

1987:

VW preference share Bought for 632 DM

March 22, 1987, DER SPIEGEL 13/1987 VW preference share 450 DM

October 19, 1987 wikipedia.org/wiki/ Schwarzer_Montag Sold for 250 DM

Learn from mistakes!

Invest long term!

1990-1992 Commerzbank Hannover, Bank Apprenticeship

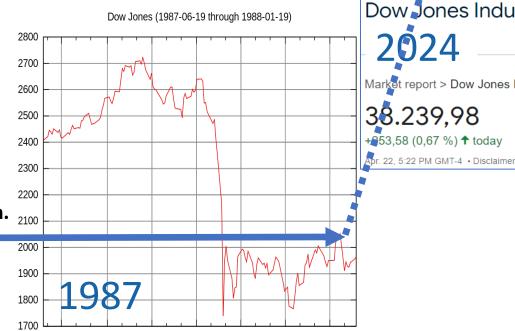
Dr. Axel Hesse has 37 years of Capital Market Experience; First VW share purchased at the age of 17

Volkswagen "Foreign exchange scandal"

How currency speculators defrauded the Volkswagen Group of almost 500 million marks. Many transactions were only faked and the necessary receipts were forged: the 500 million thing at VW was planned and executed with sophistication; The controls at the car company were no longer effective. The fraud, which obviously took place in Frankfurt, would not have been possible without a helper in Wolfsburg. The Frankfurt foreign exchange broker is one of the key figures in the mystery surrounding missing millions that has cost a respected German company almost an entire year's profits. The Volkswagen Group loses around 480 million marks due to a huge foreign exchange fraud.

Black Monday on October 19, 1987 was the first stock market crash after World War II. It started on the Hong Kong Stock Exchange. The Dow Jones fell by 22.6% (508 points) within one day; To date, this is the largest single-day percentage decline in its history. By the end of October, stock prices fell 41.8% in Australia, 22.5% in Canada, 45.8% in Hong Kong and 26.4% in Great Britain.

Development of option strategies for Volkswagen shareholders at the VW Annual General Meeting 1991 to increase the dividend yield ("writing puts")



09/01/87 10/01/87

1987/2024





30 years of Sustainable Finance Experience



Anne-Maree O'Connor · 2nd
Head of Responsible Investment at NZ Super Fund
Auckland, Auckland, New Zealand · Contact info

Mark Campanale · 1st

Founder & Director, Carbon Tracker Initiative, founder of Planet Tracker, Member of Advisory Board, GFANZ - @campanalemark London, England, United Kingdom · Contact info

Mark mark was the first to name the "Carbon Bubble"

Tessa Tennant launched GRI, CDP, ASriA

"Little Axel" sent the first German questionnaires to Henkel & Co. to ask for the environmental management

1995/2024

1995

NPI
Global Care Funds,
London "Monument",
Practical work
experience in
Insurance & Asset
Management

2024

This "questionnaire fatique" (tiredness) has just started again in the banking industry asking SMEs!



Dr. rer. oec. Axel Hesse



<u>Dr. rer. oec. Axel Hesse</u> is **Founder, Shareholder & Managing Director** of SD-M[®] GmbH.

Dr. Hesse has 30 years of experience in Sustainable Finance. He has published numerous studies on the sustainable investments of institutional investors and on the sustainable indicators that are relevant to financial performance. His PhD thesis was devoted to Sustainable Banking.

C/V:

- 1990-1992: Bank apprenticeship at Commerzbank Hanover
- 1992-1993: Alternative service at Deutsche Umwelthilfe
- 1993-1998: Studies in business administration with a focus on sustainable management, asset management and accounting/controlling. Thesis dealt with environmental funds and environmental project finance
- 1995: Work for the "Global Care Fund" of the London-based insurer NPI together with Tessa Tennant (CDP, ASrIA), Anne-Maree O'Connor (NZ SuperFund) and Mark Campanale (Carbon Tracker)
- 1999-2001: Member of an executive advisory board for sustainable asset management at HypoVereinsbank (HVB Group)
 in Munich. At this time the bank launched the world's first investment product linked to the Dow Jones Sustainability Index
- 2006: PhD in sustainable banking from the Leipzig Graduate School of Management
- · 2009-2016: Member of the jury for the portfolio institutionell Award "Best Sustainable Investor"
- 2001-2012: Scientifist and consultant for sustainable institutional investments under the SD-M® trademark
- 2012: Launch of SD-M[®] GmbH
- 2013: Launch of SD-KPIntegration® database and iSTOXX SD-KPIndex® family
- 2015: Part-time specialist sustainable investments at NORD/LB Asset Management regarding SD-KPInventory® and SD-KPIntegration®
- 2016-2019: ESG integration at Metzler Asset Management
- 2020-2021: Senior Manager/Senior Advisor Sustainable Finance for zeb consulting (esp. standardized ESG data & rating of material credit risks for 6 German Banks)

Since 2003: Mandatory reporting of RELEVANT ESG indicators in EU Accounting Directives

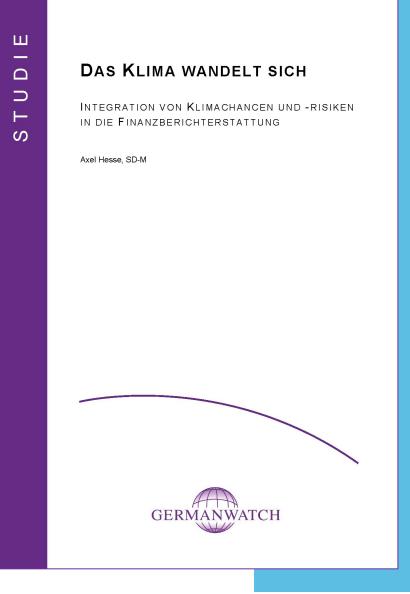
MODERNISATION DIRECTIVE 2003/51/EC: Account Directive 78/660/EEC is hereby amended as follows:

"The annual report shall include [...]

To the extent necessary for an understanding of the company's development, performance or position,

the analysis shall include both financial and, where appropriate, non-financial key performance indicators RELEVANT to the particular business, including information relating to environmental and employee matters"

2004: §§ 289; 315 HGB (German Commercial Code)

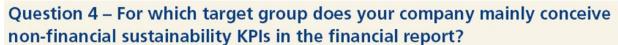






Investors remain the most important target group also for Sustainable Development KPIs (SD-KPIs) in annual / management reports (empirical results for DAX-30 companies)







2006



Empirical survey of relevant investors and analysts covering SD-KPIs

Open question:

"Which are the

- up to three most important

Less is more!

- sector-specific SD-KPIs
- for the business development, the position and the expected development of
- ten different sectors?"



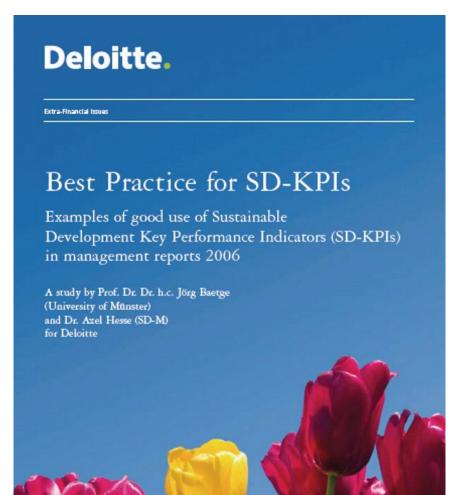
2007

SD-KPI most important criteria in "Best annual report" competition (manager magazin)

Ranking		Company		ber of points ng on SD-KPIs					
1.		SolarWorld	6	7%					
2.		TUI	64%						
3.		BASF	5	8%					
4.	1	Norddeutsche Affinerie	5	4%					
5.		ABN AMRO	5	3%					
6.		Munich Re	5	2%			Prof. Dr. Dr.		
6.		Shell	5	52%					
7.	G	laxoSmithKline	4	5%		•	Jörg Baetge		
for three SD-KPIs		(1) report on SD-KPIs	(2) economic importance	(3) quantitative indications	(4) trend analysis	(5) bench- marking	weighted sum		
SD-KPI 1		(20%)	(20%)	(20%)	(20%)	(20%)	(100%)		
(40%)									
SD-KPI 2									
(30%)									
SD-KPI 3									
(30%) weighted									
sum									
Juni									

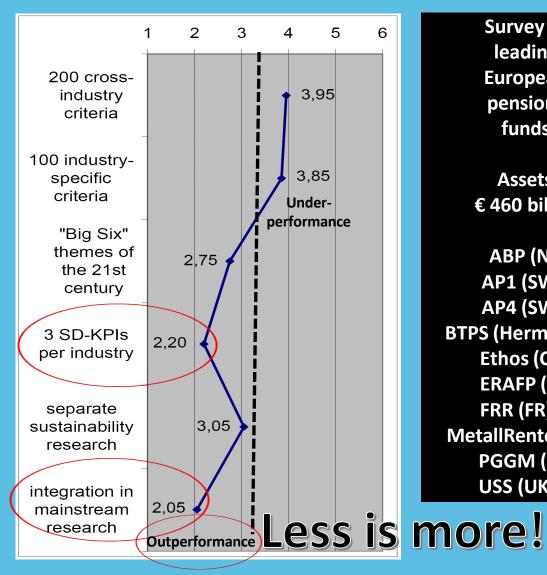


h.c.



x. Consulting Corporate Finance

Which of these approaches to sustainability research do you believe will lead to risk-adjusted out- or underperformance in the future?



Survey of leading European pensions funds **Assets:** € 460 billion ABP (NL) AP1 (SWE) AP4 (SWE) BTPS (Hermes, UK) Ethos (CH) **ERAFP (FR)** FRR (FR) MetallRente (GER) PGGM (NL) USS (UK)

LONG-TERM AND SUSTAINABLE **PENSION INVESTMENTS**

A STUDY OF LEADING EUROPEAN PENSION FUNDS

ON BEHALF OF ASSET4 AND THE GERMAN FEDERAL ENVIRONMENT MINISTRY

CREATED BY DR. AXEL HESSE (SD-M)

MAY 2008





SD-KPI Standard 2010-2015: 1st global standard for material ESG KPIs

- Consensus among global investors and analysts (Japan, Europe, North America) who influenced assets of € 2 trillion
- > 3 most RELEVANT ESG indicators in
- > 68 GICS industries (Global Industry Classification Standard)
- ➤ % weighting per SD-KPI 1, 2, 3 per industry
- on behalf of the German Environment Ministry: SD-KPIs "minimum reporting requirement" in annual reports
- Association of Public Auditors in Germany (IDW) recommended SD-KPIs to EU commission for concretisation of EU accounting directives



2010

Sustainable Accounting Standards Board (SASB)

- > 2011: Discussions with Harvard University about SD-KPIs
- > identify ESG issues most relevant to financial performance
- > 2012: Launch of SASB; regional focus: USA
- > 2016: first SASB Standards were launched
- > 77 industries
- > up to 10 ESG topics and 30 indicators per sector



AUTOMOBILES

Sustainability Accounting Standard

SUSTAINABILITY DISCLOSURE TOPICS & ACCOUNTING METRICS

Table 1. Sustainability Disclosure Topics & Accounting Metrics

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	CODE
	Percentage of vehicle models rated by NCAP programs with an overall 5-star safety rating, by region Quantitative		Percentage (%)	TR-AU-250a.1
Product Safety	Number of safety-related defect complaints, percentage investigated Quantitative		Number, Percentage (%)	TR-AU-250a.2
	Number of vehicles recalled ²	Quantitative	Number	TR-AU-250a.3
Labar Desations	Percentage of active workforce covered under collective bargaining agreements	Quantitative	Percentage (%)	TR-AU-310a.1
Labor Practices	(1) Number of work stoppages and (2) total days idle ³	Quantitative	Number, Days idle	TR-AU-310a.2
Fuel Economy & Use-phase Emissions	Sales-weighted average passenger fleet fuel economy, by region	Quantitative	Mpg, L/km, gCO ₂ /km, km/L	TR-AU-410a.1
	Number of (1) zero emission vehicles (ZEV), (2) hybrid vehicles, and (3) plug-in hybrid vehicles sold	Quantitative	Number	TR-AU-410a.2
	Discussion of strategy for managing fleet fuel economy and emissions risks and opportunities	Discussion and Analysis	n/a	TR-AU-410a.3
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	n/a	TR-AU-440a.1
	Total amount of waste from manufacturing, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR-AU-440b.1
Materials Efficiency &	Weight of end-of-life material recovered, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	TR-AU-440b.2
Recycling	Average recyclability of vehicles sold ⁴	Quantitative	Percentage (%) by sales- weighted metric tons (t)	TR-AU-440b.3

(2011) 2012-2016

SD-KPI Standard 2016-2021

- > 3 most RELEVANT ESG indicators in
- > 68 GICS industries
- > % weighting per SD-KPI 1, 2, 3 per industry
- > supported by SASB & German Environment Ministry
- ➤ revised by SASB's Technical Director: SASB found "a high degree of overlap" in SD-KPI analysis and the SASB standards and appreciates the SD-KPI approach as well as how SD-M[®] "ranked and prioritized topics for each industry."
- Copyrighted Global Standard of Standards
- ➤ English, Japanese, Chinese, Arabic, Russian, Brazilian versions









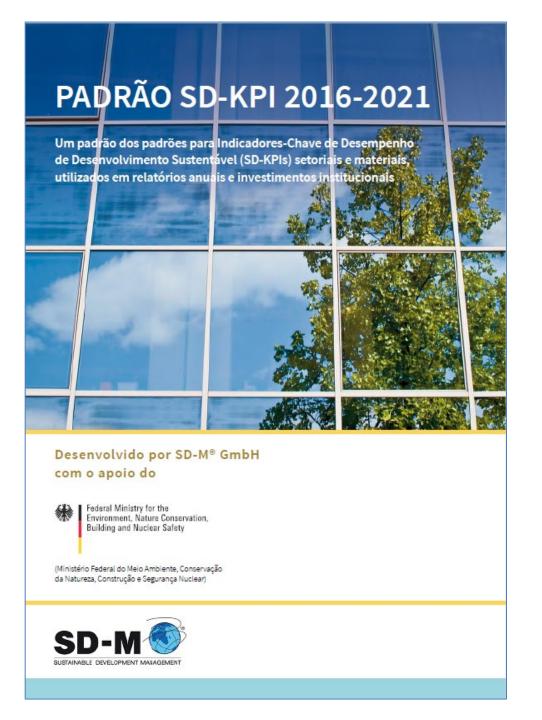






São Paulo May

Bucarest April 2024



Brochure "Material for business development and financial performance" including SD-KPI examples



published after NFRD ("CSR-Richtline-Umsetzungsgesetz")

2017

Bedeutsamste Sustainable Development Key Performance Indicators (SD-KPIs) gemäß SD-KPI Standard 2016–2021

Branche	SD-KPI 1	SD-KPI 2	SD-KPI 3
ENERGIESEKTOR			
Energiezubehör und dienste	Gesundheits- und Sicherheitsperformance	Treibhausgaseffizienz der Produktion	Wirtschaftsethikvorfälle und Vorsorgemaßnahmen
Erdöl, Erdgas und nicht erneuerbare Brennstoffe	Treibhausgaseffizienz der Produktion	Betriebsunfälle und Vorsorgemaßnahmen	Treibhausgasemissionen der Produkte und Reserven
OH-, HILFS- UND BETRIEBS	SSTOFFE		
Chemie	Betriebsunfälle sowie Gesundheits- und Sicherheitsperformance	Treibhausgaseffizienz der Produktion	Anteil nachhaltiger ggü. gefahrvollen Produkten
Baustoffe	Energieeffizienz der Produktion	Treibhausgaseffizienz der Produktion	Gesundheits- und Sicherheitsperformance
Behälter und Verpackung	Treibhausgas- und Energieeffizienz der Produktion	Anteil recycelten bzw. nachhaltigen Rohstoffeinsatzes	2
Metalle und Bergbau	Auditabdeckung mit Umweltmanagementsystem und dessen Performance	Gesundheits- und Sicherheitsperformance	Beziehungen zu lokalen Gemeinden
Papier- und Forstprodukte	Treibhausgaseffizienz der Produktion	Anteil recycelten bzw. nachhaltigen Rohstoffeinsatzes	Wasserintensität
NDUSTRIE			
uftfahrt und Verteidigung	Wirtschaftsethikvorfälle und Vorsorgemaßnahmen	Treibstoffeffizienz in der Nutzungsphase	Exposition gegenüber kontroversen Waffen
Baumaterialien	Management gefahrvoller Chemikalien in Produkten	Treibhausgaseffizienz der Produktion	Anteil an Produkten mit "Design for Environment"- / Umwelt-Label
Bau- und Ingenieurswesen	Anteil an Dienstleistungen mit "Design for Environment"- / Umwelt-Label	Gesundheits- und Sicherheitsperformance	Strukturelle Integrität und Sicherheit der Dienstleistungen
Elektrische Geräte	Anteil an Produkten mit "Design for Environment"- / Umwelt-Label	Treibhausgaseffizienz der Produktion	Anteil kritischer und Konfliktmaterialien
Maschinen	Energie- und Treibhausgaseffizienz	Treibhausgaseffizienz der	Anteil wiederverwendeter

German Federal Financial Supervisory Authority (BaFin) has referenced SD-KPI Standard 2016-2021

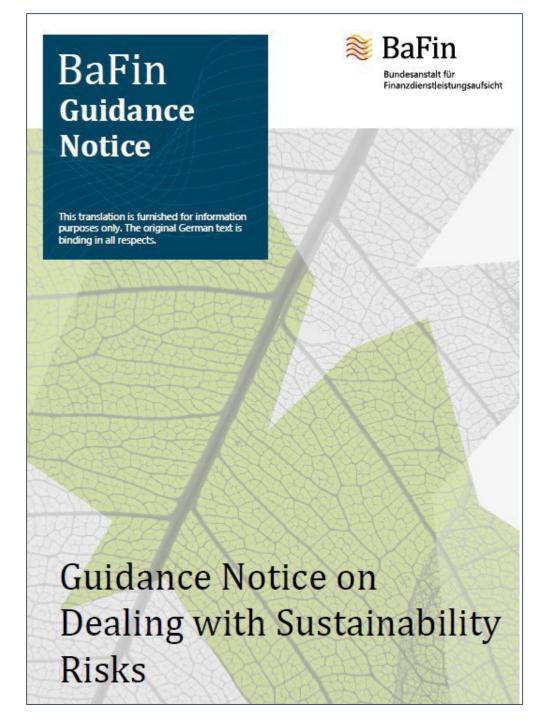
3 Strategies of supervised entities [...]

3.1.2 If entities have voluntarily agreed to abide by **external sustainability standards**, or to implement recommendations, these **should be reflected in inhouse strategies and organisational guidelines.**

E.g.: "Principles for Responsible Banking", "Principles for Responsible Investment", "Principles for Sustainable Insurance", recommendations of the "Task Force on Climate-related Financial Disclosures", the German Sustainability Code (Nachhaltigkeitskodex), the SD-KPI Standard 2016-2021

3.2.2 Which business areas are exposed to a transition risk? Is the risk material? Should the affected areas be continued, scaled back or adapted? [...]

E.g.: [...] requirements for counterparties to comply with the disclosure recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the EU Commission's guidelines on nonfinancial reporting, the Sustainability Code or the SD-KPI Standard 2016-2021.



German Sustainability Code (DNK) referred to the SD-KPI Standard as a supplement for industry-specific material issues

Materiality analysis

The SD-KPI standard, which defines three particularly significant sustainability risks for 68 different industries (so-called Sustainable Development Key Performance Indicators [SD-KPIs]), also provides guidance. It was created by SD-M® on behalf of the Federal Ministry for the Environment (see www.sd-kpi.com/en/sd-kpi-standards.html).





IFRS Foundation: International Sustainability Standards Board (ISSB)

- On 3 November 2021, IFRS Foundation Trustees announced creation of ISSB to develop a comprehensive global baseline of sustainability-related disclosure standards
- material information for its primary users (i.e., existing and potential investors, lenders and other creditors), which could affect the enterprise value (amount, timing and certainty of future cash flows).
- > HQ: Frankfurt; Chair Emmanuel Faber; Co-Chair Sue Lloyd

Figure 1: Architecture of Standards

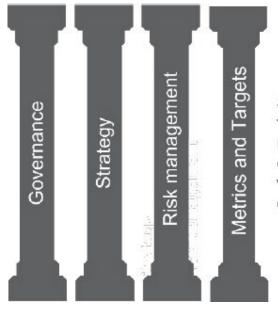
Presentation

(general requirements)

Themes (first: climate)

Industry

(disclosures specific to an industry)



Standards focused on matters critical to the way an entity operates



June 2023

IFRS S1

IFRS® Sustainability Disclosure Standard

General Requirements for Disclosure of Sustainability-related Financial Information

The objective of IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information is to require an entity to disclose information about its sustainability-related risks and opportunities that is useful to primary users of general purpose financial reports in making decisions relating to providing resources to the entity.¹

Materiality

An entity shall disclose *material information* about the sustainability-related risks and opportunities that could reasonably be expected to affect the entity's prospects.

IFRS SUSTAINABILITY DISCLOSURE STANDARD S1 GENERAL REQUIREMENTS FOR DISCLOSURE OF SUSTAINABILITY-RELATED FINANCIAL INFORMATION

OBJECTIVE	1
SCOPE	5
CONCEPTUAL FOUNDATIONS	10
Fair presentation	11
Materiality	17
Reporting entity	20
Connected information	21
CORE CONTENT	25
Governance	26
Strategy	28
Risk management	43
Metrics and targets	45
GENERAL REQUIREMENTS	54
Sources of guidance	54
Location of disclosures	60
Timing of reporting	64
Comparative information	70
Statement of compliance	72
JUDGEMENTS, UNCERTAINTIES AND ERRORS	74
Judgements	74

77

2023

Measurement uncertainty



June 2023

IFRS S2

IFRS® Sustainability Disclosure Standard

Climate-related Disclosures

The objective of IFRS S2 Climate-related Disclosures is to require an entity to disclose information about its climate-related risks and opportunities that is useful to primary users of general purpose financial reports in making decisions relating to providing resources to the entity.¹

This Standard applies to:

- (a) climate-related risks to which the entity is exposed, which are:
 - (i) climate-related physical risks; and
 - (ii) climate-related transition risks; and
- (b) climate-related opportunities available to the entity.

Climate-related risks and opportunities that could not reasonably be expected to affect an entity's prospects are outside the scope of this Standard.

IFRS SUSTAINABILITY DISCLOSURE STANDARD S2 CLIMATE-RELATED DISCLOSURES

OBJECTIVE	
SCOPE	13
CORE CONTENT	
Governance	
Strategy	
Risk management	2
Metrics and targets	2
APPENDICES	
A Defined terms	
B Application guidance	
C Effective date and transition	
APPROVAL BY THE ISSB OF IERS S2 ISSUED IN JUNE 2023	

FOR THE ACCOMPANYING GUIDANCE LISTED BELOW, SEE PART B OF THIS EDITION

ILLUSTRATIVE GUIDANCE

ILLUSTRATIVE EXAMPLES

INDUSTRY-BASED GUIDANCE ON IMPLEMENTING IFRS \$2

FOR THE BASIS FOR CONCLUSIONS, SEE PART C OF THIS EDITION

BASIS FOR CONCLUSIONS

IFRS Foundation: International Sustainability Standards Board (ISSB)



May 2023

Exposure Draft

IFRS® Sustainability Disclosure Standard

Methodology for Enhancing the International Applicability of the SASB[®] Standards and SASB Standards Taxonomy Updates

Comments to be received by 9 August 2023

In connection with the International Applicability of SASB Standards Project, blackline documents detailing revisions to the SASB Standards have been published on SASB.org.

These revisions do not substantially alter the SASB Standards' structure or intent.

The revisions will not be final until ratified and issued by the ISSB, anticipated in December 2023

With over 3,000 companies in more than 70 jurisdictions, including 74% of the S&P Global 1200 Index, already applying the SASB Standards, this initiative aims to ensure their ongoing effectiveness in supporting industry-specific sustainability disclosures.

European Sustainability Reporting Standards: Structure of the ESRS sustainability statement

Mandatory for large companies

- > 250 employees
- > 25 million € balance sheet
- > 50 million € turnover

Part of the management report	ESRS codification	Title
General information	ESRS 2	General disclosures, including information provided under the Application Requirements of topical ESRS listed in ESRS 2 Appendix C.
2. Environmental information	Not applicable	Disclosures pursuant to Article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation)
	ESRS E1	Climate change
	ESRS E2	Pollution
	ESRS E3	Water and marine resources
	ESRS E4	Biodiversity and ecosystems
	ESRS E5	Resource use and circular economy
3. Social information	ESRS S1	Own workforce
	ESRS S2	Workers in the value chain
	ESRS S3	Affected communities
	ESRS S4	Consumers and end-users
4. Governance information	ESRS G1	Business conduct

ESRS 2: General Disclosures

Objective

1. Basis for preparation

Disclosure Requirement BP-1 – General basis for preparation of sustainability statements

Disclosure Requirement BP-2 – Disclosures in relation to specific circumstances

2. Governance

Disclosure Requirement GOV-1 – The role of the administrative, management and supervisory bodies

Disclosure Requirement GOV-2 – Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies Disclosure Requirement GOV-3 - Integration of sustainability-related performance in incentive schemes

Disclosure Requirement GOV-4 - Statement on due diligence Disclosure Requirement GOV-5 - Risk management and internal controls over sustainability reporting

3. Strategy

Disclosure Requirement SBM-1 – Strategy, business model and value chain Disclosure Requirement SBM-2 – Interests and views of stakeholders Disclosure Requirement SBM-3 - Material impacts, risks and opportunities and their interaction with strategy and business model

ESRS 2: General Disclosures

- 4. Impact, risk and opportunity management
- 1. Disclosures on the materiality assessment process

Disclosure Requirement IRO-1 - Description of the processes to **identify and assess material impacts**, **risks and opportunities**

Disclosure Requirement IRO-2 – Disclosure requirements in ESRS covered by the undertaking's sustainability statement

2. Minimum disclosure requirement on policies and actions Minimum disclosure requirement - Policies MDR-P – Policies adopted to manage material sustainability matters

Minimum disclosure requirement - Actions MDR-A – Actions and resources in relation to material sustainability matters

5. Metrics and targets

Minimum disclosure requirement – Metrics MDR-M – Metrics in relation to material sustainability matters

Minimum disclosure requirement – Targets MDR-T – Tracking effectiveness of policies and actions through targets

10 Topical ESRS with 93 Sub-(sub-)topics

Topical ESRS		Sustainability matters co	vered in topical ESRS
	Topic	Sub-topic	Sub-sub-topics
ESRS E1	Climate change	Climate change adaptationClimate change mitigationEnergy	
ESRS E2	Pollution	 Pollution of air Pollution of water Pollution of soil Pollution of living organisms and food resources Substances of concern Substances of very high concern Microplastics 	
ESRS E3	Water and marine resources	Water Marine resources	 Water consumption Water withdrawals Water discharges Water discharges in the oceans Extraction and use of marine resources
ESRS E4	Biodiversity and ecosystems	Direct impact drivers of biodiversity loss	Climate Change Land-use change, fresh water-use change and sea-use change Direct exploitation Invasive alien species Pollution Others
		Impacts on the state of species	Examples:
		Impacts on the extent and condition of ecosystems	Examples: Land degradation Desertification Soil sealing
		 Impacts and dependencies on ecosystem services 	

10 Topical ESRS with 93 Sub-(sub-)topics

Topical ESRS	Sustainability matters covered in topical ESRS					
·	Topic	Sub-topic	Sub-sub-topics			
ESRS E5	Circular economy	Resources inflows, including resource use Resource outflows related to products and services Waste				
ESRS S1	Own workforce	Working conditions	Secure employment Working time Adequate wages Social dialogue Freedom of association, the existence of works councils and the information, consultation and participation rights of workers Collective bargaining, including rate of workers covered by collective agreements Work-life balance Health and safety			
		Equal treatment and opportunities for all	Gender equality and equal pay for work of equal value Training and skills development Employment and inclusion of persons with disabilities Measures against violence and harassment in the workplace Diversity			
		Other work-related rights	Child labour Forced labour Adequate housing Privacy			
ESRS S2	Workers in the value chain	Working conditions	Secure employment Working time Adequate wages Social dialogue Freedom of association, including the existence of work councils Collective bargaining Work-life balance Health and safety			
		Equal treatment and opportunities for all	Gender equality and equal pay for work of equal value Training and skills development The employment and inclusion of persons with disabilities Measures against violence and harassment in the workplace Diversity			
		Other work-related rights	Child labour Forced labour Adequate housing Water and sanitation Privacy			

10 Topical ESRS with 93 Sub-(sub-)topics

Topical ESRS		Sustainability matters co	overed in topical ESRS
	Topic	Sub-topic	Sub-sub-topics
ESRS S3	Affected communities	Communities' economic, social and cultural rights	 Adequate housing Adequate food Water and sanitation Land-related impacts Security-related impacts
		Communities' civil and political rights	 Freedom of expression Freedom of assembly Impacts on human rights defenders
		 Rights of indigenous peoples 	Free, prior and informed consentSelf-determinationCultural rights
ESRS S4	Consumers and end- users	 Information-related impacts for consumers and/or end-users 	PrivacyFreedom of expressionAccess to (quality) information
		 Personal safety of consumers and/or end- users 	Health and safetySecurity of a personProtection of children
		 Social inclusion of consumers and/or end- users 	 Non-discrimination Access to products and services Responsible marketing practices
ESRS G1	Business conduct	 Corporate culture Protection of whistle- blowers Animal welfare Political engagement Management of relationships with suppliers including payment practices 	
		Corruption and bribery	 Prevention and detection including training Incidents

Comparison of the three Standards

Use SD-KPI/SASB(ISSB) for materiality analysis!

	SD-KPI Standards	SASB(ISSB)	CSRD/ESRS
Target Group	Investors, lenders, other creditors	Investors, lenders, other creditors	All Stakeholders
Materiality	Financial	Financial	Double Materiality
Number of Topics	3 high degree of overlap with SASB	3-9	10 Topics; 93 Sub-(sub-)topics subject to materiality analysis
Number of ESG KPIs	3-9 per industry Less is	3-24 per industry more!	1.159 data points
Sector-specific	68 Industries	77 Industries	postponed from June 2024 to June 2026; impacts, risk, opportunities NOT covered by topicals standards
Region	Global	ISSB will be the 'comprehensive global baseline' of sustainability disclosures for capital markets	Europe (+ large non-EU subsidiaries from 2028)
Standard setter/Regulator	SD-M, BMU, BaFin ref., DNK ref.	IFRS Foundation	EU commission / EFRAG
Mandatory	recommended for materiality analysis (of ESG risks) and as a "minimum reporting requirement"	to be endorsed by countries (so far: Australia, Brazil, Canada, Hong Kong, Japan, Kalifornien, Malaysia, New Zealand, Nigeria, Singapore, Taiwan, UK); G7 decision 12/2022; IOSCO called on 130 member jurisdictions to consider ISSB	in the EU

Benefits for capital markets? - Historical proxy data is already available

SD-KPInform®: 2 Databases for standardised material ESG KPIs

- > Collaborations of SD-M with Sustainalytics/Morningstar & imug rating/Moody's ESG
- > 19,000 companies worldwide are evaluated according to the SD-KPI Standards
- ➤ Scores for SD-KPI 1, 2, 3 and accumulated SD-KPIntegration® Score evaluated between 0-100 percent
- Historical SD-KPInform® databases could be used as a proxy for historical SASB (ISSB) data ("a high degree of overlap" in SD-KPI analysis and the SASB standards)
- ➤ Databases with a 14-year history (2009-2024) could be used for backtesting in asset management & credit portfolios
- Clients: asset managers, banks, index providers, data providers







Benefits for capital markets? – Proof for financial materiality of standardised ESG KPIs

SD-KPIndex® Methodology: Tilting conventional standard indices with standardised ESG KPIs

Indices for Sustainability Transition (no exclusions, just over-/underweighting)

SD-KPIntegration® Score	Overweighting / underweighting of the conventional index components
0,00% - 20%	-50%
20,01% - 40%	-25%
40,01% - 60%	0%
60,01% - 80%	+25%
80,01%-100%	+50%

Article 6 SFDR (EU) 2019/2088:

- 1. Financial market participants shall include descriptions of the following in pre-contractual disclosures:
- (a) the manner in which sustainability risks are integrated into their investment decisions; and
- (b) the results of the assessment of the likely impacts of sustainability risks on the returns of the financial products they make available.



Benefits for capital markets? – Proof for financial materiality of standardised ESG KPIs

SD-KPIndex® family

- > EURO iSTOXX 50 SD-KPI
- **→ iSTOXX Europe 50 SD-KPI**
- **▶ iSTOXX Europe 600 SD-KPI**
- > S&P 500 SD-KPI Strategies
- ➤ iBoxx SD-KPI EUR Corporates / Financial / Non-Financial
- ➤ iBoxx SD-KPI USD Corporates / Financial / Non-Financial
- ➤ iBoxx SD-KPI GBP Corporates / Financial / Non-Financial
- ➤ All SD-KPIndices show long-term outperformance against the standard index with small tracking errors





S&P Global



Outperformance of iSTOXX Europe 600 SD-KPI Index

Risk and return figures¹

Index returns				Re	eturn (%)			Anr	ualized ret	urn (%)
	Last month	YTD	1Y	3Y	5Y	Last month	YTD	1Y	3Y	5Y
iSTOXX Europe 600 SD-KPI Index	7.6	-7.7	-1.4	24.9	36.6	N/A	N/A	-1.4	7.8	6.5
STOXX Europe 600 Index	7.8	-7.9	-2.1	23.7	35.3	N/A	N/A	-2.1	7.4	6.3
Index volatility and risk	Annualized volatility (%) Annualized Sharpe ratio							pe ratio ²		
iSTOXX Europe 600 SD-KPI Index	17.3	21.0	18.0	20.4	17.4	N/A	N/A	-0.1	0.4	0.4
STOXX Europe 600 Index	17.7	21.2	18.1	20.6	17.5	N/A	N/A	-0.1	0.4	0.4
Index to benchmark		4500	10000	Cor	rrelation	16424	0000	w00400	Tracking	error (%)
iSTOXX Europe 600 SD-KPI Index	1.0	1.0	1.0	1.0	1.0	0.5	0.4	0.4	0.4	0.4
Index to benchmark	32.7				Beta			Annualiz	ed informa	tion ratio
iSTOXX Europe 600 SD-KPI Index	1.0	1.0	1.0	1.0	1.0	-3.8	1.0	1.7	0.8	0.5

¹ For information on data calculation, please refer to STOXX <u>calculation reference guide</u>.

(EUR, gross return), all data as of Jul. 29, 2022



STOXX Ltd. is part of Qontigo



² Based on EURIBOR1M

US 500: SD-KPI Tilt Strategies vs SPY ETF

Strategy	Composition	Weighting	Weight Modification Factor
US 500 SD-KPI Tilt 1A	Top-500 US-Listed US Companies by FF MCAP	Modified FF MCAP	Raw Integration Score/50
US 500 SD-KPI Tilt 4A	Top-500 US-Listed US Companies by FF MCAP	Modified FF MCAP	Integration Score Quintiles (-50% - +50% step up 25% for each quintile)



Annualized Returns							
SPY ETF SD-KPI1A SD-KPI4							
2024 YTD*	6.76%	5.74%	6.11%				
1 Yr	29.88%	29.09%	29.96%				
3 Yr	11.49%	10.78%	10.92%				
5 Yr	15.05%	15.72%	15.87%				
10 Yr	12.96%	13.63%	13.63%				

Annualized Volatility (monthly)									
	SPY ETF SD-KPI1A SD-KPI4A								
1 Yr	13.62%	14.05%	14.01%						
3 Yr	17.60%	18.28%	18.26%						
5 Yr	18.37%	18.81%	18.78%						
10 Yr	15.16%	15.49%	15.45%						

Information Ratio vs SPY						
	SD-KPI1A SD-KPI4A					
1 Yr	(0.65)	0.07				
3 Yr	(0.44)	(0.39)				
5 Yr	0.40	0.52				
10 Yr	0.48	0.53				



Outperforming S&P 500 by applying Systematic Strategies & SD-KPIs

SD-KPIs generate more Alpha & Return

+0.40%

VOLATILITY +0.08%

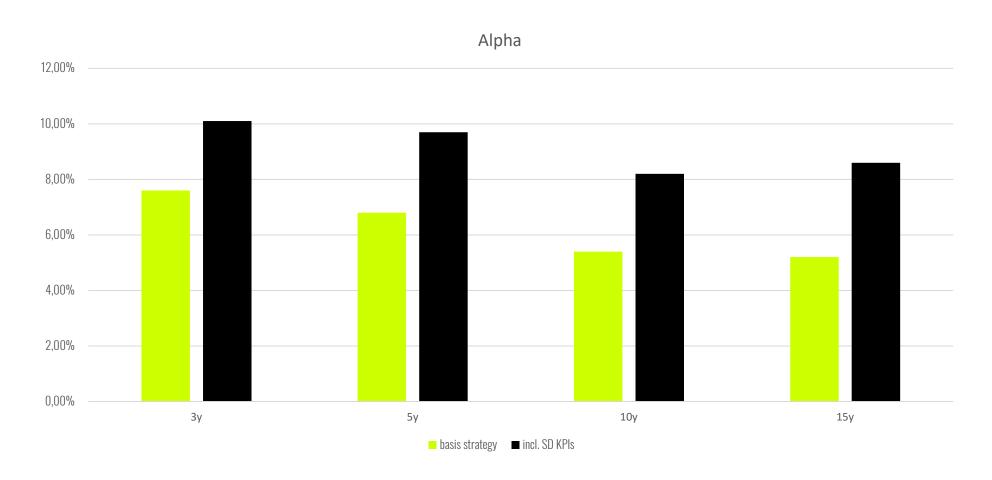
SHARPE RATIO +0_02

MAX DRAWDOWN -3.70%

All values (except max drawdown) annualized since September 2009



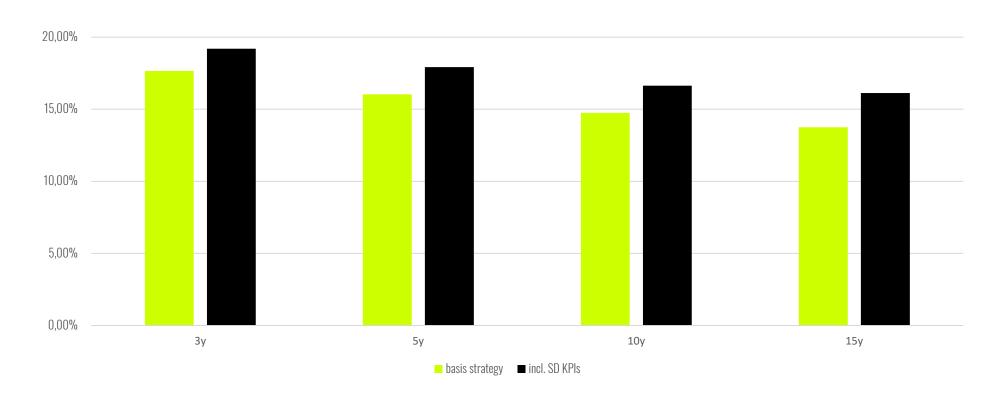
Alpha: Basis Strategy vs. Inclusion of SD-KPIs





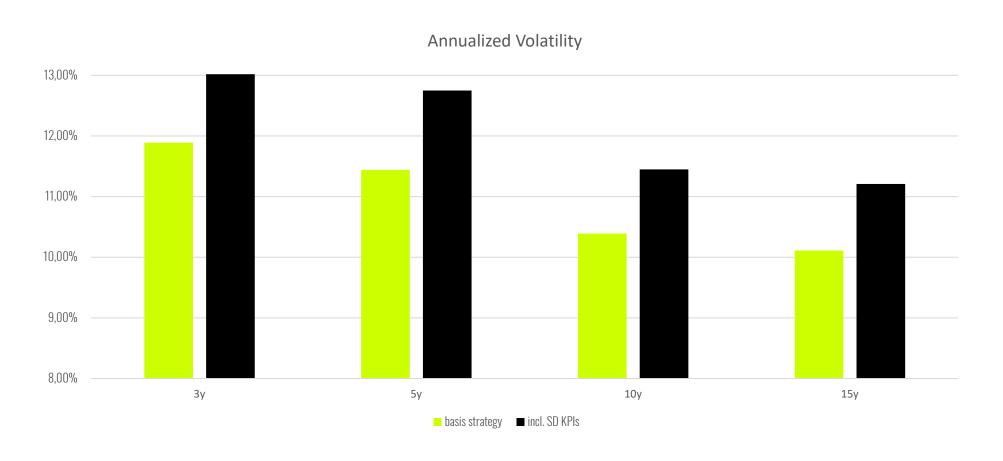
Annualized Return: Basis Strategy vs. Inclusion of SD-KPIs





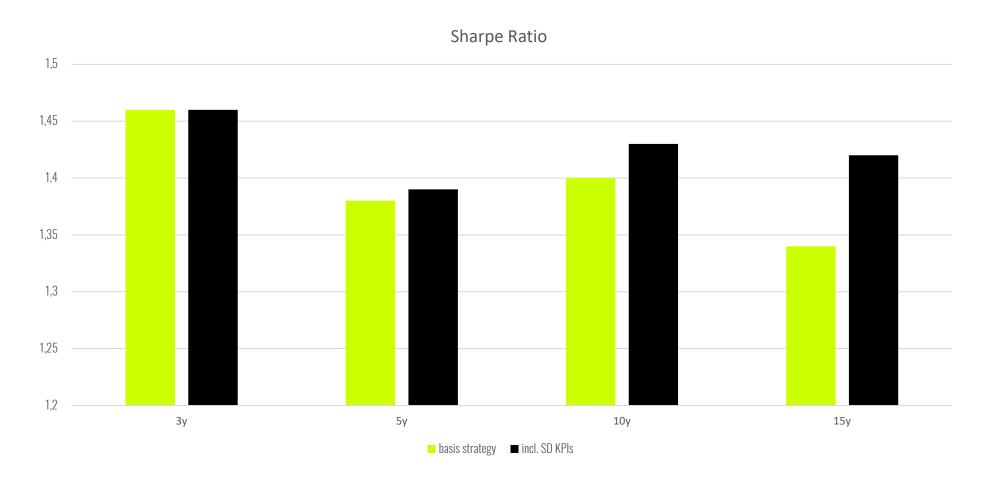


Annualized Volatility: Basis Strategy vs. Inclusion of SD-KPIs



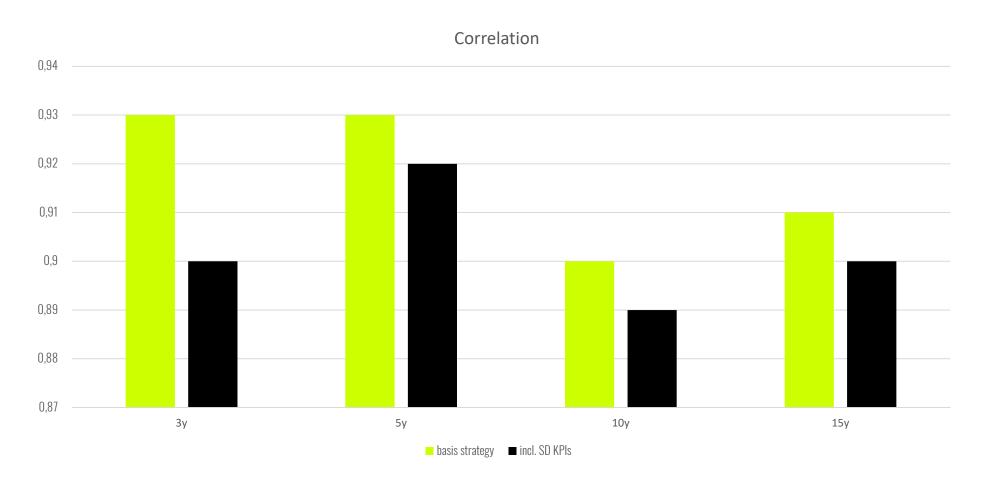


Sharpe Ratio: Basis Strategy vs. Inclusion of SD-KPIs





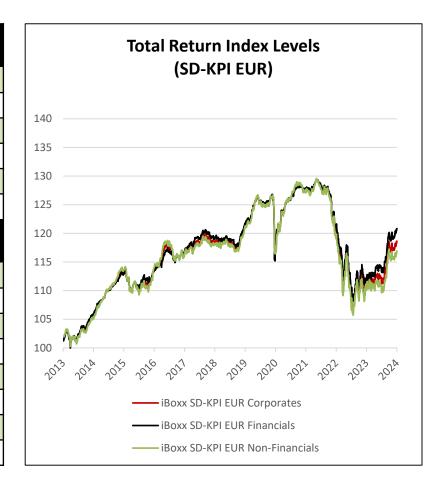
Correlation: Basis Strategy vs. Inclusion of SD-KPIs





iBoxx SD-KPI EUR – Index Performance

Period: 4/04/2013 – 01/04/2024	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates	iBoxx SD-KPI EUR Financials	iBoxx € Financials	iBoxx SD-KPI EUR Non- Financials	iBoxx € Non- Financials
Volatility	3.03%	3.03%	2.82%	2.87%	3.27%	3.26%
Annualized Return	1.37%	<mark>1.33%</mark>	1.57%	1.54%	1.22%	1.17%
Sharpe (0 rates)	0.45	0.44	0.56	0.54	0.37	0.36
Tracking Error	.003%		.003%		.003%	
Max Drawdown	-17.80%	-18.00%	-16.96%	-17.46%	-18.44%	-18.55%
Max Drawdown Date	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022	21/10/2022
Snapshot: 01/04/2024						
Annual Yield	3.63%	3.63%	3.80%	3.82%	3.52%	3.52%
Annual Modified Duration	4.48	4.52	3.92	3.92	4.96	4.96
Annual Spread	127	126	142	143	116	116
Expected Remaining Life	5.2	5.3	4.45	4.46	5.85	5.84
Coupon	2.24%	2.22%	2.37%	2.36%	2.12%	2.12%
Asset Swap Spread	101	101	115	116	91	91
OAS	125	125	141	142	114	114
Number of Bonds	3821	3821	1519	1519	2302	2302

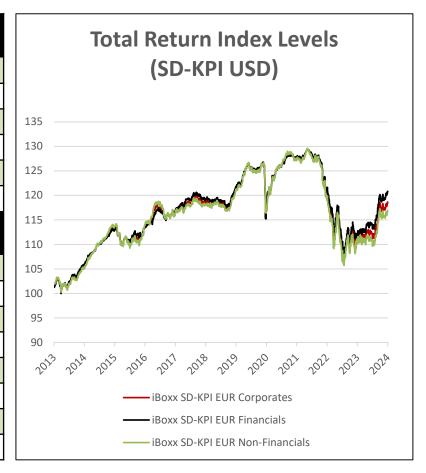






iBoxx SD-KPI USD – Index Performance

Period: 4/04/2013 – 01/04/2024	iBoxx SD-KPI USD Corporates	iBoxx \$ Corporates	iBoxx SD-KPI USD Financials	iBoxx \$ Financials	iBoxx SD-KPI USD Non- Financials	iBoxx \$ Non- Financials
Volatility	5.16%	5.19%	3.98%	3.98%	5.94%	5.93%
Annualized Return	2.28%	2.39%	2.50%	2.63%	2.12%	2.24%
Sharpe (0 rates)	0.44	0.46	0.63	0.66	0.36	0.38
Tracking Error	.005%		.004%		.007%	
Max Drawdown	-20.93%	-21.08%	-17.66%	-17.76%	-23.05%	-23.02%
Max Drawdown Date	21/10/2022	21/10/2022	20/10/2022	20/10/2022	21/10/2022	21/10/2022
Snapshot: 01/04/2024						
Annual Yield	5.56%	5.58%	5.62%	5.63%	5.53%	5.56%
Annual Modified Duration	6.2	6.3	4.75	4.77	7.22	7.22
Annual Spread	105	107	112	112	102	104
Expected Remaining Life	10.05	10.36	6.81	6.86	12.26	12.30
Coupon	4.06%	4.09%	4.06%	4.07%	4.06%	4.09%
Asset Swap Spread	139	140	139	139	138	141
OAS	103	105	111	112	100	102
Number of Bonds	8022	8022	2636	2636	5386	5386







TCBT VanEck iBoxx EUR Corporates UCITS ETF



Fund Details

Base Currency	EUR
Inception Date	14 April 2011
Domicile	The Netherlands
Net Assets	€33.6M
Shares Outstanding	2,108,390
Total Expense Ratio	0.15%
Product Structure	Physical (Full Replication)
UCITS Compliant	Yes
Rebalance Frequency	Quarterly
Distribution Frequency	Quarterly

Fund Description

30 September 2023

The VanEck iBoxx EUR Corporates UCITS ETF is a UCITS-compliant exchange-traded fund that invests in a portfolio of bond securities with the aim of providing investment returns that closely track the performance of the Markit iBoxx EUR Liquid Corporates Index.

Performance History* (%)

Month End as of 30 Sep 2023	1 MO*	3 MO*	YTD*	1 YR	3 YR	5 YR	10 YR	ETF INCEPTION
ETF	-1.31	-0.33	2.19	2.81	-4.07	-1.09	0.56	1.52
IBXXELTR (Index)	-1.30	-0.29	2.27	2.85	-4.02	-1.01	0.67	1.72

Index data up to 28th February 2022 EOD reflects index data of the Markit iBoxx EUR Liquid Corporates Index (IB8A). From 1st March 2022 onwards, the index data reflects that of the Fund's underlying index, the iBoxx SD-KPI EUR Liquid Corporates Index (IBXXELTR). Index history which includes periods prior to the index change shows a blended performance and is not intended for third party use.



Next step banking: ESG Standards for counterparty and credit risk analysis



EBA Report on management and supervision of ESG risks for credit institutions and investment firms (EBA/REP/2021/18)

- 3. Quantitative and qualitative indicators, metrics and methods to assess ESG risks
- 3.2 Methodological approaches for assessing and evaluating ESG risks
- 3.2.3 Exposure Method

"A key step towards making ESG ratings and evaluations more comparable, transparent and hence more effective, is a standardisation of the relevance and importance of different ESG factors for the various industries and companies."



Minimum Requirements for Risk Management (MaRisk), version of 29.06.2023

BTO 1 Credit business

BTO 1.2 Requirements relating to credit business processes

4 The aspects that are significant for the counterparty default risk of a credit exposure must be identified and assessed, whereby the intensity of these activities depends on the risk content of the exposure. Sector and, where applicable, country risks as well as the impact of ESG risks must be taken into account in an appropriate manner. When assessing the impact of ESG risks, an appropriately long period of time must be selected.

6 Depending on the risk content of the lending transactions, the risks of an exposure must be assessed using risk classification procedures both **as part of the lending decision and in regular or ad hoc assessments. The effects of ESG risks must be taken into account appropriately.** The risk classification must be reviewed annually.

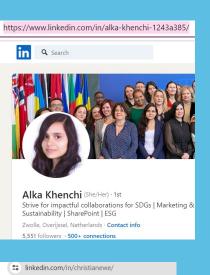
What is the correlation between the risk-adjusted outperformance effect of SD-KPIntegration in corporate bond portfolios and the probability of default (PD) in credit portfolios?

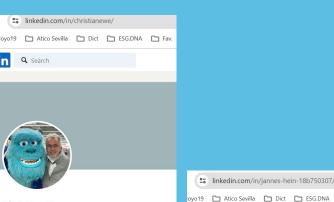


Conclusion: Global ESG standards and their benefits for capital markets

- > ISSB/SASB will prevail as a 'comprehensive global baseline' for financially material ESG disclosure
- ➤ Industry-specific standards like SD-KPI / SASB Standards are key for financial materiality
- ➤ Less is more: 3-9 standardised material ESG KPIs per industry are sufficient for steering of equity, corporate bond & credit portfolios
- ➢ Banks and asset managers could already start using 14 years of historical data for globally standardised material ESG KPIs
- ➤ Integration of standardised material ESG KPIs into mainstream equity, corporate bonds and credit portfolios have led to risk-adjusted outperformance effects in the long-term







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Christian Ewe · 1st

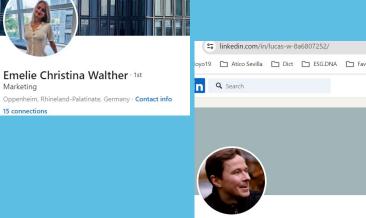


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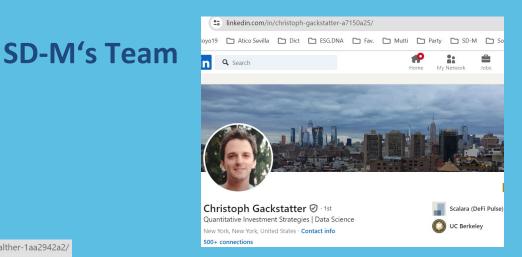
Q Search







Lucas Wand · 1st

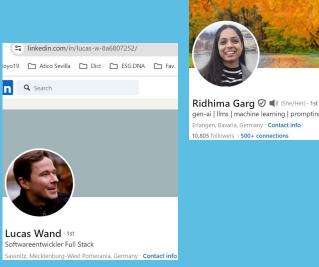


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