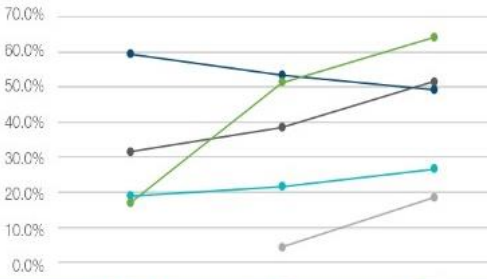


Figure 8: Proportion of Sustainable Investing Assets Relative to Total Managed Assets (2014 – 2016) - GSIA 2018

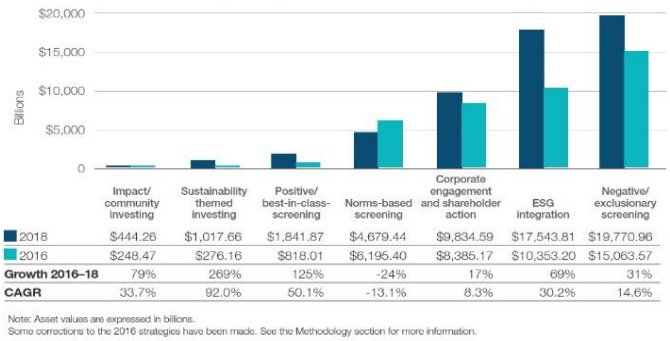


	2014	2016	2018
Europe	58.8%	52.6%	48.8%
United States	17.9%	21.6%	25.7%
Canada	31.3%	37.8%	50.6%
Australia/New Zealand	16.6%	50.6%	63.2%
Japan		3.4%	18.3%

Note: In 2014, data for Japan was combined with the rest of Asia, so this information is not available.

A closer look at the depth of ESG integration shows that sustainable investing strategies **(cf. Figure 9)** tend to concentrate on the "low-hanging fruits", the less constraining approaches, such as negative / exclusionary screening, ESG integration (NB: to be understood as discretionary ESG asset selection strategies), norm-based screening, and corporate engagement / shareholder action.

Figure 9: Global Growth of Sustainable Investing Strategies (2016 - 2018), GSIA



	Impact/ community investing	Sustainability themed investing	Positive/ best-in-class screening	Norms-based screening	Corporate engagement and shareholder action	ESG integration	Negative/ exclusionary screening
2018	$444.26	$1,017.66	$1,841.87	$4,679.44	$9,834.59	$17,543.81	$19,770.96
2016	$248.47	$276.16	$818.01	$6,195.40	$8,385.17	$10,353.20	$15,063.57
Growth 2016–18	79%	269%	125%	-24%	17%	69%	31%
CAGR	33.7%	92.0%	50.1%	-13.1%	8.3%	30.2%	14.6%

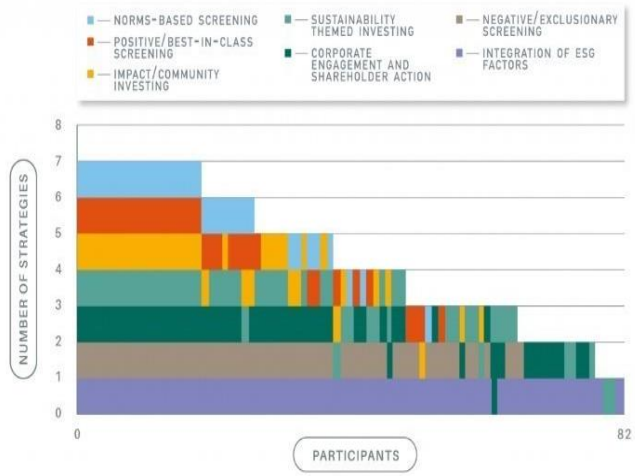
Note: Asset values are expressed in billions.
Some corrections to the 2016 strategies have been made. See the Methodology section for more information.

But, interestingly, the most significant 2016 to 2018 growths (assets under management) deal with the most stringent sustainable investing strategies: positive / best-in-class screening and sustainability-themed investing, both being commonplace approaches adopted mainly by collective investment schemes in transferable securities, and impact / community investing. While investments' positive impact in the listed assets space is yet to be demonstrated scientifically (or at least generated indirectly by financing virtuous companies' balance sheets), common intuition would suggest that long-term investments in alternative assets are particularly suitable to impact investing strategies. As mentioned above, an ownership/oversight logic is presumably easier to implement on a project-financing special vehicle (SPV) than on an investment in (much bigger) listed corporates, allowing institutional investors to operationalize their sustainable development approach more quickly.

GRESB Fund Assessment results in 2019 (following figure) show results specific to infrastructure and these show a similar trend.

The FUND1 indicator was modified from last year and now focuses on strategies rather than objectives. 77% of funds reported having a sustainable investment strategy in 2019. This chart shows the range of strategies applied to each of the funds that reports applying one of more strategies. Interestingly, it is not uncommon to employ multiple strategies. Nearly all of these respondents integrate ESG factors in their business strategies (96%). Screening based on ESG is still mostly based on exclusion (75% of responses), rather than on positive characteristics (43%) or international norms (42%). Tow out of three use corporate engagement as part of their investment strategies.

Figure 10: Sustainable investing screening still mostly based on exclusion (2019, GRESB)



According to the UN PRI's 2018 annual report, 87% of direct infrastructure investor signatories already consider ESG in their investment decisions; whereas 86% of indirect infrastructure investor signatories already consider ESG to some extent in their manager selection, appointment and monitoring. As 50% of Limited Partners (LPs) expect from General Partners (GPs) that they consider ESG criteria as part of their investment decisions, infrastructure investors have a clear opportunity to contribute to the UN SDGs by endowing themselves with impact management and monitoring capabilities. Furthermore, according to the International Finance Corporation (IFC)'s "Creating Impact, the promise of impact investing" report of April 2019, private investment fund managers pursuing impact investment strategies are targeting infrastructure assets for 62% of their capital.

Again, several surveys provide further confirmation that ESG is mainstreaming:

- According to a RBC Global Asset Management survey of 2019, 70% of institutional investors in the UK & North America use ESG in their decision-making process.
- According to an Invesco survey of 2019 on 139 Chief Investment Officers, heads of asset classes and senior portfolio strategists in sovereign funds and central banks, managing over US$20 trillion in assets, 60% of sovereign funds were incorporating ESG in 2019 vs. 46% in 2017, and respectively 20% of central banks incorporating ESG in 2019 vs. 11% in 2017.

- According to an Allianz Global Investors survey of 2019 on 490 institutional investors, 71% of them hope to manage *all their portfolio* in an ESG-conscious way by 2030, compared to only 1% today, and 92% indicate they are familiar with the concepts of impact investing and ESG integration. In a similar survey of 2018, focused on retail investors, 75% of respondents are interested in sustainable investments, and 20% have discussed the topic of sustainable investments with their financial advisor.

All in all, ESG integration is gaining momentum across the globe and across all types of assets, in particular infrastructure, driven mainly by increasing expectations set by asset owners to their asset managers, and to a lesser extent by individual retail investors' growing interest in sustainable investments.

1.2 Despite lack of documentation, little doubt on the positive link between ESG and financial performance

Among the objectives of asset management companies in the infrastructure sector, several themes are drivers for integrating ESG criteria into asset management:

- ***Optimizing the positive impacts of the projects;***
- ***Improving asset performance;***
- ***Ensuring its social acceptability***
- ***Reducing its environmental footprint; and***
- ***Enabling good long-term management.***

It is also critical to intervene at the right time and in an organized manner on the asset, as it may stay in the portfolio for more than 20 years (Meridiam)

The integration of ESG factors into a company's strategy can be both a source of protection and value creation because these factors are directly linked to:

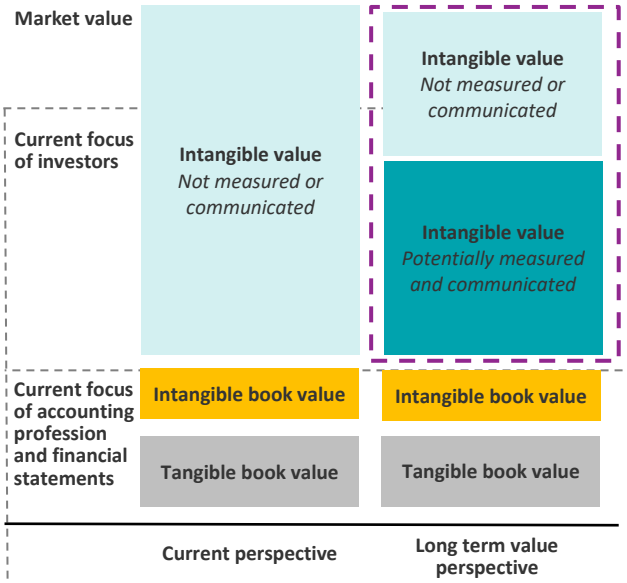
- Risk management;
- Cost reduction;
- Consideration of new business models; and
- The attractiveness of the company to its stakeholders (employees, suppliers, customers and investors)

Risk management
■ Avoiding business interruption, cost overrun and withdrawal of operating permits; ■ Avoiding legal risks, significant remedial actions and insurance penalties; ■ Avoiding reputational damage (by managing the value chain & other E&S issues); and ■ Anticipating regulatory changes that could affect the company's operations (CO2 quotas, declarations, etc.) or even the very prohibition of the use of certain products. ■ ESG directly affects project risk, which in turn may impact loan terms and rates, or result in higher CAPEX and OPEX affecting the return on investment
Cost reduction
■ Creation of an action plan to optimize and manage energy and waste; ■ Reassessment of the value chain in order to take ESG criteria into account (optimization of greenhouse gas emissions, reduction in loss of raw materials); and ■ Definition of responsible purchasing ESG criteria.
New economic models
■ Launch of new products and services addressing new customers, new customer requests for a responsible offer; ■ Identification of new markets investments (positive impact funds, circular economy, climate change); and ■ Innovation leverage through eco-design and the social and solidarity economy.
Attractiveness
■ Lever to improve talent engagement and retention through the integration of ESG criteria into the company's vision and values; ■ Response in line with calls for tender, which increasingly involve ESG criteria in the selection; ■ Better perception of companies incorporating ESG criteria into their strategies, which are supposed to be better managed; and ■ Investors more inclined to select funds with ESG performance commitments.

Reluctance from some investors to fully shift to ESG integration however usually revolves around concerns about the immediate impact on financial returns, and the debate around correlation – not to mention causality – between ESG integration and financial performance. The latter still deserves further academic and empirical evidence, especially for the infrastructure asset class, for which it may still be premature to draw firm conclusions.

ESG Impact Valuation. The current state of knowledge does not invalidate the intuitions around the benefits for investors and their clients to supplement traditional financial analyses with the inclusion of ESG in the decision-making process. It is commonly and widely accepted that ESG can capture components important for valuations that are not traditionally reported. As enterprise market value is measured based on accounting principles codified in the 70s, investors now recognize the existence of a "hidden value" and the need to identify weak market signals that may not be captured otherwise **(cf. Figure 11).**

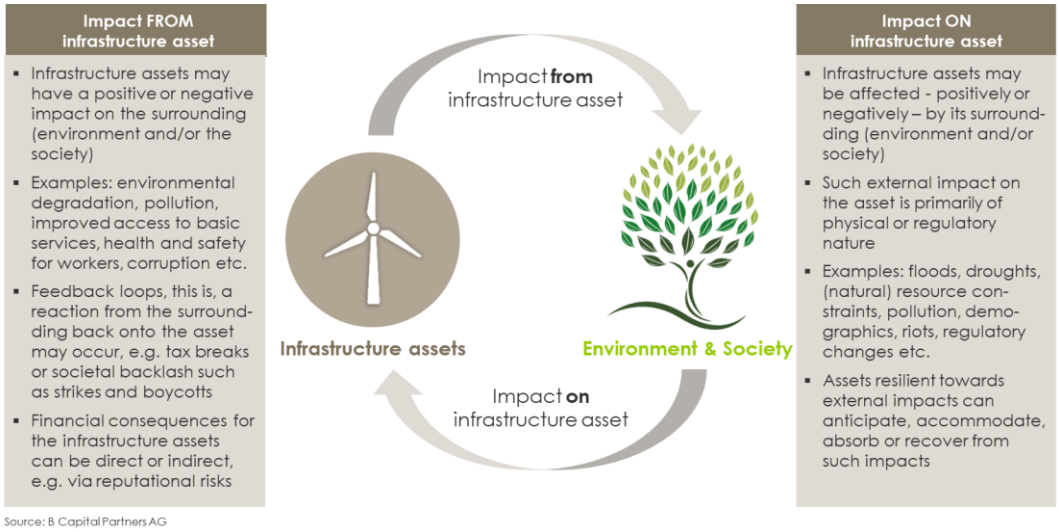
Figure 11: Measurement and Disclosure of Company Intangible Value, Embankment Project for Inclusive Capitalism



As studies show, an increasing proportion of enterprise market value is linked to intangibles. According to the 2017 Edelman Trust Barometer, undisclosed intangible rose annually by 18% since 2011, while the 2019 Global Intangible Finance Tracker report from the Brand Finance Institute indicates that the global value of the world's undisclosed intangible assets is now at US35.4$ trillion.

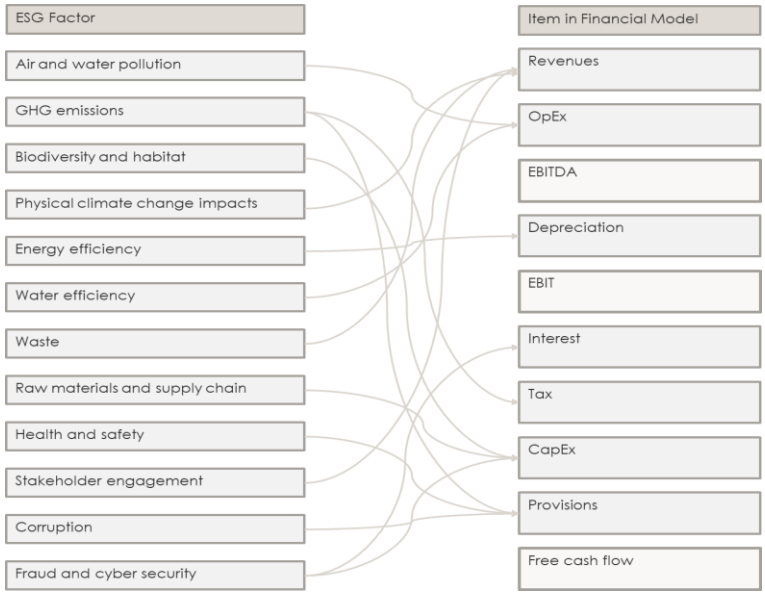
While documentation is still lacking, one can assume that the intangible value of infrastructure assets may be as significant, with green and red flags identified through ESG due diligence assessments driving up or dragging down final transaction prices when they are measurable and/or measured. As described by WWF and B Capital Partners, infrastructure assets can materially impact the surrounding (environment and society) and vice versa **(cf. Figure 12),** while specific ESG factors can be directly linked to financial indicators **(cf. Figure 13).**

Figure 12: Impact from and on infrastructure asset



Source: B Capital Partners AG

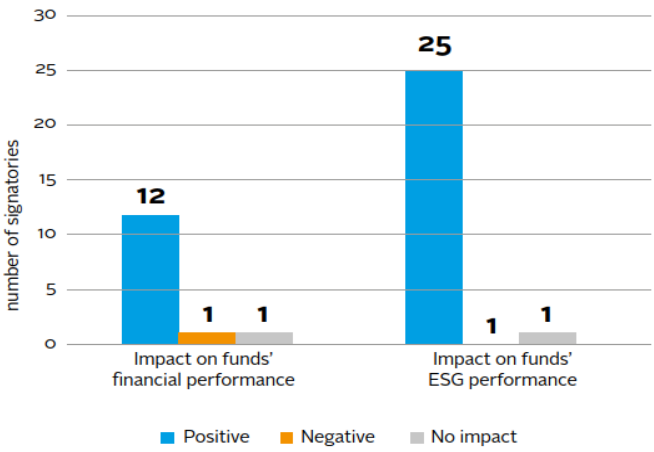
Figure 13: Impact of ESG Factors on Financial Model Items



Guidance note on integrating ESG factors into financial models for infrastructure investments - WWF & B Capital. The Guidance Note illustrates how the consideration of ESG factors may inform the forecasting of financials, such as revenues, operating costs and capital expenditure, etc. in the context of assessing an infrastructure asset. Twelve ESG factors have been selected and analyzed in relation to their potential risks and opportunities for infrastructure assets as they may emerge throughout an asset's life cycle (development, construction, operation, and decommissioning). The analysis relies on the availability of KPIs and data that can be used to quantify the ESG factors financial impacts on the infrastructure investment. Each ESG factor is then associated with an item in a basic financial model (revenues, OPEX, CAPEX, EBITDA, cash flows, etc.), based on its potential impacts, and quantified through several proposed metrics for the purpose of developing or adjusting the financial forecasts of infrastructure assets affected by these ESG factors.

ESG-integration as a way to mitigate risk: Overall, there is a widely-shared belief, considering existing scientific and empirical evidence, that ESG-integrated investment strategies, on medium or long-term horizons, tend to reduce portfolio risks, do not harm alpha and may even generate overperformance against comparable benchmarks. According to the UN PRI's 2017 Primer on Responsible Investment Infrastructure report **(cf. Figure 14),** a clear majority of surveyed direct infrastructure investor signatories perceive that ESG integration has had a positive impact on both funds' financial and ESG performance.

Figure 14: Impact of ESG on funds' financial and ESG performances, UN Principles for Responsible Investment, "Primer on Responsible Investment in Infrastructure" (2017)



That notwithstanding, disclosure of non-financial information is key, and the need for codification and harmonized standards a pressing issue. While regulations are bound to evolve over time, as is currently the case in the European Union with a much-anticipated revision of the Non-Financial Disclosure Directive, adequate reporting and verification by independent third-party bodies are already often required by law. Questions do arise with respect to companies that would not be subject to any form of non-financial reporting requirement, or that would not report on a voluntary basis. In the non-listed space, where reporting obligations may not apply and access to investees' information is difficult, GPs with an ESG or an impact investment approach have an important role to play in collecting data "at the source", seeking to improve their trustworthiness and reliability over time, and ultimately reporting them to their LPs in a consistent manner. Overall, lack of transparency and inability to report will be increasingly sanctioned in the future, by both regulators and investors.

According to EY's 2019 CEO Imperative Study, calls for inclusive and long-term growth are starting to impact investment decisions, as roughly 60 senior institutional investors out of 100 surveyed report that they support long-term investing to address global challenges, even when near-term performance may be diminished. Meanwhile, companies are putting sustainability at the core of their strategic roadmaps to adapt their business models to a changing and uncertain world. Out of 200 CEOs surveyed from the largest companies in the world, more than two-thirds say that they are likely to take public stands on politically charged issues related to global challenges, and 60% of them say they have aligned their corporate purpose.

Infrastructure investors' views on the performance of ESG Funds vs. non-ESG funds seem to be evenly spread to date, with no clear majority over whether they perform better or worse. All in all, the ongoing debate over the correlation between ESG and financial performance should not deter laggards to move towards to responsible and impact investing. Incorporating ESG criteria should not be pursued because it increases returns over time (even though it may very well do so), but because that is the right thing to do! It should not make us forget that:

- **ESG is a matter of ethics and corporate culture to many investors;**
- **ESG is a matter of resource allocation and capabilities building.**

The View from our members: Meridiam

Being a mission-driven and benefit company

Since its inception fifteen years ago, Meridiam has applied high level ESG standards in its investments. In September 2019, it adopted the new statute in French law of a mission-*driven or Benefit organization.*

"We've made this choice for consistency and efficiency reasons: being a mission-driven company reinforces our alignment with our LPs, as we commit to deliver them both financial dividends return and non-financial impact through our investments. We seek to go beyond the basic climate change conversation and go for solutions that also address the important issues of sustainable development. The transition to a mission-driven business is a logical evolution for our team. Concretely, all our team members have been assigned operational objectives, one of which is impact. Their compensation package is, as such, be partially indexed on this performance indicator, as is the carried interest formula for our next funds, now be determined around a 'bonus/malus' system that tracks how well we achieve the non-financial, social and environmental dividends in our portfolio.

The core LPs who have supported us from the very beginning precisely because of our focus on ESG have naturally welcomed the announcement positively, followed by other investors who had initially been more skeptical."

The View from our members: EDHECinfra / LTIIA

Link between better ESG ratings and financial performance in private infrastructure - EDHECinfra / LTIIA Research Chair Study (March 2019) – Work in Progress / Preliminary Findings

A study published in March 2019 drawn from the EDHECinfra / LTIIA Research Chair finds there is no financial penalty or gain (based on Return on Assets) for infrastructure firms to implement ESG management and reporting. The study cross-references two unique databases: the ESG scores computed by GRESB Infrastructure since 2016, and the financial metrics of the EDHECinfra universe, and shows that once the traditional factors that explain returns are considered, ESG ratings are not correlated with returns. The study is at odds with other research that shows that companies with better ESG credentials are stronger performers, based on the idea that issues such as poor governance and environmental problems damage profitability.

However, the study sponsors agreed this is just a first attempt, as they need to better explain the findings and limitations, and to work out how to improve data collection and methodologies for the future, especially as the study covered a relatively short 3-year period. The study into private infrastructure companies emphasizes that a lack of correlation "should not preclude investors from adopting an ESG approach," importantly finding that there was no negative detriment to returns either. According to Frédéric Blanc-Brude, director at EDHECinfra, "there's an increasingly large number of investors saying it is a matter of principle that we do this (…) It's not something that will stop people choosing ESG." According to the Global Infrastructure Investor Survey Report 2019 survey published by EDHEC and the Global Infrastructure Hub, more than a third of 130 large investors said ESG considerations were of overriding concern when investing in infrastructure, even if they came at the expense of some performance.

Still a work in progress: This study highlights that much further work is needed to understand the link between ESG and financial performance, especially long-term effects. More granularity in future datasets will also allow differentiating the effect of the E, the S and the G in ESG, which may have different and even contrary relationships with firms' characteristics and performance.

The View from our members: Blackrock

Building resilience and reshaping finance

BlackRock is a founding member of the Task Force on Climate-related Financial Disclosures (TCFD), a signatory to the UN's Principles for Responsible Investment, and recently joined Climate Action 100+. In 2020, BlackRock has joined with France, Germany, and global foundations to establish the Climate Finance Partnership, which is one of several public-private efforts to improve financing mechanisms for infrastructure investment.

In January 2020, in his most recent letter to CEOs, Larry Fink, Blackrock's Founder, Chairman and Chief Executive Officer announced a number of initiatives to place sustainability at the center of its investment approach, including: making sustainability integral to portfolio construction and risk management; exiting investments that present a high sustainability-related risk, such as thermal coal producers; launching new investment products that screen fossil fuels; and strengthening commitment to sustainability and transparency in their investment stewardship activities.

At the center of these commitments is our investment view that sustainability-integrated portfolios can provide clients better long-term risk-adjusted returns. This view is grounded in two core convictions drawn from BlackRock's research and investment insight: first, companies that better manage sustainability-related issues will be more resilient over the long-term; and second, we are on the front end of a profound, long-term structural shift in global investor preferences toward sustainability that is not fully priced into the market today and may therefore drive outperformance during a long transition period.

Although the market disruption experienced in the first quarter of 2020 is a short timeframe, it is consistent with the resilience of sustainable strategies that has been observed in past downturns. During the recent downturn, the Sustainable investment strategies globally proved resilient amid the market volatility. The environmental, social, and governance (ESG) scores of companies within sectors shows that ESG scores were material in differentiating between leaders and laggards across global during this period of severe volatility. If anything, investor interest in sustainable investing strategies accelerated during this period of crisis.

Increasing Access to Sustainable Investing to all investors is therefore key: BlackRock will be expanding its range of active strategies focused on sustainability as an investment outcome, including funds focused on the global energy transition, and impact investing funds that seek to promote positive externalities or limit negative ones.

Global Energy Transition – BlackRock currently manages $50 billion in solutions that support the transition to a low-carbon economy, including an industry-leading renewable power infrastructure business, which invests in the private markets in wind and solar power; green bond funds.

1.3 Investor's fiduciary duty in an inflationary context of soft and hard law developments

The last two decades have seen an impressive spate of soft and hard law developments in the responsible investing space, with the latter inspiring the former in most of the cases. This surge in voluntary initiatives and binding requirements the investment community can take or must meet has been instrumental to the development of various facets of responsible investing.

Both voluntary **(cf. Figure 15)** and regulatory **(cf. Figure 16)** guidelines listed here are not meant to be comprehensive but testimony of the current inflationary context of soft and hard law developments. **Figure 15** is a sample of the existing soft law, which includes, but is not limited to, investment principles and reporting standards investors may inspire from, but also product labels for which applications can be submitted. Likewise, **Figure 16** concentrates on applicable regulations at the EU level, with a sample of national rules from France and UK as well, having direct and indirect implications for the investment community. The present ESG Handbook includes deep dives into some of the existing soft and hard laws, and invites readers to further acquaint themselves (see Chapter 4).

Figure 15: Examples of soft laws

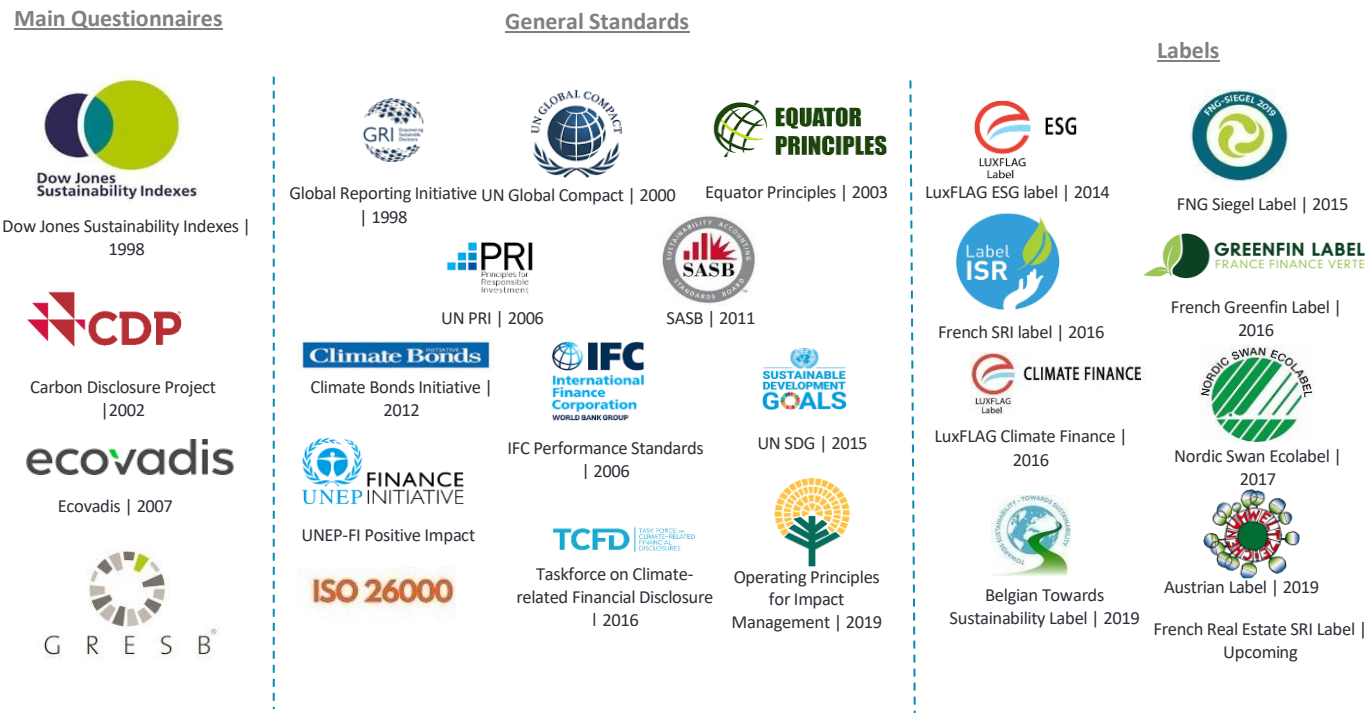
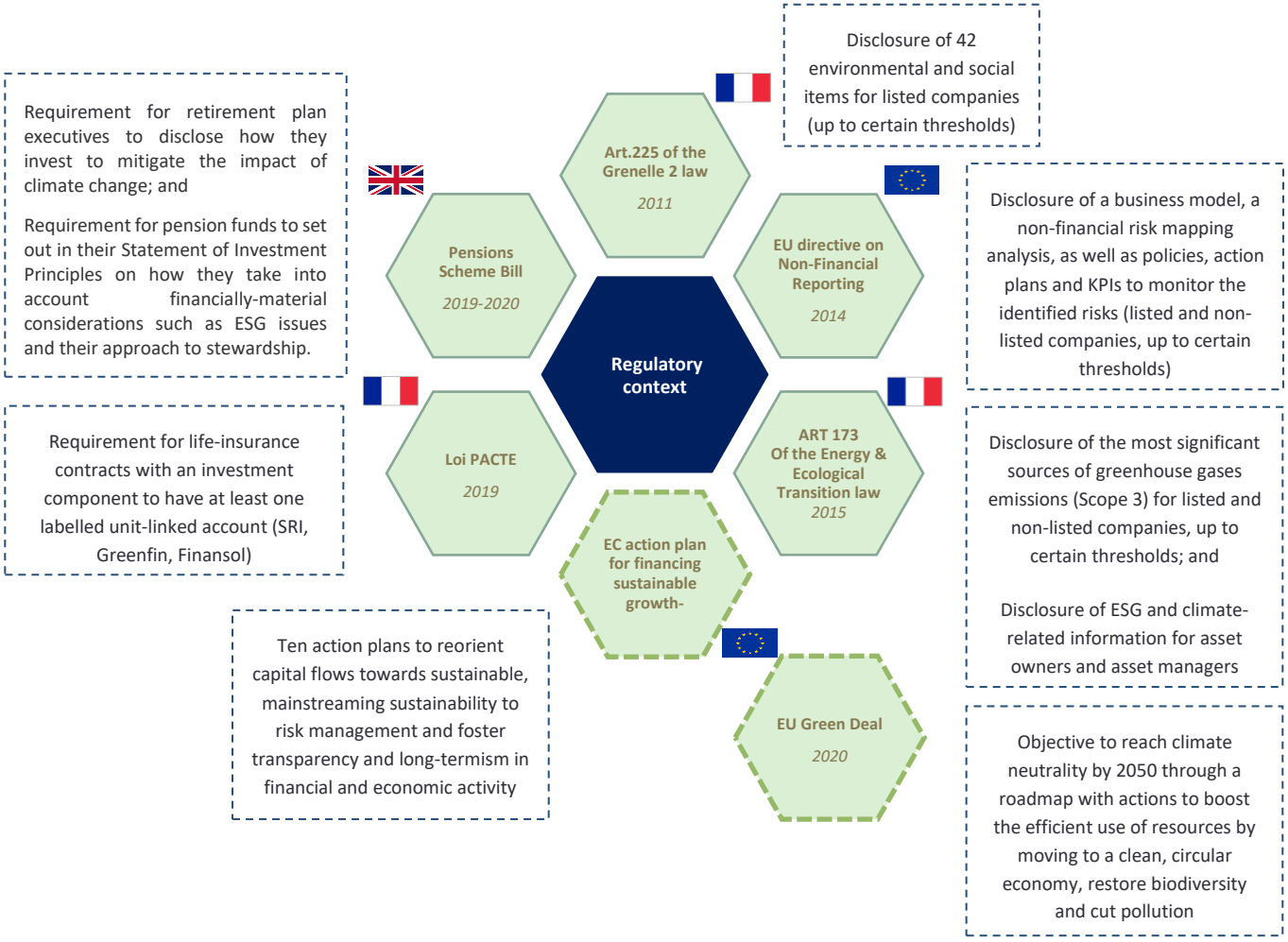


Figure 16: Focus on main applicable regulations



2020 Members Survey

Which main regulatory evolutions are you currently following? How are you integrating the EU Green Deal and EC Action Plan on financing sustainable growth in your activities?

All our European based investors are following and planning to integrate EU taxonomy (GRESB plans to provide reporting on EU Taxonomy eligibility into their reporting in 2020 based on their data) and also studying the EC Action and EU Green deal, as well as their possible national declinations. More global evolutions like the NFRD or TCFD, are also followed.

As a matter of fact, investors have strong vested interests in being actively involved in industry-led initiatives, keeping themselves abreast of market developments and broadening collective intelligence, and contributing to the elaboration of public policies (wherever a stakeholder consultation approach is adopted). As gaps between soft and hard law are meant to be bridged overtime, investors' operational constraints should be considered along the policy making process. While investors and regulators agree on the fact that finance can play a great role in the transition towards a more sustainable economy, they may have different views on the modalities.

As the volume of soft and hard law increases, doubts that ESG consideration is an integral part of investors' fiduciary duty are disappearing regardless of the legal system in place. Originating from the common law system, *fiduciary duty* refers to legal and ethical responsibilities a person's or organization's (i.e. the fiduciary) must bear when acting on behalf of a counterparty (i.e. the beneficiary). From a

traditional perspective, those who manage people's money must:

- Act in the interests of the beneficiaries and do not serve their own interests;
- Demonstrate loyalty, acting in good faith and avoiding conflicts of interests; and
- Show prudence, acting with due care, skill and diligence, and investing as an ordinary prudent person would.

In this respect, pension funds have a fiduciary duty to secure the highest possible returns, regardless of sources, on behalf of their members, contrary to foundations, wealth managers and Private institutions, which can have more flexibility to sacrifice returns for principles. With ESG becoming an investment norm, covering financially material topics, investors, as fiduciaries, are bound to:

- Incorporate ESG issues into investment analysis and decision-making processes, consistent with their investment time horizons;
- Encourage high standards of ESG performance in the companies or other entities in which they invest;
- Understand and incorporate beneficiaries' sustainability-related preferences, regardless of whether these preferences are financially material;
- Support the stability and resilience of the financial system; and
- Report on how they have implemented these commitments.

As an element of common law being derived from custom and judicial precedents (rather than statutes), fiduciary duty is, by essence, not static. Even though there seems to be, in some jurisdictions such as in the United States, a propensity by many pension funds and asset managers towards a purely financial return maximization duty, the extension of the remit of fiduciary duty is increasingly considered globally to be in line with the challenges of our time. In civil law countries, where core principles are codified, the notion of fiduciary duty is usually translated into hard law, thereby avoiding legal frictions and barriers to ESG incorporation.

According to the UN PRI's "Fiduciary duty in the 21st century" final report, the bulk of changes in the law relating to fiduciary duty occurred in the past few years. Between 2016 and 2020, the UN PRI has found over "*730 hard and soft-law policy revisions, across some 500 policy instruments, that support, encourage or require investors to consider long-term value drivers, including ESG issues*." Ultimately, "*investors that fail to incorporate ESG issues are failing their fiduciary duties and are increasingly likely to be subject to legal challenge.*"

Chances are that investors will no longer be required to "comply or explain" in a foreseeable future. However, to further accentuate the positive momentum on ESG, investors may need more than stronger legislative requirements, but incentives such as reduction in capital charges on infrastructure investments that integrate ESG considerations.

The View from our members: First Sentier Investors

A strong rationale behind ESG integration in infrastructure

First Sentier[5] Investors (FSI)

FSI believes that businesses and organizations do not operate in a vacuum. While ESG considerations apply to all, they are particularly relevant to infrastructure businesses due to the:

- Long-term investment horizon and long-life assets;
- Need to deliver stable long-term risk-adjusted returns;
- Role infrastructure companies have in providing essential services; and
- Significant positive impact that well-managed infrastructure companies can have on the environment and on carbon reduction targets.

In addition, infrastructure companies often operate as monopolies or quasi-monopolies and therefore good ESG practice is paramount to the long-term sustainability of the business. ESG compliance is an essential component of what is often described as the 'social license to operate' i.e. the reputation of the company to its customers, the public and other stakeholders, from whom ongoing support and societal acceptance is maintained. For example, the affordability for households of their retail bills for use of necessities such as electricity and water, is front-of-mind for operating utility businesses and the regulators that govern them. This position is repeated across the globe, where those utility companies have operations.

[5] First Sentier, formerly known as Colonial First State Global Asset Management (CFSGAM)

The View from our members: Infravia Capital Partners

A strong rationale behind ESG integration in infrastructure

InfraVia invests in infrastructure assets with a lifecycle spanning several decades, with the objective to deliver stable and long-term returns to investors. InfraVia Capital Partners also invests in and accelerates leading high growth companies supporting the digitalization of infrastructure and the economy.

- Infrastructure assets provide essential services and address environmental issues facing the communities they serve. Infrastructure assets are key to the economic development and critical for the preservation of social inclusion.
- Late stage technology companies contribute to life improvement, efficiency increase and sustainability enhancement by providing communities and corporations with digital solutions that already underpin smart cities, enable energy transition, catalyze better health and promote social inclusion and education.
- Investing in a responsible and sustainable way does not only comply with sustainable development goals, it also increases the lifetime of the assets and their risk resilience.
- By developing a responsible and sustainable investment policy, InfraVia Capital Partners contributes to the creation of long-term profitability, durability and value for its investors, public or private sector partners, entrepreneurs, and the communities involved in the projects.

1.4 Wide adoption of the SDGs and debate around impact

Adopted in 2015 as a shared blueprint for peace and prosperity, the 17 UN SDGs provide a framework to guide global actions, from international cooperation and national governmental policy to corporate strategies and individual behaviors, towards inclusive socioeconomic growth and preservation of the planet. The universality of the UN SDGs allows them to be the common language for actors across countries and sectors to coordinate, measure and demonstrate their contributions to inclusive growth and sustainable development.

Figure 17: The Sustainable Development Goals

Significant discussions have taken place around the 2.5-trillion-dollar annual financing gap in key Sustainable Development Goals sectors[6], in which a key challenge to be solved is how to "scale up" additional private sector investments. With increasing push for sustainability integration in fiduciary duty, the UN SDGs represent for institutional investors and asset managers a widely understood and easily scalable framework to assess and demonstrate the non-financial impacts of their investments. At the same time, as a blueprint for long-term growth, the SDGs encapsulate the macro risks and opportunities that frame the economic conditions in which investments take place. Thus, there are material incentives for long-term investors to embed the UN SDGs in their risk-return framework from both a risk-management and an opportunity-driven perspective. A number of investors have begun to work on integrating SDGs in their ESG reporting framework and KPI.

The Business Sustainable Development Commission estimated that integrating the SDGs in core growth strategies could unlock at least $12 trillion annually in economic opportunities by 2030. The current COVID-19

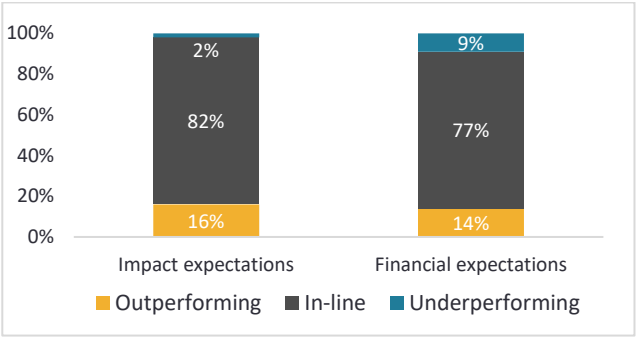
[6] UNCTAD (2018). *Scaling up finance for the Sustainable Development Goals*.

pandemic also sheds light on the importance of managing ESG risks, especially those related to social topics, in the business strategy as well as potential opportunities for investors to direct financing towards solutions to help individuals and businesses cope with difficulties during the crisis and prepare for recovery after the pandemic.

Impact investments are increasingly mainstreamed as investors seek new approaches to give purposes to their investment. Impact investments are also increasingly meeting investors' expectations in terms of both financial and impact returns.

Figure 18: Impact investment performance vs expectation

(Source: Global Impact Investment Survey, 2019)



2020 Members Survey

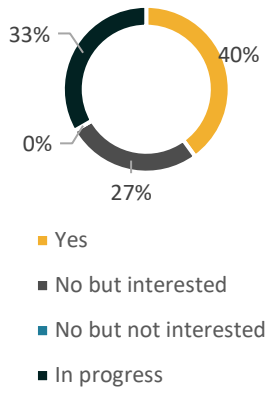
Have you developed an impact strategy?

Respondents are evenly allocated between those who already have, those that are in the process and those that are contemplating it and assessing the best alternatives. Interestingly, no one dismisses the perspective.

Those that already did, often rely on utilizing global impact metrics (e.g. from the PRI, GIIN) as a base to develop an impact scoring process to be used on their projects. Others did so by setting up a specific fund or "Green" compartment, like in 2019, SWEN's Impact Fund for Transition, a direct impact infrastructure fund for green gas energy in Europe, with its dedicated impact methodology (SWEN 's global impact strategy is still being formalized). Among those that do not currently have an impact strategy, some assess the environmental impact of their investments and have developed an Energy Optimization initiative for their portfolio to improve our environmental footprint (CalPERS). InfraVia does not manage impact funds but invest in assets that have sustainable impact strategies, and its approach includes an impact assessment.

Whilst AllianzGI does have an Impact Investing strategy, its Infrastructure Debt strategy does not invest with the explicit purpose of creating ESG impact and does not factor in impact when deciding to pursue an investment.

Figure 19: Have you developed an impact strategy?



The View from our members: STOA

Why did STOA decide to work on the SDGs?

STOA's mandate is to support socio-economic development and to tackle climate change in Africa and other developing countries. Our core goals therefore align closely with several of the SDGs, and the goals themselves provide us with a framework for assessing how we can align environmental and social outcomes more effectively, rather than looking at each issue on a standalone basis.

We focus on targeted investment choices in infrastructure and energy projects: by investing in accessible, functional and clean energy projects in emerging economies, STOA can contribute to positive climate action and create maximum benefits for local communities (as shown in the diagram below). For each investment the organisation defines strategic impact objectives to achieve positive and measurable social and environmental outcomes aligned with the SDGs.

Figure 20: STOA's mandate overview

The View from our members: Meridiam

Meridiam's 2020 impact report and measurement of its contribution to the SDGs

Founded in 2005 and managed by Thierry Déau (also president of Finance for Tomorrow, the arm of Paris-Europlace dedicated to sustainable & green Finance), Meridiam is an independent investment Benefit Corporation under French law and an asset manager. The firm has 8 billion USD of assets under management and 9 offices worldwide. Invested in Europe, the Americas, Africa and the Middle East in three key sectors: mobility of people and goods, energy transition and environment, and social infrastructure, its 7 investment vehicles total $65 billion in capex.

It published its sustainable development charter and its Environmental, Social and Governance (ESG) policy – as per Article 173 of the French law on disclosure. And for the first time, Meridiam is reporting in its 2020 Impact Report, the impact of projects across its entire investment portfolio, using a pioneering and proprietary framework of assessment against Environment, Social and Governance targets and Sustainable Development Goals. The main takeaway is to identify how strongly projects contribute towards certain SDGs and how others could improve their performances in that regard. This will ultimately strengthen Meridiam's role as a long-term infrastructure asset manager and create added value at project levels.

The View from our members: First Sentier Investors

The SDGs: a universally recognized framework

In 2018 we set ourselves the task of evaluating the UN Sustainable Development Goals ("SDGs") to understand what they could bring to each of the businesses within our portfolio. We concluded that we would embrace SDGs, as they provide a universally recognized, best-in-class framework to define, measure and communicate contributions to sustainable development.

In order to drive their adoption throughout our organization we decided on some guiding principles: that we would embrace the SDGs at every step of the way, from 'asset selection' through to 'asset management'; and that we would focus our efforts on actions we can implement, measure and benchmark rather than 'simply' report.

Aligning investments with the UN SDGs goes much further than mapping the investment portfolio with the relevant SDGs. The double materiality of responsible investing, which recognizes both the impact of investment on sustainable development on the one hand and the financial risks-returns of investment that are associated with sustainability topics on the other, necessitates a comprehensive strategy that assesses a spectrum of SDGs-related impacts, from negative to positive. **Figure 21** provides an illustration from Responsible Investment Association Australasia (RIAA) of different levels of ESG integration in investment strategy, and on how it should be integrated in each of these steps to fully meet the impact targets of the investment.

Figure 21: ESG Investment Strategies Matrix, Responsible Investment Association Australasia (RIAA)

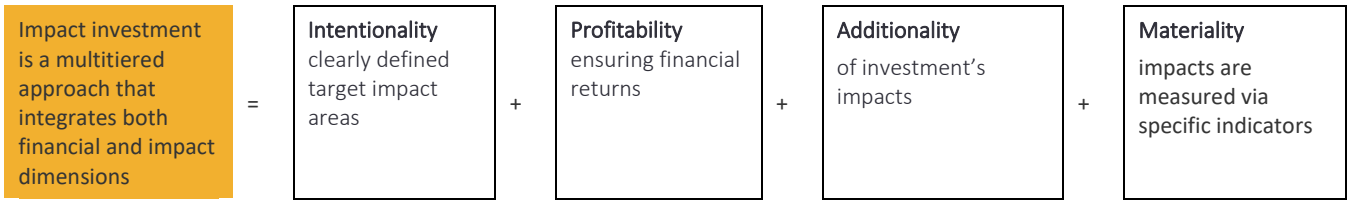
	Traditional Investment	Responsible & Ethical investment						Philanthropy
		ESG Integration (Including shareholder engagement & voting)	**Negative Screening** (& norms based)	**Positive or Best-In-Class Screening** (& norms based)	**Thematic/Sustainability -Themed Investments**	**Impact Investing**		
						Market Rate	**Concessionary Rate**	
FOCUS	Limited or no regard for ESG factors	Consideration & analysis of ESG factors as part of investment decision making	Industry sectors or companies excluded/ divested from to avoid risk or better align with values	Investments that target companies or industries with better ESG Performance	Investments that specifically target sustainability themes, e.g.: clean energy, green property	Investments that target social & environmental impact and deliver market rate financial returns	Investments that target social & environmental impact and deliver below market rate financial returns	Grants that target positive social & environmental impact with no financial return.
Impact Intention	**Agnostic**	**Avoids harm**		**Benefits stakeholders**				
					Contributes to solutions			
Features		**Delivers competitive finanial returns**						
		Manages ESG risks						
				Pursues ESG opportunities				
					Intentionality: delivery of impact central to identifying asset/investment			
					Impact of investment measured & reported			

For impact investors, a variety of frameworks and tools (further presented in Chapter 4) have been and are being developed to support the measurement of and reporting on impacts:

- The Impact Management Project (IMP), which provides an impact analysis framework for corporates and investors to assess and identify the most material and additional impact areas associating with their strategies.
- The UNEP Finance Initiative has published two impact analysis tools to help banks and investors assess the impact status and possibilities of their clients and investees, as well as of their overall portfolios.
- The GIIN (Global Impact Investing Network) has initiated IRIS+, a database of impact indicators that are being used by both companies and investors.
- The IFC's Operating Principles for Impact Management (OPIM) provides investors with eight principles supporting the integration of impact management at all investment phases: strategy, investments (from screening to exit), and ownership phases. A 9th and last principle encourages signatories to have their impact management system to be certified by an independent third-party.
- The SDG Action Manager - https://www.unglobalcompact.org/take-action/sdg-action-manager
- LTIIA will work as part of a high-level 'Brain Trust'[7] with several large professional organizations (including GRESB and PRI, both being members of our Action circle, and the GIIN) to foster the creation of a framework, narrative and benchmark for asset owners to measure impact of infrastructure assets on achieving the UN SDGs.

At the end of the day, impact investment boils down to several key elements:

- *Intentionality*: having targeted impact areas and ESG integration coherent with the investment strategy
- *Financial viability*: ESG topics and targeted impacts are appropriately priced in the risk-return framework
- A*dditionality*: generating impacts that are additional to what would have otherwise happened anyway
- *Materiality:* generating demonstrable impacts with measurable impact KPIs



The Operating principles for Impact Management (OPIM) is a framework that has been developed by the IFC in consultation with a group of asset owners, asset managers, allocators, development banks and financial institutions to evaluate impact management among funds and institutions. The principles have been adopted by **92 signatories (as of March 2020)** since its launch in April 2019.

Adhering to the OPIM requires being aligned with nine (9) Principles supporting the integration of impact management at all investment phases: strategy, investments (from screening to exit), and ownership phases. **The principles require investors to assess, address, monitor and manage potential negative impact of each investment**[8]**. Peer review and feedback is encouraged, and periodic third-party audit is required**. The definition of eligibility criteria for project investment decisions and processes to evaluate impact achievement have also to be integrated in the investment frameworks (see sections 3 and 4 for further details).

[7] Organized by AOAC (Asset Owner Advisory Council)

[8] BlackRock recently brought on board a leading impact investing team and are committing to launching dedicated impact investing solutions, which will be aligned with the World Bank's IFC Operating Principles for Impact Management.

The View from our members: Meridiam

Integrating impact in infrastructure investment

According to Meridiam & ENEA consulting, there has never been a better & more appropriate time to integrate impact into infrastructure investment strategies and operations, so as to create a more resilient economy for communities, and future generations. Among the main highlights:

- Infrastructure is a sustainability and resilience enabler and as such represent interconnected long-term value for the entire stakeholder spectrum.
- huge amounts of capital need to be deployed in new infrastructure and revamping of existing ones, to support the emergence and deployment of a sustainable economy. These new investment needs represent promising opportunities assuming they can deliver attractive risk-adjusted returns, which should be the case as
- . Sustainability matters and risk management have a lot in common when it comes to infrastructure investment and are strategic for investors as they determine the long-term value of these assets. This goes beyond the well-known concept of carbon-intensive stranded assets as even green assets can become stranded if for instance, they do not address adaptation considerations.
- Societal, market and technological shifts now offer a plethora of unprecedented opportunities for asset managers to achieve attractive returns, deploy investments and deliver higher impacts:
- Large asset owners' recent commitments to re-allocate capital to sustainable activities are creating a large demand for sustainable assets. This has led to an oversubscription of green papers as investors anticipate an impact on the long-term value, the cost of capital as well as on the "license to operate" of the underlying assets they invest in.

This is just the beginning of a major evolution, paving the way to a sector-wide transformation, with ESG-SDG impact assessment becoming a mainstream requirement for all infrastructure investment.

Thus, the UN SDGs can be a good starting point for impact investors to identify the most relevant and material themes to which direct their investments. According to the Global Impact Investing Network (GIIN)'s 2019 survey[9], the SDG themes that are currently most targeted by impact investors are:

- SDG 1 (No poverty);
- SDG 3 (Good health and well-being);
- SDG 7 (Affordable and clean energy);
- SDG 8 (Decent work & economic growth);
- SDG 10 (Reduced inequality);

While SDG 9 is dedicated to Infrastructure, specifically manufacturing infrastructure, the role of quality and accessible infrastructure underlies the achievement of all the 17 SDGs, from industrial facilities and transport infrastructure, to schools, hospitals, electricity installations, water system, and so on.

An estimated $90 trillion will have been invested in global infrastructures between 2016 and 2030, which is not a small amount to raise but can be the opportunity to "leapfrog" polluting and unsustainable infrastructure systems and build robust and resilient installations that are compatible with long-term sustainable growth[10]. To this end, infrastructure investors and asset managers are confronted with similar challenges as other responsible and impact investors:

- How to effectively identify potential opportunities where their investments will make additional impacts;
- How best to price the related ESG and impact risks and opportunities;
- How to demonstrate, measure and monitor positive and negative impacts of their investments in coherence with their strategies. This means SDGs integration should be done both at the overall portfolio strategy level as well as during the whole investment cycle, from pre-investment due diligence to post-deal management, stakeholder engagement, reporting, exit due diligence.

[9] GIIN (2019). *Annual Impact Investor Survey*.

[10] ODI (2016). *Sustainable infrastructure the only way to meet SDGs and climate targets*.

1.5 Climate change as a global threat to financial stability and humanity

After decades of unrelenting warnings from scientists of the Inter Panel on Climate Change (IPCC), there is now a broad consensus over the adverse impact of human-linked activities on our planet and the need to take up this crucial challenge before it is too late. Mankind has its back to the wall and collectively needs to do far more, as climate change is no longer just about statistics, forecasts, curves, charts and graphs, but an inconvenient and now visible truth. The consequences, will affect us all, including the have-nots and the haves, developed and developing countries, the whole spectrum of economic agents, the fauna and the flora, etc.

While the 1997 Kyoto Protocol had limited effect, hopes have been revived with the milestone 2015 Paris Agreement, which has set a global objective to hold the increase in the global average temperature to well below 2°C above pre-industrial levels (and pursue efforts to limit the temperature increase to 1.5°C). Political will and actions from all groups of society will be crucial, as most of the carbon credit available over the 15-year horizon has already been used up or committed as at 2020. Beyond the "usual suspects", such as NGOs and civil movements led by younger generations, the financial sector, alongside policy makers, has also decided to grab the mantle, as climate change progressively translates into tangible threats for the economy, putting at risk the stability of the whole financial system. Since the now-famous speech given by the Governor of the Bank of England and Chairman of the Financial Stability Board[11], Mark Carney in September 2015: "Breaking the Tragedy of the Horizon – climate change and financial stability", much water has flowed under the bridge:

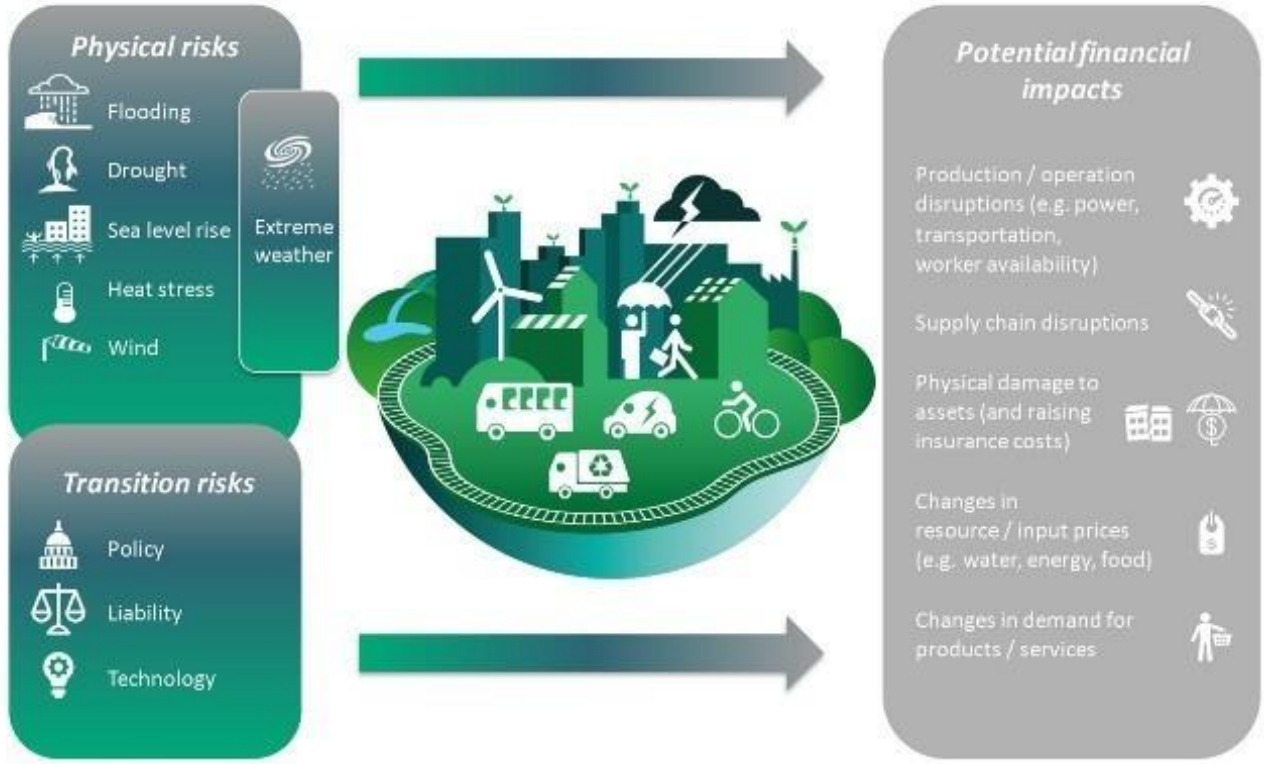
- The financial industry agreed on common definitions and categories of climate-related risks, elaborated by the *Financial Stability Board's Task Force on Financial-related Disclosure (TCFD)* in 2016 **(cf. Figure 22)**. Linking physical and transition risks with financial impacts, there is now broad understanding that climate change will unshakingly lead to higher insurance losses, asset depreciations, physical damages or even destructions, changes in resource and input prices, business and supply chain disruptions, etc. **(cf. Figure 23)**. Quoting Børge Brende, President of the World Economic Forum: *"It is no longer about the cost of action, but about the cost of inaction, which is far greater."*
- *Climate Action 100+,* an investor initiative, coordinated by five partner organizations (Asia Investor Group on Climate Change; Ceres; Investor Group on Climate Change; Institutional Investors Group on Climate Change and Principles for Responsible Investment) was launched in December 2017 at the One Planet Summit to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. Two years later, more than 450 investors with more than USD $40 trillion in assets under management have signed on to the initiative. Blackrock, the world's largest investment, with USD $7.4 trillion of asset under management (as of end of 2019), joined the initiative in 2020.
- In March 2018, the European Commission, launched an ambitious and multifaceted *Action Plan for Financing Sustainable Growth*, which now forms one of the four building blocks of the wider EU Sustainability Policy, also known as the EU Green New Deal. The latter revised upwards the EU 2030 objectives to reduce greenhouse gases emissions by 40% from 1990 levels, reach a 27% share of energy coming from renewable sources, and improve energy efficiency by 30%. Henceforth, sustainable finance is a key tool to meet a longer-term goal to achieve carbon neutrality by 2050. According to the DG FISMA, 175 to 290 billion euros of investments will be needed every year to meet the objectives of the Paris agreement. Chapter 4, section 1.5, provides further descriptions of both the EC Action Plan and the EU Green New deal.
- In January 2019, the Michael Bloomberg-led *Climate Finance Leadership Initiative (CFLI)* gathered 6 influential financial sector CEOs from AXA, HSBC, Macquarie, Goldman Sachs, Enel and Japan's government pension fund (GPIF), formed at the request of UN Secretary-General, António Guterres, to raise private capital towards tackling climate change.

[11] https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A

Figure 22: Categorization of climate risks, I4CE, adapted from TCFD (2016)

Transition Risks		Physical Risks
Policy and legal	**Markets**	**Acute**
▪ Increased pricing of GHG emissions ▪ Enhanced emissions-reporting obligations ▪ Mandates on and regulation of existing products and services ▪ Exposure to litigation	▪ Changing customer behavior ▪ Uncertainty in market signals ▪ Increased cost of raw materials	▪ Increase severity of extreme weather events such as cyclones and floods *(causing damages on facilities, reduction or disruption in production capacity…)*
Technology	**Reputation**	**Chronic**
▪ Substitution of existing products and services with lower emissions options ▪ Unsuccessful investment in new technologies ▪ Upfront costs to transition to lower emissions technology	▪ Shift in consumer preferences ▪ Stigmatization of sector ▪ Increased stakeholder concern or negative stakeholder feedback	▪ Changes in precipitation patterns and extreme variability in weather patterns ▪ Rising mean temperatures ▪ Rising sea levels *(causing damages on facilities, increased operating costs, impacts to workforce management and planning, etc.)*

Figure 23: Linking physical and transition risks to potential financial impacts, Climate Finance Advisors (2019)



- In September 2019, an *asset owner alliance committee to carbon neutral (AOAC*) portfolios by 2050 was unveiled at the UN Climate Summit in New York. The initiative is said to be the first from the finance sector to explicitly aim to meet the Paris Agreement's tougher target of keeping global warming to 1.5 degrees Celsius. The same month, several Danish pension funds announced a green transition pledge and committed to invest an additional 47 billion euros until 2030 to support the green transition.
- In November 2019, the European Investment Bank announced its decision to no longer invest in fossil fuel projects.
- In July 2019, French President Emmanuel Macron convened at the Elysée 8 investment managers accounting together for USD $15 trillion of assets under management (Blackrock, Amundi, Goldman Sachs, BNPP, HSBC, Natixis, State street & Northern trust) to form the "*One Planet Sovereign Wealth Fund*" coalition and support the financing of the eponymous fund (launched in 2018).
- Sustainable finance labels were developed across Europe over the last years, providing investors with further market incentives to incorporate ESG and climate-related criteria in their operations and decisions. Meanwhile, an *EU Ecolabel for Financial Products*, targeting at retail investors, is being developed and expected by Spring 2021 as part of Action 2 of the EC Action Plan, with the ambitious objective to further reorient capital towards green and sustainable investments. Further descriptions can be found in Chapter 4, section 1.5.
- Since 2017 and France's decision to impose ESG and climate-related reporting requirements upon both asset owners and asset managers, several countries such as the UK (e.g. pension funds) have followed suit. Further reporting requirements are expected at the EU level with the EU Disclosure Regulation.

The above climate-related initiatives, soft and hard laws, are not meant to be comprehensive, yet they indicate that the fight against climate change is a deep-rooted trend that contributes to the mainstreaming of sustainable investing. According to the *Climate Policy Initiative (CPI)* Global Landscape of Climate Finance 2019 study[12], annual tracked climate finance in 2017 and 2018 crossed the USD half-trillion mark for the first time, with a record high of USD 612 billion in 2017, driven particularly by renewable energy capacity additions in China, the U.S., and India, as well as increased public commitments to land use and energy efficiency **(cf. Figure 24).** According to the study, however, action still falls far short of what is needed under a 1.5 ˚C scenario. Estimates of the investment required to achieve the low-carbon transition range from $1.6 trillion to $3.8 trillion annually between 2016 and 2050, for supply-side energy system investments alone (IPCC 2018), while the Global Commission on Adaptation (GCA 2019) estimates adaptation costs of $180 billion annually from 2020 to 2030. While it is crucial to scale up climate finance, new fossil fuel investments must be drastically reduced, and existing investments that lock in high-carbon emission pathways and lead to potential stranded assets, such as fossil fuel power generation and supply infrastructure, must be phased out (**Cf. Figure 25**). In this context, CPI recommends that scarce public and other concessional financial resources must be used in a more transformative way. This will require unprecedented collaboration between governments, regulators, development banks, and private investors to align all financing with climate and sustainable development goals (SDGs), to identify the business models that can best enable private investment at scale.

Figure 24: Total Global Climate Flows (2013-2018), Climate Policy Initiative

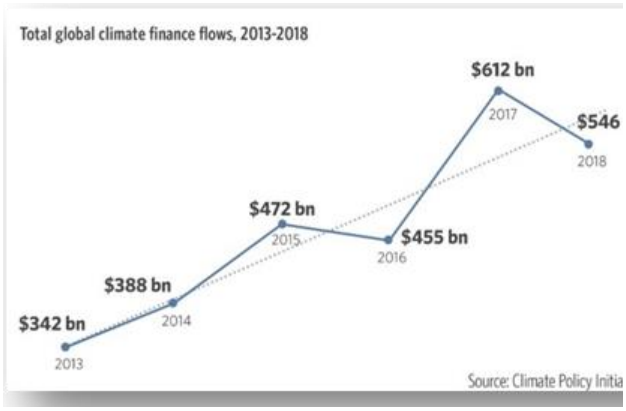
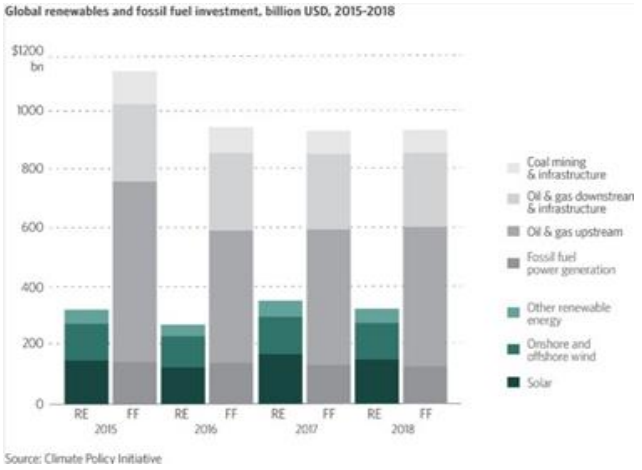


Figure 25: Global renewables and fossil fuel investment in billion USD (2015 – 2018), Climate Policy Initiative



[12] https://climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/

The View from our members: First Sentier Investors

On Climate Change

Environmental legislation and regulation

Legislation and other policy measures to curb emissions are being introduced around the world to curb emissions and have accelerated in recent years. Since 1997, there has been a 20x increase in the number of climate change laws and policies. By the end of 2017, there were over 1,200 climate change laws and policies across 140 countries, at global, national, state, local and sectoral levels. Most major economies have started regulating carbon and related issues like air pollution. Many approaches have been undertaken with mixed success. Policy responses include: Carbon pricing (emissions trading or direct taxes); Emissions standards (carbon and other related pollutants e.g. mercury, particulate matter, etc.); Energy efficiency and renewable energy incentives (renewable energy targets, feed-in tariffs, direct subsides) and Forest and farming programs. Other initiatives including removal of fossil fuel subsidies, disclosure requirements and changes to approval processes. Countries that are not providing investment and business certainty through low-carbon regulatory frameworks may be placing their domestic businesses and economies at a competitive disadvantage by perpetuating regulatory uncertainty.

Climate Change is a material and foreseeable business and investment risk

The view that climate change effects may have a direct impact on business performance is nothing new. The SEC Commission Guidance on this topic is a decade old: *"Legal, technological, political and scientific developments regarding climate change may create new opportunities or risks for registrants. These developments may create demand for new products or services, or decrease demand for existing products or services (…) These business trends or risks may be required to be disclosed as risk factors or in MD&A."* (SEC Commission Guidance Regarding Disclosure Related to Climate Change, 2010.

Recent legal opinions on director and fiduciary duties in relation to climate change view these risks as not only potentially material but also "foreseeable". This view is supported by factors including:

- The increasing certainty of climate science as expressed through the Intergovernmental Panel on Climate Change process and various other reports from diverse and reputable institutions;
- The physical impacts from extreme weather and other more chronic impacts which are increasingly and more confidently being linked to climate change; and
- The Paris Climate Change Agreement which sets clear goals to limit global warning to "well-below 2°C" approaching 1.5°C, which as at 25 June 2019 had been ratified by 185 countries.

"Not a hipster beard in sight"

Critically the foreseeability of the risks makes them inappropriate to ignore. Where the issue is then found to be material other actions become warranted. It is the process of assessing and determining the materiality and appropriate responses to risks which sit at the heart of discharging the director duty of due care and diligence:

- Regulator statements also point to the foreseeability of climate risks. In Australia, the Australian Prudential Regulation Authority ('APRA'), the Australian Securities and Investments Commission ('ASIC') and the Reserve Bank of Australia ('RBA') have all made increasingly strong statements over the last 2 years. *"When a central bank, a prudential regulator and a conduct regulator, with barely a hipster beard or hemp shirt between them, start warning that climate change is a financial risk, it is clear that position is now orthodox economic thinking."* - (Geoff Summerhayes, APRA)
- In the UK, financial regulators released a joint statement on 2 July 2019 stating: "Climate change is one of the defining issues of our time. We recognize it presents far-reaching financial risks relevant to our mandates from both physical factors, such as extreme weather events, and transition risks that can arise from the process of adjustment to a carbon neutral economy. Companies should consider the likely consequence of climate change on their business decisions, in addition to meeting their responsibility to consider the company's impact on the environment. Financial risks will be minimized by achieving an orderly transition and via a collective response." – (Joint statement by the Bank of England, Financial Conduct Authority, FRS and the Pensions Regulator)

In October 2016, Australian barrister Noel Hutley SC released a memorandum of opinion, on behalf of Minter Ellison, titled 'Climate Change and Directors' Duties'. The key findings of the opinion included:

- Climate change risks would be regarded as foreseeable by courts, and relevant to a director's duty of care and diligence to the extent that those risks intersect with the interests of the company. For example, by presenting corporate opportunity or risks to the company or its business model.
- Company directors are not legally restricted from considering climate change and related economic, environmental and social sustainability risks, where those risks are, or may be, material to the interests of the company.
- Company directors certainly can, and in some cases, should be considering the impact of climate change risks on their company – and those directors who fail to do so at the current time could be found liable for breaching their duty of care and diligence in the future.

In 2019, Mr. Hutley updated his opinion stating that since 2016 *"these matters elevate the standard of care that will be expected of a reasonable director."* He attributes the escalation to five factors: coordinated regulator action, changes to financial reporting requirements, investor and community pressure, developments in the science and finally developments following litigation. In Hutley's view, *"it is likely*

to be only a matter of time before we see litigation against a director who has failed to perceive, disclose or take steps in relation to a foreseeable climate-related risk that can be demonstrated to have caused harm to a company."

As predicted, we are now seeing such action, and internationally it has been underway for some time. A recent report by the Grantham Institute has found more than 1,300 cases around the world. While the majority remain against governments, an increasing number are against companies. In Australia, there is currently a high-profile legal action brought by a member against his superannuation fund that focuses on the fund's management of climate related risks.

1.6 Generational paradigm shift

Increasing adoption of ESG is also driven by the general changing attitudes towards sustainable development, and in particular the younger generations' stronger appetite for sustainable investment products. Sustainability considerations are quickly becoming an emblem of millennials (people born between the early 80s and late 90s), who have been voicing out and calling political and business leaders to fulfill their duties towards society and the environment. It is no coincidence that one of the figureheads in the fight against climate change is a young Swedish student, Greta Thunberg, who was also voted as the 2019 Time's Person of the Year.

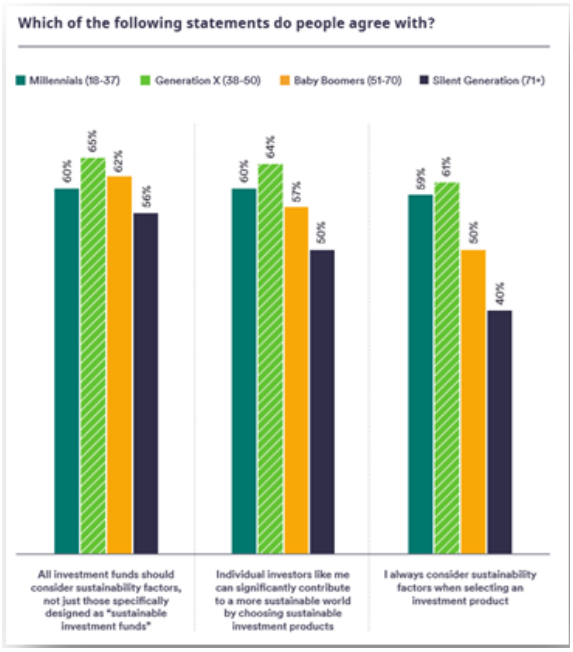
Beyond collective activism, millennials are also exerting their influence through making conscious lifestyle and career choices that give priority to sustainability and ethics. According to the World Economic Forum's 2017 Global Shapers survey, "sense of purpose and impact on society" is the second criterion young people deem most important when choosing a career opportunity.

Thus, it is no surprise that millennial investors are much more likely to prefer investment products that demonstrate their contributions towards sustainable development over so-called traditional investment products that emphasize financial returns. As millennial investors enter their prime earning years, they are expected to propel growing demands for investment products with both profits and purpose. A FactSet study showed that 90% of millennials wanted to direct their finances toward responsible investments in the next five years [13]. Likewise, the US Trusts found that 67% of millennials believed investments were a way to express social, political and environmental value[14]. It is noteworthy, hence, that preference for sustainable investment, more than a signal of investors' changing attitude, is also reflecting a much more profound shift in what investments represent for investors: from a financial device to an expression of personal values and convictions.

What is considered as a generational paradigm shift in investment preferences might also initiate momentum for a larger paradigm shift in business models and management styles. According to a Schroders survey of 2019 **(Cf. Figure 26)**, most people believe that their individual investment choices can have an impact on building a more sustainable future and that all investment funds, not only specific responsible investments, should integrate sustainability factors in the investment processes. The study also found that preference for responsible investment is not only specific to millennial investors but has become a shared sentiment across different generations of investors.

On the other hand, challenges remain in capitalizing on this strong momentum to turn responsible investment preferences into mainstream responsible investment practices. The supply for responsible financial products, while constantly increasing, is still found to lag behind the assumed demand, particularly in Infrastructure.

Figure 26: Importance of sustainability by investors' age, Schroders



[13] FactSet (2017). "*Vision for the Wealth Management Industry in the Information Age*".

[14] US Trusts (2014). *"Insights on Wealth and Worth"*.

2 ESG Factors in infrastructure

Investing in infrastructure carries specific challenges and opportunities with respect to ESG matters. Not having a systematic and specific approach to ESG for infrastructure may lead to significant blind spots which would ultimately hurt performance over the long run and create damaging reputational issues. The lack of widely accepted quality standards in infrastructure design and delivery can reduce resilience to E&S risks and affect investment outcomes, yet it should not be a smokescreen for inaction.

Several parameters are specific to infrastructure and call for the appropriate level of granularity when considering ESG factors. The most critical parameters include location, type and nature of infrastructure, stage of investment, and expectations from stakeholders.

- The **location** of the infrastructure asset, whether in developed/OECD or emerging/frontier markets, entails different types of country risks. While infrastructure quality and availability are prerequisites to countries' economic and social development, investors may find themselves bogged down into unanticipated and complex local situations. The lack of political stability, weak political institutions, high levels of counterparty default risk, evolving or frail legislative landscapes, poor understanding of cultural practices and low acceptance by local communities, are examples of project killers or poison pills with lasting side effects. ESG and credit sovereign analyses, supplemented by the investor's knowledge of the location of the infrastructure asset, are therefore crucial. They often indicate that a thin layer separates risks from opportunities.
- The **type and nature** of the infrastructure asset is of utmost importance at a time when policy makers seek to clarify through classification systems – or taxonomies – activities that may be deemed green and socially and governance-wise acceptable. The European Commission is finalizing an *EU-wide green taxonomy* as part of its *Sustainable Finance Action Plan*, which will become pivotal is reorienting capital flows in Europe, and potentially beyond, towards sustainable development. This clearly shows a strong political will to achieve a fair transition towards a more sustainable economy. While taxonomies are voluntary and, usually binary, they clearly hint at the need for investors to phase out from, not invest in, or instead favor certain assets. Taxonomies will keep on profoundly changing the faces of sustainable finance, for instance through the development of product-level labels (ongoing development of the EU Ecolabel for Financial Products), change in green bonds issuance requirements (ongoing development of the EU Green Bonds Standards) or evolving asset allocation strategies. Ultimately, investment committees, through clear exclusion policies, shall adequately set the bar, bearing in mind that certain types of infrastructure assets are less socially acceptable.

The View from our members: Allianz Global Investors

Getting around country risks in infrastructure investments

It is important to assess whether the country where the project is domiciled has good governance and strong institutions. For example, when it comes to infrastructure deals in Latin America, good governance favors working in six countries in the region that have investment-grade credit ratings: Chile, Peru, Mexico, Colombia, Uruguay and Panama. Governance can be further helped by investing in infrastructure projects open and transparent procurement processes.

Since the nature of fixed-income infrastructure as an asset class suggests that many projects will be domiciled in emerging markets, adhering to the highest standards of sustainability is especially important. These deals can produce higher potential investment returns than projects with comparable credit ratings in the US, they historically have had relatively low defaults and they also add an ESG benefit to the portfolio. As such, getting sustainability right is more than just doing good: these days, it is good business too.

- The large number of **stakeholders**, whose expectations need to be identified and addressed, is another specificity of infrastructure projects. Managing only the expectations of the public grantor and the end users is not enough to ensure long-term success of the project. Approaches should go beyond information dissemination and become more participative to proactively engage with communities in the whole project's lifecycle activities. While detailed ESG due diligence and the definition and implementation of a bespoke roadmap are conducive to mitigate identified risks, these are not fail-proof:

controversies and complaints may always arise anytime during the lifecycle of the infrastructure. At the end of the day, an infrastructure investment needs more than just a laudable purpose from the onset, but also permanent attention and care, as the positive and negative socioeconomic impacts of an infrastructure asset on its stakeholders can be substantial. Delivering key essential services for the community, in a sustainable, affordable way and with local content is probably the best mitigator against political and economic risks affecting any investment.

- The **stage** of the infrastructure project, i.e. brownfield, yellowfield or greenfield, also determines how risky an investment is. It is both easier and more cost-effective to incorporate environmental considerations (whether mitigation, adaptation or resilience) upfront, at the design stage, than at a later stage of a project's lifecycle. Considering ESG issues at the earliest possible stage of the investment process would allow to:
  - Identify red flags and adjust the pricing model of the investment;
  - Adjust the design of the infrastructure to integrate local constraints and increase social acceptance of the project;
  - Include ESG requirements in the investment agreement and agree on a bespoke roadmap;
  - Identify potential areas for value creation.

All things considered, there is no such thing as a "one-size-fits-all" approach, but key ESG vantage points to consider, ESG standards and tools to pick from, market practices to inspire from, on a case-by-case basis. The challenge lies in finding the adequate balance between the E, S and G criteria considered, leaving aside unconscious biases stemming from current topicality. Overall, of the relevance, quality and depth of ESG integration into the investment process will depend on the ability of an investor to uncover risks and opportunities. This section provides an overview of commonplace E, S and G considerations to ponder over, while illustrating case studies highlighting the idea that granularity is key.

2.1 Environmental considerations

Historically, much attention has been drawn to the 'Environmental dimension of ESG' by shareholders, investors and investment managers while considering ESG factors in the investment lifecycle. As presented by Richard Mattison, CEO of Trucost, "companies' awareness and engagement with climate and environmental issues seems to be increasing rapidly". With a raising awareness about the unfolding impact of climate change on our environment, and the several extreme climate events threatening to affect economic growth, many European initiatives have emerged, exemplified by the EU Green New Deal and other regional initiatives (§4.4.1 of this Handbook).

Within the ESG approach to assess a company's overall performance, the Environmental factor focuses on how a company performs as a "steward" of nature. As such, environmental criteria tend to evaluate impacts that business activities have directly on natural resources, indirectly on human health, and the company's efforts to reduce carbon emissions and meet the carbon neutrality objective.

In the context of infrastructure investment and across all phases of the project (from the development to the decommissioning phase), infrastructure assets will face several external (originated outside the asset) and internal (inherent to the asset) environmental factors. In this section of the Handbook, the environmental impacts stemming from infrastructure projects will be presented according to the following categories:

- Climate change
- Natural resources and biodiversity
- Energy efficiency
- Degradation and pollution
- Circular economy

2.1.1 Climate change

Climate change is playing a significant role in shaping the future of our economy as global warming is more tangible today through a series of extreme weather events such as floods, melting glaciers and droughts episodes and the rise of the Earth's average surface temperature. As such, both transition and physical climate risks are already impacting investors' decisions, which are increasingly considering the assets stranding effect. Constant evolving regulations in key countries and regions such as the US, China and the EU, carbon pricing policies and social norms pressure (e.g. fossil fuel divestment) have sparked the emergence of stranded assets. Defined as unsustainable assets due to evolving regulatory environmental norms, suffering from unanticipated or premature write-off, potential devaluation and converted to liabilities, stranded assets are a strong proof of environment-related risks' effects on the asset's lifecycle. The most relevant examples are coal powerplants and coal mines stranded by the low carbon transition.

On the other side, although physical risks associated with climate change are still underestimated, those risks, stemming from the environment (flooding, droughts, sea level rise, heat stress and extreme wind episodes), are more likely to increase in the upcoming years and are driving investors to factor them for both immediate and long-term effects on infrastructure projects.

The January 2019 bankruptcy of San Francisco-based Pacific Gas & Electric Company, PG&E, marked a business milestone: the first case of *climate-change bankruptcy*. The company announced on January 14, 2019, that it was filing for Chapter 11 protection by month end, in response to the financial challenges associated with the catastrophic wildfires that it was liable for in Northern California that occurred in 2017 and 2018. Citing then an estimated $30 billion in liabilities (roughly triple its market value of $9.12 billion) and 750 lawsuits, the financial (of which insurance costs and pecuniary sanctions), legal and reputational spillovers from this controversy were still visible as this Handbook is being written, including a profound overhaul of PG&E's governance structure and composition. Interestingly, long before the 2019 bankruptcy, PG&E's equipment had already been frequently the cause of major wildfires in California: The Wall Street Journal, in an article published in end of 2019, indicated that the utility company was "wired to fail". Going further, and judging by its aggregate ESG ratings, PG&E was doing just fine and did not flash many warnings. The utility company was even supplying in 2017 an 80% share of its mix from GHG-free sources (renewables, nuclear and hydropower), meeting, ahead of schedule, California's 2020 goal of 33% of electricity coming from renewables. In short, the case of PG&E should be a wake-up call for all. While it has raised more questions than answers, lessons can be learned:

- Adaptation and mitigation of climate risks are key.
- Climate risks already have material and lasting impacts on businesses.
- There is no such thing as a one-size-fits-all approach to ESG, and ticking the box doesn't suffice.
- E, S and G considerations are closely intertwined, and none should be neglected at the expense of the other.
- There is a case for active ESG investing, i.e. building proprietary views on investees and putting a strong emphasis on engagement.

The View from our members: LBPAM, Meridiam, Carbone 4, and others

Marketplace 2°C Alignment Tool Development

Several members from LTIIA, including Meridiam and LBPAM are co-developing, with other investors and Carbone 4, a methodology to measure the alignment of infrastructure portfolios with a 2°C trajectory and the associated climate risks (physical and transition risks). The methodology will reach full maturity by the end of 2020 and allow users to measure the alignment of their various funds with a 2°C trajectory, further reinforcing their ability to anticipate climate-related risks for their projects and funds.

The View from our members: S&P and Carbone 4

Impact of physical and transition risks: the case of Airports, by Standard and Poor's & Carbone4

Carbone 4 feedback:

In the actual context and as the COVID-19 death toll continues to rise worldwide, societies keep questioning what could have been done by governments to better prepare for this pandemic. Billions of people around the world have experienced lockdown measures and travel restrictions. Although these restrictions have sent the financial markets into a free fall, satellite observations have recorded an increase in air quality and a sharp fall of pollution levels around the world.

One of the industries suffering due to the COVID-19 pandemic is the one mainly responsible for spreading it at a larger scale. Consequently, environmental movements such as "the flight shame" have gain momentum in this particular context and are stirring up an urgency to rethink our use of this transportation mode. The movement was spurred on by the teenage activist Greta Thunberg to criticize the growing footprint of the aviation industry as air travel accounts for about 2.5 percent of global carbon dioxide emissions.

Before the COVID crisis, Airports were very highly prized assets among infrastructure funds. The aviation industry undeniably boasts attractive levels of growth, with global traffic doubling every 15 years. But such assets could also be prime candidates to fall victim to the stranded asset phenomenon at some point in the future, the Heathrow airport extension rejection by an appeal court judge on climate change grounds, being one of the most recent examples (and pandemic-induced lockdown being another). The aviation industry actually embodies many of the issues associated with climate change. Indeed, the savings made as a result of energy efficiency (around 1% a year according to the ICAO) and the potential for introducing biofuel replacements will be nowhere near sufficient to offset the 5% annual increase in traffic in order to be compatible with the Paris Agreement. This being the case, it is vital that this growth in traffic levels also decreases if the industry's decarbonization targets are to be met. The IEA's 2Ds scenario

compatible with limiting global warming to 2°C anticipates a circa 2.6% p.a. growth in traffic (1.2% p.a. in the EU), as opposed to the current rate of 4.7%. With assumed energy efficiency savings twice as ambitious as those stated by the ICAO, and a very optimistic level of biofuel penetration to boot, it could be argued that the levels of growth suggested by the IEA are, in fact, on the high side to ensure that industry practices can continue despite climate pressure.

Thus, the challenge to comply with the Paris Agreement whilst at the same time have an emissions potential that exceeds the carbon budget available will unavoidably lead to the emergence of stranded assets. That said, if emissions are not limited, the latter will inevitably emerge as consequences of a rapid rate of global warming, which will in turn lead to increasing levels of damage where physical assets, such as networks, ports, power stations, etc., included in infrastructure asset portfolios are concerned. Stranded assets can therefore come about because of both transition risks and physical risks. Ultimately, whilst some assets will suddenly need to be shut down, a very large number of infrastructure assets could experience a loss in value or profitability because of climate, or more broadly environmental risks. What we are dealing with here is a continuum of risk with financial consequences that will vary in severity depending on the asset in question.

S&P feedback:

Environmental risks for airports are average, as the bulk of exposure is indirectly stemming from airlines which are at long-term risk of rising costs to meet emissions regulation. Still, airports are directly exposed because of climate change impacts on their current and future infrastructure. Extreme weather events, insurable or not, can disrupt airport operations causing delays, rerouting, and cancelations and affect financial performance. Albeit the disruptions tend to be short term, the severity and frequency of weather events seems to be increasing. A more structural risk with prolonged impact is the rise of sea levels, as this may affect many airport facilities located near coasts

Airports own exposure to regulation affecting greenhouse gas emission is limited, as their operational and energy production, and aircraft landing and take-off cycle together correspond to about 2% of total emissions in the aviation sector.

Land use (environmental permits and studies, adverse impact on biodiversity) can be a key risk factor for expansions, extensions, and new developments.

As homes to airlines, airports also need to consider air quality (e.g. sulfur and nitrogen oxides, and particulate matters) in the operational and surrounding area. An airport's environmental exposure also extends to the substantial road traffic it attracts (and now, pandemic-induced lockdown).

Regarding airports, it is interesting to note a ground-breaking milestone, in February 2020, with the decision from the London Court of Appeal (UK Supreme Court) ruling that the British government's decision to expand Heathrow (1st European airport and 7th worldwide) was "unlawful", on climate change grounds. The judgment, which sets a key legal precedent, said the government had wrongly ignored its international climate change commitments under the Paris Agreement. This court decision, the first ever to refer to the Paris accord to determine the legality of a national investment decision, has vital wider implications for keeping climate change at the heart of all planning decisions.

2.1.2 Natural resources

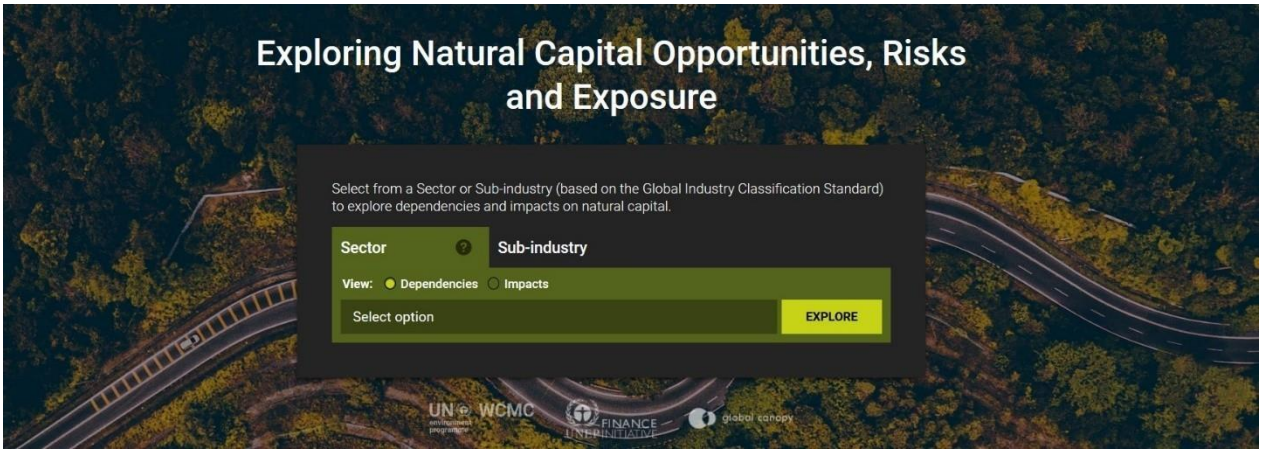
Expected public and private investment of $90 trillion in major projects between now and 2030 will double the amount of infrastructure projects globally and will have undoubtedly significant impacts on natural systems, habitat and biodiversity. Infrastructure projects related to natural resource exploitation, such as dams, windfarms and solar PV panels, can cause major disruptions on the project's land perimeter and on the surrounding areas if inherent risks aren't assessed at early stages of the project. Land use and water management are the main factors to evaluate natural resources exposure through infrastructure projects development:

- **Land use and biodiversity:** Infrastructure projects can have induced impacts on biodiversity and ecosystem services as construction projects open-up previously inaccessible areas to human activity. Thus, many tools have been developed to help investors and financial institutions identify biodiversity-related risks and dependencies and assess impacts on the natural capital. Tools like ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) developed by the Natural Capital Finance Alliance and the UN Environment and the global biodiversity tool developed by the CDC (the Caisse des Dépôts Group) help investors identify the correlation between environmental degradation and business financial risks.

Bird deflector installed on transmission lines

FOCUS: The ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure) Tool

ENCORE is a web-based and freely accessible tool that helps global banks, investors and insurance firms assess environmental degradation risks and explore natural capital risks. ENCORE is based on current environmental data and covers 167 economic sectors and 21 ecosystem services. The tool also helps financial institutions identify projects material dependencies on nature and their impacts on business profitability.



FOCUS: The Caisse des Dépôts et Consignations (CDC) Biodiversity Score

Built to support and measure the companies and financial institutions commitment in favor of biodiversity, the CDC Global Biodiversity Score (GBS) assesses the impacts of business activities and scores biodiversity footprint through a single reference indicator along their value chain. The tool was developed with the support of 30 companies and financial institutions that are members of CDC Biodiversity Business Club (Club B4B+) and with collaboration with academics and Non-Governmental organizations.

- **Water:** Institutional investors usually consider water management issues at the top three of environmental considerations while assessing ESG factors according to the RBC Global Asset Management Responsible Investment Survey, as water pollution and scarcity represent a worldwide economic and environmental threat. In spring 2018, a major developed metropolis, Cape Town, came very close to municipal water failure for the first time in modern history, a crisis labelled "Day Zero" by local officials and brought on by three consecutive years of anemic rainfall. Water-related disclosures on water withdrawals, consumption, discharges and water stress regions are key factors to evaluate long-term risks and opportunities of an investment portfolio. When it comes to understanding water risks, it is important to assess to what extent water issues are material to the investment. Flood protection, clean water and water storage are also natural ecosystem services that can be disrupted during the construction phase and that must be addressed at this phase.

2.1.3 Energy efficiency

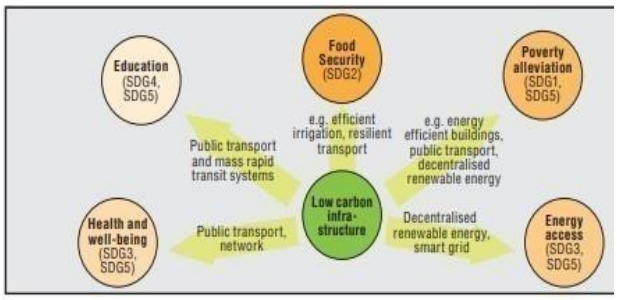
Energy production and use account for an average of two-thirds of all anthropogenic GHG emissions, mainly because of the combustion of fossil fuels (according to the IEA, 2017). Looking through the lens of institutional investors, energy use and greenhouse gas emissions represent material issues in the ESG evaluation process as the asset's position regarding the sector-average carbon intensity is a significant indicator of its overall energy performance.

Thus, by adopting a bottom-up approach, the analysis of the total energy use, and mid- to long-term projection in accordance with the reference scenarios (2°C, below 2°C and 1.5°C scenarios) are topics that need to be addressed to inform investors on projects' energy intensity and GHG emissions. The low-carbon transition will require an unprecedented transformation of the infrastructure system as the sector represents one of the most energy-intensive and difficult-to-decarbonize. Existing energy and transport infrastructure are mostly not aligned with long-term climate risks mitigation strategies as 60% of GHG emissions are linked to existing infrastructure (according to the New Climate Economy Report, (NCE,2016) and Intergovernmental Panel on Climate Change (IPCC, 2014)). The shift is urgent, if we are to meet the Paris agreement.

Such energy efficiency schemes can be combined with social considerations, as illustrated in schemes targeting low income households, thus keeping down overall energy consumption and reducing the need for expensive peak-power.

To achieve such an orientation from the power sector, the business model for utilities will need to change, evolving from energy vendors to energy service providers, the latter including help to consumers seeking to use less energy through improvements in energy efficiency. Utilities will need to shift towards selling 'negawatts' as opposed to 'megawatts', a reversal of their traditional retailing role and one which requires decoupling energy sales from revenues and thus recasting the incentives built into their current business model. This approach is built into the ISO standard 50007.

Figure 27: Low-carbon, Climate-resilient infrastructure and the SDGs



2.1.4 Degradation and pollution

In addition to climate related risks and natural resources preservation, screening potential infrastructure investments involves identifying degradation and pollution factors, as well as assessing waste management strategies to evaluate the asset's environmental impact and better capture mid- and long-term returns for investors.

Diverse impacts can occur in all phases of the project (design, construction, operation/maintenance/use and end of life) and may concern a range of pollution factors (contaminated lands, on and off-site, toxic emissions, air pollution, leakages and oil spills, noise pollution, visual pollution etc.) and waste factors (waste generation, hazardous and non-hazardous waste storage and disposal and waste recycling) to be addressed. Such factors can have concrete impacts on the infrastructure asset's financial valuation, as investors need to evaluate the costs associated with relevant remediation actions.

2.1.5 Circular economy

In the linear economy, raw natural resources are taken, transformed into products and get disposed of. On the other hand, according to the World Economic Forum's definition, "a circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems, and business models."

In a context of resource depletion, the design, construction, operation / maintenance / use and end-of-life phases of an infrastructure project may encapsulate such principles. Integration of sustainable practices and the principles of circular economy upfront, in the design as well as in operation/maintenance phases of infrastructure projects offer multiple benefits. It may:

- Extend their life span;
- Reduce potential liabilities and risks of harming both people and the environment;
- Increase their market and financial valuation;
- Diminish the operational and dismantling costs.

Life-Cycle Assessments (LCAs) can be instrumental to calculate the environmental and social impacts of an infrastructure asset over its lifetime. They may cover:

- The choice and sourcing of raw materials at the design phase that have a lower environmental footprint (e.g. reduced energy, water, volatile organic compounds emissions and material use; use of recyclable / renewable materials; use of conflict-free minerals; use of eco-labelled materials; reduction of hazardous substances and toxic materials; etc.)
- A more sustainable operation and maintenance phase (e.g. reduction and savings of emissions, energy, water and waste; increased durability; increased safety for users and workers; etc.)
- A responsible end of life management (e.g. disposal, recovery, biodegradation, etc.)

The View from our members: First Sentier Investors

Environmental Management of Airports - The case of Brisbane

For First Sentier Investors, Australian airports demonstrate leadership in environmental management, especially regarding climate change. Both Brisbane and Adelaide Airports have multi-faceted approaches to these important issues and share some key characteristics:

- Rated as 'Level 3 – Optimization' in Airports Council International Carbon Accreditation: This accreditation acknowledges not only the efforts being performed by the business itself but also its ability to influence other key stakeholders (e.g. tenant businesses) in positive climate outcomes.
- Significant investment in embedded solar PV as part of the business overall energy management and emissions reduction strategy: The roof of an airport may be an ideal candidate for solar PV installations, with thousands of square meters of unimpeded roof space available for solar harvesting. These programs have a proven business case for diversifying the energy supply, reducing energy costs, as well as achieving meaningful emissions reductions.
- **Supporting the protection of flora and fauna with dedicated biodiversity or conservation zones:** With airports occupying large land areas and subject to developments along with the cities that surround them, having dedicated biodiversity zones ensures a level of protection for the local area.
- **Implementing coordinated waste management programs amongst all the airport food and beverage tenants:** This may include circular economy initiatives such as transforming food waste into fertilizer through dehydration or facilitating the use of compostable service ware to minimize dry landfill.
- **Water efficiency:** with the use of recycled water and storm water harvesting for non-human contact purposes, such as toilet flushing and irrigation needs.
- **Commitment to transparency:** through published integrated reporting, or standalone sustainability reports, in accordance with GRI standards, as well as publicly available Master Planning documents.

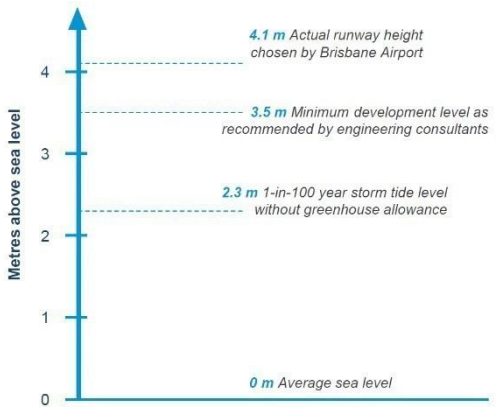
Focus on the Brisbane airport

Brisbane Airport is Australia's third-largest airport by passenger volume, handling approximately 24 million passengers annually.

Since its privatization in 1997, passenger growth at Brisbane Airport has more than doubled. To meet this growing demand, billions of dollars' worth of infrastructure is being developed at the airport. Foremost of these is the 3300m new runway. Highlighting the long lead times for large scale infrastructure assets, the runway has been in construction for eight years and in planning for decades. After much work and billions of dollars invested by the airport's institutional investor base, including First Sentier Investors, the runway should open to new traffic in mid-2020.

In the design of the project, the airport must prioritize safety, and then must also balance considerations around noise, operational standards, cost, and environmental factors. Brisbane is one of Australia's largest airports in terms of land area and is based on a low-lying coastal site susceptible to flooding events. The key climate change impacts modelled regarding the runway are sea level rises, storm surge and local/regional flood events. This deliberate consideration of potential climate change impacts led to the resilient design approach in relation to runway height. An increased runway height comes at materially increased upfront costs but helps to ensure the long-term resilience of this long-life asset, that will serve the Queensland community for decades to come.

Figure 28: Brisbane Airport runway' height illustration



2.2 Social considerations

The UN PRI has noted that, while environmental and social assessments have long been a common practice in major infrastructure projects, these have often been conducted as part of a "tick-the-box" measure to ensure compliance with the relevant regulations rather than a thorough assessment of the project's potential environmental and social risks and impacts[15]. This is particularly the case for social topics. For example, a CDC (UK) (study has found that the effectiveness of labor standard is not always thoroughly assessed in investment funds' E&S due diligence (cf. **Figure 29**)[16]. Furthermore, while the impacts of environmental risks can often be measured through quantitative indicators, such as GHG emissions, energy consumption, water discharge, social risks are often assessed through qualitative indicators - for example, the presence of a human resource policy or stakeholder engagement activities. Therefore, as much as social risks can have important potential impacts on an infrastructure project, these impacts are not always immediately tangible and thus, can be more difficult to quantify, except in highly controversial incidents or in cases of litigations and regulatory fines. However, investors and companies need to recognize not only the potential negative externalities beyond regulatory costs of social issues such as health and safety, worker relations and community relations, but also evaluate the positive externalities of these issues in the long term. Therefore, a careful and comprehensive assessment of all relevant social topics is imperative to fully integrate the material social issues in the infrastructure project valuation as well as to develop effective action plans to manage these issues. This, in turn, will reduce the risks of financial costs from potential incidents and controversies, high turnover rates, loss of social license to operate, and enhance the infrastructure's potential positive social impacts.

Figure 29: Labor standard review in E&S due diligence for fund management (CDC)

The types of social issues that are material for infrastructure investment and their impacts on the investment process may vary among different infrastructure sectors. Nevertheless, many cross-cutting social topics are relevant for most categories of infrastructure investment and should be carefully assessed and managed during the entire investment lifecycle.

These include, among others:

- Occupational Health and Safety (OHS) during the infrastructure design, construction / maintenance / use, and operation;
- Labor and human resources policy, including labor rights, labor standards, and adequate policy to attract and retain talent;
- Impacts of the infrastructure project, from development to operation, on the local communities.

[15] UNPRI (2019). *Building the conversation around social issues in infrastructure investing*.

[16] CDC, *Environmental and social due diligence: mitigating risks, identifying opportunities.*

2.2.1 Occupational Health and Safety

Occupational Health and Safety is an important consideration for companies in all sectors and is a particularly material issue for those operating in sectors related to infrastructure development, operation and maintenance.

Having a comprehensive Occupational Health and Safety policy in place that provides for a clear governance structure, appropriate security measures, mandatory training and awareness programs (e.g. road safety, behavioral safety), an effective incident and near-miss response management and evaluation system, as well as monetary and non-monetary incentives to improve performance, is an essential requirement for infrastructure companies. Such measures should cover not only own employees, but also contracted workers and any third-party such as the end beneficiaries of the infrastructure.

Inadequate Occupational Health and Safety policy implementation can result in severe injuries, casualties as well as asset loss and damages, which in turn can lead to significant operational costs due to resource and time loss, lower reputation among business partners, loss of clients, or potential fines and litigations. Accidents can also have negative impacts on the workforce as they can cause low morale, which in the longer term may decrease productivity or increase employee turnover rate. Alternatively, an effective Occupational Health and Safety policy and governance structure play a key role in not only mitigating these risks, but also reinforcing a virtuous circle of quality health and safety practices, good working conditions and high operational efficiency. It is an employer's ultimate responsibility to maximize the well-being at work of its workers and third parties, and adopt a zero-tolerance policy with respect to safety matters.

FOCUS: UN PRI

Positive impacts of health and safety management in a road infrastructure investment

IFM Investors acquired ITR Concession Company (ITRCC), which is responsible for the operation, maintenance and repair of the Indiana Toll Road (ITR) in Northern Indiana, US. Following the acquisition of ITRCC in 2015, a three-year strategy was initiated, including a Safety-First Plan and various initiatives to address the existing flaws in occupational safety practices. New safety initiatives were placed under the oversight of the CEO, with monthly safety report addressed to the Board, and safety committees were created to effectively implement safety measures. The health and safety strategy is reviewed and results followed up annually to measure progress. Frequent training sessions are also conducted for employees and to share best practices.

Cultivating a safety culture was found to "not only have a positive impact on employee morale and a company's reputation, but also on productivity and cost savings (through a reduction in lost time from injuries, for example)". Furthermore, for a company operating in road infrastructure, customer safety / road safety is also a material issue ITRCC leveraged technological application through using fiber optic cables in its Intelligent Transport System, which helps monitor traffic and facilitate improved incident response and weather management. This contributed to reduce accident rate and improve road safety conditions.

2.2.2 Labor and human resources policy

Labor standards

Basic labor rights have been codified in numerous international conventions, including the *International Labor Organization Conventions* and the *UN Conventions on the Protection of the Rights of Migrant Workers.* The main areas covered by these international standards include fair and equal treatment of workers, abolition of forced labor and protection of the rights of people in vulnerable groups, such as children, migrant workers, contracted workers, supporting workers right to collective bargaining and freedom of association, and promoting positive employer-employee relationship. At the national level, countries also have their respective regulations covering working conditions and workers' rights. On the other hand, grey areas still exist where the relevant local regulations are not fully aligned with international standards or where labor regulations are not strictly enforced. Uncertainty also remains in respect of business labor policy towards contracted workers and labor right protection in the supply chain, as there have been little disclosure or documented monitoring of these issues by companies. Thus, one of the main drivers of promoting labor rights and labor standards in recent years has been the push for enhanced disclosure regarding the conditions of the workforce in the company's own operations as well as in the supply chain. These disclosures include provisions related to remuneration, equal opportunities and fair and equal treatment for different groups of workers.

Since labor rights is an area that is often regulated by national laws in many countries, the most frequently assessed risks related to labor rights are associated with financial costs from regulatory fines and legal proceedings due to non-compliance issues, and investors' approach towards these topics has been to ensure their investee companies' compliance with the relevant national and local regulations during pre-investment due diligence. On the other hand, investors should recognize that protecting

workers' rights and improving working conditions for all worker groups can bring about important intangible values such as good morale and high employee engagement rate, which over time can translate into lower turnover rate, improved business continuity and reduced operational disruption cost, better business reputation and higher talent attraction rate. This is especially relevant for infrastructure construction, operation and maintenance sectors, where physical work is common and working conditions can be irregular.

Responsible investors, who recognize the long-term benefits of these intangible values related to upholding high labor standards, are increasingly taking a more proactive approach by engaging with their investee companies during the investment phase to encourage transparency and best practices in labor right protection.

Human capital development

Human capital is a key element in the operation of a company. Building a strong human capital base, through adequate policies to attract and retain talents as well as to enable employees to develop relevant skillsets and competence, can facilitate companies in implementing their corporate strategy in an efficient and innovative way and, thus, maintaining competitive advantages.

Talent attraction and retention is not only a question of implementing an appropriate and well-balanced compensation framework that recognizes the contributions and achievements by employees. Creating a conducive and enabling working environment also plays an important role in maintaining a positive relation between a company and its employees. This involves both ensuring high-quality physical working conditions as well as building an empowering and effective working culture.

Creating opportunities and encouraging employees to learn new skills and develop their competences also contributes to improve talent attraction and retention and employee motivation. Furthermore, this helps to ensure that employees have the adequate and appropriate skillset to not only execute the company's business strategy but also develop the potential to innovate. Companies should have a comprehensive approach in order to identify skill gaps, assess employees' learning needs, and develop cross-cutting systems to enable learning and knowledge-sharing across the company.

FOCUS: CDC (UK) E&S Guidance on Labor Standards

Part of CDC's ESG Toolkit for Fund Managers, **the E&S guidance on labor standards** provides a concrete overview of the existing relevant international standards and national regulations on key labor right topics, including the ILO Conventions, the IFC Performance Standards on Labor and Working Conditions, the UK Modern Slavery Act. The guidance also provides specific advice for fund managers on the issues to look out for and key criteria in assessing labor practices that are listed in an E&S Checklist.

2.2.3 Community relations and impacts of the infrastructure on the local communities

Community relations is one of the most material social issues for infrastructure investment as infrastructure development and operation often have direct impacts on the inhabitants of and near the area where the infrastructure project is located. First, infrastructure development and maintenance are associated with land access requirement, which often involves land acquisition and, in many cases, local community resettlement. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement [17]. If not managed carefully, this can have adverse impacts on the local activities and livelihood, especially in regions where land ownership right was previously generational and thus not legally protected. Land acquisition for infrastructure projects can also impact the local communities due to reduced access to other resources and facilities. Furthermore, infrastructure construction and operation can impact the local daily life as this may cause air pollution, water pollution, increased noise level. Involuntary resettlement, excessive disruption of the local activities, or inadequate compensation for the local communities are among the reasons for local unrests against infrastructure projects, which may eventually turn into significant conflicts and controversies. These may incur important delay and large additional costs to the infrastructure project and, in some cases, even result in loss of the infrastructure company's social license to operate.

On the other hand, infrastructure investment can also bring important benefits to the local populations by implementing a local content strategy. Local content refers

[17] IFC Performance Standard 5 on Land Acquisition and Involuntary Resettlement

to the extent to which local populations and companies can participate in the workforce and supply chains of a given industry. Initially a focus area in sectors that require technical sophistication to manage natural resources—namely extractive industries such as mining, oil, and gas, the concept of local content has been adopted by other industrial and infrastructure sectors.

Developing a local content strategy at the early stage of the infrastructure investment can create social and commercial benefits that facilitate economic development and industrial growth and, at the same time, contribute to sustainable development at regional and local areas in the project's country, through:

- Workforce development: employment and training of local workforce (basic education, language training, practical experience, scholarship schemes, etc.);
- Investments in supplier development: developing and procuring supplies & services locally

Both the potential negative and positive impacts of infrastructure projects need to be carefully assessed by investors during the due diligence phase to evaluate the full spectrum of impacts that the infrastructure is likely to have on the local populations. While the government often plays the central role in land acquisition and resettlement process, companies involved in the infrastructure project can facilitate its effective implementation by complying with the relevant regulatory provisions and through consultations and engagements with the local communities. Investors should ensure that the infrastructure company is, at the minimum, following the regulatory procedures and engaging the local community to manage potential impacts.

Infrastructure investors often identify and manage the social risks of their investments through pre-investment E&S due diligence, which is gradually becoming a standard practice. Nevertheless, social issues should also be managed proactively during the investment and operation phases through meaningful stakeholder engagement that involves key stakeholders affected by the infrastructure, from local and national government, to the investee companies, their workers and suppliers, as well as the local populations. Stakeholder engagement is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a project's environmental and social impacts.

The View from our members: S&P

Social risks for Airports

Social risks for airports are, in our view, the most important ESG factor and above average compared to other business sectors. Airports facilitate public mobility and drive economic development of their catchment areas; those located in industrial, lower scale suburbs act as a key manpower employer for local communities and deprived workforce. However, airports located near highly populated areas attract increasing opposition of local communities to congestion, noise, and worsening air quality resulting from airports operations.

Because airports are focal points given their strategic location and high-profile role, these issues have been gaining the attention of the media, businesses, investors, governments, and regulators, and approvals for developments requiring new land can be hard to achieve in some jurisdictions where the government responds to vocal communities. Airports need to skillfully manage a range of stakeholders, for instance by involving governments and communities in planning, as well as in balancing short-term challenges and long-term needs, economic versus environmental and lifestyle benefits. The latter may involve proactive policies, such as penalizing tariffs for polluting aircraft (within the boundary set out in the concession agreement) and limiting flight slots during nights and weekends, which can lessen community and regulatory discord. More remote external community risks include geopolitical tensions, social unrest and health-related events. Epidemics, such as SARS and the recent Corona virus, can lead to severe impacts on travel, albeit generally short-lived (so far assumed up to 3 months). In addition, social demonstrations are a relevant risk factor, because airports are focal points given their strategic location and high profile.

A key medium to long-term social risk factor relates to changing customer behavior, as travelers become increasingly environmentally conscious and because of the difficulty decarbonizing air traffic. This is forecast by IATA to be growing 4% per year and to double by 2037, fueled by mobility trends, and the lower cost of flying. While increasing awareness of climate impact of flying is prevalent to more affluent an environmentally conscious (for example "flygskam," or flight-shaming, in Sweden) rather than developing regions, a key area to monitor is whether governments increase "green" taxes on aviation, in turn raising flight prices. This is particularly important for airlines, but also for airports building major capacity extensions to cope with projected long-term growth.

Finally, safety management is also a risk since passenger and cargo security is essential to performance, including reducing the risk of terrorist or drone attacks, or bird strikes. Airports typically have prescriptive policies and procedures governing employees and contractors, and are increasingly engaged in customer and user education.

2.3 Corporate governance and business ethics considerations

The business case for integrating corporate governance and business ethics consideration in infrastructure investment is supported by compelling evidence.

Corporate Governance

From a general business perspective, good corporate governance makes good business sense, as a company's management plays a key role in driving and implementing its core business strategy, which in turn is a determining factor in the company's operation and output, and ultimately its value creation. Therefore, investors have strong incentives in ensuring a good quality of management and corporate governance structure in their investee companies, and it is no exception for infrastructure investment. Infrastructure projects with inadequate governance often result in cost overruns, delays, underutilization and accelerated deterioration due to poor maintenance [18] . In addition to financial considerations, strong corporate governance quality also plays an important role in the effective management of environmental and social issues in infrastructure construction, operation and maintenance, and of sustainability considerations more generally.

Investors in listed infrastructure companies can apply traditional corporate governance indicators to assess the governance quality of their investee companies, such as:

- Board independence;
- Board diversity (e.g. in terms of gender, nationality, expertise, age, etc.);
- Board track record and performance (e.g. direct or indirect involvement of some directors in past controversies; time commitment of the directors; average tenure);
- Separation between the Chair and CEO roles, or appointment of a lead independent director;
- Protection of minority shareholders' rights;
- Oversight of financial and non-financial risks by the Executive Committee and sub-committees of the board;
- Executive compensation.

Alternatively, infrastructure investors in non-listed companies can promote responsible investment practices by leveraging the specificities of the governance structure in private infrastructure investment. As private infrastructure investors have more proximity to the management of the infrastructure projects or assets, they can actively engage the fund managers or their co-investors in the special-purpose vehicle (SPV) to frequently assess and report on material E&S issues related to the infrastructure project or asset management, as well as implement and monitor action plans to address material E&S risks.

FOCUS: The Corporate Governance Development Framework (CGDF)

The **CGDF**, an initiative by 9 Development Finance Institutions' (DFIs) including the IFC, CDC Group, ADB, Proparco, is a common approach on how to address corporate governance risks and opportunities in DFIs' investment operations, but are also relevant for corporate governance assessment in all other types of investment as well as for due diligence in fund management. Based on the IFC's Corporate Governance Methodology, the CGDF provides a common platform for evaluating and enhancing governance practices in investee companies. Multiple tools are available for investors and fund managers, including:

- A **Corporate Governance Questionnaire** that can serve as a general framework for corporate governance due diligence. The questionnaire lists key governance risks and the corresponding specific issues to be assessed.
- A **Progression Matrix** that describes 4 level of maturity in corporate governance practices, according to 5 main corporate governance areas. This matrix can be used as a best practice standard to assess investee companies' maturity and areas for improvement during corporate governance due diligence.
- A specific **toolkit** designed to assess corporate governance risks in SMEs.

Ethics and business integrity

Ensuring ethical business practices is important to the operation of companies in any sector, including infrastructure. In addition, companies operating in infrastructure related sectors can be susceptible to the risks of corruption and bribery, for example in the form of facilitation payments or expensive gifts to win government concession for infrastructure projects. Violations of ethical or business integrity requirements can result in heavy

[18] OECD (2019). 4th OECD Forum on Governance of Infrastructure. http://www.oecd.org/gov/oecd-forum-on-governance-of-infrastructure-2019.htm

penalty, costly legal proceedings, operational disruption, and severe reputational damage.

Standard industry practices and regulation such as the so-called "Sapin 2" anticorruption law in France or the UK Anti-Bribery Act require companies to implement overarching codes of conduct that provides both guidelines with respect to ethical and compliance behaviors, as well as disciplinary measures in case of violation. Such codes of conduct should also specify the company's minimum ethical requirements towards its clients, business partners, contractors, and suppliers. Furthermore, whistleblowing / grievance mechanisms with anonymous escalation procedures are becoming commonplace to report and investigate suspicious behavior. Finally, training programs on business ethics, and more particularly on corruption, are becoming mandatory for all employees.

In Europe, the European Commission maintains a public list of companies, organizations and individuals ("financial operators") that are excluded from contracts financed by the EU budget or have been sanctioned for grave professional misconduct, criminal activities, or significant deficiencies in complying with their obligations. This database is managed under the Early Detection and Exclusion System (EDES), which was established by the Commission with an objective to protect the EU's financial interests against unreliable persons and entities applying for EU funds or having concluded legal commitments with the Commission and other EU bodies. The grounds for exclusion by the EDES are established under Article 136(1) of the Financial Regulation, namely:

- Bankruptcy and insolvency situations;
- Non-payment of taxes or social security contributions;
- Grave professional misconduct;
- Fraud, corruption, participation in a criminal organization, etc.;
- Serious breach of contract;
- Irregularity;
- Entities created with the intent to circumvent fiscal, social or other legal obligations.

FOCUS : Odebrecht's corruption scandal

Odebrecht is a Brazilian construction and engineering company with operations throughout Latin America. The company was investigated as part of Brazil's 2014 "Operation Car Wash" investigation into corruption and bribery allegations involving several Brazilian companies including Petrobras.

Odebrecht was charged with paying bribes in exchange for contracts in Brazil as well as other Latin American countries. In 2016, Odebrecht agreed to pay a leniency fine of $2.6bn to Brazil, the United States, and Switzerland, which was described as the world's largest leniency deal at the time. The company filed for bankruptcy protection in 2019, citing a debt amount of over $20bn, making it the biggest debt protection process in Brazil's history.

As a result of multiple judiciary processes linked to Odebrecht in and outside Brazil, procurement and attribution of a number of infrastructure projects in several Latin American markets were suspended or in some cases cancelled, resulting in the decrease or deferral of key investments.

The View from our members: S&P

Governance risks in transportation infrastructure

Governance risks stem from the way the managements respond to changes in policies and laws, and fulfil their social, legal or moral responsibilities. These include a general respect to the rule of law, internal controls, risk management and corporate governance practices. It is also tracking environmental impact and disclosing publicly on regular basis. The report includes an analysis of ESG factors for a selection of companies operating in different infrastructure subsectors: airports, mass transit, ports, railroads, roads, and waterways (see below).

Waterways: Canal of Panama Authority (ACP)

Governance is a key factor for ACP's credit quality. The entity's legal setup and articles of incorporation, the Constitution of Panama, and international treaties provide a framework that allow the rating on ACP to be two notches higher than on the Republic of Panama. According to the Constitution, ACP is a legally autonomous entity with a transparent structure of corporate governance and track record of autonomous business decision-making. In our view, several governance factors reduce, and will continue to do so, the government's control of ACP.

Environmental and social issues are also relevant, mostly regarding water treatment. The conservation of natural resources is an essential element in ACP's

strategy. It contemplates, along with other priorities, guaranteeing the quantity and quality of water that's key for consumption for the local population but also key for the sustainability of the business in the long term, given that vessels transit through the canal depend on the resource's reliability. Therefore, the company has taken measures to secure resource availability, as seen in the 18 innovative water-savings basins incorporated with the new set of locks that recycle 60% of the water used per lockage, saving 7% more water than the original locks. For the next two to three years, we expect ACP to prioritize investments related to the execution of the contracts with the Ministry of the Environment. These consists of the studies and development of the conceptual designs for multipurpose reservoirs that are expected to be financed at the government level, and that have as ultimate goal of contributing to the water availability. ACP's solid finances enable the entity to absorb additional capital expenditures without weakening its credit metrics.

The topics explored in this section are by no means an exhaustive list of the material E, S and G considerations in infrastructure investment. The specific issues and the degree and scale of their impacts may vary significantly among different types of infrastructure projects as well as their locations. While it is often argued that certain ESG considerations can be difficult to quantify, due to their complex and multi-dimensional nature, and thus difficult to be evaluated in the investment's pricing structure, long-term and responsible investors should recognize the additional intangible values of ESG considerations such as reputation and social license to operate, which can have much more long-lasting impacts on a company's operation. For example, corporate reputational damages can have adverse consequences on a company's business – negative reputation can result in the company having difficulty in gaining new clients and maintaining business relationships with current clients and partners as well as difficulty in attracting or retaining talents. Very often, controversies related to ESG topics and inadequate management of ESG issues are associated with high reputational risk for companies. The new generation of millennial investors and general public also highly value a company's contribution to sustainable development. Therefore, corporate reputation now goes hand-in-hand with a company's ability to manage its material ESG issues effectively and to demonstrate its value creation through contribution to long-term development. A growing number of investors have started to develop expertise and internal capacity to assess these topics.

The View from our members: SWEN Capital Partners

On Reputational risk

SWEN Capital Partners is an investment management firm driven by the objective of creating sustainable value through the full integration of environmental, social, or governance (ESG) criteria into administrative and investment action. In 2019, SWEN Capital Partners launched SWEN Impact Fund for Transition, the first direct impact infrastructure fund dedicated to green gas energy in Europe.

The ESG controversy monitoring system approach was introduced in 2017 by SWEN Capital Partners in order to manage its reputational risks, as well as the ones from its clients, give reactivity to its asset classes through real-time monitoring, and gain active knowledge about the positive and negative factors linked to SWEN Capital Partners' portfolio that might not be addressed in a general financial reporting. SWEN Capital Partners' controversy monitoring system covers its direct investments as well as the largest portfolio companies within the underlying funds using a transparency approach. This monitoring is conducted as part of the due diligence process and throughout post investment period.

3 ESG integration in investment lifecycle

3.1 Responsible investment policy

A responsible investment policy at corporate level aims to explain and describe an investor's overall approach and philosophy with respect to ESG integration across its investment lifecycle.

According to the UN PRI, a responsible investment corporate policy must cover the following aspects:

- The organization's definition of ESG and/or responsible investment and its relation to investments;
- The investment objectives that take ESG factors/real economy influence into account;
- The time horizon of the investment;
- The governance structure of organizational ESG responsibilities;
- The ESG incorporation approaches;
- The active ownership approaches;
- Reporting activities; and
- Climate change considerations.

Additional information deemed relevant to provide in a responsible investment policy includes:

- The asset coverage;
- An exclusion policy;
- A public support to the TCFD, which shall translate into adequate reporting practices (governance, strategy, objectives, metrics); and
- Evidence of procedures that embed impact, with clear references to investment frameworks such as the IFC's Operating Principles for Impact Management.

A responsible investment policy shall be a public document. However, this does not prevent investors from documenting internal procedures. These internal documents should be auditable (independent verification against OPIM).

The View from our members: First Sentier

Embeddding ESGs and SDGs

We embrace ESG and SDGs throughout the investment cycle. We aim to embed ESG and SDG principles to all aspects of our investment lifecycle:

- **Investment decisions:** All new investment decisions are subject to rigorous due diligence. This due diligence process will include an in-depth analysis of understanding and quantifying where possible the relevant ESG risks and opportunities.
- **Ongoing asset management of existing investments:** Once an infrastructure business is acquired, the team undertakes ongoing active asset management to enhance performance and effectively manage risk. Specialist fund managers and asset managers in the Infrastructure Investments team meet regularly with infrastructure business management teams to discuss various matters, including ESG issues. In addition, we seek to ensure that management provides an appropriate level of information to the Board to ensure risks are managed and opportunities are realized.
- **Valuations:** Appropriate management of ESG considerations is undertaken as part of the ongoing valuation of infrastructure businesses. The methodologies used for the valuation of our infrastructure assets typically include forecast periods in excess of 20 years. Initiatives that will contribute to targets within the SDGs are captured in the long-term business plans. This long-term forecasting approach means that long term ESG issues are inevitably captured in the current valuation of each infrastructure asset. ESG issues are also captured by the independent valuer. Notably, when we select valuation experts to appoint to our independent valuation panel, their ability to include ESG factors as part of their valuation is a key consideration in making the appointment.

3.2 ESG resources and leadership

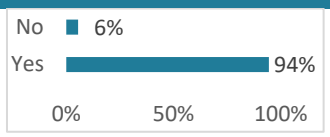
3.2.1 Organizational issues

As ESG issues are getting further integrated in the strategy and management of infrastructure assets, GPs and LPs are equipping themselves internally with teams and tools to manage the ESG performance of their assets. Depending on the size, maturity, and approach chosen, this integration can be more of less profound, distributed across the staff and committees.

2020 Members Survey

Is there a dedicated staff in-charge of ESG in your structure?

Figure 30: Is there a dedicated staff in-charge of ESG in your structure?



The vast majority of LTIIA's responding members have a specific, dedicated ESG team. These range from 1 or 2 people, often supported by external advisors on an ad-hoc basis, to 15 or more in larger organizations (Asset Owners). A small minority of respondents specified that the absence of dedicated ESG staff was due to the fact that "the entire team participate in the effort".

At a large Insurance group-backed asset manager (Allianz GI), the ESG team is split in two:

- The Global ESG Integration & Solutions team; and
- The Global ESG/SRI Research & Engagement team, which is responsible for ESG research and proprietary sustainable investment methodology.

Within their Infrastructure Debt team, there is no staff dedicated to ESG: Instead, ESG risk identification and management is a joint responsibility of the investment and asset management team members. As a debt investor, Allianz GI does not engage external advisers directly, but typically receive an information package including due diligence reports from independent consultants on the company in which an investment is contemplated.

Another global asset management arm of a main Financial Corporation (Manulife IM) has established a "governance structure to oversee its teams' sustainable investing activities. This structure comprises various committees and working groups across the various asset classes at appropriate levels; the infrastructure team has ESG representatives who are members of the Private Markets Sustainable Investing Working Group.

The governance structure is supported by staff who specialize in sustainable investing and support the implementation of the corresponding strategy through activities and projects, such as preparing annual business plans, identifying and developing sustainable investing best practices, supporting investment teams to develop tools and methodologies to adopt these sustainable investing best practices across the investment life cycle, and participating in external initiatives or collaborative engagements."

2020 Members Survey

How are your ESG staff resources organized?

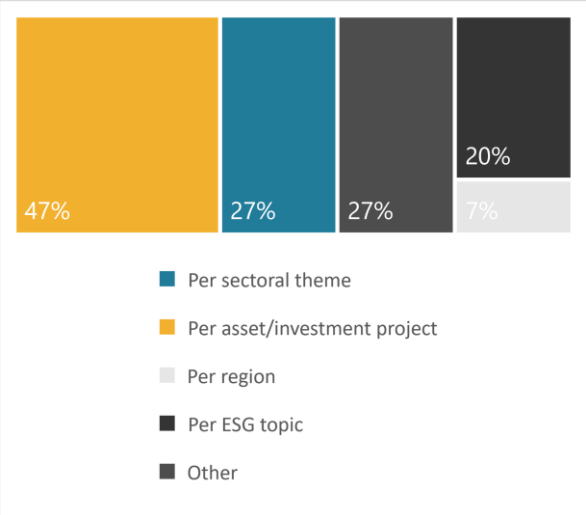
Close to half of the survey participants have their ESG staff resources organized along asset or investment project, with sectorial themes and E, S or G dimensions coming respectively second or third. The geographic/regional dimension comes last, at 7% only.

One respondent highlighted the implementation benefits for implementation of having ESG matters addressed at the portfolio/project level by a dedicated team composed of the Investment and Management teams as "both the asset manager and owner generally seat on the project/SPV board with a controlling majority stake in the portfolio as an active hands-on investor". When the deployment of the ESG strategy is ensured internally by a dedicated ESG team, this ESG strategy is applied by the management "for the emergence of a corporate culture focused on responsible investment" (SWEN Capital).

Others respondents (GPSS) highlight the fact that it is their "finance team that centralizes all ESG matters both on the operational and corporate side: once ESG matters have been identified, the finance team works together with other concerned teams to collect, monitor and report data". Among those that do not have any dedicated and specialized person on the topic, the emphasis is on the "versatility regarding the ESG theme: We have several people who have ESG as a constant concern in the analysis of projects and in their day-to-day management" (TIIC).

Figure 31: How are your ESG staff resources organized?

NB:Multiple answers allowed



The View from our members: Meridiam

Organizing for dialogue around ESG

- **SPV board leadership** - The GP is a member of the SPV's board of directors and ensures that matters are discussed at board meetings.
- **Context of consortium partnerships.** The consortium undertakes to comply with the ESG commitments and to share the information that will enable the asset manager to carry out its monitoring and reporting activities during the construction and operating phases. Prior to the establishment of partnerships document examples are provided to explain the future required information (SDG ESG questionnaire, major classes of subjects, etc.).
- **Environmental and Social Management Plans**. Environmental and social commitments are typically already included in the obligations of the developers since the Environmental and Social Management Plans (ESMP), with are very detailed (up to 30 plans) are included in the project contracts.
- **Audit practices** - The Assistant to the Contracting Authority (ACA) ensures that the work is carried out and an audit schedule is also typically drawn up with the lenders to verify the application.
- **Monitoring committee – Emerging market focus.** The creation of a monitoring committee for an infrastructure construction project in the emerging markets brings together several stakeholders: representatives of communities, women, territory managers (local authorities), and representatives of the SPV. It serves as an information conveyor belt and makes it possible to develop procedures to enable transparent hiring of people from the communities. Applications are then submitted to the prefecture office, the right place to direct applicants and to ensure a fair process with a transparent and open assessment of applications. The establishment of such a committee in the Peri-urban region is generally accepted by all, including the authorities.

The View from our members: Allianz Global Investors

Resorting to consultants

A key characteristic of infrastructure debt investments is the ability to negotiate covenants aimed at ensuring the integrity of the investment through its life.

For example, deals in certain emerging economies might need certain explicit covenants, such as demanding that all parties adhere to minimum social and environmental standards set out in the IFC PS on Environmental and Social Sustainability and in the Equator Principles. Projects may also need specific covenants related to environmental considerations, construction permitting and post-closing remediation monitoring.

These days often require retaining an outside independent consultant to conduct environmental reviews and to ensure that sensitive details are taken care of appropriately, whether that's acquiring land or finding an alternative habitat for wildlife.

3.2.2 Team objectives and incentives

2020 Members Survey

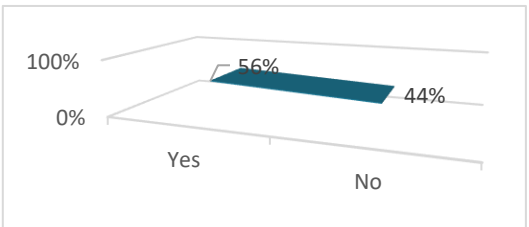
Are ESG criteria integrated in performance assessment and compensation (bonus/carried interest) for the staff (investor/manager/investee)?

With almost 3 Yes out of 5, the trend seems clearly to be toward greater integration of ESG in performance and compensation, with one respondent (CALPERS) stating: "While managers don't have any ESG-linked compensation, they may do in the future", and another one (Skandia): "No; however, ESG is definitely part of the qualitative assessment".

Also: "ESG excellence is one of the metrics that is now considered for calculating bonus compensation of the investment team. ESG is also increasingly included as a meaningful component of the Long-Term Incentive Plans of executives of portfolio companies".

But for some (Manulife), it is still mostly about "the compensation of the ESG team, which is linked to the achievement of specific ESG goals.

Figure 32: Are ESG criteria integrated in performance assessment and compensation (bonus/carried interest) for the staff (investor/manager/investee)?



2020 Members Survey

Have you set internal ESG goals and how does it translate in your daily activities (ex: carbon emissions in relation to your travels, etc.)?

3 out of 4 respondents have set internal ESG goals, as for instance GPSS: ”We recently implemented an ESG materiality framework that lists all material issues along with related SDGs, our ambitions and concrete targets in the future years“ or Skandia: “documented in policies and our sustainability report; we have for instance a travel policy, that is followed up in numbers and subject for goals and targets” - probably alluding to the importance of “Flygskam” in their national environment! Some have adopted plans (Total Fund Governance & Sustainability Strategic Plan or Optimization Program Energy for CALPERS; ISR Guide for CNP); other have annual targets (InfraVia, for the implementation of its sustainability charter & gender equality charter).

Some focus on internal operating mode, committing to offset all travel emissions (First Sentier), or reduce waste through adopting a plastic free policy (Arpinge). Manulife prioritizes working on its processes (Alignment with industry standards such as GRESB and PRI, identification and management of ESG incidents, reporting to include any material ESG considerations).

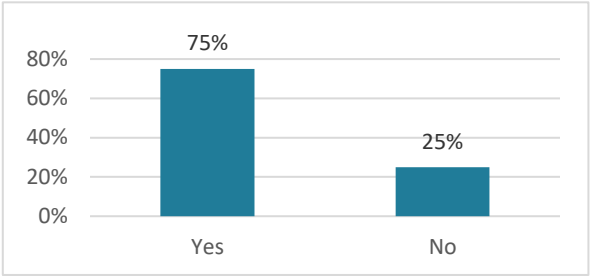
Goals can be related to actions such as training (in the process of becoming a new funding partner of the NEC initiative -Net Environmental Contribution-, SWEN provides its employees in 2020 with dedicated trainings on environmental impacts on 15 economic activities by the founders of the initiative) or outputs/outcomes (setting a specific allocation for “green assets”).

Large structures have embarked on ambitious goals.

Allianz GI committed, at the UN Climate Change Summit in New York-sept’19 to make all its assets climate-neutral by 2050 and is currently in the process of elaborating a methodology to calculate the carbon footprint of each company in which it invests (as part of its net zero systematic approach)

EIB agreed on November 2019 on a new energy lending policy through increased support for low or zero carbon technology, to meet a 32% renewable energy share throughout the EU by 2030 and vowed to align all financing activities with the goals of the Paris Agreement from the end of 2020, and to end financing for fossil fuel energy projects from the end of 2021).

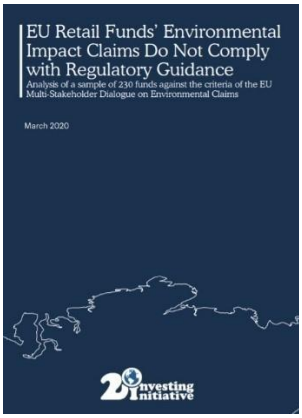
Figure 33: Have you set internal ESG goals and how does it translate in your daily activities (ex: carbon emissions in relation to your travels, etc.)?



3.3 Risk management frameworks

3.3.1 Introduction

Valuing the positive impact of an asset or fund is key but the proper management of the negative impacts is an indispensable prerequisite, as highlighted in the following references:



The **standards related to impact investing** state that impact investors should “first do no harm.” An important strategy for both achieving positive impact and avoiding unintended negative consequences is to seek out and listen to one’s intended beneficiaries and other

stakeholders. Avoiding unintended consequences can also be a strategy to reduce investment risk, a key motivation for the use of ESG criteria in evaluating investments.

The number of **regulations** that require financial institutions to better manage their potential negative impacts is increasing everywhere, especially in the EU. In a report of 572 pages, the European Commission suggests the due diligence requirements through the supply chain to identify, prevent, mitigate and account for abuses of human rights and environmental damages (**Study on due diligence requirements through the supply chain**, January 2020).

The reference to "positive impact" in investment funds is more and more used and popular. However, NGOs (and soon investors) are fearing an "impact washing". There could be no positive impact without the proper management of negative impact. Failing to demonstrate that negative impacts are properly managed would make the claim of positive impacts pointless.

3.3.2 Due diligence

Due diligence activities constitute an essential step in the investment process. the main purpose of acquisition due diligence is to limit the risks inherent in any deal. They make it possible to carry out a real diagnosis of the target that will enable the acquirer to validate the letter of intent and to negotiate guarantees or corrective actions after the acquisition, or on the contrary to review the valuation of investment thesis when major risks are identified. Buy-side due diligence generally includes several steps:

- The equity investor must explain the scope of the planned due diligence work to the seller at the preliminary stages of the deal;
- An initial due diligence will then generally be carried out internally in order to structure the available information and validate the investment thesis; and
- An extensive external due diligence will finally potentially confirm the information shared by management and propose a corrective action plan based on a reference framework and an adjustment to the valuation where necessary.

The ESG team must work with the various due diligence teams in order to take into account the corrective actions identified during the due diligence in the valuation of the company (financial due diligence) and the protections in the sales contract (legal due diligence).

The due diligence formats will be adapted to the size of the assets/companies in the process. Depending on the context of the target (particularly the risk level) and the acquisition (type of investment, competition, access to management, deadlines, etc.), due diligence may take different forms and cover a greater or lesser number of issues.

- Interviews using simplified or in-depth analysis grid handled by the investment teams;
- ESG audits carried out internally by the GP;
- ESG due diligence assignments entrusted to external service providers,
- Assignments sometimes carried out in two phases: reporting initially red flags and then in more details if the due diligence carried out on the other workstreams of the study have not identified any issues likely to interrupt the negotiations;
- Completion of analysis of media, social networks and employer review site. These help to identify ESG issues specific to the target company, and to carry out relevant benchmarks in relation to a selection of competitors. They can support the identification of controversies, weak signals that may reveal more significant problems (in particular on human rights issues – International Labor Organization (ILO), forced labor, excessive working hours, child labor, discrimination, freedom of association, etc.).

Example of check list in the context of the siting an oil & gas terminal

Main topics to be addressed	Alternative solution n°1
Utilities	
Public water supply management (type, capacity, supplier)	🟢
Groundwater (depth, quality in the area, presence/characteristics of wells on site)	🔴
List of the main utilities required (access and feasibility of reaching project requirements)	🟡
Wastewater (sanitary, process and stormwater) management (networks integrity, regulatory requirements, approbation & construction duration, capacity, discharge location and associated treatment technologies)	🟡
Social	
Talent pool (short and long terms, inc. for construction phase)	🟢
Land acquisition (timing, cost of procedure, levelling/construction work) and Involuntary resettlement	🟢
Site setting	
Business environnent	🟢
Terrestrial and aquatic habitat alteration risks and biodiversity presence	🔴
Site access (proximity to roads and highways)	🔴
Natural or technological risks (flood, seism, heavy industry area, etc.)	🟢
Site Condition	
Incident/accident that had a known or potential impact on the environment (e.g. spill, leaks, fires...)	🟢
Known contamination areas (need of details and associated evidences)	🟢
Soil and groundwater investigation or remediation activity completed or on-going (reports, details and associated evidences and costs).	🔴
If applicable: Monitoring of groundwater or surface water obligations (provide context of monitoring and general results)	🟡
Permitting / Authorizations	
In the last 5 yrs, has any manufacturing site been built within the area? (identify name, type of activity and EIA process duration) Check for expectations of authorities on permitting & EIA processes and durations. Identify local specific requirements.	🟡

Red: high risk / Orange: medium risk / Green: low risk

Depending on the results and the importance given to the ESG dimension in the buyer's investment policy, due diligence may be a barrier to investment.

2020 Members Survey

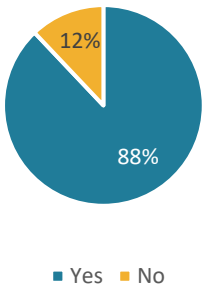
Negative screening: Can ESG be a deal breaker in an otherwise attractive deal?

A strong majority of respondents agree that ESG can be a deal breaker, with several listing examples of sub-sectors off-limits for ESG motives. Energy/climate-linked exclusions are the most frequently mentioned. If coal seems to be excluded by most members, other fossil fuel projects are less often mentioned.

As illustrations: Skandia declined 6-7 co-investments in fossil energy (oil, pipelines); CalPERS would consider "nuclear power plant or oil drilling operations that can significantly affect the environment" to be deal breakers; SWEN excludes shale gas; FSI declined "an opportunity to invest in a particular port due to its high exposure to coal and similarly declined an investment opportunity in gas-related infrastructure due to its hydrocarbon exposure".

Just one respondent strayed from this strong E focus to state that "most often: governance is an issue". A majority of respondents affirm having renounced pursuing, or dropped deals for ESG reasons over the last three years. Others "have not had any occurrence" yet.

Figure 34: Negative screening: Can ESG be a deal breaker in an otherwise attractive deal?



ESG due diligence on the acquisition involves a general overview of the risk areas on ESG issues and, less systematically (depending on the management company's approach and the context of the work), on opportunities and impacts. It meets **four main objectives**:

- **Assessing the ESG context specific to the business sector of the asset/company being assessed** (underlying trends, competition, inherent sector risks, level of materiality of the sector's non-financial issues, regulatory and reputational risks, etc.);
- **Identifying the priority ESG challenges** specific to the asset/company and which present risks and/or opportunities;
- **Assessing the asset/company's ESG maturity level** on each of the ESG priority issues; and
- **Building action plans to be implemented post-acquisition** in order to limit risks and/or seize opportunities. These action plans typically present a clear summary of the issues, corrective actions and key functions to be mobilized, whether or not subcontracting is necessary, and an estimate of the investments and operational costs to be incurred over several years.

An example of a work program is included in appendix. Typically, the analysis of the asset/company's ESG performance mainly involves:

- **Understanding the asset/company's organizational** (allocated resources, policies, procedures, management systems, risk management, emergency response, internal control plans, internal audit) **and financial management practices** (investment plans, CAPEX, OPEX) with respect to the subjects;
- **Analyzing compliance and operational risks** based on a regulatory framework and best practices defined upstream from the project;
- **Understanding the asset/company's degree of exposure to:**
  - **Pollution risks** related to historical or existing activities; and
  - **Physical risks associated with climate change**
- **Understanding the company and stakeholder social culture and assessing regulatory compliance related to employer relations and direct and indirect workers' health and safety**; and
- **Understanding the negative impacts of the asset / company's activities on the environment and communities, actions taken to address them, and positive contributions made.** This aspect of the analysis and consideration of stakeholders is an essential point because it will make it possible to understand the executive(s)' values, their anchoring in the society and therefore their ability to create value.

FOCUS: Emerging market's due diligence specificities

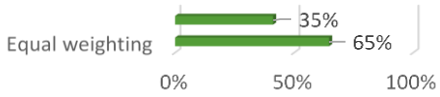
- The ESG due diligence report is often **focused on environment and social (E&S) topics** and governance issues are often addressed as part of legal due diligence. A selection of background checks and the identification of beneficial owners are recommended. Given the difficulty of accessing information in these geographies, it should be noted that this type of exercise nevertheless requires more effort than in developed markets.
- The **specifications** of the E&S due diligence are generally very comprehensive to address regulatory gaps, lack of application of existing regulations, and increased requirements of the Development Financial Institutions (DFIs – AfDB, CDC, EIB, IFC, etc.). DFI reference frameworks partially offset the lack of regulation. These standards (sectoral and thematic) are used to frame the work and have become an obligation for GPs that have development banks among their investors.
- The **gender issue**, driven by the DFIs, (in particular with the launch of the 2X challenge in 2018 by the G7 DFI) is increasingly being considered
- Since **access to electricity** is sometimes lacking (end-of-day production stoppage to allow electricity to be supplied to local populations) this issue is almost systematically assessed.
- The **involvement of local consultants** familiar with local customs and dialects is essential for consultations.
- **Consultation with local authorities** is frequent, whereas in Europe this practice is almost non-existent. This can be explained by the 1) greater proximity of local authorities on the continent, 2) shortcomings of certain regulations, 3) access to more online public information in developed countries, and 4) generally longer duration of due diligence phases in the emerging market geographies given the lower competition of the acquisition market.

2020 Members Survey

E, S, G dimensions relative weighting in your decision-making process?

While equal weighting at 65% is the majority approach (" Initially there was more weighting to E, but in the last years the weight has shifted to S and G and it is now balanced"), a closer look at responses shows that this may actually vary according to assets (CALPERS: "For example, energy assets will have higher "E" weighting while a prison or an airport may be higher on the "S" category") or the sector (S&P). As stated by several respondents, Materiality of ESG factors will vary according to certain factors such as size and type of asset, region, operational environment, and the stage of the project cycle.

Figure 35: E, S, G dimensions relative weighting (out of 100%) in your decision-making process?

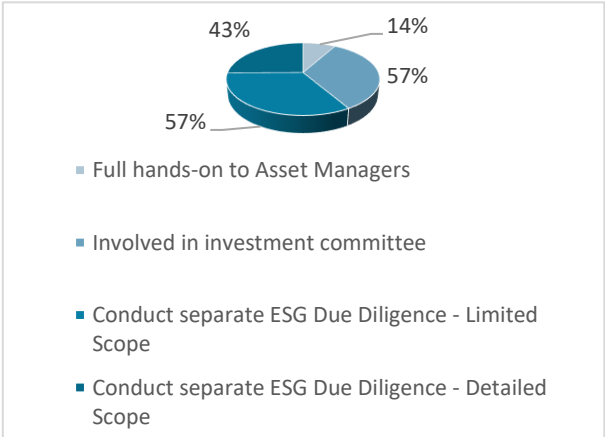


2020 Members Survey

To which extent do asset owners get involved in the asset ESG due diligence activities?

Most asset owners are somehow involved in ESG Due Diligence activities, with just 14% leaving full responsibility to their asset managers (presumably when they have previously ascertained their ESG credentials). But, as stated by Manulife: "The infrastructure team does not manage the day-to-day operations of the underlying businesses and relies on capable management teams to monitor and raise ESG issues, as applicable". As for Skandia: "this differs according to the timeline and channel of the investment: for a fund (limited scope) or a co-investment (detailed Scope)".

Figure 36: For Asset Owners: To which extent do you get involved in the asset ESG due diligence activities? (NB: Multiple answers allowed)



3.3.3 Case studies

The View from our members: Campbell Lutyens

ESG as a selection criterion of asset managers?

ESG benchmarking data of the kind that GRESB produces has some important behavioral consequences: no manager wants to be bottom of their peer group and everyone would like the 'virtue signaling' of being No.1 or at least top quartile. I think GRESB is growing fast and GRESB scores on past investments may become selection criteria in the future. Maybe there are too many factors at play within E, S and G to ever prove the case definitively such that ESG becomes a 'positive' decision making tool. But for the moment for many, it is a 'negative' screening out tool."

The View from our members: ALLIANZ Global Investors

ESG approach in Infrastructure equity investment

Allianz Global Investors (AllianzGI) makes infrastructure investments across both debt and equity, currently managing over €35bn of infrastructure assets altogether. In both asset classes, AllianzGI continuously assesses the ESG credentials of its assets, both at the point of investment and during ownership. ESG is not classified as a separate topic, but rather it is embedded in the risk profile of the asset, possibly becoming the paramount risk factor thereafter.

As an equity investor in infrastructure, Allianz Capital Partners (ACP), a company of AllianzGI, carries out an internal ESG screening to determine the ESG "health" of every newly identified direct infrastructure investment opportunity. The evaluation reflects the views of ESG Committees within the wider Allianz Group and considers fundamental issues such as environmental contamination (ground, water and air, including CO2 emission levels), social impact (including resettlement, mistreatment of people and human rights) and governance (ethical and business compliance). If no key issues are flagged, the investment opportunity passes to a secondary due diligence stage where internal scrutiny is supplemented by external advice to assist in further evaluating ESG performance and the materiality of any risks. Based on this information, ACP considers the human and financial impact of ESG risk covering severity levels, resulting impact, potential liability, probability of occurrence and remedy implementation.

Whilst the definition of infrastructure typically includes renewable power generation projects, AllianzGI also has an Infrastructure Equity team that is dedicated to green energy assets. The investment team has created a tailored checklist based on the UN Sustainable Development Goals which is used to assess all investments as part of the due diligence process. In case of a negative contribution, the Investment Committee discusses what measures can be taken in order to mitigate such negative effect or otherwise the potential investment is cancelled. Once an investment has been entered into, the portfolio management team measures how each investment contributed to the reduction of carbon emissions on an annual basis.

ACP makes equity investments in both renewables and other infrastructure sectors. What is often overlooked when discussing sustainable investments are less common approaches to ensuring a sustainable future. Whilst increasing access to renewable energy is a sustainable investment, so is supporting existing infrastructure to be less carbon intensive. As such, leading the transition of existing infrastructure, such as gas transportation grids, to be repurposed into transferring hydrogen or biogas helps build a more sustainable future just as much.

As a debt investor in infrastructure, AllianzGI considers ESG to be a sub-set of credit risk and integrates ESG factors into its investment analysis and decision making. Whilst an investment will not be made for positive ESG impact reasons, any negative ESG impacts need to be addressed and sufficiently mitigated before investing. In principle, AllianzGI considers that a company with better control over its ESG risks has lower credit risks, and therefore a lower probability of default.

Although a debt investor has less control over the operations of its assets compared to an equity investor, there are several ways debt can support equity to be more sustainable. For an investment with identified ESG risks, AllianzGI looks to set conditions precedent to funding and/or covenants related to the remediation of such risks, and the investment is only made once those ESG risks are deemed sufficiently mitigated. For example, deals in certain emerging economies might need certain explicit covenants, such as demanding that all parties adhere to minimum social and environmental standards set out in the IFC PS on Environmental and Social Sustainability and the Equator Principles. Projects may also need specific covenants related to environmental considerations, construction permitting and post-closing remediation monitoring. These investments often require retaining an outside independent consultant to conduct environmental reviews and to ensure that sensitive details are taken care of appropriately, for example, whether acquiring land or finding an alternative habitat for wildlife.

AllianzGI seeks to be the sole or majority lender to the infrastructure companies that it finances, meaning that it usually has a direct relationship with the management or sponsor and can actively engage with them regarding ESG matters. Where it does not hold the majority of the debt, it invests alongside investors who share similar credit and ESG views and it still negotiates covenants that entitle it to have direct access to management and the project. Generally, investments where it does not hold a majority of the debt are mature operational projects which require fewer decisions including on ESG matters.

AllianzGI makes debt investments in infrastructure in both developed and emerging markets. With respect to the latter, the usual approach is to partner with entities with a track-record of managing such risks, such as development finance institutions. For example, AllianzGI established one of the first IFC partnership funds through which AllianzGI invests in IFC-originated and managed infrastructure loan assets.

The View from our members: Meridiam

Investment Assessment Conditions & Criteria

During the investment phase, Meridiam relies on a set of more than 45 ESG conditions and criteria to analyze all investments, without distinction by sector of activity or asset class. Projects that do not meet certain thresholds on working conditions and social protection of workers, compliance with regulations, environmental or social practices, and/or carbon intensity are excluded from the list of investment opportunities. These thresholds are developed based on international standards such as those of the IFC, the World Bank, or the EIB and integrated into Meridiam's framework. This ESG analysis framework is used to identify the ESG issues and risks that are associated with investments and to determine the risk level of each criteria and the implementation modalities for projects that will allow these issues to be effectively taken into account.

Case Study: Hydroelectric power plant development project – Environment risk & attractiveness

- ESG criteria were integrated from the feasibility stage of the project.
- As the chosen site is characterized by rich biodiversity, the decision, in line with Meridiam's recommendation, was taken to have the size of the project and therefore the plant's installed capacity reduced.
- Detailed studies were carried out and an ambitious biodiversity action plan was prepared during a year and then implemented. The studies made it possible to avoid negative impacts and delays in the schedule (and therefore financial consequences).
- A significant emphasis was placed on the choice of the developer, which was based on competition and took into account the distribution of jobs between expatriates and local staff.
- As ESG criteria were taken into account, it was not necessary to demonstrate the project's relevance to investors, the project was not called into question, subsequent pitfalls were avoided, and the natural environment was properly taken into account.

Case Study: Senegal solar power project - Social issues

- One of the main challenges was the integration into a rural environment characterized by the presence of small villages. The signing of a social agreement with the communities affected by the project was therefore decisive.
- A participatory approach, consultation, and ongoing dialogue was established with communities and stakeholders. A compensation protocol was also developed and implemented to take into account the displacement of agricultural activities.
- In this type of case, the management company's relationship with the communities is similar to that of institutional banks.

The View from our members: STOA

View on Impact and risks

STOA -a subsidiary of the Caisse des dépôts (CDC) and the French Development Agency (AFD), was set up in 2017 to finance infrastructure capital in developing countries. It is the equity instrument in the French public international financing system (AFD, Proparco, BPI, Treasury) to accompany companies on major infrastructure projects in emerging and developing countries, whether it is energy, transport, telecommunications, environment (water, waste...) or social (education, health...).

We know Emerging markets present a number of environmental, social and governance (ESG) challenges. This is why assessing these ESG risks is as important to us as analyzing the financial performance of an investment opportunity. By governance risks, we mean the risks of corruption, money laundering, terrorist financing, tax evasion and risks associated with our interlocutors in these countries, who may be politically exposed persons (PPE), linked to corrupt or dictatorial regimes, whose origin of fortune is doubtful. When there is any doubt about any of these risks, we do thorough research, we call on specialized firms, and if there is any doubt, the decision not to invest is made. Taking these issues into account is essential to contribute to balanced and sustainable development in the countries where we invest, and there is of course no question, given our shareholders, that we take any reputational risk.

STOA resorts to IFC Performance standards to assess and manage ESG risks for all projects subject to potential investments on developing markets (together with SURE as it is very similar to IFC performance standards). GRESB is used for IESG reporting indicators. Our E&S head visits the High E&S risks (category A) project sites during the ES Due Diligence phase and systematically monitors the project in construction to make sure the IFC Performance Standards are followed.

We view ESG ratings as a good tool for evaluating companies' resiliency and performance. However, the rating agencies should have a harmonized way by asset classes in rating companies. Often ESG scores do not match up across agencies.

ESG Ratings should not be the only one assessing the company's performance. Indeed, proactive KPIs are most of the time never reported, such as "number of training given", "number of toolbox talk provided", "number of near misses reported" etc. Proactive KPIs show that a robust system is in place to improve EHS management of companies. This should also be assessed.

Also, the data are often declarative and not verified by a third party. Third party verification by a qualified consultant is key in providing robustness in ESG Ratings.

The View from our members: ARPINGE

A strong rationale behind ESG integration in infrastructure

Arpinge is an Italian based private and institutional investment company, operating in the infrastructure. Rather than a fund, it is an innovative project, set up by three pension funds ("Founding Shareholders"), representing the professions active in the Infrastructural and Real Estate sectors: Architects, Industrial and Professional Engineers, and Surveyors. It aims to involve private institutional and social security funds in the real economy, in order to overcome the gap of eligible projects for by creating growth opportunities through «bankable», and «sustainable» projects.

The company mainly invests in renewable energies, energy efficiency, and mobility. Social and urban infrastructures may be involved within the strategy to respond to the community needs and to promote a local sustainable development. The company is active in the promotion of the SDGs with a focus on SDGs 3 – 4 – 7 – 8 – 9 – 10 – 11 – 12 – 13.

The ESG strategies that the company has adopted in order to carry out the objectives listed above are:

- Negative screening: the controversial sectors Excluded by the company are as follows: Alcohol, Fossil fuels, Nuclear Energy, Tobacco, Carbon, Dangerous chemical products, armaments, Gambling
- ESG integration
- Thematic investment (focus on energy transition)

On engagement and voting, the company started a dialogue with its counterparts, by formulating proposals for concrete actions to be put in place to promote ESG elements that contribute to the sustainability of portfolio investments in the long term. The company is currently working on the implementation of an ESG analytical framework designed as a strategic portfolio management tool, directing investment choices towards deal with impact. It allows to determine the composition of the portfolio, the compliance of each macro-category, and optimize the portfolio performance, setting for each macro-category growth or reduction targets.

The View from our members: SWEN Capital Partners

A strong rationale behind ESG integration in infrastructure

SWEN Capital Partners is an investment management firm driven by the objective of creating sustainable value through the full integration of environmental, social, or governance (ESG) criteria into administrative and investment action. In 2019, SWEN Capital Partners launched SWEN Impact Fund for Transition, the first direct impact infrastructure fund dedicated to green gas energy in Europe.

SWEN Capital Partners' ESG commitment is expressed in diverse ways. As a PRI signatory, SWEN Capital Partners has deployed an active and rigorous responsible investment approach for integrating ESG criteria, formalized since 2012 and currently applied to all investments. Furthermore, SWEN Capital Partners owns an unparalleled extra-financial private equity database composed of more than 250 000 ESG data points collected for the last seven years, which is used to calculate private equity ESG benchmarks, analyze ESG track record and produce exhaustive ESG reporting for its funds. Moreover, SWEN Capital Partners has in place a mechanism for detecting controversies, an ambitious and high-standard Climate Strategy, and active partnerships with all its stakeholders.

SWEN CP is innovative and sophisticated in its approach as a Responsible Investor in private markets that is strongly committed to the path of transition to a low carbon world. Notably, in 2019, through the process of implementation of the TCFD recommendations, SWEN Capital Partners decided to adopt and deploy of the "Net Environmental Contribution" (NEC), a metric that goes beyond carbon and captures real environmental footprint of investments based on a multi-criteria approach (climate, resources & waste, biodiversity, water, air quality).

3.4 Value creation & positive impact frameworks

3.4.1 Long-term value framework

The definition of a conceptual framework around long-term value (LTV) is a basic element for measuring, comparing and communicating on the value created with investors and stakeholders. In order to be effective, this framework must:

- Be defined in a clear **context**;
- Be at the heart of the company's purpose, **strategy** and business model
- Factor in material subjects for the **stakeholders**; and
- Be **simple** to understand, **ensured and secured**, while being **comprehensive** across the value definition scope.

By taking these objectives into account, the EPIC, Embankment Project for Inclusive Capitalism, has defined and proposed the use of the LTV framework introduced and illustrated below. The framework defines a logic to enable the determination and assessment of parameters relevant to the creation of sustainable value for a business. It includes several steps:

- Analyzing the context in which the company operates;
- Examining the company's purpose in this context;
- Reviewing the company's strategy and governance;
- Assessing the company's positioning to achieve its objectives;
- Structuring stakeholders' outcomes by value categories and exploring value creation a protection lever further [(1)];
- Analyzing strategic capabilities through value levers (the most valuable, rare, inimitable, non-replaceable resources that create a competitive advantage); and
- Determining relevant, consistent and transparent indicators [(2)] for long-term value.

Figure 37: Long Term Value (LTV) framework – EPIC

(1) *The framework recognizes the need for companies to create and protect value, beyond purely financial criteria. The following three value categories provide a perspective on value creation in addition to financial value:*

- ***Human value**: the value a company creates through the employment and development of people in terms of culture, engagement, leadership, know-how and skills;*
- ***Consumer value**: The functional or emotional value a company creates through goods and services to meet consumer needs, including innovation (e.g. product quality and image); and*
- ***Societal value**: the value created through the company's relations with all external stakeholders, including the environmental, social and economic impacts along the value chain {e.g. resource efficiency, health and well-being, job creation)*

(2) *The existence of indicators is necessary to measure the company's ability to achieve stakeholder outcomes in a consistent and transparent way, including associated strategic capabilities. Metrics measuring the "health" of a company's strategic capabilities allows to assess which capabilities should be invested in to ensure that stakeholder outcomes will continue to be delivered, as well as to ensure financial performance. The parameters can be classified into three categories:*

- *Common metrics;*
- *Industry-specific metrics; and*
- *Company-specific metrics.*

3.4.2 Positive Impact processes

To be a credible newcomer in impact investing, it is necessary to align the approach with best standards, including the most recent impact standard, that builds on all others: the Operating Principles for Impact Management (OPIM). As illustrated below, being aligned with these Principles will imply integrating impact at all investment stages: strategy, investments (from screening to exit), and portfolio management.

The Framework shall also stipulate the eligibility criteria of the projects to be invested in and the way to evaluate their success.

Strategic intent	Origination & Structuring	Portfolio Management	Impact & Exit
1. Define strategic impact objective(s), consistent with the investment strategy. 2. Manage strategic impact on a portfolio basis.	3. Establish the Manager's contribution to the achievement of impact. 4. Assess the expected impact of each investment, based on a systematic approach. 5. Assess, address, monitor, and manage potential negative impacts of each investment	6. Monitor the progress of each investment in achieving impact against expectations and respond appropriately.	7. Conduct exits considering the effect on sustained impact. 8. Review, document, and improve decisions and processes based on the achievement of impact and lessons learned.
Independent Verification			
9. Publicly disclose alignment with the Principles and provide regular independent verification of the alignment			

The preparation of a positive impact framework that aligns operations with both the fund's strategy and the best standards typically requires the need to: 1) Perform a gap analysis against the main standards (OPIM; Principles for Positive Impact Finance (IFC); Impact Management Project (UNEP-FI); ESG guidance for PE firms (PRI, France Invest, etc.)); and to 2) Build a benchmark of practices by local and international peers. A sound Impact Framework, which would allow an alignment with the OPIM, would require answering the following questions (non-exhaustive list – provided for investees adaptable to assets via their SPVs):

Strategy	1. How do you identify the impact objectives, channels and establish the narrative? 2. What are your strategic impact objectives and how are they integrated into your investment strategy? 3. What goals are addressed? Are they aligned with recognized frameworks? 4. How do you assess direct and systemic impacts? 5. How do you measure the additionality of your investments? 6. How do you choose your indicators? 7. How does your strategy evolve over time and how do you incorporate learnings into your processes? 8. How do you maximize impact of your investments through other channels (building partnerships, knowledge sharing)?
Governance	1. How do you manage impact achievement on a portfolio basis? 2. What incentives facilitate the achievement of the targeted impacts? (incentives for the investee, for the impact team internally) 3. How are the incentives formally integrated in the pay scheme of your teams? Do you use bonus scorecards? 4. How do you build on experience to improve investment decisions and management processes? 5. How are responsibilities for the final investment decision defined regarding impact/ESG matters? 6. Who is in charge of data collection and quality? How do you control data quality? 7. How do you ensure that the necessary resources are available for impact-related monitoring of investments?
Qualification & assessment phase	1. What are the eligibility criteria regarding your investments? How is impact included in your screening/decision process? 2. Ex-ante, how do you assess and quantify the intended positive impacts? How is this formalized? 3. How do you identify and assess potential negative impacts? 4. What is the Impact due diligence process? When is a site visit required? 5. What is the timeline for agreeing on impact related indicators and targets with the potential investee?

	6. How are your commitments with the investee formalized? What should be included in the legal agreement / side-letter regarding impact? What other tools / guidance do you provide to the investee (reporting template, etc.)?
Monitoring & portfolio management	1. What controls are in place to ensure that commitments with investees are fulfilled? 2. When is a site visit required during monitoring phase? 3. How do you manage impact achievement on portfolio basis? 4. How do you work with your investees to maximize the positive impacts? How do you engage with your investees? 5. How do you work with your investees to avoid (or mitigate and manage) the potential negative impacts?
Exit phase	1. How do you ensure that impact performance will be maintained after exit? 2. How are exits analyzed and how do they feed into the evolution of your strategy and future investment strategy?
Reporting process & data reliability	1. What is your overall approach regarding data collection and reporting? 2. How often do you report on impact-related results of your investments? 3. What are the indicators that are published at portfolio level? 4. How are these results taken into account / analyzed at a strategic level? 5. How do you ensure data availability and reliability? 6. How do you help your investees to have better data quality and more robust reporting processes?

In addition to the OPIM, the IFC is currently developing an Anticipated Impact Measurement and Monitoring (AIMM) system tool. Such tool aims to enable the IFC and the investing community to estimate the expected development impact of their investments—allowing to set ambitious yet achievable targets, and to select projects with the greatest potential for financial sustainability and development impact.

Besides enabling the assessment of project-level outcomes, the AIMM system will allow the analysis of the systemic effects on the overall market. It looks at how a project affects its stakeholders and examines the broader effects on the economy and society, including how projects promote objectives that underpin efforts to create markets—by promoting competitiveness, resilience, integration within and across markets, inclusiveness, and sustainability.

Underpinning the AIMM system will be a set of frameworks for analysis by sector. Each framework will outline the relevant set of project outcomes and market-creating benchmarks, as well as IFC's detailed rating methodology for each sector. IFC is currently developing and will roll out 25 unique sectoral frameworks. Feedback is currently being collected from stakeholders on these frameworks (frameworks' brief currently available include: Telecom/Media/Technology, Airports, Ports, and Roads).

3.4.3 Key performance indicators

The definition and use of quantitative and qualitative indicators are essential for managing the impacts of a company or a project throughout the terms of its investment.

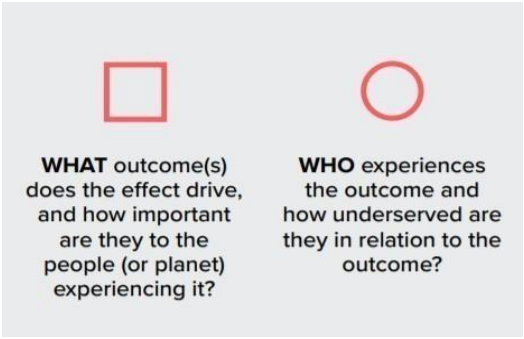
Among the available impact-related indicators those that are the most relevant to the fund's Impact Strategy should be identified. They can be categorized against the following typology:

- **Means** (very) short-term - *Investment, Advisory*
- **Outcomes** short-term - *Achievements* (e.g. number of schools built)
- **Effects** medium-term - *Specific objective(s)* (e.g. number of children attending school)
- **Impacts** (very) long-term - *General objective(s)* (e.g. improvement of national school enrolment rate)

Key sources for impact indicators:

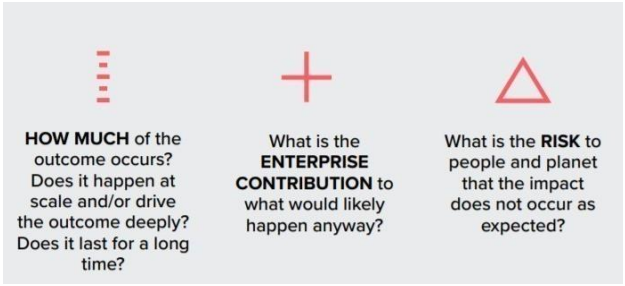
Focusing on the first dimensions of the IMP framework (see below: What and Who), indicators will be defined based on the following inherent characteristics:

- **Cross-cutting to the SDGs and industries listed in the Impact Strategy** (for this reason, a single indicator may require various methodologies to cover all industries/technologies);
- **Impacts and effects rather than outcomes**; and
- **Specific, Measurable, Achievable, Relevant and Time-bound (SMART)** – in particular, there is a need to select indicators for which data collection is realistically feasible.



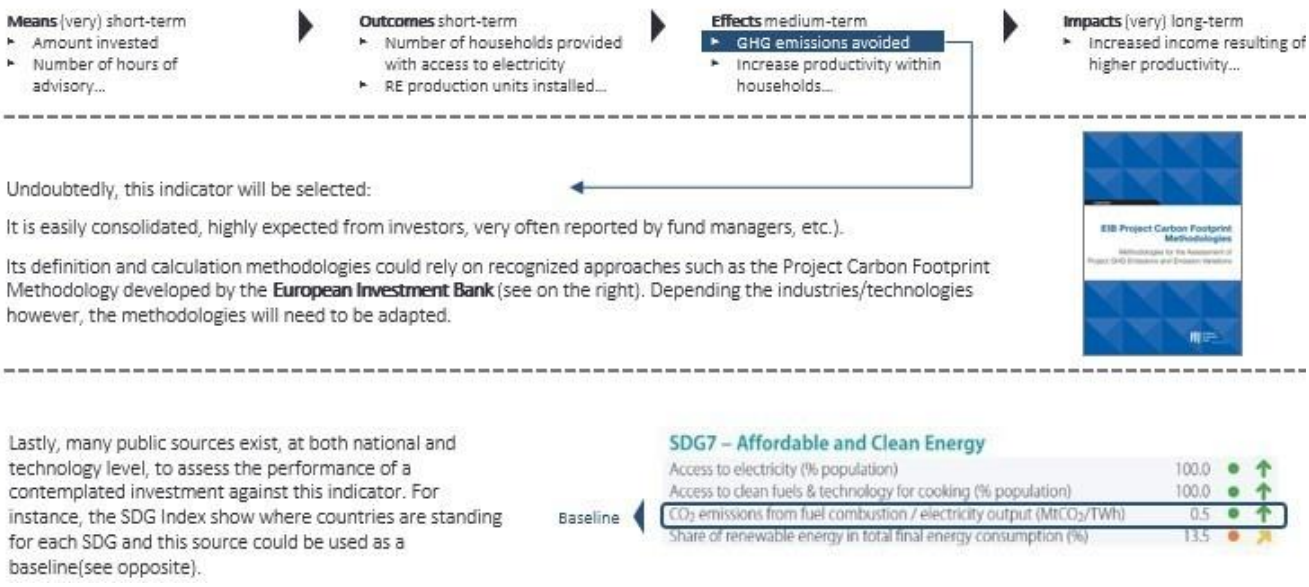
Finally, this set of indicators need to be analysed to identify the relevant questions to answer and available public sources to address the last three dimensions of the IMP framework (see below: **How much**, **Contribution** and **Risk**):

- Baseline of the current situation;
- Scale, depth duration, likelihood of the impact; and
- Depth and duration of the investment contribution.



An illustration of the process that can be used to identify relevant indicators is provided in the figure below.

Figure 38: Examples of how the process could look like for an SDG (here, "Affordable & clean energy")



As Investisseurs & Partenaires states in its 13th Africa lesson, *"It is difficult to assess the impact ex ante just as it is imperative to combine different measurement tools to better understand it and know how to optimize it. I&P has established a continuous process to improve its impact measurement and management practices over the years. Experience has indeed shown us that it is necessary not only to combine quantitative tools (annual collection of cross-functional indicators, qualitative tools (in-depth study on the ground with a given company), as well as a portfolio approach and on individualized approach per company that depends on its geographical , sectoral and market context, in an attempt to best assess the positive and negative impacts of our investments and thereby manage them optimally."*

3.4.4 Case studies

The View from our members: CNP Assurances SA & LBPAM

CNP Assurances SA invests in infrastructure debt together with La Banque Postale Asset Management through multi-investor discretionary funds as well as through dedicated accounts.

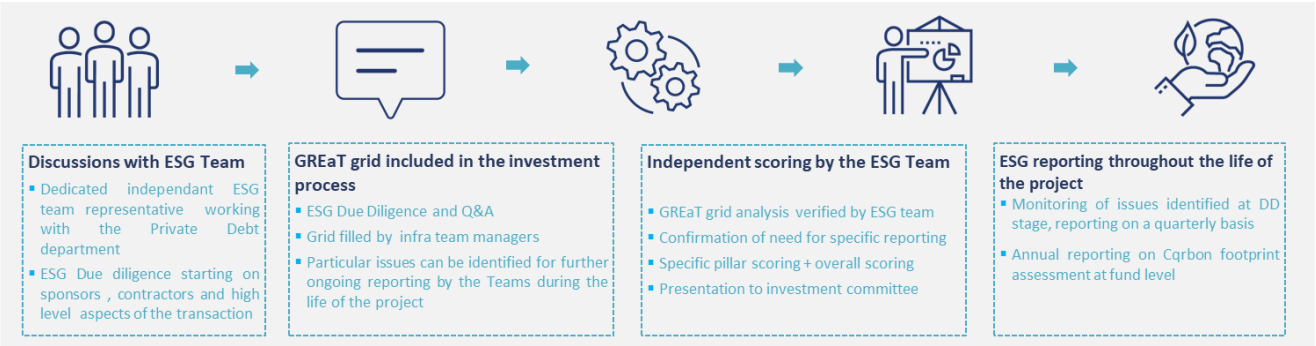
ESG being one of overarching principles for all CNP's investments, it is also fully integrated in selection and detailed analyses of all the potential investments together with LBPAM. A dedicated SRI team works alongside with LBPAM's investment teams in evaluating all investment opportunities, and ESG aspects for a major part of all files presented to investment committees of both, LBPAM and CNP:

Socially Responsible Investment (SRI) and ESG are fundamental to LBPAM infrastructure debt strategies, in line with LBPAM's goal to achieve 100% ESG management by 2020. The Infrastructure Debt Team has been a pioneer in ESG and started to embed ESG analysis in its investment process as soon as 2016. In 2018, our rating grid was enhanced to reflect LBPAM's proprietary methodology called GREaT. This methodology relies on four pillars: quality of corporate Governance, management of natural and human Resources, contribution to the Energy and economic transition, and support to local development of Territories. The latter, being specific to LBPAM's DNA, puts the emphasis on the role of infrastructure as regards to local employment and access to basic services for livelihoods.

This methodology is used by the Infrastructure Debt Team in order to provide an extra financial analysis and a scoring for each transaction. LBPAM Investment Managers conduct this extra financial analysis based on available Due Diligence but also through ad hoc Q&A process with the company, its advisors and its Sponsors.

The ESG Team comments and confirms the scoring scale prepared by the Infrastructure Investment Managers. The GREaT scoring is presented at the Investment Committee and is therefore taken into account in the final investment decision.

Figure 39: ESG integration throughout the investment process



Throughout the holding period, CNP is provided with an annual ESG reporting as it is an investor in the LBPAM infrastructure funds. The ESG reporting includes the following information:

- The "GREaT" profile of each transaction
- The carbon footprint of the projects in the portfolio provided by Carbone 4

The social and economic impact of the projects (employment creation and GDP impact).

The View from our members: InfraVia Capital Partners

aligning investments with the UN SDG

In 2019 InfraVia Capital Partners has decided to review and enhance its sustainability charter taking a step forward by including impact considerations. InfraVia Capital Partners is committed to aligning its investments with the Unites Nations' Sustainable Development Goals (SDGs), and recognizes the SDGs as the set of common goals allowing asset owners, investors and portfolio companies to outline sustainability priorities and to speak a common language.

InfraVia Capital Partners recognizes that infrastructure assets and tech companies have both positive and negative externalities. A twofold sustainability approach is defined (i) Measure and disclose positive and negative externalities, (ii) Act to mitigate negative impacts and scale-up positive impacts. In this context, the firm uses the SDGs to define a set of baseline priority sustainability standards for all its investments regardless of the sector, and to conduct a sector-based materiality approach.

InfraVia is committed to implementing its sustainability charter across the investment cycle, from investment selection to divestment, and to support its portfolio companies in implementing their sustainability strategies. Five transversal SDGs have been chosen by InfraVia to represent its sustainability priorities and are used to analyze the impact of its portfolio on key topics. InfraVia is convinced that all portfolio companies can take actions on those transversal sustainability areas and is committed to providing support for a continuous implementation.

A case illustrating this approach implemented at portfolio company Celeste is shown below. Celeste is a French digital infrastructure B2B platform providing high-speed connectivity to SMEs, large enterprises and the public sector. It is fully committed to promoting sustainable development and adopted selected UN SDGs since its creation.

Selected SDG	Company Contribution Case Study - CELESTE (www.celeste.fr)
#5 - Promotion of gender equality, equal treatment, diversity	
All employees must actively ensure that there is no discrimination of any kind in the workplace in order to meet standards of equality, ethics and responsibility	
#8 - Contribution to economic growth, job creation, social inclusion, health and safety	
Celeste's activity has a direct impact on employment, economic growth and productivity. Celeste focuses on employees' health and safety, and quality catering service, skills reinforcement with training modules, with the objective to strive for the highest employee and client satisfaction.	
#9 - Development of reliable, sustainable and resilient infrastructure	
Thanks to an active R&D CAPEX program, Celeste's clients benefit from a robust innovative infrastructure. Celeste's program features its own patented data center designed to optimize its power consumption with air-based free cooling system.	
#10 - Reduce inequalities (within Celeste SDG pillars only)	
Celeste works for local development and general interest through its contribution to the socio-economic development of the regions, or by taking part in public interest initiatives. Managerial choices integrate social diversity and openness to students and seniors.	
#13 - Fight against climate change to strengthen resilience and adaptive capacity to climate-related hazards, and to limit GHG emissions.	
Celeste contributes to environmental preservation by limiting all sorts of pollution to the greatest extent possible and by deploying an environmental protection approach. The main issues identified are energy consumption, equipment recycling and waste management. Celeste's patented data center free cooling process reduces energy consumption by 35%, enabling the company to enter the green internet. Resources are monitored to limit electricity consumption; biodegradable materials are prioritized; electric vehicles usage is promoted; rail is the preferred option for business trips; premises are built in wood and waste management systems are in place.	
#16 - Responsible governing bodies, encouraging transparency and accountability, and supporting business ethics, anti-corruption, data-protection and cybersecurity strategies	
Celeste's governance structure integrates an ethical and social responsibility approach. An ethic charter has been developed with key principles around employee personal responsibility, respect of the law, clients and suppliers relations (fairness, honesty, courtesy and professionalism), respect for competition, fight against corruption, political neutrality, transparency and communication, promotion of social dialogue, and protection of assets including cybersecurity.	

In addition to the transversal approach, InfraVia has defined an exposure map which covers additional SDGs, relevant to the infrastructure/technology sectors. SDG 10 (social inclusion), SDG 11 (smart cities), SDG 7 (renewable energies), SDG 4 (quality education), SDG 15 (life on land), SDG 14 (biodiversity preservation), SDG 3 (better health) have been defined as additional priority goals

InfraVia also recognizes the materiality of climate change for infrastructure investments, as a risk factor and in terms of impact. In this context, its climate strategy consists in three main priorities (i) assessing and addressing climate-related risks to ensure the viability of the investments in the long-term, (ii) recognizing the potential environmental impact and deploying initiatives to mitigate the negative impacts, and (iii) allocating capital to finance low-carbon alternatives and optimized energy solutions (e.g. renewable energies, urban transport, energy efficiency).

The View from our members: Meridiam

Integrating SDGs in strategy

Meridiam details in its ESG policy its approach and integration of the United Nations Sustainable Development Goals (UN-SDGs) framework into its business model and sustainable strategy. It has reinforced its sustainability strategy by defining 5 pillars based on the SDGs most relevant to its role as a long-term infrastructure asset developer, investor and manager. These 5 pillars, presented in the table below, set the long-term key measurable objectives of Meridiam's long-term sustainability strategy.

Resilient infrastructure and Sustainable Cities	"Provide resilient infrastructure and develop sustainable cities"	
Clean and affordable energy	"Accelerate energy transition"	
Climate strategy	"Avoid emissions and reduce them"	
Decent work, inclusion and gender	"Promote good work conditions, inclusion, diversity and gender equality"	
Biodiversity	Protect and enhance biodiversity"	

In order to work towards achieving these 5 objectives, Meridiam has developed a variety of tools used throughout the various phases of a project, from the identification of opportunities to the asset management phase. During the asset management phase, Meridiam benefits from its tailor-made ESG/SDG questionnaire to measure the impact of its activities across its portfolio. The questionnaires are customized for each project and composed of a set of key performance indicators derived and adapted from the original SDG framework.

2020 marks the first time that Meridiam translates the results from these questionnaires into a graph that illustrates the project's contribution to the SDGs relevant to its activity. These graphs can display results at a project level, for each type of infrastructure asset (energy, mobility or social type projects), at a fund level and for Meridiam's global portfolio (see opposite example). The main takeaway is to identify how strongly projects contribute towards certain SDGs and how others could improve their performances in that regard. This will ultimately strengthen Meridiam's role as a long-term infrastructure asset manager and create added value at project levels.

Case Study: Kinguele hydroelectric station

Meridiam has signed in 2019 the concession contract with the Government of Gabon (GoG) for the 34-MW run-of-the-river Kinguele Aval hydropower plant. Located on the Mbei River, 100 km East from Libreville, the Kinguele Aval Hydropower Project will deliver about 13% of the electricity needs of Libreville the capital city of Gabon. This power plant will contribute to replace thermal power capacities and will save more than 150,000 tons of CO2 emissions per year. This 33-year concession project includes the construction of a gravity concrete weir, a power plant, a stilling basin and a substation. Construction is scheduled to start in the second quarter of 2020, with commissioning scheduled for the end of 2023. During the construction period, 800 direct jobs will be created on site. During the operation phase, twenty Gabonese professionals will be responsible for the operation of the hydroelectric power plant.

A comprehensive Environmental and Social Impact Assessment in line with IFC performance standards reportedly confirmed low impact on fauna and flora and that no population will need to be resettled. Nevertheless, concrete actions will be implemented to the benefit of the environment and the social communities:

- A biodiversity action plan is programmed to protect or rebuild habitats of endangered species with positive net gain and financial support for research in botany and fish studies.
- Rural electrification will also be addressed with the connection of the village of Andock Foula located 3 km from the site and currently without electricity.
- Hospital staff and patients will be provided with new and modern equipment to ensure effective treatment of populations and workers on site.
- A fund will be set up to support local initiatives and assist local communities in developing sustainable activities.

Meridiam will own 60% of the Kinguele Hydropower project company with its partner FGIS (the sovereign wealth fund of Gabon) owning 40%. The c.€150 million Kinguélé Aval project is 75% financed by leading development banks in Africa and around the world.

This project directly contributes to some of the United Nations Sustainable Development Goals (UNSDGs): building a resilient infrastructure, promote inclusive and sustainable industrialization that benefits all and foster innovation (SDG 9); provide affordable and clean energy (SDG7), and promotion of decent work and economic growth for all (SDG8).

Meridiam is currently developing and financing 14 projects in Africa, with a strong focus on renewable energy.

The View from our members: STOA

Impact policy

While looking for market returns - the condition of the credibility and sustainability of our fund - STOA is also an impact fund. In April 2019, we were one of the first signatories to the Operating Principles for Impact Management, to reaffirm our commitment as a long-term investor.

Our ambition is to establish long-term partnerships in strategic sectors to meet the needs of people in critical infrastructure in emerging markets, thereby fostering the development of sustainable and resilient economies. Achieving the United Nations SDGs is at the heart of the activity, and the impacts of each project we fund are assessed according to the SDGs, including country economic development, the number of job creations, and also the climate. Our climate commitment is based on three pillars: promoting low-carbon trajectories - 30% of our investments are spent on climate-benefit projects - financing climate-resilient projects, and redirecting financial flows to catalyze investment for climate co-benefit projects in developing countries. To expand access to reliable, low-carbon and affordable energy, renewable energy and energy efficiency projects are preferred. In particular, we refuse to invest in coal-fired energy projects.

The objective of STOA's impact policy is to integrate SDG considerations at each stage of the investment cycle: the goals are embedded in the philosophy of the approach, implemented through an impact-centred screening and investment decision methodology, and monitored using SDG indicators at both a project and portfolio level.

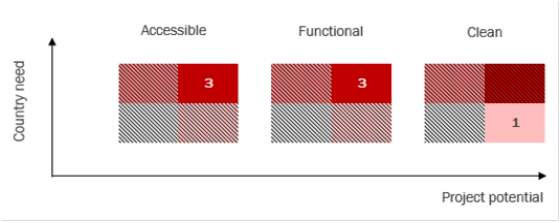
At a strategic level, STOA targets 30% of the funds on projects with inherent climate benefit (i.e. infrastructure or energy projects that provide lower carbon solutions/options than typical alternatives), in support of SDG 13 on Climate Action; and 50% of funds on bridging the infrastructure gap in Africa (in line with SDG 9 on Industry, Innovation and Infrastructure). Other indicators such as job creation, in line with SDG 8 on Decent Work and Economic Growth, and the share of women in management positions, in support of SDG 5 on Gender Equality, are also fundamental to all the projects that STOA invests in.

These goals are then integrated into STOA's global impact scoring tool, which in turn forms an essential part STOA's due diligence process. Through its application STOA can identify a project's potential outcomes, and thereby select projects that contribute positively to the SDGs for the portfolio. Any project STOA selects must fall into at least one of three pre-defined outcome areas: Accessible, Functional and Clean. As part of this process STOA has used the SDG Index[1] as a reference in assessing the project's potential and the country's needs. For instance, when evaluating a potential project

[1] www.SDGindex.org

against SDG 13 on Climate Action, its carbon footprint and potential for GHG emission mitigation are evaluated to identify high GHG emission projects that would be incompatible with the country's low-carbon trajectory.

After this initial screening, each outcome area is scored between 0 and 3 using the following criteria:



High Impact – High country need (top-right) - Projects with high potential to improve the infrastructure service in a country with high need for such a service score 3 points;

Low impact – High country need (top-left) - Projects with low potential to improve the infrastructure service in a country with high need for such a service score 2 points;

High Impact – Low country need (bottom-right) - Projects with high potential to improve the infrastructure service in a country with low need for such a service score 1 point; and

Low impact – Low country need (bottom-left) - Projects with low potential to improve the infrastructure service in a country with low need for such a service score 0 points.

These scores are then submitted to the board alongside other financial and ESG due diligence materials as part of the final decision-making process for an investment.

Finally, once a project is in STOA's portfolio, the ESG Team and Financial team collect outcomes-related data – for example, on employment, general economic activity, and carbon emissions, and considering both direct and indirect outcomes - from the project on an annual basis. STOA records the data in the impact tool, which automatically generates a Project scorecard and updates the Portfolio dashboard. The ESG Team uses this information for monitoring purposes and as input for STOA's Annual Impact Report.

Case Study: 420 MW hydro dam project, Nachtigal, in Cameroon under construction since February 2019

Since 2018, alongside Électricité de France (EDF), the Cameroonian State, the International Finance Corporation (IFC) and Africa 50, STOA has been investing in the construction of a large hydroelectric dam in Cameroon. The project, led by the Cameroonian company Nachtigal Hydro Power Company (NHPC), aims to develop the supply of electricity in the country. The objective is to build and operate a 420-megawatt hydroelectric dam in Nachtigal, a village located 65 kilometers from the capital Yaoundé.

When it is commissioned - planned for 2023 - the Nachtigal dam will be the largest dam developed on the African continent in project funding. It meets the demand for increased electricity in Cameroon while generating energy at a competitive cost. This low-carbon solution will also play a decisive role in the country's energy transition. Ultimately, nearly 850 kilotons of CO_2 could be avoided each year on a national scale.

The environmental and social risks of the project are mitigated through an ambitious management system. This includes, in particular, a local economic development action plan and measures dedicated to biodiversity and social issues setting out IFC performance standards: protecting but also avoiding, reducing and compensating for the negative impacts of the project during the construction and development phases.

With the support of IFC and specialized NGOs, NHPC trained its staff in the prevention of gender-based violence. In 2019, 29% of the company's employees are women, making it a flagship project on this subject in the world of infrastructure.

4

ESG Standards and tools

Investment professionals need actionable and practical standards. While ESG has become a buzzword in recent years, proving itself as a thriving and mainstreaming investment practice, the variety of definitions is a significant problem for market participants as they often mean different things by ESG, which can lead to inefficiency in the investment process and lack of transparency. If anything, the market is currently getting even more fragmented as new and different guidelines emerge around green loans, sustainability or SDG-linked products. The multiplicity of frameworks and tools implies the need to separate what matters to investors from the noise. It also requires asset managers to adopt a common language and to adapt their reporting practices accordingly when communicating their performance to their asset owners and other stakeholders. There is, hence, a clear need for a coordinated framework at the global level, or at least to align the various existing tools.

Surveys and consultations of the investor community repeatedly point out the following expectations and recommendations:

- Encourage a common understanding of ESG criteria and frameworks, against a background of the increasing number of definitions and standards;
- Provide guidance and promote the ability of investors to measure and compare sustainability and ESG performance in infrastructure investment, through better infrastructure project data disclosure;
- Eventually, the market will winnow out and a number of standards, by sector, investment style or business-model, will emerge as best-in-class. Meanwhile, one has to live with a fragmented landscape.

Overall, ESG integration and the associated reporting practices should be based on standards, guidelines and assessment tools that aim to contribute to transparent communication and to provide consistent and relevant information on impact performance at both individual asset and portfolio levels.

Compared to other sectors, the adoption of ESG standards and tools in the infrastructure sector is still a nascent practice. Even though the infrastructure investor community is arguably already familiar with impact assessment requirements from regulators to ensure compliance with environmental or social standards, supervisory controls have generally been focusing on a "Do-no-harm" approach, i.e. preservationist analyses of whether or not to build, what and where to build. By contrast, accounting tools and project rating systems tend to focus more on the "how to" dimension, i.e. how to develop, build, maintain and operate an asset in a sustainable manner. Infrastructure accounting or rating tools thus do not overlap with regulatory prescriptions but complement and "pick up" where the regulators left off, covering management practices and performance indicators of assets already in operation or approved for construction stage. Yet, there is a risk for the industry that if it doesn't adjust its practices quickly enough, public regulators may soon step in and dive deeper into management practices.

It will most likely take some time before the infrastructure investor community converges towards a consistent and internationally adopted body of rules. After all, it took decades for the accounting standards to be refined and adopted globally. And ESG matters applied to infrastructure are presumably more diverse and qualitative, hence more difficult to reflect and encapsulate than monetary transactions.

Several tools have been developed to facilitate ESG assessments during the investment lifecycles and many of them are widely recognized and commonly used by institutional investors.

- **ESG Accountability Tools (Framework standards):** Frameworks are adopted by institutional investors, asset managers, developers, designers and public-sector sponsors to manage assets' sustainability performance through a set of criteria. **ESG frameworks typically address investment and risk management, as well as reporting.**
- **ESG Rating Tools** cover online platforms, questionnaires, applications and software used to support the main users (investors, governments, procuring entities…) in their infrastructure project's ESG assessments. The outputs of these tools are typically qualitative or quantitative evaluations of projects addressed ESG risk and performance levels. ESG Tools can be classified into two categories: evaluation and valuation tools**.**

Frameworks and tools presented in this section are intended to promote guidance on relevant criteria in ESG analysis and capture best practices through screening and

peer benchmarking. However, as in other sectors, rating (screening) standards and accountability tool standards come with their share of trade-offs between criteria measuring environmental performance and those integrating management practices.

Management practices, often entailing secondary impacts on environmental performance, are considered as more objective and easily verifiable assuming a global objective in the sustainable project performance. Thus, many of the identified standards and tools focusing originally on environmental performance indicators have evolved to integrate a management practice approach to achieve the right balance in the project scoring between the E, S, and G dimensions.

ESG frameworks and tools can also be categorized based on:

- **Their intended user** – ESG frameworks and tools are adopted by corporate and institutional financial investors, asset managers, operators, professional service providers (architects, engineers, construction firms, developers), lenders, public sector entities (governments and public institutions) and civil society organizations.
- **The project phase** – ESG frameworks and tools are adopted throughout the project's investment lifecycles to structure investment strategies and communications;
- The **Sectors** – ESG frameworks and tools have been developed to address all classes of investments or specific sectors and sub-sectors in order to address their specificities; and
- **The topics of assessment** – Specific guidelines have been, for instance, developed to address biodiversity and climate change matters.

This section of the Handbook intends to provide a structured presentation of existing and most commonly adopted standards and tools. In addition, and within the limits of this exercise, the methodologies used to measure or report on sustainability, the perimeters of use[19] (topics, sectors, sub-sectors, geographies, etc.) of these tools and feedbacks from users have been included to direct the reader to the information most relevant to his or her areas of interest.

The View from our members: Campbell Lutyens

Do asset owners routinely adopt sustainability screening standards and, if so, which ones?

All infrastructure asset owners have ESG policies. The relevant issues are now: How do you measure and aggregate ESG metrics across a range of reports by different managers? What are you going to do with this information once you have it?

The UN SDGs are universally accepted and underpin most, if not all, ESG policies. There is no reason why this should be exclusively for infrastructure as an asset class. What is lacking is a universally accepted measuring toolkit that map to the relevant SDGs. As the FT Moral Money newsletter put it, "There is a scramble underway for ESG data providers". MSCI, the London Stock Exchange Group, Nasdaq, S&P Global Ratings and others have all bought ESG research outfits. Signing up to the UN Principles for Responsible Investment used to be entirely voluntary and self-regulating but reporting on TCFD recommendations is now mandatory for PRI signatories although they can still choose whether to make their disclosures public or keep them private! BlackRock, the largest asset manager in the world, has called on companies to disclose ESG date according to the TCFD (Task Force on Climate Related Financial Disclosures established by the Financial Stability Board) recommendations and SASB (Sustainability Accounting Standards Board). Perhaps this will emerge as the market standard for ESG disclosures?"

19 Links to the corresponding websites for more detailed information are included whenever possible

4.1 Infrastructure sector's initiatives

Since the last version of the Handbook published in 2017, the ESG metrics landscape has significantly evolved but still need standardization to:

- increase trust in the information communicated (presence of numerous in-house and tailored tools, lack of verification, risk of greenwashing, etc.); and
- support the valuation of assets with considerations going beyond direct financial matters.

Against this background, collaborative initiatives are emerging to develop guidance towards the definition of common metrics and consistent reporting of sustainable value creation. The need to align financial interests with long-term value creation, which was already at the core of infrastructure investments due to the long durations of investments, is gaining traction across stakeholders and becomes a strategic pillar to be addressed by investors. Among the ongoing initiatives in the infrastructure at the infrastructure level, the following are worth mentioning:

- EDHECinfra
- G20-OECD Infrastructure Data Initiative (IDI);
- ASSI initiative and the MDB Infrastructure Cooperation Platform;
- Along with Industry initiative (CFA Asset Owners Advisory Council Initiative) or FAST-Infra ("Finance to Accelerate the Sustainable Transition-Infrastructure") and corporate approaches

The View from our members: Understanding ESG to recognize value in infrastructure investments by EDHECinfra

There is growing recognition in the industry and academic field alike that an effective analysis of ESG is key to understanding the value of an infrastructure company. But in order to understand why ESG matters for infrastructure, we first need to understand why infrastructure has value.

The ambition of the research on ESG at EDHECinfra[20] is to **map a well-defined set of measurable and robust ESG characteristics and metrics to a "general theory" of the value of infrastructure investments**. Only then can ESG play its part in the investment decisions investors have to make.

Infrastructure assets have social, economic and financial value. In other words, infrastructure assets have value because they are useful, socially acceptable and financially viable (at least from a cost-recovery perspective to ensure adequate maintenance, which conditions the other two pillars of value). The first task is to develop an intellectual and technical framework to document the links between the ESG characteristics of infrastructure companies and their three different pillars of value. A second, transversal perspective is to look at **Environment, Social and Governance characteristics** as families of **risks and impacts**. Impacts (i.e. growth creation, improvement in living conditions, safeguarding resources, protecting the environment etc.) and risks (i.e. climate change, likelihood of penal regulation etc.) posed by ESG issues to infrastructure companies **directly determine the usefulness, social acceptability and financial viability of infrastructure assets**. This second dimension distinguishing between impacts and risks is where ESG and investment management meet. But it can only be documented properly in relation with the above theory of value of infrastructure assets, otherwise it is not clear why certain data points should matter more than others, if at all. **The intersection of a theory of value with a framework to capture information on risks and impacts is the cornerstone that defines the materiality of ESG for infrastructure.** This **intellectual foundation is often what is missing in ESG standards and reporting**. Over the years, several tools and standards have been developed to support the incorporation of ESG metrics into infrastructure asset analysis.

But there is still much heterogeneity in the way ESG is defined, measured, reported and scored. Further, the metrics captured are often biased, focusing mostly on reporting some kind of impact while shedding little light on the risks that arise from ESG. Specifically, 93% of reviewed metrics focus impacts while only 7% capture risks. Outcomes from EDHECinfra's current ESG research program (sponsored by Natixis) are planned to include:

- A taxonomy of ESG impacts and risks relevant for infrastructure companies, mapping each component back to a theory of infrastructure value (usefulness, social acceptability and financial viability).
- An ESG meta-standard: a database that maps and categorizes 700 metrics reviewed in line with the taxonomy (metrics issued from the review of 17 commonly used tools, standards, and guiding frameworks). The meta-standard is structured in a manner allowing the mapping of data to reviewed measures, making the meta-standard 'inter-operational' within all existing ESG tools and standards.

A series of scalable data collection projects using deep-learning techniques to create a global, coherent and consistent data feed of asset specific characteristics that can inform the assessment of the ESG impacts and risks, populate standards and explain how ESG drives value in infrastructure companies.

Anticipated publication date: mid-2020

[20] Created in 2015, EDHECinfra is an independent research organisation delivering unique index data and analytics measuring the risk-adjusted performance of unlisted infrastructure investments. As a contributor to the development of infrastructure investments, while not Institutional investor, EDHECinfra, along with other academic research institutions, not-for-profits and trade associations, is an Honorary Member of LTIIA. LTIIA, along with its original founders (Meridiam and Campbell-Lutyens), has provided consistent financial and data-input support to EDHECinfra since its creation.

Infrastructure DATA Initiative (IDI): OECD and Multilaterals

The Global Infrastructure Hub (GIH), the European Investment Bank (EIB), the Long-Term Infrastructure Investors Association (LTIIA), the Long-term Investors Club (LTIC) and the OECD combined their efforts to launch in 2017 the "Infrastructure Data Initiative" at the G20/OECD Task Force Workshop.

This initiative's main role is to trigger data collection for infrastructure projects in order to allow a better understanding and control of relevant data to be integrated to existing and future infrastructure investment standards. The quality of ESG data helps build reliable metrics to assess the overall performance project and adjust second-order gains and trade-offs.

The initiative is built through:

- A benchmark of financial performance: benchmark of most common metrics in infrastructure equity and debt investment;
- Economic and impact analysis: assess social and environmental considerations integration in infrastructure projects;
- ESG performance: ESG data sourcing scan among tool providers of anterior relevant projects.

At the same time, the MDB Infrastructure Cooperation Platform (ICP) - see below - has engaged into stock-taking of leading existing initiatives via a survey covering the main public, and private actor, with a full progress report to be shared with G20-IWG members in the second half of 2020.

PPIAF (Public-Private Infrastructure Advisory Facility): Aligned set of sustainable infrastructure indicators (ASSI initiative)

Led by the Public-Private Infrastructure Advisory Facility (PPIAF) of the World Bank, and coordinated by the Global Infrastructure Basel Foundation (GIB), with the collaboration of the Global Infrastructure Facility (GIF), as well as the review of several World Bank Group departments, together with the European Development Bank for Reconstruction and Development (EBRD). Envision, CEEQUAL and GRESB have partnered too.

The ultimate goal is to help improve the mobilization of private capital towards the delivery of sustainable and resilient infrastructure projects on a global scale, with a particular emphasis on emerging markets and developing economies. It focuses on the ESG aspects of sustainability. The ASSI will not represent a new additional "standard", but build on collaboration between leading international sustainability standard setters– GIB (SuRe®), BRE (CEEQUAL/BREEAM), ISI (EnvisionTM), ISCA Ratings and GRESB – (GIB, CEEQUAL, ISI, ISCA and GRESB) to develop a harmonized set of [25-30] sustainability indicators that infrastructure projects should incorporate in their lifecycles to deliver sustainable outcomes.

Based on this bottom-up approach from the standard setter market, the sustainability indicators are to be consistent with finance development partners' sustainability criteria. Further, a critical part of the ASSI is to ensure that the sustainability indicators are investment-relevant through consultations with private sector investors and financiers. The harmonized indicators should capture the market view of core indicators that must be addressed and, if material, embedded in upstream project preparation and development

The scope of the ASSI currently does not include a data repository to collect information on those indicators, but that would be a natural next step to complement these efforts. A first draft set of indicators is being reviewed, with a view to publish it by end-2020/early 2021.

The IIGCC & COP21 - 2 degrees alignment

European asset owners are coming together to develop a common understanding of what it means for portfolios to be aligned with the climate change goals agreed at a UN-convened gathering in Paris in December 2015. The project, launched by the Institutional Investors Group on Climate Change (IIGCC) is being steered by a committee initially comprising Nordic and UK pension investors.

The CFA Asset Owners Advisory Council Initiative

Building on previous work and industry best practice knowledge, GRESB, the CFA Society and University of Cambridge Institute of Sustainability Leadership (CISL) and Africa investor (Ai) in consultation with industry colleagues, are exploring the potential appetite for development of a framework for measuring SDG impact in the infrastructure asset class.

In 2018, the CFA Society New York launched the CFA Global Asset Owner's Advisory Council (AOAC), to bring members perspectives from the most influential asset owners and local market decision makers. The AOAC convenes decision making Asset Owners from across the CFA's global network of Societies, representing over $60 trillion of assets under management and advisement.

To address the challenge of bringing assistance to asset owners in measuring impact, the AOAC, approached GRESB, CISL and AI as technical partners to investigate the creation of a framework, narrative and benchmark to measure impact of infrastructure assets on delivery of the SDG's and ESG and promote adoption amongst their respective asset owner networks.

The onslaught of COVID-19 has shone a light on the need to rapidly scale long term investment into building resilient infrastructure to mitigate future pandemics. As a result, surging interest in ESG and the SDGs creates urgency for asset owners to define, measure and defend the value case for institutional investors to pursue ESG compliant investments and contribute to the SDGs.

The View from our members: Guggenheim Sustainability Quotient (SQ)

Guggenheim Investments is the global asset management and investment advisory division of Guggenheim Partners, with more than $250 billion in total assets across fixed income, equity, and alternative strategies (including infrastructure).

Guggenheim has developed the Sustainability Quotient (SQ), a Framework for Sustainable Development for institutional investors to use when considering an investment in sustainable infrastructure According to the SQ, each development project must be engineered to contain the following four key attributes before capital is committed.

1. **Financial return**: Potential benefits include attractive risk-adjusted returns, low correlation to other asset classes, stable cash yield, long-lived physical assets, barriers to entry for competitors, and a measure of inflation protection.
2. **Good governance**: All developments must adhere to the laws and regulations of their local jurisdictions and must be transparent, demonstrably free of conflict and corruption, and fully compliant with the investment regulatory regime of the investor base. The governance criteria include ethical and accurate accounting, audit and disclosure practices.
3. **Social Impact**: Factoring in social impact can help perpetuate economically productive activities that can continue to benefit long term investors even after the initial project has completed its effective lifespan, at the same time insulating potentially vulnerable communities from the devastation of poor planning.
4. **Environmental soundness**: It is vital that an analysis of soundness is carefully integrated at inception & draws on the expertise of partners who specialize in different aspects of the entire matrix of environmental soundness.

Guggenheim partnered with the World Wildlife Fund to commission a report by the Stanford Global Projects Center that identified and analyzed the various metrics used to assess the sustainability of infrastructure investments.

The 95-page report, "State of the Practice: Sustainability Standards for Infrastructure Investors", provides a practical guide for the practice of infrastructure sustainability, and is a key resource for investors who want to develop a differentiated approach to the impact of their investments. The report reveals that rating and accounting tool developers for the industry will likely continue to evolve their offerings, while pioneering investors in the industry will likely continue to experiment with different tools.

The key to the success of these efforts depends on the convergence over time of comprehensive, standardized reporting of sustainable investment metrics.

4.2 Member Insights

2020 Members Survey

Which standards and tools are you using in your ESG processes? Please provide your opinion on their key advantages and disadvantages.

Most respondents resort simultaneously to several standards and tools available on the market while some have developed their own tools (GRESB, S&P).

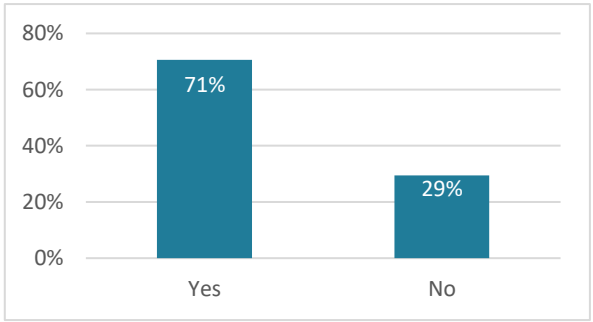
SDGs, UNPRI (on the private equity side), and GRESB (for Infra & Real estate) tools are widely mentioned, while Allianz specifically refers to Equator Principles and the IFC's E&S Performance Standards when investing in Emerging markets. Manulife IM participates - beyond global tools like GRESB, SASB or PRI - in various sustainability initiatives, industry associations and working groups, along regional lines.

Where the impact strategy is concerned, other complementary tools can be resorted to: beyond SASB, MSCI, and the SDGs, SWEN has used tools from the GIIN, the IMP, the SDGs and the impact commissions of the FIR (Forum pour l'Investissement Responsable) and France Invest; for its internal controversy monitoring of its portfolio companies (Reputational risk), it uses Worldcheck, OFI's SRI team, and Google Alerts.

2020 Members Survey

Have you developed your own proprietary ESG tools?

Figure 40: Have you developed your own proprietary ESG tools?



More than 2/3 of respondents have, with a wide variety of patterns adopted, from bespoke questionnaire and check lists to databases and qualitative references.

Skandia process mainly relies on inhouse competence and proprietary methodologies, partly supported by external data/analysis providers (when access to data is available) above). Our assessment in generally qualitative/holistic rather than quantitative. CALPERS is developing a climate mapping tool to assess certain environmental risks (drought, flooding, etc.) of assets, and has an ESG Consideration Matrix, used in underwriting infrastructure assets.

InfraVia developed its own questionnaire of over hundred data points, to be completed by all portfolio companies, allowing to

collect, compare, monitor, analyze and consolidate extra-financial information across the portfolio.

SWEN also developed its own internal tools including Extra financial database recording 7 years of ESG data of its portfolio companies through ESG surveys and carbon footprint assessments and controversy monitoring, enabling it to monitor benchmarks for those indicators and track them over time. It also worked to harmonize an ESG questionnaire with other actors last year.

The EIB's Environmental and Social Standards are grouped across ten themes, which make up the standards that investments financed by the EIB must meet. For some investors, like Arpinge, the work is still ongoing, with a ESG-compliance scorecard for the pre-assessment phase, we developed to evaluate if the investment is ESG compliant, and proxies being developed for the ex ante and ex post evaluation of the impacts. Others (Manulife) focused on developing their own ESG checklist, based on external research and data

Among those who didn't go that route of proprietary ESG tools, some, like Allianz, do not believe these are relevant to the private debt asset class for infrastructure, in which investments are bespoke and cannot be adequately assessed through standardized ESG metrics. Some asset owners like CNP rely their asset managers which have developed their own ESG tools, e.g. LBP AM.

No respondent mentioned resorting to deep learning/artificial Intelligence practices.

The View from our members: Meridiam (& ENEA)

impact- measuring tool

Over the last 4 years Meridiam and ENEA Consulting have collaborated, both on identifying and de-risking new investment opportunities - in the low carbon transition field - and on designing a unique "impact" framework for Meridiam that supports its investment thesis in sustainable infrastructure.

We need collectively to make sure that new frameworks & developments such as UN SDGs, the European taxonomy, or large asset owners' recent commitments to re-allocate capital to sustainable activities like the UN-convened Net-Zero Asset Owner Alliance are moving in the right direction from an environmental and social standpoint. This means having adequate tools to measure and monitor impact. Here are some lessons we can share after two years of intense research, collaboration and implementation efforts to integrate "impact" in a concrete and ambitious way into the real life of Meridiam's activities:

- Consider a holistic framework to cover all type of impacts and avoid shortcuts. Be more granular on what is the most important (concept of materiality). Adapting efforts to actual materiality is mandatory.
- Do not remain at the surface as the devil is often in the detail and outcomes may be counterintuitive. Being granular and project specific on what truly matters (e.g. looking at behaviors, supply chain, externalities) is essential.
- Contextualize impacts depending on the type of geographies you invest in.
- Develop relevant and detailed KPIs at the asset level.
- Set objectives and benchmark yourself.
- Design an "impact roadmap" to achieve these objectives and implement it Adapt methodologies, tools and procedures to manage impact throughout the life of the fund.
- Make performance assessment and reporting tools user-friendly and visual – which does not mean "simple" nor "fully standardized" – for all your stakeholders.
- Onboard stakeholders and make it part of your value proposition to align interests.
- Be transparent and ready to be challenged.
- Once you have integrated impact at the right level, you can explore further synergies with your financial and investment strategy.

There is inevitably more work ahead. Below are some considerations to keep moving things forward:

- Push for the development of ambitious and robust methodologies and impact strategies, even if this represents an immediate investment.
- Challenge, complete and improve existing data.
- Development of innovative financial mechanisms would help to align the interests of stakeholders and share the delta of value created or add value to strategies aiming at optimizing long-term environmental and social impacts.
- Accelerate research on the correlations between impact and "risk/return".
- Train all stakeholders on impact.

While much effort will be needed over time, we are convinced, based on our practitioners' experience, that new approaches and standards can be implemented to go beyond current practices to assess and monitor positive impacts of infrastructure.

4.3 Standards and frameworks

Standards have been developed globally to provide guidelines on:

- Investment and risk management frameworks; and
- Reporting frameworks.

Asset owners and managers have many standards to pick from, in relation to ESG, based on their specific objectives, which range from socially responsible investment, sustainable investment to impact investment. Most commonly used standards are presented in this section and a more exhaustive list and a few additional descriptions are presented just below and in Appendix.

Frameworks
Equator Principles (EP) | Principles for Responsible Investment (PRI) | IFC environmental and social Performance Standards | Commonwealth Development Corporation (CDC) Toolkit
UN Sustainable Development Goals | OPIM (Operating Principles for Impact Management) | IMP | IRIS+| HIPSO | GIIN | UNEP FI Corporate Impact Analysis Tool
Sustainability Accounting Standards Board (SASB) | Global Reporting Initiative (GRI) | International Integrated Reporting Framework (IIR) | EU Taxonomy
UNEP FI: Responsible Property Investment | LEED | BREEAM | HQE | WELL Certification | BiodiverCity label | SuRE
ISO 14007 | 14008 | 9001 | 14001 | 18001 | 45001
Ratings
Arabesque | Bloomberg ESG Performance Scores | CDP Climate, Water & Forests Scores | Covalence | CSRHub | Ecovadis CSR Rating | Ethos | GRESB | TFSE Russel's ESG Rating | Inrate | ISS Quality Score | ISS-Oekom Corporate Rating | MSCI ESG Ratings | Resprisk | SAM Corporate Sustainability Assessment | Sustanalytics' ESG Risk Ratings | Thomson Reuters ESG Scores | Vigeo Eiris Sustainability Rating
Screening Tools
427 | CEEQUAL | Envision | GIIRS | ISCA Ratings | Trucost ESG Analysis
Valuation tools
SAVi | Autocase | TREDIS | Zofnass

Equator Principles (EP):

https://equator-principles.com/

The Equator Principles (EP) are a benchmark set of standards applicable to developing economy projects and providing guidance to environmental and social risks management to support risk decision-making for large infrastructure projects. Set by the IFC and developed upon the IFC performance standards, the EPs have been adopted to date by 104 financial institutions called EPFI (Equator Principles Financial Institutions) in 38 countries. The latest update of the principles is dated November 2019 for an official application starting July 2020.

Listing of Equator Principles (EP4, July 2020)

1. Review and Categorization
2. Environmental and Social Assessment
3. Applicable Environmental and Social Standards
4. Environmental and Social Management System and Equator Principles Action Plan
5. Stakeholder Engagement
6. Grievance Mechanism
7. Independent Review
8. Covenants
9. Independent Monitoring and Reporting
10. Reporting and Transparency

UN Principles for Responsible Investment (PRI):

https://www.unpri.org/

The UN Principles of Responsible Investment cover a set of investment actions aiming to support investors in ESG integration into investment practice. In 2005, the UN took the initiative to unite the world's largest institutional investors in order to set up a common framework for incorporating environmental, social and governance factors, supported by sectoral experts. The PRI's objective is to lead investors in their pursuit of long-term value and to enhance alignment throughout the investment chain. As of March 2020, the global number of PRI signatories exceeded 2300 among asset owners, investment managers and service providers.

The 6 principles for responsible investment

1. Incorporate ESG issues into investment analysis and decision-making processes.

2. To be active owners and incorporate ESG issues into our ownership policies and practices.
3. Seek appropriate disclosure on ESG issues by the investees 'entities.
4. Promote acceptance and implementation of the Principles within the investment industry.
5. Work together to enhance effectiveness in implementing the Principles.
6. Report on each activity and progress towards implementing the Principles.

The view from our members: The UN PRI and infrastructure investment

The Principles for Responsible Investment is the world's leading proponent of responsible investment. It works to understand the investment implications of environmental, social and governance (ESG) factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions. The organisation now has over 3,000 signatories around the world, representing approximately $90tn in assets under management.

Each year signatories report to the PRI on their integration of responsible investment into their investment processes. In 2019, 113 signatories reported on the infrastructure module of the Reporting and Assessment framework; these signatories scored a median A grade for their responses (based on a scale from E to A+, where A+ is the highest grade, and E the lowest).

The PRI has a dedicated infrastructure workstream to provide tools and support knowledge sharing and education on responsible investment in infrastructure. Current publications include the Primer on Responsible Investment in Infrastructure and the Responsible Investment DDQ for Infrastructure. More recently, it has undertaken a series of initiatives looking at the role of infrastructure in the achievement of the Sustainable Development Goals (SDGs), including an analysis of the role of the SDGs in countries' national infrastructure strategies, and a review of current practices on the SDGs by infrastructure investors.

More broadly, the PRI supports the investment community, including infrastructure investors, through its work on a range of policy and ESG issues. On the policy front, the organisation has played a significant role in the development and delivery of the EU's Sustainable Finance Taxonomy, as well as undertaking detailed studies on the consideration of ESG factors as part of investors' fiduciary duty, and the legal framework for investors to consider sustainability impact in their decision-making. Similarly, the PRI also leads and supports a wide range of work on the investor role on issues such as climate change, human rights and labour rights, and sustainable land use.

IFC environmental and social Performance Standards

https://www.ifc.org/

The IFC performance Standards is a project screening framework that aims to assess environmental and social risk management throughout a project's lifecycle. Published in 2012, the standards provide guidance to identify and mitigate social and environmental risks using a methodological approach. The IFC framework comprises 8 performance standards that investors must meet during the project's investment lifecycle (cf. dedicated summary sheet), general EHS guidelines (Environmental, Occupational Health and Safety, Community Health and Safety, Construction and Decommissioning) and specific sectoral guidelines (Agribusiness/Food Production, Chemicals, Forestry, General Manufacturing, Infrastructure, Mining, Oil and Gas and Power).

EIB's environmental and social standards

https://www.eib.org/

The European Investment Bank is a public institution driven by the European Union that promotes sustainable development and inclusive growth and ensures that environmental and social requirements are integrated in the definition, preparation and implementation of all operations financed by the EIB. The EIB has developed the environmental and social standards that apply to all operations likely to have material suspected or identified environmental and social impacts and risks. The standards, originally introduced in 2010, aim to underpin alignments with the Bank's environmental and social principles throughout activities undertaken by the borrowers and the project promoters. Across ten thematic areas, the standards provide guidance to assess, manage and cover a large scope of environmental and social impacts throughout the project's lifecycle.

UN Sustainable Development Goals

https://sustainabledevelopment.un.org/

The SDGs build on decades of work by countries and the UN:

- In June 1992, at the Earth Summit in Rio de Janeiro, Brazil, more than 178 countries adopted Agenda 21, a plan of action to build a global partnership for sustainable development to improve human lives and protect the environment.
- In September 2000, UN Member States unanimously adopted the Millennium Declaration at the Millennium Summit, leading to the elaboration of eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015.

- At the United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil, in June 2012, UN Member States adopted the outcome document "The Future We Want" in which they decided, inter alia, to launch a process to develop a set of SDGs.
- In January 2015, the UN General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 SDGs at its core, at the UN Sustainable Development Summit in September 2015.

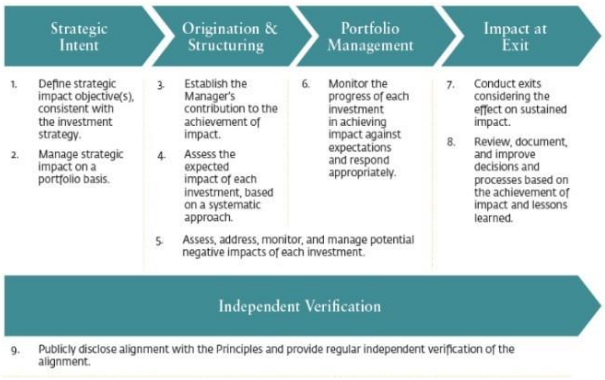
As a shared blueprint for peace and prosperity, the 17 UN SDGs provide a universal framework to guide global actions, from international cooperation and national governmental policy to corporate strategies and individual behavior, towards inclusive socioeconomic growth and preservation of the planet.

Operating Principles for Impact Management (OPIM)

https://www.impactprinciples.org/

The Operating Principles for Impact Management (OPIM) is a framework developed by the IFC in consultation with a group of asset owners, asset managers, allocators, development banks and financial institutions to evaluate impact management among funds and institutions. The principles have been adopted by 101 signatories (as of June 2020) since its launch in April 2019.

Adhering to the OPIM requires being aligned with 9 Principles supporting the integration of impact management at all investment phases: strategy, investments (from screening to exit), and ownership phases. The definition of eligibility criteria for project investment decisions and processes to evaluate impact achievement have also to be integrated in the investment frameworks.



IRIS+ (developed by Global Impact Investing Network)

https://iris.thegiin.org/

IRIS+ is an impact framework developed by the Global Impact Investing network (GIIN) addressing impact measurement, management and optimization in order to set up guidance to impact investors. IRIS+ offers thematic taxonomy for relevant impact themes and facilitate the use of best-in class data through core metric sets in impact investing. It is intended to be a frame of reference to investors seeking better comprehension and mastery of social, governance and environmental factors integration in the investment decisions.

UNEP FI: Responsible Property Investment

https://www.unepfi.org/investment/property

Responsible Property Investment (RPI) is a framework launched by the UNEP FI Property Working Group to support environmental, social and governance issues integration as part of real estate investment decision-making process. The RPI principles consider the long-term objectives of property investment compared to other asset classes. According to the RPI best practice report produced by the Property Working Group (PWG), integrating RPI principles can be applied to asset allocation, portfolio management and asset management strategies.

UNEP FI Corporate Impact Analysis Tool

https://www.unepfi.org/corporate-impact-tool/

The UNEP FI has also developed in 2020 a new impact tool. The Corporate Impact analysis tool provides banks and investors with an analysis of companies' impacts across different sectors and countries. The impact analysis tool will help its portfolio managers assess and monitor impact risks and opportunities and meet impact targets. The tool has been developed by the Impact Initiative working group made up of banks, investors and service providers during a 12-month development period. The analysis provided by

the corporate impact analysis tool is divided into three parts:

- Identification of significant impact areas, based on the company's sector, geography and activity;
- Assessment of the company's impact performance and impact management capabilities;
- Monitoring of the company's significant impact areas, performance and management capabilities over time.

Sustainability Accounting Standards Board (SASB)

https://www.sasb.org/

The Sustainability Accounting Standards Board (SASB) is one the industry-specific frameworks launched in 2018. The set of standards define accounting metrics aiming to identify and asses financially-material sustainability topics and ensure an efficient disclosure of ESG factors through the investment lifecycle. The standards apply to 79 industries in 11 sectors and disclose industries ESG topics across a materiality map. The mapping is achieved at sector level and industry level and covers potential issues affecting the financial performance of an industrial company.

Commonwealth Development Corporation (CDC) Toolkit

https://toolkit.cdcgroup.com/

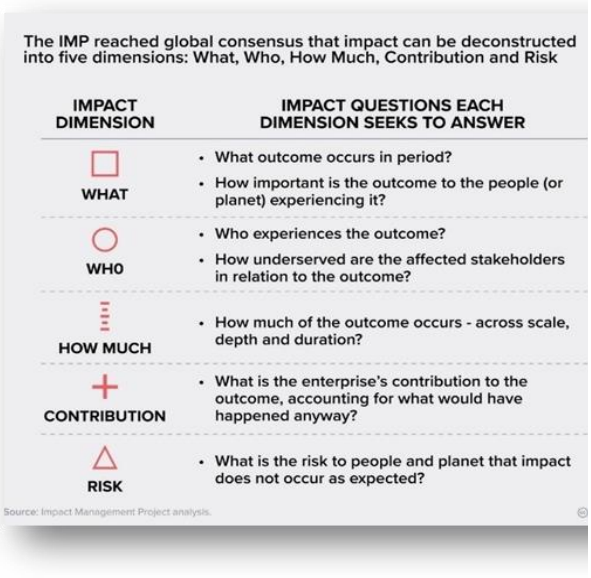
The British Development Finance Institution (DFI) CDC, owned by the UK government's Department for International Development, has developed a toolkit in 2006 intended to enable fund managers implement CDC's Investment code on Environmental, social and governance issues. The toolkit includes reference materials and sector-specific feedbacks to allow analysis and management at fund level and help increase fund managers awareness of ESG opportunities and risks throughout the investment lifecycle. Structured around 6 key areas, the CDC toolkit provides practical guidance on how fund managers and institutional investors take into consideration CDC requirements to ensure that the businesses in which CDC's capital is invested comply with these requirements.

Investment cycle
Guidance on integrating ESG considerations into the investment cycle of a PE fund
Management systems
Good practice to design and implement ESG policies and procedures for fund managers
E&S topics
Overview of environmental and social topics (18 topics identified)
Sector profiles
Guides to typical ESG risks and opportunities in a range of industries (16 sectors identified)
Business integrity
Advice about anti-corruption, anti-money laundering, corporate governance, economic sanctions and whistleblowing
Business case
A business case for ESG integration: identifying operational efficiencies and new markets and preparing bigger exists.

Impact Management Project (IMP)

https://impactmanagementproject.com/

The Impact Management Project (IMP) is a forum of organizations that addresses impact measurement, reporting and monitoring issues. The IMP provides an impact analysis framework for corporates and investors to assess and identify the most material and additional impact areas associating with their strategies



Global Reporting Initiative (GRI)

https://www.globalreporting.org/

GRI is one of the most widely adopted sustainability report framework (according to globalreporting.org, out of the 250 world's largest corporations, 74% provide ESG

information to the market through the GRI reporting). This reporting framework enables corporations (businesses, governments and organizations) to disclose their economic, environmental and social impact. The framework helps organizations towards their reporting process of relevant ESG issues from identification using universal standards and topic-specific standards to final report disclosure.

EU taxonomy of sustainable activities

The just adopted taxonomy, to be implemented from December 2021 onward, is part of the European Commission's Sustainable Finance policy. The corresponding Action Plan has 3 objectives:

- Reorient capital flows towards sustainable investment;
- Manage financial risks stemming from climate, environmental & social issues; and
- Foster transparency and long termism in financial & economic activity.

Essentially, the EU Taxonomy is a list of economic activities with relevant performance criteria for their contribution to six environmental objectives, while meeting minimum social safeguards. It is not a rating of good or bad investment entities.

Under the Taxonomy regulation, institutional investors and asset managers marketing investment products as environmentally sustainable would need to explain whether, and how, they have used the Taxonomy criteria. Investors could state that they are seeking to invest in Taxonomy-eligible activities or disclose their own preferred approach to determine that their investment is environmentally sustainable.

The philosophy of the EU Taxonomy is therefore fully aligned with other frameworks such as the United Nations SDGs and would probably benefit from being further articulated to them. Whilst the SDGs offer a more holistic approach, the EU Taxonomy brings value to the SDGs framework by defining minimum requirements in terms of current practices and future environmental performance.

However, the EU Taxonomy is based on a business activity classification (NACE) which does not factor differences of infrastructure assets against corporate activities. Infrastructure assets have specificities compared to other assets that should be considered in the compliance criteria defined in the EU Taxonomy.

And many sectors are not covered by the EU Taxonomy, since not considered sustainable enough, although they are critical for the decarbonization of the real economy and support the transition to a climate-resilient economy. As an example, essential transportation infrastructures like seaports and airports are not yet covered.

(see description in Annex 3 below)

Certifications and labels

As investors are assuming more responsibility of their funding impact on the environment and the society and are integrating non-financial factors to their investment decisions, companies tend to gain investors' traction though certifications that are becoming a critical differentiator regarding ESG integration.

In addition to the **GRESB** (https://gresb.com/) standard, other worldwide accepted certification systems have emerged in the last decade. In this section, we will present the most popular ones:

- **LEED**
  https://www.usgbc.org/leed
  stands for leadership in Energy and Environmental Design is one of the most widely adopted green building rating system in the world. LEED is run by the non-profit US Green Building Council and has certified more than 13.8 billion square feet of building space. LEED provides a framework for cost-saving and highly efficient green buildings and rates buildings and construction projects to verify if the structure complies with an environmentally friendly building qualification. LEED buildings are structures that create less emissions and pollution and that moderate energy consumptions.
- **BREEAM**
  https://www.breeam.com/
  (Building Research Establishment Environmental Assessment Method) is a leading buildings' environmental assessment certification system that was conceived by the BRE group and first used in 1990. 116000 buildings have been certified against the BREEAM schemes (BREEAM courts, Ecohomes, healthcare, education, offices, prisons, etc.). The BREEAM certification is organized in different chapters to cover the building environmental evaluation (management, health and wellbeing, energy, transport, water, materials, waste, land use and ecology, pollution, innovation).
- **HQE** (High Quality Environmental standard)
  https://www.behqe.com/

HQE is the French certification standard for green buildings based on the principles of sustainable development founded in 2004. It aims to limit short-term and long-term environmental impacts of a construction and/or rehabilitation project. The HQE is inspired by the high energy performance label adding a health, hydrological and a vegetal dimension. The process for obtaining the certification can be carried out by the HQE association, a French association recognized as a public utility in 2004.

- **WELL Certification**
  https://www.wellcertified.com/
  WELL Certification is a score-based system for measuring, certifying and monitoring the building's environmental performance built on the LEED certification system. WELL is administrated by the international WELL Building Institute (IWBI) and allows construction projects and/or buildings scoring in each of the seven categories on one of the three levels: Silver, Gold and Platinum.

- **BiodiverCity**
  http://cibi-biodivercity.com/en/biodivercity/
  BiodiverCity is the first international label that aims to evaluate and promote urban construction and renovation projects that incorporate biodiversity to improve the well-being of users. The BiodiverCity tool evaluates the ecological performance of buildings based on 4 pillars: The first two pillars measure the commitment to biodiversity integration while pillars 3 and 4 assess the ecological benefits and the benefits to users. The tool scores the building's performance given a grade from A to E.

- **SuRe®** (The Standard for Sustainable and Resilient Infrastructure)

  https://sure-standard.org/
  SuRe is a certification standard developed in 2015 by the Global Infrastructure Basel Foundation (GIB) and the French investment bank, Natixis, to assess and integrate ESG performance in infrastructure projects. SuRe® is an ISEAL member and is applicable globally with a focus on emerging markets through its 61 ESG criteria classified in 14 themes. SuRe® certifies projects to Bronze, Silver, and Gold awarding levels and can be implemented during all the project's investment lifecycle in order to leverage the project's acceptability and mitigate ESG risks. SuRe® can be adopted at any stage in the infrastructure lifecycle from planning and design to construction and operation.

4.4 Tools

4.4.1 Evaluation tools

Evaluation tools use scoring techniques upon input data and/or market scanning.

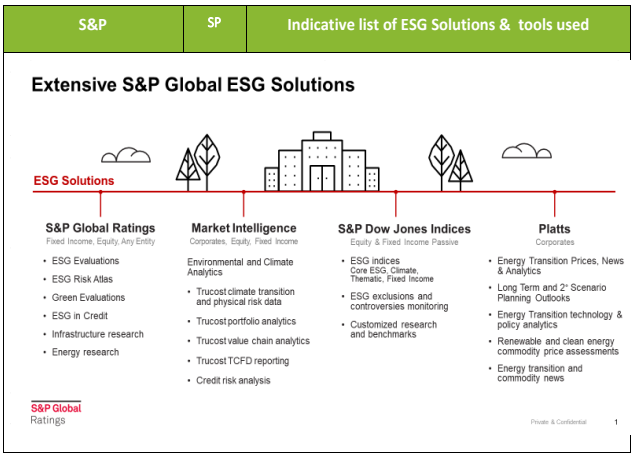
Focus on agency rating initiatives

Since the financial market is paying growing attention to sustainability performance, environmental, social and governance (ESG) rating agencies industry has grown considerably in the last decade. ESG rating agencies play a significant role in measuring corporate performance and are considered as a key reference for investors, shareholders, governments and companies in business scrutiny and corporate sustainable performance.

ESG rating agencies have developed a set of screening criteria to determine the sustainability performance of a corporate activity overtime. In order to highlight the evolving role of rating agencies, we have selected below the most representative ESG rating agencies in the European and the US sustainable and responsible investment market:

- **VigeoEiris**
  http://vigeo-eiris.com/
  VigeoEiris is an international rating and research agency founded in 2002 and based in Paris that assesses companies and international organizations integration of ESG factors and sustainability performance against 38 ESG issues in 6 topics (environment, human rights, human resources, community involvement, business behavior and corporate governance). VigeoEiris was created from the merger in 2015 of two historical leaders: the rating agency Vigeo and the Ethical Investment Research Service EIRIS in 2015.

- **S&P**
  https://www.spglobal.com/en/



- **MSCI ESG Research**
  https://www.msci.com/research/esg-research
  MSCI ESG Research is an American finance company headquartered in New York and a global provider of multi-asset portfolio analysis tools. Supporting 6000 institutional clients through its 23 locations worldwide, MSCI has published the MSCI principles of sustainable investing to support investors in improving ESG integration across the investment value chain. MSCI has also set up a rating tool: MSCI ESG Ratings that rate companies on a 'AAA' to 'CCC' scale regarding their exposure to industry-specific ESG risks and their ability to manage these risks. Recently, through the acquisition of the startup Carbon Delta, MSCI ESG Ratings platform has integrated the so called Climate VaR. Climate VaR represents the estimation of the impact of climate change on a company's net present value as a way to assess the potential financial sensitivity to climate risks and opportunities, i.e.: what would be the potential financial impact of different climate scenarios (1.5°, 2°, 3°of warming) on a company's valuation?

- **CDP**
  https://www.cdp.net/en
  CDP is a non-profit organization based in the UK that supports investors, companies, cities, states and regions in environmental impacts disclosure through a sector specific approach. In 2019, 8400 companies and 920 cities, states and regions disclosed through CDP scoring methodology. Scores are calculated against a standardized methodology on an A to D scale through 4 programs: climate change, water security, forests and cities. CDP has also launched a "Carbon Action"

initiative to encourage investors managing carbon emissions and energy efficiency.

- **ISS ESG**

  https://www.issgovernance.com/esg/

  ISS ESG is the ESG rating branch of the Institutional Shareholder Services (ISS) group, which was created following the acquisition of the German ESG research agency Oekom Research by ISS. ISS ESG corporate rating methodology analyzes companies' non-financial performance based on a set of 100 environmental and social criteria, one third of which are sector specific. Besides corporate ESG ratings, ISS ESG solution offers a set of responsible investment solutions including industry and country ratings, portfolio analysis, sustainability impact services, green bond services, climate risk and engagement services.

- **RepRisk**

  https://www.reprisk.com/

  RepRisk is an ESG screening provider that combines media scanning, third-parties resources analysis and machine learning to assess companies and infrastructure projects performance based upon their exposure to ESG risks. RepRisk assigns an Index, an ESG-related reputational risk's exposure score and a Rating (ranking from AAA: lowest risk exposure to D: highest risk exposure) to companies through screening over 80,000 information sources daily and by covering 10 years of the company history. RepRisk covers 34 sectors and allows companies to have an in-depth analysis of governance, social and environmental factors through a quantitative and a qualitative screening of 28 main ESG issues in addition to specific and sector-related ESG thematic issues.

- **Sustainalytics**

  https://www.sustainalytics.com/

  is an ESG rating agency headquartered in Amsterdam, Netherlands that assesses more than 4000 companies ESG performance using sector-specific indicators. The Sustainalytics rating model includes at least 70 indicators that are sector-weighed. In 2011, Sustainalytics formed a research partnership with Sustinvest, a South Korean company and the Chinese company SynTao.

- **Ecovadis**

  https://ecovadis.com/

  Ecovadis is a rating platform that offers a wide range of solutions including assessment of corporate social responsibility and sustainable procurement, risk monitoring and mapping, plans and pricing. the Ecovadis model covers non-financial management systems including Environmental, Labor & Human rights, Ethics and Sustainable Procurement impacts and provides a 0 to 100 score and medals (Bronze, silver, gold) when applicable. Ecovadis has rated 50,000 organizations worldwide in 2019.

- **CEEQUAL** (The Civil Engineering Environmental QUALity assessment)

  https://www.ceequal.com/

  CEEQUAL is an international rating system and one of the BREEAM sustainability schemes launched in 2003 that allows public-sector actors (government departments and agencies, local and regional authorities) and private-sector clients (infrastructure project developers, designers and asset operators) to assign an assessment score (percentage out of 100%) and a rating (excellent, very good, good and pass scale) to projects in Infrastructure, civil engineering, public spaces and landscaping sectors. This rating tool allows its users to ensure embedding ESG criteria into projects investment lifecycle and enhance the cost/benefice management related to non-financial issues. CEEQUAL underwent a recent merger with the BREEAM infrastructure proprietary tool (Pilot)to create an aligned new version of CEEQUAL (2018). The user-provided data allows an assessment of ESG overall performance against criteria arranged in nine sections. Data is verified following the completion of the assessment by a CEEQUAL verifier.

- **ISCA ratings**

  https://www.isca.org.au/is_ratings

  The IS rating schemes refer to infrastructure-specific project screening tools developed in 2012 by the Infrastructure Sustainability Council of Australia and tailored for a local use in New Zealand and Australia. ISCA currently offers four rating phases: planning, design, as-built and operations. The different ISCA schemes are applied by Sustainability Accredited Professionals (ISAP).

  - **IS rating Scheme** is a project screening system intended to allow its users to evaluate the sustainability performance of infrastructure projects, programs, networks and assets through the assessment of governance, economic, social and environmental factors. The evaluation allows scoring the project against a matrix of credits classified in categories to cover ESG topics. The total score is a sum of the points associated to each of the categories evaluated. The IS rating has delivered since its launch 63 infrastructure

projects certifications and can be applied across the planning, design, construction and operational phases of projects.

- **IS Operation scheme** is an assessment framework intended for evaluating risk-return of infrastructure projects, benchmarking and integrating a transparent approach to sustainability governance and sustainability risks and opportunities during the operation and maintenance phases. The evaluation is based on 6 sustainability criteria: management and governance, using resources, emissions, pollution and waste, ecology, people, and place and innovation and can be conducted by infrastructure projects teams, developers, operators and public authorities. The IS operation scheme rating is applicable to existing projects in different asset classes but doesn't allow a sub-sector specific approach.

- **IS international Scheme – Pilot** is a rating framework tailored to address the needs of both developed and developing economies outside of Australia and New Zealand. It is intended to support the achievement and the optimization of sustainable outcomes over the long-term in infrastructure projects. The framework complies with planning, design and construction phases, is based on the same assessment methodology as the IS operation scheme and covers comparable sustainability criteria.

The View from our members: GRESB Infrastructure

There are two complementary GRESB Infrastructure Assessments: a Fund Assessment and an Asset Assessment. Additionally, the Resilience Module is an optional supplement to the GRESB Infrastructure Assessments.

The Assessments offer high-quality ESG data and advanced analytical tools to benchmark ESG performance, identify areas for improvement and engage with investors.

GRESB was established in 2009 by APG, PGGM and USS with the University of Maastricht, initially for Real estate, and is one now of the most relevant frameworks adopted by investors regarding portfolio ESG performance tracking for real assets (used by over 100 institutional investors, with USD 22 trillion assets under management). The assessments are applicable to all infrastructure subsectors whether economic (Energy and water resources, environmental services, network utilities, power generation, renewable power, transport, data infrastructure) and social infrastructure (schooling and medical/ care institutions).

GRESB Infrastructure Fund Assessment

The Fund Assessment consists of a Management Component, called the *Management Component – Infrastructure Fund*, this is aligned with the Management Component in the Asset Assessment. The Component addresses ESG management and investment processes and is structured into five aspects:

- Leadership
- Policies
- Reporting
- Risk Management
- Stakeholder Engagement

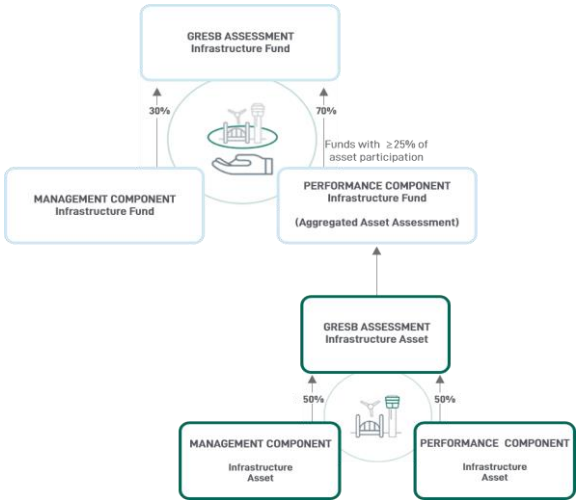
Additionally, the fund's underlying assets may participate in the complimentary Infrastructure Asset Assessment, with the scores of the fund's underlying assets informing the fund's Performance Component Score. While the participation of underlying assets is not required, funds participating with at least 25% of assets will receive an overall GRESB Score and be allocated to a corresponding peer group.

GRESB Infrastructure Asset Assessment

The Infrastructure Asset Assessment assesses ESG performance at the asset level for infrastructure asset operators, fund managers and investors that invest directly in infrastructure. The Assessment into separate Management and Performance Components. The Management Component measures the entity's strategy and leadership management, policies and processes, risk management and stakeholder engagement approach, comprising of information collected at the organizational level. The Performance Component measures the entity's performance, comprising of information collected at the asset level. It is suitable for any infrastructure company with operational assets.

The Management Component is structured into 5 aspects (same as those for the fund assessment)

The Performance Component is structured into 12 aspects: Implementation | Output & Impact | Health & Safety| Energy | Greenhouse Gas Emissions | Air Pollution | Water | Waste | Biodiversity & Habitat | Employees | Customers | Certifications & Awards.



The View from our members: GPSS feedback on implementing the GRESB standard

GPSS group is a Japan-based renewable energy group of companies which constructs, operates and maintains solar, geothermal, wind, biogas and small-hydroelectric power plants. GPSS Group combines the expertise of each operating company with five sustainable power sources (solar, wind, hydroelectric, geothermal, biogas and WTP(Waste-To-Power)) to achieve business development that demonstrates group synergies.

As a company, GPSS aims at a sustainable approach of business and prioritizes community impact and collective growth. By applying the GRESB standard in 2019, it has launched a process to implement core ESG benchmarks into the companies' operations.

GPSS has also identified 3 areas of focus in ESG compliance during the GRESB review:

- GRESB has been a key reference for GPSS to discern existing and missing data and to Identify and measure companies 'vulnerabilities: "we are currently collecting data regarding companies 'emission scopes for the GHG protocol as well as putting together existing documentation on ESG related matters such as environmental assessments regarding project sites".
- Identify the lack of metric tools: GPSS implemented a software to collect and organize data to better measure its ESG impact. Ultimately, GPSS will be able to set targets and monitor sustainable outcomes on the long term.
- Adopt sustainability screening standards to assess strategic partners 'ESG maturity: GPSS will fine-tune its sustainability policy and integrate strategic partners ESG assessments in contracts clauses.

The View from our members: STOA

ESG Ratings

We view ESG ratings as a good tool for evaluating companies' resiliency and performance. However, the rating agencies should have a harmonized way by asset classes in rating companies. Often ESG scores do not match up across agencies.

ESG Ratings should not be the only one in assessing the company's performance. Indeed, proactive KPIs are most of the time never reported, such as "number of training given", "number of toolbox talk provided", "number of near misses reported" etc. Proactive KPIs show that a robust system is in place to improve EHS management of companies. This should also be assessed.

Also, the data are often declarative and not verified by a third party. Third party verification by a qualified consultant is key in providing robustness in ESG Ratings.

4.4.2 Valuation tools

- **SAVi** (Sustainable Asset Valuation)
  https://www.iisd.org/project/SAVi-sustainable-asset-valuation
  SAVi is a tool that has been launched by the International Institute for Sustainable Development (IISD) in 2018.SAVi allows its users among governments and investors to assess infrastructure assets performance through a selection of ESG criteria and externalities. The tool covers ESG impacts of a variety of infrastructure sectors: Roads, buildings, energy projects and wastewater projects and includes over 200 built-in externalities (related to regulatory constraints, market risks and social impacts). SAVi is adopted during all phases of the investment lifecycle given its ability to monetize various risks through project financing modelling and incorporate externalities costs.
- **TREDIS** (Transportation Economic Development Impact System)
  https://tredis.com/
  TREDIS is an impact assessment tool adopted by governments and project developers to assess transportation projects' financial impact in the planning, construction and operation phases. TREDIS set of criteria helps its users conduct benefit-cost analysis, economic and financial impact analysis and economic development impact. TREDIS is a transportation sector dedicated tool and have been used by governments planners in the U.S, Canada and Australia. TREDIS will also allow through an up-coming update some new features such as the capture of social benefits (E.g. public health improvements from active transportation).
- **Autocase**
  https://autocase.com/
  Autocase is a cost-benefit analysis tool that helps conduct ESG valuation through assessing the monetary value of environmental, social and governance criteria of a sustainable infrastructure project. Autocase complies with all stages of a project's lifecycle: development, construction,

operation and post-operation phases and enables an economic analysis modeling to compare different approaches using environmental metrics: air pollution, carbon emissions, economic metrics: productivity and social metrics: workers health and absenteeism. Autocase is a cloud-based tool linking the evaluation tool Envision to a visualization software and can be used by project planners, designers and asset owners.

- **Zofnass Economic Process tool**
  http://economictool.zofnass.org/
  Zofnass is an online tool developed by the Zofnass program at Harvard University offering a quantification of sustainability impact during the development and the construction of an infrastructure's projects. Zofnass is based on the evaluation tool Envision rating system. The externalities' assessment is achieved against five set of criteria: quality of life, leadership, resource allocation, natural world and climate and risk and covers different infrastructure's sectors: energy, food, landscape, transportation, waste, water and communication. Zofnass allows its user to draw an economic analysis modeling and to monetize ESG metrics through a cost-benefit analysis.

We are currently going through a healthy trial and error of guidelines, standards, etc. put forth from different standpoints, by a variety of participants, including professional associations, consultants, asset managers, ratings agencies and index providers. Eventually, the sooner the better, the market should coalesce around a few best-in-class standards, adopted at a global level and per sector.

4.5 Greenwashing

The welcome rise in sustainability means more investors are using ESG in their daily activities. However, many are claiming to be more sustainable when they are in fact only making token gestures towards sustainability. This phenomenon is known as greenwashing, i.e. *behavior or activities that make people believe that a company is doing more to protect the environment (and by extension social & governance) than it really is.* This make-believe approach encompasses:

- Strategies that rely on simple exclusions. There should be more to sustainable investing than just a negative screening; and
- A lack of active ownership approach towards investee companies. Truly sustainable investors will use voting and engagement to encourage their asset managers to become more sustainable.

Combating the greenwashing phenomenon is only possible through the development of a culture of sustainability and responsibility, including through the support of targeted actions at intergovernmental level. Specifically, it is necessary to:

At a financial market level:

- Promote a **better understanding** to raise awareness in the market and to enable market players to take into account and monitor ESG matters;
- Promote/Request disclosure of relevant information (cf. TCFD);
- Promote the **dissemination of a harmonized taxonomy** facilitating the identification of sustainable investments;
- Promote the **dissemination of standardized KPIs** to facilitate ESG valuations and monitoring in the medium and long term.

At a regulatory level:

- Definition and implementation of **standard ESG guidelines and harmonized ESG KPIs;**
- Implementation of **fiscal incentives** to promote and support **sustainable investments;**
- Identification and implementation of an **international/national regulatory body** committed to assess and **verify** the **adequacy of investors' "responsible behaviour"** (PRI is a self-declaration);
- **Enhance international cooperation on ESG** matters.

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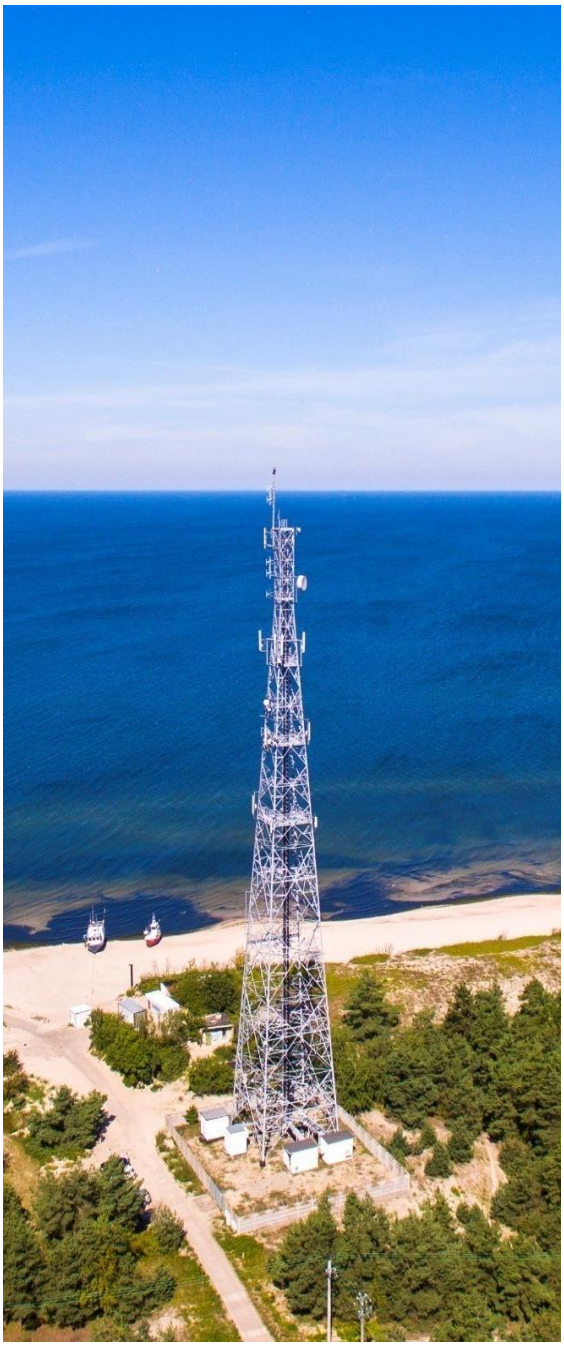


ANNEX 1: DEFINITION OF CONCEPTS

The title of this Handbook refers to **ESG (environmental, social and governance**), the umbrella term for the components of sustainable and responsible finance, referring to the 3 main factors at play. But there are several terms used indifferently to describe the universe of sustainable finance, largely overlapping even though each has its own nuances.

Sustainable finance: Any financial service that integrates ESG criteria into investment & operating process for the long-term benefit of shareholders & Stakeholders. Sustainable finance concerns the whole value chain in the finance sector. Responsible investment is a subset of sustainable finance.

Sustainable or Responsible investment: covers the various responses of investors to complex, real-world issues often grouped together under the heading of 'ESG' are known as responsible investment. Responsible investment explicitly acknowledges the relevance to the investor of ESG factors. It recognizes that long-term sustainable performance is dependent on stable, well-functioning social, environmental and economic systems. This can also be construed as investment that combines financial and extra-financial value creation.

Also used: ethical investment, socially responsible investment, green investment.

Green investment: refers to approaches that seek to invest capital in environmental assets, hence a narrower scope than ESG or Sustainability investment. Green bonds in particular are targeted to support climate-related or environmental projects.

Impact investing: Investments with a clear intent to generate a measurable positive social and environmental impact alongside some financial return. Impact investments target financial returns that range from below market to risk-adjusted market rate.

Philanthropy: When there's no expectation of financial return beyond the extra-financial performance sought for the investment.

Alternative Assets: An alternative asset is an investment in any asset class that cannot be categorized as stocks, bonds and cash. Alternative assets include a wide range of investment classes: antiques, precious metals, rare stamps, coins, private shares in start-ups, over-the counter contracts and so on. Alternative assets fall often into two categories: the first one represents vehicles that invest in non-traditional assets such as infrastructure, real estate and private equity. The second category involves investment strategies that invest in traditional assets using unconventional methods, such as short-selling and leverage.

ANNEX 2: ADDITIONAL TOOLS & STANDARDS

2.1 Additional Standards and Frameworks

The G20 Principles for Quality Infrastructure Investment (QII)

https://www.mof.go.jp/

At the 2019 G20 summit in Tokyo, emphasis was put on quality infrastructure investment as the way to closing the infrastructure gap. 5 of the 6 principles articulated refer explicitly to ESG/ sustainability issues:

- Principle 1: Maximizing the positive impact of infrastructure to achieve sustainable growth and development
- Principle 3: Integrating Environmental Considerations in Infrastructure Investments
- Principle 4: Building Resilience against Natural Disasters and Other Risks
- Principle 5: Integrating Social Considerations in Infrastructure Investment
- Principle 6: Strengthening Infrastructure Governance

While Principle 2: Raising Economic Efficiency in View of Life-Cycle Cost is also linked through issues like affordability to the broader theme of economic sustainability

International Integrated Reporting Framework (IIR)

https://integratedreporting.org/

International Integrated Reporting Framework (IIR) is a reporting framework developed by the International Integrated Reporting Council (IIRC) that enables companies to extend their reporting to other "capitals" than the financial capital: Manufactured, Intellectual, Human, Social and Relationship and Natural. This principle-based framework underpins value creation through the six capitals identified by the IIRC for existing and upcoming projects.

ISO14007: Determining costs and benefits

https://www.iso.org/standard/

The standard ISO14007 helps organizations identify environmental impacts' costs and benefits, provides guidance to disclose environmental information and assesses organizations dependencies on natural resources. In October 2019, the ISO organization issued this framework to allow organizations express quantitatively and qualitatively their environmental footprint-related costs and benefits and document its impacts in monetary and non-monetary forms.

ISO14008: Monetary valuation of environmental impacts

https://www.iso.org/

The ISO 14008 standard provides organizations with standardized methods to monetize environmental impacts and aspects. The latter includes use of natural resources, impacts on human health and impacts on built and natural environment. This standard complements the ISO14007 standard's approach to help better understand organizations' dependencies on the environment.

2.2 Additional Evaluation Tools:

427 (Four Twenty-Seven)

http://427mt.com/

427 is a climate risk data firm majority-owned by the Moody's corporation that assesses physical risks associated to climate change. 427 supports clients' investment strategies and financial institutions' and corporations' climate risk disclosures through scoring models. 427 also offers an analytical method (exposure to floods, hurricane-force winds, sea level rise, water stress and heat stress) to assess climate hazards across multiple real estate sites and infrastructure projects.

Trucost SDG evaluation tool

https://www.trucost.com/

Trucost part of S&P global, is a consulting firm founded in 2000 specialized in climate change risks, resource constraints, and ESG factors assessment. Trucost is one of the market leaders in carbon and environmental data and risk analysis. To help companies align their strategies with the SDGs, Trucost has elaborated the SDG evaluation tool. The tool assesses a company's performance in embedding SDGs across the value chain. The tool allows companies to determine applicable SDGs to its business operations and developed products, identify business opportunities aligned with SDGs and report on its activities.

Carbon Delta

https://www.carbon-delta.com/

Carbon Delta Founded in 2015, develops carbon ratings to measure climate change impacts on companies. The main topics covered by the evaluation are: climate change, legal regulations and technological opportunities. The sector-based Carbon delta model also offers the companies the possibility of peer benchmarking to weigh and assess their position in addressing climate change risks. Carbon Delta has developed a partnership with the Independent Credit View (I-CV) to integrate analytical methods in its carbon rating methodology. Carbon Delta was acquired in 2019 by MSCI.

Envision

http://www.envision-group.com/en/

Envision is a rating system developed in 2015 by the Institute for Sustainable Infrastructure (ISI) along with the Envision Leadership Circle members and adopted by infrastructure project teams, financial institutions and public authorities. The tool aims to compare sustainability practices regarding infrastructure assets and includes five categories organizing 64 sustainability criteria: Quality of life, leadership, resource allocation, natural world and climate and resilience and allows an evaluation of a project's performance in each category. The tool allows three projects 'certification levels: Bronze, Silver, Gold, and Platinum. The rating consists of a scoring system up to five levels regarding the five applicable categories criteria. Envision can also be adopted during different phases of the project's investment lifecycle phases (development and design, commissioning, construction and operation).

GIIRS

https://b-analytics.net/giirs-funds

GIIRS (Global Impact Investment Rating System) is a rating tool that helps investors measure and manage impacts across funds policies and practices. The GIIRS rating includes three parts: an impact business model rating, operations ratings and fund manager's assessment. Once the GIIRS rating is completed, it can publicly be shared with stakeholders. The fund overall impact business model is assessed against silver, gold or platinum medals while the operation rating is achieved using a five stars scale. Other specific criteria (community, customers, environment, workers and governance) are also rated during the assessment process. The fund manager assessment is carried-out through a 60-item questionnaire covering impact targets, investment criteria and portfolio management.

ANNEX 3: EC SUSTAINABLE ACTION PLAN

Focus on Action 1: Establishing an EU classification system for sustainable activities

In order to reorient capital flows towards sustainable investment, the EC's DG FISMA (Directorate General for financial stability and capital markets), alongside the Technical Expert Group (TEG) on sustainable finance and the Platform on Sustainable Finance (to be established), are developing a common and unified classification system at EU level to identify economic activities which can be considered as green. The EU Taxonomy will take the form of a list, established on the basis of homogeneous, scientific, ambitious and transparent criteria, in line with EU and international climate objectives.

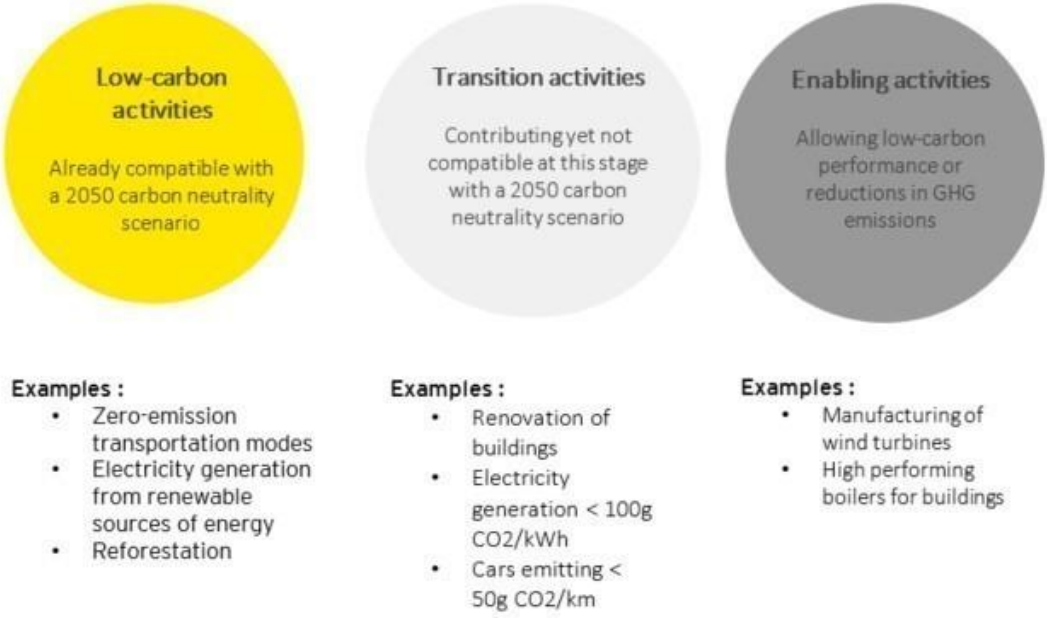
The EU Taxonomy is a foundation stone of the EC Action Plan for financing growth, as it will allow:

- The financial industry to determine how sustainable their investments are;
- To stimulate both the supply and demand for sustainable financial products, particularly for retail investors, while limiting risks of green washing; and
- To put companies with significant shares of their revenues, OPEX and/or CAPEX associated with taxonomy-compliant economic activities

A given economic activity shall meet the following requirements to be considered as green **(cf. Figure 41)**:

- Be either considered as "low-carbon", "transitioning" or "enabling"
- "Substantially" contribute to at least one of the following six environmental objectives (assessed via technical screening criteria): "climate change mitigation"; "climate change adaptation"; "circular economy"; "sustainable use of water and marine resources"; "pollution prevention"; "healthy ecosystem";
- "Do not significant harm" any of the other environmental objectives
- Do not violate any of the minimum social safeguards

Figure 41: Low-carbon, transition and enabling activities as per the EU Taxonomy



As this Handbook is being written:

- The Taxonomy Regulation[21] has just been approved by both the Council and the EU Parliament (December 2019)
- The Taxonomy Regulation requires companies that are already subject to the EU Non-Financial Reporting Directive (to be amended) to publish their taxonomy-compliant green revenues, OPEX and CAPEX
- The TEG has just published its final technical report [22](March 2020, including a technical annex[23]).
- Only two of the six environmental objectives (climate change adaptation and climate change mitigation) have been covered by the TEG **(cf. Figure 42)**.
- THE Platform on Sustainable Finance is expected to take over the development of the EU taxonomy.
- The implementation of the EU Taxonomy is expected for December 2021 (two objectives) and December 2022 (all six objectives).

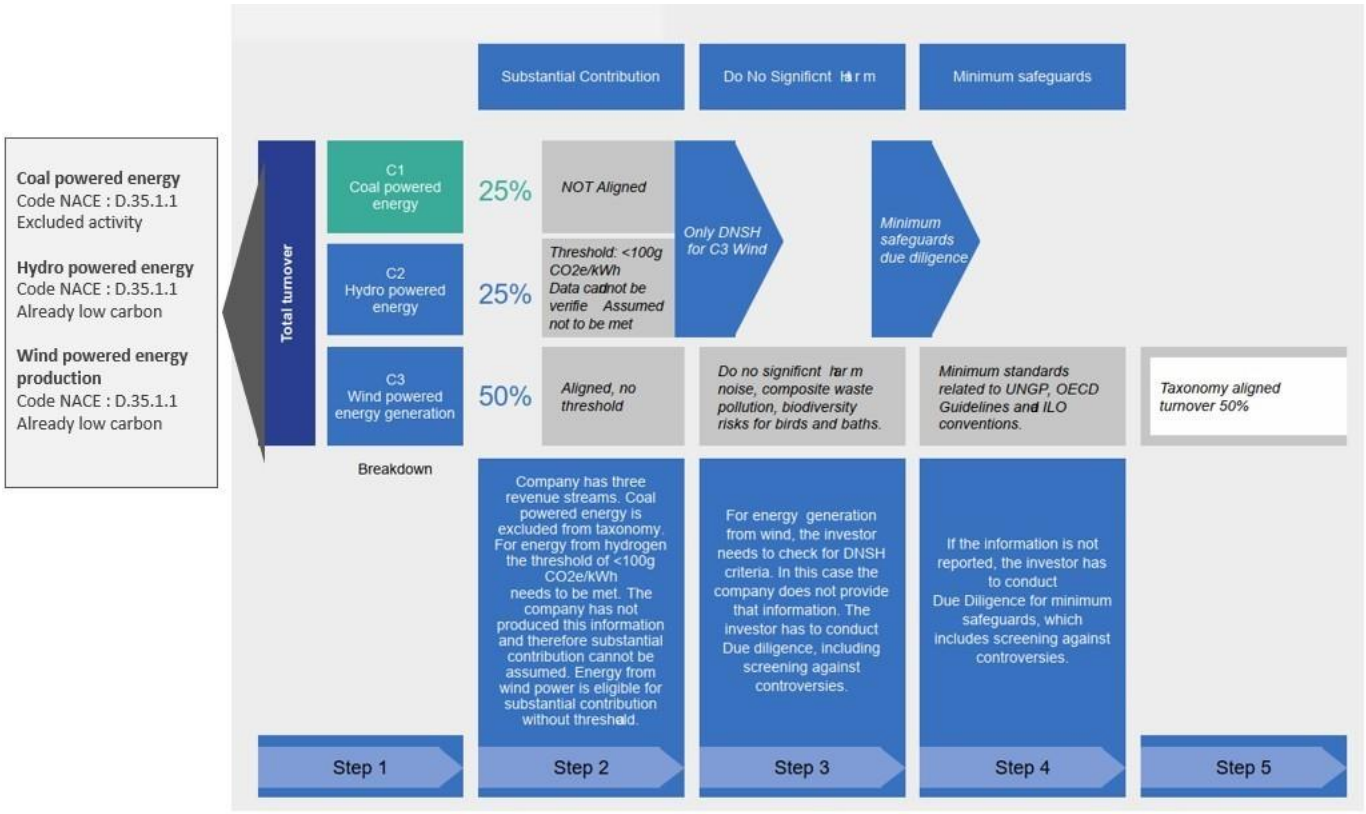
[21]https://data.consilium.europa.eu/doc/document/ST-14970-2019-ADD-1/en/pdf

[22]https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf

[23]https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

Figure 42: Activities covered by the EU Taxonomy for climate mitigation (as at publication of the March 2020 TEG technical report)

Figure 43: Process for applying the taxonomy



Focus on Action 2: Creating standards and labels for green financial products

Concomitantly to the development of the EU Taxonomy, and as part of Action 2, the EC is also working on the development of an EU Ecolabel for Retail Financial Products (expected for Spring 2021) covering UCITS funds, certain retail Alternative Investment Funds (RAIFs), insurance products with an investment component, as well as fixed-term and savings deposit accounts. Criteria have been proposed in two consecutive technical reports published by the EC's Joint Research Center (JRC), and include, but are not limited to,

- Taxonomy-compliant green revenues thresholds (for equity);
- EU-Green Bond Standard-compliant green thresholds (for projects);
- Activity exclusions for different types of financial products and asset classes (e.g. equity funds, bond funds, funds of funds, feeder funds, listed asset classes, unit-linked insurance products, green fixed-term and savings deposit accounts, etc.).

In line with the EU Ecolabel Regulation, the objective of the EU Ecolabel for Retail Financial Products is primarily to encourage individual investors select best-in-class financial products demonstrating environmental excellence. As such, the JRC proved reluctant in incorporating professional funds.

Likewise, as part of action 2, the EC has requested the TEG to prepare a report on an EU Green Bond Standard (EU-GBS), building on current best practices. As this Handbook is being written, the TEG has published in June 2019 a first report on EU-GBS [24], proposing that the EC creates a voluntary, non-legislative EU GBS to enhance the effectiveness, transparency, comparability and credibility of the green bond market and to encourage the market participants to issue and invest in EU green bonds. Building on the recommendations of the June 2019 report, the TEG published on 9 March 2020 their usability guide for the EU Green Bond Standard[25]. This guide offers market actors guidance on the use of the proposed standard and the set-up of a market-based registration scheme for external verifiers.

The EC is exploring the possibility of a legislative initiative for an EU-GBS in the context of the public consultation on the renewed sustainable finance strategy, taking place from March to May 2020.

Focus on Action 7 (Clarifying institutional investors and asset managers' duties to integrate ESG and increased disclosure) and Action 5 (Developing sustainability in benchmarks)

As part of Action 7 of the EC Sustainable Finance Action Plan, Regulation (EU) 2019/2088 of the European Parliament and of the Council of on sustainability-related to disclosures in the financial services sector was published on 9 December 2019 in the Official Journal of the European Union[26].

The Disclosure Regulation seeks to achieve more transparency on how financial market participants and advisers consider sustainability risks in their investment decisions and insurance or investment advice. A sustainability risk is defined as an environmental, social or governance event or condition that, if it occurs, could have a negative material impact on the value of an investment.

The Disclosure Regulation lays down harmonised rules applicable as of March 2021 to all financial market participants, including notably AIFMs, UCITs management companies, investment firms, insurance and credit institutions providing portfolio management, as well as to financial advisers providing investment and/or insurance advice. It requires that the entities concerned disclose in pre-contractual documents as well as on their website a series of information.

The Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 about EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks has also been published on 9 December 2019 in the Official Journal of the European Union[27]. Following the LIBOR scandal, the EU Benchmarks Regulation aims to address concerns about the accuracy and integrity of indices used as benchmarks in financial markets. It is expected to be followed by other European Union Regulations and/or Directives related to environmental, social and corporate governance (ESG) principles and that will amend the UCITS, AIFMD, MiFID, IDD and Solvency Directives

[24] https://ec.europa.eu/info/files/190618-sustainable-finance-teg-report-green-bond-standard_en

[25] https://ec.europa.eu/info/files/200309-sustainable-finance-teg-green-bond-standard-usability-guide_en

[26] https://eur-lex.europa.eu/eli/reg/2019/2088/oj

[27] https://eur-lex.europa.eu/eli/reg/2019/2089/oj

ANNEX 4: ESG DUE DILIGENCE SCOPE OF WORK EXAMPLE

Note: Extract from GRESB ESG Due Diligence Tool

ESG Risk & Opportunity Assessment

ESG Issue
Environmental
Air pollution
Biodiversity and habitat
Climate/climate change adaptation
Contaminated land
Energy
Greenhouse gas emissions
Hazardous substances
Light pollution
Material sourcing and resource efficiency
Noise pollution
Resilience to catastrophe/disaster
Waste
Water outflows/discharges
Water inflows/withdrawals
Social
Child labor
Community development
Customer satisfaction
Employee engagement
Forced or compulsory labor
Freedom of association
Health and safety: community
Health and safety: contractors
Health and safety: employees
Health and safety: supply chain
Health and safety: users
Inclusion and diversity
Labor standards and working conditions
Local employment
Social enterprise partnering
Stakeholder relations

Governance
Audit committee structure/independence
Board composition
Board ESG oversight
Bribery and corruption
Compensation committee structure/independence
Conflicts of interest
Cybersecurity
Data protection and privacy
Delegating authority
Executive compensation
Fraud
Independence of board chair
Lobbying activities
Political contributions
Shareholder rights
Whistleblower protection
Resilience
Transition risk factor 1
Transition risk factor 2
Transition risk factor 3
Physical risk factor 1
Physical risk factor 2
Physical risk factor 3
Social risk factor 1
Social risk factor 2
Social risk factor 3

Management Summary

Assessment criteria
ESG Leadership
ESG Materiality Assessment
ESG leadership commitments
ESG objectives
ESG designated employee(s) responsible for implementation
Senior decision-maker for ESG issues
Personnel ESG performance targets
ESG Policies in place
Environmental policy
Social policy
Governance policy
ESG Reporting
Disclosure of ESG actions/compliance
Third-party review of ESG disclosure
Communication process for ESG incidents
ESG-related misconduct, penalties, incidents or accidents
ESG Risk Management
Alignment with, or accreditation to, ESG-related management standards
Environmental risk assessment
Social risk assessment
Governance risk assessment
Environmental monitoring
Social monitoring
Governance monitoring
Stakeholder Engagement
Stakeholder engagement program
Supply chain engagement program
Stakeholder grievance process
Stakeholder grievance monitoring

Resilience Summary

Assessment criteria
Governance
Climate risk and resilience designated employee and/or a team
Systematic process for communication and review of resilience-related information
Strategy
Resilience-related business strategies implemented
Systematic process to incorporate climate risk and resilience
Assessment of potential financial impacts of climate-related risks
Risk Management
Systematic process to assess the entity's exposure to climate-related transition risk
Systematic process to assess the entity's exposure to physical climate risks?
Systematic process to assess the entity's exposure to social risks
Resilience Measurement
Resilience-related targets or goals
Tracking of climate risk and/or resilience-related performance metrics

Note: The tool also includes a "Performance Summary" including an exhaustive list of general, environmental, and social indicators.

ANNEX 5: REFERENCES

Benchmarking infrastructure assets on ESG performance *(UN PRI, 2018)*

Firing the starting gun on the SDGs infrastructure investing *(UN PRI, 2017)*

PRI launches infrastructure due diligence questionnaire *(UN PRI, 2018)*

Primer on responsible investment in infrastructure *(UN PRI, 2018)*

PRI-Awards 2019 Case study Australian infrastructure sustainability project *(UN PRI, 2019)*

Infrastructure as an Asset Class: Investment Strategy, Sustainability, Project Finance and PPP *(Barbara Weber, Mirjam Staub-Bisang, Hans Wilhelm Alfen, June 2016)*

Core infrastructure's growing role in institutional portfolios *(JP Morgan, 2017)*

The SDG investment case report *(UN PRI, 2017)*

Public-private Infrastructure Advisory facility annual report *(PPIAF, 2019)*

Sustainable real estate investment: Implementing the Paris climate agreement report *(UN PRI, 2016)*

Integrating ESG factors into financial models for infrastructure investments *(Britta Rendlen, WWF and Dr.Barbara Weber, B Capital Partners, 2019)*

Building a bridge to sustainable infrastructure report *(Mercer, Inter-American Development Bank, 2017)*

Building sustainable, inclusive transportation systems report *(PwC, 2017)*

Sustainable infrastructure and finance *(Hans-Peter Egler, GIB, Raul Frazao, Research Associate, GIB, 2016)*

An integrated perspective on the future of mobility *(Eric Hannon, Colin McKerracher, Itamar Orlandi, and Surya Ramkumar, McKinsey, 2016)*

Driving sustainable development through better infrastructure *(Amar Bhattacharya, Jeremy Oppenheim, and Nicholas Stern, Brookings, 2015)*

Infrastructure finance in the Developing World *(Marshall Brown, Yongsung Kim and Mattia Romani, G-24 and Global Green Growth Institute, 2019)*

EU Taxonomy - TEG Report *(Technical Expert Group, European Commission, 2019)*

EU Green bond standards - TEG Report *(Technical Expert Group, European Commission, 2019)*

Sovereign Blue Bond Issuance: Frequently Asked Questions *(The World Bank, 2019)*

Blue bonds: Next investing wave *(Morgan Stanley, 2019)*

Real Estate Funds: The ISR Label *(Arnaud Dewachter, ASPIM, 2017)*

Environmental and social framework *(Asian Infrastructure Investment Bank, 2016)*

The financial performance of real impact assets *(Jessica Matthews, Kristine Leary, Cambridge Associates, Abhilash Mudaliar, Aliana Pineiro, Hannah Dithrich, Global Impact Investing Network, 2017)*

The water challenge: preserving a global resource *(Zachary Sadow, Daniel F. Ford, Mark Lewis, Rose-Lynn Armstrong, Barclays, 2017)*

Special report ESG - The Metrics Jigsaw *(IPE, 2019)*

Financial sector and climate change 2019 Review *(Maria Scolan, Climate Chance Association & Finance for Tomorrow, 2019)*

Valuing Sustainability in Infrastructure Investments: Market Status, Barriers and Opportunities *(Will Sloan, Kathryn Wright, Jon Crowe, Jamie Daudon, and Liz Hanson, WWF Switzerland & Cadmus Group, 2019)*

Sustainable development charter *(Meridiam, 2018)*

The road less traveled: sustainable investing with infrastructure debt *(Paul David & Juana Galindez, Allianz Global Investors, 2019)*

Task Force on climate-related Financial Disclosures: Status Report *(Task Force on climate-related Financial Disclosures & the Financial Stability Board, 2019)*

Climate financing for infrastructure Investment *(Cities Climate Change Finance Leadership Alliance, 2019)*

CCFLA 2.0 Strategy *(Cities Climate Change Finance Leadership Alliance, 2019)*

ESG funding skyrocketed in 2018. Blackrock and Vanguard continue to grow socially conscious investment vehicles *(Chief Investment Officer, 2019)*

Sustainable Investment skeptics are becoming believers *(Chief Investment Officer, 2019)*

Institutional Investor Study *(Schroders, 2019)*

Chart of the week: The growing influence of the PRI *(Nick Reeve, IPE, 2019)*

Who's doing what in ESG *(IPE, 2018)*

The numbers that are changing the world *(KPMG, 2019)*

Sustainable Investing in Infrastructure *(Foresight Group, 2018)*

Resilience report *(GRESB, 2018)*

GRESB Instructure Results *(GRESB, 2019)*

ESG and SDGs should be more than just an afterthought *(Meridiam, 2019)*

The UN SDG: A touchstone for today's responsible investors *(Columbia ThreadNeedle Investments, 2018)*

ESG in infrastructure: Benchmark blues *(René Lavanchy, IPE Real Assets, 2020)*

ESG Handbook - 2nd Edition *(Long-Terme Infrastructure Association, 2017)*

Raising the bar - Impact Investing in a changing world *(Nuveen, 2019)*

Redefining Sustainable Business: Management for a rapidly changing world *(Aron Cramer, Dunstan Allison-Hope, Alison Taylor, Beth Richmond, and Charlotte Bancilhon, Business for Social Responsibility, 2018)*

ESG Reporting and Financial Performance: The Case of Infrastructure *(Silvia Garcia Moraleja, Tim Whittaker, EDHEC Infrastructure Institute Singapore, 2019)*

ESG Guide – Private Equity, a key player for sustainable development, Current Situation, vision and guide for action *(France Invest & PwC, 2019)*

IDBG Framework for planning, preparing sustainable infrastructure *(Tomas Serebrisky, Graham Watkins, Maria Cecilia Ramirez, Hendrik Meller, Giovanni Leo Frisari, Rahissa Melo, Andreas Georgou lias, IDB, 2018)*

CCFLA Steering committee elections, Research Organisations, NGOs *(Cities Climate Change Finance Leadership Alliance, 2019)*

CCFLA Brochure *(Cities Climate Change Finance Leadership Alliance, 2019)*

« Macron réunit le gratin de la finance internationale pour le climat » *(Les Echos, 2019)*

State of the Practice: Sustainability Standards for Infrastructure Investors *(Michael Bennon, Dr. Rajiv Sharman Global Projects Center, Guggenheim, WWF, 2018)*

ESG investing: Poor scores. Climate change has made ESG a force in investing *(The Economist, 2019)*

PRI signatories must report climate change risks from 2020 *(Elizabeth Pfeuti, IPE, 2019)*

ESG principles guide 70% of institutional investors *(Chief Investment Officer, 2019)*

ESG in infrastructure *(EMPEA, 2016)*

ESG: Greenwashing under scrutiny *(Susanna Rust, IPE, 2019)*

ESG investing does not cost more, research shows *(Frank Van Alphen, IPE, 2019)*

Reputational risk drives ESG at pension funds more than at other investors *(Susanna Rust, IPE, 2019)*

Into the mainstream: ESG at the tipping point *(State Street Global Advisors, 2019)*

A world of insight: Customer stewardship and the institutional investor *(National Australia Bank, 2019)*

Incorporating ESG factors into fixed income investment *(Georg Inderst and Fiona Stewart, GPIF / World Bank / IFC, 2018)*

« ESG et acteurs de l'infrastructure : des intentions…à l'action ! » *(SWEN Capital Partners, 2018)*

Infrastructures: A key asset category for the climate *(Carbon 4, 2019)*

EIB to phase out fossil fuel financing by 2021 *(The Guardian, 2019)*

Climate resilience is set to make or break businesses *(World Economic Forum, 2020)*

Larry Fink's Annual CEO letter *(Blackrock, 2020)*

BlackRock teams up with France and Germany to form Climate Finance Partnership *(Business Insider, 2019)*

Breaking the Tragedy of the Horizon *(Mark Carney, Bank of England, 2015)*

Bloomberg, AXA, HSBC, Macquarie CEOs launch climate finance drive *(Michael Holder, Business Insider, 2019)*

Financing the low carbon future *(Climate Finance Leadership Initiative, 2019)*

EU considering sustainable investing as fiduciary duty for investors *(Susanna Rust, IPE, 2017)*

EU policy makers achieve political agreement on investor disclosures and ESG *(UNEP FI, 2019)*

Fiduciary duty in the 21th century *(UNEP FI, 2019)*

UK new ESG pension rules: four measures to ensure their success *(Rachel Fixsen, UNEP FI, 2019)*

Global Statement on Investor obligations and duties *(UNEP FI, 2019)*

« 173 nuances de reporting » *(Novethic, 2018)*

« Bilan de l'application de l'article 173 » *(French Government, 2019)*

Stewardship activity report *(GPIF, 2019)*

Guidance on core indicators for entity reporting on contribution towards implementation of the Sustainable Development Goals *(United Nations Conference on Trade and Development, 2019)*

Infrastructure Assessment Indicators *(GRESB, 2019)*

2019 Infrastructure Asset Assessment *(GRESB, 2019)*

Infrastructure Materiality Assessment tool *(GRESB, 2019)*

Carbon 4 insights - How to monitor physical climate change risks *(Carbon4, 2020)*

The critical role of infrastructure for the SDGs *(Sarah Murray, Martin Koehring, The Economist, 2019)*

Global Investor Study: Are people compelled to invest sustainably? *(Schroders, 2019)*

WEF Global Risks Report *(World Economic Forum, 2019)*

Sustainability Signals: The Individual Investor Perspective *(Morgan Stanley, 2017)*

Developing better dams: A primer on strategic approaches to large water infrastructure *(WWF, 2017)*

Global Real Assets Outlook *(Blackrock, 2020)*

Real Assets Sustainable Investing *(Blackrock, 2019)*

Responsible Investment in Private Equity: case studies *(UNEP FI, 2009)*

Environmental and social due diligence: mitigating risks, identifying opportunities *(CDC group, 2016)*

Using environmental matters to create deal value *(BBJ Group, 2017)*

OECD Getting infrastructure right *(OECD, 2016)*

ESG in Private Equity: How to Write a Responsible Investment Policy *(BSR, 2019)*

The Limited Partners Responsible Investment due diligence questionnaire *(UN PRI, 2015)*

PPP introduction and key issues*, PPP knowledge Lab*

PRI endorses French Private Equity initiative at climate finance day *(UN PRI, 2018)*

How have investors meet their ESG and Climate reporting requirements under article 173-VI *(EY, 2017)*

Are your climate disclosures revealing the true risks of your business? *(EY, 2019)*

Sustainable investing: The millennial investor *(EY, 2017)*

What are the main challenges of the sustainable infrastructure sector today? *(EY, 2017)*

Why SDGs should be in your business plan *(EY, 2019)*

FMO ESG Toolkit-Impact management project *(FMO Entrepreneurial Development Bank, 2020)*

Infrastructure debt investment *(Schroders, 2017)*

Project Finance Glossary*, Global Trade Funding*

Understanding the "E" in the ESG *(S&P Global, 2019)*

Stranded Assets: A climate Risk Challenge *(Ben Caldecott, Elizabeth Harnett, Theodor Cojoianu, Irem Kok, and Alexander Pfeiffer, Inter-American Development Bank, 2016)*

Stranded Assets *(Carbon Tracker, 2017)*

Sustainable infrastructure needs to look beyond climate change *(Delfin Ganapin, WWF-International, 2018)*

Environmental Issues Associated with Infrastructure Development *(Working Group on Environmental Auditing WGEA, 2013)*

Global Biodiversity Score: a tool to establish and measure corporate and financial commitments for biodiversity *(Joshua Berger, Rose Choukroun, Antoine Vallier, Club B4B+)*

Investing in Climate, Investing in Growth *(OECD, 2017)*

The Greenhouse Gas Protocol, A corporate Accounting and Reporting Standard *(World Business Council for Sustainable Development & World Resources Institute)*

Six key ESG issues in energy credits *(Frances Pang, ROBECO, 2017)*

Global Landscape of Climate Finance *(Barbara Buchner, Alex Clark, Angela Falconer, Rob Macquarie, Chavi Meattle, Rowena Tolentino, Cooper Wetherbee, Climate Policy Initiative, 2019)*