Indirect Real Estate Sustainability Report - 2022

April 2023

CRML – Center for Risk Management Lausanne



Center for Risk Management Lausanne

UNIL | Université de Lausanne
HEC Lausanne

Acknowledgments

This report was commissioned by the Banque Cantonale Vaudoise and University of Lausanne to assess the ESG quality of a real-estate portfolio. It is part of a global partnership between the two institutions to foster research on the impact of ESG integration on institutional investment portfolios.

Authors: Fabio Alessandrini (University of Lausanne, Enterprise for Society (E4S) Center, Banque Cantonale Vaudoise), Eric Jondeau (University of Lausanne, Enterprise for Society (E4S) Center, Swiss Finance Institute), and Nathan Delacrétaz (University of Lausanne). The previous survey was written with the collaboration of Ghislaine Lang and Evert Reins.

The authors are very grateful to the real-estate investment companies, funds, and foundations that contributed to the survey. Thanks also go to Caisse de Pension de l'Etat de Genève and Retraites Populaires for their very valuable and continuous feedback at various stages of the project. Finally, the authors are particularly grateful to the real estate team at Banque Cantonale Vaudoise Asset Management for their ongoing and valuable feedback since the beginning of the project.

Please cite this report as follows: Center for Risk Management – Lausanne (2023). "2022 Indirect Real Estate Sustainability Report – Switzerland."

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

Further communications about this report shall be addressed to esg-immo@unil.ch.

Contents

Executive summary 4

Résumé 5

Kurzfassung 7

1 Introduction 9

2 The Survey 10

3 General Characteristics 11

4 ESG Characteristics 14

4.1 Environmental Characteristics 14

4.1.1 Indicators 14

4.1.2 Comments 14

4.2 Social Characteristics 21

4.2.1 Indicators 21

4.2.2 Comments 21

4.3 Governance Characteristics 24

4.3.1 Indicators 24

4.3.2 Comments 25

5 Scores 27

5.1 Methodology 27

5.2 Distributions 30

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. Forty-one entities participated this year, with assets under management (AUM) covering 56% of the market. With the update of the last year's participants who did not respond this year, the survey covers 72 portfolios and approximately 82% of the market. The coverage for listed investment funds is as high as 96%.
- The average portfolio holds 105 buildings, with an average floor space of 3'745 m^2 per building, representing CHF 2'018 million of AUM. Overall, the survey sample represents 1% of the total number of collective buildings and 3.6% of the total heating reference area. The average year of construction is 1974, and purely residential and purely commercial spaces represent 53% and 32% of the total space, respectively.
- Both qualitative and numeric questions are asked of the participants. Obtaining quantitative information on the portfolios is still particularly challenging for some topics. However, we note some advances as the numbers on energy topics become more widely available. We even observe some improvement in data from other fields, such as water and waste.
- The assessment of energy topics related to climate transition is quite favorable and improving. Average GHG emissions stand at 18.51 kg CO_2e/m^2, and CO_2 emissions stand at 15.65 kg CO_2e/m^2. This finding represents a decline of approximately 10% with respect to the previous edition and shows that the sector is taking the right direction in this regard. It compares favorably with the 20 kg CO_2e/m^2 cap envisaged in the last revised CO_2 Act, as well as with the overall real estate market. Energy intensity, with an average of 105.8 kWh/m^2, changed little from the previous year and is still in line with the 2050 climate transition objectives.
- Despite the prevalence of fossil fuels, the energy mix of the overall portfolio (42% of buildings in the portfolio rely on fossil energy for heating) appears to move favorably with respect to the average numbers for the whole Swiss real estate market (58.3% of Swiss residential buildings rely on fossil energy for heating). We also note a substantial increase in the share of renewable energies.
- A large proportion of entities declare that they implement a relatively wide range of environmental policies (69%), social policies (57%), and governance policies (82%). In general, the availability of policies across all dimensions has improved since last year, reflecting increased awareness of ESG issues. The most noticeable improvement is taking place in the social category. In our previous survey, we found that the social dimension was comparatively overlooked by entities. It seems that investment managers are recognizing the importance of social policies and catching up in this field. Environmental policies are well in place and still represent the area with the most focus.
- The overall ESG scores of the market are 4.85 when taking the simple mean and 5.40 when taking the asset-weighted mean on a scale from 0 (worse) to 10 (best). The average value-weighted scores are equal to 4.68, 5.48, and 6.04 for the E, S, and G pillars, respectively. These figures are comparable to those of the 2020 survey. The main change is a slightly lower average S score, which results in a decrease from 5.91 to 5.48 of the average ESG score. Better scores are obtained by real estate foundations, whereas investment companies are lagging. The investment funds category, which is the largest category, stands in between the other two categories.
- Over several dimensions, those scores tend to be better for portfolios managed by large entities. This finding can be explained by the fact that these large entities have more resources to deal with ESG issues and could benefit from policies already implemented 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 de l'enquête a été envoyé à 143 contacts. 41 entités ont participé cette année, avec des actifs sous gestion couvrant 56% du marché. Avec la mise à jour des participants de l'année dernière qui n'ont pas répondu cette année, l'enquête couvre 72 portefeuilles et environ 82% du marché. La couverture des fonds d'investissement cotés en bourse atteint 96%.
- Le portefeuille moyen comprend 105 bâtiments, avec une surface moyenne de 3 745 m^2 par bâtiment, représentant CHF 2 018 millions d'actifs sous gestion. Dans l'ensemble, l'échantillon de l'enquête représente 1% du nombre total de bâtiments collectifs et 3.6% de la surface totale de référence pour le chauffage. L'année moyenne de construction est 1974, et les espaces purement résidentiels et purement commerciaux représentent respectivement 53% et 32% de l'espace total.
- Des questions qualitatives et numériques ont été posées aux participants. L'obtention d'informations quantitatives sur les portefeuilles reste particulièrement difficile pour certains sujets. Toutefois, nous constatons des progrès au fur et à mesure que les chiffres sur les thèmes énergétiques deviennent plus largement disponibles. Nous observons même une amélioration des données dans d'autres domaines tels que l'eau et les déchets.
- L'évaluation des thèmes énergétiques, liés à la transition climatique, est plutôt favorable et s'améliore. Les émissions moyennes de GES s'élèvent à 18.51 kg de CO_2e/m^2 et les émissions de CO_2 à 15.65 kg de CO_2e/m^2. Cela représente une baisse d'environ 10% par rapport à l'édition précédente et montre que le secteur prend la bonne direction à cet égard. Il se compare favorablement au plafond de 20 kg de CO_2e/m^2 envisagé dans la dernière loi révisée sur le CO_2, ainsi qu'à l'ensemble du marché de l'immobilier. L'intensité énergétique, avec une moyenne de 105.8 kWh/m^2, a peu changé par rapport à l'année précédente et reste conforme aux objectifs de la transition climatique de 2050.
- Malgré la prédominance des combustibles fossiles, le mix énergétique de l'ensemble du portefeuille (42% des bâtiments du portefeuille utilisent des énergies fossiles pour le chauffage) semble évoluer favorablement par rapport aux chiffres moyens de l'ensemble du marché immobilier suisse (58.3% des bâtiments résidentiels suisses utilisent des énergies fossiles pour le chauffage). Nous constatons également une augmentation substantielle de la part des énergies renouvelables.
- Une grande partie des entités déclarent mettre en œuvre un éventail relativement large de politiques environnementales (69%), sociales (57%) et de gouvernance (82%). En général, la disponibilité des politiques dans toutes les dimensions s'est améliorée par rapport à l'année dernière, ce qui reflète une plus grande sensibilisation aux questions ESG. L'amélioration la plus notable concerne la catégorie sociale. Lors de notre précédente enquête, nous avions constaté que la dimension sociale était relativement négligée par les entités. Il semble que les gestionnaires d'investissement reconnaissent l'importance des politiques sociales et rattrapent leur retard dans ce domaine. Les politiques environnementales sont bien en place et représentent toujours le domaine sur lequel on se concentre le plus.
- Le score ESG global du marché est de 4.85 en moyenne simple et de 5,40 en moyenne pondérée, sur une échelle de 0 (pire) à 10 (meilleur). Les notes moyennes pondérées en fonction de la valeur sont égales à 4.68, 5.48 et 6.04 pour les piliers E, S et G, respectivement. Ces chiffres sont comparables à ceux de l'enquête 2020. Le principal changement est une note S moyenne légèrement inférieure, qui se traduit par une diminution de 5.91 à 5.48 de la note ESG moyenne. Les fondations immobilières obtiennent de meilleurs scores, tandis que les sociétés d'investissement sont à la traîne. Les fonds d'investissement, la catégorie la plus importante, se situent entre les deux.

- Sur plusieurs dimensions, ces 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 peuvent bénéficier des politiques déjà mises en œuvre au niveau de l'ensemble de l'organisation.

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) hinsichtlich ihrer Nachhaltigkeitspraktiken. Auf der Grundlage der erhobenen Daten 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 Teilnehmerkategorien zu erhalten.

Wichtige Erkenntnisse

- Der Fragebogen wurde an 143 Kontakte versandt. In diesem Jahr nahmen 41 Unternehmen teil, die mit ihren verwalteten Vermögen (AuM) 56% des Marktes abdecken. . Unter Berücksichtigung der aktualisierten Daten von Unternehmen, die an der letztjährigen Umfrage teilgenommen, die diesjährige Umfrage jedoch nicht oder nur teilweise beantwortet haben, deckt die Umfrage 72 Portfolios und etwa 82% des Marktes ab. Bei den börsenkotierten Immobilienfonds liegt die Abdeckung sogar bei 96%.

- Das durchschnittliche Portfolio umfasst 105 Gebäude mit einer durchschnittlichen Nutzfläche von 3'745 m^2 pro Gebäude, was einem AuM von CHF 2'018 Millionen entspricht. Insgesamt repräsentiert die Befragungsstichprobe 1% der Gesamtzahl der Kollektivgebäude und 3.6% der gesamtenEnergiebezugsfläche. Das durchschnittliche Baujahr ist 1974, und die reinen Wohn- und Gewerbeflächen machen 53% bzw. 32% der Gesamtfläche aus.

- Den Teilnehmenden wurden sowohl qualitative als auch numerische Fragen gestellt. Die Beschaffung quantitativer Informationen über die Portfolios ist bei einigen Themen noch immer eine besondere Herausforderung. Wir stellen jedoch einige Fortschritte fest, da die Zahlen zu Energiethemen in grösserem Umfang verfügbar sind. Wir beobachten sogar eine gewisse Verbesserung der Datenlage in anderen Bereichen wie Wasserverbrauch und Abfallerzeugung.

- Die Entwicklung im Energiebereich ist recht günstig und verbessert sich. Die durchschnittlichen Treibhausgasemissionen liegen bei 18,51 kg CO_2e/m^2 und die CO_2-Emissionen bei 15,65 kg CO_2e/m^2. Dies entspricht einem Rückgang von etwa 10% gegenüber der letzten Ausgabe und zeigt, dass der Sektor auf dem richtigen Weg ist. Er schneidet im Vergleich mit der im revidierten CO_2-Gesetz vorgesehenen Obergrenze von 20 kg CO_2e/m^2 sowie auch mit dem gesamten Immobilienmarkt gut ab. Die Energieintensität hat sich mit durchschnittlich 105,8 kWh/m^2 im Vergleich zum Vorjahr kaum verändert und steht immer noch in Einklang mit den Klimazielen für 2050.

- Obwohl fossile Brennstoffe weiter dominieren, scheint sich der Energiemix des Gesamtportfolios (42% der Gebäude im Portfolio werden mit fossiler Energie beheizt) im Vergleich zu den Durchschnittswerten für den gesamten Schweizer Immobilienmarkt (58,3% der Schweizer Wohngebäude werden mit fossiler Energie beheizt) günstig zu entwickeln. Auch der Anteil der erneuerbaren Energien ist deutlich gestiegen.

- Ein Grossteil der Befragten gibt an, dass sie eine relativ breite Palette an Umwelt- (69%), Sozial- (57%) und Governance-Richtlinien (82%) umsetzen. Im Allgemeinen hat der Anteil der Befragten, die entsprechende Richtlinien umgesetzt haben, gegenüber dem Vorjahr in allen Dimensionen zugenommen. Das spiegelt das gestiegene Bewusstsein für ESG-Themen wider. Die deutlichste Verbesserung ist in der Kategorie Soziales zu verzeichnen. In unserer vorherigen Umfrage stellten wir fest, dass die soziale Dimension von den Unternehmen vergleichsweise wenig beachtet wurde. Investmentmanager scheinen die Bedeutung von Sozialrichtlinien zu erkennen und in diesem Bereich aufzuholen. Umweltrichtlinien sind bereits gut etabliert und stellen nach wie vor den Bereich dar, der am meisten im Fokus steht.

- Die ESG-Gesamtbewertung des Marktes liegt auf einer Skala von 0 (schlechtester Wert) bis 10 (bester Wert) bei 4,85, wenn man den einfachen Mittelwert betrachtet, und bei 5,40, wenn man den vermögensgewichteten Mittelwert nimmt. Die durchschnittlichen vermögensgewichteten Werte der drei Dimensionen liegen bei 4,68 (Umwelt), 5,48 (Soziales) bzw. 6,04 (Governance). Diese

Werte sind mit jenen der Erhebung von 2020 vergleichbar. Die wichtigste Änderung ist eine etwas niedrigere durchschnittliche Bewertung in der Dimension Soziales, die zu einem Rückgang der durchschnittlichen ESG-Bewertung von 5,91 auf 5,48 führt. Die besten Werte erzielen die Immobilienstiftungen, während die Immobiliengesellschaften hinterherhinken. Immobilienfonds, die grösste Kategorie, liegen dazwischen.

- Bei mehreren Dimensionen sind die Werte für Portfolios, die von grossen Unternehmen verwaltet werden, tendenziell besser. Dies lässt sich dadurch erklären, dass sie über mehr Ressourcen verfügen, um sich mit ESG-Themen zu befassen, und dass sie von bereits auf der Ebene der Gesamtorganisation umgesetzten Richtlinien profitieren können.

1 Introduction

The inclusion of environmental, social, and governance (ESG) criteria in the asset management industry is gaining an increasing level of traction. 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 out of a total of $98.4 trillion of professionally managed assets were managed with some form of ESG strategy (GSIA, 2020). According to a number of estimates, this trend should continue for at least the next five years, and the growth in ESG assets is set to easily surpass the growth of the overall industry (PwC, 2022).

The real estate sector remains a major contributor to CO_2 emissions; therefore, the potential for improvement is considerable. At the aggregate level, the Swiss real estate sector contributes to approximately 24% of the total CO_2 emissions in Switzerland (Swiss Federal Office for the Environment, 2023), and the building stock consumes 90 TWh, or 40% of the total end energy demand (Swiss Federal Office of Energy, 2022). The Energy Strategy 2050 plans to reduce the energy consumption of Swiss buildings to 55 TWh by 2050 and to reach net neutrality in carbon emissions. Therefore, it is crucial to develop tools to evaluate ESG practices in this sector and to assess the evolution of these practices over time. This is particularly important because institutional investors lack access to a widely accepted ESG framework, which they can use to allocate their funds in real estate investment vehicles.

Institutional real estate investments are often implemented indirectly through real estate investment companies, funds, and foundations. Together, these investment vehicles represented approximately CHF 170 billion in 2021. Despite some improvements, and although some investment vehicles are at the forefront of disclosing environmental and sustainable information regarding their building portfolios, some vehicles still provide minimal information on such issues. As a result, a lack of a comprehensive set of data still prevents institutional investors from systematically 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 issues but also covers the social and governance dimensions. The current report follows the first edition of the survey conducted in 2021, with a full report made available in the course of 2022 (Alessandrini et al., 2022). Having a full set of answers for two consecutive years will allow us to shed some light on the market dynamics over all ESG dimensions. In particular, the findings could be monitored with respect to the pace of the climate transition objectives toward a net-zero economy.

The evaluation of the ESG profile is fulfilled in two steps. First, we collect information through a carefully designed, exhaustive (i.e., covering all dimensions of ESG criteria) online survey that asks direct investors (real estate investment companies, funds, and foundations) about their sustainability practices. The aim of the survey is to collect data to be used for a thorough and independent evaluation of the ESG profile of their real estate investment portfolios held in Switzerland.

Second, we 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 entire market along each of the dimensions that are evaluated.

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 characteristics (non-ESG) of the investment vehicles that have been collected with the survey. Section 4 focuses on ESG characteristics. Section 5 presents the score results.

2 The Survey

This second edition of the real estate sustainability survey was conducted during the fall of 2022. 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 2021 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). 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 also inquires about current performance and future targets.

The data points collected are both qualitative and quantitative. 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 using *numeric questions*, where respondents are asked to fill in the responses in predetermined text entry cells or choose the corresponding amount with the help of a *slider*.

To encourage participation, each participating entity is offered an individualized and 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 (https://real-estate.crml.ch/).

Eventually, a total of 143 entities (building portfolios) received a trilingual (English, German, and French) e-mail invitation to participate in the survey. The completed survey responses covered a total of 41 portfolios in total, with assets under management (AUM) covering 56% of the market. The response rate was lower than that in 2021. Some entities that participated in the 2021 survey did not respond or only partially responded to the 2022 survey. Several reasons were provided, but in most cases, lack of time and an overload of work were the main reasons. In such cases, we proceeded as follows: we updated quantitative questions based on the annual or sustainability report published by the entity, while for qualitative questions, we reported the answers provided in the previous year, as they were unlikely to worsen over time. On the other hand, we registered 6 new respondents in 2022 who did not participate in the 2021 edition. Overall, the total number of participants for this current edition is equal to 72, for a market share coverage of approximately 82.2%. This market coverage is substantially improved from the 64.9% of the previous edition and is definitely sufficient for us to draw general results from the survey.

For vehicle categories, the response rate was the highest among listed funds with a market share above 96.3% (Table 1). In particular, the survey covered 97.3% of the SXI Real Estate Funds Broad index. For unlisted funds and foundations, the market share covered by entities that participated in the survey was equal to 70.7% and 66.3%, respectively, which also represents a substantial increase with respect to the previous edition. Finally, the coverage for investment companies was equal to 84%, which was greatly improved thanks to the decision of two large companies to participate in the survey this year. This number corresponds to 89.4% of the SXI Real Estate Shares Broad index.

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 %)	2021 Prop. of market (in %)
Investment companies	37	10	36.1	43.0	84.0	40.2
Listed investment funds	38	35	61.5	62.9	96.3	92.7
Unlisted investment funds	18	9	10.7	15.1	70.7	48.1
Investment foundations	50	18	37.0	55.9	66.3	58.6
Total investment vehicles	143	72	145.4	176.9	82.2	64.9

Note: "Respondent AUM" and "Market AUM" represent the AUM of the respondents and the total AUM of the given category, respectively. Figures on market AUM have been provided by IMvestir (https://imvestir.ch/). "Prop. of market" represents the ratio of "Respondent AUM" over "Market AUM" in %.

3 General Characteristics

Table 2 reports the summary statistics of the main characteristics of the respondents to the survey, with details provided 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 assets under management of the portfolios are equal to CHF 2 billion of assets under management. As a result, with 72 vehicles in total, the sample covers CHF 145.3 billion of assets. The total assets under management of the funds category is CHF 72.1 billion.[1] Assets under management are on average higher for investment companies than for investment funds and foundations.

The average portfolio holds 105 buildings; thus, the sample overall covers approximately 7'577 buildings with a total floor space of slightly more than 28.4 million m^2.[2] The Federal Statistical Office reports the numbers of buildings only for dwellings in Switzerland. The estimated total number of buildings in 2021 was approximately 1.77 million, with slightly more than 1 million being individual houses (Swiss Federal Statistical Office, 2022a). Moreover, the total heating reference area in Switzerland is 786,000 million m^2, with 66.8% for household dwellings, 21.1% for services and 12% for industry (Swiss Federal Office for the Environment, 2022). Therefore, the survey sample corresponds to approximately 1% of the total number of collective buildings in Switzerland and approximately 3.6% 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 of the table provides additional details on the building portfolios (see also Figure 1). Purely residential space and purely commercial space represent 53% and 32% of the total space, respectively. The average and median construction year is 1974, which means that approximately 50% of the buildings covered were built after 1974. The Federal Statistical Office reports that 38% of buildings with several dwellings were built after 1981 (Swiss Federal Statistical Office, 2022a). Therefore, it is 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 reports that the vacancy rate for the end of 2021 is equal to 1.54% for dwellings (Swiss Federal Statistical Office, 2022b). Contrary to these statistics that apply only to dwellings, the survey sample is composed of more than a third with commercial space.

The last part of the table provides statistics on the turnover ratios of the building portfolios. The turnover rate is near 18%, which certainly reflects the fact that assets under management have increased considerably over the last 5-10 years. The average rates of renovation and construction are equal to 3.4% and 4%, respectively. On a like-for-like basis, both rates declined with respect to the 2021 survey, as can be observed in Figure 2. This is particularly the case for renovation rates. However, renovation is still running at a faster speed than estimated for Switzerland as a whole. 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. Foundations and funds have a higher turnover rate (sales and purchases) and construction rate (see also Figure 3). In contrast, due to the higher average age of the building portfolio, investment companies have a higher renovation rate.

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

[2] The number of buildings for all vehicles in the 2021 edition was incorrectly reported at 141 due to double counting from some participants. The corrected number for 2021 is 118. Therefore, the decline recorded in 2022 is mainly due to smaller vehicles entering the survey.

Table 2: Summary Statistics of Some General Indicators

Simple average indicator	All vehicles	Investment companies	Investment funds	Investment foundations	Total 2021
Assets under management (million CHF)	2'018	3'708	1'639	2'005	1'708
Number of (physical) buildings	105.23	97.44	100.09	121.67	118.58
Average floor space per building (m^2)	3'745	6'247	3'503	2'842	3'366
Annual rental income (million CHF)	78.64	136.51	66.40	75.59	70.16
Purely residential (% floor space)	52.79	32.35	53.83	61.62	55.01
Purely commercial (% floor space)	31.84	48.67	30.06	26.82	31.56
Construction year	1974	1958	1973	1982	1977
Vacancy rate (%)	6.16	5.54	6.30	6.24	6.14
Building turnover rate (% 3-year avg)	17.80	6.21	15.72	30.62	20.23
Construction rate (% 3-year avg)	4.01	3.45	2.28	8.74	4.11
Renovation rate (% 3-year avg)	3.40	4.41	3.99	1.13	4.46
Number of observations	72	10	44	18	66

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

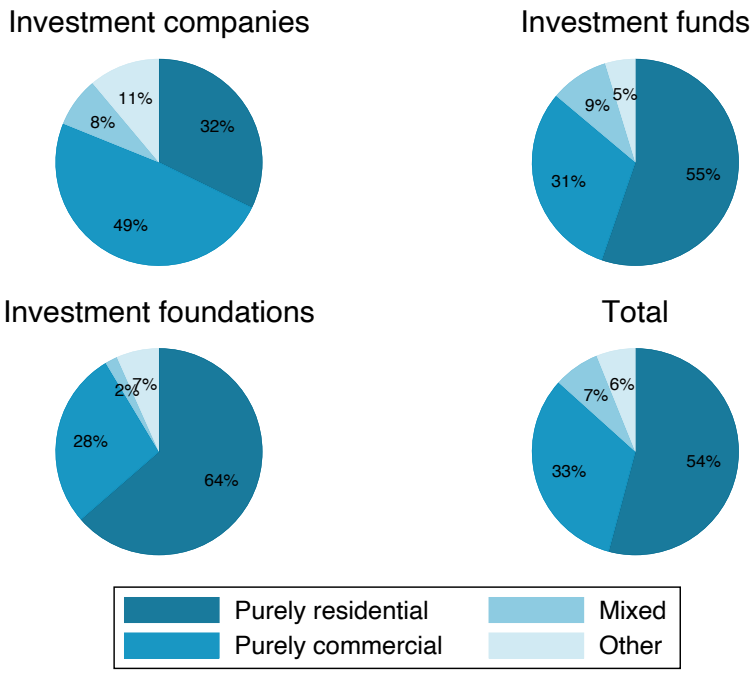
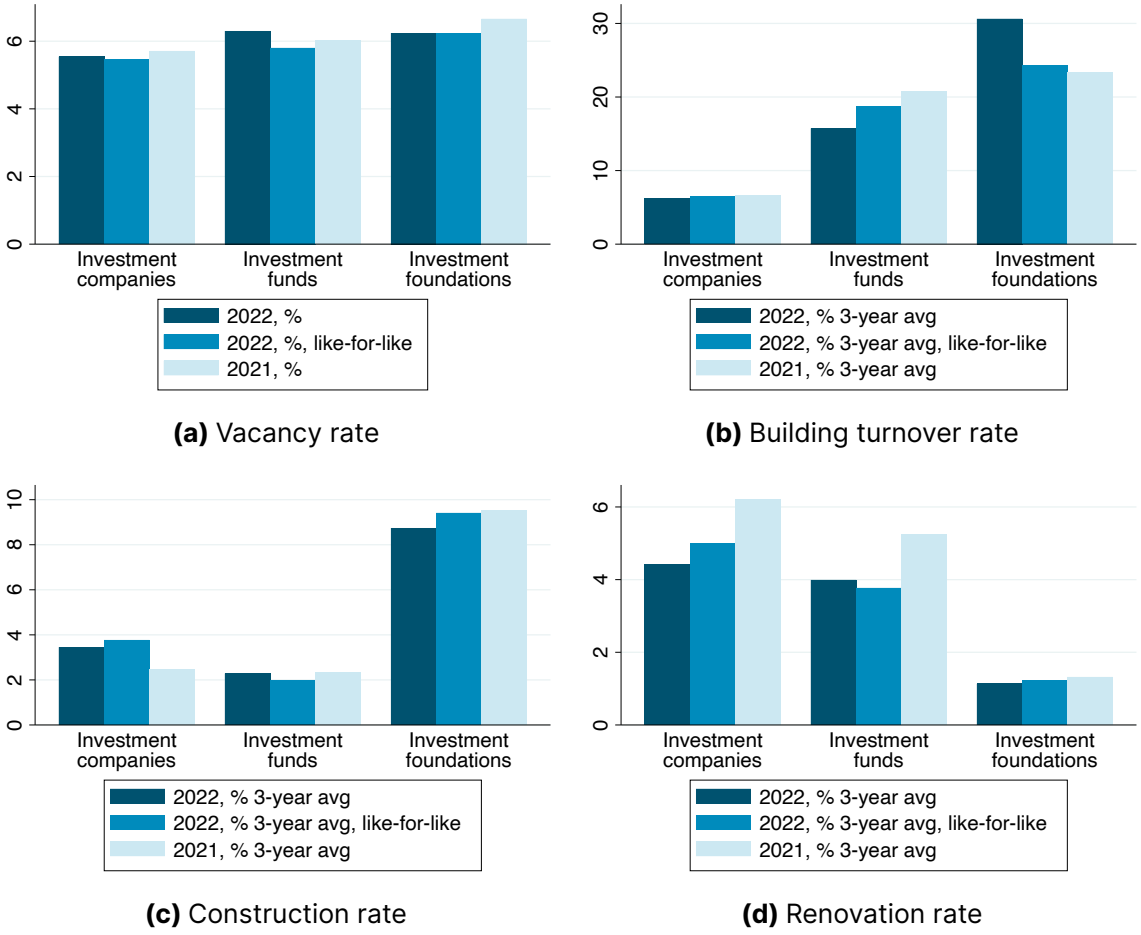


Figure 2: Dynamics of Some General Indicators



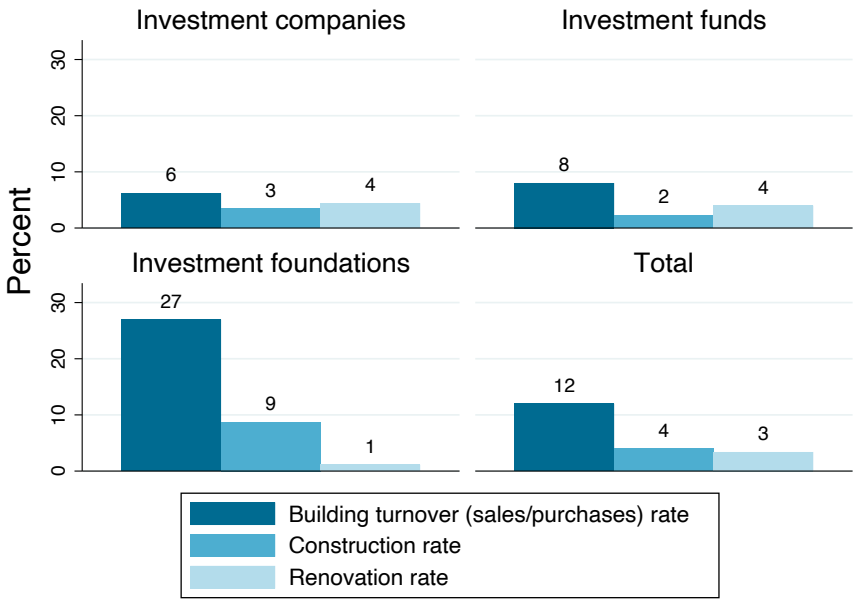
(a) Vacancy rate

(b) Building turnover rate

(c) Construction rate

(d) Renovation rate

Figure 3: 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. Indicators are reported in Tables 3, 4, and 5 (for E, S, and G pillars, respectively). These indicators will further be used in the construction of the 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 parenthesis 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. GHG emissions (quantitative): Greenhouse gas emissions (in kg CO_2e/m^2) (scope: standing investments)

3. GHG emissions 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 of 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. Moreover, they were asked whether those were explicit and publicly available. Figure 4 shows that more than 80% of entities actually have explicit policies in place with respect to environmental matters. In Figure 5, we observe that, with respect to the previous edition, the trend is positive, with an improvement taking place in all categories. In addition, more than two-thirds of the total have made them publicly available. On the negative side, approximately 20% of the participants have not yet any explicit environmental policies. This seems to be particularly the case among investment companies.

When looking at subitems, the prevalence of energy policies is still obvious (Figure 6). The three items for which most entities have specific policies are greenhouse gas emissions, energy consumption, and renewable energy. Other categories, while still lagging on these energy issues, seem to move toward a more positive trend. Issues such as water consumption, waste management or biodiversity show the most substantial improvements with respect to 2021. This finding could reflect that the market is becoming increasingly aware of the complexity of the environmental dimension by taking increasingly into account the issues that are not directly related to energy.

Numerical questions were asked for several environmental items. The main concern with this type of question is still the availability of data. It has been observed again in the course of the survey that data collection is a great ongoing effort in the industry. Figure 7 illustrates the concern specifically about energy consumption. We still observe that approximately 10% of entities have not been able to deliver any energy consumption figures. However, the trend seems to be improving. In total, 51% can deliver figures on heating and electricity separately. This is a substantial increase from 42% in the 2020 survey. For water and waste, data are still lacking, but we notice some improvement, with 13 answers for waste (up from 11 in the previous edition) and 47 entities reporting numbers on water usage (up from 36 in the previous edition).

Table 3: Environmental Characteristics

	Simple average indicator	Total	Companies	Funds	Foundations	Total 2021
(1)	Environmental policies (%)[a]	68.94	50.00	71.9	72.22	67.36
(2)	GHG emissions (kg CO_2e/m^2)	18.51	17.05	19.91	15.25	19.58
	CO_2 emissions (kg CO_2/m^2)	15.65	15.74	16.45	13.56	17.65
(3)	Emissions reduction target by 2025 (%)	14.09	16.96	11.73	17.88	16.19
	Emissions reduction target by 2030 (%)	38.12	38.31	38.60	36.91	40.49
	Emissions reduction target by 2050 (%)	93.99	80.91	95.19	97.75	96.59
(4)	Energy intensity (kWh/m^2)	105.77	124.59	105.14	98.71	105.49
(5)	Waste generation (kg/m^2)	51.68	5.89	60.96	54.55	52.41
	Share of landfill disposal (%)	12.09	.	18.71	0.50	3.78
(6)	Water use (m^3/m^2)	0.81	0.76	0.81	0.84	0.82
(7)	Material policies (devel.) (%)[a]	30.08	37.66	33.29	14.46	41.93

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 in percent. "devel." indicates that the indicator is related to development projects.

Figure 4: Availability of Environmental Policies

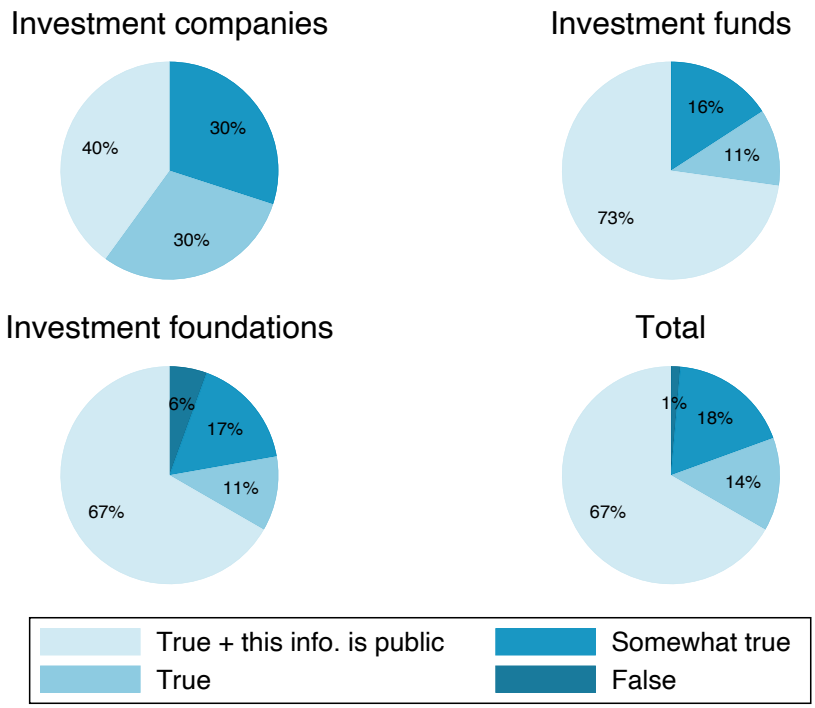


Figure 5: Dynamics of the Availability of Environmental Policies

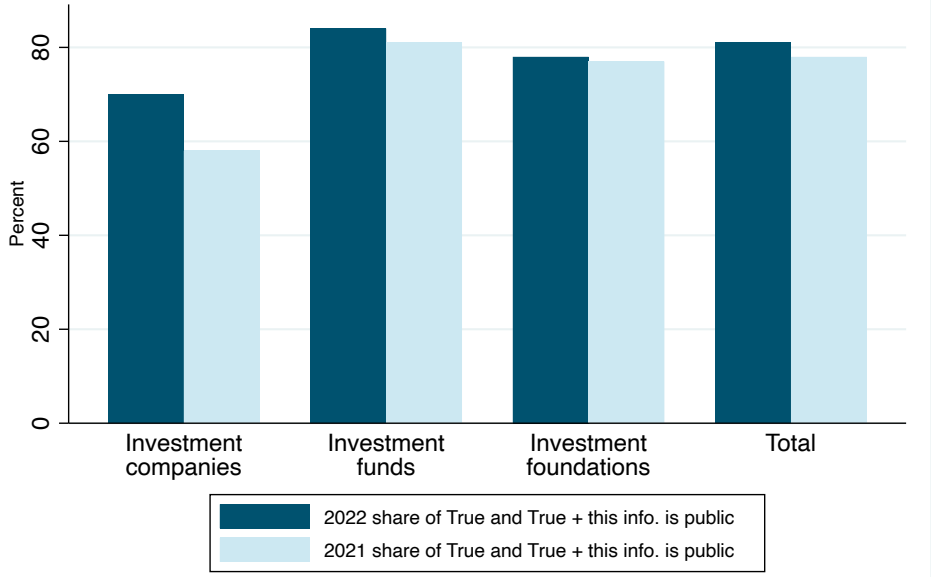


Figure 6: Environmental Policies

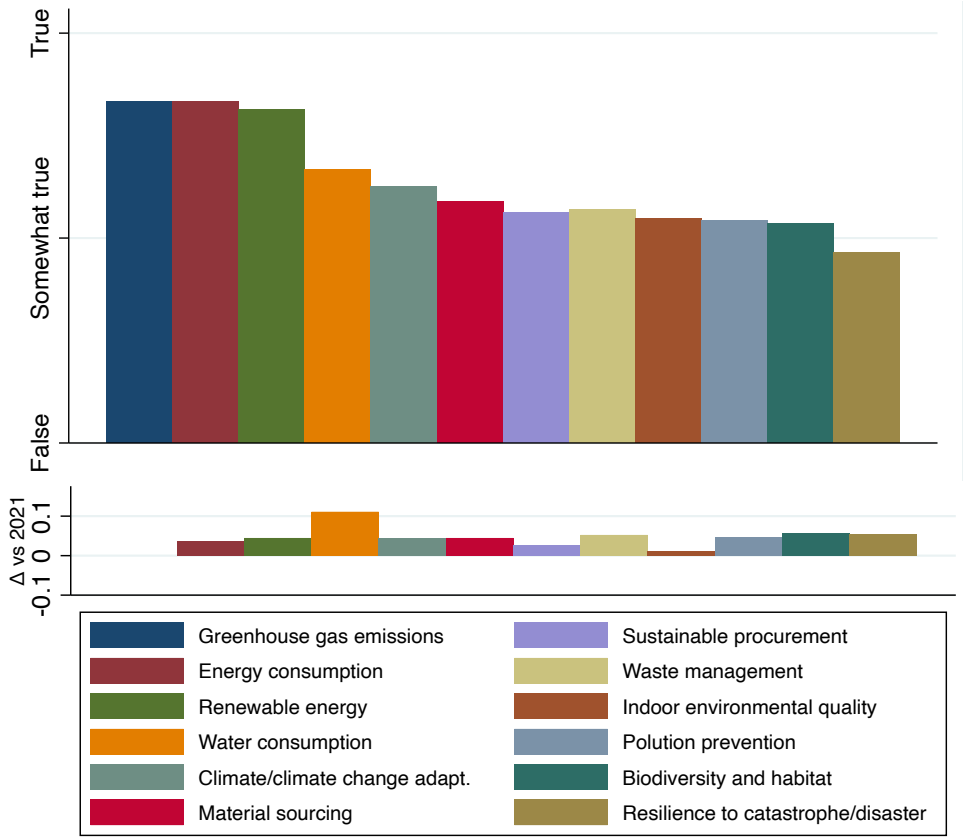


Figure 7: Availability of Energy Consumption Data

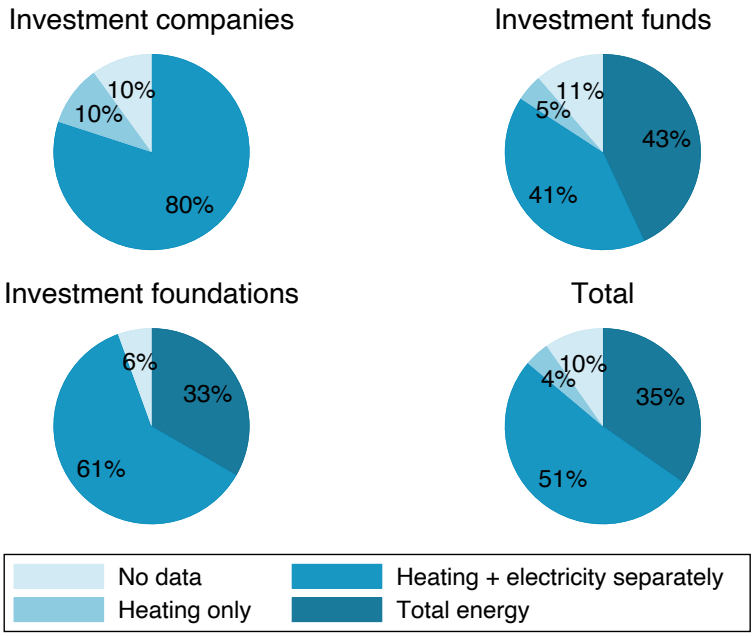


Figure 8 gives an overview of the energy mix of the portfolios. Fossil fuels still represent the most important part of the mix, with natural gas representing the most important source with more than 25% and heating oil not far behind at approximately 16%. With respect to 2020, the share of fossil fuels (natural gas + heating oil) has therefore decreased somewhat from 46% to 42%. In the renewable field, district heating is the second most important, and heat pumps are gaining more acceptance. Compared to 2020, we observe a substantial decrease in electric heating (from 12% to 8%) and a substantial increase in heat pump heating (from 10% to 16.5%). For Switzerland as a whole, the Federal Statistical Office reported that for 2021, heating oil was the first source with 40.7%, while gas was second with 17.6%; furthermore, heat pumps and wood represented 17% and 11.8% of energy sources for heating, respectively (Swiss Federal Statistical Office, 2022c). The energy mix is therefore more favorable in the survey than the Swiss average and is moving increasingly toward renewable energies.

Figure 9 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 of the survey's respondents stands at 18.5 and 15.7 kg of CO_2 equivalent per square meter, respectively.[3] As a reference, the CO_2 emissions number is slightly below the cap mentioned in the project for a revised CO_2 law for existing buildings when the heating system is replaced, which is set as an upper limit of 20 kg CO_2e/m^2 of living space per year (Swiss Federal Office for the Environment, 2021). As a further reference, we estimated the average level of CO_2 emissions for all buildings in Switzerland based on data provided by Swiss Federal Office for the Environment, 2016. The average level of CO_2 emissions stands at 15.05 kg of CO_2 equivalent per square meter, which is in line with the average of our survey.[4] Finally, the PACTA study (PACTA, 2022) estimates emission levels at 14.8 kg CO_2e/m^2 for directly owned buildings and 27.8 CO_2e/m^2 for mortgages. The average vehicle in the survey therefore seems to be either in line or more favorably positioned with respect to both levels. One point of particular interest is the positive dynamics of emissions with respect to the previous year. We note in Table 3 that emissions have declined by between 1 and 2 kg depending

[3] For GHG and CO_2 emissions data, a number of adjustments were necessary to allow for structural differences in the portfolios. Adjustments were made for altitude and heating degree days.

[4] This average is calculated using the data of the Swiss Federal Office for the Environment, 2016. The Swiss Federal Office for the Environment classifies each building in Switzerland in various categories of emissions based on the Federal Statistical Office's Federal Register of Buildings and Dwellings (RBD). Data as of the end of the first quarter of 2023 have been used.

on whether we look at GHG or CO_2 compared to the 2021 survey. On a like-for-like basis, the improvement is even more pronounced at 17.72 kg CO_2e/m^2 for GHG and 15.46 kg CO_2e/m^2 for CO_2, as shown in Figure 10. This represents a decrease of almost 10% for GHG emissions and 12.4% for CO_2 emissions.

For vehicle categories, emissions are slightly higher for funds and companies and slightly lower for foundations, which could be explained by the relatively younger building stock held by foundations. Figure 9 also displays some heterogeneity among participants, with minimum and maximum values ranging from 7 to 42 kg CO_2e/m^2 for CO_2 emissions and from approximately 60 to 180 kWh/m^2. Such differences are likely due to structural differences in the portfolios but also to discrepancies in addressing energy issues. Some entities still need to make efforts to accelerate the reduction of emissions of their building stock.

The average energy intensity is 105.8 kWh/m^2. In the 2050 Climate Transition document (Swiss Federal Office of Energy, 2022), the Swiss Federal Energy Office gives some indications for the trajectory to be in line with net neutrality by 2050, from 156 kWh/m^2 in 2010 to 72 kWh/m^2 in 2050. With a total heating area of approximately 786 million m^2 and an average energy consumption of 90 TWh in 2019, the energy intensity is approximately equal to 114.5 kWh/m^2. In this respect, the average of the survey seems to be at least in line with the objectives. In terms of dynamics, energy intensity has barely moved from our previous survey. The observation that GHG and CO_2 emissions have faced a larger relative decrease than energy intensity is compatible and can be explained by the improved energy mix mentioned previously. Consumption has remained stable but is increasingly sourced from renewable energies, allowing therefore a decrease in emissions.

On a more prospective note, most participants have put in place explicit targets to reduce their CO_2 emissions and meet the net zero objective at various time horizons. Almost 76.4% already have a target for 2025, while 59.7% have an additional target for 2030, which represents a notable increase with respect to the previous edition (70% for 2025 and 53% for 2030). This could reflect that investment managers tend to incorporate the sense of emergency about acting on CO_2 emissions. Approximately 68.1% of the entities have explicit targets for 2050, very similar to the previous year. On average, the targets represent a reduction of 14% by 2025, 38% by 2030 and 94% by 2050.

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

Figure 8: Proportion of Heating Energy Sources

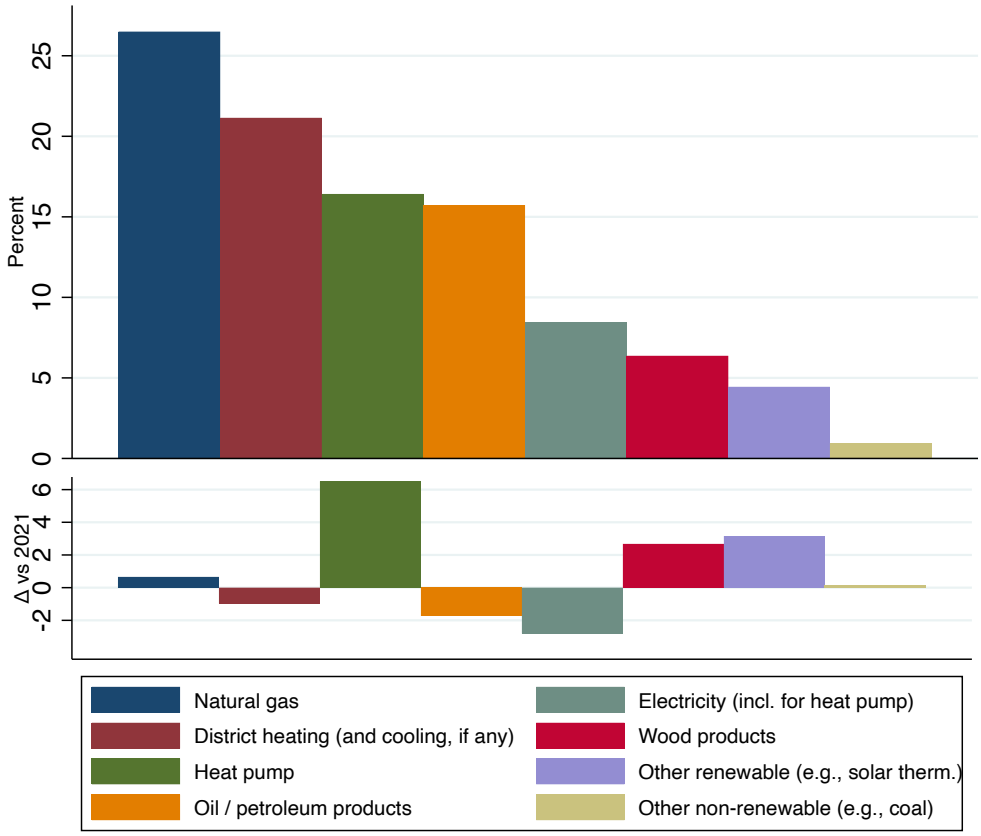


Figure 9: Energy Intensity and GHG Emissions

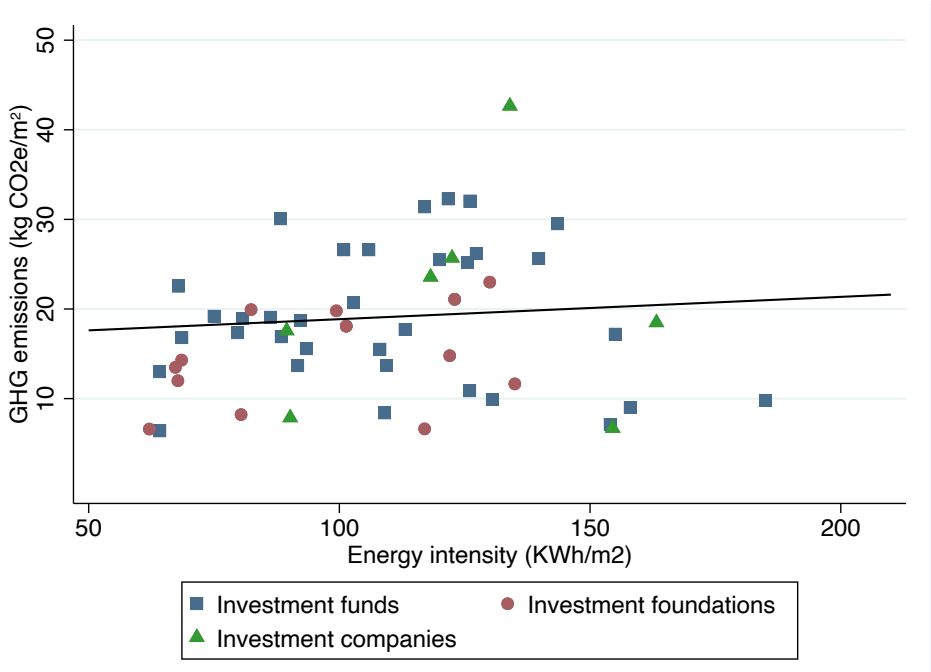
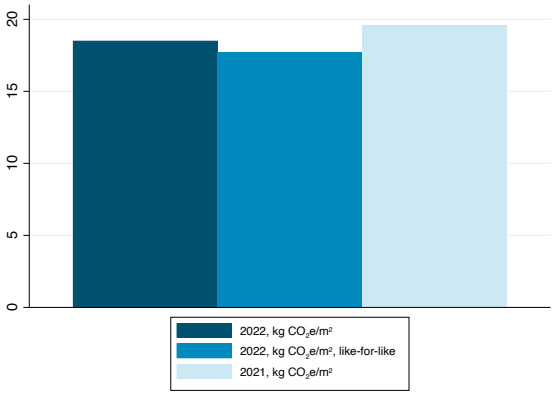
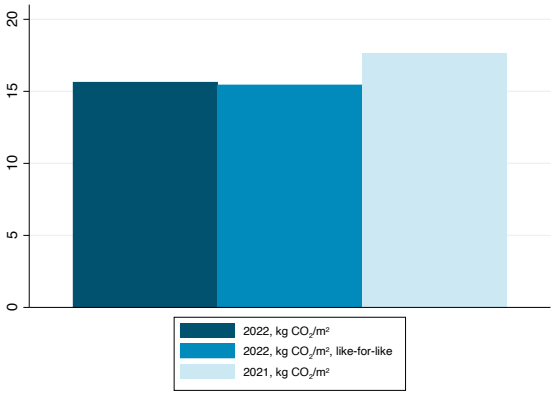


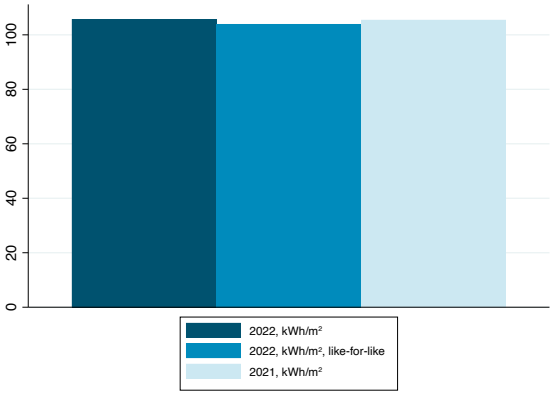
Figure 10: Dynamics of Environmental Characteristics



(a) GHG emissions



(b) CO_2 emissions



(c) Energy intensity

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. The questions in the social section are qualitative, i.e., 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 points reached with respect to the maximum achievable. The closer the value is to 100%, the better the profile is for 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 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

For environmental issues, participants were asked whether explicit policies have been put in place regarding social items. Figure 11 reveals that approximately 54% of the participants have explicit and publicly available policies in this field. Although this percentage is lower than that for the similar question related to the environment, there is a sizable improvement with respect to the previous edition. Figure 12 reveals the share of respondents with social policies available[5] increased from 66% to 76% in total, which represents the most important improvement among the three categories of E, S and G.

The dynamics at the category level can also be observed in Figure 12. The improvement is taking place mostly for investment companies and funds, while foundations remain constant at a high level. The 2021 edition of this survey noted that the social dimension of ESG drew comparably less attention than the other pillars, especially the environmental dimension. Therefore, it is interesting to see that the best improvements are being made for social issues, which could imply that the debate is definitely broadening and increasingly covering more aspects of ESG.

More specifically, Figures 13 and 14 show that policies related to the well-being and development of employees are the most prevalent. This can also be observed in Figure 14, where all dimensions are relatively 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. However, as Figure 13 illustrates, the improvement with respect to the previous edition is not limited to policies directed toward employees. Categories such as customer satisfaction, inclusion and diversity, and protected apartments also record some noticeable improvement. Table 4 also shows that policies aimed at supporting tenants are not very common at this stage. For development projects, community development policies barely reach 40% with regard to positive answers.

[5] Respondents with social policies available are those who answered “True” and “True and public” to a given question.

Table 4: Social Characteristics of Respondents

	Simple average indicator	Total	Companies	Funds	Foundations	Total 2021
(1)	Social policies (%)[a]	56.67	40.67	59.62	58.33	55.25
(2)	Employee support (%)[a]	78.08	62.14	76.62	90.48	75.76
(3)	Tenant support (%)[a]	43.52	51.19	38.89	37.50	20.83
(4)	Occupant health measures (devel.) (%)[a]	49.51	43.25	51.48	48.19	53.37
(5)	On-site safety policies (devel.) (%)[a]	43.64	44.81	50.25	20.66	56.31
(6)	Community impact (devel.) (%)[a]	38.59	30.00	41.72	35.71	43.94
(7)	Community engagement (devel.) (%)[a]	41.58	23.75	46.45	39.58	40.81

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 in percent. "devel." indicates that the indicator is related to development projects.

Figure 11: Availability of Social Policies

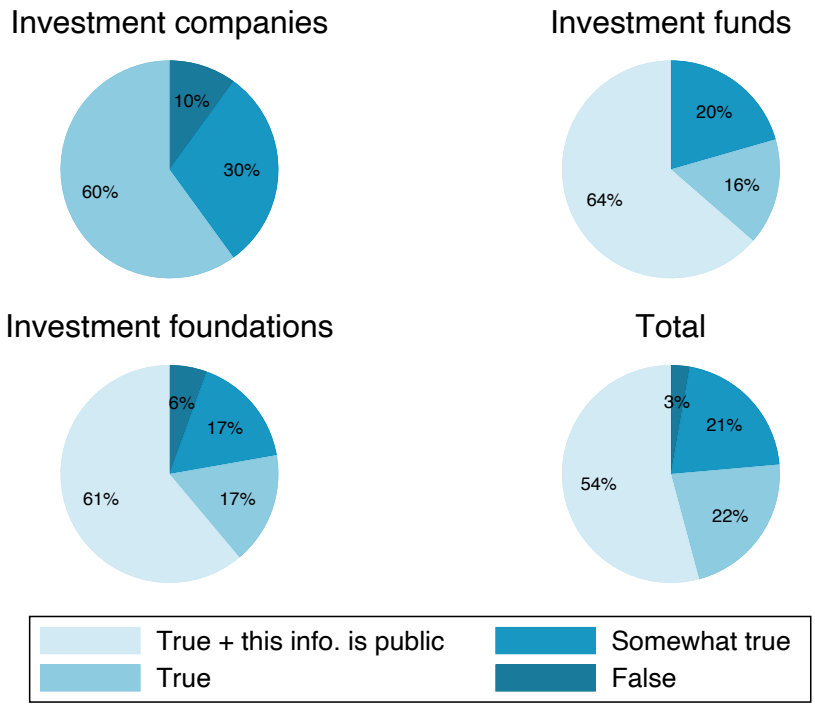


Figure 12: Dynamics of the Availability of Social Policies

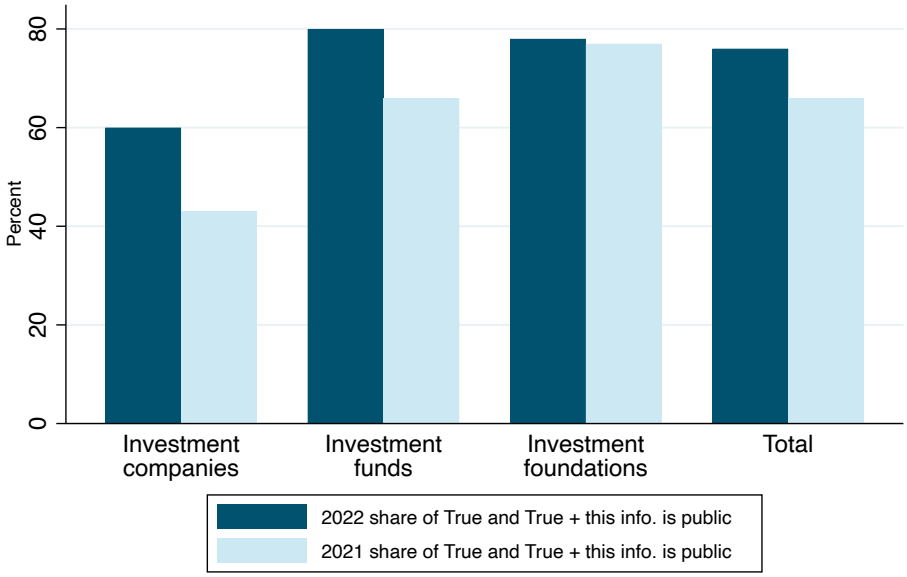


Figure 13: Social Policies

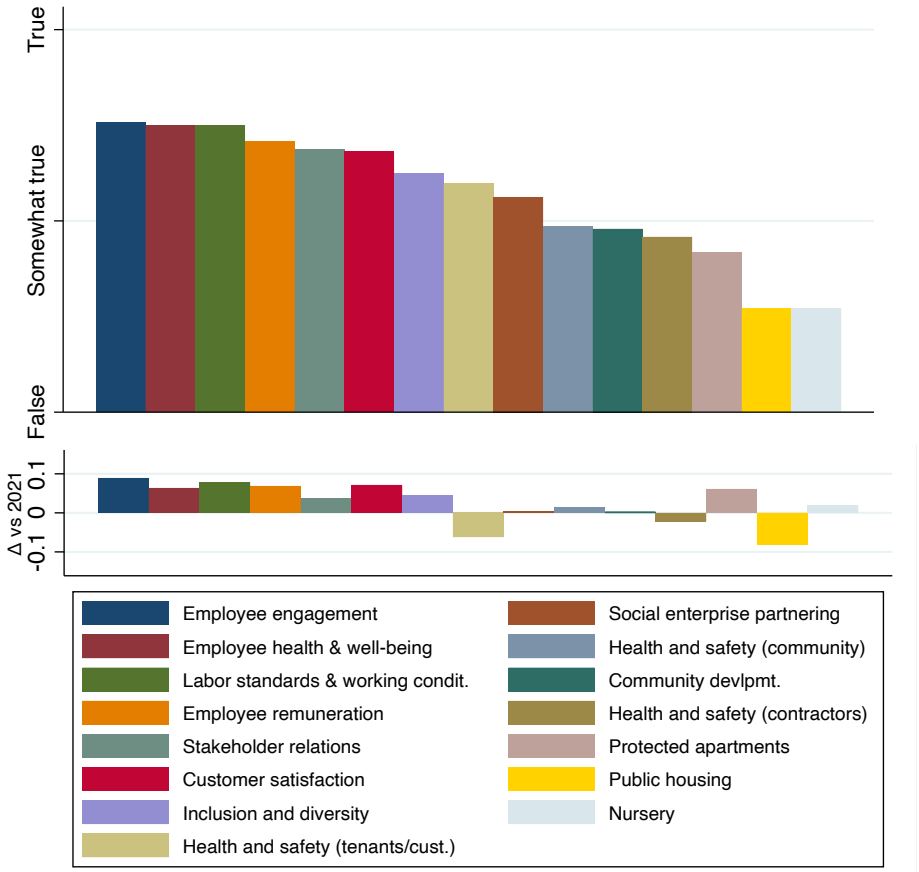
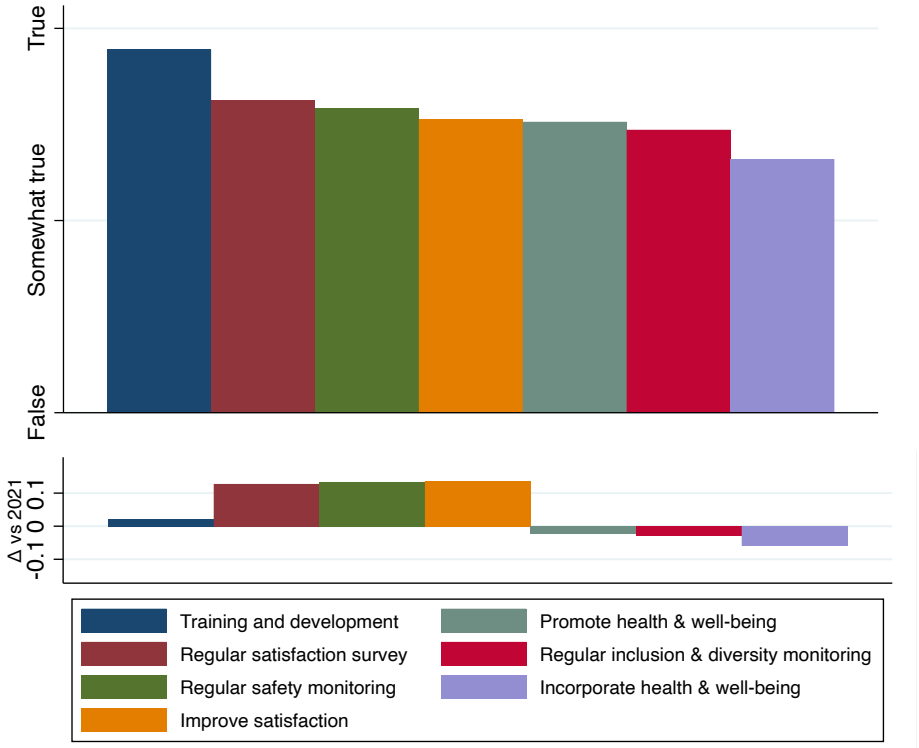


Figure 14: Social Policies - Management and support of employees



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 fully traditional of the governance assessment implemented usually by ESG rating agencies in the equity field, for instance. 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, they are very often related to how the organization is managing 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 policies indicators, as previously mentioned.

Table 5: Governance Characteristics of Respondents

	Simple average indicator	Total	Companies	Funds	Foundations	Total 2021
(1)	Governance policies (%)[a]	82.37	62.31	87.94	79.91	76.69
(2)	ESG objectives (%)[a]	77.66	60.00	82.20	76.39	72.22
(3)	Leadership commitment (%)[a]	30.99	11.25	31.68	40.28	29.73
(4)	ESG reporting (%)[a]	83.89	59.00	90.45	81.67	73.33
(5)	In-house ESG expertise (%)[a]	75.69	53.33	75.76	87.96	76.26
(6)	Property mgmt. monitoring (%)[a]	43.01	16.67	44.17	46.30	39.34
	Supply chain monitoring (%)[a]	40.74	28.57	42.59	75.00	36.11
(7)	ESG strategy (devel.) (%)[a]	60.96	47.37	64.35	60.23	59.77

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 in percent. "devel." indicates that the indicator is related to development projects.

4.3.2 Comments

Figure 15 shows that the proportion of entities with explicit and publicly available governance policies is similar to the proportion of entities with explicit and publicly available environmental and social policies, i.e., close to 60%, with again a lower proportion among investment companies. As Figure 16 shows, there is, in this dimension as well, a large increase in the availability of policies with respect to the previous edition. The share of entities with policies in place (both publicly available and not) increases from 74% to 80%.

Looking at specific topics, Figure 17 indicates that most of the dimensions are well 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, however, such as political contributions and regular materiality analysis, lag slightly behind. Overall, funds and foundations achieve reasonably high levels in governance policies, whereas investment companies are lagging. Compared to the previous year, all subdimensions show a comparable improvement.

As far as reporting practices are concerned, the most frequent vector through which entities communicate on ESG matters is through a dedicated section in the annual report (see Figure 18). Few entities only produce a dedicated sustainability report, although this proportion increased relative to that found in regard to the 2020 survey. Globally, the score reached on reporting is quite high, meaning that many participants now report on their ESG practices in one way or another.

The leadership commitment indicator is derived from asking the participants about the various ESG guidelines framework they have committed to.[6] Figure 19 reports the 5 frameworks that were mentioned most often. It appears that approximately 55% of the entities adhere to the UN Principles for Responsible Investments, making them the most frequent initiative to which entities adhere. This is followed by the UN Sustainable Development Goals (approximately 40%) and the UN Global Compact (approximately 35%). By category, investment funds have the largest number of commitments.

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. Most entities devote significant human resources, with approximately 61% of them reporting at least 1 full-time equivalent person who is responsible for dealing with ESG questions and 76.4% having implemented a dedicated committee or task force to deal with such issues.

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

Figure 15: Availability of Governance Policies

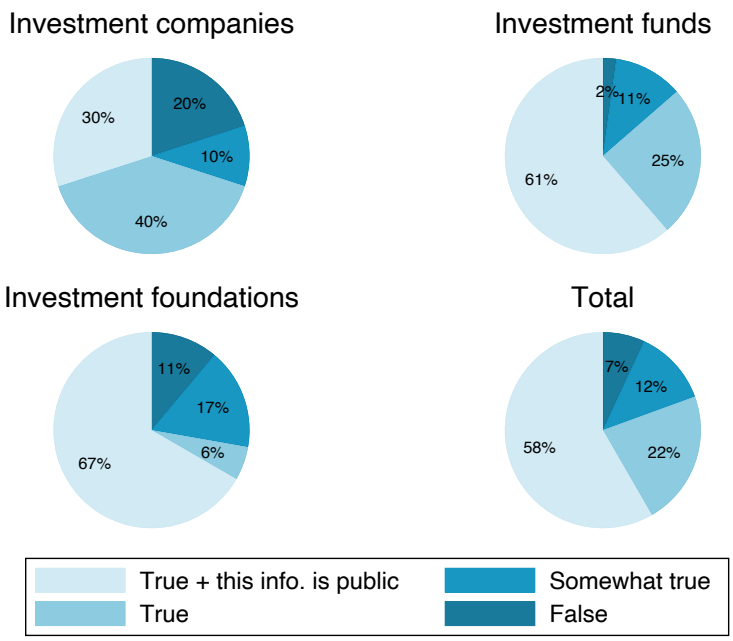


Figure 16: Dynamics of the Availability of Governance Policies

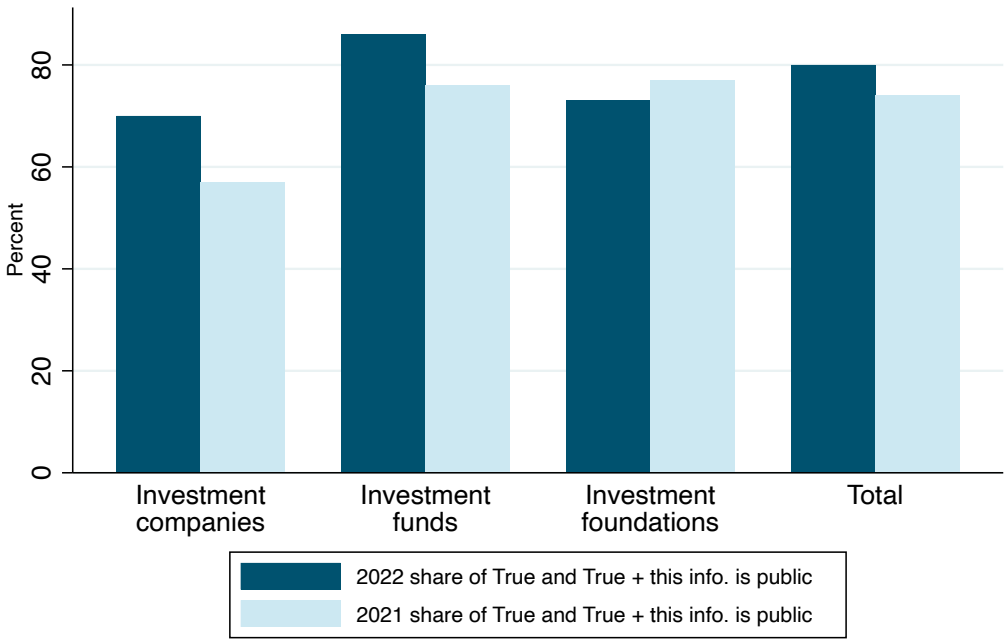
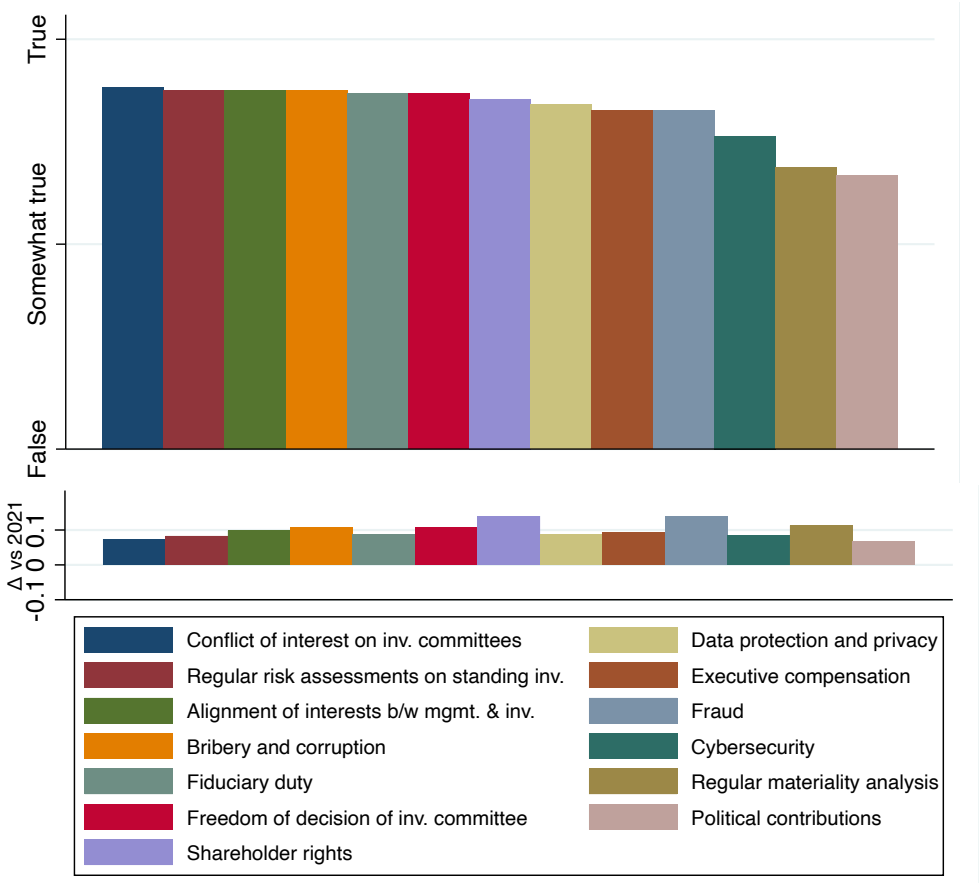


Figure 17: Governance Policies



5 Scores

5.1 Methodology

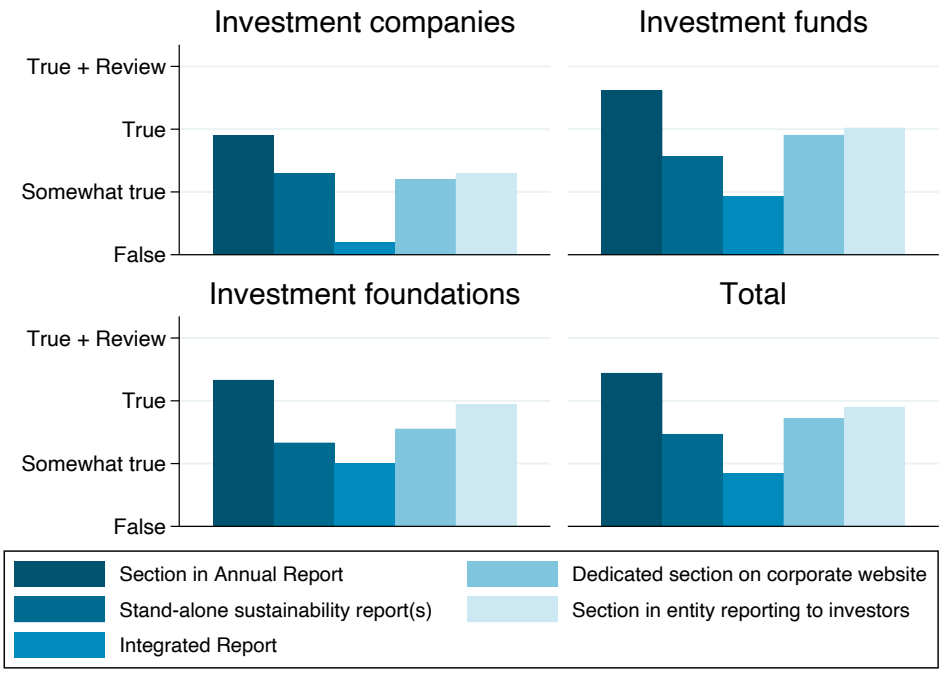
To reconcile questions of different nature and eventually provide an overall assessment of each entity, individual indicators must be converted to a comparable scale. Once done, indicators are aggregated into a single metric to provide a global assessment of the ESG profile of each entity and eventually 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, namely, 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*). If the polarity of a particular data point is positive, *binary questions* are assigned the value 10 if the answer is "Yes" and 0 if the answer is either "No" or missing. In the case of negative polarity, *binary questions* are assigned the value 10 if the answer is "No" and 0 if the answer is either "Yes" or missing. Thus, a missing value is considered a negative answer. Our treatment of missing values is similar to Refinitiv's approach. The resulting indicator ranks all participants with a value equal to 0 or 10. Answers are assigned the values 0 (e.g., "False"), 1 (e.g., "Somewhat true"), and 2 (e.g., "True"), in case of positive polarity.

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

Figure 18: ESG Reporting Practices



sample of respondents. Therefore, it should be noted that the percentile rank scoring method used in this study means that general improvements or worsening across the survey will not affect the score average level.

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 the indicator score 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 gets 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. Devising and implementing specific policies, even if doing so relates to special fields such as environmental or social issues, is 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 result.

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 20 illustrates the structure and construction of the scores.

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

Figure 19: ESG Leadership Commitments

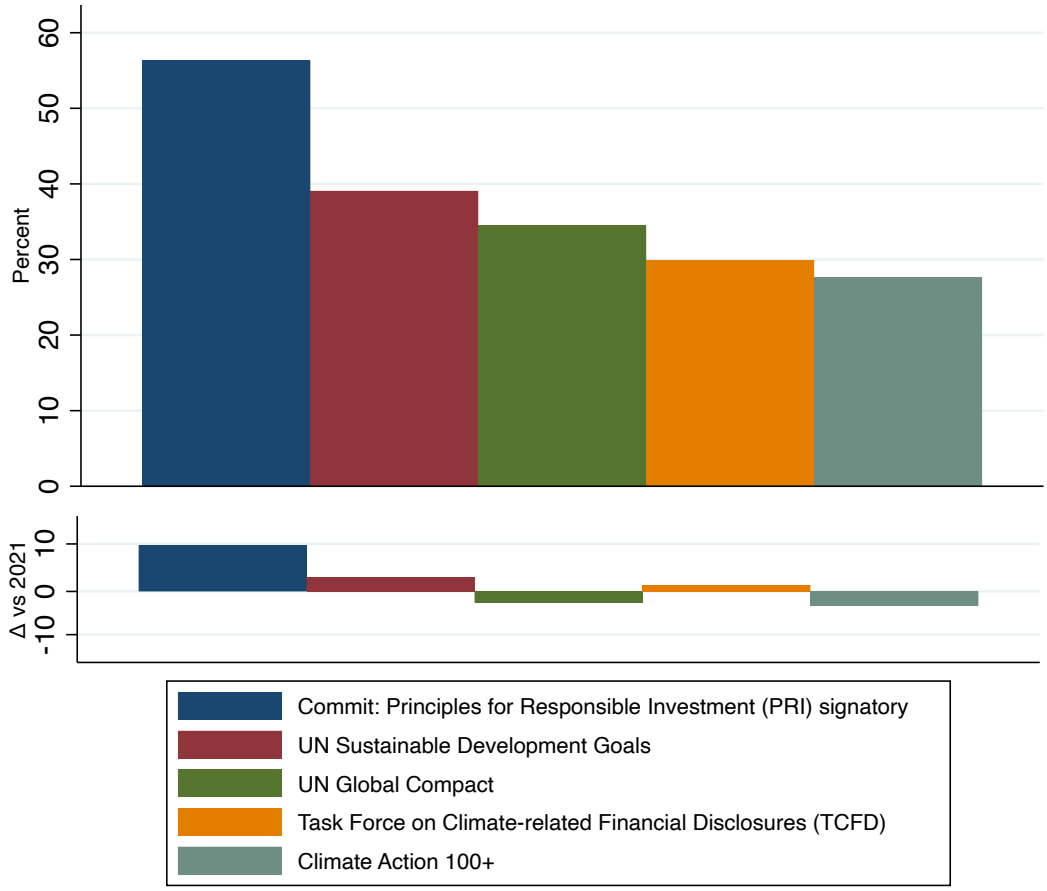
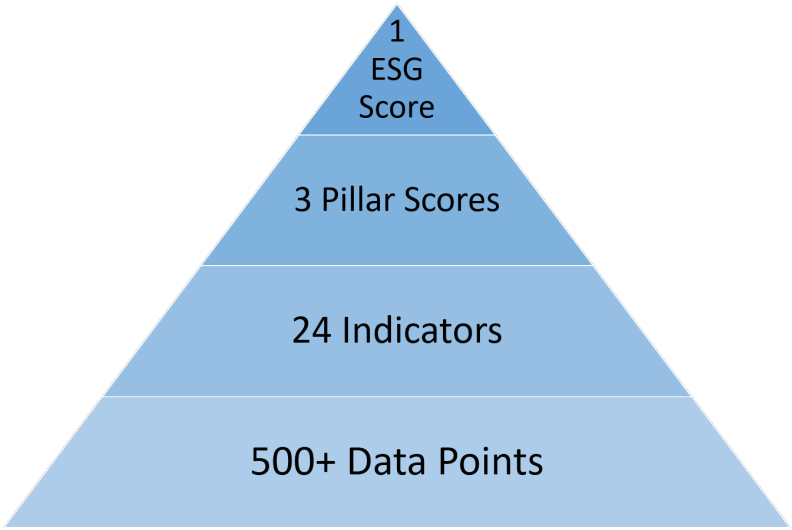


Figure 20: Structure and construction of the overall ESG score



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 the unweighted mean and the mean weighted by assets under management, which is more representative of a global portfolio of assets. The overall value weighted ESG score is 5.40 and the equal weighted version is 4.85, both little changed compared with 5.52 and 4.71 in the previous survey[7]. We notice that the unweighted mean is almost always lower than the asset-weighted mean. This difference reflects that large entities tend to have higher scores than small entities. As an example, the overall ESG score of the market is 4.85 when taking the simple mean and increases to approximately 5.40 when considering the asset-weighted version.

When looking across pillars, the scores are the highest for the governance pillar and the lowest for the environmental pillar. The latter suffers, in particular, from the fact that many entities are not able to provide quantitative data. It is the most obvious in the very weak numbers for waste generation and, to a lesser extent, for water use. 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 a given entity are attributed the same score. As entities managing several portfolios tend to be larger and benefit from higher scores on average, the skew in the distribution mainly reflects a size effect, already reported for other asset classes.

Table 6 also gives some indications about the median and the quartiles of the scores. The median of the environmental score is relatively low due again to poor scores on quantitative issues. The median on environmental policies is much higher. This gap reflects the good intentions and first steps taken in this field but also means that intentions are not yet always followed by concrete and measurable actions. For governance policies, the scores for the highest quartile are relatively high, reflecting how advanced the process is in some of the most advanced 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), we note that foundations tend to have the highest scores, while investment companies tend to have the lowest. The difference is the greatest in the environmental score. The fact that investment companies have worse scores might be surprising since some of them, being listed on the stock exchange, are already evaluated on the sustainability dimension by agencies such as MSCI or Ethos. Thus, they should be used to this kind of practice and might have already received some pressure. However, it should also be noted that the number of companies and foundations that are included in the sample is quite limited. The investment funds category, which is the largest category in number of participants, stands in between the two other categories.

Figure 21 presents the distribution of the ESG and pillar scores, while Figures 22 to 24 report the distributions across all indicators. We observe how unbalanced evaluations of some indicators are, reflecting some of the remarks previously mentioned. For instance, there is a large number of low scores for quantitative indicators on environmental issues (see subcharts *e* and *f* in Figure 22). On the other hand, very good scores are observed for employee support in Figure 23 and for governance policies in Figure 24. The large divergence of scores for emissions reduction targets (subchart *i* in Figure 24) reflects the fact that some entities still have no explicit target. On the other hand, those reporting targets are quite ambitious and in line with carbon neutrality objectives by 2050.

[7] We can see here that the general improvements observed in various single indicators commented previously in this report do not translate automatically to the overall scores. As mentioned in section 5.1, the percentile rank scoring method implies that changes that affect all entities are not leading to changes in overall scores.

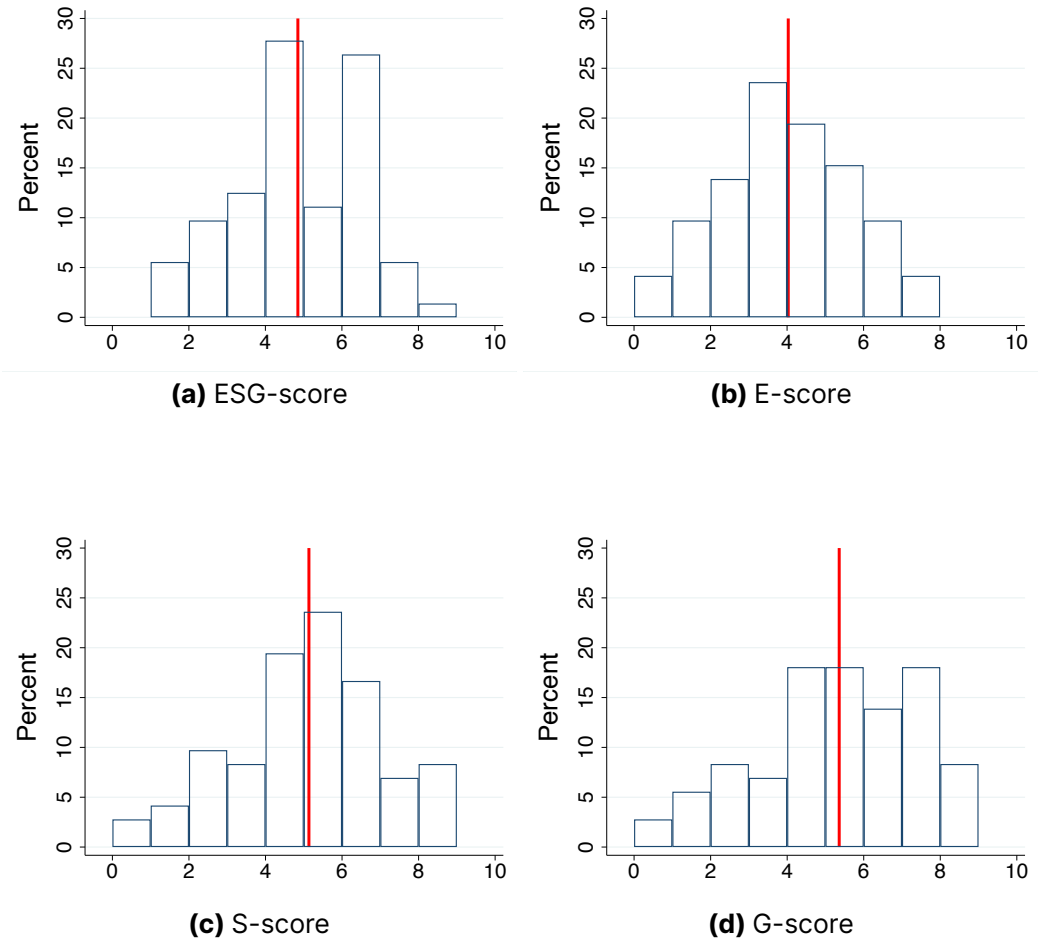
Table 6: Summary of ESG, Pillar, and Indicator Scores

	Average indicator	Value weight	Equal weight				
		Mean	Mean	Std dev.	Q1	median	Q3
	ESG-score	5.40	4.85	1.69	3.68	4.93	6.46
	E-score	4.68	4.03	1.80	2.66	3.85	5.23
(1)	Environmental policies (0.5)	6.04	5.23	2.8	3.19	5.44	7.25
(2)	GHG emissions	5.93	4.50	3.15	1.64	4.45	7.11
(3)	Emissions reduction targets (0.5)	7.37	6.39	2.99	6.12	7.68	8.43
(4)	Energy consumption	4.60	4.86	3.37	1.92	4.88	8.08
(5)	Waste generation	1.47	1.11	2.26	0.00	0.00	1.09
(6)	Water use	4.48	3.21	3.40	0.00	2.33	5.89
(7)	Material policies	4.89	4.70	2.68	3.64	3.94	7.49
	S-score	5.48	5.15	1.89	4.00	5.01	6.83
(1)	Social policies (0.5)	5.63	5.32	2.72	3.19	5.75	7.75
(2)	Employee support	5.90	5.16	2.57	2.88	4.94	7.56
(3)	Tenant support	6.24	5.11	2.74	3.7	5.51	7.97
(4)	Occupant health measures	5.23	5.00	2.82	2.56	5.41	7.69
(5)	On-site safety policies	4.98	5.10	2.44	3.64	5.57	6.89
(6)	Community impact	4.81	5.03	2.78	2.62	4.38	7.12
(7)	Community engagement	5.66	5.40	2.96	3.38	5.88	7.38
	G-score	6.04	5.37	2.05	3.99	5.77	7.13
(1)	Governance policies	5.58	5.42	2.54	3.62	5.75	8.25
(2)	Overall ESG objectives	5.99	5.43	2.83	3.12	6.00	8.25
(3)	Leadership commitment to ESG	6.10	4.89	3.18	3.19	4.88	7.81
(4)	Reporting on ESG practices	5.87	5.58	2.81	3.19	5.97	8.12
(5)	In-house ESG expertise	6.31	5.39	2.62	3.25	5.31	7.97
(6)	ESG monitoring	5.92	5.06	2.76	3.70	4.92	7.97
(7)	ESG strategy	6.00	5.39	2.67	3.38	5.44	7.09
(8)	Environmental policies (0.5)	6.04	5.23	2.80	3.19	5.44	7.25
(9)	Emissions reduction targets (0.5)	7.37	6.39	2.99	6.12	7.68	8.43
(10)	Social Policies (0.5)	5.63	5.32	2.72	3.19	5.75	7.75

Table 7: Average Scores by Category of Investment Vehicles

	Indicator	Companies		Funds		Foundations	
		Value weight	Equal weight	Value weight	Equal weight	Value weight	Equal weight
	ESG-score	4.31	3.57	5.73	5.04	5.86	5.09
	E-score	4.48	3.33	4.57	4.06	5.11	4.36
(1)	Environmental policies (0.5)	4.19	3.14	6.43	5.50	7.15	5.73
(2)	GHG emissions	6.56	3.83	5.27	4.38	6.61	5.17
(3)	Emissions reduction targets (0.5)	7.12	6.00	7.22	6.16	7.91	7.17
(4)	Energy consumption	2.47	2.62	5.13	5.25	5.74	5.14
(5)	Waste generation	2.15	0.94	0.93	0.86	1.87	1.83
(6)	Water use	7.17	4.29	3.21	2.94	4.23	3.26
(7)	Material policies	2.85	3.76	6.05	5.08	4.68	4.29
	S-score	3.73	3.78	6.11	5.44	6.02	5.18
(1)	Social policies (0.5)	3.85	3.27	6.32	5.71	6.09	5.50
(2)	Employee support	4.25	3.23	5.98	5.00	7.42	6.62
(3)	Tenant support	6.15	4.18	6.20	5.17	6.40	5.48
(4)	Occupant health measures	2.88	4.33	6.09	5.25	5.92	4.76
(5)	On-site safety policies	3.34	3.74	6.01	5.72	4.62	4.34
(6)	Community impact	3.03	3.93	5.52	5.45	5.21	4.60
(7)	Community engagement	2.66	3.51	6.79	5.94	6.50	5.14
	G-score	4.72	3.61	6.50	5.63	6.45	5.72
(1)	Governance policies	4.35	3.56	6.36	5.81	5.29	5.51
(2)	Overall ESG objectives	4.12	3.22	6.74	5.96	6.43	5.38
(3)	Leadership commitment to ESG	5.04	3.67	6.30	4.83	6.78	5.72
(4)	Reporting on ESG practices	4.31	3.63	6.74	6.11	5.76	5.36
(5)	In-house ESG expertise	5.39	3.61	6.63	5.39	6.64	6.38
(6)	ESG monitoring	4.74	2.91	6.26	5.30	6.46	5.68
(7)	ESG strategy	4.57	3.86	6.28	5.74	6.93	5.41
(8)	Environmental policies (0.5)	4.19	3.14	6.43	5.50	7.15	5.73
(9)	Emissions reduction targets (0.5)	7.12	6.00	7.22	6.16	7.91	7.17
(10)	Social policies (0.5)	3.85	3.27	6.32	5.71	6.09	5.50

Figure 21: Distributions of ESG and Pillar Scores

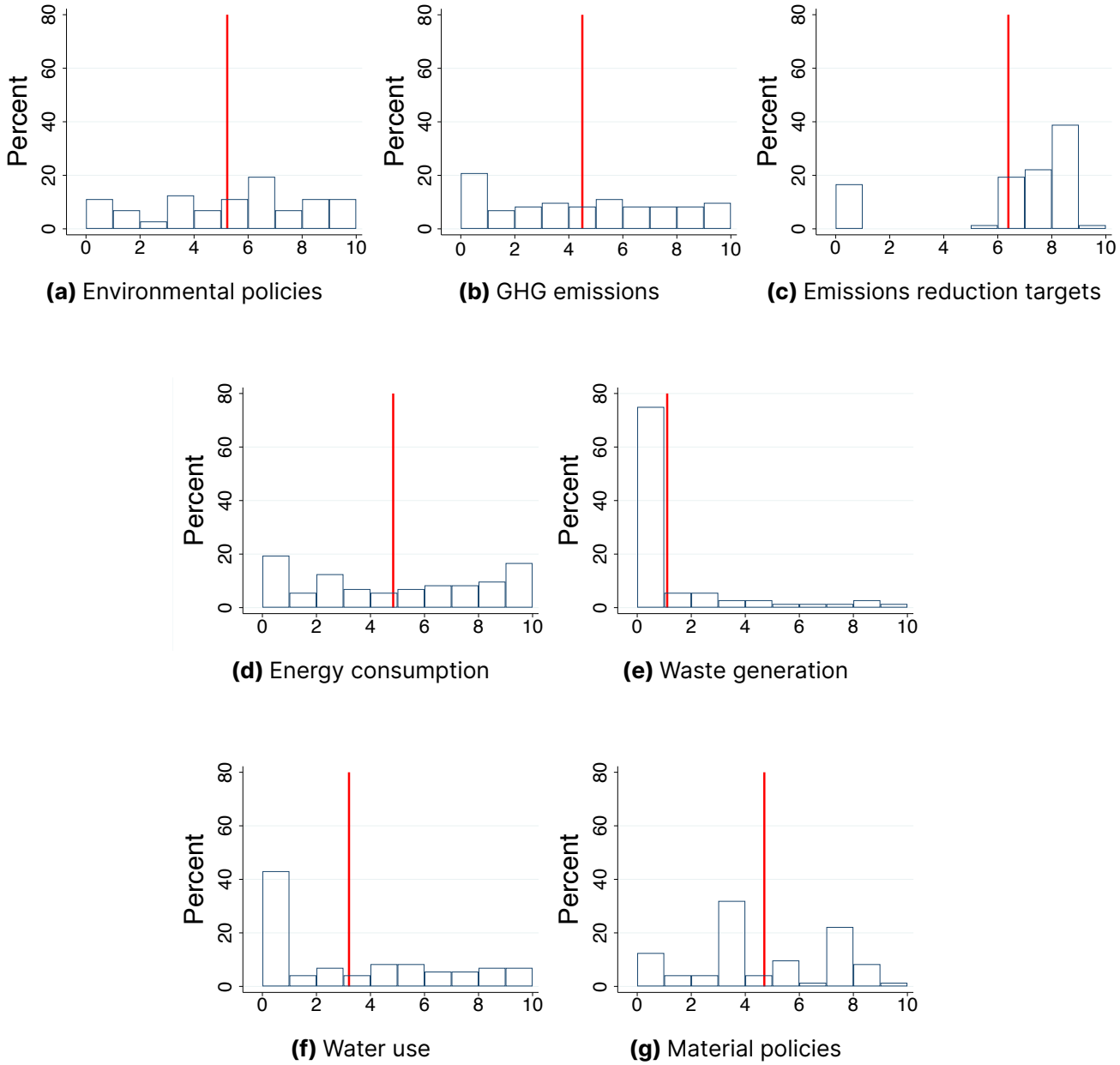


(a) ESG-score **(b)** E-score

(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 22: Distributions of Environmental Indicator Scores



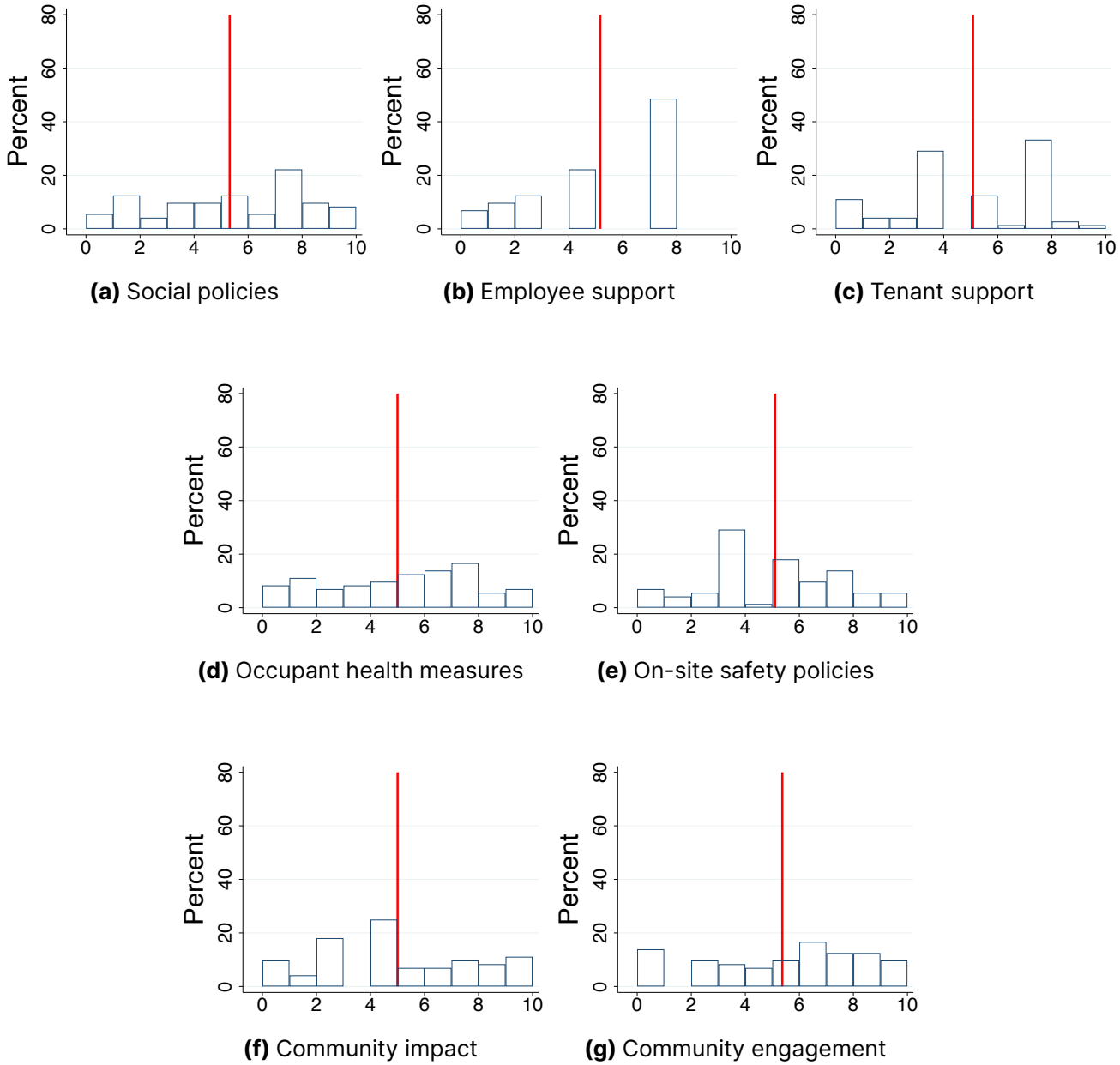
(a) Environmental policies **(b)** GHG emissions **(c)** Emissions reduction targets

(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 environmental pillar score. The y-axis depicts the relative fraction within the sample, and the vertical lines represent the corresponding sample averages.

Figure 23: Distributions of Social Indicator Scores



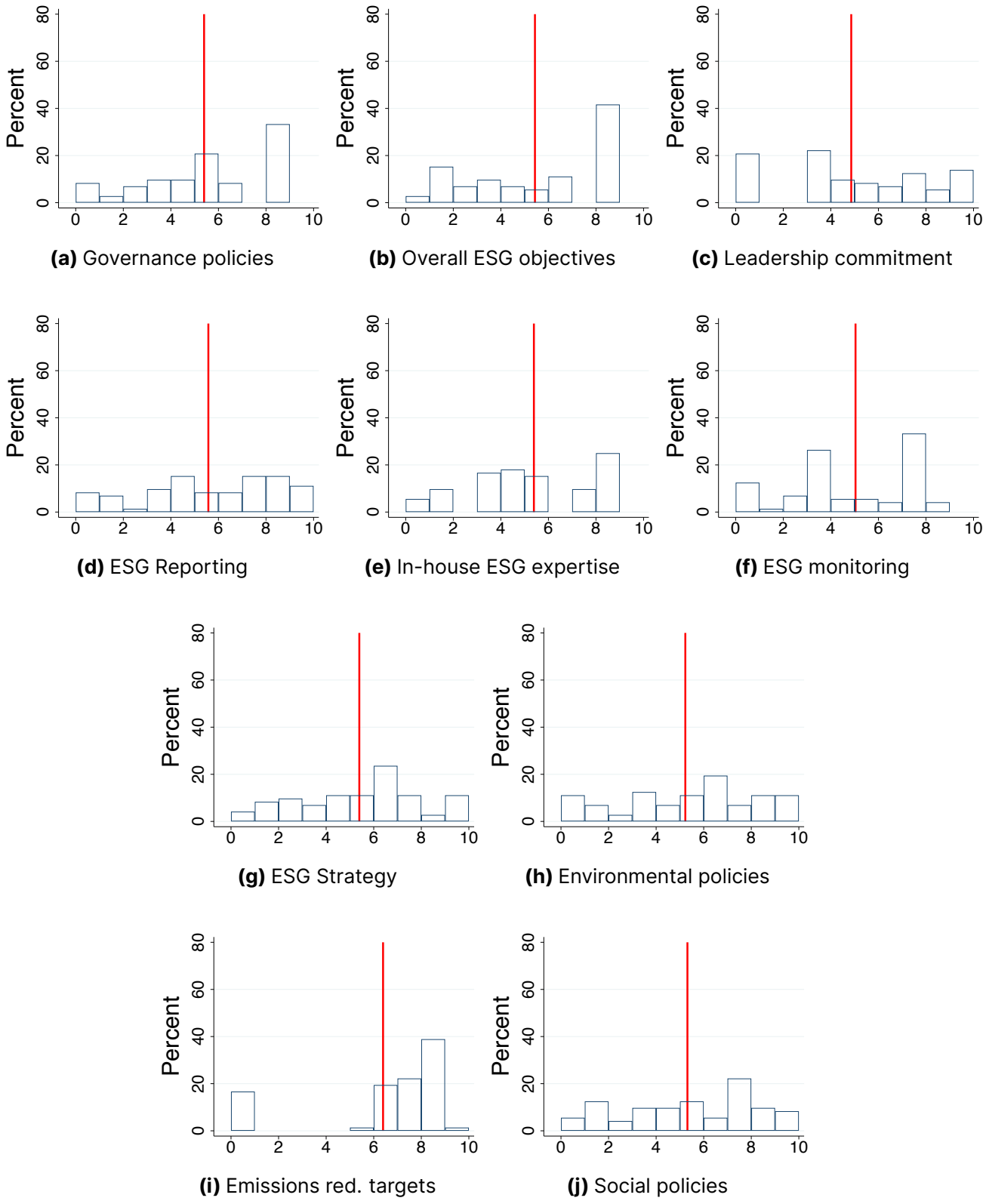
(a) Social policies **(b)** Employee support **(c)** Tenant support

(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 24: 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.

References

Alessandrini, F., Jondeau, E., Lang, G., Reins, E., 2022. How sustainable is swiss real estate? Evidence from institutional buildings portfolios. Working Paper. Available at https://crml.ch/2021-switzerland-real-estate-esg-survey/.

Asset Management Association Switzerland, 2020. Fund market statistics – December 2020. Available at https://www.swissfunddata.ch/sfdpub/en/market/commentsArchive.

Balthasar, A., Schalcher, H., 2020. Recherche pour l'avenir énergétique de la Suisse. Résumé du programme national de recherche "Énergie". Available at https://www.nfp-energie.ch/.

GSIA, 2020. Global sustainable investment review. Biennial Report.

PACTA, The 2° Investing Initiative and Wuest & Partners, 2022. Aiming higher: PACTA climate test Switzerland. Technical Report. Available at https://www.transitionmonitor.com/pacta-cop/pacta-ch-2022/.

PwC, 2022. Asset and wealth management revolution report 2022. Available at https://www.pwc.com/gx/en/industries/financial-services/asset-management/publications/asset-and-wealth-management-revolution-2022.html.

Refinitiv, 2020. Environmental, social and governance (ESG) scores from Refinitiv. London, UK. Available at https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf.

Swiss Federal Office for the Environment, 2016. Estimation des émissions de CO_2 directes sur la base des besoins en chaleur selon la norme SIA 380/1. Federal Office for the Environment, Bern, Switzerland, available at https://bit.ly/3oEtEQp.

Swiss Federal Office for the Environment, 2021. Les principales mesures de la loi sur le CO_2 révisée. Federal Office for the Environment, Bern, Switzerland, available at https://www.bafu.admin.ch/bafu/fr/home/themes/climat/dossiers/protection-du-climat-et-loi-sur-le-co2/les-principales-mesures-de-la-loi-sur-le-co2-revisee.html.

Swiss Federal Office for the Environment, 2022. Surface de référence énergétique. Available at https://bit.ly/3gT7Id8.

Swiss Federal Office for the Environment, 2023. Climate: In brief. Federal Office for the Environment, Bern, Switzerland. Available at https://www.bafu.admin.ch/bafu/en/home/topics/climate/in-brief.html.

Swiss Federal Office of Energy, 2022. Buildings stock 2050 – SFOE vision. Factsheet.

Swiss Federal Statistical Office, 2022a. Buildings and dwellings statistics 2022. Available at https://www.bfs.admin.ch/bfs/en/home/statistics/construction-housing/buildings.html.

Swiss Federal Statistical Office, 2022b. Logements vacants. Available at https://www.bfs.admin.ch/bfs/fr/home/statistiques/construction-logement/logements/logements-vacants.html.

Swiss Federal Statistical Office, 2022c. Survey on the heating system and energy sources. Available at https://www.bfs.admin.ch/bfs/en/home/statistics/construction-housing/buildings/energy-sector.html.