



IHS Markit™

# iBoxx SD-KPI Index® Family

February 2022

# ESG integrated seamlessly into IHS Markit index solutions



## Benchmark & Liquid Indices

Track performance, analyze asset allocation, performance attribution and manage risk against one of our index benchmark (fixed income, equity, CDS, structured products)



## Custom Indices

Designed and built to meet your unique investment requirement, leveraging our comprehensive data universe and partnerships in place around ESG, Smart Beta and Blend indices



## Index Management

Integrated data solution that provides daily composition data, corporate action and dividends and a forecast of index changes taking place in the near future



## Tradable Indices

Standardized TRS providing exposure on an unfunded basis to key segments of the global fixed income markets



## Custom Basket Calculation

Provides independent outsourced calculation services for an index of client-selected securities and the tracking and management of corporate events



## Custom Basket Integrated Sols.

A modular custom basket design optimisation environment to facilitate portfolio creation and trading between the buy-side and sell-side clients



## Investment Solutions

ETF issuers and structured product desks can issue ETF or derivatives tracking one of our existing benchmark or a newly created custom index



## Index Admin & Calculation

Services supporting benchmark regulatory compliance for the design, calculation and maintenance of indices as well as use of benchmark data



## VIIV and iNav Calculation

Verified Indicative Intraday Valuer for non-transparent ETFs and iNav calculation for equity ETFs

# Consistent growth in ESG

**\$1.95T**

AUM

Allocated to ESG funds and ETFs globally

**\$400+B**

AUM

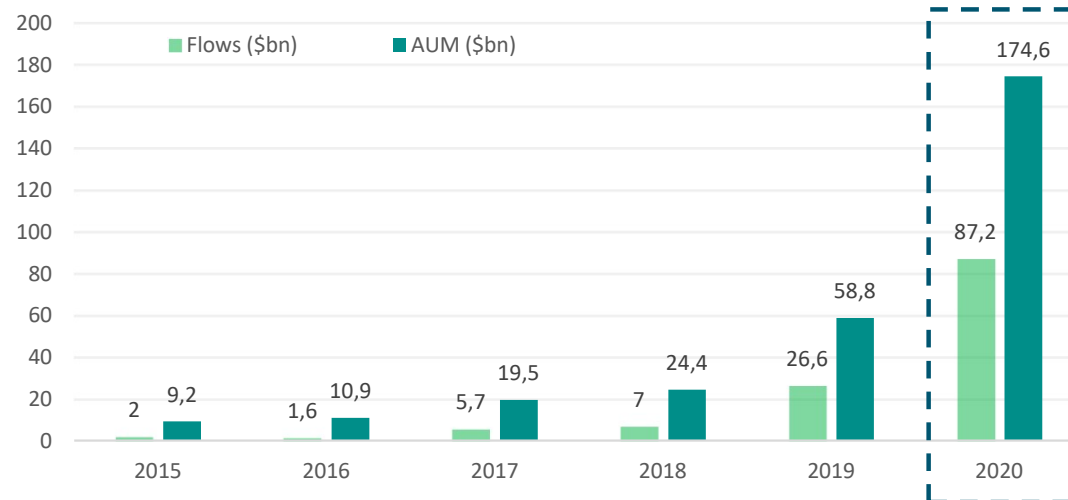
Allocated to FI ESG funds and ETFs globally

**450+**

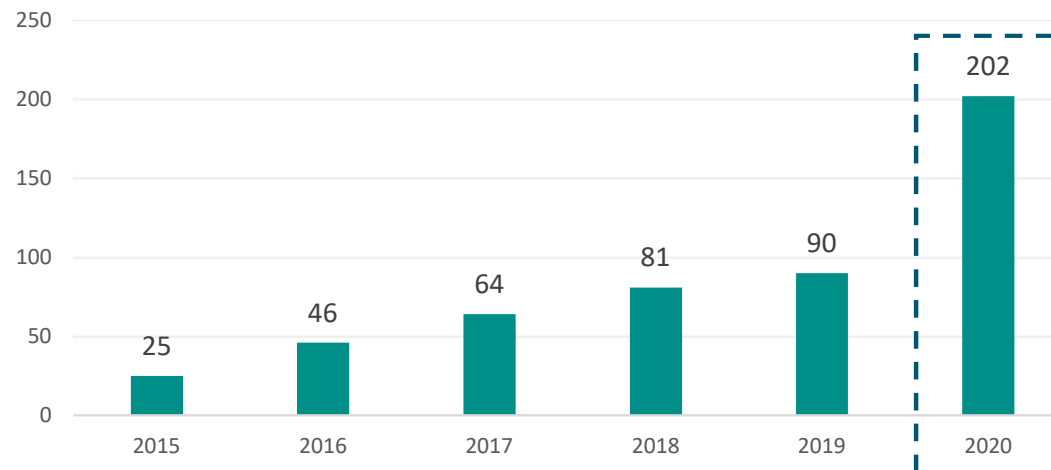
ESG funds dedicated to FI ESG globally

- Increased demand for ESG investments is both changing the landscape of debt markets and driving product innovation
- Strong demand from investor for green, social and sustainable bonds and impact finance solutions
- Increased commitment from financial institutions

ESG ETFs annual inflows and assets, 2014-2020

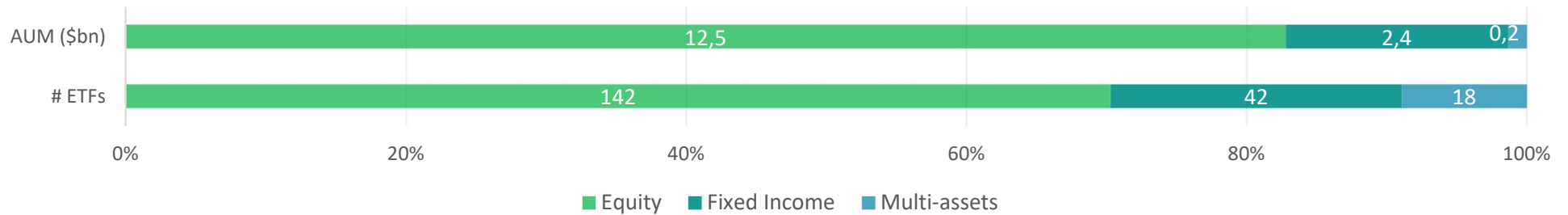


ESG ETFs by launch year

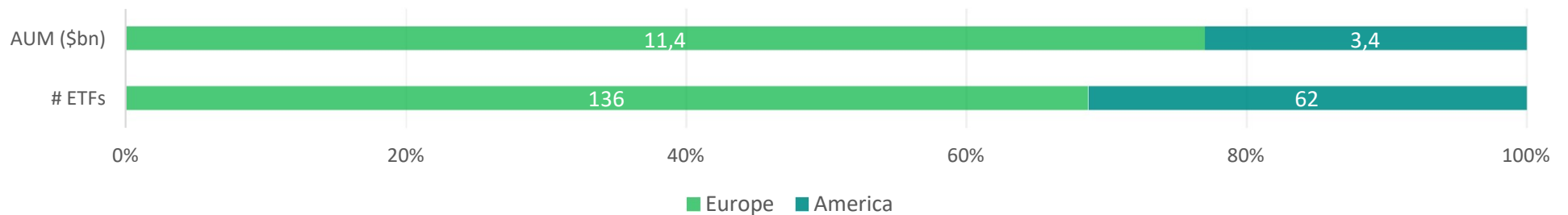


# Current ESG ETF landscape

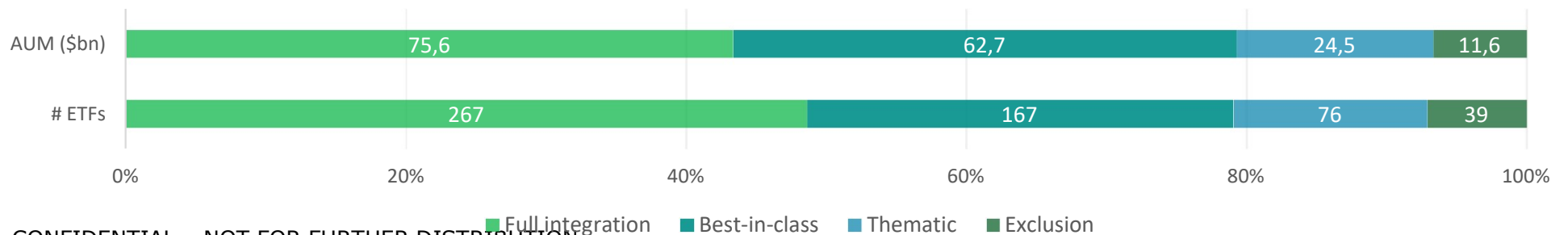
Asset class breakdown of 2020 ESG ETFs launches



Regional distribution of 2020 ESG ETFs launches



Application of four major US strategies



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# SD-M KPI Methodology

- SD-M® evaluates corporate bond issuers and assigns an accumulated "Sustainable Development Key Performance Indicator" (SD-KPI) score based on industry-specific SD-KPI standards
- SD-KPIIntegration® Scores range from 0 - 100. Bonds that are not covered by SD-M® GmbH will be given an SD-KPIIntegration® Score of 50.
  - > Applies an under-/overweight based on SD-KPI quintiles (-50%, -25%, 0%, +25, +50%).

## Markit iBoxx EUR Overall

Sovereigns		Non-Sovereigns	
Sovereigns	Sub-Sovereigns	Collateralized	Corporates
<ul style="list-style-type: none"> <li>• Eurozone Sovereigns                             <ul style="list-style-type: none"> <li>&gt; Eurozone country indices</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Other Sovereigns</li> <li>• Agencies</li> <li>• Public Banks</li> <li>• Regions</li> <li>• Supranationals</li> <li>• Other Sub-Sovereigns</li> </ul>	<ul style="list-style-type: none"> <li>• Covered                             <ul style="list-style-type: none"> <li>&gt; Country indices</li> </ul> </li> <li>• Securitized</li> <li>• Other Collateralized</li> </ul>	<ul style="list-style-type: none"> <li>• Financials                             <ul style="list-style-type: none"> <li>&gt; Market sector indices                                     <ul style="list-style-type: none"> <li>- Market sub-sector indices</li> </ul> </li> </ul> </li> <li>• Non-Financials                             <ul style="list-style-type: none"> <li>&gt; Market sector indices                                     <ul style="list-style-type: none"> <li>- Market sub-sector indices</li> </ul> </li> </ul> </li> </ul>

# iBoxx SD-KPI EUR Corporates Index Methodology

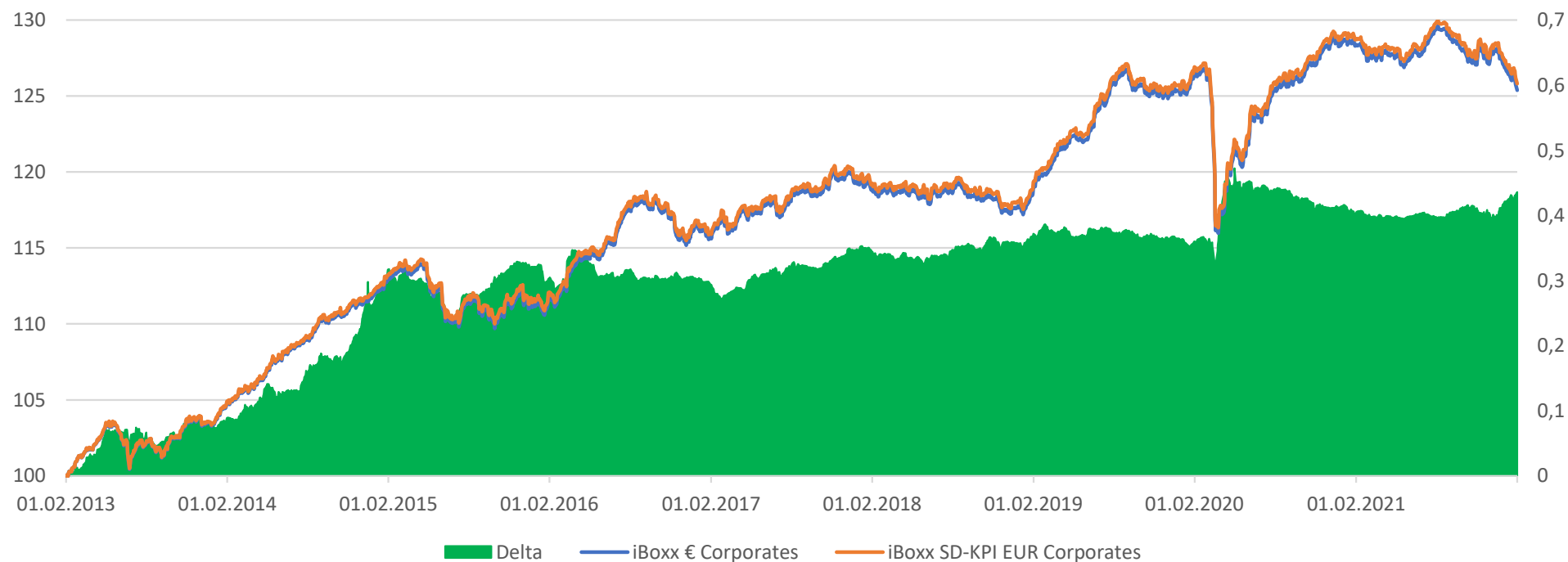
## iBoxx SD-KPI EUR Corporates Index

Issuer Type	Debt issued by public or private corporations
Amount Outstanding	Minimum EUR 500 million
Rating	Bonds must have an iBoxx rating of Investment Grade
Currency	Euro (EUR)
Calculation	Daily
Rebalancing	Monthly
History Start Date	31 January 2013
Weighting	Adjusted market value weighting. The original bond weight is multiplied by an adjustment factor based on a bond's "Sustainable Development Key Performance Indicator" (SD-KPI) scoring range. After all adjustments are made, bond weights are normalized.

iBoxx € Corporates Constituents	Adjustment factor based on SD-KPIs	iBoxx SD-KPI EUR Corporates Constituents
1.0%	1.5	1.5%
2.0%	1.25	2.5%
1.2%	1.0	1.2%
1.0%	0.75	0.5%
1.2%	0.5	0.6%
...	...	...

$1.2\% \times 1.0 = 1.2\%$

# iBoxx SD-KPI EUR Corporates



Index Returns	Annualized Return (%)				Annualized Volatility			
	1Y	3Y	5Y	Since inception	1Y	3Y	5Y	Since inception
iBoxx SD-KPI EUR Corporates	-2.13%	1.72%	1.59%	2.51%	1.75%	2.78%	2.42%	2.30%
iBoxx € Corporates	-2.16%	1.70%	1.57%	2.47%	1.76%	2.77%	2.42%	2.29%
Index volatility and risk	Sharpe Ratio				Max Drawdown (%)			
iBoxx SD-KPI EUR Corporates	-1.219	0.618	0.654	1.092	-3.25%	-8.51%	-8.51%	-8.51%
iBoxx € Corporates	-1.226	0.614	0.647	1.079	-3.29%	-8.53%	-8.53%	-8.53%
Index volatility and risk	Tracking Error							
iBoxx SD-KPI EUR Corporates	0.02%	0.03%	0.03%	0.03%				

## iBoxx SD-KPI EUR Corporates – Constituents

Sector	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates
Core Financials	34.4%	32.1%
Consumer Goods	12.7%	13.6%
Industrials	9.1%	9.4%
Utilities	9.0%	10.0%
Health Care	6.3%	6.1%
Telecommunications	6.2%	6.2%
Real Estate	6.1%	6.2%
Oil & Gas	5.1%	5.0%
Consumer Services	3.6%	3.7%
Technology	2.6%	2.7%
Basic Materials	2.5%	2.5%
Financial Services	2.3%	2.4%

Country of Risk	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates
FR	22.9%	21.9%
US	17.7%	18.7%
DE	14.5%	14.7%
GB	8.0%	8.2%
NL	7.3%	6.6%
ES	6.0%	5.6%
IT	4.3%	4.1%
CH	3.4%	3.3%
SE	2.3%	2.2%
AU	1.9%	2.0%
Others	11.7%	12.6%

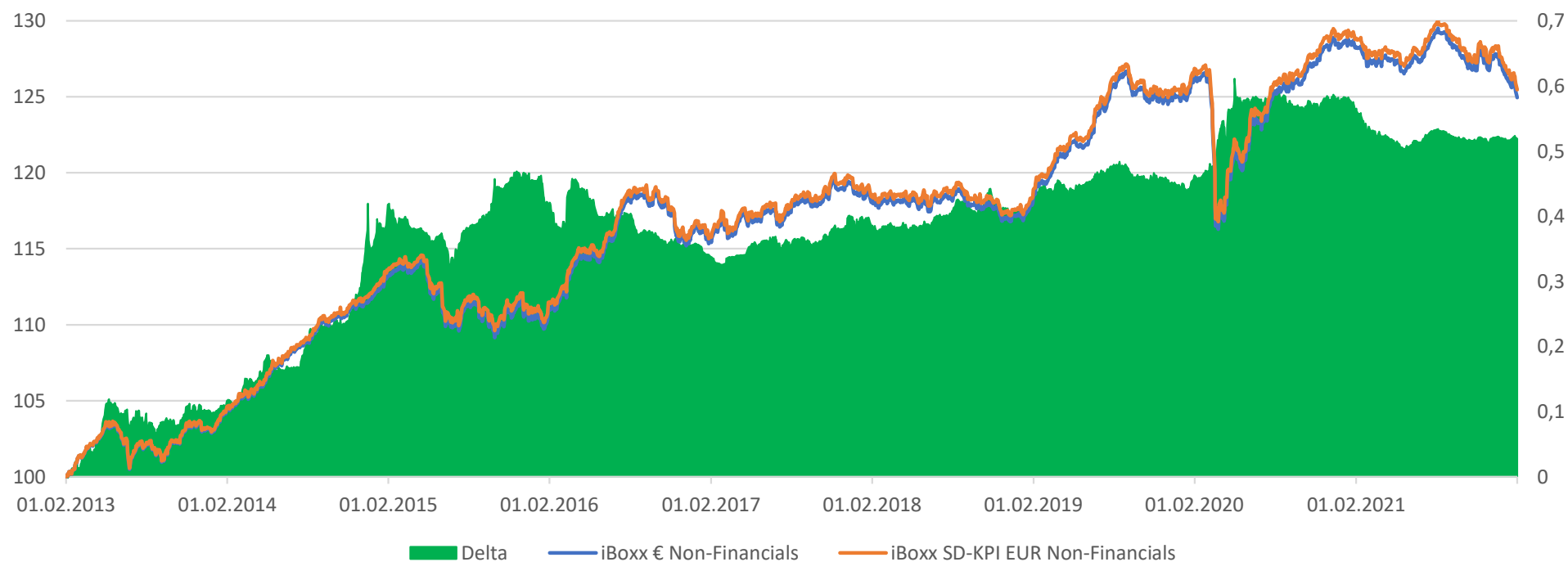
Issuer	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates
BNP Paribas SA	1.56%	1.48%
Banque Federative du Credit Mutuel SA	1.26%	1.21%
Societe Generale SA	1.15%	0.95%
Orange SA	1.03%	0.97%
The Goldman Sachs Group Inc	0.95%	0.93%
BPCE SA	0.94%	0.89%
CaixaBank SA	0.90%	0.75%
Unibail-Rodamco-Westfield SE	0.86%	0.70%
Volkswagen International Finance NV	0.85%	0.98%
Electricite de France SA	0.85%	0.67%
Deutsche Bahn Finance GmbH	0.84%	0.69%
ING Groep NV	0.84%	0.83%
JPMorgan Chase & Co	0.78%	0.73%
Telefonica Emisiones SAU	0.78%	0.60%
Eni SpA	0.76%	0.72%
BMW Finance NV	0.75%	0.70%

Rating	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates
AAA	0%	0%
AA	9%	9%
A	40%	39%
BBB	51%	52%

Maturity	iBoxx SD-KPI EUR Corporates	iBoxx € Corporates
1-5 Years	53.4%	52.4%
5-10 Years	36.5%	37.0%
10-15 Years	6.9%	7.2%
15+ Years	3.2%	3.3%

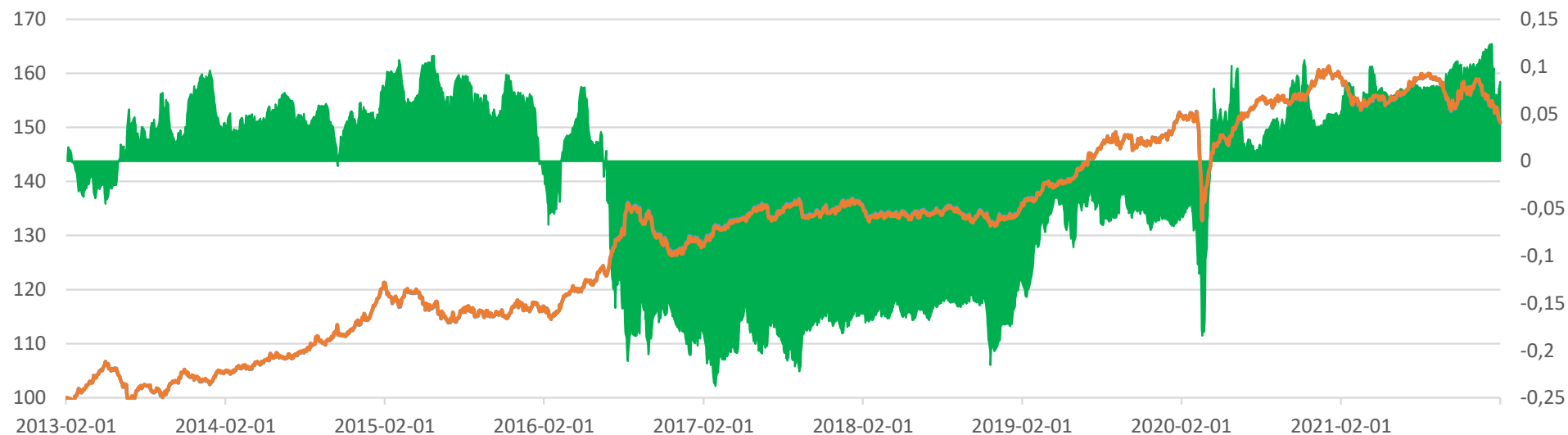


# iBoxx SD-KPI EUR Non-Financials



Index Returns	Annualized Return (%)				Annualized Volatility			
	1Y	3Y	5Y	Since inception	1Y	3Y	5Y	Since inception
iBoxx SD-KPI EUR Non-Financials	-2.43%	1.75%	1.56%	2.48%	1.94%	2.86%	2.53%	2.45%
iBoxx € Non-Financials	-2.41%	1.74%	1.53%	2.43%	1.93%	2.84%	2.52%	2.44%
Index volatility and risk	Sharpe Ratio				Max Drawdown (%)			
iBoxx SD-KPI EUR Non-Financials	-1.257	0.615	0.615	1.012	-3.52%	-8.14%	-8.14%	-8.14%
iBoxx € Non-Financials	-1.251	0.611	0.608	0.997	-3.52%	-8.20%	-8.20%	-8.20%
Index volatility and risk	Tracking Error							
iBoxx SD-KPI EUR Non-Financials	0.02%	0.03%	0.03%	0.05%				

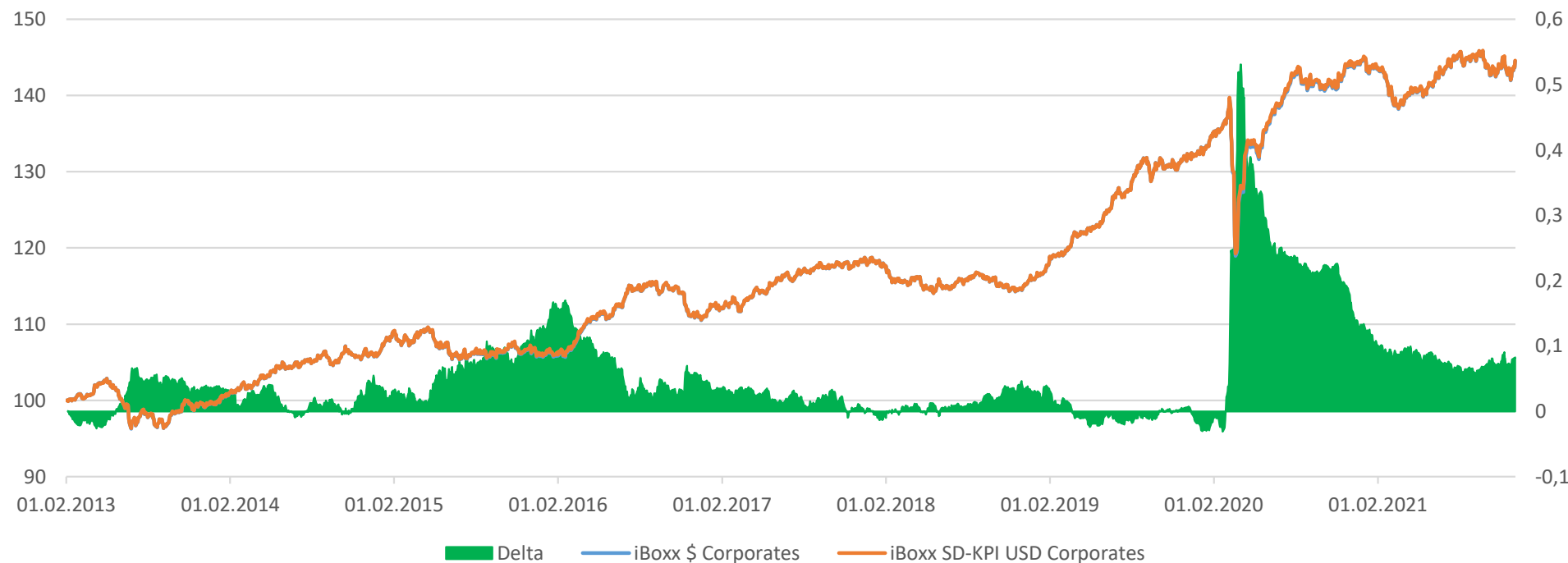
# iBoxx SD-KPI GBP Corporates



■ Delta   
 — iBoxx £ Corporates   
 — iBoxx SD-KPI GBP Corporates

Index Returns	Annualized Return (%)				Annualized Volatility			
	1Y	3Y	5Y	Since inception	1Y	3Y	5Y	Since inception
iBoxx SD-KPI GBP Corporates	-4.92%	3.43%	3.19%	4.57%	4.47%	5.63%	4.98%	5.00%
iBoxx £ Corporates	-4.94%	3.38%	3.15%	4.57%	4.48%	5.62%	4.98%	5.02%
Index volatility and risk	Sharpe Ratio				Max Drawdown (%)			
iBoxx SD-KPI GBP Corporates	-1.101	0.608	0.640	0.914	-6.47%	-13.18%	-13.18%	-13.18%
iBoxx £ Corporates	-1.103	0.600	0.633	0.910	-6.49%	-13.10%	-13.10%	-13.10%
Index volatility and risk	Tracking Error							
iBoxx SD-KPI GBP Corporates	0.05%	0.58%	0.45%	0.34%				

# iBoxx SD-KPI USD Corporates



Index Returns	Annualized Return (%)				Annualized Volatility			
	1Y	3Y	5Y	Since inception	1Y	3Y	5Y	Since inception
iBoxx SD-KPI USD Corporates	-2.80%	5.33%	4.37%	3.71%	4.35%	5.76%	4.86%	4.38%
iBoxx \$ Corporates	-2.79%	5.32%	4.36%	3.70%	4.34%	5.78%	4.88%	4.40%
Index volatility and risk	Sharpe Ratio				Max Drawdown (%)			
iBoxx SD-KPI USD Corporates	-0.642	0.925	0.899	0.847	-4.72%	-14.65%	-14.65%	-14.65%
iBoxx \$ Corporates	-0.642	0.920	0.894	0.841	-4.69%	-14.84%	-14.84%	-14.84%
Index volatility and risk	Tracking Error							
iBoxx SD-KPI USD Corporates	0.03%	0.10%	0.08%	0.07%				

# ESG & impact finance ongoing research

The IHS Markit Index Research team is dedicated to promoting engagement and dialogue around ESG

**IHS Markit**

## Investing in fixed income with a targeted positive impact

iBoxx® Global Green, Social and Sustainability Index Primer

**Sebastian Meyer**, Director, Fixed Income Indices  
**Karim Heride**, Associate, Fixed Income Indices

**IHS Markit**

## Inflation resistance:

iBoxx inflation-linked indices as tools to manage inflation risk and diversify returns  
 Illustrated via the iBoxx US inflation-linked index ecosystem

**Rahul Sharma**, Director, Indices  
**Karim Heride**, Associate, Indices

**IHS Markit**

## A Global Price for Carbon Emissions

IHS Markit | Climate Finance Partners (CLIF)

White Paper - April 2020

**IHS Markit**

## Searching for 'Greenium'

Evidence of a green pricing premium in the secondary Euro-denominated investment grade corporate bond market

**Sebastian Meyer**, Director, Fixed Income Indices  
**Karim Heride**, Associate, Fixed Income Indices

**IHS Markit**

ESG Research  
 1 Oct 2020  
 Issue 14

## Climate and Sustainable Finance

### Searching for 'Greenium': Evidence of a green pricing premium in the secondary bond market

Green bonds are functionally similar to conventional non-green fixed income securities but contain a 'Tie of Promise' pledge towards 'Green' activities. Rated funds are earmarked by issuers for contributing towards achieving environmental objectives. The purpose of green bonds is to 'internalise environmental externalities and adjust risk perceptions'. Environmental objectives include climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, pollution prevention, and pollution control.

Whilst investors are engaged to the activities and targeted, measurable positive impact of specific projects, green bonds crucially provide holders with exposure to the credit risk of the issuer rather than to specific projects. The similarities in the mechanics and profile of green bonds suggest that they should be pari passu with non-green bonds of an identical issuer, sector, and opportunity. This principle of equivalence and assumed flat pricing does not always hold in practice.

**iBoxx ESG Green Bonds Index trade at tighter spreads to their closest benchmark**

**Authors:** Sebastian Meyer, Managing Director, Sustainable Finance  
**Authors:** Sebastian Meyer, Director, Fixed Income Indices  
**Author:** Karim Heride, Associate, Fixed Income Indices

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ESG Research  
 27 August 2020  
 Issue 12

## Climate and Sustainable Finance

### Maritime ammonia: size matters

IHS Markit predicts that marine ammonia could double the world market for ammonia by 2050

The imperative of developing a carbon free economy poses particular issues for the shipping industry, which relies on hydrocarbon fuels as a practical means of providing the necessary energy resource for lengthy journeys where 'recharging' on water is not possible. In April 2018, the International Maritime Organization (IMO) adopted a goal of reducing the total annual greenhouse gas emissions from shipping by at least 50% by 2050 compared to 2008. In order to achieve this goal, it recognises that it will be necessary to introduce new vessels with zero carbon capability within this decade.

In this context, shipping companies have been considering the practicalities of using alternative fuels to either reduce or eliminate carbon emissions. The main focus has been on four potential substitutes for existing shipping fuels: LNG, methanol, ammonia or

**Authors:** Kevin Brown, Managing Director, Sustainable Finance  
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**IHS Markit**

ESG Research  
 6 August 2020  
 Issue 11

## Climate and Sustainable Finance

### Climate: Is the energy transition helped or hindered by COVID-19 response measures?

Key Implications

The billions of dollars being allocated for coronavirus 2019 (COVID-19) pandemic recession-related rescue and recovery plans have presented a unique opportunity for countries to tie aid and grants to future low carbon commitments. But has it been happening? IHS Markit reviewed over 100 fiscal and regulatory measures announced from March to June 2020 to assess whether the actions and associated qualifications would help or hinder the transition towards a lower carbon economy. Measures which would further a transition moved in the direction of our green long-term energy scenario, while those which supported the status quo moved towards the less green.

The OECD countries have been leaders in furthering the energy transition, by attaching climate-related strings to recovery packages especially in Europe and Canada. The United States and Mexico are notable exceptions, with the US rolling back fuel economy standards and Mexico's putting a hold on new wind and solar projects.

**Authors:** Kevin Brown, Managing Director, Sustainable Finance  
**Author:** Simon Spratt, Vice President, Gas, Power, and Energy Futures  
**Author:** Steven Knell, Senior Director, Gas, Power, and Energy Futures

Do you have any Questions?

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# ESG Factors Disclosure

Disclosure Factors	Description
Item 5a-c: List of Environmental, Social, and Governance factors considered	SD-KPI scores are driven by 3 industry specific key performance indicators (KPIs). The full list of material ESG KPIs for the 68 different industries is outlined here: <a href="https://www.SD-KPI.com/files/SD-KPI_Standard_2016-2021.pdf">https://www.SD-KPI.com/files/SD-KPI_Standard_2016-2021.pdf</a> . The SD-KPI Standard includes the weighting of SD-KPI 1, 2 and 3 in the accumulated SD-KPIIntegration® Score in %. The index components of the iBoxx Standard index are over-/underweighted according the quintile (0-20-40-60-80-100%) of SD-KPIIntegration Score to form the iBoxx SD-KPI index.
Item 7a(i): Source of input	The SD-KPI scores are sourced externally from SD-M® GmbH and its SD-KPIIntegration® Database, which builds the main source. It has modeled the SD-KPI Standards since 2009 in collaboration with Sustainalytics, which has provided the ESG raw scores.
Item 7a(ii): Data input	The input data is sourced from the SD-KPIInform® database, which covers more than 12,000 companies worldwide (as of December 2020).
Item 7b: Verification and quality of data	The ESG raw scores for the SD-KPIInform® database are assured by Sustainalytics' total quality management. The quality of the calculated SD-KPIInform® Scores is assured by SD-M's monthly plausibility checks.
Item 7c: International reference standards	<p>The SD-KPI Standards have been developed on behalf of the German Government and Big Four Accounting Firms since 2004. This scientific work has been done by SD-M according to the EU Modernisation Directive 2003/51/EC of the European Parliament and of the Council of 18 June 2003 amending the EC Accounting Directives 78/660/EEC, 83/349/EEC, 86/635/EEC and 91/674/EEC on the annual and consolidated accounts of certain types of companies, banks and other financial institutions and insurance undertakings. The Accounting Directives demand disclosure of „non-financial key performance indicators relevant to the particular business, including information relating to environmental and employee matters“ since 2003. <a href="https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003L0051&amp;from=en">https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003L0051&amp;from=en</a> <a href="https://www.sd-kpi.com/en/sd-kpi-standards.html">https://www.sd-kpi.com/en/sd-kpi-standards.html</a></p> <p>First published in January 2010, the SD-KPI Standard 2010-2015 was the first global standard for material sector-specific ESG indicators. SD-M® surveyed global investors and analysts, who represented EUR 2 trillion in assets, on behalf of the German Government. The SD-KPI Standard 2016-2021 is currently available in English, Japanese, Chinese and Arabic versions: <a href="https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021.pdf">https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021.pdf</a> <a href="https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_JP.pdf">https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_JP.pdf</a> <a href="https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_CN.pdf">https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_CN.pdf</a> <a href="https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_Arabic.pdf">https://www.sd-kpi.com/files/SD-KPI_Standard_2016-2021_Arabic.pdf</a></p> <p>According to the BaFin Guidance Notice on Dealing with Sustainability Risks, ESG risks should be strategically considered, e.g. by means of SD-KPI Standard 2016-2021, which defines three material ESG KPIs in 68 industries. <a href="http://www.sd-kpi.com/files/BaFin_Guidance_Notice_Sustainability_Risks_SD-KPI_Standard_pages19-20.pdf">http://www.sd-kpi.com/files/BaFin_Guidance_Notice_Sustainability_Risks_SD-KPI_Standard_pages19-20.pdf</a></p> <p>The SD-KPI Standard 2016-2021 has been further supported by the Sustainability Accounting Standards Board (SASB), see page 3 of the introduction: The SD-KPI Standard 2016-2021 was revised by SASB's Technical Director Andrew Collins. 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.</p> <p>The SD-KPI Standard 2016-2021 was further revised during a workshop at the German Environment and Building Ministry with the following participants: Joachim Ganse (KPMG), Dr. Hendrik Garz (Sustainalytics), Tommy Piemonte (imug), Dr. Eckhard Plinck (Vescore), Marcus Pratsch (DZ Bank), Andrea Weber (Bank J. Safra Sarasin) and Patrick Wirth (GES Switzerland).</p> <p>S&amp;P Dow Jones Indices gave the allowance to further use the Global Industry Classification Standard (GICS) as a part of the structure of the SD-KPI Standards.</p> <p>The Guidelines to The Sustainability Code recommends the SD-KPI Standards for materiality analysis. <a href="http://www.sd-kpi.com/files/BaFin_Guidance_Notice_Sustainability_Risks_SD-KPI_Standard_pages19-20.pdf">http://www.sd-kpi.com/files/BaFin_Guidance_Notice_Sustainability_Risks_SD-KPI_Standard_pages19-20.pdf</a> (German).</p> <p>Together with the German Environment Ministry, SD-M® has also published the brochure "Material for business and financial performance – non-financial key performance indicators relevant to the particular business in the non-financial statement according to NFRD Directive 2014/95/EU (German)". <a href="https://www.sd-kpi.com/files/Wesentlich_2017.pdf">https://www.sd-kpi.com/files/Wesentlich_2017.pdf</a></p> <p>The SD-KPI Standards represent a mainstream-capable alternative to the restrictive EU taxonomy.</p>