Co_2liseum transition analytics for sovereigns

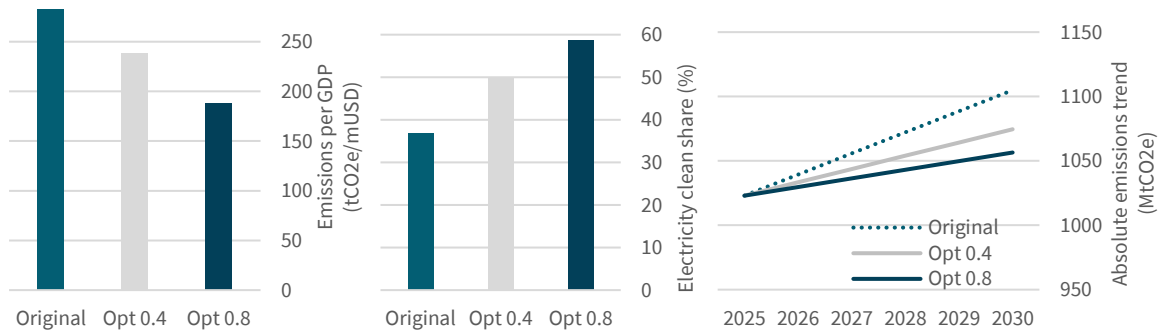
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When discussing decarbonisation strategies for fixed income investment portfolios, analyses are usually siloed by developed or emerging markets, and/or by corporates and sovereigns. A holistic approach is necessary to empower the fixed income market to drive the global climate transition.

AFII's Co_2liseum is a portfolio strategy and analytical system for fixed income professionals seeking to manage the climate performance of their credit portfolios.[1,2] Users can leverage the platform to determine if a position or portfolio in aggregate improves or deteriorates transition performance. While the Co_2liseum transition analytics platform for corporates has been live since January 2024, a sovereign-focused component has recently been added, which we use here to analyse the iShares EMB ETF.[3] The optimisation of sovereign portfolios recalculates weights at a country level to produce similar yield and duration. The total change in the weights is defined as turnover.

- **By applying Co_2liseum's transition analytics, we demonstrate that the transition profile of an emerging market sovereign portfolio can be materially improved without meaningfully altering its average financial characteristics. The magnitude of transition performance increases as higher turnover is permitted.**
- **Incorporating forward-looking climate indicators allows portfolio reallocation to be directed toward jurisdictions demonstrating credible transition pathways. To the extent this impacts funding spreads, it can act as a lever to incentivise better transition trajectories.**
- **Overall, the results indicate that systematic, algorithm-based portfolio construction methods are effective at improving sovereign transition alignment and that passive investment strategies can be designed to support climate transition objectives.**

Figure 1 Transition metrics for solutions with turnover limits of 0.4 and 0.8 vs original iShares EMB ETF. Source: iShares, TPI (ASCOR), Climate Action Tracker, Ember, Co_2liseum by AFII.



[1] "Co2liseum: quantitative transition analytics ranking methodology", AFII, Mar 2026.

[2] **Each Co_2liseum portfolio is hypothetical; each portfolio and the methodology are for informational and educational purposes only and are not investment recommendations. See the Co_2liseum website here, including our disclaimer notice.**

[3] This ETF covers USD-denominated debt issued by emerging markets governments.

Not investment advice. First published 19 Mar 2026. Important disclaimers at end of the document.
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Introduction to Co_2liseum transition analytics for sovereigns

To determine if a position or portfolio in aggregate improves or deteriorates climate performance, Co_2liseum transition analytics applies a quantitative scoring methodology.[4] This follows the general principle of being data-agnostic, and is capable of combining multiple climate data sources — including forward-looking indicators. The methodology further supports the user in weighing each data source themselves and handle missing data in a way applicable to their fixed income portfolios.

Table 1. Sovereign indices with countries in scope for Co_2liseum. Source: AFII.

Index	Coverage
Bloomberg Global Aggregate Treasuries Index	100.0%
J.P. Morgan Government Bond-Emerging Market Index (GBI-EM) Global Diversified	99.8%
J.P. Morgan Emerging Markets Bond Index (EMBI) Global Diversified	78.5%

The transition scoring framework for Co_2liseum was initially focused on corporate credit. AFII has now expanded this to handle SSA and government bonds in the portfolio.

The Co_2liseum approach for sovereigns builds on multiple independent transition data sources to assess how aligned countries are with the global net zero transition. The 62 countries in scope have been selected because of their presence in relevant bond indices, as reflected in Table 1.

The scoring methodology combines three complementary perspectives of net zero alignment and their respective datasets:

1. ASCOR: forward-looking emissions and transition-alignment data from the Assessing Sovereign Climate-related Opportunities and Risks initiative, led by the Transition Pathway Initiative (TPI) and FTSE Russell.[5]
    a. Emissions intensity per GDP (production and consumption)
    b. Emissions intensity per capita (production)
    c. Absolute emissions (production and LULUCF)
    d. Absolute emissions trend (2025-2030 slope; more negative indicates improvement)
2. Climate Action Tracker (CAT): independent scientific analysis of government climate targets and actions, benchmarked against the Paris Agreement temperature goals.[6]
    a. NDC target against modelled domestic pathways (converted to ordinal scale)
    b. Policies and action against modelled domestic pathways (converted to ordinal scale)
    c. NDC target against fair share (converted to ordinal scale)
3. Ember: open data on global electricity generation and power sector transformation, offering a real-time view of energy transition progress.[7]
    a. Clean share of electricity generation (latest year)
    b. Five-year clean energy trend (slope of clean share growth)

[4] Earlier versions of the approach were the ECOBAR system pioneered by the Swedish pension fund AP4, documented in "Credit alpha and CO2 reduction: A portfolio manager approach." An updated version, Fixed Income Optimisation for Net-zero Alignment (FIONA), was introduced in "Decarbonising iShares' LQD ETF".
[5] ASCOR methodology and dataset, accessed 24 Feb 2026.
[6] Climate Action Tracker (© Climate Analytics and NewClimate Institute, 2026), accessed 24 Feb 2026.
[7] Ember yearly electricity dataset , accessed 24 Feb 2026.

Together, these datasets provide a comprehensive picture of sovereign-level climate performance, spanning quantitative emissions metrics, qualitative policy ambition, and real-world transition progress in the power sector.

The final sovereign Co_2liseum score (a subset for illustrative purposes in Table 2 below and in Appendix) therefore represents a unified view of a country's climate transition status, balancing quantitative emissions outcomes, qualitative policy ambition, and tangible decarbonisation progress in the energy sector. This supports portfolio users in integrating sovereign climate risks into portfolio construction in a transparent and data-driven way.

For each country, the methodology issues a score of 1 to 9, with lower scores indicating a high degree of climate transition alignment. Countries and supranationals not part of our assessed universe will receive a middle score of 4.

Table 2. Subset of Co_2liseum scores with explanatory comments for the best (scored 1 & 2) and worst (scored 8 & 9) countries for illustrative purposes. Source: TPI (ASCOR), Climate Action Tracker, Ember, AFII.

Country	Co2liseum score	Explanation
Chile	1	Strong performance in per-capita production emissions, projected near-term emissions trend to 2030, and domestic climate policy implementation.
Lithuania	1	Strong performance in recent change in clean electricity share, per-capita production emissions, and projected near-term emissions trend to 2030.
Norway	1	Strong performance in domestic climate policy implementation, current share of clean electricity, and emissions per unit of GDP (consumption-based).
Sweden	2	Strong performance in current share of clean electricity, emissions per unit of GDP (production-based), and per-capita production emissions.
Luxembourg	2	Strong performance in emissions per unit of GDP (production-based), current share of clean electricity, and emissions per unit of GDP (consumption-based).
Panama	2	Strong performance in per-capita production emissions, projected emissions trend to 2030, and emissions per unit of GDP (consumption-based).
Portugal	2	Strong performance in per-capita production emissions, recent change in clean electricity share, and projected emissions trend to 2030.
China	8	Weak performance in historical absolute emissions, emissions per unit of GDP (consumption-based), and projected near-term emissions trend to 2030.
United States of America	8	Weak performance in domestic climate policy implementation, fair-share alignment with global pathways, and historical absolute emissions.
Oman	8	Weak performance in emissions per unit of GDP (production-based), emissions per unit of GDP (consumption-based), and current share of clean electricity.
Bahrain	8	Weak performance in current share of clean electricity, recent change in clean electricity share, and emissions per unit of GDP (production-based).
Indonesia	9	Weak performance in domestic climate policy implementation, overall climate policy strength, and fair-share alignment with global pathways.
Qatar	9	Weak performance in per-capita production emissions, current share of clean electricity, and emissions per unit of GDP (production-based).
Saudi Arabia	9	Weak performance in domestic climate policy implementation, overall climate policy strength, and fair-share alignment with global pathways.

Limitations

The Co_2liseum transition analytics score combines eleven indicators capturing both structural emissions characteristics and forward-looking transition signals. As a result, countries with different transition profiles can occasionally arrive at similar aggregate scores when strengths in some indicators offset weaknesses in others. For example, the United States and China receive comparable overall scores despite differing indicator patterns: China performs more strongly on several forward-looking measures such as policy alignment, NDC ambition and clean energy growth, while the United States scores better on certain structural emissions indicators including emissions per GDP and current clean electricity share. Forward-looking indicators capture announced policy ambition and transition momentum, but their realisation remains uncertain and dependent on future policy implementation.

In the present methodology, all eleven indicators are equally weighted in order to maintain transparency and comparability across countries. The analytical approach nevertheless allows alternative weighting schemes where forward-looking indicators may receive greater emphasis depending on the analytical objectives of the portfolio owner.

Additional limitations relate to differences in national statistical reporting and data availability, which may affect the comparability and timeliness of certain indicators across countries despite the use of harmonised international datasets. Country size effects may also influence certain metrics, as larger economies naturally generate higher absolute emissions due to the scale of their economic activity. The methodology partially mitigates this by combining absolute emissions indicators with emissions per GDP and per-capita measures.

All underlying indicators, scaling procedures and aggregation methods are transparent and reproducible. As additional datasets become available and coverage and consistency improve, the methodology is expected to provide an increasingly comprehensive and accurate representation of sovereign transition dynamics.

Optimising an EM sovereign debt portfolio

This analysis explores how the iShares EMB ETF can be systematically optimised to reduce exposure to sovereign transition risk, as captured by the Co_2liseum quantitative transition analytics , while preserving the index's average financial characteristics.[8] This ETF uses the J.P. Morgan EMBI Global Core Index as a benchmark, which covers a wide array of USD-denominated debt from EM sovereign and quasi-sovereign issuers. A similar exercise has been performed in the past using the FIONA framework with 10,000 simulated portfolios.[9] For this analysis, we use the newly developed and more extensive Co_2liseum framework, together with a first-order convex optimisation solver.[10]

Rather than constructing a new portfolio, the exercise focuses on controlled re-weighting of existing index constituents. We apply explicit constraints to maintain aggregated portfolio yield, duration, and diversification, and to ensure that any changes remain implementable in real market conditions. The chosen constraints of YTW (Yield-to-Worst) and modified duration capture key dimensions of sovereign bond risk, worst-case yield, and interest rate sensitivity. By preserving these measures, transition improvements are achievable without materially altering the portfolio's core average risk profile. Credit ratings are not explicitly constrained, as they are largely reflected in yield. The optimisation is performed on country weights instead of individual bond weights, in order to maintain the underlying curve characteristics for the countries in the iShares EMB ETF.[11]

As an initial diagnostic, we conduct a turnover analysis to examine the relationship between portfolio rebalancing intensity and aggregate Co_2liseum score exposure. It is worth noting here that the Co_2liseum coverage of the iShares EMB ETF is 84%. The roughly 16% of weights that are not covered are kept constant, and are therefore not part of the optimisation.

Figure 2. Reduction in portfolio-level Co_2liseum metric as allowable turnover increases. Source: iShares, AFII.

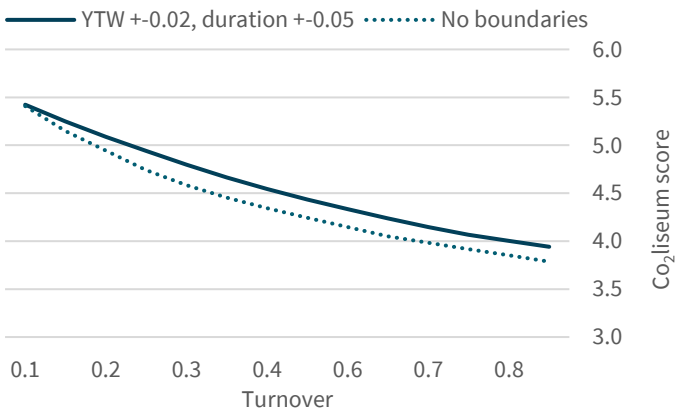


Figure 2 illustrates the relationship between allowable turnover (defined as absolute weight delta to the original ETF) and portfolio-level Co_2liseum score exposure under conservative rebalancing assumptions. Country weights are capped at index-consistent levels (10% on a country level), while portfolio yield and duration are held within tight tolerances (+-0.02 and +-0.05 respectively) rather than allowed full freedom. As can be seen there is, as expected, better possible solutions when relaxing the yield and duration tolerances, but the difference in portfolio level Co_2liseum scores is not vastly material

[8] This ETF has net assets of USD16bn (Source iShares, as of 24 Feb 2026, run data from 20 Feb 2026), and is considered one of the most significant sovereign bond ETFs. This note is intended neither as a recommendation nor a critique of the product and its manager.

[9] "Decarbonising iShares' JPM EMB ETF", AFII, 11 May 2023.

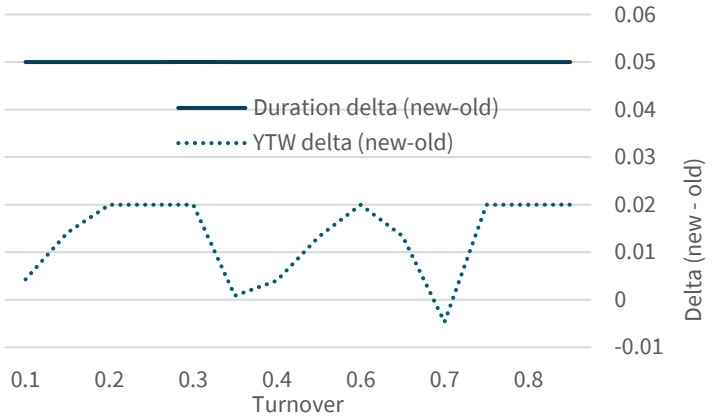
[10] Provided the quadratic objective matrix for the solver (OSQP) is positive semidefinite and the constraint set is convex, the solution obtained should be the global optimum within solver tolerances, but can't be guaranteed.

[11] An approach similar as in previous optimisation work on biodiversity risks, see "Biodiversity risks in government bond portfolios", AFII, 24 July 2025.

when comparing the two lines (-0.21 at its widest point), partly due to the keeping of the 10% country level threshold, which is used in both examples.

When yield and duration tolerances are set to +-0.02 and +-0.05 respectively, the optimisation pushes both metrics to their constraint boundaries across most turnover levels, as shown in Figure 3. In practice, this indicates that the solution is frequently yield- and duration-binding. The optimiser utilises the permitted deviation in order to minimise Co_2liseum score exposure. However, as turnover increases, yield drift does not remain uniformly binding, and Co_2liseum score improvement is achievable without fully consuming the allowed yield deviation at several turnover levels. Still, the results show that meaningful reductions in sovereign transition risk can be achieved through reallocation, without materially changing the index's average risk profile, and that this is largely connected to the allowed turnover.

Figure 3. Yield (limit +-0.02) and duration (limit +-0.05) drift as allowable turnover increases.



Analysing the optimised solutions via Co_2liseum

This section analyses the composition of the optimised iShares EMB ETF allocation at a fixed turnover level (all other levels as described above), highlighting how the reduction in portfolio-level Co_2liseum score is achieved through changes in country weights. This is done by inserting the two portfolios into the Co_2liseum system. Our focus is on identifying the main contributors to the Co_2liseum score improvement and assessing how other portfolio characteristics behave under the imposed yield, duration, and diversification constraints.[12]

Optimised solution at a moderate turnover limit using country weights

At a fixed turnover level of 0.4, a medium level of weight changes, the optimised allocation shows an improvement across key transition metrics relative to the benchmark.

Table 3. Optimised vs original iShares EMB ETF portfolio metrics. Source: iShares, AFII Co_2liseum.

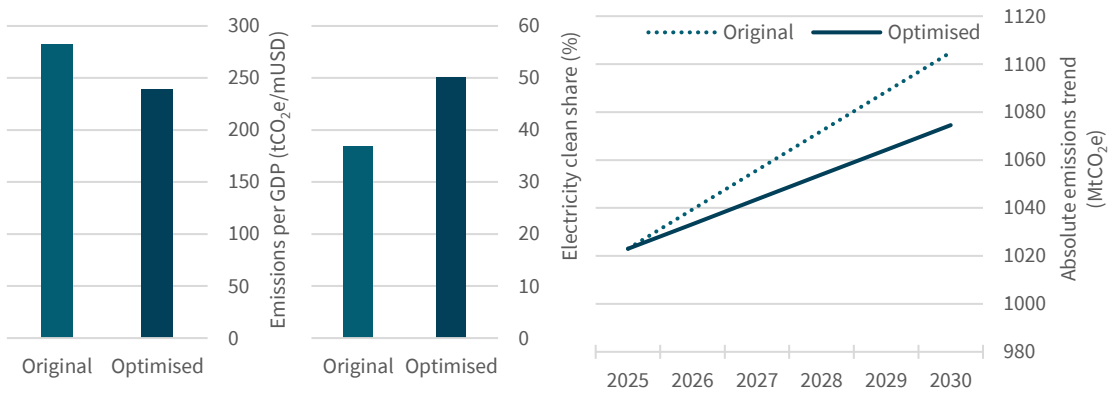
	Original	Optimised	Diff
Co_2liseum score	5.63	4.60	-18%
YTW	5.85	5.85	0.00
Mod. duration	6.91	6.96	0.05
# country weights > 1%	28	24	-4
Max weight	6%	10%	4%

Emissions intensity measured by emissions per unit of GDP declines, indicating a shift towards sovereign exposures with lower carbon intensity relative to economic output. At the same time, the portfolio absolute emissions trend over the 2025–2030 period also decreases,

[12] The analysed weighted emissions metrics in this section have been calculated on the 84% of the iShares EMB ETF that is covered by Co_2liseum, i.e. the population being optimised. Within this subset, portfolio weights are proportionally rescaled to 100% for reporting purposes. These figures therefore represent the conditional emissions metrics of the covered universe rather than the full ETF footprint.

signalling an improved alignment with declining emissions pathways. The share of clean electricity generation also increases, reflecting greater exposure to sovereigns with more advanced power-sector transitions, as can be seen in Figure 4.

Figure 4. Transition metrics vs original iShares EMB ETF. Source: iShares, TPI (ASCOR), Climate Action Tracker, Ember, AFII.



The largest reallocations in the optimised portfolio are highly concentrated in countries with the weakest transition profiles, as measured by the Co_2liseum transition analytics score and laid out in Table 4 (full solution in Appendix). Sovereigns with very weak Co_2liseum scores, such as Saudi Arabia, Indonesia, and Mexico, are fully exited under the imposed constraints. At the same time, portfolio is reallocated towards countries with substantially better Co_2liseum scores, like Chile and Panama, which collectively exhibit stronger transition characteristics across emissions intensity, emissions trajectories, and clean energy deployment (see Table 2). This pattern indicates that the reduction in portfolio-level Co_2liseum score is driven primarily by a small number of targeted country-level reallocations, rather than broad-based shifts across the entire index.

Table 4. Largest weight changes in the optimized solution. Source: iShares, AFII.

Country	Original (%)	Optimised (%)	Co_2liseum score
Malaysia	2.0	0.0	6
Indonesia	4.4	0.0	9
Mexico	6.1	0.0	7
Saudi Arabia	6.2	0.0	9
Romania	3.2	10.0	4
Chile	3.4	10.0	1
Hungary	3.1	8.6	4
Panama	3.2	4.3	2

This pattern repeats at the regional level. The optimised portfolio reallocates weights primarily to the EEMEA region. There are also some redistributions within the LATAM region, where the average Co_2liseum score is lower, and from the APAC region as shown in Table 5.

Table 5. Weight changes by region. Source: iShares, AFII.

Region	Average Co_2liseum score	Original (%)	Optimised (%)	Change (%)
APAC	5.8	16.4	10.0	-6.4
LATAM	4.3	36.1	37.7	1.6
EEMEA	4.9	47.5	52.3	4.7

Optimised solution at a high turnover limit using country weights

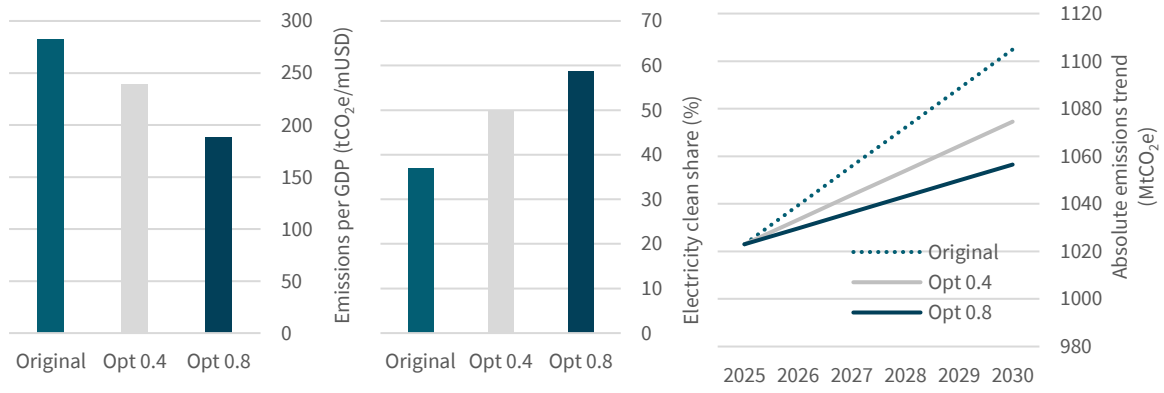
At a fixed turnover level of 0.8, a high level of weight changes, the optimised allocation shows an even greater improvement across key transition metrics relative to the benchmark, as represented by the decrease of the Co_2liseum score to 4.04 (compared to 4.60 in the previous solution). This is achieved while still keeping the YTW and duration stable as can be seen in Table 6.

Table 6. Optimised vs original iShares EMB ETF portfolio metrics. Source: iShares, AFII Co_2liseum.

	Original	Optimised	Diff
Co_2liseum score	5.63	4.04	-28%
YTW	5.85	5.87	0.02
Mod. duration	6.91	6.96	0.05
# country weights > 1%	28	19	-9
Max weight	6%	10%	4%

Worth noting is that this optimised solution with a higher turnover assigns more countries (with a weak Co_2liseum score) to a zero weight, as indicated by the decrease of countries with weights larger than one percent.

Figure 5. Transition metrics for solutions with turnover limits of 0.4 and 0.8 vs original iShares EMB ETF. Source: iShares, TPI (ASCOR), Climate Action Tracker, Ember, Co_2liseum by AFII.



Relative to the moderate turnover optimisation, emissions per unit of GDP declines even further, as does the portfolio absolute emissions trend over the 2025–2030 period. The share of clean electricity generation also increases. This shows that results improve almost linearly when allowing optimisation to change even more weights in the iShares EMB ETF via higher turnover. Worth remembering is that the Co_2liseum score, as laid out in the earlier section, is created using eleven different data points. This means that there most likely exists solutions where, for instance, the clean electricity

Table 7. Largest weight changes in the optimised solution. Source: iShares, AFII.

Country	Original (%)	Optimised (%)	Co_2liseum score
Bahrain	3.1	0.0	8
South Africa	3.2	0.0	6
Philippines	3.4	0.0	6
Indonesia	4.4	0.0	9
UAE	4.5	0.0	6
Mexico	6.1	0.0	7
Saudi Arabia	6.2	0.0	9
Latvia	0.2	10.0	4
Hungary	3.1	10.0	4
Romania	3.2	10.0	4
Panama	3.2	10.0	2
Chile	3.4	10.0	1
Nigeria	2.4	5.5	5

generation metric is even better than in this solution here, though perhaps at the cost of higher emissions per unit of GDP and so forth.

The largest reallocations in the optimised portfolio with 0.8 in turnover limit are, as before, highly concentrated in countries with the weakest transition profiles (full solution in Appendix). In addition to those countries exited under the moderate optimisation, the UAE, South Africa, and the Philippines are among those divested under the imposed constraints.[13] Weight is reallocated towards countries with better Co_2liseum scores, with Latvia and Nigeria among this group. Even though more countries are included in the weight shifts as the turnover increases, there are still quite a small number of targeted country-level reallocations in total. There is not a broad-based shift across the entire index.

On a regional level, the optimisation further enhances the regional shifts. The portfolio reallocates weights more to the LATAM and EEMEA region, where the average Co_2liseum score is lower, from the APAC region as shown in Table 8.

Table 8. Weight changes by region. Source: iShares, AFII.

Region	Average Co2liseum score	Original (%)	Optimised (%)	Change (%)
APAC	5.8	16.4	5.5	-10.8
LATAM	4.3	36.1	40.0	3.9
EEMEA	4.9	47.5	54.5	6.9

Conclusions

By applying the Co_2liseum transition analytics, we demonstrate that the transition profile of an emerging market sovereign portfolio can be materially improved without meaningfully altering its average financial characteristics. The magnitude of transition improvement increases as higher turnover is permitted, highlighting the trade-off between implementation cost and alignment.

Incorporating forward-looking climate indicators allows portfolio reallocation to be directed toward jurisdictions demonstrating credible transition pathways or requiring investment to advance their transition efforts. To the extent this impacts funding spreads, it can act as a lever to incentivise better transition trajectories.

Overall, the results indicate that systematic, algorithm-based portfolio construction methods are effective in the sovereign context and that passive investment strategies can be designed to support climate transition objectives while maintaining benchmark-like characteristics.

[13] It should be noted that UAE will no longer be eligible in the JPM EMBI and phased out in the upcoming months at the time of this publication, per "JPMorgan Says UAE Is Too Rich to Be an Emerging Market", Bloomberg, 24 Feb 2026.

Appendix I: optimised full solutions

Table 9. Optimised solution where turnover is 0.4. Countries in italic (ca 16% of weights) are not part of the Co_2liseum coverage or optimisation and receive a middle score of 4. Source: iShares, AFII.

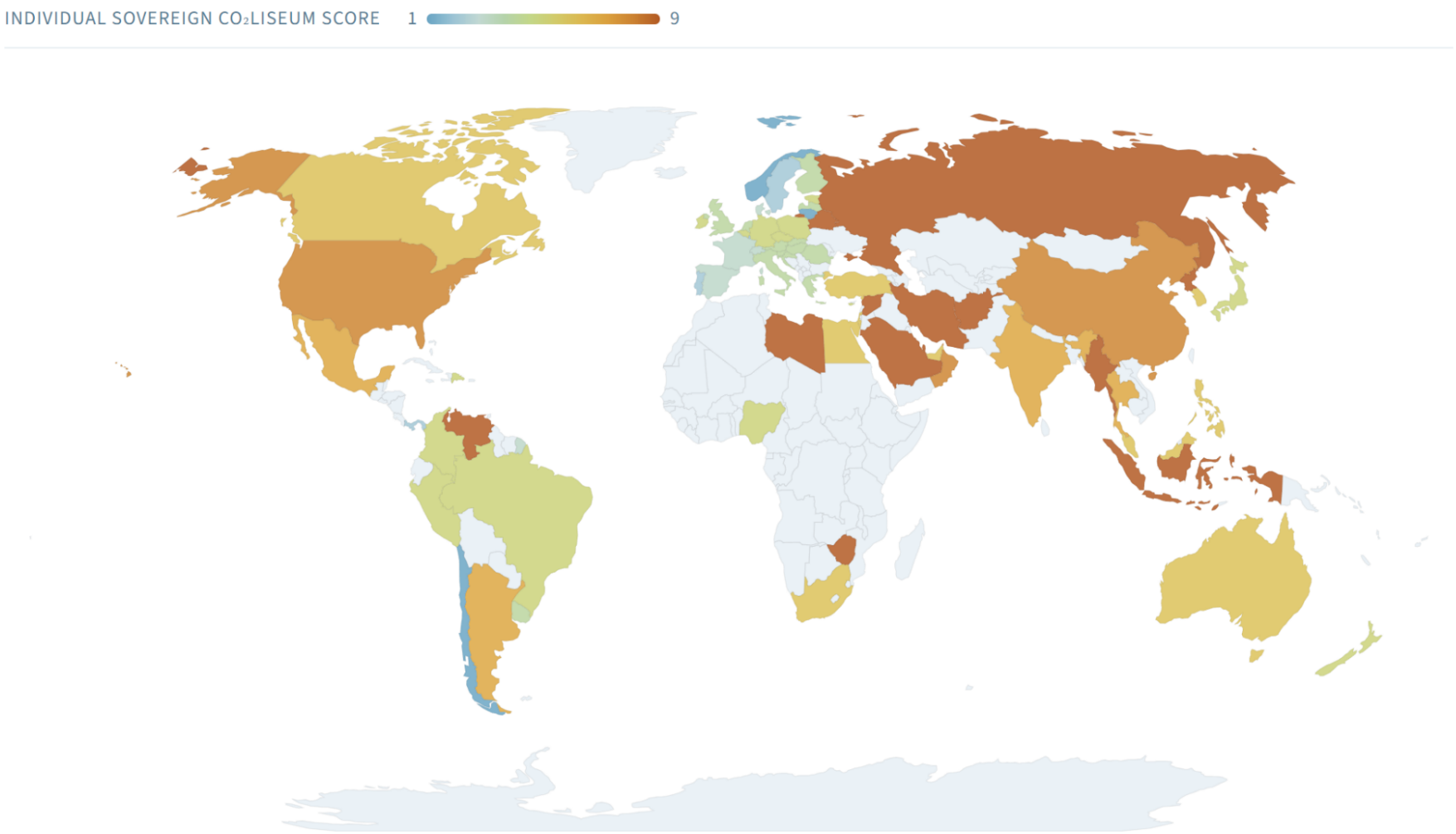
Country	Original (%)	Optimised (%)	Diff	Co_2liseum score
Saudi Arabia	**6.2**	**0.0**	**-6.2**	**9**
Indonesia	**4.4**	**0.0**	**-4.4**	**9**
China	**3.3**	**3.3**	**0.0**	**8**
Bahrain	**3.1**	**3.1**	**0.0**	**8**
Oman	**2.7**	**1.4**	**-1.3**	**8**
Argentina	**3.2**	**3.2**	**0.0**	**7**
Mexico	**6.1**	**0.0**	**-6.1**	**7**
India	**0.7**	**0.7**	**0.0**	**7**
United Arab Emirates	**4.5**	**4.5**	**0.0**	**6**
Malaysia	**2.0**	**0.0**	**-2.0**	**6**
South Africa	**3.2**	**3.2**	**0.0**	**6**
Egypt	**2.7**	**2.7**	**0.0**	**6**
Philippines	**3.4**	**3.4**	**0.0**	**6**
Turkey	**4.6**	**4.6**	**0.0**	**6**
Colombia	**3.4**	**3.4**	**0.0**	**5**
Dominican Republic	**3.4**	**3.4**	**0.0**	**5**
Nigeria	**2.4**	**2.4**	**0.0**	**5**
Poland	**3.4**	**3.4**	**0.0**	**5**
Peru	**3.0**	**3.0**	**0.0**	**5**
Brazil	**3.8**	**3.8**	**0.0**	**5**
Côte d'Ivoire	*0.9*	*0.9*	*0.0*	*4*
El Salvador	*0.3*	*0.3*	*0.0*	*4*
Lebanon	*0.4*	*0.3*	*0.0*	*4*
Latvia	**0.2**	**0.2**	**0.0**	**4**
Ecuador	*1.6*	*1.6*	*0.0*	*4*
Kenya	*1.0*	*1.0*	*0.0*	*4*
Morocco	*0.6*	*0.6*	*0.0*	*4*
Trinidad and Tobago	*0.1*	*0.1*	*0.0*	*4*
Ghana	*0.8*	*0.8*	*0.0*	*4*
Zambia	*0.3*	*0.3*	*0.0*	*4*
Sri Lanka	*1.0*	*1.0*	*0.0*	*4*
Jamaica	*0.7*	*0.7*	*0.0*	*4*
Pakistan	*0.5*	*0.5*	*0.0*	*4*
Serbia	*0.5*	*0.5*	*0.0*	*4*
Costa Rica	*1.0*	*1.0*	*0.0*	*4*
Azerbaijan	*0.1*	*0.1*	*0.0*	*4*
Ukraine	*1.6*	*1.6*	*0.0*	*4*
Bulgaria	*0.2*	*0.2*	*0.0*	*4*
Romania	**3.2**	**10.0**	**6.7**	**4**
Angola	*1.2*	*1.2*	*0.0*	*4*
Suriname	*0.2*	*0.2*	*0.0*	*4*
Paraguay	*0.4*	*0.4*	*0.0*	*4*
Senegal	*0.3*	*0.3*	*0.0*	*4*
Bolivia (Plurinational State of)	*0.1*	*0.1*	*0.0*	*4*
Benin	*0.1*	*0.1*	*0.0*	*4*
Guatemala	*0.3*	*0.3*	*0.0*	*4*
Hungary	**3.1**	**8.6**	**5.5**	**4**
Kazakhstan	*1.1*	*1.1*	*0.0*	*4*
Uruguay	**2.0**	**2.0**	**0.0**	**4**
Jordan	*0.5*	*0.5*	*0.0*	*4*
Panama	**3.2**	**4.3**	**1.1**	**2**
Chile	**3.4**	**10.0**	**6.6**	**1**

Table 10. Optimised solution where turnover is 0.8. Countries in italic (ca 16% of weights) are not part of the Co₂liseum coverage or optimisation and receive a middle score of 4. Source: iShares, AFII.

Country	Original (%)	Optimised (%)	Diff	Co₂liseum score
Saudi Arabia	**6.2**	**0.0**	**-6.2**	**9**
Indonesia	**4.4**	**0.0**	**-4.4**	**9**
China	**3.3**	**2.1**	**-1.1**	**8**
Bahrain	**3.1**	**0.0**	**-3.1**	**8**
Oman	**2.7**	**0.0**	**-2.7**	**8**
Argentina	**3.2**	**2.9**	**-0.2**	**7**
Mexico	**6.1**	**0.0**	**-6.1**	**7**
India	**0.7**	**0.7**	**0.0**	**7**
United Arab Emirates	**4.5**	**0.0**	**-4.5**	**6**
South Africa	**3.2**	**0.0**	**-3.2**	**6**
Malaysia	**2.0**	**0.0**	**-2.0**	**6**
Egypt	**2.7**	**2.7**	**0.0**	**6**
Philippines	**3.4**	**0.0**	**-3.4**	**6**
Turkey	**4.6**	**4.6**	**0.0**	**6**
Dominican Republic	**3.4**	**3.4**	**0.0**	**5**
Poland	**3.4**	**3.4**	**0.0**	**5**
Nigeria	**2.4**	**5.5**	**3.1**	**5**
Colombia	**3.4**	**3.4**	**0.0**	**5**
Peru	**3.0**	**0.0**	**-3.0**	**5**
Brazil	**3.8**	**3.8**	**0.0**	**5**
Ecuador	*1.6*	*1.6*	*0.0*	*4*
Guatemala	*0.3*	*0.3*	*0.0*	*4*
Serbia	*0.5*	*0.5*	*0.0*	*4*
Azerbaijan	*0.1*	*0.1*	*0.0*	*4*
El Salvador	*0.3*	*0.3*	*0.0*	*4*
Sri Lanka	*1.0*	*1.0*	*0.0*	*4*
Uruguay	**2.0**	**1.9**	**-0.2**	**4**
Bolivia (Plurinational State of)	*0.1*	*0.1*	*0.0*	*4*
Hungary	**3.1**	**10.0**	**6.9**	**4**
Costa Rica	*1.0*	*1.0*	*0.0*	*4*
Ghana	*0.8*	*0.8*	*0.0*	*4*
Senegal	*0.3*	*0.3*	*0.0*	*4*
Pakistan	*0.5*	*0.5*	*0.0*	*4*
Morocco	*0.6*	*0.6*	*0.0*	*4*
Suriname	*0.2*	*0.2*	*0.0*	*4*
Côte d'Ivoire	*0.9*	*0.9*	*0.0*	*4*
Paraguay	*0.4*	*0.4*	*0.0*	*4*
Romania	**3.2**	**10.0**	**6.7**	**4**
Trinidad and Tobago	*0.1*	*0.1*	*0.0*	*4*
Bulgaria	*0.2*	*0.2*	*0.0*	*4*
Kazakhstan	*1.1*	*1.1*	*0.0*	*4*
Ukraine	*1.6*	*1.6*	*0.0*	*4*
Jordan	*0.5*	*0.5*	*0.0*	*4*
Jamaica	*0.7*	*0.7*	*0.0*	*4*
Angola	*1.2*	*1.2*	*0.0*	*4*
Lebanon	*0.4*	*0.3*	*0.0*	*4*
Benin	*0.1*	*0.1*	*0.0*	*4*
Latvia	**0.2**	**10.0**	**9.8**	**4**
Zambia	*0.3*	*0.3*	*0.0*	*4*
Kenya	*1.0*	*1.0*	*0.0*	*4*
Panama	**3.2**	**10.0**	**6.7**	**2**
Chile	**3.4**	**10.0**	**6.6**	**1**

Appendix II: Sovereign Co_2liseum transition analytics scores

Figure 6.Sovereign Co_2liseum scores in the Co_2liseum system. Source: AFII.



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