ECB 2023 climate review of corporate bond portfolios

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Since 2016, the European Central Bank (ECB) has owned corporate bonds as part of its asset purchase programmes, to support stability in the financial markets. The size of its portfolio compared to the size of the market has made its flows a significant driver of prices.

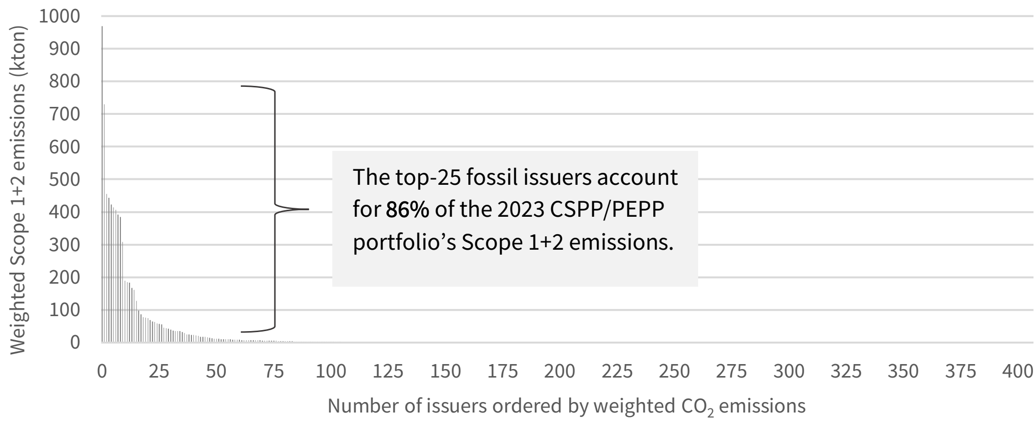
In 2021, the ECB reported on how it considers climate change in the management of its portfolios. In 2022 clarification was given over which climate metrics were used, and in early 2023 the ECB announced that an active reshuffling of the bond portfolio would be considered.[1]

In this note we analyse the changes in the ECB corporate bond portfolios within 2023, to understand if the tilt applied has been effective at improving its climate alignment. Where adjustments have been identified, we evaluate whether the ECB flow has affected the financial performance of carbon-intensive issuers.

Our analysis gives the following conclusions:

- **We see only small, compositional changes in climate impact of the ECB's portfolios in 2023.** The headline reduction in emissions intensity is just under 5%; however, adjusting for bond redemptions, the reduction is only 1.5%.
- **Our analysis suggests the ECB has not yet begun an active re-shuffling.** Given its commitment to aligning its portfolio, we expect to see this in 2024. **This could cause negative price pressure on high-emitting issuers that remain included in the portfolio.**
- **Where the ECB decided against participating in new issues this did not, in our analysis, lead to a material underperformance of the spreads of those companies.** This is not surprising, given the small size of the adjustments. The performance of high-emitting ECB-owned names was instead likely driven by fundamental factors.

Figure 1. Weighted contribution of Scope 1+2 emissions for issuers within the ECB portfolio. Source: Bloomberg, AFII.



[1] For our earlier work analysing these announcements please see "CSPP research", AFII.

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ECB corporate bond portfolio

To support the financial markets, firstly during the Global Financial Crisis and secondly during the Covid-19 pandemic, the ECB bought fixed income securities. These assets include corporate bonds, and due to the size of its purchases, the flows have had an impact on the pricing and liquidity of eligible securities.[2] The Corporate Sector Purchase Programme (CSPP) began in June 2016 and concluded outright purchases at the end of June 2022. Re-investments of maturing securities were fully invested between July 2022 and February 2023, and since July 2023 all reinvestments have ceased.[3]

The ECB's Pandemic Emergency Purchase Programme (PEPP) was initiated in March 2020 on the back of the Covid pandemic. In December 2021, the ECB announced that new purchases under this programme would discontinue from March 2022, but reinvestments would continue until at least the end of December 2024. On 14 Dec 2023 the ECB announced it intends to continue to reinvest, in full, the principal payments from maturing securities purchased under the PEPP during the first half of 2024. Over the second half of the year, it intends to reduce the PEPP portfolio by €7.5 billion per month on average. The Governing Council intends to discontinue reinvestments under the PEPP at the end of 2024.[4]

Incorporating climate risk

The ECB has been increasingly vocal in its view that fighting climate change is firmly within its mandate. In July 2021, the ECB released a statement on an action plan to stipulate that climate change considerations would feature in its monetary policy strategy, as well as a framework guiding the allocation of corporate bond purchases to incorporate climate change criteria.[5]

These criteria were further specified by the ECB in July 2022,[6] defined as a tilt towards better climate performers, "*measured with reference to lower greenhouse gas emissions, more ambitious carbon reduction targets, and better climate-related disclosure*".[7]

Subsequently, the ECB has provided a climate scoring methodology that it uses to measure the climate performance of the issuers to which it has begun skewing its portfolio. The three climate categories are: [8]

a) backward-looking climate metrics, in the form of (disclosed) past greenhouse gas (GHG) emissions and emission intensities (normalised by revenue).
b) forward-looking climate metrics, such as whether the issuer has credible and ambitious decarbonisation targets in place.

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[2] For the initial market reaction please see "ECB Corporate Sector Purchase Programme: The potential impact on European corporate bond market liquidity", ICMA, 21 Apr 2016. For an ex-post analysis of the impact on bond spreads please see "The CSPP impact on non-financial firms' cost of borrowing and debt choice", Kanda, Pinto & Silva, 18 Aug 2021.
[3] "Asset purchase programmes", ECB, accessed 21 Dec 2023.
[4] "Monetary policy decisions", ECB, 14 Dec 2023.
[5] "ECB presents action plan to include climate change considerations in its monetary policy strategy", ECB, 8 Jul 2021.
[6] For our analysis please see "Tilt and Run – ECB climate policy update", AFII, 7 May 2022.
[7] "ECB takes further steps to incorporate climate change into its monetary policy operations", ECB, 4 Jul 2022.
[8] "FAQ on incorporating climate change considerations into corporate bond purchases", ECB, 9 Aug 2023.

c) *the quality of climate disclosures, such as their completeness and verification by third parties.*

In January 2023, Isabel Schnabel highlighted that even though their current ambitions with regard to climate change were ambitious, they still fell short of the Paris objectives. As such, the ECB would consider actively reshuffling risk from carbon intensive issuers to better climate aligned ones, rather than only doing so when undertaking reinvestments from matured bonds.[9]

In this report we analyse changes to the ECB portfolios throughout 2023. We consider if the climate tilt has been effective at reducing the carbon footprint of its investments. Further, we evaluate the performance of these issuers relative to the overall index to analyse if their ECB flows may have impacted the spreads of affected issuers.

ECB portfolio changes in 2023

Before we analyse the climate and financial performance of the CSPP/PEPP portfolio, we must first understand the starting and ending portfolio. To that end, we will define three portfolios; 2022 is the portfolio at the end of that year, 2023 is the reported portfolio at the end of that year (our data is compiled up to and including 22 December 2023), and 2023* is a hypothetical portfolio that we estimate if the climate tilt had not occurred.

The ECB makes public the list of securities that are a) eligible for inclusion and b) included in its portfolio. This means we can be confident of the securities included in each of our portfolios. 157 bonds matured from the portfolio, 228 eligible bonds were issued in 2023, but only 127 of those were added.[10]

The ECB regularly publishes the total size of the portfolio, but does not reveal the exact notional of each security that it owns, and so we must make assumption on the weightings. In previous work, on a spot basis, assuming individual weights by considering the total outstanding notional of each owned asset, and assuming the ECB owns the same proportion of each security.[11] We have used this method to estimate weights for the 2022 portfolio, assuming the equal proportion of each security.

As reported by the ECB, it held €389.3bn under the CSPP/PEPP at the end of December 2022 and held €371.4bn in December 2023, i.e. a net decrease of €17.9bn through 2023.

To estimate the 2023 portfolio weights, we calculated the total amount of reinvestment, which is the total notional in our estimated 2022 portfolio that redeemed, subtracting the total portfolio change of €17.9bn.

Table 1. CSPP/PEPP portfolio details. Source: ECB, AFII.

Portfolio	Total Size (EURbn)	Number of Securities	Estimated weight (2022 securities)	Estimated weight (new securities)
2022	389.3	1890	30.30%	n/a
2023	371.4	1860	30.30%	17.0%
2023*	371.4	1961	30.30%	6.8%

[9] For analysis please see "ECB climate policy: Paradigm shift", AFII, 10 January 2023.
[10] Eligible securities are generally debt instruments issued by non-bank investment-grade corporations established in the Euro area. For more details please see "FAQ in purchases of corporate sector debt instruments under the Eurosystem's monetary policy purchase programmes", ECB, 9 Aug 2023.
[11] A broader discussion of this is included in our earlier work "Wind-down (of CSPP) is coming", AFII, 8 Jun 2022.

This difference was then allocated as an equal proportion of each new security. This has resulted in lower weights for the bonds entering the portfolio, and a lower weight for the hypothetical 2023* portfolio as more bonds enter (as this includes the bonds which were excluded due to the climate tilt). Table 1 shows a summary of the portfolio details, including the AFII estimated weights.

Importantly, we have seen no bonds exit the portfolio that were not called or matured.

While the ECB could have partially sold some securities from high emissions issuers, anecdotal information from market participants suggests the ECB is not selling bonds. **This suggests the ECB has not yet begun an active re-shuffling, and is still relying purely on reinvesting matured proceeds to adjust the climate impact of its portfolio.**

A hypothetical ECB divestment list

The ECB climate scoring methodology looks at both backward-looking climate metrics such as reported emissions and emissions intensities, as well as forward-looking decarbonisation targets. Whereas we have earlier focused on total estimated carbon emissions (including Scope 3), how different would a list look if applying the stated ECB targets. To evaluate this, we have selected direct emissions (Scope 1 +2) and direct emissions intensity (emissions over sales) to cover backward-looking metrics and MSCI Implied Temperature Rise (ITR) to reflect the forward-looking measure.

Table 2. CSPP/PEPP top climate laggards comparison. Source: AFII, Bloomberg.

Top laggards based on ECB criteria (spot & forward-looking)			Top laggards based on full carbon footprint		
Issuer	Ticker	Sector	Issuer	Ticker	Sector
Air Liquide SA	AIFP	Materials	Shell International Finance BV	RDSALN	Energy
Linde Inc/CT	LIN	Materials	TotalEnergies SE	TTEFP	Energy
Fortum Oyj	FUMVFH	Utilities	BP PLC	BPLN	Energy
Buzzi SpA	BZUIM	Materials	Glencore PLC	GLENLN	Materials
HeidelbergCement AG	HEIGR	Materials	Eni SpA	ENIIM	Energy
Anglo American PLC	AALLN	Materials	ArcelorMittal SA	MTNA	Materials
ArcelorMittal SA	MTNA	Materials	Repsol SA	REPSM	Energy
Solvay SA	SOLBBB	Materials	OMV AG	OMVAV	Energy
BASF SE	BASGR	Materials	Erdoel-Lagergesellschaft mbH	ERDLAG	Energy
Wienerberger AG	WIEAV	Materials	Enel SpA	ENELIM	Utilities
A2A SpA	AEMSPA	Utilities	Holcim AG	HOLNSW	Materials
LyondellBasell Indus	LYB	Materials	RWE AG	RWE	Utilities
Imerys SA	NK	Materials	E.ON SE	EOANGR	Utilities
Eesti Energia AS	ESTONE	Utilities	HeidelbergCement AG	HEIGR	Materials
Bayport Polymers LLC	BRLS	Materials	Fortum Oyj	FUMVFH	Utilities
easyJet PLC	EZJLN	Industrials	Engie SA	ENGIFP	Utilities
Snam SpA	SRGIM	Utilities	Engie SA	ENGALL	Utilities
Electricity Supply B	ESBIRE	Utilities	LyondellBasell Industries NV	LYB	Materials
OMV AG	OMVAV	Energy	CRH PLC	CRHID	Materials
EnBW Energie Baden-W	ENBW	Utilities	Linde Inc/CT	LIN	Materials

Table 5 compares the results of the two approaches. On the RHS are the highest absolute emitters, compared with the LHS showing a ranking blending direct emissions, emissions intensity and ITR. Note, the results are substantially different.

For example, only one energy company (OMV AG) is in the top laggard list when using our estimation of the ECB's approach, and several of the largest Oil & Gas producers, such as Shell, Total, and BP, are not considered laggards when using this approach. Glencore, the highest absolute emitter in the Materials sector, is also missing from the blended approach. In combination these issuers have absolute emissions of over 1GT, and so any climate ranking which did not include such issuers may not be effective.

The ECB's approach does refer to emissions intensity and reported emissions (generally only Scope 1 &2). Given the diversity of results, it would be useful for the ECB to clarify its position.

ECB 2023 climate performance

We now try to analyse how the portfolio has changed its climate metrics within 2023.

Table 3 gives selected datasets for the CSPP/PEPP portfolio, average-weighted by sector, to give an overview of the universe. This shows that Materials is the worst performing sector based on the three suggested metrics.

Table 3. CSPP/PEPP sector climate rankings. Source: AFII, Bloomberg.

Sector	Emissions intensity (ton/EURmn sales)	Scope 1+2 emissions (kton)	MSCI Implied Temperature Rise
Financials	8.3	50	1.6
Technology	8.6	220	1.5
Communications	29.9	865	1.5
Real Estate	59.0	166	2.2
Health Care	25.8	707	1.7
Industrials	104.2	1,403	2.4
Consumer Staples	50.5	1,466	1.9
Consumer Disc	31.3	1,299	2.8
Energy	153.2	14,936	2.7
Utilities	483.5	6,359	2.9
Materials	653.9	14,510	2.9

In Table 4 the climate metrics are calculated at a portfolio level, to show the differences between the three portfolios.[12] There has been a slight shift towards a better climate performance for the true portfolio during the year in terms of the metrics presented, but it is however not substantial. The ITR has reduced by only 0.01°C and emissions intensity reduced just under 5%.

Table 4. CSPP/PEPP portfolio-weighted climate metrics. Source: AFII, Bloomberg.

Portfolio	Emissions intensity (ton/EURmn sales	Emissions (kton)	MSCI Implied Temperature Rise
2022	203.21	7857.3	2.08
2023 change	-10.08	-127.0	-0.01
2023* change	-7.07	-107.3	0.01

When comparing 2023* to 2023, i.e. estimating the impact of the tilt, we see only a 1.5% reduction.

The CSPP/PEPP overall portfolio composition shows slight climate improvements both on forward-looking as well as backward-looking metrics, but the changes are relatively small. Should the ECB follow through on its climate objectives, more material improvement can only be achieved with a more active portfolio management style, including active selling from its portfolio. Anecdotal evidence, as well as the lack of any ISINs dropping out of the lists, suggests that this is not happening as of yet.

[12] There is no standard way of calculating a portfolio level ITR. We present the average figures, using portfolio weights, which is a simplified estimation.

Individual name changes

To be able to draw more precise conclusions, we have analysed the top 20 issuers in terms of their combined emissions intensities, Scope 1+2 emissions and the ITR.[13]

Table 5. Hypothetical 20 climate laggards issuers in the ECB portfolio and CSPP/PEPP notionals. Source: Bloomberg, AFII.

Issuer	Ticker	Sector	# of bonds end of 2022	# of bonds fallen out in 2023	# of bonds added in 2023	Emissions intensity (kton/EURmn sales	Scope 1+2 emissions (kton)	MSCI ITR	2022 portfolio size (EURbn)	2023 portfolio size (EURbn)	2023* portfolio size (EURbn)
Air Liquide SA	AIFP	Materials	12	1	0	1,313	38,330	4.6	1.9	1.8	1.8
Linde Inc/CT	LIN	Materials	11	1	0	1,888	24,056	4.7	2.2	2.0	2.1
Fortum Oyj	FUMVFH	Utilities	3	1	0	2,187	17,040	4.2	0.7	0.4	0.5
Buzzi SpA	BZUIM	Materials	1	1	0	5,060	20,227	3.6	0.2	0.0	0.0
HeidelbergCement AG	HEIGR	Materials	7	0	0	3,357	69,923	2.8	1.6	1.6	1.7
Anglo American PLC	AALLN	Materials	0	0	0	398	13,300	5.7	0.0	0.0	0.1
ArcelorMittal SA	MTNA	Materials	5	2	0	1,573	119,592	2.7	0.9	0.6	0.6
Solvay SA	SOLBBB	Materials	1	1	0	643	10,794	3.4	0.2	0.0	0.0
BASF SE	BASGR	Materials	13	1	3	220	20,113	4.4	3.0	3.0	2.8
Wienerberger AG	WIEAV	Materials	0	0	0	587	3,385	3.6	0.0	0.0	0.0
A2A SpA	AEMSPA	Utilities	10	0	1	387	9,066	3.5	1.4	1.4	1.4
LyondellBasell Indus	LYB	Materials	2	0	0	460	21,700	2.8	0.3	0.3	0.3
Imerys SA	NK	Materials	0	0	0	509	2,169	4	0.0	0.0	0.0
Eesti Energia AS	ESTONE	Utilities	1	1	0	3,209	7,119	2.6	0.2	0.0	0.0
Bayport Polymers LLC	BRLS	Materials	1	0	0	423	1,720	5	0.1	0.1	0.1
easyJet PLC	EZJLN	Industrials	1	0	0	803	2,116	3.5	0.4	0.4	0.4
Snam SpA	SRGIM	Utilities	16	2	0	434	1,524	5.8	3.0	2.5	2.6
Electricity Supply B	ESBIRE	Utilities	7	0	0	1,059	8,042	2.6	1.2	1.2	1.3
OMV AG	OMVAV	Energy	10	1	0	203	12,604	3.6	2.0	1.7	1.8
EnBW Energie Baden	ENBW	Utilities	8	0	3	321	18,395	2.6	1.2	1.5	1.5

The issuers were selected by combining their individual rankings within the CSPP portfolio for each of the three mentioned datasets, to create an overall issuer laggard list. Hence, they all have relatively high emissions intensities, absolute emissions as well as ITR numbers compared with the rest of the issuers within the portfolio. As previously highlighted, this list does not include many energy companies, due to the scores being focused on direct emissions only. Table 5 above highlights these 20 issuers, and the bonds that have matured from the portfolio, as well as where bonds of these issuers were added in 2023.

We also show the portfolio weights in the three portfolio scenarios described earlier in the weighting section – essentially showing the estimated total invested notional in each issuer. The 2023* portfolio size represents the hypothetical weighting, had the ECB bought each eligible bond issued in 2023.

From the above tables we can now analyse individual cases in more detail.

[13] Where the issuers in the portfolio do not have emissions intensity (97% coverage), Scope 1+2 emissions (71% coverage) or ITR (49% coverage) data available, we have used our extrapolated methods that include a penalty. For more information see "Decarbonising iShares' LQD ETF", AFII, 15 Dec 2022.

In the chemical sector there is an example where the ECB has reduced exposure to poor climate issuers. **Linde Inc** (ticker LIN), a multinational chemical producer, is one example where despite one bond maturing, there was a new eligible three-tranche issuance that the ECB did not participate in. However, there are other examples in the same sector, such as **BASF** (ticker BASGR) where eligible new issues were added, so the allocation behaviour does not seem to be consistent. **Air Liquide** (ticker AIFP), a French chemical manufacturer, had one bond maturity and no new issuance, which naturally reduced the exposure. However, given that the overall portfolio reduced in size, its weighting reduced only slightly from 0.50% to 0.49%. **LyondellBasell** (ticker LYB), a Dutch chemical company, had no bond maturities or issuance so keeps an identical weight, but increases its weighting from 0.078% to 0.082%.

In other materials sectors there were new eligible bonds that the ECB did not buy. One example is **Heidelberg Cement** (ticker HEIGR) where two bonds were issued but not purchased. Another is **Anglo American** (ticker AALLN) where no bonds have been bought, including one new issuance in 2023. The notional of **ArcelorMittal** (ticker MTNA) also reduced due to two bonds maturing and no new issuance.

In the energy sector, the ECB's investment strategy also seems inconsistent. In the case of **ENBW** (ticker ENBW), a German energy company, the ECB did not add all the new issues from 2023, but it did overall add exposure to the name, despite its climate metrics. **A2A** (ticker AEMSPA), an Italian utility, saw a new issue being added.

Four issuers on this top-20 list had bonds maturing with no new eligible issuance. Overall, the weighting of the top 20 poor climate performers did decrease, largely in line with the reduction in the overall portfolio. The relative weight in this group only reduced by 0.28% (from 5.28% to 4.99%), driven by bonds in the group maturing.

When looking at the difference between 2023 and 2023* (i.e. the hypothetical impact of the climate tilt), we see an even lower reduction of only 0.14% (from 5.13% to 4.99%).

In summary, the change in climate impact from the ECB's tilt is minimal. To accelerate the adjustment a more active policy may be required, which could involve selling the bonds of the most emissions-intensive issuers, or selling those with the biggest absolute emissions.

2023 spread performance

Now we will analyse the financial performance of the portfolio, to understand if the ECB flow may have been a factor in the relative performance of these issuers. Additionally, we explain what additional factors, if not ECB flows, were the driving factors for the spread moves in 2023.

Generic spread moves across credit in 2023

The weighted average by issuer Spread to Benchmark Performance for the CSPP/PEPP portfolio from the end of December 2022 to 22 December 2023 stood at -44.5 bps, and the z-Spread Performance stands at -13.2 bps (using the weightings calculated for 2023). Using the weightings calculated for 2022 result in very similar numbers, namely -44.9 bps for Spread to Benchmark and -13.5 bps.[14]

[14] Bonds maturing in 2023 and hence have no current price, and bonds that were not issued before the end of 2022 were removed from the analysis for ease of calculation.

To understand the broader market move, we consider two indices. Firstly to understand bond spread moves we look at the LECPOAS Bloomberg EuroAgg Corporate OAS, an index giving the option-adjusted-spread for a benchmark comprising investment grade euro-denominated fixed-rate securities. This rallied from 168 bps at the end of Dec 2022 to 138 bps on 22 Dec 2023, a performance of -30 bps.[15] Secondly, we consider a Credit Default Swap index, iTraxx Main 5yr Generic, which captures the on-the-run index maintaining a 5y maturity. This rallied from 90 bps at the end of Dec 2022 to 60 bps on 22 Dec 2023.[16]

Table 6. 2023 performance of CSPP/PEPP and comparable indices. Source: Bloomberg.

Portfolio/Index	Performance
CSPP/PEPP portfolio	-13.2 bps
LECPOAS	-30 bps
iTraxx Main	-30 bps

The z-spread move of the CSPP/PEPP is best to compare with other financial performance as it does not depend on the benchmark choice and move, and the 2023 weightings include the new bonds so this is also the most comparable with other indices. A summary is shown in Table 6.

In aggregate, CSPP/PEPP would seem to have underperformed the broader market, as both indices rallied more in absolute terms when compared to the Z-Spread performance of the CSPP/PEPP. There are however differences between the portfolios. LECPOAS has a larger bandwidth of holdings across the entire European investment-grade spectrum[17] compared with the CSPP/PEPP portfolio which focuses just on non-financial securities, and financials had a very strong year in 2023 (our data is compiled up to and including 22 December 2023).[18]Additionally, CDS outperformed Corporate Cash Indices in through 2023, which may explain the strength of the iTraxx Main, which also included financials.[19]

In summary, all the results emphasise it was a positive year for the credit markets with spreads rallying across the board. CSPP/PEPP may potentially have underperformed in aggregate, but now we will analyse the individual performance, to see if ECB flows may have driven relative moves.

When analysing individual bond performance, we look at the change in spread-to-benchmark rather than the Z-Spread (and compare this to the change vs benchmark of the overall CSPP/PEPP portfolio). This is because while Z-Spread is a very useful comparison analysis tool across the different segments of the credit universe, the bonds actually trade day-to-day versus their spread-to-benchmark. This gives the most accurate reflection of how the bonds traded and the moves that have taken place.[20]

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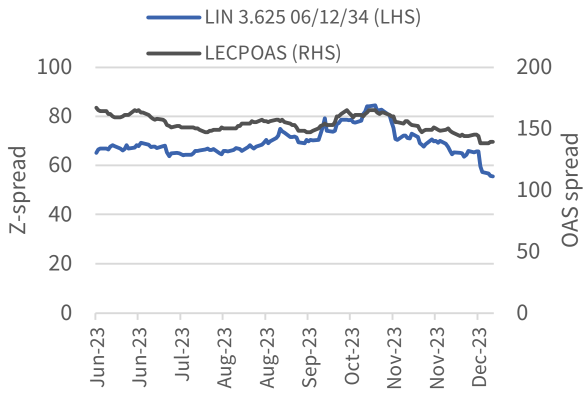
[15] Bloomberg EuroAgg Corporate Average OAS, LECPOAS. Source: Bloomberg, 22 Dec 2023.
[16] ITRX EUR CDSI GEN 5YR. Source: Bloomberg, 22 Dec 2023.
[17] The Bloomberg Euro-Aggregate: Corporates Index is a benchmark that measures the corporate component of the Euro Aggregate Index. It includes investment grade, euro-denominated, fixed-rate securities. Source: Bloomberg.
[18] "Investors are going loco for CoCos ", The Economist, accessed 12 January 2024
[19] LECPOAS rallied 17.8% (168bp to 138bp) while iTraxx Main rallied 33.3% (90bp to 60bp) in 2023.
[20] We still use LECPOAS as the comparison tool, even though it is an Option-Adjusted-Spread, which is z-spread adjusted for any embedded optionality, rather than spread-to-benchmark, as we are measuring relative spread moves through 2023.

Chemicals – LIN, AIFP, BASGR

The spreads of chemicals companies LIN, AIFP and BASGR detached from generic credit market moves as evidenced by comparison with LECPOAS in the charts below.

Figure 2. LIN bond spreads vs LECPOAS. Source: Bloomberg.



Through the course of the year the chemicals names were under pressure due to fundamental factors – namely volume declines, cost inflation and high inventory levels.[21] For **LIN**, where the ECB did not participate in its new three tranche deal, one could argue that a lack of ECB participation might have been a plausible reason for an under performance versus LECPOAS from June to August 2023. However, after that it tracked LECPOAS wider and then from the end of October 2023 its new bonds had a strong rally in line with LECPOAS into end of year (our data is compiled up to and including 22 December 2023), but conversely this took place without ECB participation. In Figure 2 we see the performance of the new LIN 2034 in Z-spread versus LECPOAS, highlighting the move versus the Index from issuance.

Of the chemical names, **BASGR** faced the biggest headwinds due to weaker demand and energy cost pressures[22] and its leverage metrics deteriorated through 2023.[23]

For BASGR, the ECB did add the new bonds, and the 2029 issue is highlighted in Figure 3. Again, it may be argued that ECB participation was a factor in the bonds initially rallying on launch. After, they had phases of underperformance versus LECPOAS from early summer till November where the new bonds rallied in line with the strong end-of-year rally. Interestingly, as shown in Figure 3, while the new 2029 issue rallied into year-end (our data is compiled up to and including 22 December 2023) the BASGR 27 continued to weaken. Without any evidence to specifically support why this may have happened we must simply attribute it to market flow effects.

Figure 3. BASGR bond spreads vs LECPOAS. Source: Bloomberg.

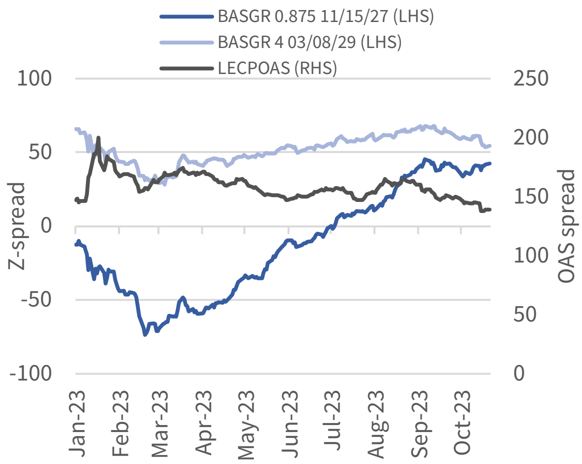
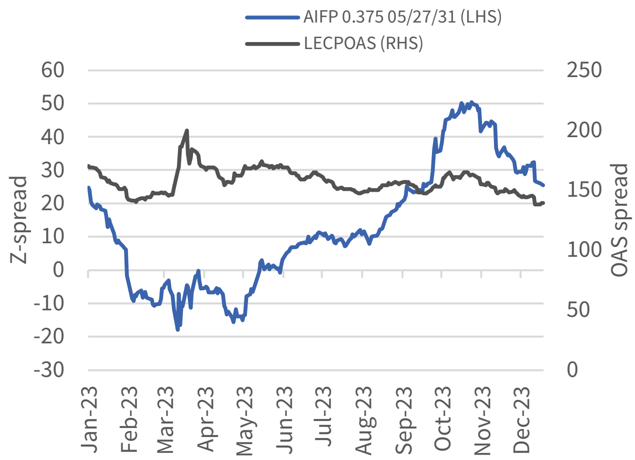


Figure 4. AIFP bond spreads vs LECPOAS. Source: Bloomberg.



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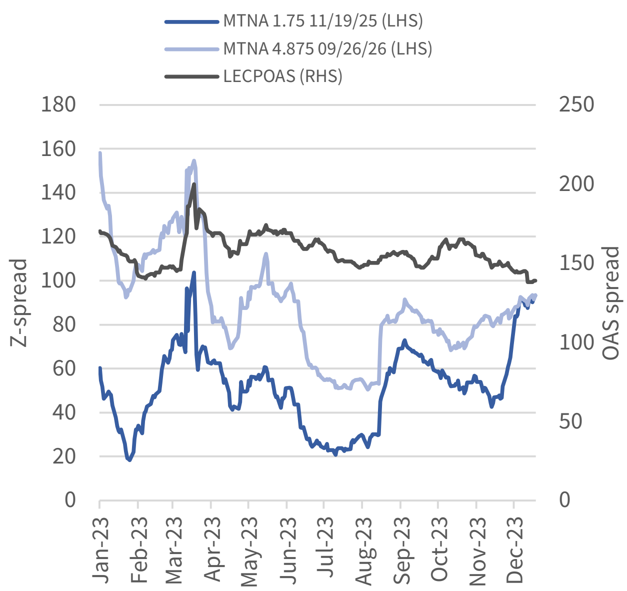
[21] "[2024 chemical industry outlook]()", Deloitte, accessed 9 Jan 2023.
[22] "[BASF's earnings in tough market environment significantly below strong prior-year quarter]()", BASF, 28 July 2023.
[23] "[Fitch Affirms BASF SE at 'A'; Outlook Stable]()", Fitch, 8 Nov 2023.

Finally, Figure 4 highlights **AIFP** 31's z-Spread performance versus LECPOAS through 2023. AIFP performed well at the start of 2023 but then underperformed the index (as evidenced by the issues affecting the Chemicals sector highlighted earlier) before the year-end rally.

MTNA

For much of the year the **MTNA** bonds, as seen in Figure 5, tracked LECPOAS and rallied accordingly. In November MSCI tagged them with an ESG 'Red' Flag[24] but this caused only the 2025 bonds to widen by 40 bps while the 2026 bonds remained unchanged on a spread to benchmark basis. Again, without supporting evidence we cannot be sure what caused this, but we might argue that MTNA was already a name with poor climate metrics (as seen in Table 4) and perhaps the 2026 bonds had lower ESG dedicated fund participation than the 2025 bonds. Overall, the average across the three MTNA bonds remaining in the CSPP/PEPP portfolio still showed a 62.8 bp rally over the year (our data is compiled up to and including 22 December 2023), but ESG activities began to have some impact on this issuer's spread moves in 2023.

Figure 5. MTNA bond spreads vs LECPOAS. Source: Bloomberg.



Other issuers in the lowest 20 climate performers

Other issuers such as **HEIGR, LYB, EZJLN, ESBIRE, FUMVFH** and several others in the top 20 list tended to rally (beta-adjusted) in line with LECPOAS and iTraxx through 2023, highlighting a limited impact of their actual climate scoring on their performance. There was a lack of spread impact even where the ECB chose not to buy the new issues in some cases such as with HEIGR or FUMVFH, and generic sentiment continued to have a much more pronounced impact on their spread performance.

Summary on spread behaviour

As we have already shown, portfolio weight changes in the CSPP/PEPP portfolio were limited, so it is unsurprising that we struggle to find comprehensive evidence of these flows driving performance.

There are some interesting individual stories, for example in chemicals and with ArcelorMittal, where the ECB's activity can be considered alongside other fundamental and technical inputs in the recent performance.

What next for the CSPP/PEPP portfolio?

From our analysis we can see that while there have been improvements from a climate metrics perspective on the CSPP/PEPP portfolio, these appear to have been small to date. All the bonds that were in the portfolio at the end of December 2022 were in the portfolio as at December 2023

[24] "ESG Ratings & Climate Search Tool - MSCI", MSCI, accessed 12 Jan 2024.

except for called, matured and fungible bonds, highlighting that no active selling took place. As we have highlighted earlier, the ECB plans to actively reshuffle risk from carbon-intensive issuers to better climate aligned ones, rather than only doing so when undertaking reinvestments from matured bonds.[25] Isabel Schnabel, a member of the Executive Board of the ECB, gave a speech in which she highlighted:

"A flow-based tilting approach is thus insufficient to achieve our goal. The Paris Agreement requires a stable decarbonisation trajectory in our portfolio irrespective of our monetary policy stance or companies' individual actions.

We therefore need to move from a flow-based to a stock-based tilting approach for our corporate bond portfolio. This means that, absent any reinvestments, actively reshuffling the portfolio towards greener issuers would need to be considered."[26]

In the summer of 2023, Christine Lagarde (President of the ECB) further supported the comments made by Schnabel, that once the reinvestments phase was over the ECB needed to consider how to continue the way they can further implement the climate change strategy that was adopted to be Paris-agreement compliant in the situation of run-off. She further went on to say that this was still under review and decisions had still not been made.[27]

There are others on the governing council who argue that outright sales of bonds are needed to tighten monetary policy and get inflation under control, away from the climate impact.[28]

Aside from our analysis, there are other observations that the ECB has not achieved its climate objectives, and this adds further pressure for it to increase its focus.[29]

The ECB has been clear that it will consider re-shuffling of its portfolio to achieve its climate objectives. Given that so far the impact of portfolio tilting has been small, it is reasonable to assume that a more active strategy may soon be implemented.

Conclusion

The ECB provided a detailed climate scoring methodology in July 2022 on how it planned to adjust the composition of its CSPP/PEPP portfolio going forward.

In this report we analysed the composition of the CSPP/PEPP portfolio at the end of 2022 versus the end of 2023, as well as compared to a hypothetical portfolio if the climate tilt had not been applied. In the period, the overall portfolio shrunk, and this also impacted the financial performance. **We conclude that the change in climate impact of the CSPP/PEPP portfolio due to the ECB's climate tilt is likely to have been very small.**

Further, we analysed the spread performance of the portfolio and evaluated if ECB flows had caused a meaningful underperformance of worst climate scoring issuers in their portfolio. **We did**

[25] As discussed in our earlier report "ECB climate policy: Paradigm shift", AFII, 10 Jan 2023.
[26] "Monetary policy tightening and the green transition", ECB, 10 Jan 2023.
[27] "The ECB needs a new approach to green its corporate portfolio", Positive Money Europe, 18 Jul 2023.
[28] "Some ECB Officials Weigh Faster Reduction of Bond Portfolio ", Bloomberg, 28 Jun 2023.
[29] "Broken Promises: The ECB's Widening Paris Gap", 26 Jul 2023.

not find evidence of differentiated performance and concluded that spread moves were much more linked to macro or traditional fundamental factors.

Finally, we reviewed the ECB's announcements on the topic, which commit to using the corporate bond portfolios as a tool to support the climate transition. Our analysis suggests that active re-shuffling has not yet been used, and so **we conclude that stronger action is likely. This could mean the ECB will begin actively to sell the issuers with the worst climate scores in their portfolio, where the emissions of the portfolio are most concentrated. The size of this flow suggests it could drive a price reaction.**

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