



Sustainable index derivatives

Eurex – CFTC presentation

October 2020



ESG (Environmental, Social, Governance) derivatives

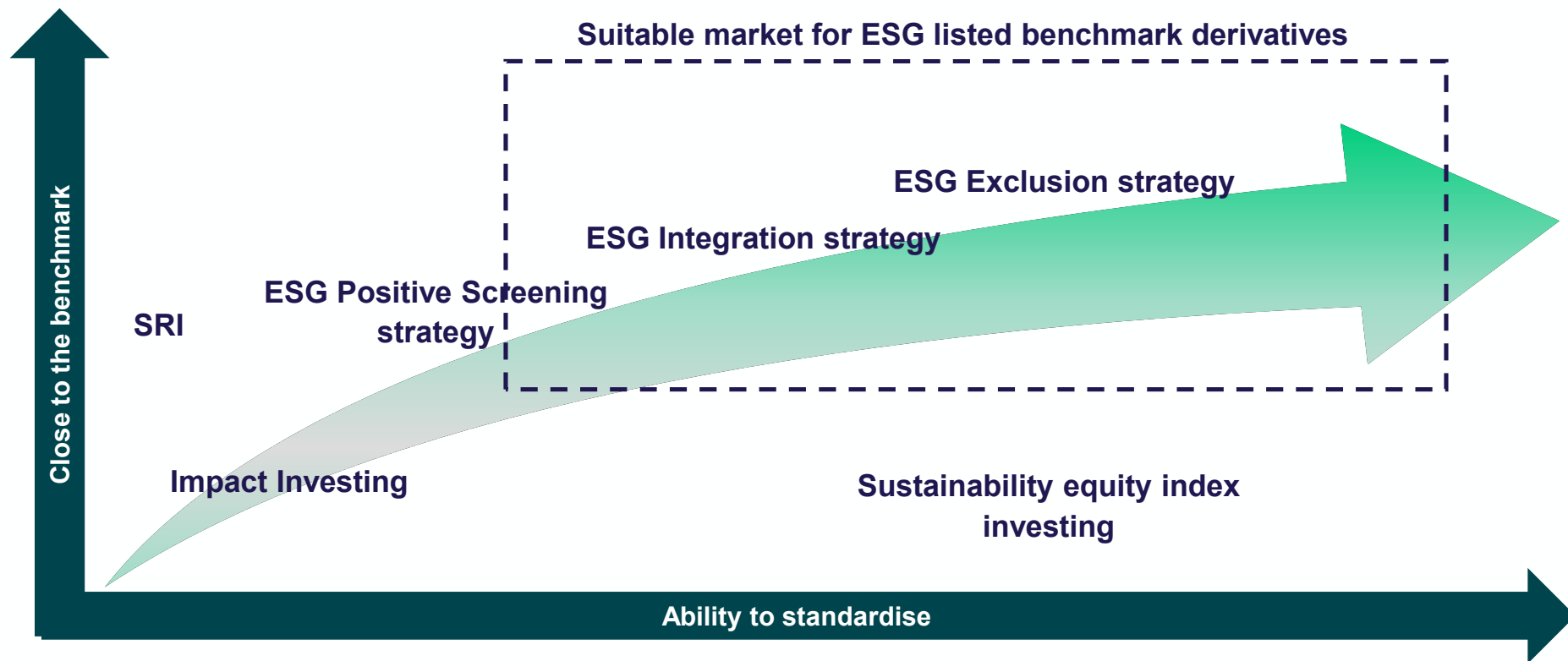
Background on equity index products

- In 2018, in order to address the increased demand for exchange traded derivatives in sustainable products, Eurex collaborated with benchmark providers and market participants on sell- and buy-side to launch a sustainable derivatives product suite.
- In February, 2019, Eurex launched ESG versions of STOXX key European benchmarks and further expanded with global benchmarks, adding World, USA, EM, EAFE and Japan regional ESG indices in the first quarter of 2020
- Driven by the growths of ESG assets under management, expected increase in the next decade, demand from both retail and institutional investors, Eurex plans an extension of product range. On November 9, Eurex will further launch futures and options on DAX 50 ESG and Euro Stoxx 50 ESG indices
- Fixed Income ESG Derivatives in evaluation

	Buy Side	Sell Side
Feedback	<ul style="list-style-type: none">▪ The product suite offers an hedging alternative to existing benchmarks▪ ESG methodology in index design outweighs performance▪ Useful to implement ESG related strategies based on well known benchmarks▪ Clients start looking at PABs, CTBs (early stage)▪ Products needs to be liquid, with on-screen prices and OI, as well as support off-book	<ul style="list-style-type: none">▪ Increasing topic with clients, high strategic importance▪ Small number of client trades so far but a lot of discussion▪ Has not reached the critical mass yet (lack of standard definition of ESG, diversity leads to request for more customized indices)▪ Useful for implementing ESG related strategies for clients based on well known benchmarks▪ The product suite satisfies the requirements of a liquid and cost effective product

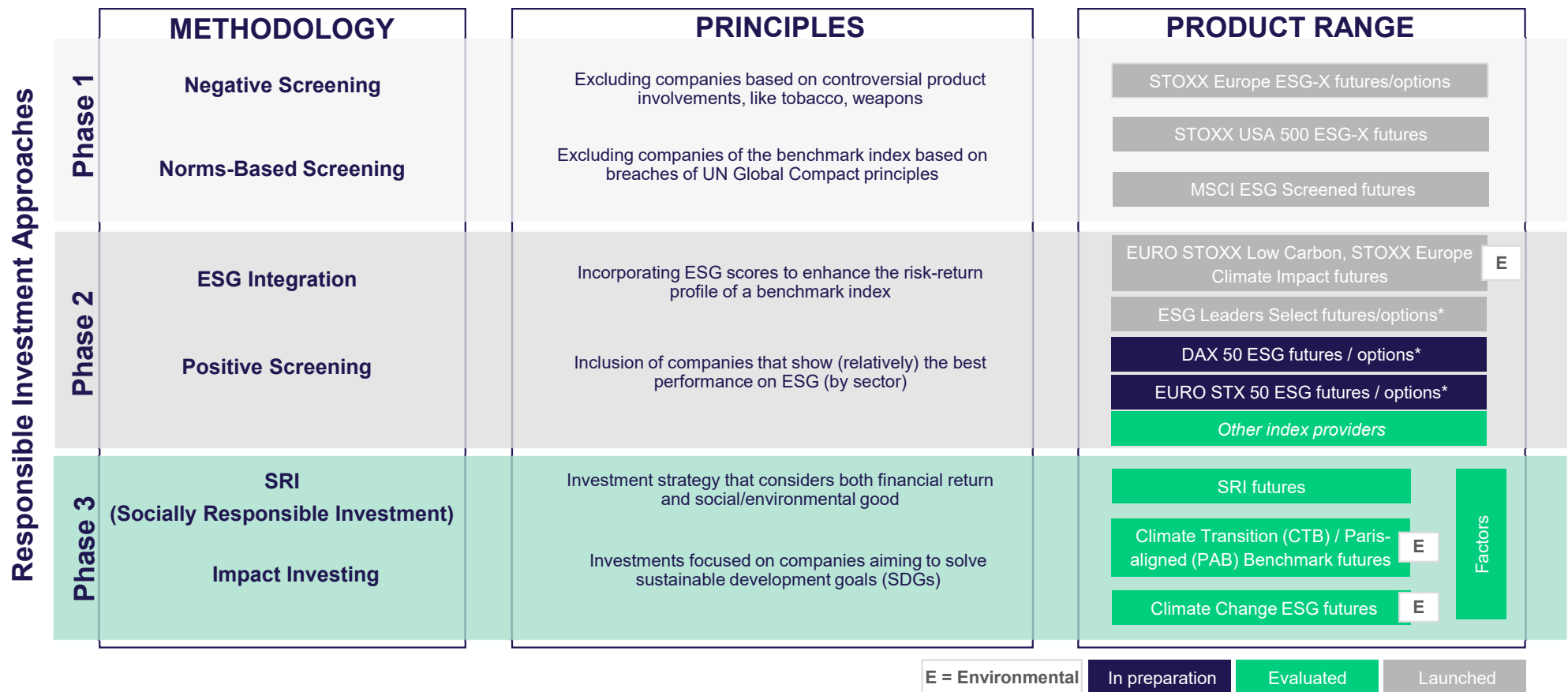
Simple ESG investment strategies

A basis for tradable standardized contracts






Responsible investment approaches

Passive index approaches and Eurex product coverage



E = Environmental
In preparation
Evaluated
Launched

Evaluation of ESG derivatives evolution phases

	ADVANTAGES	CHALLENGES	LEVEL OF ESG INTEGRATION	ASSUMED TIMELINE TO MATURITY
Phase 1	Performance similar to benchmark, easy to replicate, less dependency on ESG data provider, simple to understand	No standardised exclusion criteria, ESG rating not integrated, no support of companies improving their ESG score		2019
Phase 2	Scoring of companies performing better than their peers, supporting companies improving their scores	ESG data differing, more comprehensive methodology, less standardisation		2 years 4 years
Phase 3	Impact behaviour of a specific company, very broad exclusion criteria, targeting specific ESG themes/funds	Low degree of standardisation, early stage, lower index performance, liquidity		6 years

Eurex ESG product portfolio

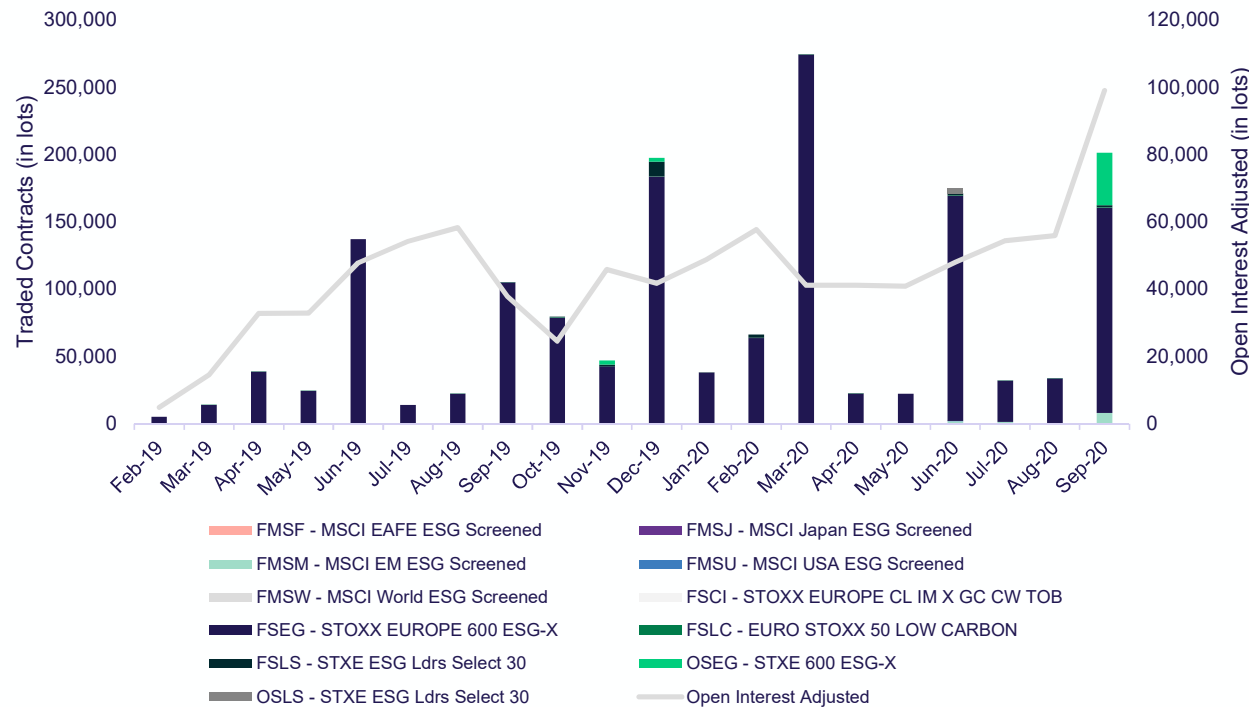
Add EURO STOXX 50 and DAX 50 ESG options and futures (four products)

Launch date	Products	# Futures (Total)	# Options (Total)
09 Nov 2020	ESTX 50 ESG (F, O) & DAX 50 ESG (F, O)	12	4
02 Mar 2020	MSCI ESG Screened for USA, World, EM, EAFE, Japan (5 x F)	10	2
10 Feb 2020	STOXX USA 500 ESG-X (F)	5	2
21 Oct 2019	STOXX Europe 600 ESG-X (O); STOXX Europe ESG Leaders Select 30 (F, O)	4	2
18 Feb 2019	STOXX Europe 600 ESG-X (F), Climate Impact (F) & EURO STOXX 50 Low Carbon (F)	3	0

Eurex took a pioneering role in ESG derivatives

Strong track record especially in STOXX Europe 600 ESG-X futures

Monthly volumes & open interest in ESG futures & options

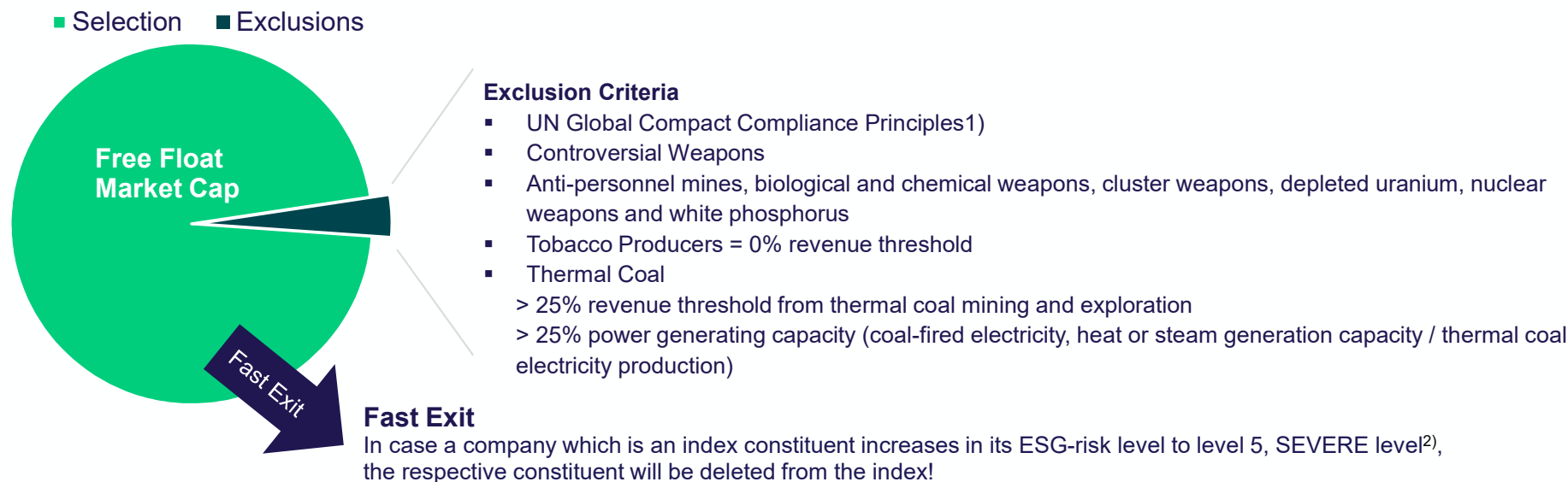


- Current notional open interest stands at €1.3Billion
- Approx. 820k futures and 43k options contracts were traded in 2020
- €Value of Traded Volume in ESG segment in 2020 (F&O) exceeded 10bn
- Mainly ESG-X futures traded; MSCI ESG volume still low
- In Sept 39k ESG options traded

ESG-X Screening / Exclusion methodology

Norms-based, Controversial Weapons, Tobacco and Thermal Coal Screening

Universe STOXX EUROPE 600 STOXX USA 500	Weighting Free Float Market Cap Maintenance Quarterly rebalancing, annual review	Selection Exclusion-based Index Type Price Index
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1) Source: UNGlobalcompact.org
 2) Source: Sustainalytics

STOXX Europe Climate Impact methodology

STOXX® Europe Climate Impact Ex Global Compact, Controversial Weapons & Tobacco Index

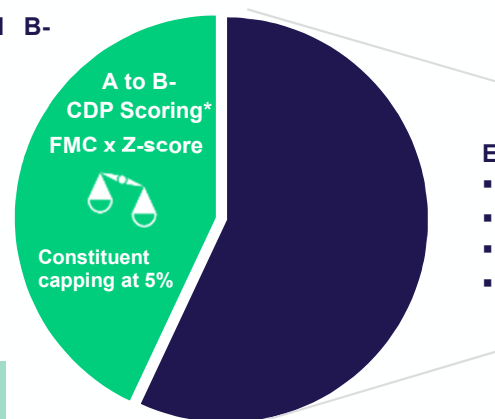
Universe STOXX® EUROPE 600	Weighting Free-float market cap (FMC) constituent capping at 5%	Selection Based on CDP Climate Scoring
	Maintenance Quarterly rebalancing, annual review	Index Type Price Index

STOXX Climate Impact Indices

- Unique concept utilizing **forward-looking** indicators based on CDP research
- Constituents with a CDP Performance Band **Score of between A (Leadership) and B-(Management)**
- Focus on solving the climate problem and managing climate change risks and impact

Weighting

- Free-float market cap (FMC) multiplied by the corresponding Z-score carbon intensity factor of each constituent with constituent capping at 5%
- Overweight stocks with lower carbon intensities, underweight those with higher emissions



Exclusion Criteria:

- ICB subsector Coal
- UN Global Compact Violations
- Controversial Weapons
- ICB Sector Tobacco

The STOXX Europe Climate Impact index has a 53.60% lower carbon footprint than the STOXX Europe 600 index

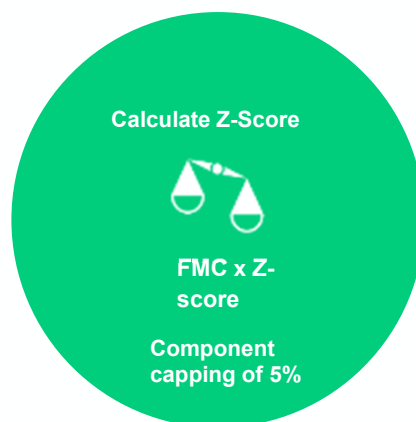
EURO STOXX[®] 50 Low Carbon Futures methodology

Investment Case

<p>Universe</p> <p>EURO STOXX 50 All constituents as of December each year²⁾</p>	<p>Weighting Price weighted: free-float market cap (FMC) Component capping of 5%</p> <p>Maintenance Quarterly rebalancing, annual review</p>	<p>Selection Same constituents as the benchmark</p> <p>Index Type Price Index</p>
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Low Carbon Indices

- No **adverse effects** from weight optimization
- **Low tracking error with similar risk-return profile** compared to the benchmark
- Aligned with “**Low Carbon Benchmark**” definition (article 23a) provided in proposal of EU Commission amending regulation 2016/1011
- Component capping of 5%



Selection

- **Same constituents as the benchmark** at the annual review in December
- Uses both, all stocks with **Reported and Estimated** Carbon Intensity data¹⁾
- Calculate a Z-Score (Carbon-tilt overweights low emitters and underweights high emitters)

Weighting

- **Price weighted: free-float market cap (FMC)** multiplied by the corresponding **Z-score** carbon intensity factor of each constituent. Overweight stocks with lower carbon intensities, underweight those with higher emissions
- Component capping of 5%

Reduces carbon footprint without applying exclusions, as it has a **63.80% lower carbon footprint** than the EURO STOXX 50 index

STOXX® Europe ESG Leaders Select 30 methodology

Risk Based & ESG-Screened

<p>Universe</p> <p>STOXX® Global ESG Leaders Index</p>	<p>Weighting</p> <p>Volatility weighted (Inverse); 10% cap factor</p> <p>Maintenance</p> <p>Quarterly upon review of base index</p>	<p>Selection</p> <p>Based on volatility ranking and selection of the 30 companies with the highest 12m historical dividend yield</p> <p>Index Type</p> <p>Price Index</p>
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Selection of the STOXX® Global ESG Leaders Index

Universe:
STOXX Global 1800

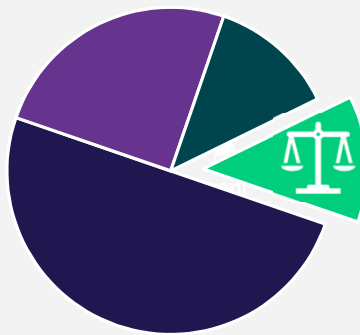
Exclusion criteria:

- UN Global Compact Compliance Principles
- Involvement in Controversial Weapons

Selection criteria:

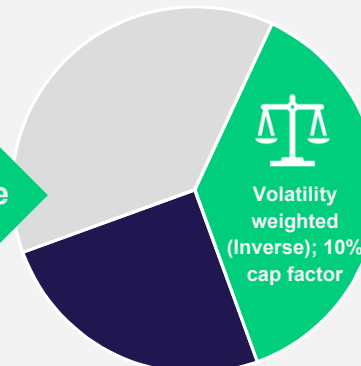
- Minimum Filter: Based on normalized scores, selects all companies which have a score greater than or equal to the 50th percentile (i.e. above average) in all three criteria
- Best-in-Class Filter: E,S,G, Individual Leadership Filter (Best 25%)

Weighting:
Price weighted with an ESG Score factor



- Excluded
- Removed by minimum filter
- Removed by best in class filter

Selection of the STOXX Europe ESG Leaders Select 30 EUR



Selection criteria:

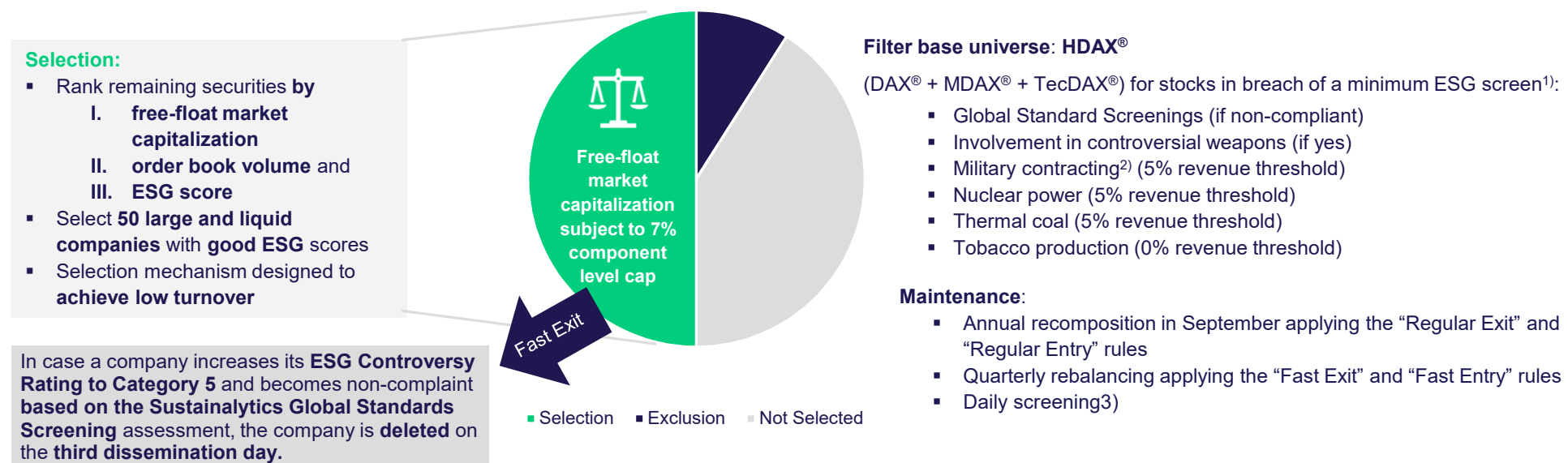
- Stocks that do not have both 12 month historical daily pricing data and 12 month historical dividend yield are removed from the base universe
 1. Stocks whose previous 3 and 12 month historical volatilities are the highest are excluded
 2. Remaining stocks with the highest 12-month historical dividend yields are then selected to be included in the index
- The percentage of exclusion/inclusion at step 1 and 2 is the same and is determined by the Equal Strength Ratio¹⁾

- Excluded due to volatility
- Not selected
- Selected

¹⁾ https://www.stoxx.com/document/Presentations/STOXX_Europe_ESG_Leaders_Select_30_EUR.pdf

DAX® 50 ESG methodology

<p>Universe</p> <p>HDAX® (DAX® + MDAX® + TecDAX®) Price Return</p>	<p>Weighting</p> <p>Free Float Market Cap Component level cap 7%</p> <p>Maintenance</p> <p>Quarterly rebalancing, annual review</p>	<p>Selection</p> <p>Based on ESG and Liquidity Ranking</p> <p>Index Type</p> <p>Price Index</p>
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¹⁾ As identified by Sustainalytics. Additionally, companies which do not have product involvement data are not considered for selection. Companies with no ESG scores are assigned a zero score

²⁾ Military contracting here refers to revenues from manufacturing military weapons systems and/or integral tailor made components or from tailor made products or services that support military weapons

³⁾ In case a company increases its ESG Controversy Rating to Category 5 and becomes non-complaint based on the Sustainalytics Global Standards Screening assessment, the company is deleted on the third dissemination day and replaced

EURO STOXX 50 ESG methodology

<p>Universe</p> <p>EURO STOXX 50 index</p>	<p>Weighting</p> <p>Free Float Market Cap</p> <p>Maintenance</p> <p>Quarterly rebalancing, annual review</p>	<p>Selection</p> <p>ESG integration by replacement</p> <p>Index Type</p> <p>Price Index</p>
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■ Universe ■ Replacements/Integration

ESG integration by replacement

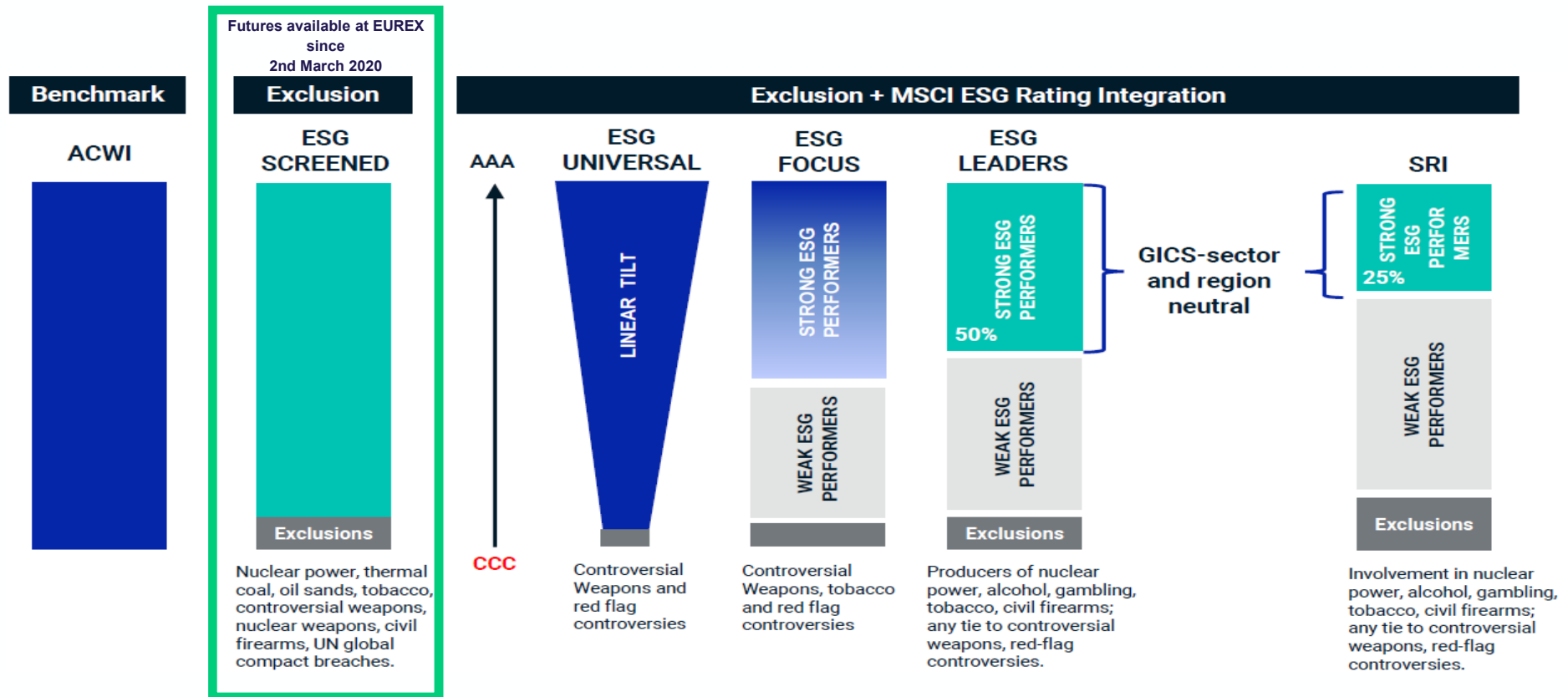


Replacement criteria:

- Exclusion of least sustainable companies - lowest 10% based on ESG score
- Global Standards Screening (if non-compliant)
- Involvement in controversial weapons
 - Anti-personnel mines, biological and chemical weapons, cluster weapons, depleted uranium, nuclear weapons and white phosphorus
- Tobacco producers (0% revenue threshold)
- Thermal coal
 - >25% revenue threshold from thermal coal mining and exploration
 - >25% power generating capacity (coal-fired electricity, heat or steam generation capacity / thermal coal electricity production)
- All excluded companies are replaced by companies with a higher ESG score in the same ICB Supersector. Ranked based on market capitalization

In case a company increases its **ESG Controversy Rating to Category 5** and becomes non-complaint **based on the Sustainalytics Global Standards Screening** assessment, the company is **deleted** on the **third dissemination day**.

MSCI Screened is the building block for ESG indices



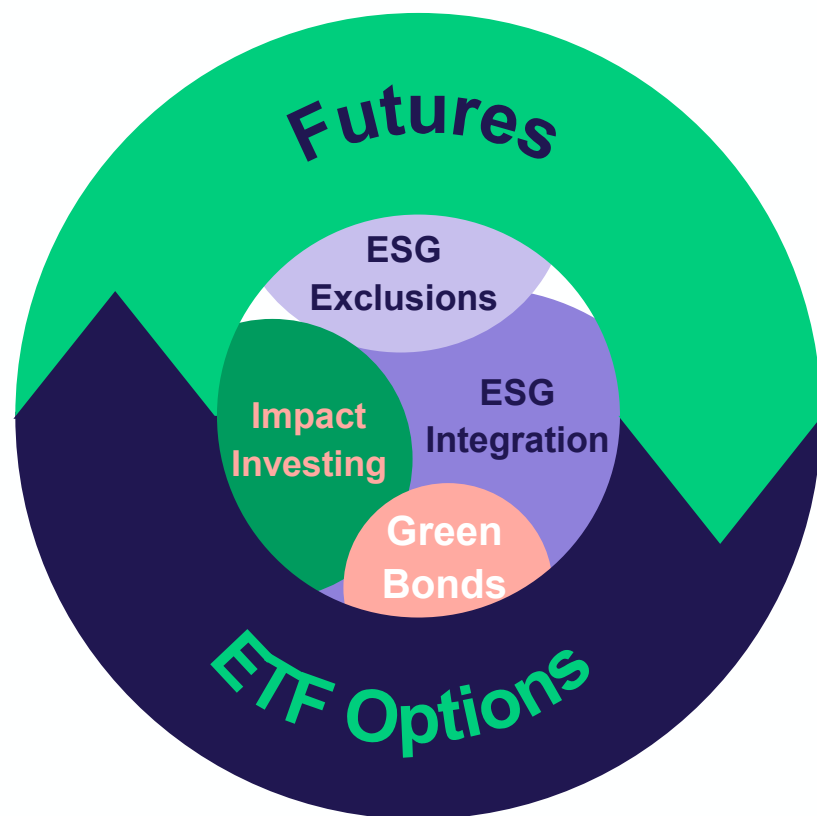
Exclusion Criteria for MSCI ESG Screened Indexes

Selection of Exclusion

The exclusions have been selected to span the three pillars of Environmental, Social and Governance (ESG) investing which reflect investors' most common concerns



Fixed Income future and options to target the entire ESG ecosystem



- Use of **reliable** and **established** benchmarks
- Build on the **confidence** of market participants to create **liquidity**



- **Broad coverage** of the different fixed income **segments**
- Offering of a **complete toolbox** in the **ESG fixed income** space



- **Multi-phased** expansion in terms of **geographies**
- **Developed** and **emerging** markets in scope to accommodate the rising demand

EUREX Architects of trusted markets



Thank you!

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Derivatives on MSCI World ESG Screened Index

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD)
(MAY 2012 – AUG 2020)



ANNUAL PERFORMANCE (%)

Year	MSCI World ESG Screened	MSCI World
2019	28.15	27.67
2018	-8.60	-8.71
2017	22.49	22.40
2016	7.02	7.51
2015	-0.08	-0.87
2014	5.39	4.94
2013	27.58	26.68

INDEX PERFORMANCE – NET RETURNS (%) (AUG 31, 2020)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since May 31, 2012
					3 Yr	5 Yr	10 Yr		
MSCI World ESG Screened	6.88	15.40	18.79	6.86	10.49	10.78	na	11.94	
MSCI World	6.68	14.74	16.79	5.34	9.82	10.42	na	11.44	

FUNDAMENTALS (AUG 31, 2020)

Div Yld (%)	P/E	P/E Fwd	P/BV
1.82	25.34	21.70	2.76
1.93	24.66	21.18	2.70

INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2012 – AUG 31, 2020)

	Beta	Tracking Error (%) ¹	Turnover (%) ¹	ANNUALIZED STD. DEV (%) ²			SHARPE RATIO ^{2,3}			MAXIMUM DRAWDOWN		
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr			
MSCI World ESG Screened	1.01	0.50	3.51	16.91	14.56	na	0.57	0.69	na	0.88	33.69	2020-02-12–2020-03-23
MSCI World	1.00	0.00	3.06	16.76	14.41	na	0.54	0.67	na	0.85	34.03	2020-02-12–2020-03-23

¹ Last 12 months ² Based on monthly net returns data ³ Based on ICE LIBOR 1M

Integration and values

	MSCI World Index	MSCI World ESG Screened
Integration		
ESG score	6.1	6.1
ESG leaders (AAA-AA) (%)	29.2	30.1
ESG laggards (B-CCC) (%)	6.2	6.4
ESG trend positive (%)	12.4	11.4
ESG trend negative (%)	5.1	4.4
Index ESG rating	A	A
Environmental pillar score	5.6	5.7
Social pillar score	4.8	4.8
Governance pillar score	5.4	5.4
Key governance metrics		
Board independence (wtd avg %)	77.9	77.6
Female directors (wtd avg %)	28.8	28.9
Deviation from one share one vote (%)	21.8	22.2
Values		
Tobacco involvement (%)	1.2	0.0
Civilian firearms producers (%)	0.2	0.0
Ties to controversial weapons (%)	0.8	0.0
Global compact compliance violation (%)	1.9	0.0
Red flag controversies (%)	2.7	0.5
Orange flag controversies (%)	28.2	28.5

As of February 28, 2020

Climate change

	MSCI World Index	MSCI World ESG Screened
Climate footprint		
Carbon emissions (t CO2e/\$M invested)	115	78
Carbon intensity (t CO2e/\$M sales)	188	131
Wtd avg carbon intensity (t CO2e/\$M sales)	169	104
Low carbon transition risks		
Low carbon transition score	6.0	6.1
Solutions (%)	2.9	3.1
Product & operational transition (%)	15.8	13.9
Asset stranding (%)	0.3	0.0
Exposure to asset stranding risks		
Potential carbon emissions (t CO2e/\$M invested)	2026	1292
Fossil fuel reserves (%)	5.9	4.5
Thermal coal mining (%)	1.2	0.7
Thermal coal-based power generation (%)	3.6	1.9
Unconventional oil & gas extraction (%)	3.1	2.7
Exposure to clean technology solutions		
Clean technologies solutions (> 20% revenue)	4.6	4.9
Clean technologies solutions revenue (wtd avg %)	3.5	3.7
Green/brown net revenue exposure	1.6	2.8
Other climate metrics		
Exposure to carbon-related assets (%)	7.7	5.6
Climate-related controversies (% score ≤ 4)	0.8	0.8
Low carbon transition management score (% top quartile)	64.2	64.1

As of February 28, 2020

Source: MSCI

Derivatives on MSCI EM ESG Screened Index

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD)
(MAY 2012 – AUG 2020)



ANNUAL PERFORMANCE (%)

Year	MSCI Emerging Markets ESG Screened	MSCI Emerging Markets
2019	19.06	18.42
2018	-15.16	-14.57
2017	38.25	37.28
2016	10.35	11.19
2015	-14.48	-14.92
2014	-1.58	-2.19
2013	-1.58	-2.60

INDEX PERFORMANCE – NET RETURNS (%) (AUG 31, 2020)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since May 31, 2012
					3 Yr	5 Yr	10 Yr		
MSCI Emerging Markets ESG Screened	2.36	20.10	16.01	1.65	3.20	8.95	na	5.38	
MSCI Emerging Markets	2.21	19.53	14.49	0.45	2.83	8.66	na	4.91	

FUNDAMENTALS (AUG 31, 2020)

	Div Yld (%)	P/E	P/E Fwd	P/BV
MSCI Emerging Markets ESG Screened	2.18	18.49	15.13	1.80
MSCI Emerging Markets	2.28	18.20	14.88	1.77

INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2012 – AUG 31, 2020)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since May 31, 2012 (%)	MAXIMUM DRAWDOWN Period YYYY-MM-DD	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr			
MSCI Emerging Markets ESG Screened	0.99	0.65	11.44	18.95	17.41	na	0.17	0.50	na	0.35	36.62	2018-01-26–2020-03-23
MSCI Emerging Markets	1.00	0.00	10.60	18.91	17.41	na	0.15	0.49	na	0.33	37.23	2018-01-26–2020-03-23

¹ Last 12 months

² Based on monthly net returns data

³ Based on ICE LIBOR 1M

Integration and values

	MSCI Emerging Markets	MSCI EM ESG Screened
Integration		
ESG score	4.7	4.8
ESG leaders (AAA-AA) (%)	10.0	10.3
ESG laggards (B-CCC) (%)	20.9	19.8
ESG trend positive (%)	13.5	13.7
ESG trend negative (%)	3.1	3.3
Index ESG rating	BB	BBB
Environmental pillar score	4.8	4.8
Social pillar score	4.9	5.0
Governance pillar score	4.0	4.0
Key governance metrics		
Board independence (wtd avg %)	56.7	56.4
Female directors (wtd avg %)	12.3	12.1
Deviation from one share one vote (%)	43.4	42.2
Values		
Tobacco involvement (%)	0.4	0.0
Civilian firearms producers (%)	0.0	0.0
Ties to controversial weapons (%)	0.2	0.0
Global compact compliance violation (%)	2.1	0.0
Red flag controversies (%)	2.3	0.1
Orange flag controversies (%)	8.6	8.7

As of February 28, 2020

Climate change

	MSCI Emerging Markets	MSCI EM ESG Screened
Climate footprint		
Carbon emissions (t CO2e/\$M invested)	341	230
Carbon intensity (t CO2e/\$M sales)	429	294
Wtd avg carbon intensity (t CO2e/\$M sales)	301	222
Low carbon transition risks		
Low carbon transition score	5.9	6.0
Solutions (%)	1.8	1.8
Product & operational transition (%)	20.2	17.8
Asset stranding (%)	0.9	0.2
Exposure to asset stranding risks		
Potential carbon emissions (t CO2e/\$M invested)	12036	6401
Fossil fuel reserves (%)	8.7	5.7
Thermal coal mining (%)	2.3	0.9
Thermal coal-based power generation (%)	1.8	0.7
Unconventional oil & gas extraction (%)	2.9	1.8
Exposure to clean technology solutions		
Clean technologies solutions (> 20% revenue)	2.5	2.5
Clean technologies solutions revenue (wtd avg %)	2.9	2.9
Green/brown net revenue exposure	1.2	2.2
Other climate metrics		
Exposure to carbon-related assets (%)	8.3	6.6
Climate-related controversies (% score ≤ 4)	0.0	0.0
Low carbon transition management score (% top quartile)	34.2	34.5

As of February 28, 2020

Derivatives on MSCI EAFE ESG Screened Index

**CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD)
(MAY 2012 – AUG 2020)**



ANNUAL PERFORMANCE (%)

Year	MSCI EAFE ESG Screened	MSCI EAFE
2019	22.43	22.01
2018	-14.27	-13.79
2017	25.13	25.03
2016	0.09	1.00
2015	-0.04	-0.81
2014	-4.61	-4.90
2013	23.88	22.78

INDEX PERFORMANCE – NET RETURNS (%) (AUG 31, 2020)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since May 31, 2012
					3 Yr	5 Yr	10 Yr		
MSCI EAFE ESG Screened	5.22	11.79	7.81	-3.27	2.66	4.85	na	7.67	
MSCI EAFE	5.14	11.26	6.13	-4.61	2.34	4.72	na	7.30	

FUNDAMENTALS (AUG 31, 2020)

Div Yld (%)	P/E	P/E Fwd	P/BV
2.47	18.97	18.24	1.60
2.63	18.18	17.56	1.58

INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2012 – AUG 31, 2020)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since May 31, 2012 (%)	MAXIMUM DRAWDOWN Period YYYY-MM-DD	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr			
MSCI EAFE ESG Screened	1.00	0.66	3.47	15.40	14.20	na	0.13	0.31	na	0.56	33.72	2018-01-25–2020-03-23
MSCI EAFE	1.00	0.00	2.77	15.41	14.16	na	0.11	0.31	na	0.54	34.12	2018-01-25–2020-03-23

¹ Last 12 months ² Based on monthly net returns data ³ Based on ICE LIBOR 1M

Integration and values

	MSCI EAFE Index	MSCI EAFE ESG Screened
Integration		
ESG score	6.8	6.9
ESG leaders (AAA-AA) (%)	40.7	42.9
ESG laggards (B-CCC) (%)	2.8	2.5
ESG trend positive (%)	11.2	9.7
ESG trend negative (%)	5.4	4.5
Index ESG rating	A	AA
Environmental pillar score	5.9	6.0
Social pillar score	5.2	5.2
Governance pillar score	5.6	5.7
Key governance metrics		
Board independence (wtd avg %)	69.1	68.2
Female directors (wtd avg %)	27.9	27.7
Deviation from one share one vote (%)	26.1	25.0
Values		
Tobacco involvement (%)	1.7	0.0
Civilian firearms producers (%)	0.3	0.0
Ties to controversial weapons (%)	0.0	0.0
Global compact compliance violation (%)	4.4	0.0
Red flag controversies (%)	4.4	0.1
Orange flag controversies (%)	26.3	26.6

As of March 31, 2020

Climate change

	MSCI EAFE Index	MSCI EAFE ESG Screened
Climate footprint		
Carbon emissions (t CO2e/\$M invested)	214	158
Carbon intensity (t CO2e/\$M sales)	197	150
Wtd avg carbon intensity (t CO2e/\$M sales)	145	103
Low carbon transition risks		
Low carbon transition score	6.0	6.1
Solutions (%)	3.0	3.2
Product & operational transition (%)	21.5	19.2
Asset stranding (%)	0.1	0.0
Exposure to asset stranding risks		
Potential carbon emissions (t CO2e/\$M invested)	3861	2093
Fossil fuel reserves (%)	8.1	5.2
Thermal coal mining (%)	3.3	2.3
Thermal coal-based power generation (%)	3.4	2.0
Unconventional oil & gas extraction (%)	3.5	2.5
Exposure to clean technology solutions		
Clean technologies solutions (> 20% revenue)	4.6	4.8
Clean technologies solutions revenue (wtd avg %)	3.9	4.1
Green/brown net revenue exposure	2.5	4.5
Other climate metrics		
Exposure to carbon-related assets (%)	7.9	5.7
Climate-related controversies (% score ≤ 4)	0.8	0.7
Low carbon transition management score (% top quartile)	73.7	73.0

As of March 31, 2020

Derivatives on MSCI Japan ESG Screened Index

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD)
(MAY 2012 – AUG 2020)



ANNUAL PERFORMANCE (%)

Year	MSCI Japan ESG Screened	MSCI Japan
2019	21.02	19.61
2018	-13.48	-12.88
2017	24.83	23.99
2016	3.10	2.38
2015	8.83	9.57
2014	-3.77	-4.02
2013	27.39	27.16

INDEX PERFORMANCE – NET RETURNS (%) (AUG 31, 2020)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since May 31, 2012
					3 Yr	5 Yr	10 Yr		
MSCI Japan ESG Screened	7.64	6.17	10.82	-1.31	4.71	6.28	na	8.58	
MSCI Japan	7.61	5.89	10.16	-1.64	4.27	5.80	na	8.21	

FUNDAMENTALS (AUG 31, 2020)

Div Yld (%)	P/E	P/E Fwd	P/BV
2.22	22.14	18.40	1.34
2.27	21.46	18.05	1.31

INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2012 – AUG 31, 2020)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since May 31, 2012	MAXIMUM DRAWDOWN	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr			
MSCI Japan ESG Screened	1.01	0.55	2.50	14.19	13.92	na	0.27	0.41	na	0.63	29.98	2018-01-24–2020-03-20
MSCI Japan	1.00	0.00	2.43	13.92	13.63	na	0.24	0.39	na	0.61	29.99	2018-01-24–2020-03-20

¹ Last 12 months ² Based on monthly net returns data ³ Based on ICE LIBOR 1M

Integration and values

	MSCI Japan Index	MSCI Japan ESG Screened
Integration		
ESG score	5.8	5.9
ESG leaders (AAA-AA) (%)	22.9	23.5
ESG laggards (B-CCC) (%)	7.1	7.2
ESG trend positive (%)	15.2	15.7
ESG trend negative (%)	4.6	3.0
Index ESG rating	A	A
Environmental pillar score	5.9	5.9
Social pillar score	5.3	5.3
Governance pillar score	4.3	4.3
Key governance metrics		
Board independence (wtd avg %)	38.2	38.3
Female directors (wtd avg %)	9.6	9.5
Deviation from one share one vote (%)	2.8	2.4
Values		
Tobacco involvement (%)	1.8	0.0
Civilian firearms producers (%)	0.1	0.0
Ties to controversial weapons (%)	0.0	0.0
Global compact compliance violation (%)	0.2	0.0
Red flag controversies (%)	0.2	0.0
Orange flag controversies (%)	13.8	12.4

As of February 28, 2020

Climate change

	MSCI Japan Index	MSCI Japan ESG Screened
Climate footprint		
Carbon emissions (t CO2e/\$M invested)	223	144
Carbon intensity (t CO2e/\$M sales)	179	119
Wtd avg carbon intensity (t CO2e/\$M sales)	93	71
Low carbon transition risks		
Low carbon transition score	6.1	6.1
Solutions (%)	3.8	3.9
Product & operational transition (%)	19.5	18.7
Asset stranding (%)	0.0	0.0
Exposure to asset stranding risks		
Potential carbon emissions (t CO2e/\$M invested)	460	402
Fossil fuel reserves (%)	5.7	5.2
Thermal coal mining (%)	4.3	4.1
Thermal coal-based power generation (%)	2.8	1.7
Unconventional oil & gas extraction (%)	1.5	1.5
Exposure to clean technology solutions		
Clean technologies solutions (> 20% revenue)	5.2	5.3
Clean technologies solutions revenue (wtd avg %)	5.4	5.5
Green/brown net revenue exposure	5.4	12.2
Other climate metrics		
Exposure to carbon-related assets (%)	2.3	1.2
Climate-related controversies (% score ≤ 4)	0.0	0.0
Low carbon transition management score (% top quartile)	72.1	73.2

As of February 28, 2020

Derivatives on MSCI USA ESG Screened Index

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD) (MAY 2012 – AUG 2020)



ANNUAL PERFORMANCE (%)

Year	MSCI USA ESG Screened	MSCI USA
2019	31.29	30.88
2018	-4.69	-5.04
2017	21.17	21.19
2016	10.72	10.89
2015	1.48	0.69
2014	13.20	12.69
2013	32.41	31.79

INDEX PERFORMANCE – NET RETURNS (%) (AUG 31, 2020)

	1 Mo	3 Mo	1 Yr	YTD	ANNUALIZED				Since May 31, 2012
					3 Yr	5 Yr	10 Yr		
MSCI USA ESG Screened	7.67	16.99	24.99	12.37	15.11	14.37	na	14.89	
MSCI USA	7.46	16.34	23.06	11.01	14.40	13.98	na	14.44	

FUNDAMENTALS (AUG 31, 2020)

	Div Yld (%)	P/E	P/E Fwd	P/BV
MSCI USA ESG Screened	1.48	30.17	24.03	4.14
MSCI USA	1.56	29.62	23.63	4.11

INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2012 – AUG 31, 2020)

	Beta	Tracking Error (%)	Turnover (%) ¹	ANNUALIZED STD DEV (%) ²			SHARPE RATIO ^{2,3}			Since May 31, 2012 (%)	MAXIMUM DRAWDOWN Period YYYY-MM-DD	
				3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr			
MSCI USA ESG Screened	1.01	0.52	3.45	18.01	15.24	na	0.78	0.87	na	1.06	33.95	2020-02-19–2020-03-23
MSCI USA	1.00	0.00	3.12	17.79	15.03	na	0.75	0.86	na	1.04	34.16	2020-02-19–2020-03-23

¹ Last 12 months

² Based on monthly net returns data

³ Based on ICE LIBOR 1M

Integration and values

	MSCI USA Index	MSCI USA ESG Screened
Integration		
ESG score	5.7	5.7
ESG leaders (AAA-AA) (%)	23.5	23.7
ESG laggards (B-CCC) (%)	7.9	8.4
ESG trend positive (%)	12.4	11.8
ESG trend negative (%)	4.7	4.3
Index ESG rating	BBB	BBB
Environmental pillar score	5.5	5.6
Social pillar score	4.6	4.7
Governance pillar score	5.3	5.3
Key governance metrics		
Board independence (wtd avg %)	81.8	81.6
Female directors (wtd avg %)	29.0	29.1
Deviation from one share one vote (%)	18.2	19.4
Values		
Tobacco involvement (%)	0.9	0.0
Civilian firearms producers (%)	0.2	0.0
Ties to controversial weapons (%)	1.3	0.0
Global compact compliance violation (%)	0.6	0.0
Red flag controversies (%)	1.9	0.7
Orange flag controversies (%)	28.1	28.1

As of February 28, 2020

Climate change

	MSCI USA Index	MSCI USA ESG Screened
Climate footprint		
Carbon emissions (t CO2e/\$M invested)	77	48
Carbon intensity (t CO2e/\$M sales)	172	110
Wtd avg carbon intensity (t CO2e/\$M sales)	170	97
Low carbon transition risks		
Low carbon transition score	6.1	6.2
Solutions (%)	3.1	3.3
Product & operational transition (%)	11.7	10.2
Asset stranding (%)	0.0	0.0
Exposure to asset stranding risks		
Potential carbon emissions (t CO2e/\$M invested)	962	986
Fossil fuel reserves (%)	4.2	3.9
Thermal coal mining (%)	0.2	0.0
Thermal coal-based power generation (%)	3.8	1.9
Unconventional oil & gas extraction (%)	2.4	2.5
Exposure to clean technology solutions		
Clean technologies solutions (> 20% revenue)	4.3	4.6
Clean technologies solutions revenue (wtd avg %)	3.4	3.4
Green/brown net revenue exposure	1.5	2.3
Other climate metrics		
Exposure to carbon-related assets (%)	6.6	5.0
Climate-related controversies (% score ≤ 4)	0.6	0.6
Low carbon transition management score (% top quartile)	60.2	60.0

As of February 28, 2020

DAX 50 ESG derivatives – contract specifications

Index	Currency	Index type	Index Level (ca.)	Eurex	Multiplier	Min Block Size	Tick Size	Tick Value	Calendar Tick	Calendar Tick value	Contract value
DAX 50 ESG	EUR	Price	1,461	Future Option	10 10	100 100	0.50 0.10	5.00 1.00	0.25	2.50	14,610
<i>Related benchmark</i>											
DAX	EUR	GTR	12,200		25		0.5*	12.5	0.5**		305,000
Mini DAX	EUR	GTR	12,200		5		1.00	5.0	0.00		61,000

*Tick size for FDAX to be increased from 0.5 to 1.0 as of 21.12.2020

**Calendar tick size for FMDX will be introduced reducing the calendar tick from 1 to 0.5 as of 21.12.2020

Contract specifications*	
Description of underlying	A detailed description of the index rules and regulations can be found on the Qontigo website under https://qontigo.com/
Contract value	EUR 10 per index point
Settlement	Cash settlement, due on the first exchange day after the final settlement day.
Price determination	In points, with two decimal places.
Minimum price change	0.5 (equals EUR 5); Calendar Tick 0.25 (equals EUR 2.5)
Contract months	Futures: The next three quarter months of the cycle March, June, September and December (9 months). Options up to five years
Last trading day/final settlement day	The third Friday of each maturity month, if this is a trading day at Eurex Deutschland, otherwise the trading day immediately preceding that day. The final settlement day is the trading day following the last trading day.
Final settlement price	Start of the call phase of the intra-day auctions in the electronic trading system of the Frankfurt Stock Exchange as determined by the Management Board of Eurex Deutschland

* All other product specifications are identical with already existing DAX derivatives

EURO STX 50 ESG derivatives – contract specifications

Index	Currency	Index type	Index Level (ca.)	Eurex	Multiplier	Min Block Size	Tick Size	Tick Value	Calendar Tick	Calendar Tick value	Contract value
EURO STOXX 50 ESG	EUR	Price	132	Future Option	100 100	100 100	0.05 0.01	5.00 1.00	0.02	2.00	13,200
Related benchmark EURO STOXX 50	EUR	Price	3,200		10	2,000	1.00	10	0.25	2.50	32,000

Contract specifications*	
Description of underlying	A detailed description of the index rules and regulations can be found on the Qontigo website under https://qontigo.com/
Contract value	EUR 100 per index point
Settlement	Cash settlement, due on the first exchange day after the final settlement day.
Price determination	In points, with two decimal places.
Minimum price change	Future: 0.05 (equals EUR 5), Calendar 0.02 (equals EUR 2); Option: 0.01 (equals EUR 1)
Contract months	Futures: The next three quarter months of the cycle March, June, September and December (9 months). Options up to five years
Last trading day/final settlement day	The third Friday of each maturity month, if this is a trading day at Eurex Deutschland, otherwise the trading day immediately preceding that day. Close of trading for maturing series: 12:00 CET. The final settlement day is the trading day following the last trading day.
Final settlement price	The average value of all index calculations of the EURO STOXX 50 Index in the time between 11:50 and 12:00 CET on the last trading day

* All other product specifications are identical with already existing STOXX derivatives