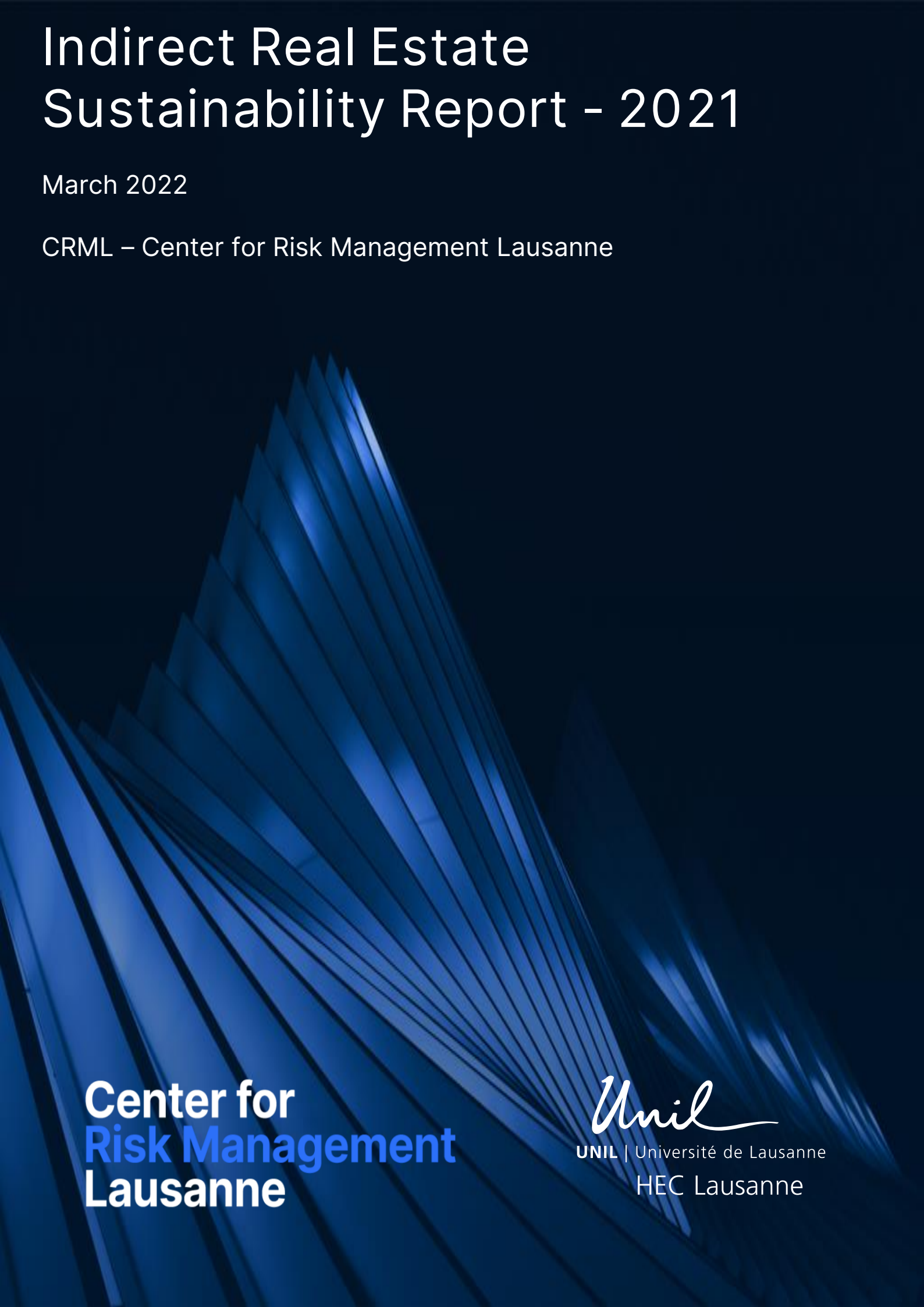
Indirect Real Estate Sustainability Report - 2021

March 2022

CRML – Center for Risk Management Lausanne



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Additional elements about the survey are available on the dedicated web page of CRML at https://real-estate.crml.ch/.

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Executive summary

This report evaluates the sustainability of real estate investment vehicles in Switzerland according to the three Environmental, Social, and Governance (ESG) pillars. The report is based on a survey of direct investors (real estate investment companies, funds, and foundations) regarding their sustainability practices. Based on the data of this survey, ESG scores are derived for each entity participating in the survey. These scores are then aggregated to provide a global view of the market, as well as of the different categories of participants.

Highlights

- The survey questionnaire was sent to 143 contacts. Fifty-nine entities participated, representing 66 portfolios. The participation rate is 46%. In terms of assets under management, the survey covers approximately 65% of the market as most of the large portfolio managers participated. The coverage for listed investment funds is as high as 93%.
- The overall portfolio covered, with an average construction year of 1977, seems to be younger than average buildings in Switzerland. Construction and renovation rates are also quite high, likely reflecting the growth in assets under management and strong demand from investors. These features should allow entities to run portfolios with better than average ESG characteristics.
- Both qualitative and numeric questions were asked of the participants. Obtaining quantitative information on the portfolios was particularly challenging. It appears that many entities are not yet equipped to deliver accurate numbers on various environmental dimensions of their portfolios. Regarding energy indicators, however, the effort is ongoing, where a clear trend toward more transparency is observed. Numbers on CO_2 emissions and energy intensity are increasingly available. However, a recurring problem with quantitative data has been the lack of harmonization in the methodologies used. In order to make meaningful market assessments and comparisons on this data, it is imperative that the industry move towards uniform methodologies and benchmarks.
- The assessment of energy topics related to climate transition is quite favorable. It appears that, on average, institutional real estate portfolios are relatively well positioned and that climate issues are increasingly integrated into the investment process. Measures of energy intensity, with an average of 105.49 kWh/m_2, seem to be in line with the 2050 climate transition objectives. Despite the prevalence of fossil fuels, the energy mix of the overall portfolio seems, however, to move favorably with respect to the average numbers for the whole Swiss real estate market. Average greenhouse gas (GHG) emissions stand at 19.58 kg CO_2e/m^2 (estimated from a CO_2 average of 17.65 kg CO_2/m^2) and compare favorably with the 20 kg CO_2e/m^2 cap envisaged in the last CO_2 legal revision as well as with the overall real estate market. Future editions of the survey will allow us to assess how this level evolves with respect to carbon neutrality objectives.
- In the environmental dimension, energy clearly seems to be at the forefront of entities' concerns. Very few entities report on water usage, waste generation, or biodiversity. In this respect, there appears to be a gap between intentions through the policies put in place and the actual tools for measuring the real situation.
- Environmental policies are developing strongly, partly as a result of strong pressure from the public and investors. Governance policies seem to be more common, and some large organizations have already put in place a comprehensive framework to monitor and improve their ESG profiles. The social dimension of ESG, however, seems to be of less priority.
- In terms of scores, the overall grade of the market is 4.70 when taking a simple mean and 5.52 when taking an asset-weighted mean on a scale from 0 (worst) to 10 (best). Better scores are obtained by real estate foundations, whereas investment companies are lagging. Investment funds, the largest category, are in between.
- It appears over several dimensions that scores tend to be better for portfolios managed by large entities. This can be explained by the fact that they have more resources to deal with ESG issues and could benefit from policies put in place already at the overall organization level.

Résumé

Ce rapport évalue la durabilité des véhicules d'investissement immobilier en Suisse selon les trois piliers environnementaux, sociaux et de gouvernance (ESG). Le rapport repose sur une enquête auprès d'investisseurs directs (sociétés d'investissement immobilier, fonds et fondations) concernant leurs pratiques de durabilité. Sur la base des données de cette enquête, des scores ESG sont calculés pour chaque entité participant à l'enquête. Ces scores sont ensuite agrégés pour fournir une vue globale du marché, ainsi que des différentes catégories de participants.

Faits saillants

- Le questionnaire d'enquête a été envoyé à 143 contacts. Cinquante-neuf entités ont participé, représentant 66 portefeuilles. Le taux de participation est de 46%. En termes d'actifs sous gestion, l'enquête couvre environ 65% du marché, la plupart des grands gestionnaires de portefeuille ayant répondu. La couverture des fonds d'investissement cotés en bourse atteint 93%.
- L'ensemble du portefeuille couvert, dont l'année de construction moyenne est 1977, semble être plus jeune que la moyenne des immeubles en Suisse. Les taux de construction et de rénovation sont également assez élevés, reflétant probablement la croissance des actifs sous gestion et la forte demande des investisseurs. Ces caractéristiques devraient permettre aux entités de gérer des portefeuilles présentant des caractéristiques ESG supérieures à la moyenne.
- Des questions à la fois qualitatives et numériques ont été posées aux participants. Obtenir des informations quantitatives sur les portefeuilles a été particulièrement difficile. Il apparaît que de certaines entités ne sont pas encore équipées pour fournir des chiffres précis sur les différentes dimensions environnementales de leurs portefeuilles. En ce qui concerne les indicateurs énergétiques, cependant, l'effort est en cours, avec une tendance claire vers plus de transparence. Les chiffres sur les émissions de CO_2 et l'intensité énergétique sont largement disponibles. Néanmoins, un problème observé de manière récurrente pour les données quantitatives a été le manque d'harmonisation au niveau des méthodologies utilisées. Afin d'établir une évaluation du marché et des comparaisons pertinentes sur ces données, l'industrie doit impérativement évoluer vers des méthodologies et références uniformes.
- L'évaluation des sujets énergétiques liés à la transition climatique est plutôt favorable. Il apparaît qu'en moyenne, les portefeuilles immobiliers institutionnels sont relativement bien positionnés et que les enjeux climatiques sont de plus en plus intégrés dans le processus d'investissement. Les mesures d'intensité énergétique, avec une moyenne de 105,49 kWh/m_2, semblent être en ligne avec les objectifs de la transition climatique de 2050. Malgré la prédominance des combustibles fossiles, le mix énergétique du portefeuille global semble toutefois évoluer favorablement par rapport aux mesures moyennes de l'ensemble du marché immobilier suisse. Les émissions moyennes de gaz à effet de serre (GES) s'élèvent à 19,58 kg CO_2e/m^2 (estimées à partir d'une moyenne des émissions de CO_2 de 17,65 kg CO_2/m^2) et se comparent favorablement au plafond de 20 kg CO_2e/m^2 envisagé dans la dernière révision du projet de loi CO_2 ainsi qu'à l'ensemble du marché immobilier. Les prochaines éditions de l'enquête nous permettront d'évaluer l'évolution de ce niveau par rapport aux objectifs de neutralité carbone.
- Dans la dimension environnementale, l'énergie semble clairement être au premier plan des préoccupations des entités. Très peu d'entités rendent compte de l'utilisation de l'eau, de la production de déchets ou de la biodiversité. À cet égard, il semble y avoir un écart entre les intentions à travers les politiques mises en place et les outils de mesure de la situation réelle.
- Les politiques environnementales se développent fortement, notamment en raison de la forte pression exercée par le public et les investisseurs. Les politiques de gouvernance semblent être plus courantes, et certaines grandes organisations ont déjà mis en place un cadre complet pour surveiller et améliorer leurs profils ESG. La dimension sociale de l'ESG semble toutefois être moins prioritaire.
- En termes de scores, la note globale du marché est de 4,70 en prenant une moyenne simple et de 5,52 en prenant une moyenne pondérée par les actifs sur une échelle de 0 (pire) à 10

(meilleur). Les meilleures notes sont obtenues par les fondations immobilières, tandis que les sociétés d'investissement sont derrière. Les fonds de placement, la catégorie la plus importante, se situent entre les deux.

- Il apparaît pour plusieurs dimensions que les scores tendent à être meilleurs pour les portefeuilles gérés par de grandes entités. Cela peut s'expliquer par le fait qu'elles disposent de plus de ressources pour traiter les questions ESG et qu'elles pourraient bénéficier des politiques déjà mises en place au niveau de l'organisation globale.

Kurzfassung

Dieser Bericht bewertet die Nachhaltigkeit von Immobilien-Anlagevehikeln in der Schweiz anhand der drei Säulen Umwelt, Soziales und Governance (ESG). Der Bericht basiert auf einer Befragung von Direktinvestoren (Immobilien-Investmentgesellschaften, Fonds und Stiftungen) bezüglich ihrer Nachhaltigkeitspraktiken. Auf der Grundlage der Daten dieser Umfrage werden für jede Organisation, die an der Umfrage teilnimmt, ESG-Bewertungen abgeleitet. Diese Werte werden dann aggregiert, um einen globalen Überblick über den Markt und die verschiedenen Kategorien von Teilnehmern zu erhalten.

Wichtige Erkenntnisse

- Der Fragebogen wurde an 143 Kontakte versandt. Neunundfünfzig Organisationen, die 66 Portfolios repräsentieren, nahmen teil. Die Teilnahmequote beträgt 46%. In Bezug auf das verwaltete Vermögen deckt die Umfrage etwa 65% des Marktes ab, da die meisten grossen Portfoliomanager teilgenommen haben. Bei den börsennotierten Investmentfonds liegt die Abdeckung sogar bei 93%.
- Das erfasste Gesamtportfolio scheint mit einem durchschnittlichen Baujahr von 1977 jünger zu sein als die durchschnittlichen Gebäude in der Schweiz. Auch die Bau- und Renovierungsraten sind recht hoch, was wahrscheinlich auf das Wachstum der verwalteten Vermögen und die starke Nachfrage der Anleger zurückzuführen ist. Diese Merkmale sollten es den Organisationen ermöglichen, Portfolios mit überdurchschnittlichen ESG-Merkmalen zu führen.
- Den Teilnehmern wurden sowohl qualitative als auch numerische Fragen gestellt. Die Beschaffung quantitativer Informationen über die Portfolios war eine besondere Herausforderung. Es scheint, dass viele Organisationen noch nicht in der Lage sind, genaue Zahlen zu den verschiedenen Umweltaspekten ihrer Portfolios zu liefern. Bei den Energieindikatoren sind die Bemühungen jedoch im Gange, und es ist ein deutlicher Trend zu mehr Transparenz zu beobachten. Zahlen zu CO_2-Emissionen und Energieintensität sind zunehmend verfügbar. Allerdings berichten nur sehr wenige Organisationen über den Wasserverbrauch oder das Abfallaufkommen. Ein Problem, das bei quantitativen Daten immer wieder beobachtet wurde, war jedoch die mangelnde Harmonisierung der verwendeten Methoden. Um eine aussagekräftige Marktbewertung und Vergleiche auf der Grundlage dieser Daten vornehmen zu können, muss sich die Industrie unbedingt zu einheitlichen Methoden und Referenzen entwickeln.
- Die Bewertung der Energiethemen im Zusammenhang mit dem Klimawandel fällt recht positiv aus. Es hat den Anschein, dass die institutionellen Immobilienportfolios im Durchschnitt relativ gut aufgestellt sind und dass Klimafragen zunehmend in den Investitionsprozess integriert werden. Die Energieintensität scheint mit einem Durchschnitt von 105,49 kWh/m_2 mit den Klimazielen für 2050 übereinzustimmen. Trotz der Vorherrschaft fossiler Brennstoffe scheint sich der Energiemix des Gesamtportfolios im Vergleich zu den Durchschnittswerten des gesamten Schweizer Immobilienmarktes günstig zu entwickeln. Die durchschnittlichen Treibhausgasemissionen liegen bei 19,58 kg CO_2e/m^2 (geschätzt aus einem CO_2-Durchschnitt von 17,65 kg CO_2/m^2) und liegen im Vergleich zu der in der letzten CO_2-Gesetzesrevision vorgesehenen Obergrenze von 20 kg CO_2e/m^2 sowie zum gesamten Immobilienmarkt im positiven Bereich. Künftige Ausgaben der Befragung werden es uns ermöglichen zu beurteilen, wie sich dieses Niveau im Hinblick auf die Ziele der Klimaneutralität entwickelt.
- In der Umweltdimension scheint die Energie eindeutig an erster Stelle der Bedenken der Organisationen zu stehen. Nur sehr wenige Organisationen berichten über den Wasserverbrauch, die Abfallerzeugung oder die biologische Vielfalt. In dieser Hinsicht scheint es eine Kluft zwischen den Absichten, die durch die eingeführten Strategien verfolgt werden, und den tatsächlichen Instrumenten zur Messung der realen Situation zu geben.
- Die Umweltpolitik entwickelt sich stark, was zum Teil auf den erhöhten Druck seitens der Öffentlichkeit und der Investoren zurückzuführen ist. Governance-Strategien scheinen weiter verbreitet zu sein, und einige grosse Organisationen haben bereits einen umfassenden Rahmen zur Überwachung und Verbesserung ihrer ESG-Profile geschaffen. Die soziale Dimension von ESG scheint jedoch weniger Priorität zu haben.

- Die Gesamtnote des Marktes liegt bei einem einfachen Mittelwert bei 4,70 und bei einem vermögensgewichteten Mittelwert bei 5,52 auf einer Skala von 0 (am schlechtesten) bis 10 (am besten). Immobilienstiftungen erhalten erhalten bessere Noten, während Investmentgesellschaften zurückliegen. Investmentfonds, die grösste Kategorie, liegen dazwischen.
- Über mehrere Dimensionen hinweg zeigt sich, dass Portfolios, die von grossen Einheiten verwaltet werden, tendenziell besser abschneiden. Dies lässt sich dadurch erklären, dass sie über mehr Ressourcen verfügen, um sich mit ESG-Themen zu befassen, und von den bereits auf der Ebene der Gesamtorganisation eingeführten Strategien profitieren könnten.

1 Introduction

The inclusion of Environmental, Social, and Governance (ESG) criteria in the asset management industry is becoming a priority. ESG investing already represents a substantial fraction of institutional asset management in equity and bonds. According to the Global Sustainable Investment Alliance, in 2020, $35.3 trillion of a total of $98.4 trillion of professionally managed assets were managed with some form of ESG strategy (GSIA, 2020). For various reasons, real estate investment lags behind, and institutional investors do not have access to a widely accepted ESG framework, which they can use to allocate their funds in real estate investment vehicles.

This is unfortunate, as the real estate sector is a major contributor to CO_2 emissions, and the potential for improvement is, therefore, considerable. According to the Swiss Federal Office of Energy (Swiss Federal Office for the Environment, 2020a), the real estate sector emits approximately one-third of total CO_2 emissions in Switzerland, and the building stock consumes 100 TWh, or 45% of the total end energy demand in the country. The Energy Strategy 2050 plans to reduce energy consumption of Swiss buildings to 55 TWh by 2050 and to reach net neutrality in carbon emissions.

Real estate investments by institutional investors are very often implemented indirectly through real estate investment companies, funds, and foundations. Together, these investment vehicles represent approximately CHF 170 billion in 2021. Although some investment vehicles are at the forefront of disclosing environmental and sustainable information regarding their building portfolios, a substantial fraction of vehicles provide minimal information on such issues. This lack of publicly available sustainable data prevents institutional investors from incorporating ESG information in their decision to invest in real estate investment vehicles.

The objective of this report is to evaluate the ESG profile of Swiss investment vehicles and, therefore, help institutional investors identify and select the vehicles best adapted to their investment objectives. This assessment is not limited to climate but rather wants to be as broad as possible by including the social and governance dimensions. This objective is fulfilled in two steps. First, following the analysis of existing resources, a carefully designed, exhaustive (i.e., covering all dimensions of ESG criteria) online survey was launched, asking direct investors (real estate investment companies, funds, and foundations) about their sustainability practices. The aim of the survey is to collect data for a thorough and independent assessment of the ESG profile of their real estate investment portfolios held in Switzerland.[1]

Second, a methodology has been devised to assess the sustainability of the real estate portfolio held by investment vehicles according to the three E, S, and G pillars. ESG scores are then calculated for each entity based on its self-reported data and its position among the whole set of entities. These scores can be used by institutional investors to evaluate the ESG quality of their holdings in real estate investment vehicles and possibly reallocate their portfolios according to their investment objectives. The scores summarize the position of each entity with a single number and describe the distribution of ESG practices for the whole market along each of the dimensions that are evaluated. The assessment shall be repeated on an annual basis. This will allow observations with respect to the dynamics of the ESG trend in the sector to be made in the future. In particular, it could be monitored with respect to the pace of the climate transition objectives toward a net-zero economy.

The report is organized in the following way. Section 2 gives some indications of the coverage of the study. Section 3 gives an overview of the general (non-ESG) characteristics of the investment vehicles that have been collected with the survey. Section 4 focuses on ESG characteristics. Section 5 presents the score results.

[1] The survey also included the direct real estate segment of pension funds' portfolios. The analysis of these portfolios allows us to evaluate the main actors in this sector, although pension funds are not investment vehicles for institutional investors. Comments on the results obtained for the pension funds' real estate portfolio will be available in a separate paper.

2 The Survey

This first edition of the real-estate sustainability survey was conducted during the summer of 2021. All Swiss real estate investment vehicles were contacted, including companies, funds, and foundations. They were asked questions about their ESG practices at the building stock level with 2020 as a reference year.

The survey collects information on sustainable practices and performance related to direct real estate investments located in Switzerland. It provides extensive coverage of all three dimensions of sustainable finance (E, S, and G). In particular, this is achieved by asking questions at both the portfolio level and the entity level. Furthermore, the survey includes questions on both the current portfolio and development projects. It inquires about current performance and future targets.

The survey collects both qualitative and quantitative data points from respondents. Qualitative data points are collected by means of *binary questions* (simple "Yes" or "No" questions and checkboxes) and *multiple choice questions*. Quantitative data points are collected by means of *numeric questions*, where respondents are asked to either fill in answers in predetermined text entry cells or to choose the corresponding amount with the help of a *slider*.

To encourage participation, each participating entity was offered an individualized, confidential competitor analysis, which positions the entity against its (anonymous) competitors across various dimensions of sustainability. An example of these peer reports is available on the CRML website.[2]

Eventually, a total of 143 entities (building portfolios) received a trilingual e-mail invitation to participate in the survey (English, German, and French). The completed survey responses cover a total of 59 entities with 66 portfolios in total, which translates to a response rate of 46%.[3] The coverage in terms of market share is much higher, reaching approximately 65% of the market. This is because the response rate to the survey is higher among large investment vehicles, so that the largest players are included.

For the categories of vehicles, the response rate is the highest among listed funds with a market share above 92.7% (Table 1). For unlisted funds and foundations, the market share covered by entities that participated in the survey is equal to 48.1% and 58.6%, respectively. Finally, the coverage for investment companies is equal to 40.2%, which reflects the fact that two large companies did not participate in the survey. Overall, the market coverage of 64.9% is likely sufficient to draw general results from the survey.

Table 1: Global Coverage of the Survey

Category	Number of contacts	Number of respondents	Respondent AUM (bln CHF)	Market AUM (bln CHF)	Prop. of market (in %)
Investment companies	37	7	17.3	43.0	40.2
Listed investment funds	38	34	55.4	59.8	92.7
Unlisted investment funds	18	8	7.2	15.1	48.1
Investment foundations	50	17	32.7	55.9	58.6
Total investment vehicles	143	66	112.7	173.8	64.9

Note: "Respondent AUM" and "Market AUM" represent the AUM of the respondents and the total AUM of the given category. "Prop. of market" represents the ratio of "Respondent AUM" over "Market AUM" in %.

[2] https://real-estate.crml.ch/.

[3] Some entities that manage several portfolios have provided only one questionnaire related to all their portfolios.

3 General Characteristics

Table 2 reports summary statistics of the main characteristics of the respondents to the survey, with details for the three categories of investment vehicles. The first part of the table provides summary statistics of the size of the investment vehicles. The average size of the portfolios covered is CHF 1.7 billion of assets under management. As a result, with 66 vehicles in total, the sample covers CHF 112 billion of assets. The total assets under management of the funds category is CHF 62.6 billion.[4] Assets under management are on average higher for investment companies than for investment funds and foundations.

The average portfolio also holds 141 buildings, so the sample overall covers approximately 9,300 buildings with a total floor space of slightly more than 31 million m^2. The Federal Statistical Office reports numbers of buildings only for dwellings in Switzerland. The estimated total number of buildings in 2020 was approximately 1.77 million, with slightly more than 1 million being individual houses (Swiss Federal Statistical Office, 2020a). Moreover, the total heating reference area in Switzerland is 780,000 million m^2, with 67% for household dwellings, 21% for services and 12% for industry (Swiss Federal Office for the Environment, 2022). The survey sample, therefore, corresponds to approximately 1% of the total number of collective buildings in Switzerland and approximately 4% of the total heating reference area. In terms of categories, the number of buildings and the average floor space are slightly lower for investment companies.

The second part provides additional details on the building portfolios (see also Figure 1). Purely residential space represents the majority of the portfolios, about 55% of the total, while purely commercial space is about 30%. The average construction year is 1977. The Federal Statistical Office reports that 36% of buildings with several dwellings were built after 1981 (Swiss Federal Statistical Office, 2020a). The survey's median is 1975, which means that approximately 50% of the buildings covered were built after 1975. It is therefore likely that the average age of the buildings in the sample is younger than the average building in Switzerland.

Investment foundations and funds mainly invest in relatively young residential buildings, while investment companies hold relatively older commercial buildings. Finally, the average vacancy rate is slightly higher than 6%. The Federal Statistical Office reported a vacancy rate for the end of 2020 equal to 1.72% for dwellings (Swiss Federal Statistical Office, 2020b). Contrary to these statistics that apply for dwellings only, the survey's sample is composed of more than a third with commercial space. With the COVID-19 crisis under way at the end of 2020, it is likely that vacancy rates are higher for commercial floor space.

Table 2: Summary Statistics of Some General Indicators

Simple average indicator	All vehicles	Investment companies	Investment funds	Investment foundations
Assets under management (million CHF)	1'708	2'473	1'492	1'926
Number of (physical) buildings	140.94	116.29	144.40	142.53
Average floor space per building (m^2)	3'366	3'188	3'436	3'288
Annual rental income (million CHF)	70.16	89.37	63.39	79.54
Purely residential (% floor space)	55.01	42.73	53.67	63.39
Purely commercial (% floor space)	31.56	39.10	32.73	25.59
Construction year	1977	1951	1978	1982
Vacancy rate (%)	6.14	5.71	6.02	6.66
Building turnover rate (% 3-year avg)	20.23	6.67	20.76	23.36
Construction rate (% 3-year avg)	4.11	2.46	2.34	9.51
Renovation rate (% 3-year avg)	4.46	6.20	5.25	1.32
Number of observations	66	7	42	17

[4] For reference, Swiss Fund Data (Asset Management Association Switzerland, 2020) reports the total size of the funds market as of December 2020 to be CHF 1,324 billion, with real estate funds representing approximately CHF 40 billion.

The last part provides statistics on the turnover ratios of the building portfolios. The turnover rate is approximately 20%, which certainly reflects the fact that assets under management have very much increased over the last 5–10 years. The average rate of renovation and construction is approximately 4%. Balthasar and Schalcher (2020) estimate that the current renovation rate in Switzerland is below 1.5% and should at least double in order for Switzerland to reach the objectives set in Energy Strategy 2050. Renovation is, therefore, implemented at a quicker pace in the entities surveyed. Foundations and funds have a higher turnover rate (sales and purchases) and construction rate (see also Figure 2). In contrast, due to the higher average age of the building portfolio, investment companies have a higher renovation rate.

Figure 1: Composition of the Building Portfolio (% of floor space)

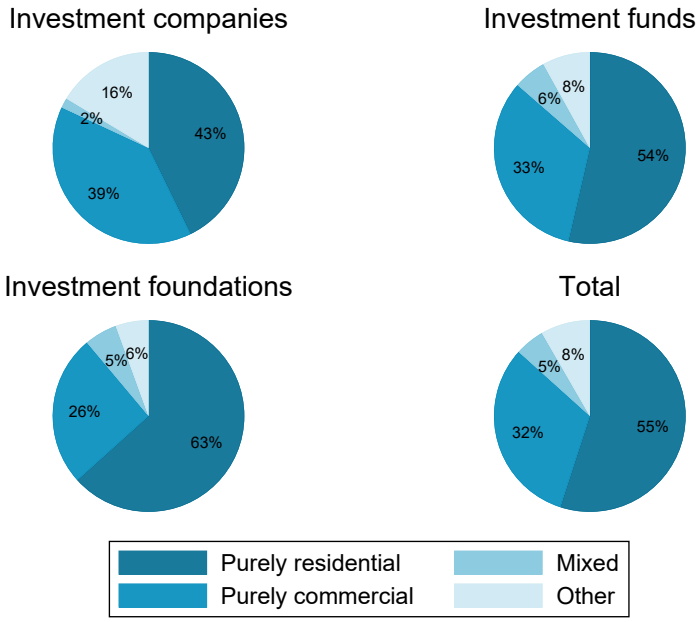
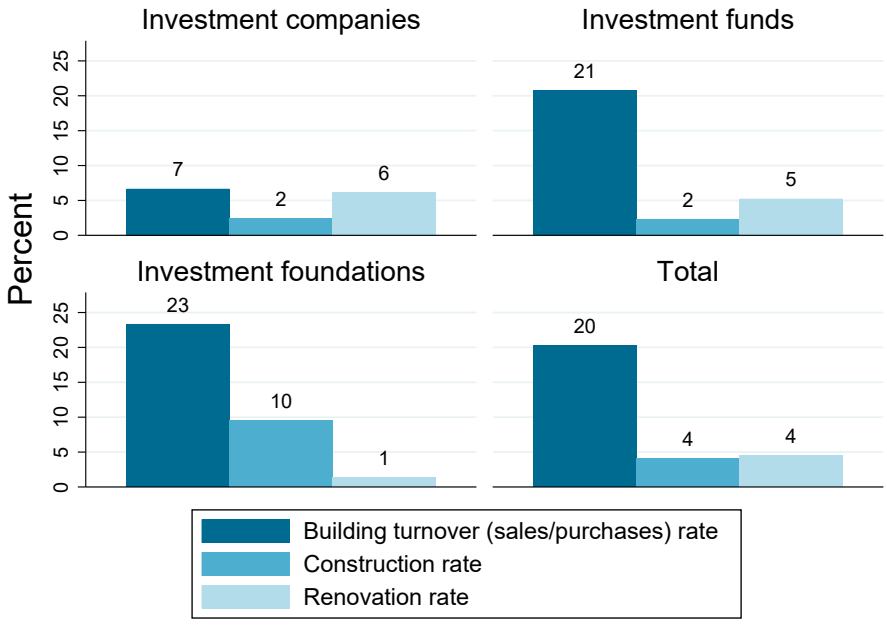


Figure 2: Average Turnover Rates (3-year average, in %)



4 ESG Characteristics

In this section, we report summary statistics on the ESG characteristics of the investment vehicles. The indicators are reported in Tables 3, 4, and 5 (for the E, S, and G pillars, respectively). These indicators will further be used in the construction of ESG scores, as will be detailed in Section 5. Each indicator is related to either standing investments or development portfolios. The scope is specified in parentheses after each indicator description.

4.1 Environmental Characteristics

4.1.1 Indicators

We construct 7 indicators based on the survey for measuring the environmental performance of investment vehicles, as described below. Table 3 summarizes the average of these indicators for each category of investment vehicles.

1. Environmental policies (qualitative): Implementation of 12 specific environmental policies (scope: standing investments)
2. Scope 1 and 2 GHG emissions (quantitative): Greenhouse gas emissions (in kg CO_2e/m^2) (scope: standing investments)
3. GHG emission reduction targets (quantitative): Reduction targets (in %) for 2025, 2030, and 2050 (scope: standing investments)
4. Energy consumption (quantitative): Energy consumption for heating and electricity (in kWh/m^2) (scope: standing investments)
5. Waste generation (quantitative): Average waste generation (in kg/m_2) and share of landfill disposal (in %) (scope: standing investments)
6. Water use (quantitative): Water consumption (in m^3 per unit of surface area in m^2) (scope: standing investments)
7. Material policies (qualitative): Specific policies on 11 environmental and health attributes of materials (scope: portfolio development)

4.1.2 Comments

Participants were asked whether dedicated policies had been put in place relative to specific environmental issues and whether the policies were explicit and publicly available. Figure 3 shows that more than 75% of the entities do indeed have explicit policies in place with respect to environmental matters. More than half of the total have made them publicly available. On the negative side, about a quarter of participants have not yet developed any real explicit policies. This seems to be particularly the case among investment companies.

When looking at subitems, the prevalence of energy worries is obvious (Figure 4). The three items where most of the entities have specific policies are Renewable Energy, Energy Consumption, and Greenhouse Gas Emissions. Other categories seem to lag, and fewer entities seem to worry about issues such as Biodiversity, Waste Management or even Water Consumption.

Numerical questions were asked for several environmental items. The main concern with this type of question is the availability of data. It has been observed in the course of the survey that data collection is very much an ongoing effort in the industry. Whereas many efforts are currently put into the issue, many participants are still struggling to deliver accurate data. Figure 5 illustrates the problem specifically on energy consumption. Approximately 10% of entities have not been able to deliver any energy consumption figures. In total, less than 40% are able to deliver figures on heating and electricity separately. However, many participants have advised that the process is under way and that they should be able to have more accurate figures soon.

Figure 6 gives an overview of the energy mix of the portfolios. Fossil fuels still represent the most important part of the mix, with natural gas representing the most important source with more than 25% and heating oil not much behind at approximately 18%. For Switzerland as a whole in 2017, the Federal Statistical Office reports heating oil to be the first source with 39.4% and gas second with 20.7% (Swiss Federal Statistical Office, 2017). In the renewable field, district heating is the second most important, and heat pumps are also getting some importance. The energy mix is, therefore, more favorable in the survey than the Swiss average.

Table 3: Environmental Characteristics

	Simple average indicator	Total	Companies	Funds	Foundations
(1)	Environmental policies (%)[a]	67.36	46.75	68.40	73.26
(2)	GHG emissions (kg CO_2e/m^2)	19.58	20.39	20.42	17.20
	CO_2 emissions (kg CO_2/m^2)	17.65	16.87	18.44	15.81
(3)	Emission reduction target by 2025 (%)	16.19	24.92	15.52	15.47
	Emission reduction target by 2030 (%)	40.49	35.29	39.70	44.40
	Emission reduction target by 2050 (%)	96.59	71.84	99.21	99.00
(4)	Energy intensity (kWh/m^2)	105.49	108.75	104.00	108.24
(5)	Waste generation (kg/m^2)	52.41	.	50.57	54.55
	Share of landfill disposal (%)	3.78	.	6.40	0.50
(6)	Water use (m^3/m^2)	0.82	0.88	0.79	0.87
(7)	Material policies (devel.) (%)[a]	41.93	43.18	44.03	34.09

Note: The table reports summary statistics of environmental indicators. [a]Numbers represent the ratio of the sum of the coded answers (we assign 0 for missing answers or "False", 1 for "Somewhat true", and 2 for "True") and the maximum attainable sum, expressed as a percent. "devel." indicates that the indicator is related to development projects.

Figure 3: Availability of Environmental Policies

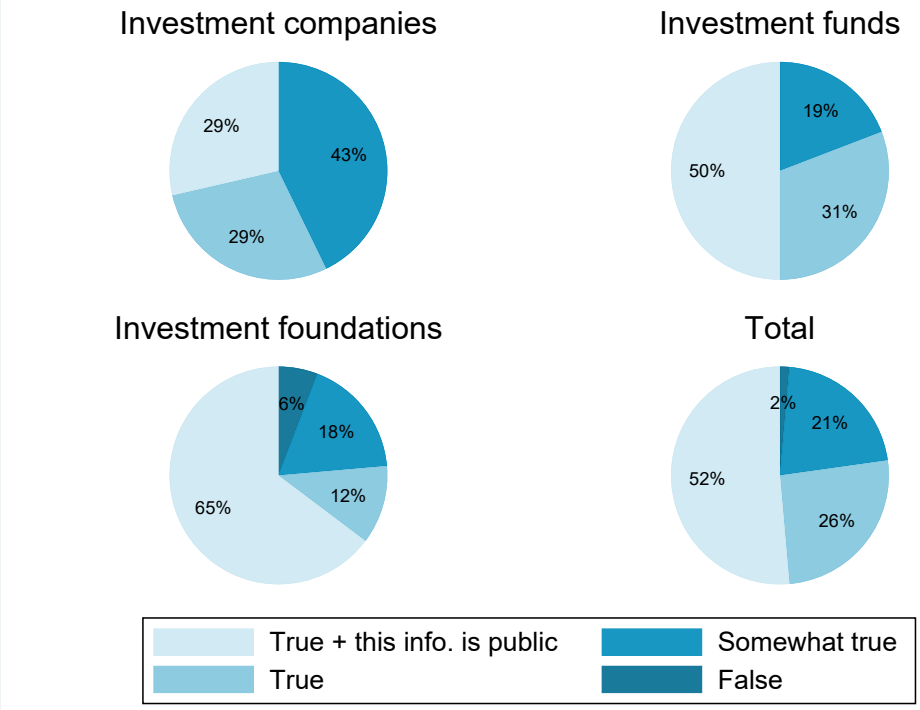


Figure 4: Environmental Policies

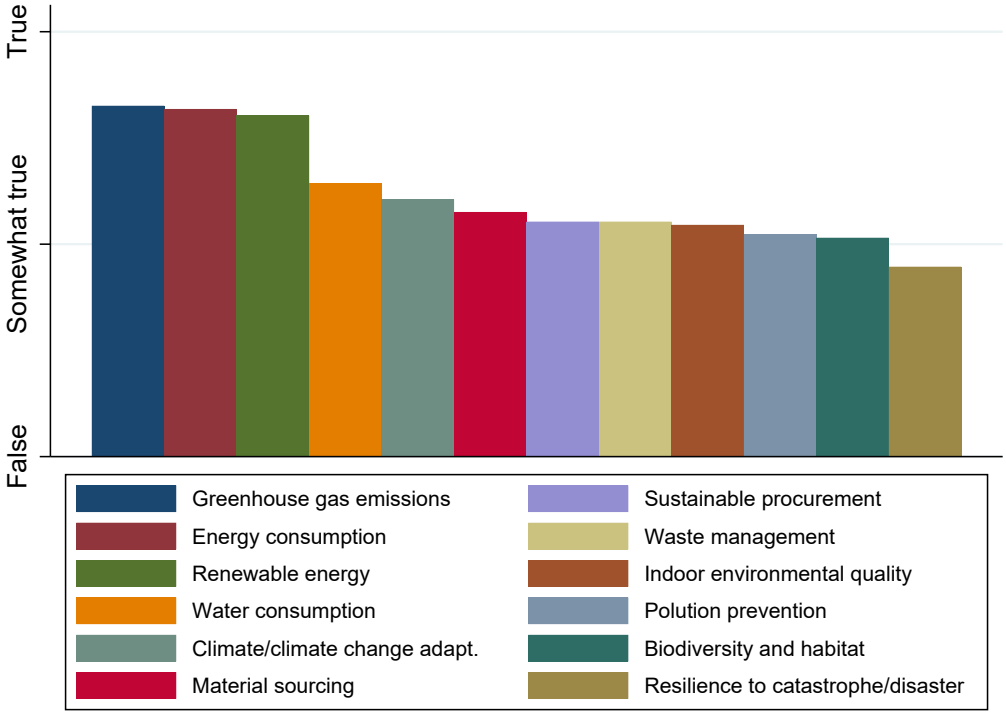


Figure 5: Availability of Energy Consumption Data

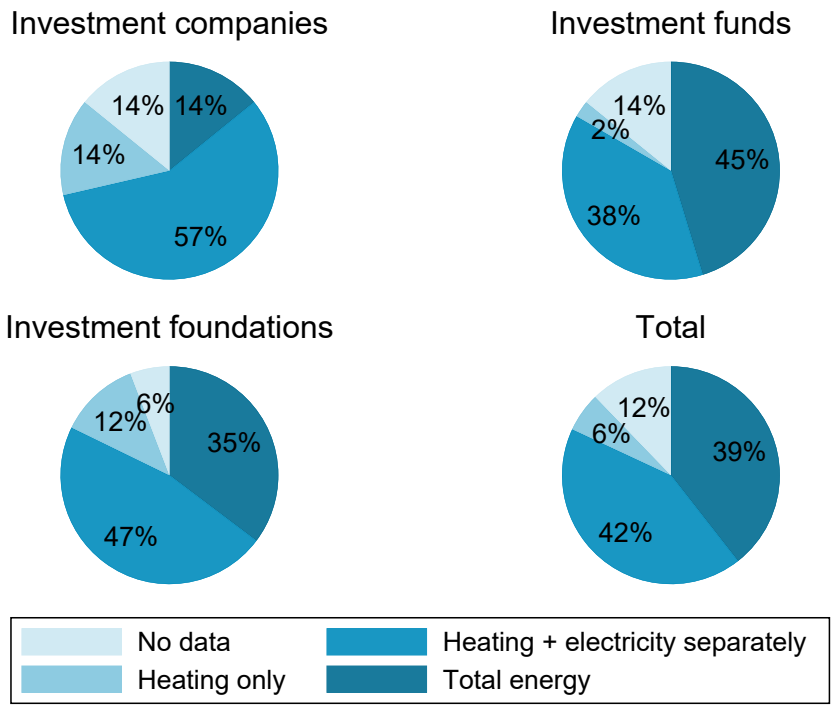


Figure 6: Proportion of Heating Energy Sources

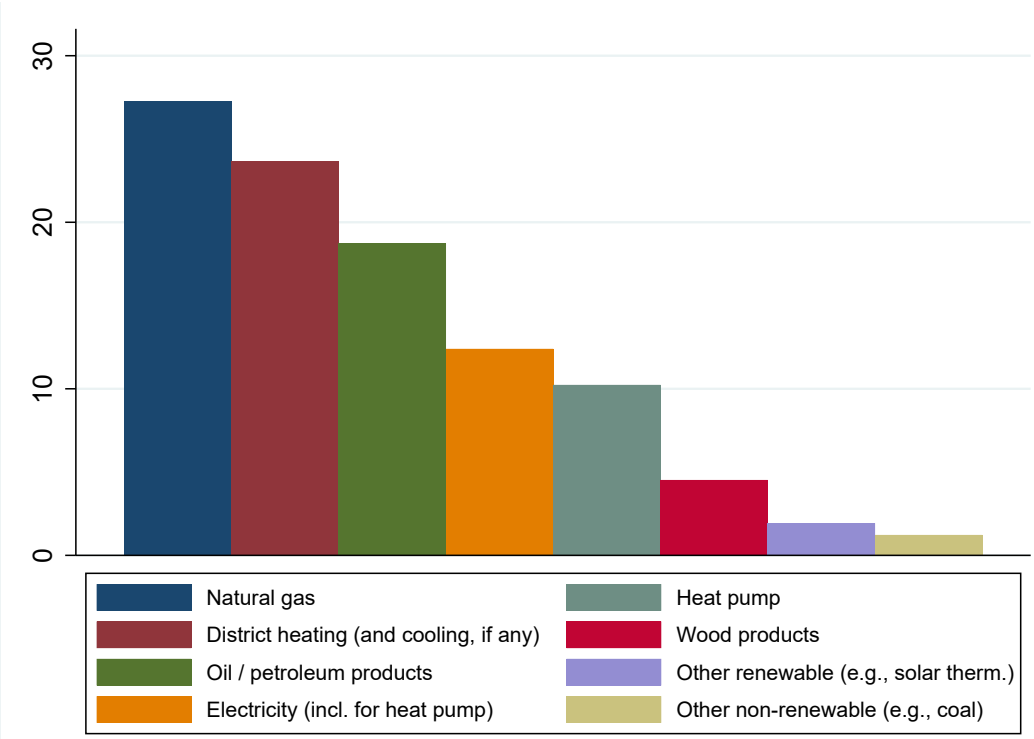


Figure 7 plots the GHG emissions of the entities versus the energy intensity, with average numbers by categories reported in Table 3. Different colors are used to distinguish the various categories of participants. The average level of GHG and CO_2 emissions for the market stands at 19.58 and 17.65 kg of CO_2 equivalent per square meter, respectively.[5] As a reference, the CO_2 emissions number is slightly below the cap mentioned in the project for a revised CO_2 law for new heating installations, which was set at 20 kg CO_2e/m^2. An estimate of emission levels for the whole Swiss real estate market is also provided in the PACTA study (PACTA, 2020, and Wuest & Partners, 2020) at 34.5 kg CO_2e/m^2. The average vehicle in the survey, therefore, seems to be more favorably positioned with respect to both levels. Future editions of this survey will shed some light on the dynamics of emissions, particularly with respect to net neutrality objectives by 2050.

For categories, it is slightly higher for funds and companies and slightly lower for foundations. It can be noted as well in the figure that there are large discrepancies among the participants, with minimum and maximum values ranging between below 10 kg CO_2e/m^2 to above 30 kg CO_2e/m^2 for CO_2 emissions and from approximately 60 kWh/m_2 to 150 kWh/m_2. Whereas there is likely an impact from structural differences in the portfolios, it also shows the wide divergences that are still present in the incorporation of energy issues and the efforts that still need to be made to achieve a net zero portfolio for some of them.

The average energy intensity stands at 105.49 kWh/m_2. In the 2050 Climate transition document (Swiss Federal Office of Energy, 2020), the Swiss Federal Energy Office gives some numbers for the real estate market in Switzerland as well as some indications for the trajectory to be in line with net neutrality by 2050. According to this trajectory, the sector should stand around 125 kWh/m_2 in

[5] Collection of CO_2 and GHG emission data has proved particularly challenging. Many entities have been producing the first set of data in the course of the survey. Moreover, some discrepancies appeared between the numbers collected in the survey and the numbers publicly available for some portfolios. Finally, a number of adjustments were necessary to allow for structural differences in the portfolios. Adjustments were made for altitude and heating degree days.

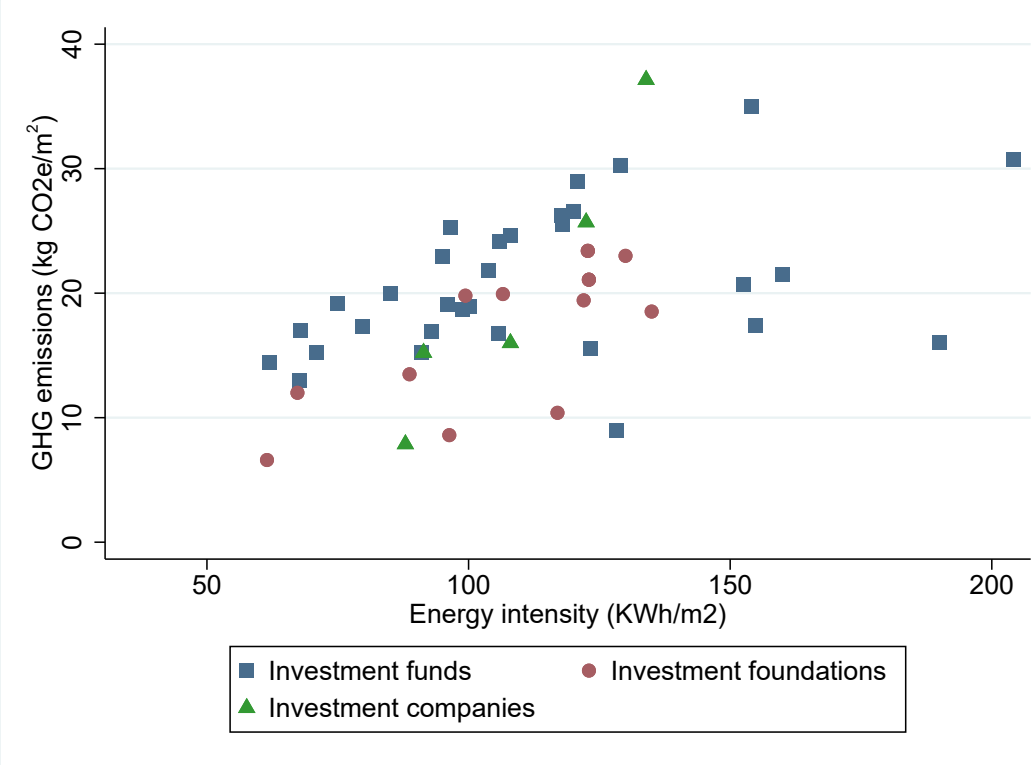
[6] OFEN notes an average consumption level of 100 TWh in the period 2010–2015 and forecasts this to fall to 55 TWh by 2050 to reach the Climate Transition objectives. Total heating area estimates are provided by OFEN (Swiss Federal Office for the Environment, 2020b) at 621, 775 and 910 millions m^2 respectively for 2000, 2019 and 2050. Using a simple linear extrapolation rule, this leads to a level of approximately 125 kWh/m_2 for 2020.

2020.[6] In this respect, the average of the survey seems to be at least in line with the objectives.

On a more prospective note, most participants have put in place explicit targets for reducing their CO_2 emissions and meeting the net zero objective at various time horizons. Almost 70% already have a target by 2025, while 53% have an additional target for 2030 and 71% have explicit targets for 2050. On average, the targets represent a reduction of 16% by 2025, 40% by 2030 and 96% by 2050.

Finally, numerical questions were asked about waste generation and water consumption. As mentioned previously, the number of entities that report numbers in these fields is quite limited, and figures should, therefore, be addressed with caution. It also emphasizes that there is much room for improvement in environmental issues outside of energy and CO_2 emissions.

Figure 7: Energy Intensity and GHG Emissions



4.2 Social Characteristics

4.2.1 Indicators

To measure the social performance of investment vehicles, 7 indicators were built based on the survey. Table 4 summarizes the average of these indicators for each category of investment vehicles. Questions in the Social section were all qualitative, either *True/False* or *Multiple Choice Questions*. The numbers in Table 4 (as well as the corresponding Table 5 for Governance) represent the average percentage of points reached with respect to the maximum achievable. The closer it is to 100%, the better the profile in that specific dimension.

1. Social policies (qualitative): Implementation of 15 specific social policies (scope: standing investments)
2. Employee management and support (qualitative): Implementation of 7 specific measures (scope: standing investments)
3. Tenant management and support (qualitative): Implementation of 6 specific measures (scope: standing investments)
4. Occupant health and well-being (qualitative): Incorporation of 20 specific measures of occupant health and well-being in acquisitions and/or development projects (scope: portfolio development)

5. On-site safety promotion (qualitative): Incorporation of 11 specific measures of on-site safety during the construction phase of development projects (scope: portfolio development)
6. Community impact (qualitative): Assessment of 7 specific socioeconomic impacts on the community when planning development projects (scope: portfolio development)
7. Community engagement (qualitative): Community engagement program with 8 ESG-specific issues for development projects (scope: portfolio development)

4.2.2 Comments

Regarding environmental issues, participants were asked whether explicit social policies have been put in place. Figure 8 reveals that slightly less than 50% of the participants have explicit and publicly available policies in this field. The percentage is, therefore, lower than for a similar question related to the environment. Again, foundations are slightly better, and investment companies lag somewhat. The fact that social policies are less prevalent than environmental ones can also be observed on item 1 of Table 4 compared with the same on Table 3, where we can see that participants reach a score of less than 50% on social policies against more than 65% for environmental policies.

More specifically, Figures 9 and 10 show that policies related to the well-being and development of employees are the most prevalent. This can also be observed in Figure 10, where all dimensions are fairly high, with the item on training and development scoring particularly well. On the other hand, categories such as Nursery or Public Housing are less frequent. Table 4 also shows that policies addressing the support of tenants are not very common at this stage. For development projects, policies related to the development of the community do not reach levels above 50%.

Table 4: Social Characteristics of Respondents

	Simple average indicator	Total	Companies	Funds	Foundations
(1)	Social policies (%)[a]	55.25	37.62	56.51	59.41
(2)	Employee support (%)[a]	75.76	54.08	72.79	92.02
(3)	Tenant support (%)[a]	20.83	54.17	10.42	18.75
(4)	Occupant health measures (devel.) (%)[a]	53.37	58.93	52.08	54.26
(5)	On-site safety policies (devel.) (%)[a]	56.31	56.82	60.39	41.82
(6)	Community impact (devel.) (%)[a]	43.94	40.82	46.77	38.24
(7)	Community engagement (devel.) (%)[a]	40.81	28.57	41.07	45.22

Note: The table reports summary statistics of social indicators. [a]Numbers represent the ratio of the sum of the coded answers (we assign 0 for missing answers or "False", 1 for "Somewhat true", and 2 for "True") and the maximum attainable sum, expressed as a percent. "devel." indicates that the indicator is related to development projects.

Figure 8: Availability of Social Policies

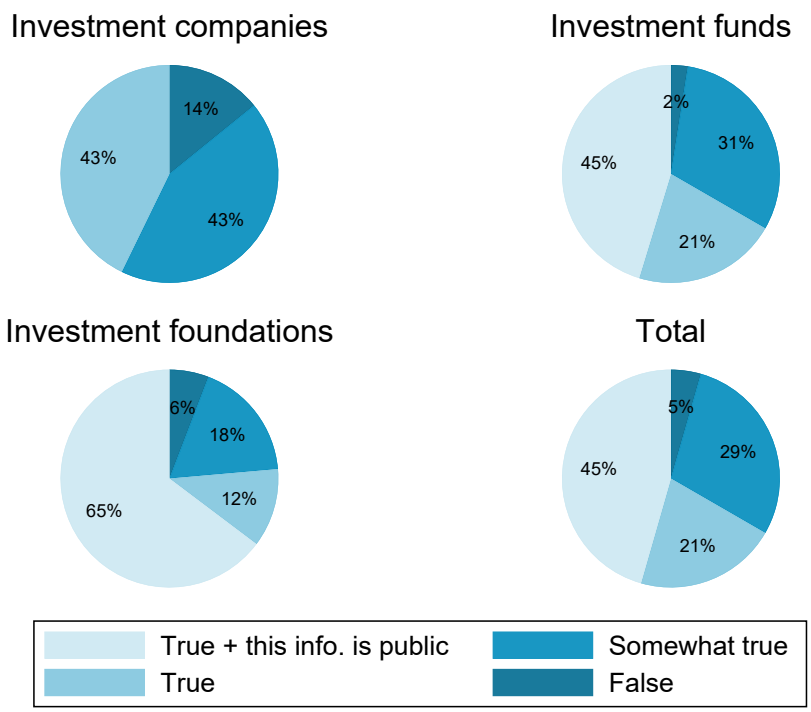


Figure 9: Social Policies

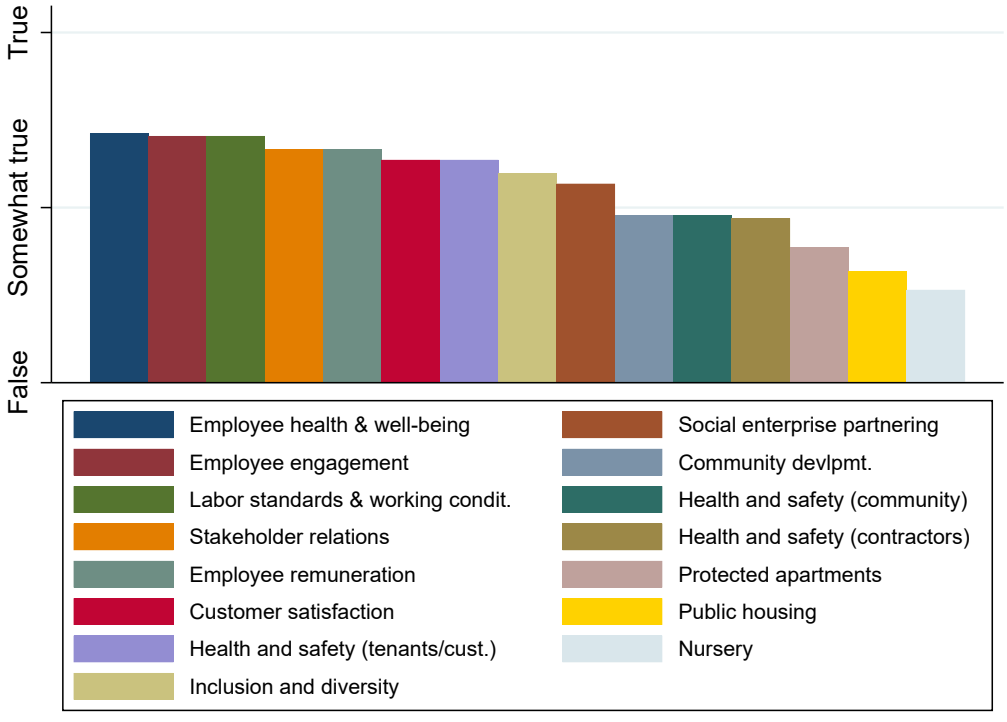
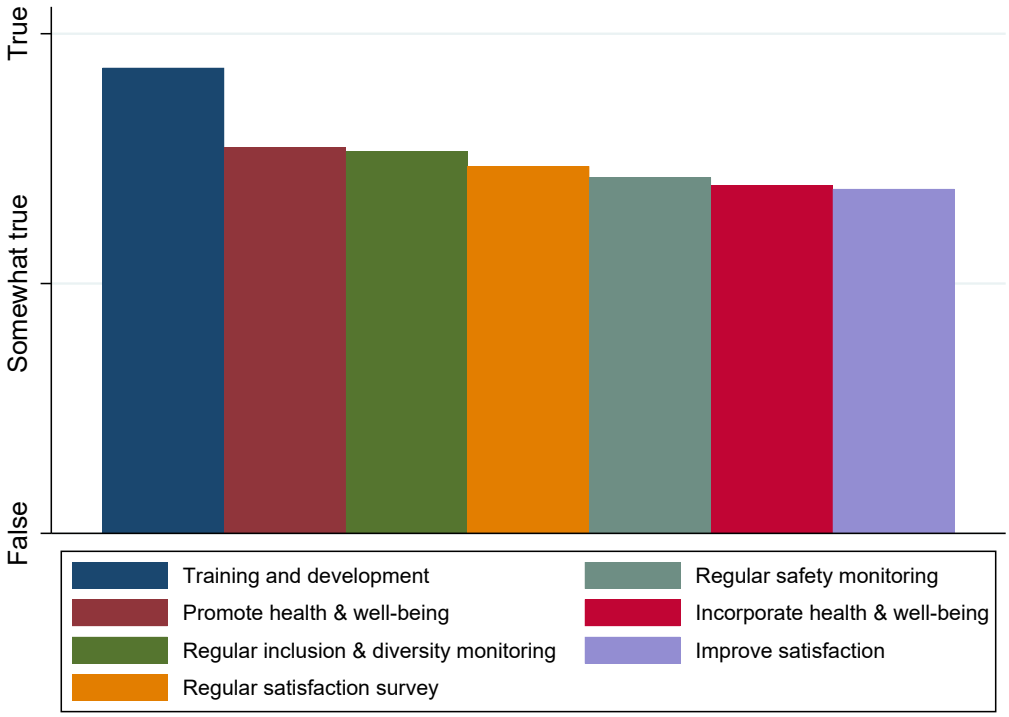


Figure 10: Social Policies - Management and support of employees



4.3 Governance Characteristics

4.3.1 Indicators

The governance part is composed of 7 new indicators based on the survey for measuring the governance performance of investment vehicles, as described below. Table 5 summarizes the average of these indicators for each category of investment vehicles.

The governance questions addressed in this section are mostly related to ESG issues. In this respect, the indicators are not those traditionally used for the governance assessments usually implemented by ESG ratings agencies in the equity field, for instance. Instead, they are more related to how ESG policies across various dimensions are implemented. It should also be noted that most of the governance questions are not targeted at the single building level but rather at the entity level, i.e., the structure that governs the decision-making process of the portfolio. Moreover, it is very often related to how the organization manages the implementation process of the overall ESG-related issues.

1. Governance policies (qualitative): Implementation of 13 specific governance policies (scope: standing investments)
2. ESG objectives (qualitative): Implementation of 4 overall ESG objectives (scope: standing investments)
3. Leadership commitment (qualitative): Commitments of leadership and management to a list of 16 ESG guidelines/objectives frameworks (scope: standing investments)
4. ESG reporting (qualitative): Reporting practice of ESG activities and/or performance (scope: standing investments)
5. In-house ESG expertise (qualitative): Investment in in-house ESG expertise (scope: standing investments)
6. ESG monitoring (qualitative): ESG monitoring of property management (3 criteria) and supply chain (4 criteria) (scope: standing investments)
7. ESG strategy (qualitative): Consideration of 19 ESG criteria for acquisitions and/or development projects (scope: portfolio development)

The score also includes the Environmental policies, the Emissions reduction targets, and the Social policy indicators, already mentioned.

Table 5: Governance Characteristics of Respondents

	Simple average indicator	Total	Companies	Funds	Foundations
(1)	Governance policies (%)[a]	76.69	54.95	79.12	79.64
(2)	ESG objectives (%)[a]	72.22	53.57	73.61	76.47
(3)	Leadership commitment (%)[a]	29.73	8.04	28.57	41.54
(4)	ESG reporting (%)[a]	73.33	54.29	75.00	77.06
(5)	In-house ESG expertise (%)[a]	76.26	40.48	76.58	90.20
(6)	Property mgmt. monitoring (%)[a]	39.34	8.33	39.17	47.06
	Supply chain monitoring (%)[a]	36.11	33.33	25.00	75.00
(7)	ESG strategy (devel.) (%)[a]	59.77	51.13	60.78	60.84

Note: The table reports summary statistics of governance indicators. [a]Numbers represent the ratio of the sum of the coded answers (we assign 0 for missing answers or "False", 1 for "Somewhat true", and 2 for "True") and the maximum attainable sum, expressed as a percent. "devel." indicates that the indicator is related to development projects.

4.3.2 Comments

Figure 11 shows that the percentage of entities that have explicit and publicly available governance policies is similar to the Environment and Social dimensions, i.e., close to 50%. Moreover, the percentage is very similar across categories.

Looking at specific topics, in Figure 12, it can be observed that most of the dimensions seem to be addressed. This is confirmed by the high score reached in item 1 of Table 5, especially compared to the low score reached on social policies. Some topics, such as cybersecurity and political contributions, lag slightly behind. Overall, funds and foundations reached reasonably good levels in governance policies, whereas investment companies are lagging.

As far as reporting practices are concerned, the most frequent vector through which companies communicate on ESG matters is through a dedicated section in the annual report (see Figure 13). Few entities produce only a dedicated sustainability report. Globally, the score reached on reporting is quite high, meaning that many participants have incorporated reporting needs in one way or the other.

The leadership commitment indicator is derived from asking the participants about the various ESG guidelines framework they have committed.[7] Figure 14 reports the 5 frameworks that have been mentioned most frequently. It appears that approximately 45% of the entities adhere to the UN Principles for Responsible Investments, making it the most frequent initiative to which entities adhere. This is followed by the UN Global Compact by approximately 35% and the UN Sustainable Development Goals by approximately 34%. In terms of categories, foundations appear to be the most committed to international initiatives.

Finally, participants were asked about the type and quantities of human resources devoted to ESG issues. This item is summarized in the in-house ESG expertise indicator. It appears that most entities have put in place significant resources, with approximately 50% of them reporting at least 1 full-time equivalent person responsible for dealing with ESG questions and 70% reporting having implemented a dedicated committee or task force.

[7]The low level of the indicator comes from the fact that many choices were available to participants. However, given the methodology for calculating scores (5), this does not automatically translate into low scores.

Figure 11: Availability of Governance Policies

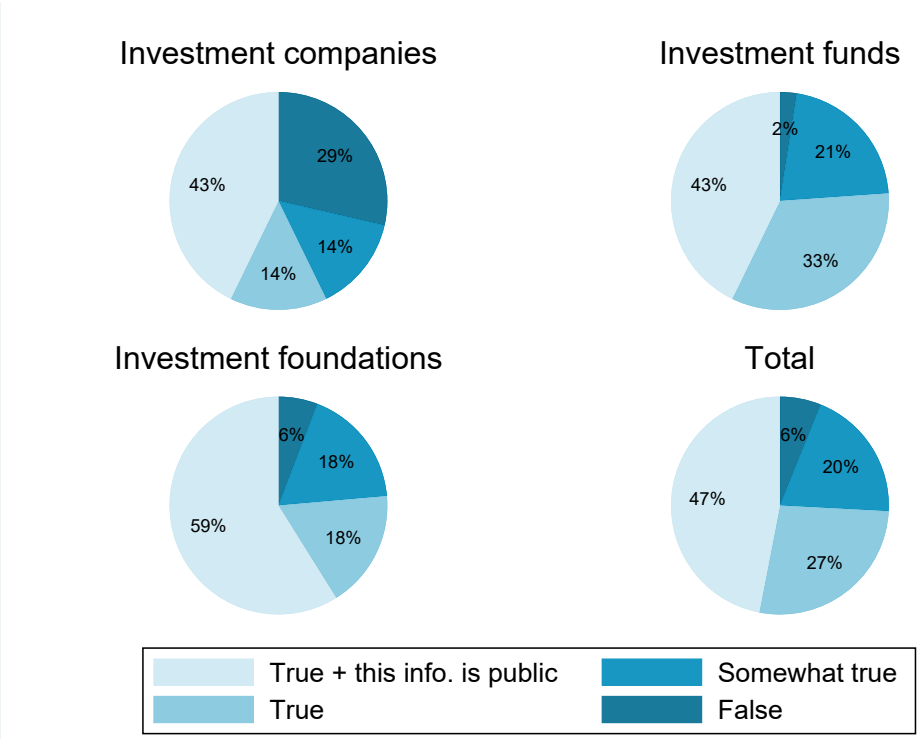


Figure 12: Governance Policies

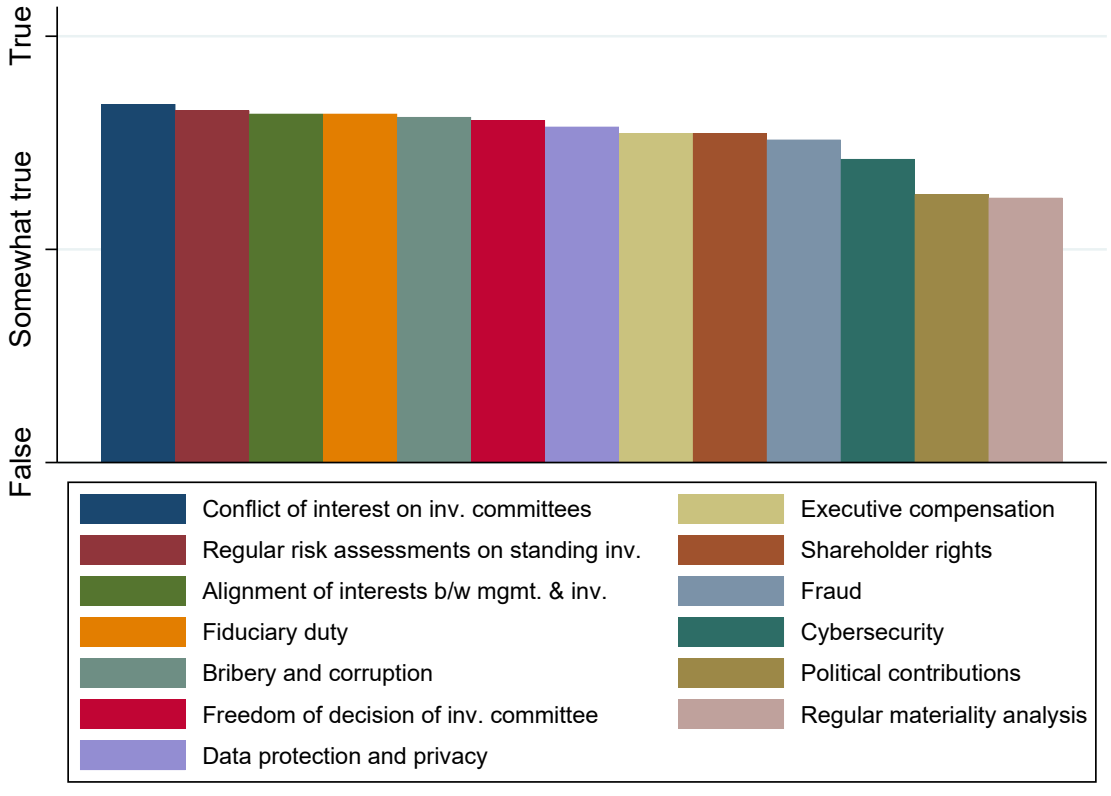


Figure 13: ESG Reporting Practices

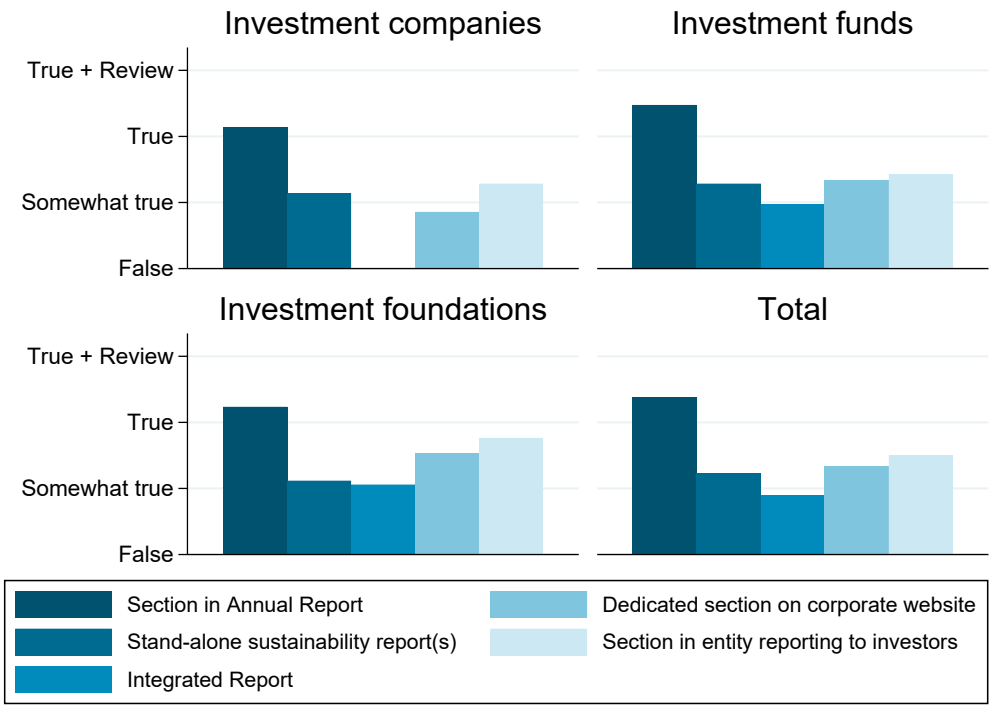
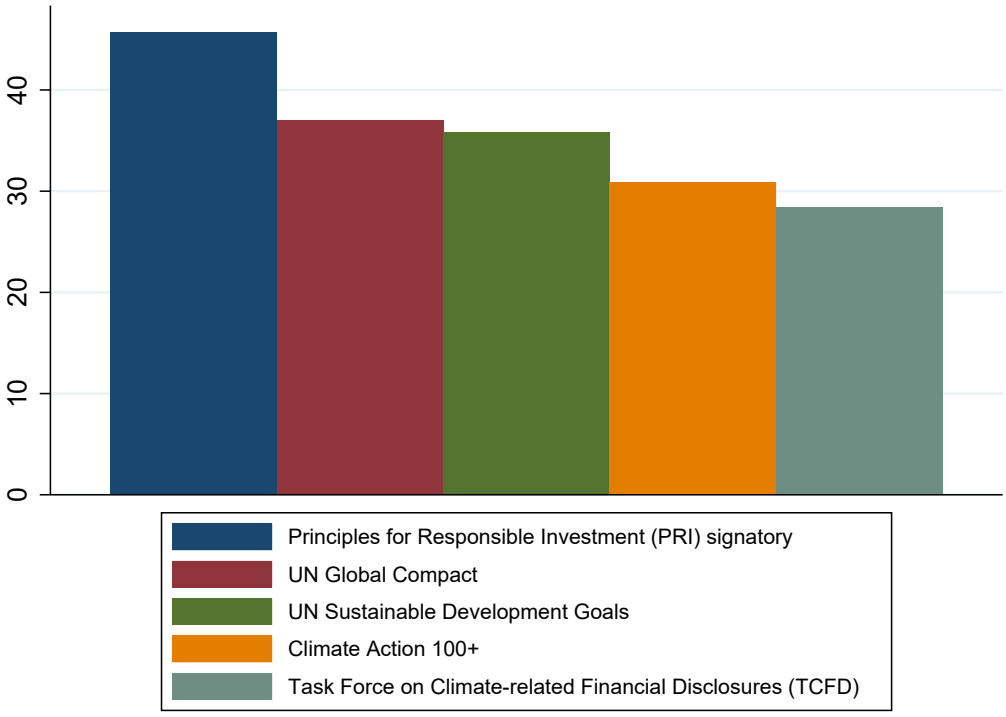


Figure 14: ESG Leadership commitments



5 Scores

5.1 Methodology

To be able to reconcile questions of different natures and eventually provide an overall assessment of each entity, individual indicators need to be converted into a comparable scale. Once done, it can be aggregated into a single metric to provide a global assessment of the ESG profile of each entity and eventually the overall market.

Separate answers to the survey have, therefore, been transformed into ratings on a scale from 0 to 10, where 0 is the least favorable result and 10 is the most favorable result. To achieve this, two separate methodologies are used, one for qualitative data points and one for quantitative data points. Both methodologies are adaptations of Refinitiv (2020).

The first methodology refers to the treatment of qualitative data points in the sample (*multiple choice questions*). Answers are assigned the values 0 (e.g., "False"), 1 (e.g., "Somewhat true"), and 2 (e.g., "True") in case of positive polarity.[8] The value order is reversed in cases of negative polarity. Missing answers are always set to zero. In a second step, these values are summed across topics (e.g., ESG reporting practices). Finally, the percentile rank scoring methodology is applied, and the result is rescaled so that the indicator rates participants on a scale from 0 to 10.

Note that entities with a value of 0 are assigned a score of 0 without applying the percentile rank scoring method. Application of Equation (1) implies small penalties in case a particular value is achieved by more than one entity. It also implies that individual scores rate entities relative to the sample of respondents.

The second methodology refers to the treatment of quantitative data points (or *numeric questions*). Again, the percentile rank scoring methodology of Refinitiv (2020) is applied to mitigate sensitivity to outliers. All missing answers are assigned an indicator score of 0, which ensures that they are rated *worse* than the least favorable given answer.

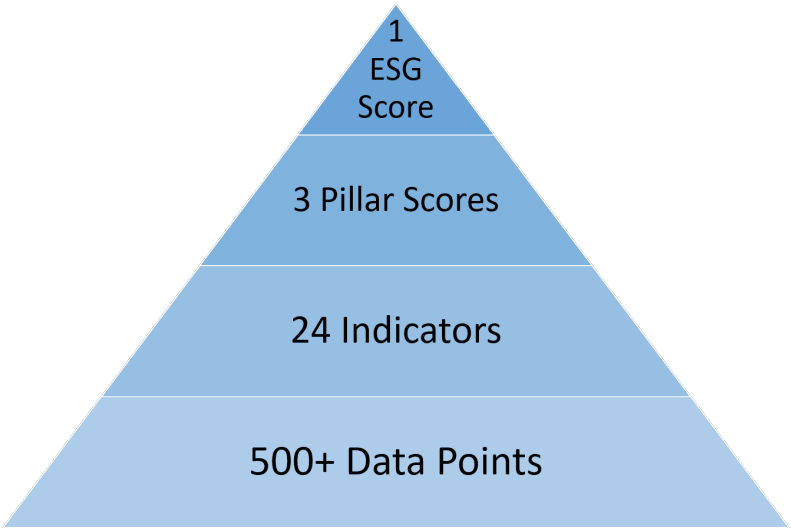
The three pillar scores are weighted averages of a fixed number of indicators. The scores for the E and S pillars consist of 7 indicators each, while the score for the G pillar is constructed by means of 10 indicators in total. Assigned weights are equal to 1, meaning that each indicator obtains an equal weight in the final pillar score. Some exceptions to this rule apply for indicators related to the setup of organizational policies in the different pillars. The devising and implementation of specific policies, even if they relate to special fields such as the environment or social issues, are very much a matter of governance of the structure. As a result, the weight assigned to questions related to specific policies has been split equally, with half going to the governance pillar and the other half to the dedicated pillar. This also avoids overweighting of the information. Each pillar score rates entities on a scale from 0 to 10, where 0 is the least favorable result and 10 is the most favorable that can be achieved.

The overall ESG score is an (unweighted) arithmetic mean of scores of the three E, S, and G pillars. Assigning equal weights to the three pillar scores ensures that all three pillars of sustainable finance are equally considered. Figure 15 illustrates the structure and construction of the scores.

$$\text{Score} = \frac{\text{nb of entities with a worse value} + \frac{\text{nb of entities with the same value}}{2}}{\text{nb of entities with a value}} \times 10 \tag{1}$$

[8] Positive polarity refers to questions where True is considered a better assessment than False. Most of the questions fall in this case. Negative polarity is reversed, and False is better than True.

Figure 15: Structure and construction of the overall ESG score



5.2 Distributions

Summary statistics are reported in Table 6 for scores aggregated for all investment vehicles and in Table 7 for scores aggregated for each category of investment vehicles. Both tables include unweighted means as well as means weighted by assets under management. The difference between the two allows us to have an idea of the impact of large portfolios and is more representative of a global portfolio of assets.

Figure 16 presents the distribution of the ESG and pillar scores. Figures 17–19 present the distribution of the E, S, and G indicator scores.

In both tables, arithmetic means are almost always lower than asset-weighted means. This indicates that larger entities tend to have better scores than smaller entities. As an example, the overall ESG score of the market is 4.70 when taking the simple mean and increases to 5.52 when considering the asset-weighted version.

When looking across pillars, the scores are the highest for the Governance pillar and the lowest for the Environment pillar. The latter suffers in particular from the fact that many entities have not been able to provide much quantitative data. This is most evident in the very weak numbers for waste generation and water use. Furthermore, this also increases the standard deviation of the scores in this dimension. For the Governance score, the distribution is tilted toward high scores by large entities, which manage several portfolios. Most of the governance indicators are assessed at the asset manager level, and all the portfolios managed by such an entity benefit from high scores. Since the entities managing many portfolios tend to be larger, the skew in the distribution is, to some extent, a consequence of the size effect mentioned previously.

Table 6 also gives some indication about the median and the quartiles of the scores. The median of the environmental score is quite low, but this is mostly due again to poor scores on quantitative issues due to the unavailability of data. The median on environmental policies is much better. This reflects the good intentions and first steps done in this field. The gap with respect to scores about quantitative data also means that intentions are not yet always followed by concrete measures about the measurement of the process. Regarding governance policies, one can note that the scores for the highest quartile are quite elevated, reflecting how advanced the process is in some of the best organizations. Except for support for employees, scores in the social field seem to be slightly lower, indicating that this dimension is perhaps not at the forefront of the entities' objectives.

When looking across categories of vehicles (Table 7), one can notice that the foundation category tends to have the best scores, while investment companies have the worst scores. The difference is most pronounced in the Environment score. The fact that investment companies have worse scores might be surprising since some of them, being listed on the stock exchange, are al-

ready evaluated on the sustainability dimension by agencies such as MSCI or Ethos. They should be used to this kind of practice and might have already received some pressure. That being said, it should also be noted that the number of companies and foundations included in the sample is quite limited. Funds, the largest category in number of participants, stand between the two other categories.

The histograms in Figures 17 to 19 show the distributions across all indicators. One can observe how unbalanced evaluations of some indicators are, reflecting some of the remarks previously mentioned. For instance, there are large numbers of low scores in quantitative indicators on environmental issues (see subcharts *b*, *d*, *e*, and *f*). At the same time, very good scores are observed for employee support in Figure 18 and for governance policies in Figure 19. The extreme divergence of scores for emission reduction targets (subchart *i* in Figure 19 reflects the fact that some entities still have no explicit targets. Conversely, those that do have targets are quite ambitious and in line to meet net neutrality objectives by 2050.

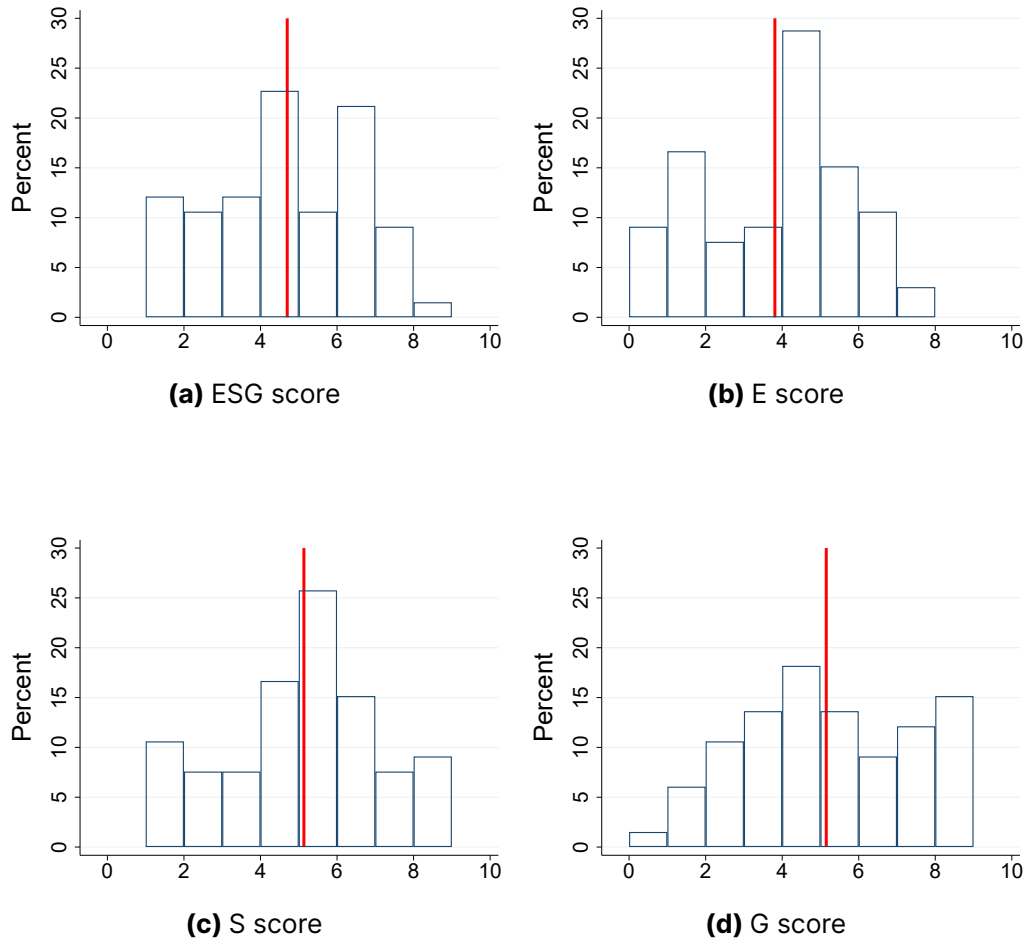
Table 6: Summary of ESG, Pillar, and Indicator Scores

	Average indicator	Value weight	Equal weight				
		Mean	Mean	Std dev.	Q1	median	Q3
	ESG-score	5.52	4.70	1.87	3.29	4.66	6.34
	E-score	4.56	3.81	1.95	1.70	4.07	5.19
(1)	Environmental policies (0.5)	6.14	5.13	2.92	2.41	6.23	7.59
(2)	GHG emissions	5.26	4.26	3.21	1.15	4.34	7.05
(3)	Emissions reduction targets (0.5)	6.91	6.02	3.24	6.13	7.50	8.19
(4)	Energy intensity	5.08	4.56	3.32	1.54	4.65	7.54
(5)	Waste generation	0.96	1.03	2.35	0.00	0.00	0.38
(6)	Water use	3.86	2.63	3.37	0.00	0.00	5.42
(7)	Material policies	5.70	4.80	2.85	2.90	4.35	7.01
	S-score	5.91	5.13	2.08	3.75	5.22	6.75
(1)	Social policies (0.5)	5.53	5.03	2.86	2.90	5.19	7.78
(2)	Employee support	6.17	5.18	2.75	2.28	7.65	7.65
(3)	Tenant support	6.38	5.14	2.99	4.28	4.39	8.22
(4)	Occupant health measures	5.87	5.14	2.77	3.27	5.12	7.53
(5)	On-site safety policies	5.61	4.90	2.60	3.39	5.45	6.70
(6)	Community impact	5.30	5.12	2.83	2.10	5.19	7.59
(7)	Community engagement	6.34	5.36	2.93	3.52	5.43	7.78
	G-score	6.07	5.15	2.20	3.83	4.94	7.72
(1)	Governance policies	5.22	5.14	2.79	2.96	5.25	8.33
(2)	Overall ESG objectives	6.18	5.08	2.81	2.47	4.88	8.40
(3)	Leadership commitment to ESG	6.17	4.46	3.76	0.00	4.63	8.02
(4)	Reporting on ESG practices	6.15	5.19	2.94	3.89	5.31	7.78
(5)	In-house ESG expertise	6.54	5.56	2.70	3.40	5.52	8.89
(6)	ESG monitoring	5.95	5.00	2.97	3.06	4.32	8.22
(7)	ESG strategy	6.12	5.26	2.78	3.58	5.37	7.72
(8)	Environmental policies (0.5)	6.14	5.13	2.92	2.41	6.23	7.59
(9)	Emission reduction targets (0.5)	6.91	6.02	3.24	6.13	7.50	8.19
(10)	Social Policies (0.5)	5.53	5.03	2.86	2.90	5.19	7.78

Table 7: Average Scores by Category of Investment Vehicle

	Indicator	Companies		Funds		Foundations	
		Value weight	Equal weight	Value weight	Equal weight	Value weight	Equal weight
	ESG-score	4.43	3.45	5.54	4.70	6.04	5.20
	E-score	4.38	2.90	4.32	3.79	5.12	4.23
(1)	Environmental policies (0.5)	3.73	2.88	6.19	5.18	7.32	5.93
(2)	GHG emissions	6.79	3.86	4.40	4.14	6.08	4.73
(3)	Emission reduction targets (0.5)	4.70	4.27	7.00	5.88	7.91	7.10
(4)	Energy intensity	5.45	3.55	5.37	4.97	4.33	3.96
(5)	Waste generation	0.00	0.00	0.79	0.83	1.80	1.97
(6)	Water use	6.08	2.94	2.88	2.46	4.57	2.93
(7)	Material policies	3.78	3.46	5.89	4.83	6.36	5.27
	S-score	4.73	4.12	6.00	5.16	6.37	5.48
(1)	Social policies (0.5)	2.85	2.89	6.03	5.25	5.97	5.39
(2)	Employee support	4.09	2.88	6.03	4.84	7.55	6.95
(3)	Tenant support	6.20	4.03	6.23	5.02	6.76	5.89
(4)	Occupant health measures	5.07	5.63	6.02	5.12	6.01	5.01
(5)	On-site safety policies	4.32	3.52	5.72	5.11	6.09	4.96
(6)	Community impact	5.54	5.08	5.32	5.43	5.13	4.38
(7)	Community engagement	4.08	4.21	6.68	5.42	6.89	5.70
	G-score	4.19	3.34	6.30	5.15	6.63	5.90
(1)	Governance policies	3.56	3.42	5.71	5.25	5.16	5.57
(2)	Overall ESG objectives	3.92	3.16	6.57	5.19	6.63	5.63
(3)	Leadership commitment to ESG	4.97	3.34	6.10	4.04	6.93	5.95
(4)	Reporting on ESG practices	5.05	3.99	6.57	5.24	5.93	5.57
(5)	In-house ESG expertise	4.19	2.76	6.86	5.58	7.16	6.66
(6)	ESG monitoring	3.46	2.49	6.18	4.98	6.83	6.09
(7)	ESG strategy	4.83	4.23	5.95	5.35	7.12	5.48
(8)	Environmental policies (0.5)	3.73	2.88	6.19	5.18	7.32	5.93
(9)	Emission reduction targets (0.5)	4.70	4.27	7.00	5.88	7.91	7.10
(10)	Social policies (0.5)	2.85	2.89	6.03	5.25	5.97	5.39

Figure 16: Distributions of ESG and Pillar Scores

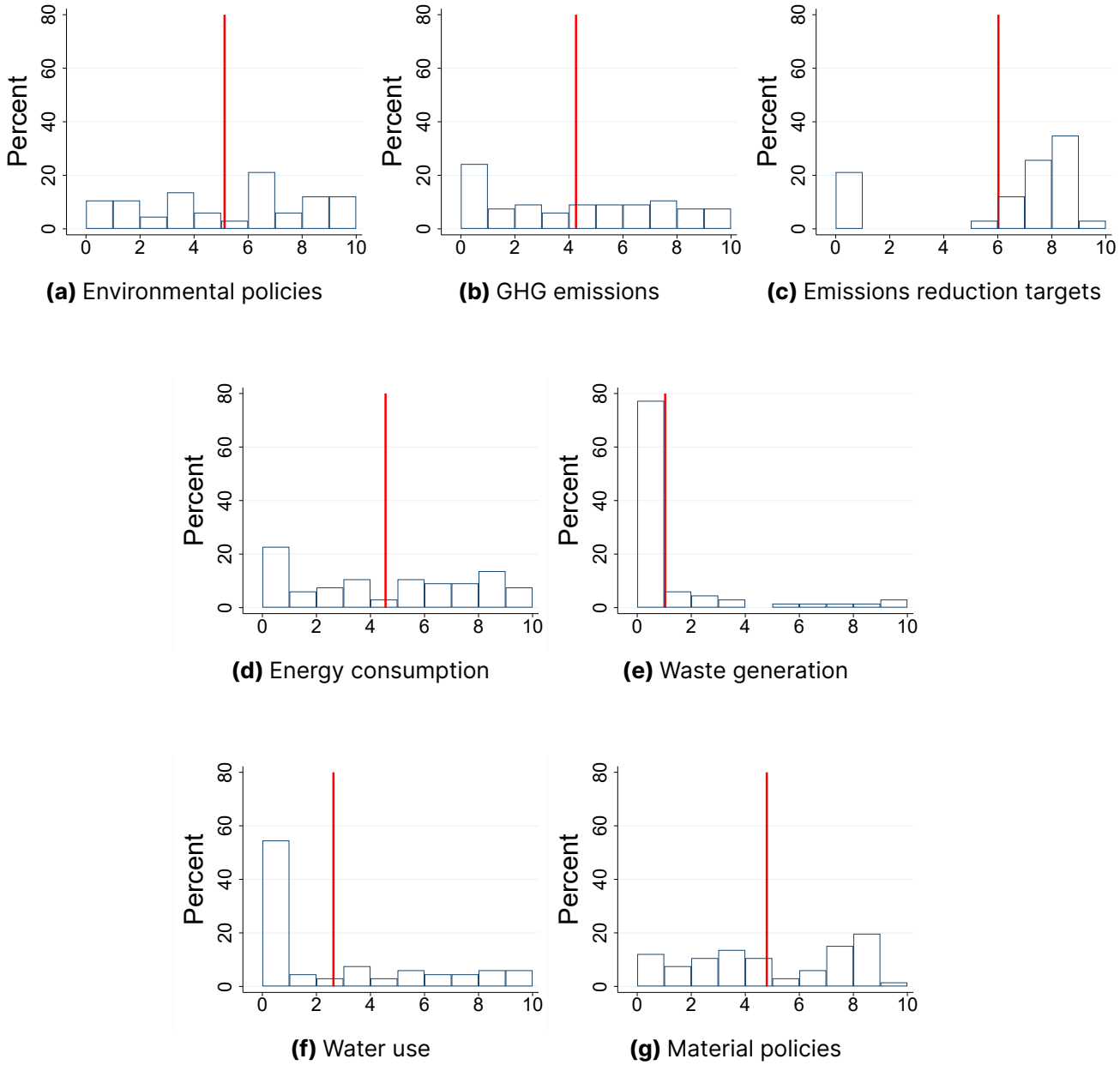


(a) ESG score **(b)** E score

(c) S score **(d)** G score

Note: The histograms summarize the distribution of the overall ESG score as well as the three pillar scores. The y-axis depicts the relative fraction within the sample, and the vertical lines represent the corresponding sample averages.

Figure 17: Distributions of Environmental Indicator Scores



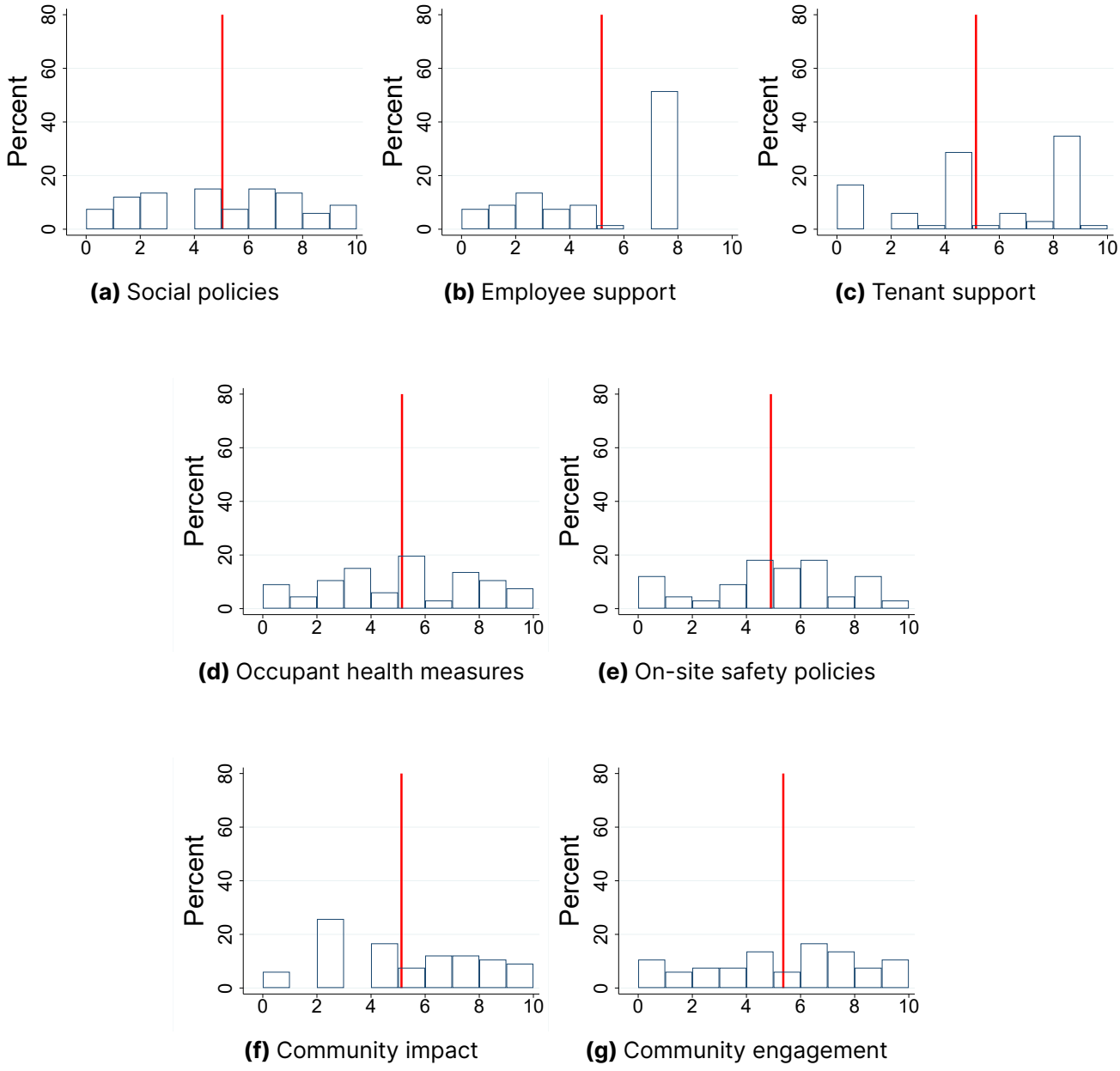
(a) Environmental policies **(b)** GHG emissions **(c)** Emissions reduction targets

(d) Energy consumption **(e)** Waste generation

(f) Water use **(g)** Material policies

Note: The histograms summarize the distribution of the seven indicator scores that define the Environment pillar score. The y-axis depicts the relative fraction within the sample, and the vertical lines represent the corresponding sample averages.

Figure 18: Distributions of Social Indicator Scores



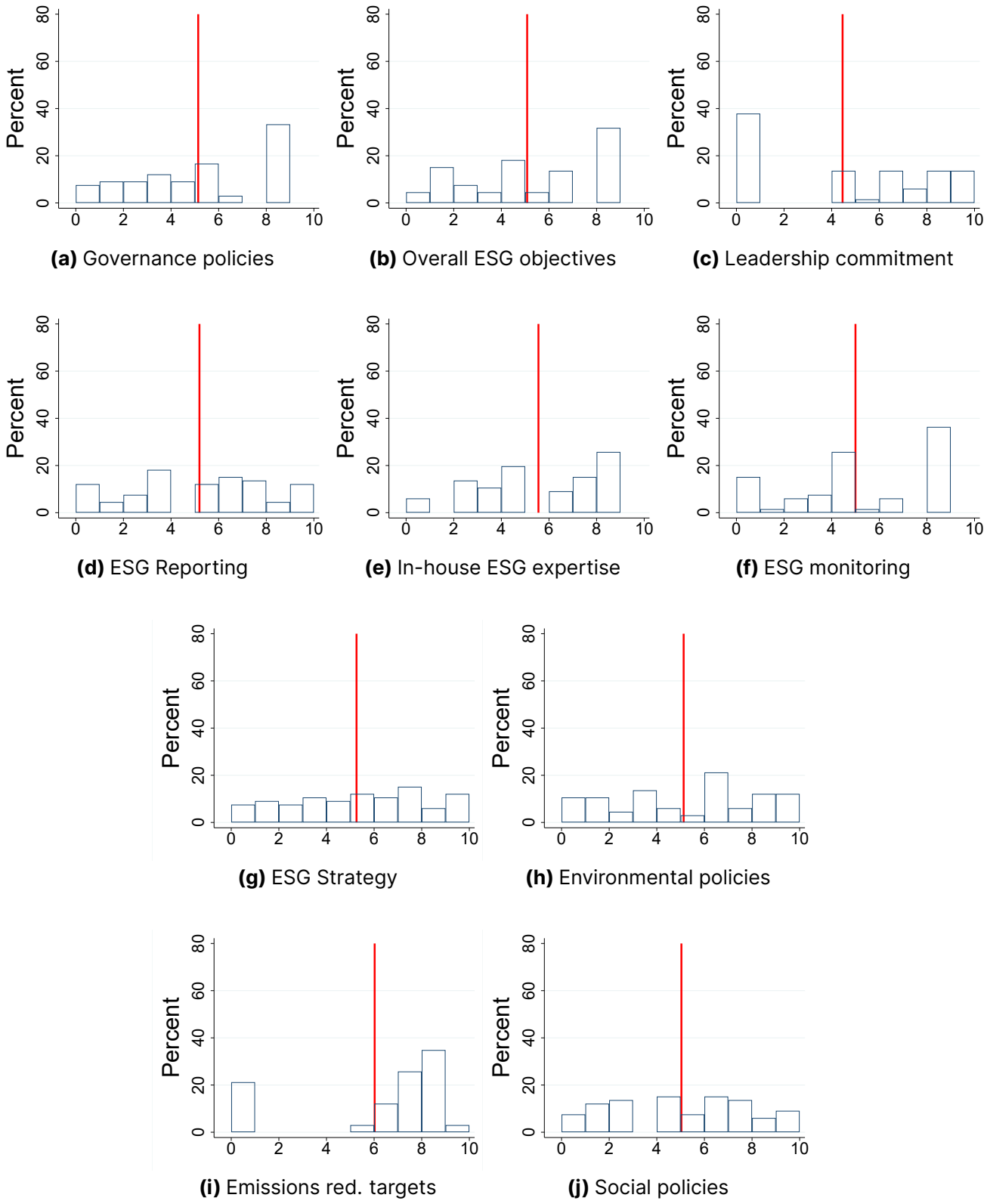
(a) Social policies **(b)** Employee support **(c)** Tenant support

(d) Occupant health measures **(e)** On-site safety policies

(f) Community impact **(g)** Community engagement

Note: The histograms summarize the distribution of the seven indicator scores that define the Social pillar score. The y-axis depicts the relative fraction within the sample, and the vertical lines represent the corresponding sample averages.

Figure 19: Distributions of Governance Indicator Scores



(a) Governance policies **(b)** Overall ESG objectives **(c)** Leadership commitment

(d) ESG Reporting **(e)** In-house ESG expertise **(f)** ESG monitoring

(g) ESG Strategy **(h)** Environmental policies

(i) Emissions red. targets **(j)** Social policies

Note: The histograms summarize the distribution of the ten indicator scores that define the Governance pillar score. The y-axis depicts the relative fraction within the sample, and the vertical lines represent the corresponding sample averages.

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