

Chemicals sector: synthesising impact with SLBs

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The chemicals sector is essential for modern life. Supply chains dependent on this sector feed us, house us, transport us, and package goods for use around the globe. Demand for many of these products is projected to increase, so achieving a timely and effective transition will be essential to limit the climate impact of this sector.

Sustainability-Linked Bonds (SLBs), where coupons are tied to issuer-level sustainability targets, are effective at raising capital in hard-to-abate sectors.¹

In this note, we review issuance of SLBs in the chemical sector, to analyse whether they are impactful. We provide recommendations on how to harness the full potential of this product. Well-structured and ambitious SLBs have the potential to accelerate climate transition in a business-critical sector such as chemicals.

For investors and issuers, there are four key take-aways:

- **Issuance of SLBs lags other hard-to-abate sectors, especially amongst largest corporates.** More SLB issuance would likely bring enhanced sustainability dialogue between investors and issuers.
- Given diverse business operations in the sector, external endorsement of targets is of additional importance. **SLBs should use scientifically validated targets.**
- **The climate impact of the chemical sector cannot be captured by emissions alone. SLBs should use a diverse range of KPIs**, on an issuer-by-issuer basis, to disclose and improve the full range of impacts the industry has on the environment.
- Applying AFII's Greenback methodology,² we find **that structures in the sector are not financially material**. More material structures should support higher SLB option values,³ and therefore potentially tighter funding spreads for issuers.

Figure 1. Photo by Patrick Schaetz on Unsplash.



¹ “[SLBs: complementary, my dear Investor](#)”, AFII, 13 Apr 2023.

² “[Greenback SLBs: an impact standardisation proposal](#)”, AFII, 10 May 2023.

³ For details of the AFII pricing framework please see “[An option pricing approach for sustainability-linked bonds](#)”, AFII, 8 Nov 2022.

Threat and opportunity

The chemicals sector sits at the nexus of global business. It is an essential part of the supply chains of multiple industries including agriculture, construction and transport. 95% of manufactured goods rely on chemicals in some capacity.⁴

Chemicals is the third largest industrial emitter of direct CO₂ emissions, behind only the steel and cement industries.⁵ Responsible for 5.8% of global GHG emissions,⁶ it is the world's largest industrial energy consumer, consuming fossil fuels as a 'feedstock' in products such as plastics and fertilisers, as well as using them as a direct energy source.

Its future is intertwined with the fossil fuel industry. With the IEA projecting that petrochemicals will account for 60% of oil demand growth in the current decade,⁷ chemicals present an unfortunate opportunity for oil companies to maintain demand even as the energy transition puts pressure on their traditional revenue streams.⁸ The emissions from many of these petrochemical products will only be realised at the end of their lives (as plastics are incinerated, for example),⁵ contributing to the sector's high Scope 3 impact at 77% of total emissions.⁹

Its environmental issues go beyond greenhouse gases, with UNEP-WCMC's ENCORE tool noting a range of problem areas including water use, non-GHG air pollutants, water pollutants, soil pollutants, and solid waste.¹⁰

Given the footprint of the sector,¹¹ it would be encouraging to see a strong volume of labelled debt issuances to support companies' transition plans.¹² With less than 5% of the sector's debt being issued in the Green, Social and Sustainable (GSS) or sustainability-linked format, the volume is lower than some other sectors for example utilities where 21% of bonds outstanding are GSSS+ labelled.^{13,14}

⁴ [“The Global Chemical Industry: Catalyzing Growth and Addressing Our World’s Sustainability Challenges”](#), Oxford Economics, 11 Mar 2019.

⁵ [“How the chemicals industry’s pollution slipped under the radar”](#), The Guardian, 22 Nov 2021.

⁶ [“Europe turns up heat under chemicals industry to clean up its climate act”](#), Reuters, 7 Feb 2023.

⁷ [“World Energy Outlook 2020”](#), IEA, Oct 2020.

⁸ [“Why the future of oil is in chemicals, not fuels”](#), Chemical & Engineering News, 20 Feb 2019.

⁹ [“Running Hot: Accelerating Europe's Path to Paris”](#), CDP, March 2021.

¹⁰ [“Exploring Natural Capital Opportunities, Risks and Exposure”](#), UNEP, 2023.

¹¹ For a comprehensive analysis of the role of petrochemicals in benchmark credit exposure please see [“Petrochemicals: Major credits, carbon risks, green bonds”](#), AFII, 10 May 2021.

¹² As an example, chemicals giant Dow announced USD1Bn of capex allocated yearly to decarbonise its business. See [“Dow to Invest \\$1 Billion per Year to Decarbonize its Business”](#), ESG Today, 7 Oct 2021.

¹³ Data from Bloomberg, accessed 5 Jun 23.

¹⁴ S&P predict in 2023 that GSSB will represent 14-16% of new issuance, [“Sustainable Bond Issuance Will Return to Growth in 2023”](#), S&P Global, 7 Feb 2023.

Transition pathway

As shown by Figure 2, emissions from the chemical sector are projected in the Net-Zero Emissions by 2050 Scenario (NZE)¹⁵ to reduce modestly by 2030, before falling more rapidly for the following decades.¹⁶ The IEA notes that almost 80% of the emissions savings by 2030 in this sector are reliant on technologies already existing in the market.¹⁵

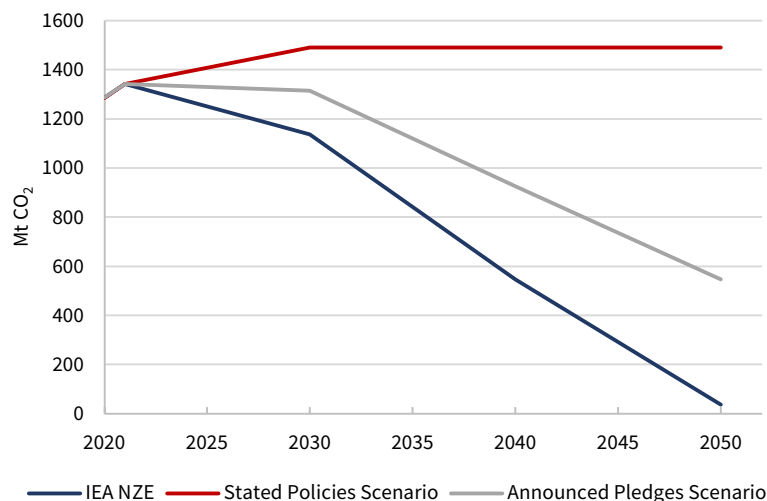
Beyond this date however, reductions will be reliant on the use of technologies still being developed, highlighting the need for further investment and innovation in the space.

Figure 2 indicates that even if all aspirational targets are met (Announced Pledges Scenario), the 1.5° world represented by the NZE will be missed by a considerable margin, whilst if it follows the trajectory implied by the current policy settings, the emissions of the sector will in fact grow.

Chemicals have a significant role to play in the climate transition being key to the technologies that will drive change. Chemical products are needed for coating solar modules, ensuring the durability of wind turbines, and as a component of electric vehicle batteries. The strategic importance of the industry is made clear by the European Union's Transition Pathway statement,¹⁷ noting that it is central to Europe's major value chains, and to the bloc's green and digital 'twin transition'. The chemicals industry is projected to increase its material production under the NZE with global demand for primary chemicals rising 30% by 2050.¹⁸

Chemicals is an essential economic sector at the heart of most industries' value chains and has one of the largest environmental impacts. With a significant opportunity ahead for greater green debt issuance, the chemicals industry has the as-yet-unrealised potential to play a major role in supporting the transition.

Figure 2. IEA emission pathways for chemicals sector. Source: IEA, Nov 2022.



¹⁵ “[Net Zero by 2050](#)”, IEA, May 2021.

¹⁶ “[World Energy Outlook 2022](#)”, IEA, Nov 2022.

¹⁷ “[Transition pathway for the chemical industry](#)”, European Union, Jan 2023.

¹⁸ “[Net Zero by 2050](#)”, p. 122, IEA, May 2021.

An overview of SLB issuances in the chemicals sector

26 SLBs have been issued in the chemicals sector, of which 21 are still outstanding.¹⁹ They have been issued between 2021 and 2023, and represent a total amount issued of just over \$9.6bn.²⁰ The vast majority were issued in hard currencies by high yield and non-rated issuers. Only 13 bonds had publicly available information regarding their KPIs and SPTs, a symptom of lack of transparency in the fixed income market, and our analysis focused on these issuances.

Table 1. SLBs in the Chemical sector. Source: Bloomberg, AFII, accessed 13 Jun 2023.

Issuer	ISIN	Issue date	Maturity	Currency	Amount outstanding (\$bn)	Composite rating
Arakawa Chemical Industries Ltd	JP312500AMB9	26-Nov-21	26-Nov-26	JPY	0.0	N.A.
Braskem Idesa SAPI	US10554NAB47	20-Oct-21	20-Feb-32	USD	1.2	B+
FIS Fabbrica Italiana Sintetici SpA	XS2436585355	10-Feb-22	01-Aug-27	EUR	0.4	B
Herens Holdco Sarl	US427169AA59	14-May-21	15-May-28	USD	0.4	B-
Herens Midco Sarl	XS2340137343	14-May-21	15-May-29	EUR	0.5	CCC
Indorama Ventures PCL	TH102703C509	03-Nov-21	03-May-32	THB	0.1	N.A.
Indorama Ventures PCL	TH1027038B08	03-Nov-21	03-Nov-28	THB	0.1	N.A.
Indorama Ventures PCL	TH1027036B00	03-Nov-21	03-Nov-26	THB	0.1	N.A.
Itelyum Regeneration Spa	XS2389112736	01-Oct-21	01-Oct-26	EUR	0.6	B
LANXESS AG	XS2415386726	01-Dec-21	01-Dec-29	EUR	0.6	BBB
LANXESS AG	XS2459163619	22-Mar-22	22-Mar-28	EUR	0.6	BBB
Lune Holdings Sarl	XS2406727151	18-Nov-21	15-Nov-28	EUR	0.5	B
Nagase & Co Ltd	JP364780AN64	09-Jun-22	09-Jun-32	JPY	0.1	N.A.
Nobian Finance BV	XS2358383466	01-Jul-21	15-Jul-26	EUR	0.6	B
Orbia Advance Corp SAB de CV	US68560EAB48	11-May-21	11-May-31	USD	0.5	BBB-
Orbia Advance Corp SAB de CV	US68560EAA64	11-May-21	11-May-26	USD	0.6	BBB-
Orbia Advance Corp SAB de CV	MX91OR010021	08-Dec-22	25-Nov-32	MXN	0.4	N.A.
Orbia Advance Corp SAB de CV	MX91OR010013	08-Dec-22	04-Dec-25	MXN	0.1	N.A.
RED Surcos SA	ARREDS5600D5	08-Jun-22	08-Jun-24	USD	0.0	N.A.
RED Surcos SA	ARREDS5600E3	29-Sep-22	29-Sep-25	USD	0.0	N.A.
Xinjiang Zhongtai Chemical Co Ltd	N/A	22-Mar-23	22-Mar-28	CNY	0.1	N.A.

¹⁹ For the scope of this paper, we selected bonds with an issuer BICS Level 2 (Industry Group) classification of Chemicals according to Bloomberg as of 25 May 23. All five bonds with zero notional outstanding are schuldschein issuances, bilateral loan agreements unique to the German market, which seem to have been re-paid.

²⁰ Information from Bloomberg, accessed 10 Jul 23.

Investment grade issuers account for almost half of the global SLB market,¹ but there are only two two-tranche high-grade issuances in the chemical sector. Out of the largest 15 issuers in the chemicals sector, of which 14 are investment grade, none have used the SLB market whilst 5 have issued green bonds (see Table 2). Our earlier analysis of SLB issuance suggests that in the “Basic Materials” sector (in which Chemicals is classified), we have typically seen very little green bond issuance compared with a better representation of SLB issuance.^{1,21}

The absence of large issuers in the SLB market raises two points of potential concern. Firstly, investors wanting to invest in SLBs may be required to underweight the sector due to limited investment options.²²

Second, largest companies’ environmental footprint reduction in absolute terms is critical for the sector to meet its net-zero and nature global goals. Green bonds are successful at raising capital for specific sustainable investments,²³ but then do not necessarily impact the full issuer. Ambitiously structured SLBs can align large issuers’ entire corporate structure with strong sustainability targets, and so have a substantial impact and provide investors with enhanced transparency.

SLBs can be an impactful structure for raising capital for transition. The chemical sector has the potential to use this product to align their capital structures with ambitious sustainability plans and accelerate its climate transition.

KPIs: a need for further diversification

When assessing the impact of SLBs it is essential to consider the relevance and ambition levels of KPIs, as well as the materiality of the step-structures utilised in the SLB structure. This section provides analysis of these SLB characteristics in issuances from chemicals companies where the information is accessible.

The chemical sector’s environmental footprint is not only limited to GHG emissions, with companies having an impact on water, soil, and non-GHG air pollutants, depending on the specific products of the company in question.¹⁰ Despite this, the International Capital Market Association (ICMA) registry of KPIs for SLBs only has one KPI specific to the chemical sector, relating to the production of green hydrogen.²⁴ There are however a number of ‘general’ KPIs listed by ICMA which can be applied to the business practices of chemicals companies. Appendix 1 gives a summary of the SPTs used in the chemical sector, whilst Table 3 condenses these into comparable categories of

Table 2. Top 15 issuers in the Chemical sector, and green bonds. Source: Bloomberg, accessed 13 Jun 2023.

Issuer	Total bonds outstanding (\$bn)	Green bond
BASF SE	18.1	Y
Linde PLC	14.8	N
Dow Chemical Co/The	13.3	N
Celanese US Holdings LLC	12.0	N
Air Liquide Finance SA	11.0	Y
LYB International Finance III LLC	9.8	Y
Sherwin-Williams Co/The	9.6	N
International Flavors & Fragrances Inc	9.2	N
Ecolab Inc	9.1	N
Nutrien Ltd	8.8	N
DuPont de Nemours Inc	8.2	N
Air Products and Chemicals Inc	7.0	Y
LG Chem Ltd	6.0	Y

²¹ For a full analysis of the BASF green bond please see our earlier work ¹¹

²² This is already the case for the corporate green bonds market where financial institutions and utility companies make up for most of the issuances. See “[How green bonds fit in a fixed income portfolio](#)”, Goldman Sachs AM, 20 Feb 2023.

²³ For an example see “[Thames Water green bonds: all in the same puddle](#)”, AFII, 4 Jul 2023.

²⁴ “[Sustainability-Linked Bonds Illustrative KPIs Registry](#)”, ICMA, Jun 2022.

KPIs. We have mapped these KPI themes against ENCORE impact drivers and materiality ratings.^{10,25} ENCORE is a tool developed by the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) aiming to help financial institutions understand and integrate natural capital risks in their operations.

Table 3. Categorized KPIs used by issuances from chemicals companies. Source: AFII

KPI theme	ENCORE impact driver	ENCORE materiality rating	Bonds with theme
Absolute GHG (Scope 1+2)	GHG Emissions	High	8
Renewable energy usage	GHG Emissions	High	4
GHG Intensity (Scope 1+2)	GHG Emissions	High	3
Plastic recycling	Solid waste	High	3
Absolute SOx	Non-GHG Emissions	Medium to High	2
Waste disposal / recovery	Solid waste	High	2
Water consumption	Water use	High to Very High	1
Absolute GHG Emissions (Scope 3)	GHG Emissions	High	1
Avoided GHG emissions from product	GHG Emissions	High	1

As Table 3 indicates, the most common KPI category for SLBs in the chemical sector relates to absolute GHG emissions (Scope 1 + 2). The preponderance of absolute targets over intensity targets is positive, and as shown in Appendix 1, these targets seem ambitious when compared with the IEA NZE pathway which targets a fall in CO₂ emissions of -11.7% by 2030 from 2020 (see Figure 2). Given the level of diversity inherent in the chemical sector businesses, it is important that clear indications are given in sustainability-linked frameworks of which pathway to decarbonisation the targets are consistent with, for example the IEA NZE, or if the targets have been certified for example by the SBTi.²⁶

The SBTi is currently developing sector-specific guidance and sectoral decarbonization approach (SDA) pathways for the chemicals industry, however companies can already set targets according to the cross-sectoral absolute contraction approach (ACA). Of the 14 issuers with SLBs outstanding, only four have either committed or set a near-term target, whilst only one has committed to a net-zero target through the SBTi.²⁷

We find that only one SLB (NAGASE 0.64 06/09/32) targets Scope 3 emissions as a KPI. Although companies are still developing their capacities to record and address Scope 3 emissions, they are

²⁵ ENCORE provides a list of impact drivers for specific sectors & sub-industries, as well as a materiality rating from very low, indicating a small and infrequent impact, to very high, indicating a large and continuous impact. More information can be found on the [ENCORE website](#). Impact drivers are defined in accordance with the [Natural Capital Protocol \(2016\)](#) as a measurable quantity of a natural resource that is used as an input to production, or as a measurable non-product output of business activity. ENCORE splits chemicals into four sub-industries: commodity chemicals, diversified chemicals, fertilizers & agricultural chemicals, and specialty chemicals. In Table 4 we have provided the range where materiality ratings varied for different chemical sub-industries.

²⁶ “[Barriers, Challenges, and Opportunities for Chemical Companies to Set Science-Based Targets](#)”, Science Based Targets, Dec 2020.

²⁷ SBTi defines near-term targets as outlining “the amount by which organizations will reduce their emissions, usually over the next 5-10 years” whilst net-zero targets “indicate the degree of emissions reductions organisations need to achieve across all emissions scopes to align with net-zero no later than 2050”. SBTi’s [Target Dashboard \(Beta\)](#) was used to check which companies and institutions have set science-based targets.

an essential part of their transition, and including them as a KPI would send a positive signal of ambition. The SBTi criteria for near-term targets state that in cases where the Scope 3 emissions of a company are in excess of 40%, they must be included in near-term targets.²⁸ The Carbon Disclosure Project (CDP) notes that Scope 3 emissions account for more than 77% of the total GHG emissions in the chemical sector,⁹ indicating the need to include these emissions in the transition plans and thus KPIs of chemicals companies.

Including Scope 3 emissions in SLBs would also encourage companies to clearly disclose the ways in which they are measuring and achieving Scope 3 emission reductions, as well as help to ensure that creative carbon accounting cannot be used to avoid paying a step-up. An example of this is Nobian,²⁹ where municipal waste incineration (MWI) may have been taken advantage of to reduce Scope 1+2 emissions without a clear indication of whether this was then included in the company's Scope 3 emissions. The SLB referenced only Scope 1 + 2 emissions, and so a reclassification potentially moved emissions out of inclusion for the SLB KPI.

The large majority of KPIs in the sector are related to GHG emissions, and although it is necessary that GHG emissions (preferably including Scope 3) should be included in the KPIs of these bonds, integrating additional more diversified KPIs relevant to the individual issuer would strengthen issuances. From the set of SLBs where KPI information was available in SLB documentation, only one included a KPI relating to water, targeting water consumption rather than a reduction in pollution. As evidenced by recent court settlements,³⁰ the environmental damage caused by chemicals companies in ways such as water pollution can quickly become a financially relevant issue.

KPIs diversification with greater inclusion of Scope 3 emissions and adoption of nature based KPIs will be key for the chemical industry to align with credible transition plans. The chemical industry's complexity calls for heightened reliance on scientifically validated targets for ensuring clearly defined emissions pathways.

Step-structures: a lack of financial materiality

The SLB market has attracted criticism, in part for its small step-ups which may provide little incentives for issuers to improve their sustainability performance.³¹ The chemicals sector is no exception with issuers paying 23.7bps step-ups on average for missing an SPT, which is consistent with the tendency of the SLB market to set these step-ups at 25bps.³² Such step-ups appear marginal in a context of ECB and Fed 'risk-free' interest rates at 4% and 5-5.25% respectively.

Table 4 provides information on the step-structures of the nine SLBs in the sector where this information is publicly available.³³ Coupon step-ups are the most common form of payment-structure, which can take the form of an increased running coupon or a premium payment at maturity. Maximum payment equals the total cumulative step-up if all SPTs are missed. One SLB

²⁸ [“SBTi Criteria and Recommendations for Near-Term Targets”](#), SBTi, Apr 2023.

²⁹ [“Nobian SLB: a lot of hot air?”](#), AFII, 16 May 2023.

³⁰ See [“Companies to pay billions in “forever chemical” water pollution settlements”](#), Axios June 2023 & [“Tears and protests as judge approves settlement over ‘forever chemicals’”](#), The Sydney Morning Herald, June 2023, for two examples of recent cases.

³¹ [“Sustainability bond market stumbles as investors get picky”](#), Financial Times, 14 Feb 2023.

³² [“Do Sustainability-linked bonds have a step-up problem?”](#), Federated Hermes, Mar 2022.

³³ Only 9 SLBs in the universe considered had available information on their step-structures.

from Nagase was excluded from this table as emissions credits are purchased in the event of missing an SPT.³⁴

Table 4. Chemical SLB materiality assessment. Source: Bloomberg, individual bond documentation, AFII.

Issuer	Bond	Tenor (years)	Ccy	Maximum payment (bps)	Greenback SLB
Lune Holdings Sarl	KEMONE 5 5/8 11/15/28	7	EUR	75	No
LANXESS AG	LXSGR 1 3/4 03/22/28	6	EUR	62.5	No
Nobian Finance BV	NOHOLB 3 5/8 07/15/26	5	EUR	100	No
LANXESS AG	LXSGR 0 5/8 12/01/29	8	EUR	100	No
FIS Fabbrica Italiana Sintetici SpA	FISITA 5 5/8 08/01/27	5	EUR	60	No
Braskem Idesa SAPI	BAKIDE 6.99 02/20/32	10	USD	112.5	No
Orbia Advance Corp SAB de CV	ORBIA 2 7/8 05/11/31	10	USD	125	No
Orbia Advance Corp SAB de CV	ORBIA 1 7/8 05/11/26	5	USD	50	No
Itelyum Regeneration Spa	ITLYUM 4 5/8 10/01/26	5	EUR	60	No

Using AFII’s “Greenback” methodology,² we evaluate the materiality of the step-structures. The methodology defines “Greenback SLB” as an SLB where the expected pay-out of the step-structure is at least one dollar (one percentage point) in absolute risk-discounted value, with an assumed 50% step probability. We find that no SLB in the chemical sector meets the definition of a “Greenback SLB”, an observation that currently holds true across most of the SLB universe. Omitting discount factors, bonds in Scope would need their step-ups to increase between twofold and fourfold to meet AFII’s greenback criteria.

SLBs have the potential to drive transition when structured to incentivise a material improvement in the issuers’ sustainability performance. An option-based pricing approach³⁵ should reward ambition and material structures with attractive pricing spreads.

Conclusions

The chemicals sector is a significant user of fossil fuels both as a source of energy as well as feedstock for a range of petrochemical products such as plastics and fertilisers,³⁶ whilst also being a polluter of water, air, and soil. Transforming the chemical sector into a sustainable industry would offer significant benefits both in terms of emissions, and also direct impacts on the environment. Due to its role in global manufacturing, it would also enable a variety of downstream industries to operate more sustainably.

SLBs are a powerful tool to raise capital for this transition, both to scale up existing technologies, and also assist innovation for new solutions. SLBs require issuers to make transparent top-level sustainability commitments with financial penalties when missed. This creates an option value to

³⁴ For further details on these alternative step-structures please see “[Sustainability-Linked Bonds: alternative steps](#)”, AFII, 23 May 2023.

³⁵ See for practical applications “[An option pricing approach for sustainability-linked bonds](#)”, AFII, 8 Nov 2022.

³⁶ “[The Future of Petrochemicals](#)”, IEA, Oct 2018.

the bond, which if structured ambitiously can provide a hedge for investors,³⁷ and attractive funding costs for issuers.

Our analysis suggests SLB issuance in the chemical sector is lagging other hard-to-abate sectors. We encourage more issuers to consider this product, and more investors to express appetite for well-structured SLBs.

With that in mind, we present three recommendations for how to structure SLBs in the chemical sector for maximum impact:

- **Targets need to be scientifically verified for credibility.** As businesses within the sector vary greatly, comparability without this is hard.
- **Diverse KPIs should be used.** The climate impact of the chemicals sector goes beyond emissions, and so meaningful KPIs should be chosen that represent all environmental impacts.
- **Structures should be material, with a meaningful step-structure.** The AFII Greenback methodology² offers a minimum materiality which would support higher option values, and therefore tighter funding spreads for issuers.

³⁷ For details on SLB risk management please see “[Understanding dynamics between SLB and traditional debt](#)”, AFII, 26 Jan 2023.

Appendix: overview of chemicals SLBs sustainability performance targets

Appendix 1. SLB KPIs & targets, Source: Individual sustainability-linked finance frameworks, bond documentation, or press releases.

Bond	Issuer	ISIN	KPI	KPI Description	Baseline date	Observation Date	Relative target
1	LUNE HOLDINGS SARL	XS2406727151	1	Absolute Scope 1 and 2 CO2 emissions	2019	2025	-22%
			2	Absolute Scope 1 and 2 CO2 emissions p.a.	2019	2024	-2%
2	LANXESS AG	XS2459163619	1	GHG Emissions (Scope 1+2)	2018	2025	-19%
3	NOBIAN FINANCE B	XS2358383466	1	Absolute Scope 1 & 2 GHG emissions	2020	2022	-4%
			2	Use of renewable energy (%)	2020	2022	29%
4	LANXESS AG	XS2415386726	1	GHG Gas Emissions (Scope 1+2)	2018	2025	-19%
5	FABBRICA ITA SINTETICI	XS2436585355	1	Absolute Scope 1 & 2 GHG emissions	2020	2026	-20%
			2	Fresh water consumption	2020	2026	-20%
			3	Ratio of waste sent to exter-l disposal / exter-l recovery	2020	2026	-20%
6	BRASKEM IDESA SAPI	US10554NAB47	1	Absolute GHG Emissions (ktCO2e)	2017	2028	-15%
7	ORBIA ADVANCE CORP SAB	US68560EAB48	1	Sulphuric Oxide (SOx) emissions	2018	2025	-60%
8	ORBIA ADVANCE CORP SAB	US68560EAA64	1	Sulphuric Oxide (SOx) emissions	2018	2023	-44%
9	INDORAMA VENTURES PCL	TH102703C509	1	GHG emissions intensity (Scope 1+2)	2020	2025	-10%
			2	Post-consumer PET bale input into recycling	2020	2025	n/a
			3	Renewable electricity consumption	2020	2030	25%
10	INDORAMA VENTURES PCL	TH1027038B08	1	GHG emissions intensity (Scope 1+2)	2020	2025	-10%
			2	Post-consumer PET bale input into recycling	2020	2025	n/a
			3	Renewable electricity consumption	2020	2030	25%
11	INDORAMA VENTURES PCL	TH1027036B00	1	GHG emissions intensity (Scope 1+2)	2020	2025	-10%
			2	Post-consumer PET bale input into recycling	2020	2025	n/a
			3	Renewable electricity consumption	2020	2030	25%
12	NAGASE & CO LTD	JP364780AN64	1	GHG Emissions (Scope 1+2)	2013	2030	-46%
			2	GHG Emissions (Scope 3)	2020	2030	-12%
13	ITELYUM REGENERATION SPA	XS2389112736	1	Gross CO2e avoided emissions	2020	2025	25%
			2	Quantity of waste sent to circular treatments	2020	2025	25%

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