Sustainable index futures & options: ESG-X
Low Carbon & Climate Impact

Launched 18 Feb 2019
ESG Market development

Assets under Management and predominant ESG strategy

- ETFGI* reported in Dec 18 that year-to-date **ESG ETFs and ETPs assets have increased 33.8 %** compared to 4.6% for all ETFs/ETPs listed globally
- There were 204 ESG classified ETFs/ETPs, with 473 listings, assets of $23.22 Bn., from 62 providers listed on 25 exchanges in 23 countries; the number and diversity of products has increased steadily, 66 new ESG ETFs/ETPs have launched during 2018, with 4 during November alone
- 2016 Global Sustainable Investment Review outlines that in Europe exclusionary screens remain the dominant strategy growing 48% since 2014; Norms-based screening is the second biggest SRI approach with a growth rate of 4% from 2014

*Source: ETFGI is an independent ETF and ETP research and consulting firm. Data sourced from ETF/ETP sponsors, exchanges, regulatory filings, Thomson Reuters/Lipper, Bloomberg, publicly available sources and data generated in-house.
Sustainable investment strategies

- Most popular approaches towards a responsible, conscientious way of investments are negative and norms based screening and integrating ESG considerations into the investment strategy
- In Europe ESG Integration, Engagement and Voting strategies have shown the most significant two years growth
- Best in Class is in line with previous year
- Focus of Sustainability Theme Investments has been shifted primarily in favour of climate change and water-theme funds
The sustainable investing landscape has evolved from a limited universe of investments focused on screening and objectionable exposure to a range of solutions to achieve sustainable outcomes.

### ESG Approaches

<table>
<thead>
<tr>
<th>ESG Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This investment philosophy has been gaining momentum, not only in Europe but across the globe, becoming the most widely used strategy by SRI investors shown by the high growth rate.</td>
</tr>
<tr>
<td>• This strategy allows explicit incorporation of ESG criteria and risks in traditional financial analysis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Best-in-Class Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This strategy allows investors to pick those companies that have the best ESG score in a particular industrial sector. Investors can create a portfolio of companies that meet both an ESG and financial threshold criteria.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Screening &amp; Benchmarking</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Overall ESG risk rating and material ESG issue scores support risk-based ESG screens and enable robust benchmarking across and within sectors and sub-industries.</td>
</tr>
<tr>
<td>• This strategy allows investors to select the companies in their portfolios in line with their level of compliance with international standards and norms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sustainable Thematic Investing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• This strategy allows investors to choose specific areas of investments, typically in themes or assets that are connected with promoting sustainability and have an ESG focus. Examples include climate and carbon reductions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engagement &amp; Voting</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Investors that follow this strategy prefer a more active investor role in relation to the companies in their portfolio.</td>
</tr>
<tr>
<td>• Exercising shareholder rights at general meetings to influence corporate policy regarding ESG criteria and long-term dialogue with firms to improve their conduct accordingly.</td>
</tr>
</tbody>
</table>
Development STOXX® Europe 600 Index Futures (FXXP)

Bloomberg Ticker: SXXP <Index> (Futures)

Open Interest, in thousands

Traded Contracts, in millions

ADV 2019*: 76.091
ADV 2018*: 61.538

Open Interest 2019**: 466.031
Total Volume 2019*: 14.152.876
Change YTD 18/19*: 23%

*Jan to Sept 2019/2018
**Sept 2019

Orderbook
Off-book

Agent
Market Maker
Principal

www.eurexchange.com
STOXX® 600 index family

The unique barometer in Europe and EURO

STOXX Europe 600

Factors
- iSTOXX Europe Factor Indexes
  - 6 factors
  - iSTOXX Europe Low Risk
  - iSTOXX Europe Momentum
  - iSTOXX Europe Quality
  - iSTOXX Europe Size
  - iSTOXX Europe Value
  - iSTOXX Europe Carry

Sizes
- STOXX Europe 600 Size Indexes
  - 3 sizes
  - STOXX Europe Large 200
  - STOXX Europe Mid 200
  - STOXX Europe Small 200

Sectors
- STOXX Europe 600 ICB Supersectors
  - 19 Sectors

Blue Chip
- STOXX Europe 50
  - SX5P <Index>

ESG
- STOXX EUROPE 600 ESG-X
  - SXXPESGX <Index>

STOXX EUROPE Climate Impact
- SXECITEP <Index>

EURO STOXX

Size Indexes
- 3 sizes
- EURO STOXX Large
  - LCXE <Index>
- EURO STOXX Mid
  - SCXE <Index>
- EURO STOXX Small
  - MCXE <Index>

ICB Supersectors
- 19 Sectors

EURO STOXX 50
- SX5E <Index>

EURO STOXX 50 Low Carbon
- SX5ELCEP <Index>

www.eurexchange.com
STOXX® 600 index family: 345 Mio.* lots Traded Vol. 2019**

The unique barometer in Europe and EURO

STOXX Europe 600

Factors

iSTOXX Europe Factor Indexes
6 factors
Traded Vol: 420,527
ADV: 2,202
Vol. EUR: 2,7 bn.
ADV Vol. EUR: 14 M.

Sizes

STOXX Europe 600 Size Indexes
3 sizes
Traded Vol: 608,597
ADV: 3,186
Vol. EUR: 10 bn.
ADV Vol. EUR: 52 M.

Sectors

STOXX Europe 600 ICB Supersectors
18 Sectors
Traded Vol: 11,627,852
ADV: 60,879
ADV Vol. EUR: 1,0 bn.

Blue Chip

STOXX Europe 50
SX5P <Index>
Traded Vol: 392,541
ADV: 2,055
Vol. EUR: 12 bn.
ADV Vol. EUR: 63 M.

ESG

STOXX EUROPE 600 ESG-X
SXXPESGX <Index>

STOXX EUROPE Climate Impact
SXECITEP <Index>

EURO STOXX

EURO STOXX Size Indexes
3 sizes
Traded Vol: 329,085
ADV: 1,723
Vol. EUR: 5,6 bn.
ADV Vol. EUR: 30 M.

EURO STOXX ICB Supersectors
18 Sectors
Traded Vol: 107,826,612
ADV: 564,537
ADV Vol. EUR: 2,7 bn.

EURO STOXX 50
SX5E <Index>
Traded Vol: 224,027,569
ADV: 1,173 M.
Vol. EUR: 75 bn.

EURO STOXX 50 Low Carbon
SXSELCEP <Index>

www.eurexchange.com

*Single-counted
**Jan-Sep 2019
# ESG Futures – Volume Distribution September 2019

## Volume Breakdown

<table>
<thead>
<tr>
<th>Futures Description</th>
<th>Volume-Traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>STOXX Europe 600 ESG-X futures (FSEG)</td>
<td>362,283</td>
</tr>
<tr>
<td>STOXX Europe 600 ESG-X futures (OSEG)</td>
<td></td>
</tr>
<tr>
<td>STOXX Europe Climate Impact Index futures (FSCI)</td>
<td>115</td>
</tr>
<tr>
<td>EURO STOXX® 50 Low Carbon future (FSLC)</td>
<td>376</td>
</tr>
<tr>
<td>STOXX Europe Climate Impact Index futures (FSCI)</td>
<td>115</td>
</tr>
<tr>
<td>Total ESG Volume</td>
<td>362,774</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trading participation – Account Roles</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55% on A-accounts (Agency)</td>
<td></td>
</tr>
<tr>
<td>30% on M-accounts (Market Maker)</td>
<td></td>
</tr>
<tr>
<td>15% on P-Accounts (Principal)</td>
<td></td>
</tr>
</tbody>
</table>

| Total number of active Eurex Members                     | 24 (accumulated) |
| Open Interest                                            | 42,570 contracts; Capital value of approx. 590M EUR |

## Development of Open Interest

![Graph showing the development of open interest over time](www.eurexchange.com)
ESG index futures (Environmental, Social, Governance)

Eurex ESG Index Futures - Investable and easy access to ESG derivatives

Product Value

- Tradeable as a **standard, listed future contract**, including all safeguards
- **Easy to implement** and secured via the CCP (central counterparty)
- Portfolio risk based margin (PRISMA) **enables margin offsets**
- **Simple and fast integration** of the ESG Futures into the existing trading infrastructure
- ESG futures are **linked to our liquid benchmark indices** for Europe and the Eurozone (STOXX Europe 600 < SXXP>, EURO STOXX 50 <SX5E>)
- **Similar risk and return figures** compared to related benchmarks
- Eurex ESG futures will **lower carbon footprint**
- **Lower trading costs** for institutional investors
- **Reduced block trade size** to facilitate off-book trade entry for institutional investors
- **Liquidity Provider Incentive** scheme to be offered to support on screen price provision

General Facts

- **First European ESG futures on** the Pan European and EURO benchmark Index
- **Adapted solution** for asset managers with **strict mandates** to align with ESG requirements
- Focus on futures **covering ESG, Low Carbon and Climate Impact**
- The index investment families are covering negative/exclusionary screening, norms-based screening, positive/best-in-class screening and sustainability themed investing
- **Screening and analytical scoring** by global leaders in sustainability research and analysis
- Product launch and **initial listing of three selected STOXX ESG products** on 18 Feb 2019
- **Stepwise extension** to complementary sustainability offerings, further regions and options
I. STOXX Europe 600 ESG-X Futures and Options

Apply exclusion criteria (norms-based, controversial weapons, tobacco and coal screening)

Index Concept

- **New index family** providing access to ESG screened versions of STOXX flagship indices
- Transparent **free-float market cap weighting** scheme, similar to parent index
- Low tracking error with **similar risk / return profile** compared to STOXX Europe 600
- **Standardized ESG exclusion screens** based on responsible policy of leading asset owners
- Aimed to reduce market risk and reputational risks

ESG screening

- **Based on responsible policy** of leading asset owners
- Screening provided by Sustainalytics
- **Exclude all companies:**
  - In **breach of UN Global Compact principles** which includes controversies in the following areas:
    - Human rights, labour rights, environment, business ethics and anti-corruption
  - With **involvement in production or distribution of controversial weapons** (anti-personnel mines, biological and chemical weapons, cluster weapons, depleted uranium, nuclear weapons and white phosphorus)
  - **All tobacco producers** (0% revenue threshold)
  - Advanced **screening on thermal coal**:
    - **Thermal coal mining** companies (revenues > 25%)
    - **Coal power generating** companies (capacity >25%)
I. STOXX Europe 600 ESG-X Futures and Options

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

**Universe**
STOXX® Europe 600

**Weighting**
Free Float Market Cap

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**Exclusion Criteria:**

- **UN Global Compact Compliance Principles**
  1. Controversial Weapons
     - Anti-personnel mines, biological and chemical weapons, cluster weapons, depleted uranium, nuclear weapons and white phosphorus
  2. Tobacco Producers
     - 0% revenue threshold
  3. 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)

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**Fast Exit**

In case a company which is an index constituent increases in its ESG-risk level to level 5, SEVERE level, the respective constituent will be deleted from the index!

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1) Source: UNGlobalcompact.org – see back-up slide
2) Source: Sustainalytics – see back-up slide

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I. STOXX Europe 600 ESG-X Futures and Options

Risk and return overview

<table>
<thead>
<tr>
<th>Risk and return characteristics¹²)</th>
<th>Index performance¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STOXX Europe 600 ESG-X</strong></td>
<td><strong>STOXX EUROPE 600</strong></td>
</tr>
<tr>
<td>Return (overall)</td>
<td>4.1%</td>
</tr>
<tr>
<td>Return 1y</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Return 3y</td>
<td>8.1%</td>
</tr>
<tr>
<td>Return 5y</td>
<td>5.9%</td>
</tr>
<tr>
<td>Volatility 1y</td>
<td>12.3%</td>
</tr>
<tr>
<td>Volatility 3y</td>
<td>12.7%</td>
</tr>
<tr>
<td>Volatility 5y</td>
<td>15.6%</td>
</tr>
<tr>
<td>Sharpe Ratio (overall) ³)</td>
<td>0.71</td>
</tr>
<tr>
<td>Max. Drawdown (overall)</td>
<td>-25.1%</td>
</tr>
<tr>
<td>Tracking error (overall)</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

| Number of Constituents | 580 | 600 |

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³) EONIA rate used as proxy for riskless returns. www.eurexchange.com
I. STOXX Europe 600 ESG-X Futures and Options

Industry allocation

Source: STOXX. Data as of 08 Jan 2019.

1) Source: STOXX. Data as of 08 Jan 2019.
I. STOXX Europe 600 ESG-X Futures and Options

Cumulative impact of exclusions on total returns

1) Source: STOXX. Data as of 21st of June 2019.
2) Please refer to the research paper: STOXX® Europe 600 ESG-X Index - Analyzing ESG Exclusions

www.eurexchange.com
I. STOXX Europe 600 ESG-X Futures

Overview contract specifications in comparison to STOXX® Europe 600 futures

<table>
<thead>
<tr>
<th></th>
<th>STOXX® Europe 600 ESG-X Futures (FSEG)</th>
<th>STOXX® Europe 600 Futures (FXXP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlying index</td>
<td>STOXX Europe 600 Ex Global Compact, Controversial Weapons, Coal and Tobacco (SXXPESGX)</td>
<td>STOXX® Europe 600 Index (SXXP)</td>
</tr>
<tr>
<td>Index type</td>
<td>Price index</td>
<td></td>
</tr>
<tr>
<td>Contract value</td>
<td>100 EUR per index point</td>
<td>50 EUR per index point</td>
</tr>
<tr>
<td>Tick value</td>
<td>10 EUR</td>
<td>5 EUR; 1 EUR for calendar spread</td>
</tr>
<tr>
<td>Price quotation</td>
<td>In points with one decimal place</td>
<td>In points with two decimal places</td>
</tr>
<tr>
<td>Minimum price change</td>
<td>0.1 index point</td>
<td>0.1 index point; 0.02 for calendar spread</td>
</tr>
<tr>
<td>Contract months</td>
<td>Up to 9 months; 3 quarterly months</td>
<td></td>
</tr>
<tr>
<td>Settlement</td>
<td>Cash settlement, payable on the first exchange day following the Final Settlement Day</td>
<td></td>
</tr>
<tr>
<td>Final settlement price</td>
<td>Based on the average of the respective STOXX index calculations from 11:50-12:00 noon CET</td>
<td></td>
</tr>
<tr>
<td>Expiration day and Final settlement day</td>
<td>3rd Friday of each expiration month if this is an exchange day; otherwise the exchange day immediately preceding that day. Close of trading in the maturing futures on the Last Trading Day is at 12:00 CET</td>
<td></td>
</tr>
<tr>
<td>Continuous / TES</td>
<td>08:00 – 22:00 CET</td>
<td></td>
</tr>
<tr>
<td>Flexible contracts</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Min block trade size</td>
<td>50 contracts</td>
<td>100 contracts</td>
</tr>
</tbody>
</table>
## I. STOXX Europe 600 ESG-X Options

**Overview contract specifications in comparison to STOXX® Europe 600 options**

<table>
<thead>
<tr>
<th></th>
<th>STOXX® Europe 600 ESG-X Options (OSEG)</th>
<th>STOXX® Europe 600 Options (OXXP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Underlying index</strong></td>
<td>STOXX Europe 600 Ex Global Compact, Controversial Weapons, Coal and Tobacco (SXXPESGX)</td>
<td>STOXX® Europe 600 Index (SXXP)</td>
</tr>
<tr>
<td><strong>Index type</strong></td>
<td></td>
<td>Price index</td>
</tr>
<tr>
<td><strong>Contract value</strong></td>
<td>100 EUR per index point</td>
<td>50 EUR per index point</td>
</tr>
<tr>
<td><strong>Tick value</strong></td>
<td>10 EUR</td>
<td>5 EUR</td>
</tr>
<tr>
<td><strong>Price quotation</strong></td>
<td>In points with two decimal places</td>
<td>In points with one decimal place</td>
</tr>
<tr>
<td><strong>Minimum price change</strong></td>
<td>0.01 index point</td>
<td>0.1 index point</td>
</tr>
<tr>
<td><strong>Maturities</strong></td>
<td>up to 24 months</td>
<td>up to 60 months</td>
</tr>
<tr>
<td><strong>Settlement</strong></td>
<td>Cash settlement, payable on the first exchange day following the Final Settlement Day</td>
<td></td>
</tr>
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<td><strong>Final settlement price</strong></td>
<td>Based on the average of the respective STOXX index calculations from 11:50-12:00 noon CET</td>
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<td></td>
</tr>
<tr>
<td><strong>Continuous TES</strong></td>
<td>07:30 – 17:30 CET</td>
<td>09:00 – 19:00 CET</td>
</tr>
<tr>
<td><strong>Flexible contracts</strong></td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td><strong>Min block trade size</strong></td>
<td>50 contracts</td>
<td>100 contracts</td>
</tr>
</tbody>
</table>
II. STOXX Europe Climate Impact Index Futures

Climate Change a long-term commitment

Market consultation

- Investors are discovering the potential of investments in renewable energy and the low-carbon economy and are committed to participate in the transition to a low-carbon economy
- Index concept has been licensed by a leading Scandinavian asset owner for benchmark climate 2-degree portfolio
- Interest from other asset owners expect to grow as further regulation addressing climate change is drafted

Advantages of the index concept

- First index which includes CDP* (formerly known as Carbon Disclosure Project) climate change scoring methodology
- Unique concept utilizing forward-looking indicators based on CDP research
- Only companies with strong environmental stewardship are selected (at least CDP Climate Change Management Level Scoring)
- Carbon footprint of STOXX Europe 600 reduced by approximately 50%
- Similar risk / return profile compared to STOXX Europe 600
- Includes ESG screen: UN Global Compact Violations, controversial weapons, ICB Sector Tobacco and ICB Subsector coal

Advantages of integrating CDP climate scoring

- Measures companies progress towards environmental stewardship
- Scoring methodology includes forward-looking metrics such as carbon pricing and science-based targets
- Aligned with TCFD (Task Force on Climate-related Financial Disclosures) recommendations
- Focuses on companies’ climate-related financial disclosures in areas like governance, strategy, risk management, targets and opportunities
- Transparent weighting scheme, no adverse effects from weight optimization
- Trusted and reliable data source

* CDP runs the global disclosure system that enables companies, cities, states and regions to measure and manage their environmental impacts. CDP states to have built the most comprehensive collection of self-reported environmental data in the world.
II. STOXX Europe Climate Impact Index Futures

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

**Universe**
STOXX® Europe 600

**Selection**
Select all stocks from the Universe with a CDP Climate Scoring of A to B- (Leadership and Management)

**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**
Price weighted:
- 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 53.6% lower carbon footprint than the STOXX Europe 600 index

*see page 17 for more information*
CDP’s scoring approach and corresponding level

Progress towards environmental stewardship

Source: CDP

Disclosure
“What this is where we’re at”

Awareness
“What does climate change mean to our company?”

Management
“How do we manage our climate change risks and impacts?”

Leadership
“How can we solve the climate change problem?”

Source: CDP

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II. STOXX Europe Climate Impact Index Futures

Risk and return overview

<table>
<thead>
<tr>
<th>Risk and return characteristics¹²</th>
<th>STOXX Europe Climate Impact Ex GC, CW &amp; Tob</th>
<th>STOXX Europe 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return (overall)</td>
<td>8.88%</td>
<td>8.94%</td>
</tr>
<tr>
<td>Return 1y</td>
<td>8.04%</td>
<td>6.57%</td>
</tr>
<tr>
<td>Return 3y</td>
<td>9.03%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Return 5y</td>
<td>6.07%</td>
<td>6.03%</td>
</tr>
<tr>
<td>Volatility 1y</td>
<td>12.19%</td>
<td>12.76%</td>
</tr>
<tr>
<td>Volatility 3y</td>
<td>10.77%</td>
<td>10.98%</td>
</tr>
<tr>
<td>Volatility 5y</td>
<td>15.66%</td>
<td>15.66%</td>
</tr>
<tr>
<td>Sharpe Ratio (overall) ³</td>
<td>0.66</td>
<td>0.67</td>
</tr>
<tr>
<td>Max. Drawdown (overall)</td>
<td>-25.82%</td>
<td>-24.93%</td>
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<tr>
<td>Tracking error (overall)</td>
<td>1.61%</td>
<td></td>
</tr>
<tr>
<td>Number of Constituents</td>
<td>257</td>
<td>600</td>
</tr>
</tbody>
</table>

The STOXX Europe Climate Impact index has approximately 50% lower carbon footprint than the STOXX Europe 600 index

³) EONIA rate used as proxy for riskless returns.
II. STOXX Europe Climate Impact Index Futures

Industry allocation\(^1\)

![Bar chart showing industry allocation of STOXX Europe 600 and STOXX Europe Climate Impact Index Futures](chart.png)

- **Financials**: 20%
- **Consumer Goods**: 15%
- **Health Care**: 15%
- **Industrials**: 10%
- **Technology**: 7.5%
- **Telecommunications**: 5%
- **Consumer Services**: 5%
- **Basic Materials**: 5%
- **Oil & Gas**: 5%
- **Utilities**: 5%

\(^1\) Source: STOXX Data as of Feb. 14, 2019.
II. STOXX Europe Climate Impact Index Futures

Size allocation\(^1\)

- **STOXX Europe Climate Impact**
  - 87.3%
  - 2.8%
  - 9.9%

- **STOXX Europe 600**
  - 78.6%
  - 6.6%
  - 14.7%

1) Source: STOXX. Data as of May 17, 2019.
II. STOXX Europe Climate Impact Index Futures

Overview contract specifications in comparison to STOXX® Europe 600 futures

<table>
<thead>
<tr>
<th>STOXX Europe Climate Impact I. Futures (FSCI)</th>
<th>STOXX® Europe 600 Futures (FXXP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlying index</td>
<td>STOXX Europe Climate Impact Index (SXECITEP)</td>
</tr>
<tr>
<td>Index type</td>
<td>Price index</td>
</tr>
<tr>
<td>Contract value</td>
<td>100 EUR per index point</td>
</tr>
<tr>
<td>Tick value</td>
<td>10 EUR</td>
</tr>
<tr>
<td>Price quotation</td>
<td>In points with one decimal place</td>
</tr>
<tr>
<td>Minimum price change</td>
<td>0.1 index point</td>
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<td>Final settlement price</td>
<td>Based on the average of the respective STOXX index calculations from 11:50-12:00 noon CET</td>
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<td>08:00 – 22:00 CET</td>
</tr>
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<td>Available</td>
</tr>
<tr>
<td>Min block trade size</td>
<td>50 contracts</td>
</tr>
</tbody>
</table>
III. EURO STOXX® 50 Low Carbon Futures

Reduce carbon footprint of leading blue chip index

Market consultation

- Low carbon investment is not a trend but rather a long-term commitment from both companies and investors
- Driven by EU regulation which is so far concentrating on low carbon / CO2 emission in order to reduce the CO2 footprint
- Market consultation showed very strong interest from leading insurance companies
- Interest from other asset owners, pension funds and asset managers is expected to grow as regulation is drafted

Advantages of the index concept

- Carbon footprint of Euro STOXX 50 reduced by approximately 60%
- Transparent weighting scheme lowering carbon footprint by overweighting low emitters and underweighting high emitters (z-score based on carbon intensity)
- Low tracking error with similar risk / return profile compared to Euro STOXX 50
- Aligned with “Low Carbon Benchmark” definition (article 23a) provided in proposal of EU Commission amending regulation 2016/1011
- Component capping of 5%

Advantages of Low Carbon overlay

- Reduces carbon footprint without applying exclusions
- Transparent weighting scheme, no adverse effects from weight optimization
- Low tracking error with similar risk / return profile compared to the benchmark
- Uses both reported and estimated carbon intensity data
- Trusted and reliable data sources: CDP, ISS-Ethix Climate Solutions

1) Please refer to STOXX Index Methodology Guide for details on index selection, review, and other details
2) Carbon Intensity: ((Scope 1 + Scope 2 Greenhouse Gas Emissions (GHG)) / Revenue ($1 million))
III. EURO STOXX® 50 Low Carbon Futures

Investment Case

**Universe**
EURO STOXX 50
All constituents as of December each year

**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%

**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 data**
- Calculate a Z-Score (Carbon-tilt overweights low emitters and underweights high emitters)

**Calculate Z-Score**
FMC x Z-score
Component capping of 5%

**Reduces carbon footprint** without applying exclusions, as it has a **63.8% lower carbon footprint** than the EURO STOXX 50 index

---

1. Carbon Intensity: ((Scope 1 + Scope 2 Greenhouse Gas Emissions (GHG)) / Revenue ($1 million))
2. Please refer to [STOXX Index Methodology Guide](https://www.stoxx.com) for details on index selection, review, and other details.

www.eurexchange.com
III. EURO STOXX® 50 Low Carbon Futures

Risk and return overview

<table>
<thead>
<tr>
<th>Risk and return characteristics(^1)(^2)</th>
<th>EURO STOXX 50 Low Carbon</th>
<th>EURO STOXX 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return (overall)</td>
<td>11.38%</td>
<td>10.74%</td>
</tr>
<tr>
<td>Return 1y</td>
<td>7.83%</td>
<td>8.98%</td>
</tr>
<tr>
<td>Return 3y</td>
<td>10.30%</td>
<td>10.32%</td>
</tr>
<tr>
<td>Return 5y</td>
<td>5.84%</td>
<td>5.53%</td>
</tr>
<tr>
<td>Volatility 1y</td>
<td>14.43%</td>
<td>14.08%</td>
</tr>
<tr>
<td>Volatility 3y</td>
<td>12.79%</td>
<td>12.55%</td>
</tr>
<tr>
<td>Volatility 5y</td>
<td>18.14%</td>
<td>17.92%</td>
</tr>
<tr>
<td>Sharpe Ratio (overall) (^3)</td>
<td>0.69</td>
<td>0.67</td>
</tr>
<tr>
<td>Max. Drawdown (overall)</td>
<td>-27.72%</td>
<td>-27.82%</td>
</tr>
<tr>
<td>Tracking error (overall)</td>
<td>0.96%</td>
<td></td>
</tr>
</tbody>
</table>

| Number of Constituents                    | 50                      | 50             |

The EURO STOXX 50 Low Carbon index has approximately 60% lower carbon footprint than the EURO STOXX 50 index.

3) EONIA rate used as proxy for riskless returns. www.eurexchange.com
III. STOXX Europe Climate Impact Index Futures

Industry allocation\(^1\)

![Bar chart showing industry allocation for EURO STOXX 50 and EURO STOXX 50 Low Carbon indices.]
## III. EURO STOXX® 50 Low Carbon Futures

**Overview contract specifications in comparison to Euro STOXX® 50 futures**

<table>
<thead>
<tr>
<th></th>
<th>EURO STOXX 50 Low Carbon I. Futures (FSLC)</th>
<th>EURO STOXX® 50 Futures (FESX)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Underlying index</strong></td>
<td>EURO STOXX 50 Low Carbon (SXE5LCEP)</td>
<td>EURO STOXX® 50 Index (SX5E)</td>
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<tr>
<td><strong>Index type</strong></td>
<td>Price index</td>
<td></td>
</tr>
<tr>
<td><strong>Contract value</strong></td>
<td>100 EUR per index points</td>
<td>10 EUR per index point</td>
</tr>
<tr>
<td><strong>Tick value</strong></td>
<td>10 EUR</td>
<td>10 EUR</td>
</tr>
<tr>
<td><strong>Price quotation</strong></td>
<td>In points with one decimal place</td>
<td>In points without decimal place</td>
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<tr>
<td><strong>Minimum price change</strong></td>
<td>0.1 index point</td>
<td>1 index point</td>
</tr>
<tr>
<td><strong>Contract months</strong></td>
<td>Up to 9 months; 3 quarterly months</td>
<td></td>
</tr>
<tr>
<td><strong>Settlement</strong></td>
<td>Cash settlement, payable on the first exchange day following the Final Settlement Day</td>
<td></td>
</tr>
<tr>
<td><strong>Final settlement price</strong></td>
<td>Based on the average of the respective STOXX index calculations from 11:50-12:00 noon CET</td>
<td></td>
</tr>
<tr>
<td><strong>Expiration day and Final settlement day</strong></td>
<td>3rd Friday of each expiration month if this is an exchange day; otherwise the exchange day immediately preceding that day. Close of trading in the maturing futures on the Last Trading Day is at 12:00 CET</td>
<td></td>
</tr>
<tr>
<td><strong>Continuous / TES</strong></td>
<td>08:00 – 22:00 CET</td>
<td></td>
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<td><strong>Flexible contracts</strong></td>
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<tr>
<td><strong>Min block trade size</strong></td>
<td>50 contracts</td>
<td>1,000 contracts</td>
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</table>
# EUREX ESG Derivatives

## Product suite

<table>
<thead>
<tr>
<th>Index name</th>
<th>Curr.</th>
<th>Index type</th>
<th>US allowed</th>
<th>UL Provider Index Codes</th>
<th>Bloomberg Index Codes</th>
<th>Reuters Futures Codes</th>
<th>Eurex contract Codes</th>
<th>Bloomberg Product Codes</th>
<th>Maturity</th>
<th>Multiplier</th>
<th>Minimum Block Trade Size</th>
<th>Tick Size</th>
<th>Tick Value</th>
<th>Calendar Tick Value</th>
<th>Contract value*</th>
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<tbody>
<tr>
<td><strong>STOXX Europe ESG Indices</strong></td>
<td></td>
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</tr>
<tr>
<td>STOXX Europe 600 ESG-X futures*</td>
<td>EUR</td>
<td>Price</td>
<td>as of 08th Apr</td>
<td>SXXPESGX</td>
<td>SXXPESGX</td>
<td>0#FSEG</td>
<td>FSEG</td>
<td>FUEA Index</td>
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<td>STOXX Europe 600 ESG-X options**</td>
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<td>TBD</td>
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<td>SXXPESGX</td>
<td>0#OSEG</td>
<td>OSEG</td>
<td>TBD</td>
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<tr>
<td>STOXX Europe Climate Impact Ex Global Compact Controversial Weapons &amp; Tobacco futures*</td>
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<td>FAEA Index</td>
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<tr>
<td>EURO STOXX 50 Low Carbon futures*</td>
<td>EUR</td>
<td>Price</td>
<td>as of 08th Apr</td>
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<td>SXE5LCEP</td>
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<td>FSLC</td>
<td>BCYA Index</td>
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<td><strong>Related benchmarks</strong></td>
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<td></td>
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<tr>
<td>STOXX Europe 600 (Benchmark) futures</td>
<td>EUR</td>
<td>Price</td>
<td>Y</td>
<td>SXXP</td>
<td>SXXP</td>
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<td>FXXP</td>
<td>SXOA Index</td>
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<td>EURO STOXX 50 (BlueChip) futures</td>
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<td>SX5E</td>
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<td>VGA Index</td>
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<td>1000</td>
<td>1</td>
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<td>n.a.</td>
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</tbody>
</table>

Above mentioned Eurex ESG Derivatives launched on 18th of February* and 21st of October** 2019

as of January 2019
# Liquidity Providers

## STOXX ESG Futures: STXE 600 ESG-X (FSEG), STXE Climate Impact (FSCI), ESTX50 Low Carbon (FSLC)

<table>
<thead>
<tr>
<th>Provider</th>
<th>Contact</th>
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<tbody>
<tr>
<td>DRW Investments (UK) LTD</td>
<td>LOTLO</td>
<td>Chadwick Miller</td>
<td>+44 20 7031 1369</td>
</tr>
<tr>
<td>Flow Trader B.V</td>
<td>NEDAM</td>
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</tr>
<tr>
<td>IMC Trading B.V</td>
<td>INMAM</td>
<td>Rick van Leeuwen</td>
<td>+31 20 798 8484</td>
</tr>
<tr>
<td>Société Générale</td>
<td>SOGFR</td>
<td>Gregory Dieng</td>
<td>+33 1 42 13 7244</td>
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<tr>
<td>Susquehanna</td>
<td>SISDB</td>
<td>Daniel Mannion</td>
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</tr>
<tr>
<td>Optiver</td>
<td>OPXAM</td>
<td>Holger Schlünzen</td>
<td>+31 20 708 7621</td>
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## STOXX ESG Options: STXE 600 ESG-X (OSEG)

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## Further Market Contacts

| STOXX ESG Futures: STXE 600 ESG-X (FSEG), STXE Climate Impact (FSCI), ESTX50 Low Carbon (FSLC) |
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