

SOF ESG / PAI Research for Illiquid Assets (2025)

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1. Research Methodology & Management Summary

As a service provider for regulatory investor reporting, Substance Over Form Ltd. (SOF) collects Principal Adverse Impact (PAI) data from illiquid funds (private equity (PE), private debt (PD), real estate (RE) and infrastructure) and their managers / initiators (GPs).

The PAI reference period 2025 is the fourth PAI year for which SOF performed this analysis. The findings for the PAI reference periods 2022-2024 can also be accessed on our website ([link](#)). Where we make comparisons between years in this paper, we always refer to the comparison between this year 2025 and the previous year 2024.

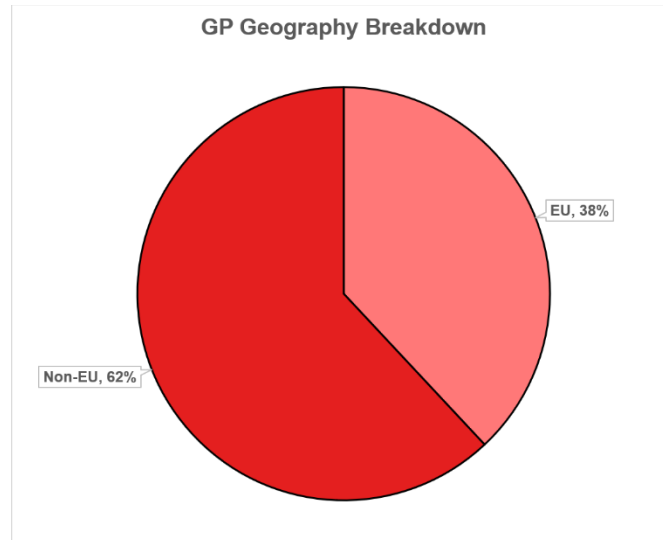
An important part of the research is our quality assessment of received European ESG Templates (EETs). This quality assessment is performed automatically and consistently for all received EETs based on pre-defined criteria and can lead to various outcomes from “unusable” being the worst quality and “5 Stars” being the best quality. However, prior to using the quality assessments for further decisions, we strongly recommend reviewing and understanding the assessment methodology described in this paper.

The key findings can be summarised as follows:

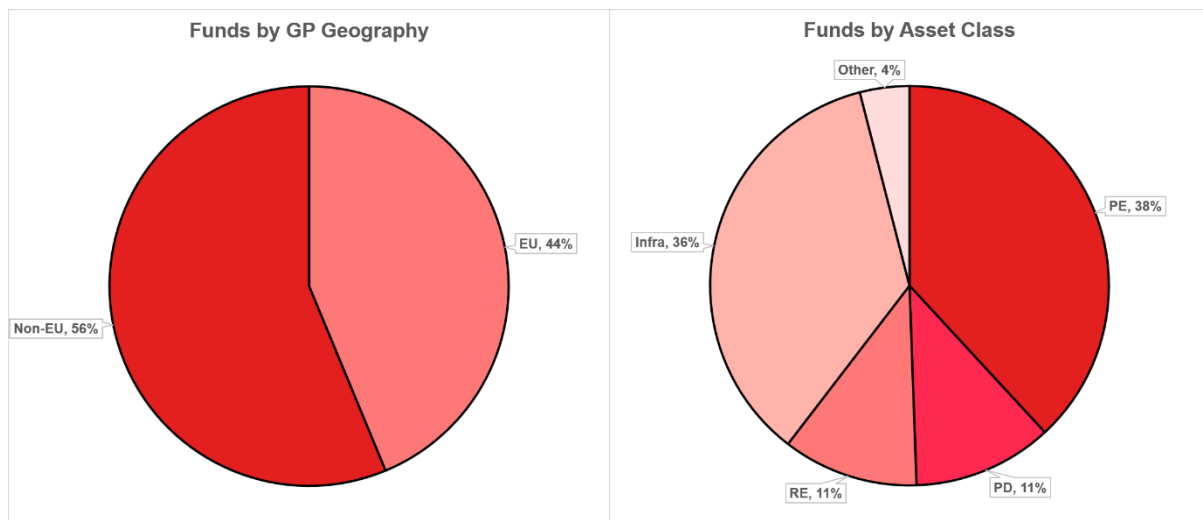
- **EET became even more firmly established as a market standard in 2025.** Overall, 66% of funds delivered an EET and 61% delivered a useful EET. Despite the ongoing simplification of ESG requirements, these figures demonstrate that the EET has become a “business-as-usual” tool for managers providing ESG data to regulated EEA investors.
- **Both EU and non-EU GPs delivered a significant number of EETs, whereby EETs from EU GPs were of higher quality on average.** In 2025, 70% of funds managed by EU GPs delivered EETs, compared with 63% of funds managed by non-EU GPs. Of those EETs, 94% from EU GPs and 89% from non-EU GPs were useful, while 51% and 46%, respectively, were valuable.
- **All alternative asset classes provide a significant number of useful EETs.** While 73% of all real estate funds provide useful EETs, that is the case for 62% / 57% / 55% of infrastructure / private equity / private debt funds.
- **EET coverage remained broadly stable, while submission quality improved further in 2025.** The proportion of funds delivering an EET increased slightly from 65% in 2024 to 66% in 2025. Among delivered EETs, the useful-EET ratio rose from 90% to 92%, building on the already high level achieved in 2024.
- **Overall, EETs and PAIs remain firmly embedded in standard market processes. Their continued use across EU and non-EU GPs and across alternative asset classes indicates that ESG data exchange remains business as usual, despite the broader trend towards simplification of ESG regulation.**

2. General Overview

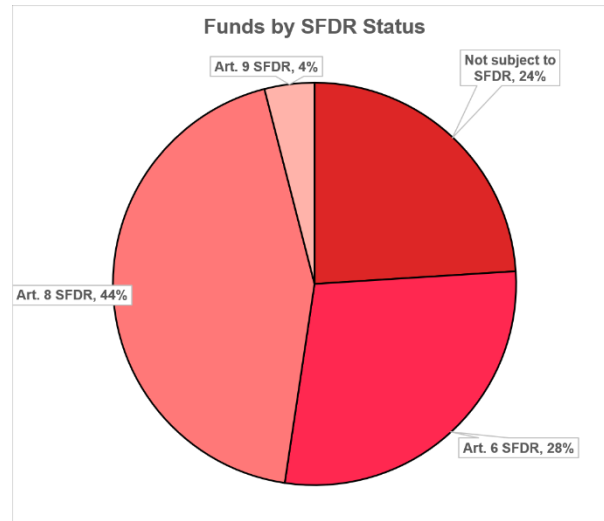
- Timing:
 - Reference Period of ESG data: 1.1.2025 – 31.12.2025 (partly 1.1.2024 – 31.12.2024)
 - Engagement Period with GPs: 6.1.2026 – 15.6.2026
- Total number of GPs covered in the SOF EET Input Management: ca. 400
 - GP Geography: 38% EU, 62% non-EU



- Total number of target funds covered in the SOF EET Input Management: ca. 1,200
 - Funds by GP Geography: 44% EU, 56% non-EU
 - Asset Class: 38% PE, 36% Infra, 11% PD, 11% RE, 4% Other



- SFDR status as % of funds reporting their SFDR status (275 funds):
 - Not subject to SFDR: 24%
 - Art. 6 SFDR: 28%
 - Art. 8 SFDR: 44% -> *significant increase compared to 30% in 2024*
 - Art. 9 SFDR: 4%

**SOF Comment:**

The 2025 data sample is notably comparable to that of year 2024 in terms of GP geography, funds by GP geography, and fund strategy. The proportion of Art. 8 SFDR funds, as disclosed in the EET, increased from 30% in 2024 to 44% in 2025. A possible explanation is that GPs increasingly recognize the importance of an Art. 8 SFDR status for EU LPs, while it is much easier to achieve than Art. 9 SFDR status reported by only 4% of disclosing funds.

3. EET Delivery Ratio & Quality

EET Delivery Ratio - % of funds that delivered EETs:

- Total: 66% of all funds in SOF scope.
- GP Geography: 70% funds managed by EU GPs and 63% funds managed by non-EU GPs delivered EETs.
- Fund Strategy: EETs received from 82% RE funds, 61% PE funds, 65% PD funds, and 67% infra funds.
- The number of EETs included in the GP geography and fund strategy analyses is lower than the total number received because GP location and fund strategy could not be confirmed for all EETs.

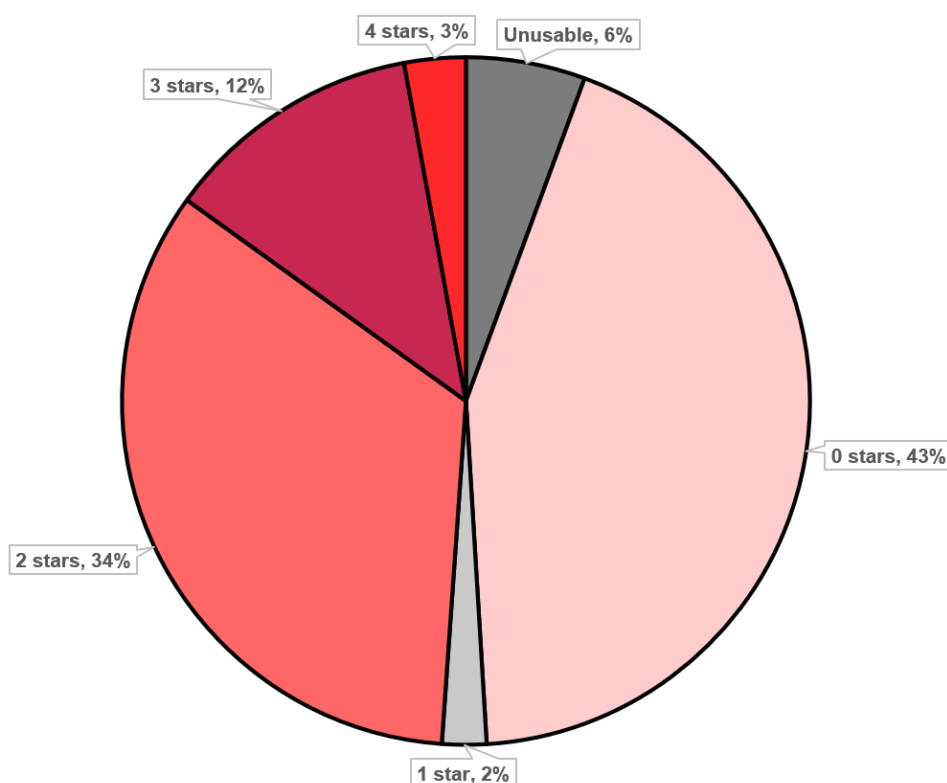
SOF Comment:

The number of received EETs continuously increased in 2025, while overall coverage increased slightly from 65% to 66%. This improvement was most pronounced for funds managed by EU GPs, as well as across 2 asset classes (RE and Infra).

63% of non-EU GPs managed funds delivered EETs in 2025 as opposed to 69% in 2024. Also, the delivery ratio for PE funds was only 61% in 2025 compared to 68% in 2024. The reason for those declines is mainly due to the new funds that were added to the EET scope and haven't delivered any EETs in the first year. We expect some of those non-delivering funds to start delivering in the next years.

EET Quality¹:

- Total funds that delivered EETs: 792
 - Unusable: 6%
 - 1 Star: 2%
 - 0 Star: 43%
 - 2 Stars: 34%
 - 3 Stars: 12%
 - 4 Stars: 3%

EET Quality Breakdown***SOF Comment:***

The quality of the received EETs also improved despite already established quality from previous years. The proportion of useful EETs ²increased from 90% in 2024 to 92% in 2025, and the proportion of valuable EETs ³increased from 44% to 48%⁴. As a result, 61% of all funds

¹ SOF EET quality assessment mechanism:

- **Unusable:** Incorrect or inconsistent PAI eligibility ratios for any PAI categories incl. NACE-specific PAIs.
- **1 Star:** At least one correct and consistent PAI eligibility ratio for each PAI category incl. NACE-specific PAIs.
- **0 Star:** Unusable criteria fulfilled + at least one PAI coverage ratio and corresponding PAI value correct.
- **2 Stars:** 1 Star criteria fulfilled + at least one PAI coverage ratio and corresponding PAI value correct.
- **3 Stars:** 2 Stars criteria fulfilled + all mandatory PAI coverage ratios = PAI eligibility ratios and PAI values correct.
- **4 Stars:** 3 Stars criteria fulfilled + all mandatory and additional PAI coverage ratios = PAI eligibility ratios and PAI values correct.

² **Useful EET** is the EET with more than one correct PAI value. i.e. 0 Star and 2 Stars or better.

³ **Valuable EET** is the Useful EET with eligibility ratio correct and consistent across all categories. i.e. 2 Stars or better.

⁴ The proportions of 2-4 stars EET in the chart do not sum to the proportion of valuable EET. The discrepancies in totals are due to rounding.

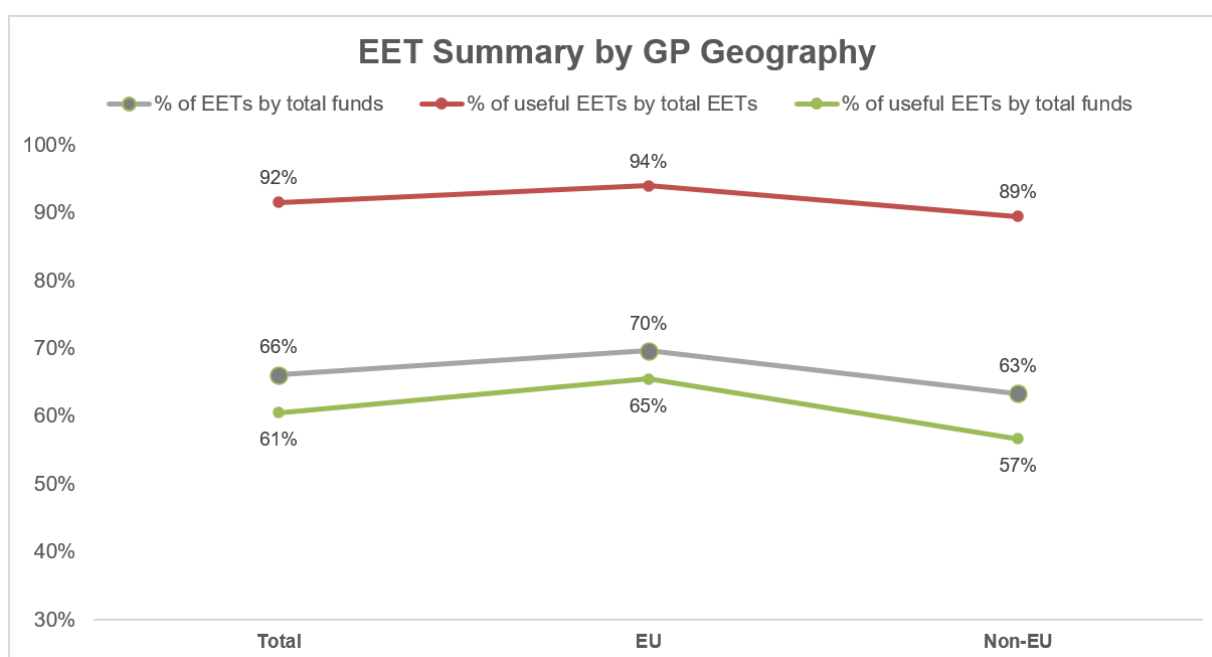
delivered a useful EET in 2025, compared with 59% in 2024. This demonstrates a genuine, continued improvement in quality.

This indicates further improvements in quality of EETs this year, aligning with our expectation from last year that GPs that continuously deliver EETs are more likely to enhance their quality over time provided a targeted engagement was performed.

One notable point is that the percentage of 0 Star EETs (which include at least one PAI value, though PAI eligibility ratios are inconsistent or incorrect) remains significant and similar to last year. This could stem from several factors: (i) GPs focusing primarily on reporting PAI values while ignoring or not understanding the concept of the PAI eligibility ratio, (ii) lack of data for granular NACE-specific PAI KPIs, and (iii) data gaps resulting from target funds held by fund of funds that fail to deliver useful EETs. Therefore, addressing the data gaps in EETs (particularly for fund of funds) might potentially be a major task and challenge in the upcoming reference year.

- Funds that delivered EETs by GP geography:

	% of total EETs delivered by EU GPs	% of total EETs delivered by non-EU GPs ⁵
Unusable	5%	8%
1 Star	1%	3%
0 Star	43%	43%
2 Stars	35%	36%
3 Stars	15%	8%
4 Stars	1%	3%
Useful (0 and 2-4 Stars)	94%	89%
Valuable (2 Stars or higher)	51%	46%



SOF Comment:

In 2025 EU GPs outperformed the non-EU GPs with regard to EET delivery ratios (70% EU vs. 63% non-EU).

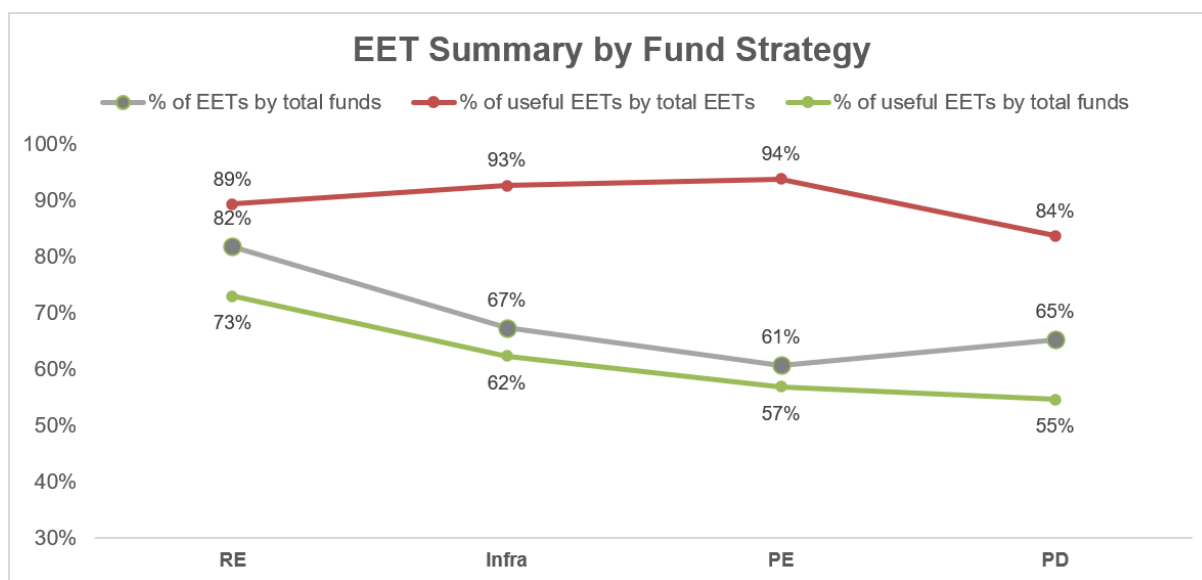
⁵ Individual percentages are rounded to the nearest whole number and may not sum to 100%.

The comparisons reveal that EU GPs continue to **outperform their non-EU counterparts in terms of EET quality** (51% EU vs. 46% non-EU for valuable EETs; 94% EU vs. 89% non-EU for useful EETs).

Non-EU GPs produce 1.5 times the percentage of unusable EETs, while EU GPs disclose around 1.5 times the proportion of EETs that include all mandatory PAIs without data gaps (3 Stars or higher).

- Funds that delivered EETs by Fund Strategy:

	% of total EETs delivered for RE funds ⁶	% of total EETs delivered for Infra funds	% of total EETs delivered for PE funds	% of total EETs delivered for PD funds ⁷
Unusable	10%	4%	6%	13%
1 Star	1%	3%	0%	3%
0 Star	21%	48%	44%	50%
2 Stars	17%	37%	42%	30%
3 Stars	49%	6%	5%	2%
4 Stars	3%	2%	3%	1%
Useful (0 and 2-4 Stars)	89%	93%	94%	84%
Valuable (2 Stars or higher)	69%	44%	49%	34%



SOF Comment:

RE funds have achieved both the highest **delivery ratio (82%)** and the **quality (69% valuable)** across asset classes. What is particularly striking is that more than 50% of the RE EETs attain 3 Stars or higher, indicating that all mandatory PAIs are reported without data gaps. Given the relatively less complex requirements for RE PAI disclosure (only 2 mandatory PAIs for real estate), RE EETs should indeed perform best in delivery ratios and quality.

While for **infrastructure funds** the percentage of **useful EETs** has increased from 92% in 2024 to 93% in 2025, the proportion of **valuable EETs** has slightly reduced from ca. 45% in 2024 to 44% in 2025. This suggests that more infra funds now clear the minimum usability bar, with a growing

⁶ Same reason to note ⁵

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share plateauing at 0 Star rather than progressing to full PAI-eligibility consistency — the 0-Star share itself rose slightly (47% to 48%), likely reflecting new funds added to EET scope that disclose some PAIs but haven't yet reached full consistency. These findings reinforce our earlier arguments: while investee company PAIs required for infrastructure investments are significantly more complicated than the RE PAIs, a potential explanation for both asset classes may be that collecting at least some PAIs for project finance structures is generally easier than for corporate finance due to the high degree of control and standardisation as well as the narrow strategy within an SPV.

The quality of PE funds has continued to improve compared with last year, as shown by both the proportion of valuable EETs (from 42% to 49%) and the proportion of useful EETs (from 92% to 94%). However, similar to infrastructure funds, the percentage of 3 Star or higher EETs from PE funds remains rather low, likely due to the greater quantity and complexity of PAIs for investee companies compared to real estate PAIs.

The quality of EETs received from PD funds increased in 2025 compared to 2024. While the % of useful EETs increased from 73% in 2024 to 84% in 2025, the % of valuable EETs increased from 29% in 2024 to 34% in 2025.

Summary: (i) At the between-year level, we observe an increased delivery ratio for RE and Infra, while the PE and PD delivery ratios decreased (from 68% and 69%) but remained above 60% (61% and 65%). Quality increased for PD and PE, while Infra showed mixed results, with PD showing the most significant improvement. RE funds still provided 89% useful and 69% valuable EETs. (ii) At the within-year level, RE, Infra, and PE funds exhibit relatively high quality, with 89–94% rated as useful and 44–69% as valuable. In contrast, PD appears to be the laggard, with 84% useful and only 34% valuable.

4. PAI Disclosure & Core PAI KPI Analyses

PAI Disclosure⁸ – Number of reported PAI values (PAI coverage ratios > 0):

- Total: Received EETs report an average of 13 PAIs, a median of 13 PAIs, a lower quartile of 3 PAIs, an upper quartile of 21 PAIs, and a maximum of 71 PAIs.

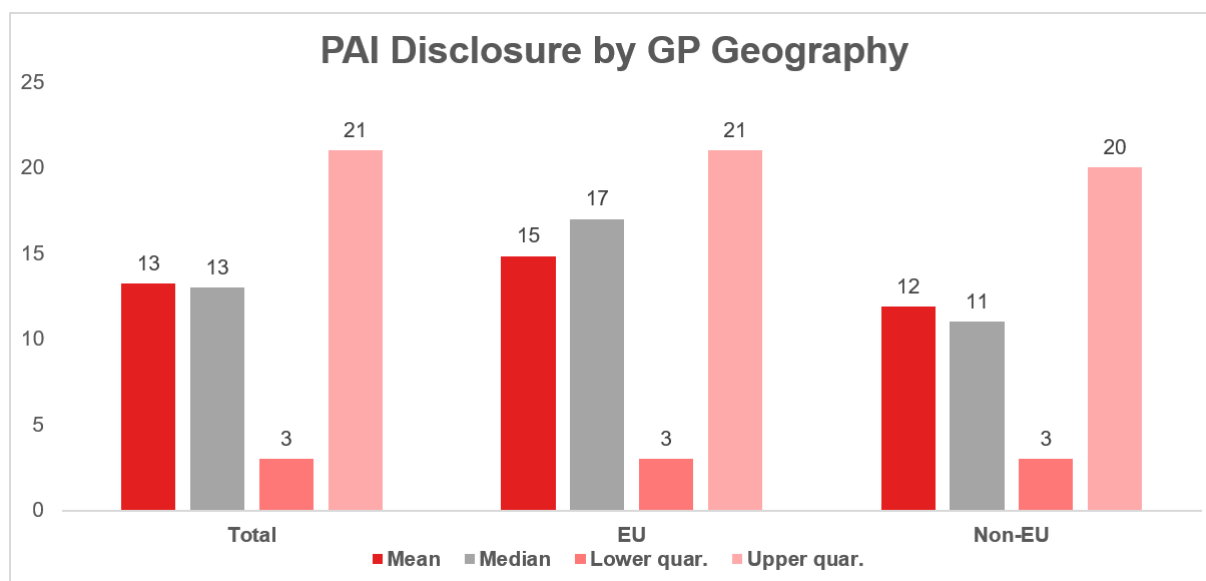
SOF Comment:

The received EETs report a similar number of PAIs across the mean, median and upper quartile compared with the previous year. 50% of EETs disclose at least 13 PAI values.

- PAIs in EETs by GP Geography:

	PAI values in EETs delivered by EU GPs	PAI values in EETs delivered by non-EU GPs
Number of EETs	282	342
Mean	15	12
Median	17	11
Lower Quartile	3	3
Upper Quartile	21	20
Maximum	71	60

⁸ The statistical results in this section are presented after SOF internal validations on received EETs and auto-deletions of non-valid PAI values. For instance, if one EET reports a PAI value without populating the corresponding PAI coverage ratio, this PAI value will be auto deleted and would not be taken into account for subsequent analysis.

**SOF Comment:**

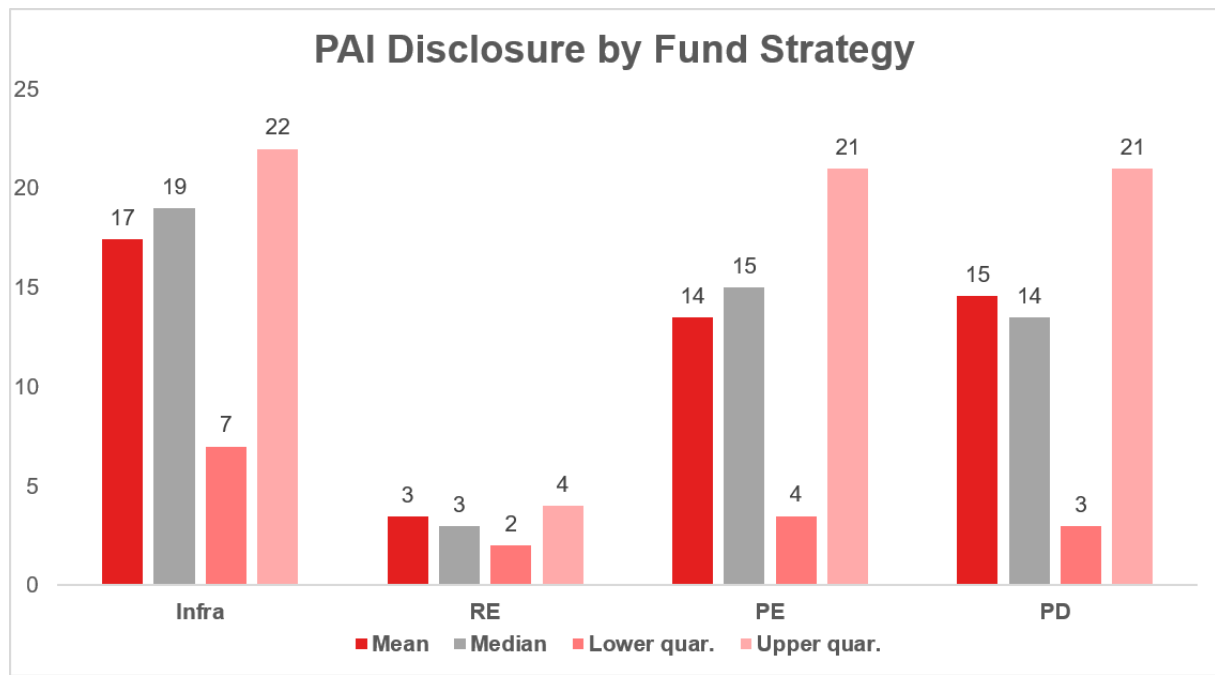
The comparisons indicate that EU GPs continue to disclose substantially more PAI values than their non-EU peers, with an **average of 15 for EU GPs versus 12 for non-EU GPs**, and a **median of 17 for EU GPs versus 11 for non-EU GPs**. This suggests that EU GPs not only tend to provide more valuable and useful EETs but also deliver them with more PAI values than non-EU GPs.

Compared to 2024, both **EU and non EU GPs kept providing a similar number of PAIs in 2025**.

- PAIs in EETs by Fund Strategy:

	PAI values in EETs delivered for Infra funds	PAI values in EETs delivered for RE funds	PAI values EETs delivered for PE funds	PAI values in EETs delivered for PD funds
Number of EETs	209	106	231	76
Mean	17	3	14	15
Median	19	3	15	14
Lower Quartile	7	2	4	3
Upper Quartile	22	4	21	21
Maximum	71	20 ⁹	54	60

⁹ Some RE funds provided PAI for both investee companies and RE, therefore the maximum number of PAIs in EET delivered for RE funds are higher than the total number of RE PAIs.



SOF Comment:

It should be noted that the number of PAI values significantly differs between funds invested in investee companies such as Private Equity, Private Debt and Infrastructure (29 mandatory and 38 additional PAI values) and Real Estate (2 mandatory and 9 additional PAI values).

*The comparisons indicate that **Infrastructure** funds continue to report the highest number of PAI values, in terms of both the **average (17)** and **median (19)**, among the asset classes, which is consistent with previous findings that Infrastructure funds deliver EETs with higher quality than PE/PD funds.*

***PE and PD funds** still disclose fewer PAI values than Infrastructure funds. **Half of the PE (PD) EETs** disclose at least 15 (14) PAI values (slightly higher than last year).*

*Since **RE funds** generally have fewer PAI values to report than other investee companies, the **average of 3** and the **median of 3** indicate that most funds report at least the 2 mandatory PAI values, similar to previous findings and last year.*