

A review of social KPI usage in SLBs

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Sustainability-Linked Bonds (SLBs), where progress on a Key Performance Indicator (KPI) is measured against a predetermined Sustainability Performance Target (SPT) and usually impacts the coupon, have referenced a wide range of sustainability factors since their inception in 2019.

While a focus of the instrument class is certainly climate and the energy transition,[1] the universe of KPIs used is broader, and includes those linked to nature and social themes. Understanding of the interdependence of these factors, however, is still emerging.

In this report, we review the usage of social KPIs in SLBs. We analyse which indicators have been used and explore how pricing might change when multiple KPIs are tied to different areas.

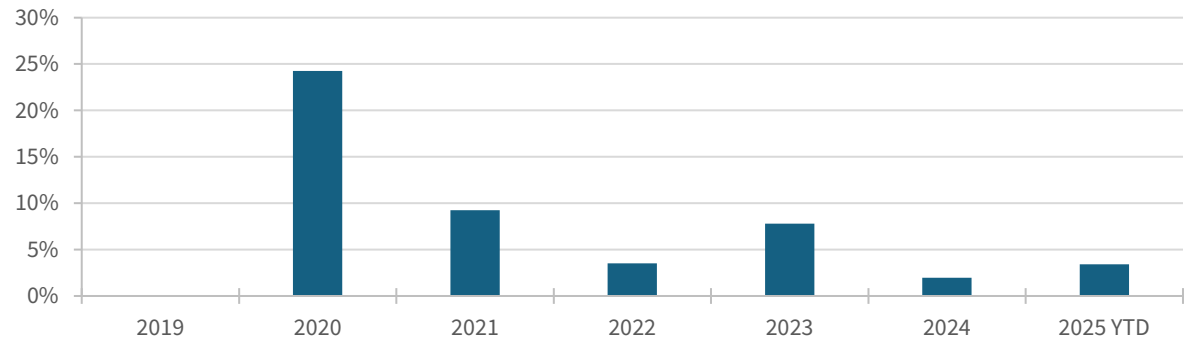
AFII's classification shows that 6% of KPIs used by SLBs to date are social. As shown in Figure 1, their use has been trending down since 2020, although 2025 is currently higher year-on-year.

When social indicators are combined with other KPIs, this can potentially lead to decorrelated targets. When SLB step-ups depend on meeting all targets, this diversification can result in higher option values for investors, although our analysis shows few bonds embed this payment structure.

We present three case studies where social KPIs have been used in SLBs. The first concerns oil producer Tamarack Valley Energy. We estimate the likelihood of it meeting its targets at 50:50, based on the current trajectory of its emissions. The second covers Chile's SLBs and investigates the effect of decorrelating KPIs between structures. Our final case study involves the agri-business Olam Group, which appears to have missed its earlier targets without much public reporting. This includes both social and nature KPIs, and the company is linked to deforestation.

We also explore social KPIs in the context of the just transition. Including social indicators can create investments aligned with just transition goals, however the social KPI must be assessed against its direct impact on climate, rather than any potentially indirect social objective.

Figure 1. Social KPIs as a proportion of total KPIs, 2019-2025 YTD. Source: Bloomberg Finance L.P., accessed 29 Oct 2025.



[1] For an overview of upcoming Sustainability Performance Targets please see "A watershed year for the SLB market", AFII, 15 Jul 2025.

Not investment advice. First published 18 Nov 2025. Important disclaimers at end of the document.
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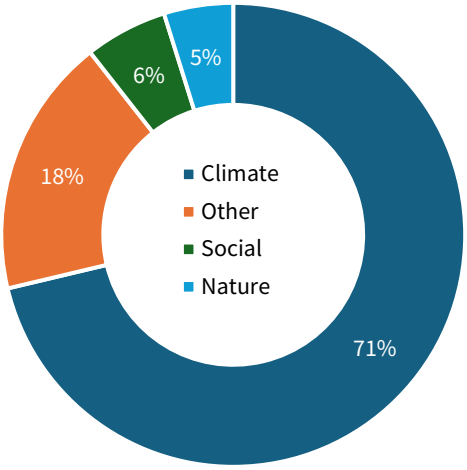
Social KPIs – an overview

To identify the SLB population tied to social KPIs, we first explored the entire universe of SLBs issued to date and extracted the KPIs associated with each instrument.[2] The KPIs were then classified into four broad categories: climate, nature, social and other.[3]

Figure 2 shows how SLB KPIs are broadly divided and highlights how, to date, KPIs have mainly focused on climate-related targets. Given the global focus on GHG emissions and the energy transition, this may be considered unsurprising.

Our dataset shows that use of social KPIs in SLBs peaked in 2020 and have made up no more than 10% of all KPIs in the years following (shown in Figure 1 on the front page).

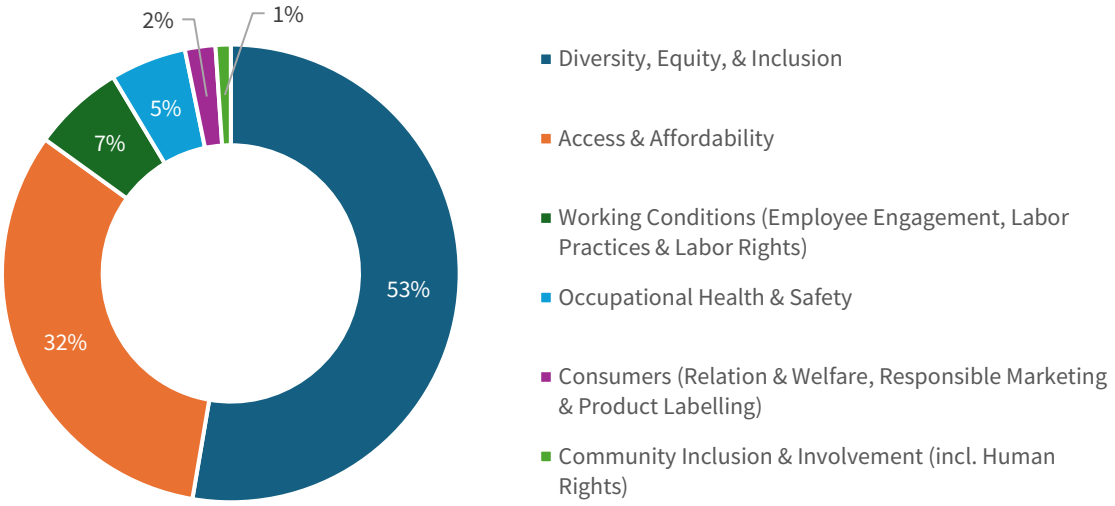
Figure 2. Classification of KPIs in SLBs issued to date. Source: AFII, Bloomberg Finance L.P., accessed 29 Oct 2025.



Current state of play

Of the KPI population in SLBs issued to date, ~6% are social. These social KPIs focus on a variety of topics, dominated by Diversity, Equity & Inclusion (DE&I) and Access & Affordability targets, as shown in Figure 3. DE&I targets tend to be focused on women in management, leadership, or executive positions, whilst Access & Affordability KPIs largely target the provision of affordable goods and services.

Figure 3. Breakdown of social KPIs. Source: Bloomberg Finance L.P., accessed 29 Oct 2025.



One potential reason why DE&I and Access & Affordability targets are the most common social KPIs may be because they are distinctly measurable (e.g. % of women in management positions, or number of affordable products sold). Other social factors can be more difficult to quantify, such as

[2] Where Bloomberg KPI data was available. Schuldschein excluded as these instruments are privately placed, and count as unlisted loans, rather than bonds, which form the basis of this analysis. Schuldschein was identified using Bloomberg on DES page.
[3] Classification of KPIs into categories is shown in Appendix 1 – AFII classification of KPIs.

measuring working conditions, health and safety, and consumer welfare. This makes them less well suited for use in a performance-linked structure.

In the dataset, most SLBs that include social KPIs tend also to reference KPIs from other categories (e.g. climate). In the following section, we examine whether there are benefits to diversifying KPIs in this manner, from a decorrelation and pricing perspective.

Pricing of multiple KPI bonds

When studying SLB option pricing, we typically consider each KPI and SPT as independent to estimate target achievement probabilities and associated coupon changes.[4]

If a bond's structure includes multiple KPIs where each missed target results in an additional coupon step-up (e.g. the coupon steps up 25bps if SPT1 is missed, and an additional 25bps if SPT2 is missed), then the option values can also be summed.

However, alternative structures have been deployed (sometimes called combined SPTs), where the coupon increases if any of the associated SPTs are missed.[5] This makes pricing more complex, as it depends on the correlation between the KPIs.

When the individual probabilities of achieving SPTs are fixed, a lower correlation results in a higher chance of at least one being missed. For a more detailed explanation of this relationship please see Appendix 2 – Pricing of correlated KPIs.

To put this into practice, where SLBs have multiple KPIs all linked to climate factors, it can be argued there is a high correlation between them. For example, some of Enel's earlier SLBs used KPIs tied to emissions intensity of power generation and renewable installed capacity. In this case, it is clear that having more renewables will drive a lower emissions intensity.[6]

Introducing social KPIs to SLBs does, in principle, offer lower correlation to climate factors, and so could offer higher option values where a combined structure is used.

Looking at the universe of 72 SLBs analysed in the earlier section, 64 have two or more KPIs. Data on how the SPTs are combined is only available for 42 SLBs. Of these bonds, nine (21%) use a combined method, and 33 (79%) treat the KPIs separately.

Case Studies

We now unpack a series of case studies that offer additional insights into the population of SLBs with social KPIs. Our chosen case studies include Tamarack Valley Energy, for its different step-up amounts, Chile, for its potentially decorrelated KPIs, and Olam Group, for its lack of public reporting, coupled with overall relevance to AFII work.

[4] For full details on the AFII option pricing approach please see "Sustainability-Linked Bond Handbook", AFII, 12 May 2024.
[5] For example in the case of Legrand only one target was missed, but the coupon stepped-up by the maximum amount, as detailed in "Legrand SLB: le grand objectif d'avoir un objectif", AFII, 5 Jun 2025.
[6] "Enel: A case study in transition finance using SLBs", AFII, 25 Jul 2022.

Tamarack Valley Energy

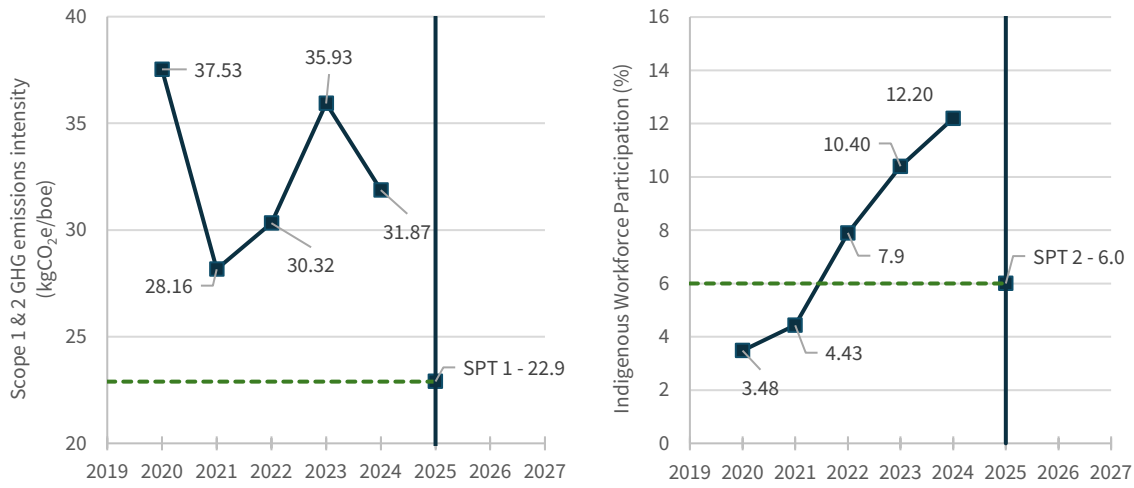
Tamarack Valley Energy (ticker: TVECN), the Canadian oil and gas company, issued a CAD200 million SLB in 2022, marking the first SLB from a North American oil producer.[7] The bond was subsequently increased to CAD300 million. CAD100 million was partially called earlier this year, meaning CAD200 million is currently outstanding. The SLB matures in 2027, with observation dates at the end of this year for its KPIs.

The SLB has two KPIs: the first is climate-related, focusing on the reduction of Scope 1 & 2 emissions intensity (SPT1), whilst the second is a social KPI, a DE&I target focused on increasing indigenous representation in the company's workforce (SPT2).

If neither SPT is met, the coupon could step-up by a total of 1%. However, the step-up is not split equally between SPTs. Missing SPT1 (climate) results in a 0.75% coupon increase, whilst an SPT2 (social) miss initiates a 0.25% step-up. Note each step-up is independent, depending on each SPT performance, rather than the combined structure described earlier.

Tamarack's latest sustainability report shows the company's progress on both SPTs. This is illustrated in Figure 5. The social target was achieved in 2022,[8] while the emissions intensity KPI requires substantial improvement for the target to be achieved.[9]

Figure 4. Tamarack Valley Energy KPI progress vs SPTs. Source: Tamarack Valley Energy 2023 & 2025 Sustainability Reports.



Tamarack gives very little context around its emissions intensity. The 2025 sustainability report provides the raw figures only and no details on the drivers of emissions intensity changes. This makes it difficult to assess the likelihood of achieving the required reduction in 2025. To contextualise the target, S&P uses the average emissions intensity of Canadian oil sands production of 57kgCO_2e/b, which suggests limited improvements.[10] Given the high volatility of

[7] "Tamarack Sells First SLB From a North American Oil Producer", Bloomberg, 2 Feb 2022.
[8] The SLB was issued in early 2022, suggesting it may have already been achieved at the time of issuance.
[9] "2025 Sustainability Report", Tamarack Valley Energy, 14 May 2025.
[10] "Absolute Canadian oil sands emissions continue on slower growth track", S&P Global, 28 Oct 2025.

recent reporting and limited context, there is substantial uncertainty in the 2025 figure, so we rank the bond as 50:50 of being achieved.[11]

Interestingly, as noted earlier, the step-up linked to Tamarack's emissions KPI is 3x the value linked to the social KPI. Looking across the full population of SLBs with social KPIs, nine bonds have uneven step-up amounts (i.e. where the social step-up is not the same as the step-up of the other SPTs), These include transactions from Pandora, Newmont Corporation, and JAB Holding Company. In most cases, the climate SPT has a higher step-up than the social target, suggesting that issuers are perhaps broadly more comfortable achieving climate targets than social.

Republic of Chile

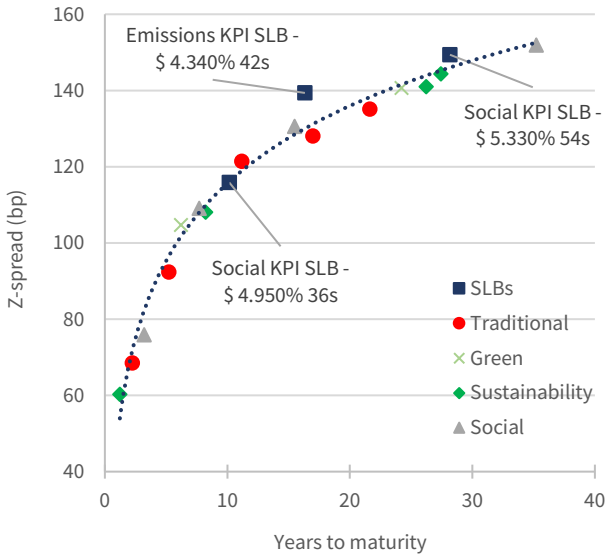
Four sovereigns have issued SLBs to date: Chile,[12] Uruguay,[13] Thailand,[14] and Slovenia.[15] Chile was the first sovereign to do so in 2022, and now has the most sovereign SLB debt outstanding.

The country's inaugural SLB, a USD2 billion bond due 2042, included three SPTs: 1a and 1b linked to emissions, and SPT2 linked to renewable energy generation. In 2023, Chile issued five new SLBs, replacing SPT2 with a social KPI linked to achieving at least 40% female representation in the board of directors of companies that report to Chile's financial regulatory body by 2031. SPT 1a and 1b remained identical to the inaugural 2042 SLB.[16]

In this case, we can observe the effect of decorrelating KPIs. In Chile's 2042 SLB, the KPIs are correlated, as increasing renewable energy generation (SPT2) will automatically reduce emissions (SPT 1a and 1b). However, the relationship between female board representation and emissions reduction is much less clear, suggesting the two KPIs are decorrelated.

Looking at how Chile's USD SLBs trade in Figure 6, none appear to have a positive option value; indeed the 2042s appear wide to the curve.[17] However, the two SLBs with a social KPI (2036s and 2054s) are trading closer to the curve than the 2042 SLB, which has more correlated KPIs on emissions and renewables, implying a relatively higher option value. It is worth noting that the structure of the bonds pays a step-up per KPI, so there is no option value benefit for the potential diversification in KPIs. However, the market seems to be giving some benefit to the social KPI bonds, perhaps reflecting investor preference.

Figure 5. Republic of Chile USD bond spreads (2027-2061 maturity bonds). Source: Bloomberg Finance L.P., accessed 11 Nov 2025.



[11] For details on the ranking methodology, please see "A watershed year for the SLB market", AFII, 15 Jul 2025.
[12] "Offi-Chile the largest sovereign SLB issuer", AFII, 29 Jun 2023.
[13] "Uruguay SLB: market update", AFII, 5 Jun 2023.
[14] "Thai government embarks on SLB journey", AFII, 15 Nov 2024.
[15] "Slovenia launches sovereign decarbonisation SLB", AFII, 23 Jun 2025.
[16] "Chile's Sustainability-Linked Bonds Report", Jun 2025.
[17] "Sustainability-Linked Bond Handbook", AFII, 12 May 2024.

Olam Group

Olam Group (ticker: OLAMSP) is a leading agri-business company, based in Singapore. The company has issued two SLBs, a JPY7bn 2.05% maturing Dec 2025 and a JPY5.5bn 1.403% maturing Sep 2026. Both bonds have a one-time coupon step-down, linked to the achievement of their SPTs.

There appears to be little detail regarding the bonds in the company's publicly available reporting, meaning most information is sourced from Bloomberg. Details of the KPIs are below:

1. Beneficiaries with access to food & nutrition programs (social KPI)
2. Diversity quota, not limited to gender diversity (social KPI)
3. Forest area protected, conserved, or restored (nature KPI)

The 2.05% 2025 bond had an observation date at the end of 2021. If the SPT had been met, the coupon would have stepped down, but as per Olam's latest reporting, the coupon of the bond remained at 2.05%, suggested no targets were achieved.[18]

The same dynamic applies to the 1.403% 2026s – following the Dec 2022 observation date, the bond still has the same coupon, indicating Olam did not achieve its SPTs.

Given the lack of available reporting on the SPTs, it is unclear how much the company missed the targets by or, indeed, which targets were missed.

Olam is also of interest as the company is part of AFII's Deforestation Debt Universe,[19] meaning it is a bond issuer with substantial deforestation risk exposure.

The company is of further interest due to recent reports that the Saudi Agricultural & Livestock Investment Co. (SALIC, a state-owned entity, backed by the Public Investment Fund, PIF) plans to pursue a full ownership stake in the agri-business unit of Olam by buying up the remaining 20% of the company it doesn't hold.[20]

As per recent AFII analysis, PIF's ownership of Olam means it can drive significant policy change in the company's supply chain, to reduce deforestation risk. This should be in PIF's interest, given the importance of carbon sinks (forests) in offsetting the emissions of the fund's most economically valuable asset, Saudi Aramco. The bigger the carbon sinks the planet has, the longer the harm from climate change could be held back, allowing PIF-owned Saudi Aramco to remain a profitable business for longer.[21]

Furthermore, PIF was recently in the market itself, issuing green bonds. Assuming PIF's full takeover of Olam completes, this presents an engagement opportunity for PIF bondholders, to push for higher standards around deforestation and supply chains at Olam,[22] and also enhanced transparency which may confirm the results of the KPIs, and any dialogue around the target misses.

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[18] "Olam Group Limited Annual Report 2024", Olam Group, 24 Feb 2025.
[19] "Deforestation Debt Universe", AFII, 7 Jan 2025.
[20] "Saudi PIF-Backed Salic to Pursue Full Ownership of Olam Unit", Bloomberg, 14 Oct 2025.
[21] "PIF, Aramco, and the Amazon", AFII, 8 Oct 2025.
[22] "Marfrig-BRF merger and PIF green bond deforestation engagement opportunity", AFII, 6 Oct 2025.

Social KPIs and the just transition?

A just transition is defined by the International Labour Organisation (ILO) as "*greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.*"[23]

Social KPIs may advance the goals of a just transition by improving the social impacts of an issuer's activities. For example, by making the organisation more diverse, products more affordable, or offering better employment conditions. These goals, especially when combined with climate-related objectives, can make it appear as if an issuer is contributing towards the just transition.

However, as argued by the Just Transition Finance Lab, simply layering climate and social goals together does not necessarily mean an issuer is aligned with the just transition. The just transition should ensure the social benefits and harms brought about by the transition itself are spread equitably.[24]

Applying this thinking to our earlier case study on Chile, where the SLBs in question included both emissions reduction and gender equality targets, highlights the challenge. The targets from the bonds are not clearly integrated in such a way that could be considered to address the social impacts of the energy transition. For just transition concerns, this connection matters: a bond may be considered broadly sustainable if it supports both environmental and social goals, but a true just transition bond may need to go further, and ensure the social targets are specifically designed to mitigate the negative effects of the low-carbon transition on affected communities.[25]

This means, according to this analysis, the presence of social KPIs in an issuer's SLB does not necessarily mean the bond is aligned with the goals of a just transition. This is not to say that social KPIs are not positive overall, as they can still ensure that just outcomes are promoted, alongside climate and nature factors.

Conclusions

Social KPIs form a small part of the overall SLB market. These indicators were used more frequently in the early years of SLB issuance (as a proportion of total KPIs used per year), but have since become rarer, although may be increasing this year.

Existing SLBs that use social KPIs tend to focus on DE&I or Access & Affordability targets, perhaps because these are quantifiable and easier to report on. Social indicators have so far tended to be combined with climate or nature targets, and can be used to create SLBs with diversified KPIs. If an SLB pays a step-up linked to missing any SPT, this could lead to a higher option value.

Combining social KPIs with climate goals can arguably create a 'just transition' SLB. However, for this to be the case, the social KPI needs directly to address the effects caused by the transition to a low-carbon economy, rather than simply improve social outcomes. If this creates social KPIs which are in fact correlated with climate factors, this may increase the probability of strong climate outcomes, while also removing any potential pricing benefit of diversified KPIs.

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[23] "What is just transition? And why is it important?", UNDP Climate Promise, 3 Nov 2022.
[24] "Mobilising bonds for the just transition: an exploratory assessment methodology of thematic sovereign bonds", Just Transition Finance Lab, Apr 2025.
[25] Ibid.

Appendix 1 – AFII classification of KPIs

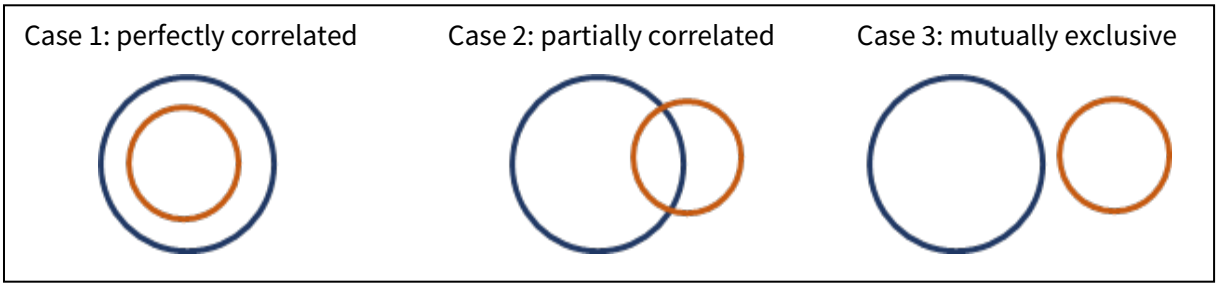
KPI Category	AFII Classification
Climate Change (GHG Emissions & Energy)	Climate
Biodiversity (Soil/Land Use)	Nature
Water (incl. Ocean)	Nature
Air quality	Nature
Community Inclusion & Involvement (incl. Human Rights)	Social
Consumers (Relation & Welfare, Responsible Marketing & Product Labelling)	Social
Diversity, Equity, & Inclusion	Social
Access & Affordability	Social
Occupational Health & Safety	Social
Working Conditions (Employee Engagement, Labor Practices & Labor Rights)	Social
ESG Score	Other
Waste	Other
Product Governance (Safety & Quality)	Other
Value Chain	Other
Raw Material Sourcing & Recycling (Circular Economy)	Other
Other	Other

Appendix 2 – Pricing of correlated KPIs

Consider an example with two SPTs. Let p1=probability that SPT1 is missed, and p2=probability that SPT2 is missed. In order to price the probability of a combined SPT we need to know the probability of p1u2 (probability 1 OR 2, the union of either case).[26]

An array of correlation scenarios are shown in Figure 4, to help visualise the probabilities. The area of the circle represents the probability. Let SPT1 be the blue circle, with a higher probability of being achieved.

Figure 6. Possible correlation scenarios for multiple KPIs. Source: AFII.



In case 1, where SPTs are perfectly correlated, the red circle is entirely inside the blue circle, and p1u2 = max (p1,p2). In case 3, where SPTs are mutually exclusive, they cannot occur together, so

[26] P1u2 is the probability of the union of 1 and 2, i.e. the total of both circles in Figure 4, and for completeness p1n2 is called the intersection or probability 1 AND 2, i.e. the area of overlapping circles representing both scenarios occurring.

p1u2 = p1+p2. Note this is not the same as zero correlation, but is essentially perfectly negative correlation, i.e. once one SPT is achieved, the other is impossible to be achieve.

Case 2 represents all other cases, where p1u2 depends on the area of overlap. Mathematically, this is expressed as p1+p2 = p1u2+p1n2. If correlation is higher, then the overlap is larger and so p1u2 is smaller. Case 1 and case 3 provide bounds. Putting this all together, we can define the following boundary:

$$\text{Max}\,(p1,p2) \leq p1u2 \leq p1+p2$$

This means that, all else being equal, for an SLB that steps up if either target is missed, a lower correlation between the SPTs increases the bond's option value to investors.

In summary, when the targets are less correlated, it's more likely that at least one will be missed.

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