Fixed income opportunities in the Anthropocene

Presentation to the NZAOA 2022

Anthropocene Fixed Income Institute

Where can you find AFII?

- Our website contains all published pieces, www.anthropocenefii.org, [summary overview document]().
- Subscribe at the web-page (www.anthropocenefii.org) or through emailing info@anthropocenefii.org
- Research now available on Bloomberg, BRC <GO>, provider code ANF.
- Social media: LinkedIn and Twitter @FixedInstitute
- Office locations: Stockholm, London

Environmental Finance
Bond Awards 2022
Winner
Personality of the year

Market insights:
ESG indices
low carbon credit performance
central bank policy

Regulatory ESG scrutiny unfolding

ACTIONS IN ESG SPACE ON BEHALF OF POLICYMAKERS S OVER PAST MONTHS

REUTERS

World Business Legal Markets Breakingviews Technology Investigations More

May 31, 2022
6:47 PM GMT+2
Last Updated 20 days ago

Business

German officials raid Deutsche Bank's DWS over 'greenwashing' claims

Reuters

3 minute read

INVESTMENT WEEK

SEC investigating Goldman Sachs AM over ESG claims

Regulator increasingly vigilant on topic

Texas comptroller puts 100 asset managers on notice over fossil fuel divestments

Texas law requires divestment from financial firms who boycott fossil fuels

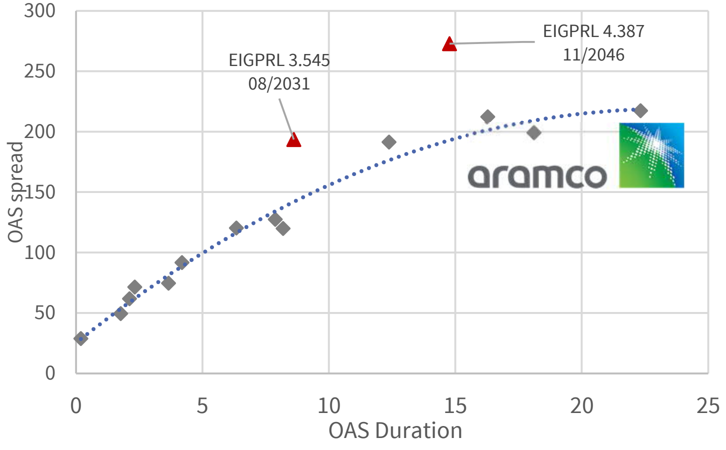
responsible investor

Market observation: ESG indices, some practical implications

INDEX CONSTRUCTION IS CRUCIAL TO PORTFOLIO ALLOCATIONS: INVESTIGATE THE NUTS AND BOLTS

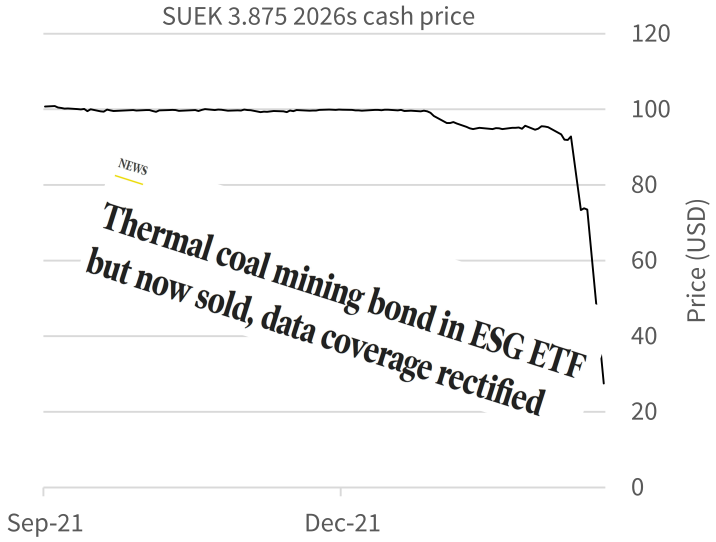
Keep track of financing flows in (index-eligible) private asset financing vehicles.

Figure 1. EIGPRL bonds vs the ARAMCO USD curve. Note that the x-axis is on OAS duration rather time to maturity, which better represents the amortizing structure in the EIGPRL bonds. Pricing as of 2 Feb 2022. Source: Bloomberg, AFII.



New EIG/Aramco bonds in ESG indices: EOM flow risks; Oil, gas and bond pipelines: the case of Aramco/EIG/BLK; Operation Private Markets: A Bridge CO2 Far.

Keep track of chains of data: ESG rating, index provider, product provider.



ESG Bond ETFs: Passive aggressive investing?

Clarifications from ESMA of SFDR interpretations is clear on subsidiarity.

SFDR subsidiary ESG disclosures: ESMA clarifications

Ulf Erlandsson(*); Stéphanie Mielnik, CFA

The European Securities and Markets Authority (ESMA) came out with clarifications around draft RTS under SFDR on 2 June ("Clarifications on the ESAs' draft RTS under SFDR", JC 2022-21, 2 June 2022). For the purpose of some earlier AFII work where we have found financing vehicles/subsidiaries of excluded companies to be included in ESG indices, we would particularly like to draw attention to bullet 14 of the ESMA text:

" *14. Where the investee company is a holding company, collective investment undertaking or special purpose vehicle, information about the adverse impacts of the investment decisions of those companies could look through to the individual underlying investments of those companies and consider the total adverse impacts arising from them.* "

Our interpretation is that, as is quite common in fixed income markets, the issuing entity of a bond should be connected with the core activities of the underlying/parent company. For example, the Luxembourgian SPV EIG Pearl[1] which arguably holds a subsidiary relationship to Saudi Aramco (ARAMCO), should in our view be considered as ARAMCO in terms of looking at adverse impacts for purposes of SFDR alignment.

[continued] *"Where such information is not available, in order to be able to fulfil the disclosure requirement for those investments, the RTS provided that the section should also contain details of the best efforts used to obtain the information either directly from investee companies, or by carrying out additional research, cooperating with third party data providers or external experts or making reasonable assumptions"*.

Our understanding of this text is that an investor/investment manager is required ("best efforts") to investigate the actual relationships if data is missing. For example, our interpretation of this is that is there is no ESG rating on the issuer SUEK Securities DAC[2], the investor should make a best effort to understand if the issuer is related to Russia's biggest thermal coal miner JSC SUEK.

We believe these clarifications are useful to avoid circumvention, through use of complex financing structures, of certain end investors' sustainability criteria.

[1] EIG Pearl is a 49% owner of Arabian Oil Pipeline Company, which in turn is 51% owned by Saudi Aramco. The company is a lease-lease-back vehicle for ARAMCO's oil pipeline network. EIG Pearl issued inaugural bonds in January 2022, and those bonds are constituents of some ESG indices that at the same time are excluding ARAMCO. Refer to: "Oil, gas and bond pipelines: the case of Aramco/EIG/BLK", AFII, 5 Feb 2022. "New EIG/Aramco bonds in ESG indices: EOM flow risks", AFII, 15 Feb 2022. We selected the Aramco transaction as #4 in "Notable fixed income fossil funding deals 2021", AFII, 21 Dec 2021.

[2] We commented on this situation in "ESG Bond ETFs: Passive aggressive investing", AFII, 17 May 2022.

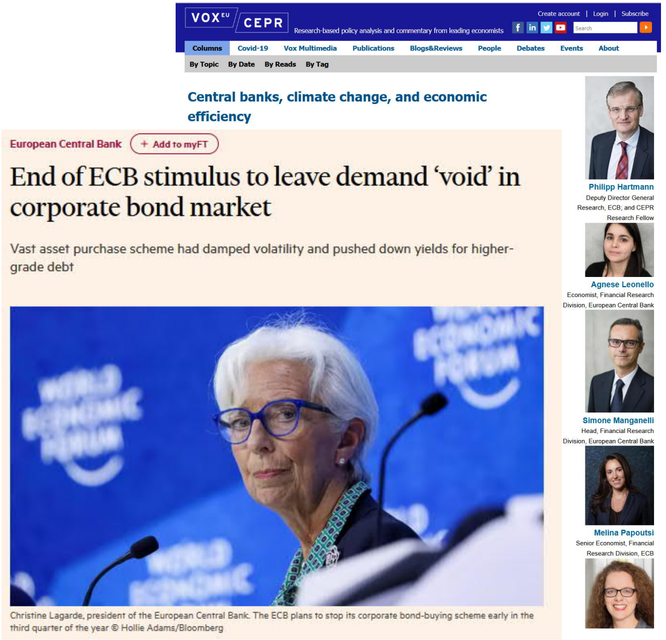
Not investment advice. This version 3 June 2022. Important disclaimers at the end of the document.
(*) Anthropocene Fixed Income Institute (www.anthropocenefii.org), uge@anthropocenefii.org

SFDR subsidiary ESG disclosures: ESMA clarifications

Market observation 2: Wind down (of CSPP) is coming

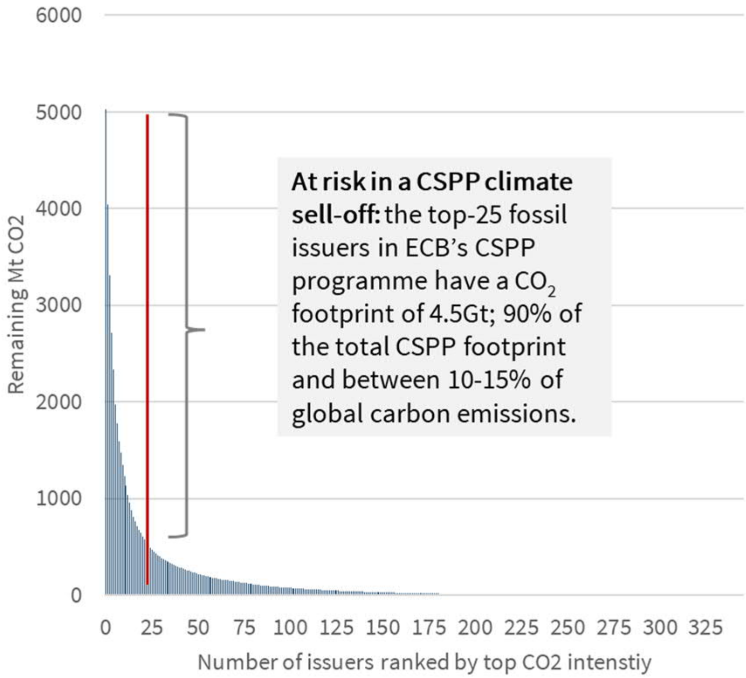
POSITIONING FOR EXPECTED CENTRAL BANK POLICY CHANGES

ECB is telling markets they will sell bonds, and that they are starting to adjust policy to climate impact/risk.



[Central banks, climate change and economic efficiency]

The ECB's corporate bond portfolio has a very significant carbon footprint, and the ECB is _the_ investor in EUR credit.



[Wind down (of CSPP) is Coming.]

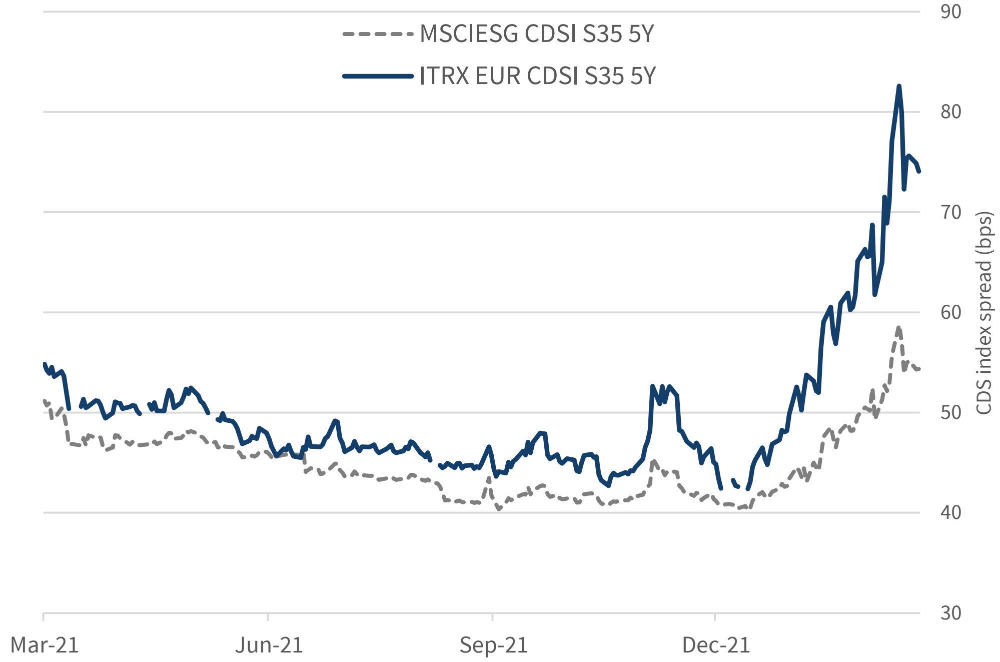
The effect on carbon intensive issuers in the ECB portfolio could be very material, if ECB commences a weighted sell-off.

Ticker	Issuer name	No. of bonds in CSPP	Total nominal (EURmn)	Sample bond	Scope 1+2 (+3)CO2e Mtpa	CO2/ Nominal	Scope 1
RDSALN	Shell International Finance BV	15	15,250	XS1048529041	986	64.6	60.0
TTEFP	Total Capital International S.A.	18	16,300	XS0830194501	730	44.8	34.0
BPLN	BP Capital Markets BV	2	1,500	XS2270147924	598	398.6	33.2
GLENLN	Glencore Capital Finance DAC	3	2,050	XS2228892860	383	187.0	33.7
ENIIM	ENI Finance International S.A.	17	14,600	BE6321718346	365	25.0	64.3
MTNA	ArcelorMittal S.A	4	2,396	XS1730873731	195	81.3	162.8
REPSM	Repsol Europe Finance	8	5,350	XS2361358299	179	33.4	19.4
OMVAV	OMV AG	12	7,750	XS0834367863	123	15.9	14.5
ERDLAG	Erdöl-Lagergesellschaft m.b.H.	1	456	XS0905658349	123	269.7	14.5
ENELIM	ENEL Finance Intl N.V.	22	21,801	XS0177089298	117	5.4	111.0
HOLNSW	Holcim Finance (Luxembg) S.A.	11	7,588	XS1019821732	102	13.4	95.4
RWE	RWE AG	3	1,850	XS2351092478	91	49.0	88.0
EOANGR	E.ON Intl Finance B.V.	29	19,950	XS0162513211	85	4.3	78.9
HEIGR	HeidelbergCement AG	8	6,150	XS1425274484	76	12.3	68.4
FUMVFH	Fortum Oyj, Helsinki	3	2,500	XS1956027947	69	27.8	69.3
ENGIFP	Engie S.A.	25	17,603	FR0010952770	47	2.7	44.4
ENGALL	Engie Alliance GIE	1	1,000	FR0000475758	47	47.0	44.4
LYB	LYB International Finance II	2	1,000	XS2052310054	36	36.3	24.4
CRHID	CRH Finance DAC	4	2,600	XS1505896735	36	13.9	33.5
LIN	Linde Finance B.V.	11	7,150	DE000A1R07P5	34	4.7	16.1
SLB	Schlumberger Fin. France SAS	6	4,900	XS1898256257	34	6.8	1.1
EDF	Electricité de France (E.D.F.)	12	15,950	FR0010800540	28	1.7	27.5
CTEFRA	Coentreprise de Transport d'Electric	3	2,920	FR0013264405	28	9.4	27.5
NTGYSM	Naturgy Capital Markets S.A.	12	7,555	XS1590568132	26	3.5	24.8
BZUIM	Buzzi Unicem S.p.A., Casale Monferra	1	500	XS1401125346	21	42.7	19.7

Market observation 3: has green really done so poorly?

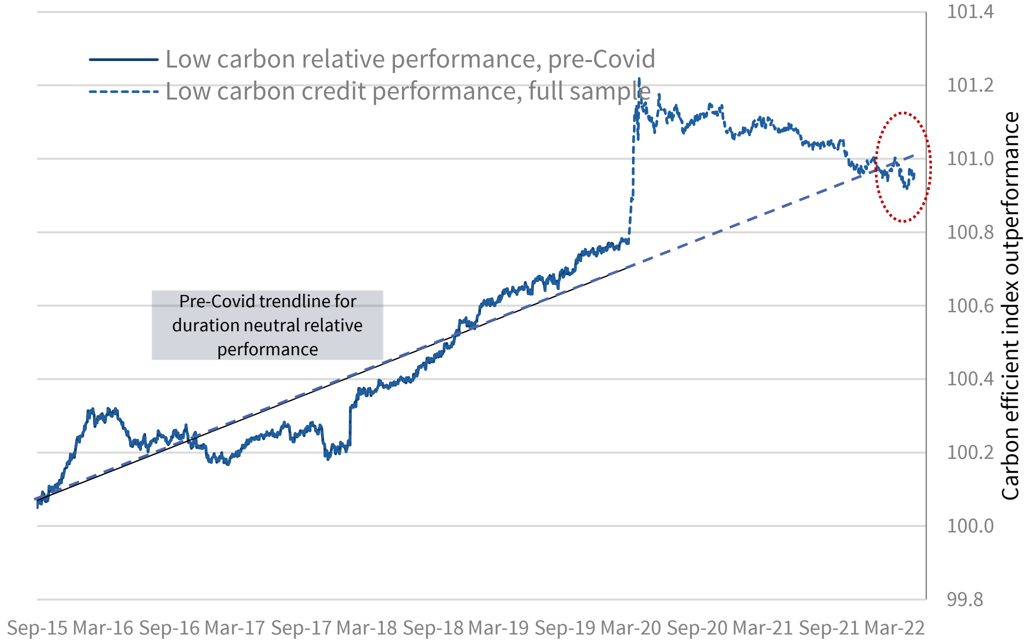
MIXED EVIDENCE FROM CREDIT MARKETS

Certain European indices with less fossil exposure (and quasi-Russia risk) have outperformed versus standard benchmarks.



[UnFortumate: iTraxx Main S35 vs ESG version]

Our ECOBAR low carbon credit index has underperformed the traditional one (both S&P500 USD IG bonds), reverting to trend.



[Low carbon credit performance: May-day or opportunity?]

Tools:
Active counterparty management ”The Box”
Sustainability-linked bonds – A new pricing model

Active counterparty management: The power of wallet

BANK OF NEW YORK MELLON/CARMICHAEL CASE ILLUSTRATES OPPORTUNITY FOR IMPACT

- In October, 2021, the climate financial "activist" network was informed that BNY Mellon looked set to give a very sizable loan to Adani Australia and the Carmichael mine.
- Collaborative engagement: AFII communicates directly to BNYM as well as through proxies that BNYM's custody business could be impacted negatively if the bank would be perceived as a thermal coal mine construction funder.
- 5 November, BNYM withdraws from Adani, even as security trustee.
- **Commercial relationships are becoming increasingly important as climate leverage channels.**

Climate Capital Bank of New York Mellon Corp + Add to myFT

BNY Mellon cuts ties with controversial Adani coal mine

Bank says business 'is not aligned with ESG principles'

Environmental activists in Brisbane protest against Adani's proposed Carmichael coal mine © AP

Financial Times, 5 Nov, 2021, link.

Active counterparty management: The Box

SYSTEMATIZING COUNTERPARTY MANAGEMENT IN FIXED INCOME PORTFOLIO MANAGEMENT

"The Box: algorithmic climate impact for fixed income markets"

1. Rank: Generate a league table of banks' green vs fossil activities, illustrated on the next page.
2. Engage: Communicate to the laggard bank(s) that they are 'at risk', either bilaterally or publicly. This will give a fair chance to more banks than the one(s) being de-selected to improve their business a priori.
3. Action: Execute and communicate a de-selection for the "worst" bank(s) in terms of business flows. For example:
   a. Asset owners/managers: De-list the institutions from the eligible counterparty list for new trades for a certain set of products such cash bonds, credit derivatives, IR swaps and futures, FX transactions. On primary market transactions, communicate such preferences to the syndicate .
   b. Bond issuers: De-list the institution from syndicating bond deals or executing other financing transactions over the boxed period.
4. Repeat: After a pre-set period, say 3-6 months, repeat the process starting at step 1.


EU bars 10 banks from recovery fund bond sale over past scandals

• Brussels' biggest borrowing spree • Sanction for market rigging • Proof of reform required

TOMMY STUBBINGTON — LONDON

JPMorgan, Citigroup, Bank of America, Barclays, Natixis, Nomura, NatWest, UniCredit, Deutsche Bank and Crédit Agricole were frozen out

EU freezes 10 banks out of bond sales over antitrust breaches

Updated league table June 2021-22

BONDS AND LOAN FEES

Net fees and rankings for 10 June 2021-2022, league-table (excluding private deals) eligible bond and loan deals.
Rankings based on net green vs fossil fee divided by total fee intake.

Rank	Chg vs 2021		Chg vs 2020		Bank	Net green/fossil fees pct	Total fees USDmn	Net green/fossil revenue USDmn	Chg in fossil fees vs -19/20	SLB fees of total	Net fees (green+ SLB) /fossil
1	0	~	0	~	Credit Agricole	-7.6%	1068.1	81.6	-48%	2.44%	-10.1%
2	3	↑	0	~	UBS	-6.3%	700.0	44.1	-95%	1.05%	-7.4%
3	4	↑	3	↑	SMBC	-5.8%	891.5	51.7	-48%	1.27%	-7.1%
4	-2	↓	7	↑	BNP Paribas	-5.6%	1905.6	107.2	-64%	2.36%	-8.0%
5	1	↑	2	↑	HSBC	-3.7%	1613.0	60.0	-37%	2.47%	-6.2%
6	3	↑	-2	↓	Credit Suisse	-2.9%	1214.2	35.3	-60%	2.02%	-4.9%
7	-3	↓	1	↑	Deutsche Bank	-2.9%	1956.7	56.7	-15%	1.40%	-4.3%
8	-5	↓	-5	↓	Societe Generale	-2.2%	850.6	19.0	-40%	3.28%	-5.5%
9	1	↑	7	↑	Barclays	-2.0%	1656.0	32.4	-65%	1.45%	-3.4%
10	-2	↓	-5	↓	Morgan Stanley	-1.6%	1593.2	25.8	-33%	1.95%	-3.6%
11	2	↑	-2	↓	Goldman Sachs	-1.4%	2000.2	28.4	-44%	1.91%	-3.3%
12	4	↑	-2	↓	Mizuho Financial	-0.9%	1032.7	9.7	-26%	1.57%	-2.5%
13	-2	↓	1	↑	BofA Securities	-0.8%	3441.7	28.6	-38%	0.88%	-1.7%
14	0	~	1	↑	Citi	-0.5%	2577.7	13.8	-38%	1.16%	-1.7%
15	0	~	-2	↓	JP Morgan	-0.5%	3508.5	16.6	-32%	1.23%	-1.7%
16	-4	↓	-4	↓	MUFG	1.4%	914.9	-12.7	-36%	2.01%	-0.6%
17	0	~	1	↑	RBC	2.5%	1190.5	-29.5	-12%	1.41%	1.1%
18	0	~	-1	↓	Wells Fargo	2.8%	1481.8	-42.1	-36%	0.23%	2.6%

Net green/fossil bond syndication league table 2021

Active counterparty management making headways

STAKEHOLDERS IMPLEMENTING SELECTION MECHANISMS FOR ESG ENGAGEMENT

"We regularly review the climate actions of our investments' value chain and we do not, for example, use counterparties for which fossil fuel companies form a significant part of their generated fees from clients."

- Pension fund

"For new transaction, we will select banks depending upon, among other things, how well aligned the bank is on sustainability. To derive this information, we use a grading system based on the bank's revenue generation from green and fossil transactions."

- Bond issuer

Risk.net

Buy-side traders start to cool on ESG-deficient dealers

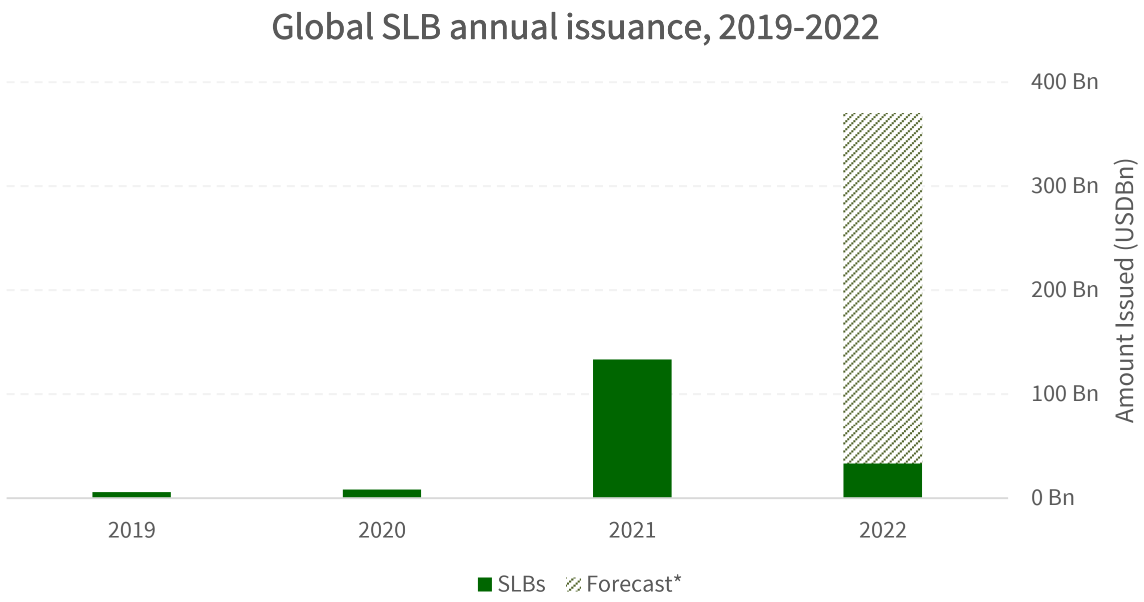
Managers adopting ESG metrics in counterparty evaluations may exclude dealers that aren't up to scratch

Risk.net montage

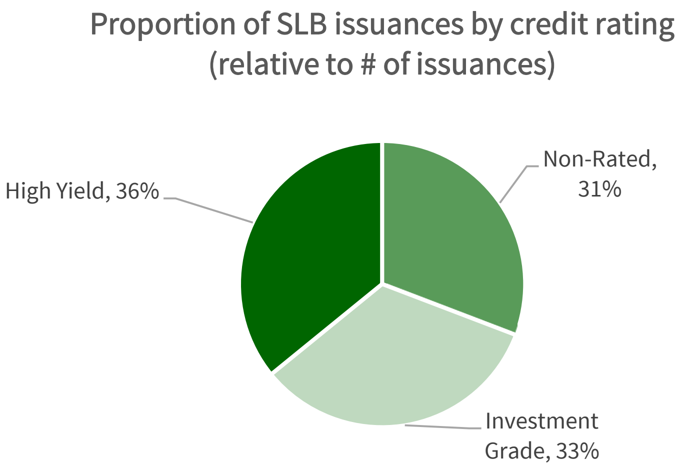
[Buy-syde traders start to cool on ESG-deficient dealers]

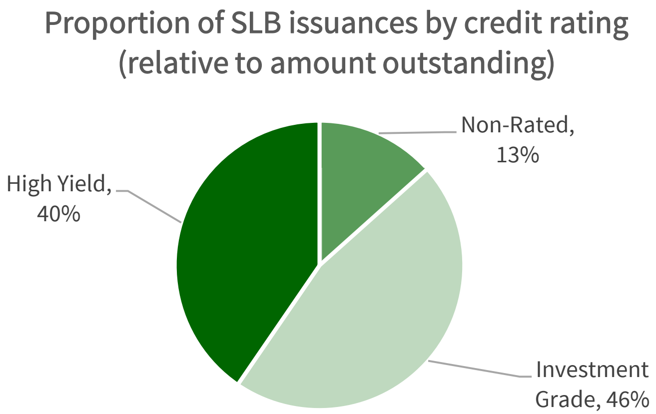
Sustainability-linked bonds (SLBs): Overview

THE NEWEST ENTRANT IN THE INCREASINGLY ACTIVE SUSTAINABLE FINANCE SECTOR



- USD133bn worth of issuance in 2021 alone.
- SLBs accounted for 12% of EUR HY market in 2021.
- A market dominated by corporates but with sovereigns starting to emerge as issuers as well.



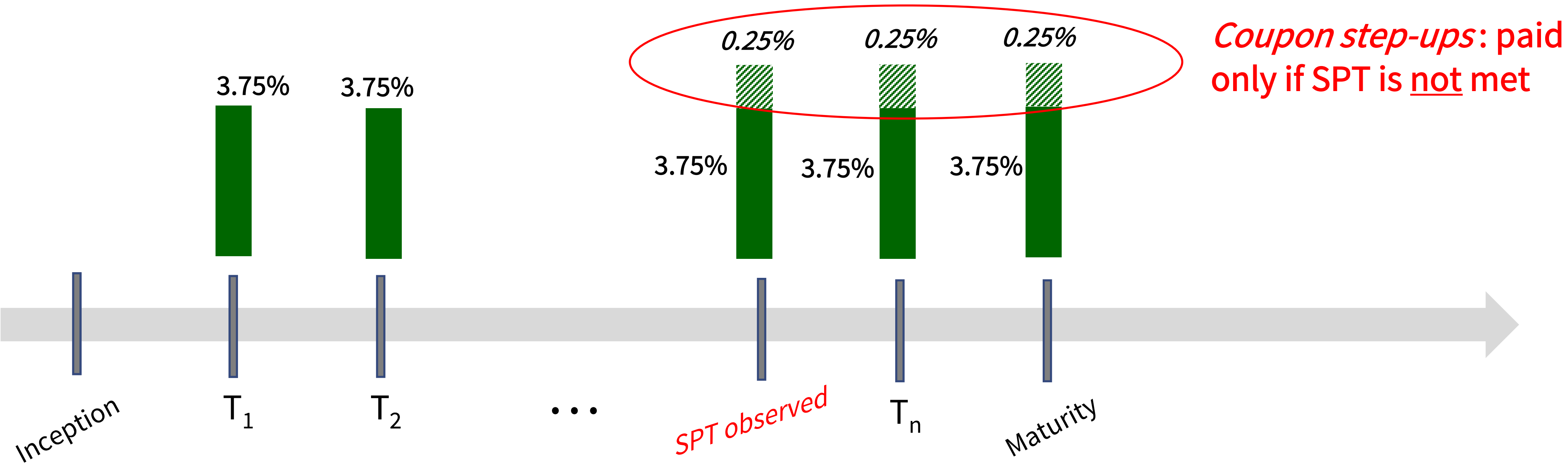


Sources: Bloomberg, AFII

Structure of an SLB

DYNAMIC BOND COUPON - SIZED BASED ON SUSTAINABILITY TARGETS BEING (NOT) MET

- **What is an SLB?**
  - Bonds with **Sustainability Performance Targets** (“SPTs”) linked to one or **more Key Performance Indicators** (“KPIs”).
  - If the SPT is missed, the issuer is obliged to pay a **Coupon Step-Up** (“CSU”) , i.e. an increased interest rate/spread.
  - Use-of-proceeds (“UOP”) is traditionally General Corporate Purposes (“GCP”).



Opportunities and challenges in the SLB market

SLBS SHOULD PROVE AN IMPORTANT INSTRUMENT, BUT NEED FUNDAMENTAL CHANGES

A promising instrument for driving transition

- Clear financial incentives for issuers to advance and meet sustainability goals.
- GCP funding: More flexible for the issuer than green bonds.
- SLBs should drive enhanced ESG data aggregation.

Sri Lanka

UN asks Sri Lanka to negotiate 'debt-for-nature' swaps to ease economic meltdown

Indian Ocean island nation has been rocked by protests against food, medicine and fuel shortages

Rising concerns from the market

- Poorly defined and/or overly complex KPIs; data
- Limited financial impact: Low coupons, back-loaded payouts
- Excessive "greeniums"?

GlobalCapital Markets Data In Depth Podcasts Bank Profil

JBS shows SLB label is nothing without scrutiny

Oliver West June 15, 2021 06:30

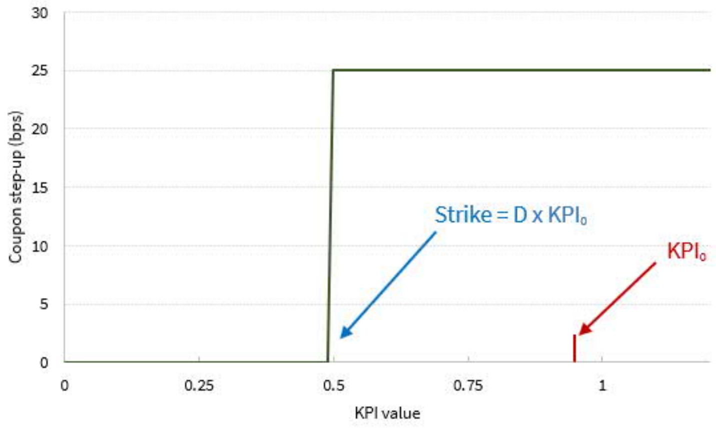
Green bonds Add to myFT

Investors scrutinise green claims in $80bn sustainability bond market

'Tremendous promise' tempered by small penalties for failure to hit ESG targets

A pricing approach for SLBs

HELPING THE MARKET STRUCTURING SLBs WITH ROBUST AMBITIOUS TARGETS AND KPIs

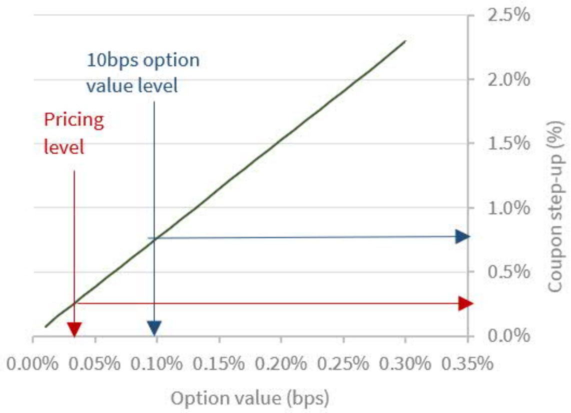


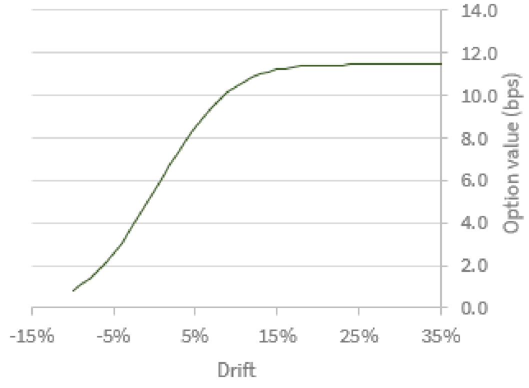
We recently launched a novel pricing approach with conclusions that SLBs need to be structured with robust, ambitious KPIs in order to motivate a significant greenium.

Pricing the SLB step-up as a binary option and deriving volatility based on climate targets and issuer's capacity to reach targets can give us base-line estimates of what the greenium should be in absence of investor preferences.

A number of interesting takeaways come out of this :

- Our approach **quantifies in an objective way the ambition in the structure** that ultimately should be reflected in SLBs prices.
- **"Priceability" of KPIs** : calculating probabilities to meet sustainability targets requires KPIs with at least some historical data and ability to calibrate expectations.

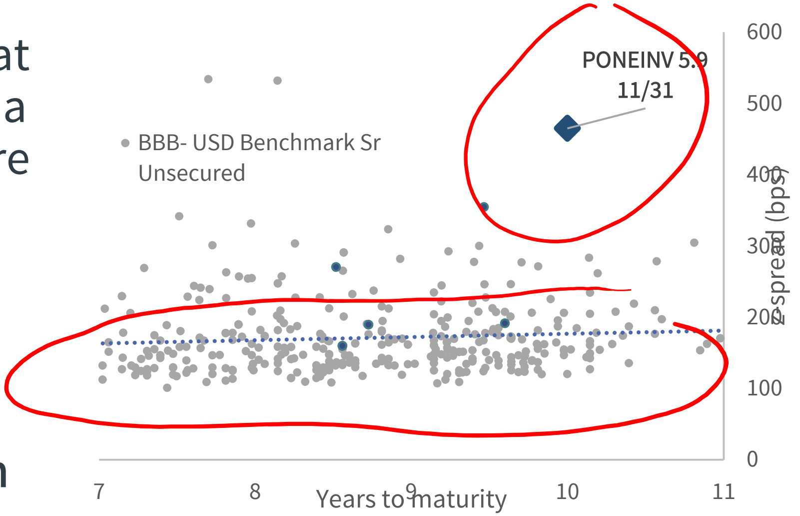


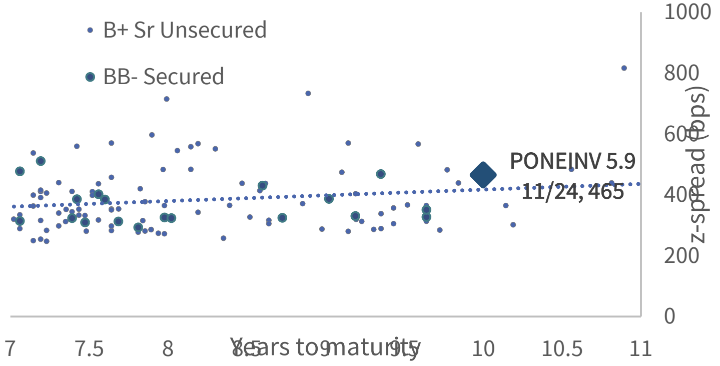


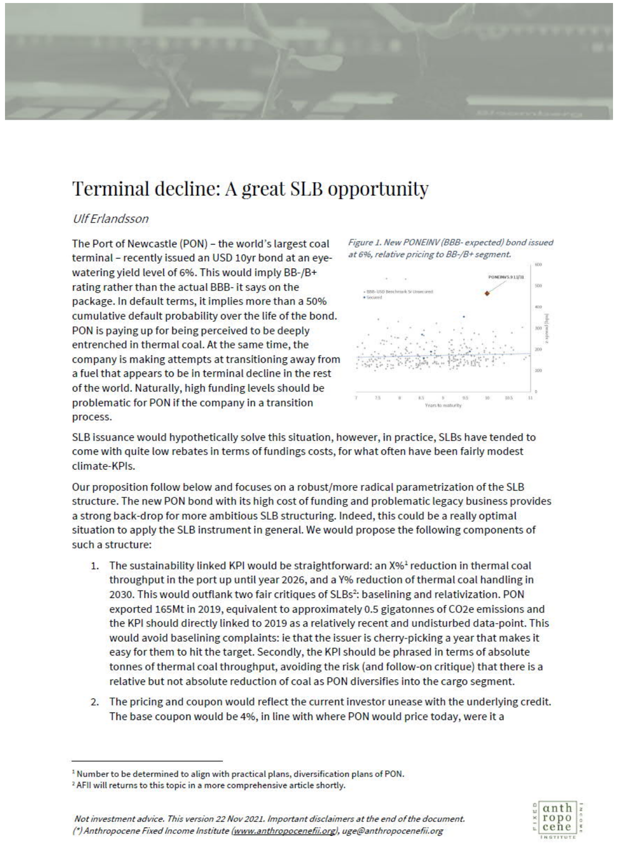
SLB ideas

THE WORLD'S LARGEST THERMAL COAL TERMINAL – PRICING WIDE

- PON priced an inaugural USD 10yr at 465bps over swaps, despite having a BBB- rating which would imply more towards at 200bps spread.
- Indeed, the market is valuing the credit as BB-/B+; >50% cumulative default probability.
- **Would it be possible to structure an SLB on the back of this?**
  - Hard KPIs in terms of thermal coal throughput
  - 4% coupon, step-up another 400bps in 5yrs; average 6% over 10yrs with option of lower should be attractive to issuer.
  - Ratchet up to 10% last two years if transition targets not met
  - SLB conditional pari-passu: new bonds must be issued under same or similar conditionality







Terminal decline: A great SLB opportunity

Ulf Erlandsson

The Port of Newcastle (PON) – the world's largest coal terminal – recently issued an USD 10yr bond at an eye-watering yield level of 6%. This would imply BB-/B+ rating rather than the actual BBB- it says on the package. In default terms, it implies more than a 50% cumulative default probability over the life of the bond. PON is paying up for being perceived to be deeply entrenched in thermal coal. At the same time, the company is making attempts at transitioning away from a fuel that appears to be in terminal decline in the rest of the world. Naturally, high funding levels should be problematic for PON if the company in a transition process.

Figure 1. New PONEINV (BBB- expected) bond issued at 6%, relative pricing to BB-/B+ segment.

SLB issuance would hypothetically solve this situation, however, in practice, SLBs have tended to come with quite low rebates in terms of fundings costs, for what often have been fairly modest climate-KPIs.

Our proposition follow below and focuses on a robust/more radical parametrization of the SLB structure. The new PON bond with its high cost of funding and problematic legacy business provides a strong back-drop for more ambitious SLB structuring. Indeed, this could be a really optimal situation to apply the SLB instrument in general. We would propose the following components of such a structure:

1. The sustainability linked KPI would be straightforward: an X%[1] reduction in thermal coal throughput in the port up until year 2026, and a Y% reduction of thermal coal handling in 2030. This would outflank two fair critiques of SLBs[2]: baselining and relativization. PON exported 165Mt in 2019, equivalent to approximately 0.5 gigatonnes of CO2e emissions and the KPI should directly linked to 2019 as a relatively recent and undisturbed data-point. This would avoid baselining complaints: ie that the issuer is cherry-picking a year that makes it easy for them to hit the target. Secondly, the KPI should be phrased in terms of absolute tonnes of thermal coal throughput, avoiding the risk (and follow-on critique) that there is a relative but not absolute reduction of coal as PON diversifies into the cargo segment.
2. The pricing and coupon would reflect the current investor unease with the underlying credit. The base coupon would be 4%, in line with where PON would price today, were it a

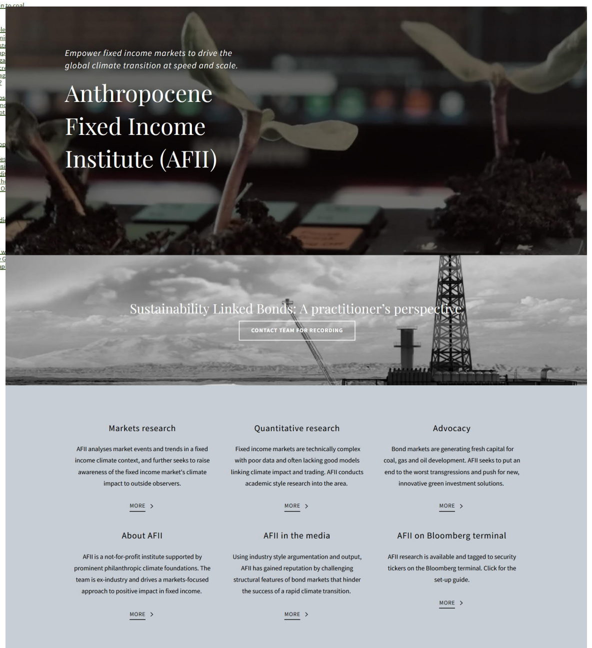
[1] Number to be determined to align with practical plans, diversification plans of PON.
[2] AFII will returns to this topic in a more comprehensive article shortly.

Not investment advice. This version 22 Nov 2021. Important disclaimers at the end of the document.
(*) Anthropocene Fixed Income Institute (www.anthropocenefii.org), uge@anthropocenefii.org

Practical ways for AMs to amplify climate impact

1. Systematic decarbonization minimizing alpha constraints
   - ECOBAR
   - Index selection
   - Leveraged long-short
2. Active risk management
   - General trading and tail-risk reduction
   - SLBs
   - Geographical/sectoral impact opportunities
   - Green bond advances
   - Macro and duration hedging, beta exposure
3. Active counterparty management
   - General methods and philosophy
   - Net fossil funding; The Box

[Anthropocene Fixed Income Institute: Research Synthesis]



[Anthropocene Fixed Income Institute web-page]

Thank you!

[AFII web]
[AFII in the media]