

PULSE

VOL 5/ISSUE 2 – SUMMER 2016



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- » **Multi-Asset Investing**
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WELCOME TO THE SUMMER 2016 EDITION OF STOXX PULSE

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MEET STOXX AT A CONFERENCE

» Jul. 26, Sydney, Australia
Jonathan Morgan, Regional Director of Sales, will speak at the Best Practice ETF Forum, hosted by Financial Standard.

» Oct. 4, Stockholm, Sweden
Dr. Jan-Carl Plagge, Head of Applied Research within STOXX, will speak at the Nordic Institutional Investors' Conference, organized by SPS Conferences.

» Oct. 13-14, Hong Kong
STOXX will participate at the Global Investment Strategy Forum, organized by i3. Roberto Lazzarotto, Head of Sales, will speak at this event.

“OUR ANNUAL CONFERENCE OFFERED A CHANCE TO MEET SOME OF THE BEST MINDS IN THE INVESTMENT COMMUNITY”



Matteo Andreetto
CEO, STOXX Limited

Dear readers,

Welcome to the summer edition of STOXX PULSE. In the spirit of the upcoming summer break, we want to present you with a selection of articles as a summer read. The following list represents our most-read articles from PULSE ONLINE, our blog featuring key highlights from the markets and investment world.

The first article features an analysis by **Nicolae Raulet**, Global Product Research and Development, Eurex Frankfurt AG, who focuses on dividend investing in search for yield. What he presents is a compelling showcase about the potential of high dividend-paying stocks, which can be efficiently accessed through Eurex's STOXX® Global Select Dividend 100 Index Futures and Options.

Next, **Dr. Jan-Carl Plagge**, our Head of Applied Research, and **Yuliyang Georgiev**, Senior Product Manager, are plotting the efficient frontier presented by STOXX's new, multi-asset proposition that seeks to facilitate investors' risk/return preferences by combining the EURO STOXX 50®

and the EURO STOXX 50® Corporate Bond Indices in varying proportions according to investors' needs.

Our annual STOXX conference innovat:invest took place in May and offered its participants a chance to meet with some of the best minds in the investment community. **Paul Amery**, freelance journalist and moderator of the conference, summarizes the key takeaways from the presentations that spanned from demographics to investment theory, trends in smart beta, opportunities and challenges around ESG and climate change.

As economies across the world begin their transition to a low-carbon model, following December's seminal climate summit in Paris, institutional investors will increasingly require tools to align their portfolios in order to reduce their carbon exposure. Passive investment is a crucial part of this shift and to that end, we dedicate a complete section to this topic.

First, **Willem Keogh**, Senior Product Development Manager at STOXX, explains the three scopes of carbon emissions according to the GHG protocol and identifies supply-chain emissions as the most crucial for investors but they are also the most difficult to measure and seldom reported. To meet the need for effective solutions, we introduced the STOXX® Low Carbon index family earlier this year – developed in collaboration with CDP and South Pole Group based on reliable reported and estimated carbon emission data.

Generally, the investor community needs to better understand the impact of climate change on financial

markets in order to be prepared for the transition to a low-carbon economy.

Renat Heuberger, CEO of South Pole Group, analyzes how major investors are anticipating those risks and identifies the STOXX Low Carbon Indices as a fully tailored mitigation strategy.

Indeed, these indices offer a range of innovative solutions to reduce a portfolio's carbon footprint and with the STOXX® Global Climate Change Leaders Index, you can even raise the bar and engage with companies that made it to CDP's 'A-List' – companies that are catalysts for the transition to a low-carbon economy, with aggressive plans to fight climate change. According to CDP, the companies' own emissions often account for just 15 to 25% of the total emissions across their supply chain. **Nico Langedijk**, Regional Director at STOXX, shows how our index factors in these so-called Scope 3 emissions while having a similar or even better risk-return profile than our benchmark STOXX Global 1800.

I hope you enjoy this issue and would also encourage you to visit stox.com/pulseonline for more timely updates. For comments and/or suggestions, please contact pulse@stox.com.

Regards,

Matteo Andreetto
CEO, STOXX Limited

PULSE ONLINE

For timely updates on market events and their implications for the industry:
www.stox.com/pulseonline



TOP STORY
FROM
PULSE ONLINE



Nicolae Raulet
Global Product Research
and Development,
Eurex Frankfurt AG



INVESTING IN HIGH DIVIDEND- YIELD STOCKS



Enhancing investment performance with Eurex's STOXX®
Global Select Dividend 100 Index Futures & Options.



The extremely low interest rate environment, combined with slow economic growth and rising market volatility, has contributed to the erosion of returns from traditional fixed income investments, especially over the last few years. In the search for yield, dividend investing has regained investor focus. This article analyses the potential of high dividend-paying stocks, which can be efficiently accessed through Eurex's lately introduced STOXX® Global Select Dividend 100 Index Futures and Options.

According to Bloomberg Intelligence, since 2003, dividend-weighted funds accounted for roughly 60% of all US-domiciled smart-beta ETF flows. Of the 400 billion US dollar's worth of smart-beta ETF assets, more than half are allocated to dividend-oriented funds. In Europe, the trend is even more pronounced, with two-thirds of smart-beta assets allocated to dividend funds. STOXX-based ETFs are leading this development and have attracted almost half of the assets in all European dividend-based funds (over 4 billion euros in assets).



High dividend-paying stocks can be attractive for many reasons. Dividends tend to be a strong indication of a company's future prospects and performance. These are usually steady, mature businesses, such as utilities, telecoms or financial sector companies, with stable cash flows, less volatility and a sustainable dividend policy. Finally, dividend distributions tend to be robust

despite economic downturns and their reinvestment over longer time periods has historically produced exceptional investment results.

The shaded area in Figure 1 shows the proportion of dividends paid out (and reinvested) by the STOXX Global Select Dividend companies, as depicted by the difference between the net total return and the price indices since the index has been calculated (the index is detailed in the following sections).





Historical outperformance

A dividend strategy, consisting of buying companies that pay stable, above-market, sustainable dividends, has proven itself as a consistently profitable strategy over market cycles in the long term. Given the quality of these equities, it comes as no surprise that they have demonstrated the ability to outperform the broader market. Figure 2 shows that, over the last 15 years, the EURO STOXX® Select Dividend 30 Index and the STOXX Global Select Dividend 100 Index outperformed their benchmarks by more than 45% and 80%, respectively. This is equivalent to an average yearly outperformance of 2% and 4%, respectively.

At the same time, the outperformance has been achieved without increasing volatility or by substantially deviating from the market cap-weighted broad-based benchmark. The high correlation coefficients of 0.92 and 0.98 against the STOXX Global and the EURO STOXX® Indices, respectively, indicate a proven track record, without introducing dramatically different periodic return volatility.

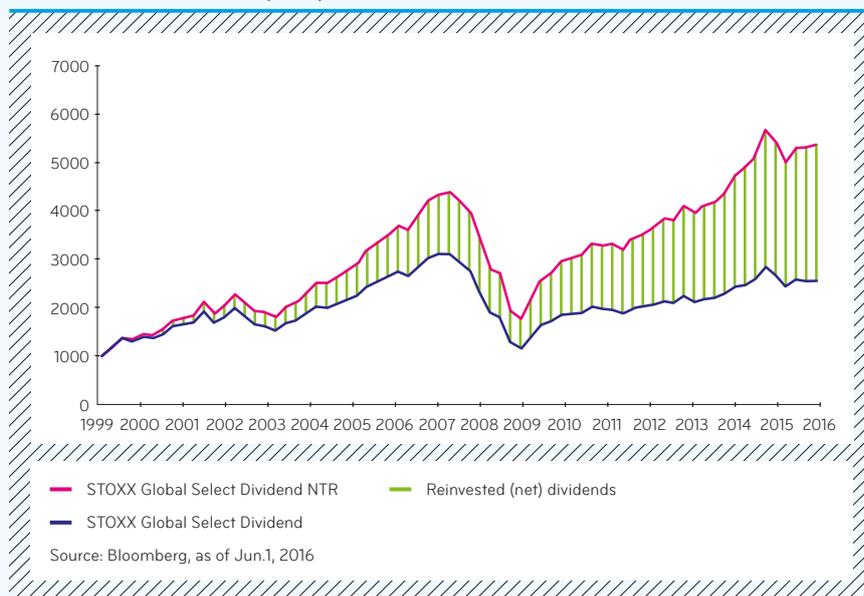
Dividend yield

Simply looking at dividend yields can be misleading, despite historical outperformance of high dividend-yield strategies. In constructing portfolios, investors cannot merely target high dividend-yielding stocks under the assumption that these companies are in a position to sustain those yields. It is important to look at the fundamentals and whether they indicate a sustainable high dividend yield.

Dividends indicate fundamentals

In general, stable, above-average dividends should signal strong fundamentals. Any equity strategy is a good expected investment if the stocks are relatively cheap and of good quality. Typical valuation metrics for relatively undervalued stocks are earnings before interest and taxes to total enterprise value – EBIT/TEV – and the price to earnings – P/E – ratios. We compare the above measures for the Select Dividend sub-indices against their respective broad-based benchmarks. As Table 1 shows, the high dividend-yield subsample, as selected by the STOXX methodology, is generally ‘cheaper’ than the broader market, as indicated by the selected metrics, namely EBIT/TEV and P/E ratios. Select Dividend indices have ‘cheaper’ valuations for the global portfolio, as well as for each of the individual regions of Asia/Pacific, Europe and North America.

FIGURE 1 – STOXX® GLOBAL SELECT DIVIDEND 100 WITH DIVIDENDS (BLUE) AND WITHOUT DIVIDENDS (PINK)



“IN GENERAL, STABLE DIVIDENDS SHOULD SIGNAL STRONG FUNDAMENTALS”

FIGURE 2 – STOXX® SELECT DIVIDEND INDEX: CHARACTERISTICS AND PERFORMANCE (IN THOUSANDS)



INDEX RISK AND RETURN CHARACTERISTICS

	ANNUALIZED STD DEVIATION (%)			SHARPE RATIO		
	30DAY	240DAY	360DAY	1Y	3Y	5Y
STOXX Global 1800	11.33	19.57	18.05	-0.4	0.8	0.8
STOXX Global Select Dividend 100	10.99	18.02	16.51	-0.3	0.7	0.9
EURO STOXX	15.25	23.63	21.82	-0.4	0.5	0.3
EURO STOXX Select Dividend 30	14.14	22.13	20.39	-0.2	0.6	0.4

INDEX CHARACTERISTICS

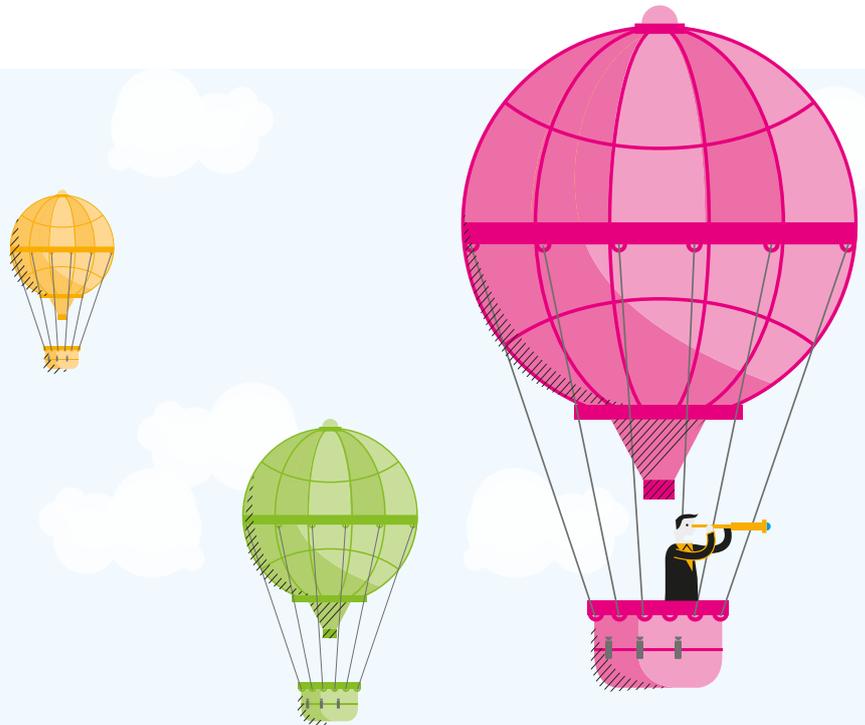
YEAR	STOXX GLOBAL 1800	STOXX GLOBAL SELECT DIVIDEND 100	EURO STOXX	EURO STOXX SELECT DIVIDEND 30
#comp	1800	100	293	30
Mrk cap (billions)	32,380	2,647	4,020	1,055

INDEX RISK AND RETURN CHARACTERISTICS

YEAR	STOXX GLOBAL 1800	STOXX GLOBAL SELECT DIVIDEND 100	EURO STOXX	EURO STOXX SELECT DIVIDEND 30
2001	-13.43	9.11	-19.72	-6.68
2002	-32.73	-11.33	-34.52	-15.59
2003	9.04	16.81	18.09	22.77
2004	5.09	14.36	9.95	22.93
2005	24.70	22.39	23.00	25.90
2006	5.86	15.55	20.28	33.30
2007	-3.13	-9.43	4.87	-1.92
2008	-39.08	-53.62	-46.32	-57.44
2009	22.88	34.34	23.37	26.52
2010	17.12	17.28	-0.11	0.43
2011	-4.95	-1.72	-17.73	-16.24
2012	11.72	5.55	15.53	-0.63
2013	18.74	5.46	20.50	13.60
2014	17.12	16.92	1.71	7.89
2015	8.84	-0.39	7.97	4.55

Source: Bloomberg and calculations by Eurex, as of Jun. 1, 2016

Another important aspect of equity valuation is quality. Ideally, the quality of the selected stocks, as measured by return on equity and return on assets, should be higher than that of the broader market. From Table 1 we can see that the Select Dividend subsets, with no exception, show better returns. Among the three regions, valuations in Europe are particularly attractive based on the value and quality metrics. The European Central Bank's 60 billion euro a month quantitative easing program and the euro's depreciation against the dollar, among other things, had a positive effect on the equity markets across Europe resulting in these attractive valuations.



Dividends indicate value

One reason for attractive valuations and consistent historical outperformance of high dividend-yield stocks versus the broader market is that weighting towards dividend yield would routinely capture the value factor. This comes as no surprise, since dividends have long been a way to calculate value. From the classic dividend discount model to corporate finance theory, dividends are the building blocks in a company's value.

Understanding the risk

We identified high-yield stocks as value companies with stable and consistent profits able to systematically deliver above-average risk adjusted returns over market cycles. Nonetheless, a stock's dividend yield is driven by the company's performance (i.e. profitability, earnings, cash flow) which, in turn, depends on the prevailing market environment and

company-specific factors. Despite dividend strategies being an attractive alternative to traditionally safe, but low return, fixed-income investments, dividends are still attached to equities. In times of distress, even companies with consistent dividend payments can lose share value, cut dividend payments or go out of business.

TABLE 1: COMPARISON OF VALUATION METRICS FOR SELECT DIVIDEND INDICES AGAINST THEIR RESPECTIVE BROAD-BASED BENCHMARKS

	EBIT/TEV ¹		P/E ²		ROE ³		ROA ³	
	Select	Broad	Select	Broad	Select	Broad	Select	Broad
Global	0.057	0.057	16.43	20.32	11.01	9.60	3.23	1.48
Asia/Pacific	0.059	0.066	11.99	17.46	10.85	7.81	3.84	1.31
Europe	0.054	0.053	18.39	27.63	9.29	6.92	2.48	0.78
North America	0.057	0.056	16.86	19.01	12.79	12.24	3.26	2.38

1 Earnings before interest and taxes to total enterprise value (higher is cheaper, lower is more expensive)
 2 Price to earnings (higher is more expensive, lower is cheaper)
 3 Return on Equity/Assets (higher is more profitable/higher quality)

Source: Bloomberg and calculations by Eurex, as of Jun. 1, 2016

“WEIGHTING TOWARDS DIVIDEND YIELD ROUTINELY CAPTURES THE VALUE FACTOR”

STOXX® Global – investment tools to capture yield

Launched in 2007, the STOXX Global Select Dividend 100 Index is the first global index to measure the performance of high dividend-yielding stocks worldwide. It tracks the 40 highest dividend-yielding stocks in North America as well as the 30 highest dividend-yielding stocks in Europe and in Asia/Pacific, respectively. The indices are price-weighted, with a weighting factor based on the dividend yield.

To be eligible for inclusion in the STOXX Global Select Dividend 100 Index, a company must have a positive historical five-year dividend-per-share growth rate and a dividend-to-earnings-per-share ratio of less than or equal to 60% in Europe and North America, 80% in Asia/Pacific the current year, or be a previous component.

The weight of individual components in the STOXX Global Select Dividend 100 Index is restricted to 15% in order to prevent the index from being dominated by single, high dividend-paying stocks.

Futures & Options at Eurex Exchange

The STOXX Global Select Dividend 100 Index serves as a performance benchmark for investors focusing on dividend yield. Whether investors are looking to obtain and manage exposure to the high dividend-yielding segments or hedge an existing equity portfolio, the newly listed futures and options should help achieve these goals, with all the usual benefits of a CCP product.

CONTRACT SPECIFICATIONS – STOXX® GLOBAL SELECT DIVIDEND 100 INDEX

	Futures	Options
Eurex codes	FGDV	OGDV
Underlying	STOXX® Global Select Dividend 100 (EUR, Price)	
Contract value	10 EUR per index point	
Contract terms	9 months	60 months
Minimum price change	0.5 index points	0.1 index points
Tick value	5 EUR	1 EUR
Settlement	Cash settlement (European-style exercise)	
Daily settlement price	VWAP during the minute before 17:30 CET	Black/Scholes 76
Final settlement price	Based on the closing STOXX® index level on the last trading day of the expiration month*	
Final settlement day	Next Eurex trading day following the Last Trading Day (to cover the late index close level)	
Last trading day	3rd Friday of the maturity/expiration month	
Continuous trading	07:50 – 22:00 CET	08:50 – 17:30 CET
Eurex TES	08:00 – 22:00 CET	09:00 – 19:00 CET
Fee (standard STOXX)	Order book: 0.30 TES: 0.45	Order book: 0.30 TES: 0.30
Eurex TES / FLEX Minimum block trade size	Available with size 100	

*In deviation from the approach for European STOXX indices, where Eurex calculates the FSP at noon, for the STOXX Global Select Dividend 100 Index the approach similar to the MSCI Global indices is used, where Eurex takes the closing index level of the third Friday of the maturity/expiration month.

BASIC FACTS ON STOXX® SELECT DIVIDEND REGIONAL INDEXES

	North America	Europe	Asia/Pacific
No. of components	40	30	30
Average market cap (billion EUR)	41	28	12
Dividend yield (%)	3.9	5.1	5.4
Top country	USA (73%)	Great Britain (49%)	Singapore (33%)
Top sector	Utilities (28%)	Insurance (22%)	Real Estate (29%)
Top component	New York Community Bancorp (3.81%)	SCOTTISH & SOUTHERN ENERGY (5.21%)	Insurance Australia Group Ltd. (4.98%)



Liquidity providers for STOXX Select Dividend derivatives on Eurex Exchange

A number of market makers and brokers are supporting the Eurex products by providing on-screen liquidity and facilitating block trades or other off-book trades.

Conclusion

In the search for yield, dividend investing has regained investor focus. Despite consistent money inflow into high-yielding strategies in recent years, valuations, especially in Europe, are still very attractive. While rates in the US are expected to go up in the near future, in Europe the forecasts still point to near zero interest rates, which make dividend strategies an attractive alternative to low-risk/low-return fixed interest

investments. The STOXX Global Select Dividend 100 Index is the first index to measure the performance of a global high dividend-yielding portfolio. Whether investors are looking to obtain and manage exposure to the high dividend-yielding segments or hedge an existing equity portfolio, the newly listed futures and options should help achieve these goals, with all the usual benefits of a CCP product. <<

Member	Contact person	Telephone	EURO STOXX® Select Dividend 30		STOXX® Global Select Dividend 100		Order-book	Off-book
			Futures	Broad	Futures	Options		
Banca IMI	Carmine Calamello	+39 02 7261 2194	•	•	•	•		•
DRW Investments UK	Chad Miller	+44 20 7031 1369	•	•			•	
HPC / OTCex	Andrew Lawrie	+44 20 7959 0356	•	•	•	•		•
Kepler Capital Markets	Nicolas Lizardo	+33 1 70 39 74 91	•	•	•	•		•
Societe Generale	Chiara Cudoni	+33 1 42 13 85 79	•	•	•	•	•	•
Societe Generale	Raphael Atlan	+33 1 42 13 72 44	•	•	•	•	•	•
Sunrise Brokers	Hai Dang Vu	+44 20 7034 9806	•	•	•	•		•
Susquehanna Int	Shane Cryan	+35 31 802 8023	•	•			•	

Further information

- STOXX® Global Select Dividend 100 Index Derivatives (presentation)
http://www.eurexchange.com/blob/1895650/3a074018840b3dec8cec42560b584253/data/20150812_eurex-select-global-f-o.pdf
- STOXX® Select Dividend Indexes
<http://www.eurexchange.com/exchange-en/products/idx/stx/sel-div>
- Dividend derivatives
<http://www.eurexchange.com/exchange-en/products/did>
- Newsletter by STOXX®: STOXX PULSE
<https://www.stoxx.com/publications>
- Combining Dividend-paying Stocks with Low Volatility Ones
https://www.stoxx.com/document/Research/Expert-speak-articles/article_elton_201307.pdf
- STOXX® Exchange Traded Products
<https://www.stoxx.com/exchange-traded-products>
- STOXX® Index Methodology Guide
https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_indexguide.pdf
- STOXX® Global Select Dividend 100 Index
<https://www.stoxx.com/index-details?symbol=SDGP>

» HIGHLIGHTS FROM STOXX



Dr. Jan-Carl Plagge
Head of Applied Research,
STOXX Ltd.



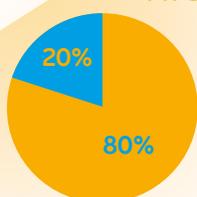
Yuliyen Georgiev
Senior Product Development
Manager, STOXX Ltd.

» MULTI-ASSET INVESTING

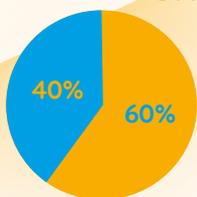
The EURO STOXX 50® Multi-Asset Indices provide a highly liquid solution for diversification over two complementary asset classes, core equities and fixed income from the Eurozone's largest companies.



HIGH GROWTH



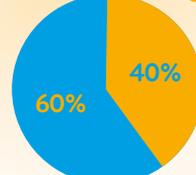
GROWTH



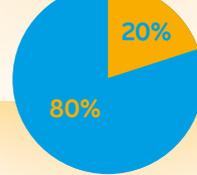
BALANCED



STABILITY



HIGH STABILITY



In a bid to provide customers with highly efficient investment solutions, STOXX has devised a new, multi-asset proposition. A range of combinations of the EURO STOXX 50® and the EURO STOXX 50® Corporate Bond indices, varying in the weight allocated to the respective index, is available. This provides investors with the ability to choose the combination that best suits their risk preference. It is a highly distinctive product that invests in both equity and bonds of companies that are part of the EURO STOXX 50. These companies, by the very nature of their inclusion in the Eurozone blue-chip index, are highly capitalized and liquid. The focus on bonds that have at least an investment-grade rating reduces default risk. The product is tailored towards those seeking a low-cost, passive solution.

The two component indices are described below:

1. The EURO STOXX 50 features the 50 largest companies in the Eurozone, amounting to some 60% of the total free-float of the listed Eurozone market. It is adjusted quarterly.
2. The EURO STOXX 50 Corporate Bond Index represents fixed and zero-coupon bonds of the same 50 companies. Only the largest bonds with a rating of BBB or higher, are considered. This yields a universe of around 300 issues. It, too, is adjusted quarterly.

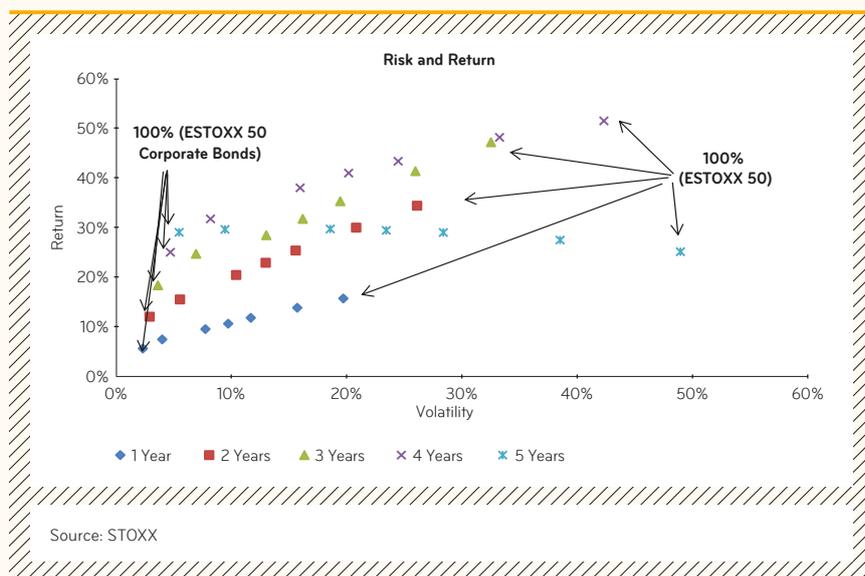
Due to the introduced sector caps and the broad range of countries covered, the multi-asset product offers not only asset diversification, with all its associated benefits, but also geographic and sector diversification.

“THE EURO STOXX 50® MULTI-ASSET IS A CUSTOMIZED, OPTIMAL AND LOW-RISK INVESTMENT”

The chart below shows the risk (volatility) and returns of various cross-asset combinations. Both dimensions are expressed in medians over all possible outcomes of investment horizons, ranging from one to five years. What can be observed from the chart is that the greater the weight of the equity component, the higher the expected return tends to become; but so is the expected volatility or risk. The risk aspect is further underscored by maximum drawdowns over the entire period of five years and one quarter: 33% for equities but only 3% for bonds. Thus, additional return comes at the price of additional risk. The EURO STOXX 50 Multi-Asset offering gives investors the ability to choose how much risk they want to take in their search for additional return.

One component of the observable decrease in risk when increasing the share of the EURO STOXX 50 Corporate Bonds index is the very low correlation between equities and bonds. This is, on aggregate, negative, at -0.26 , measured over the whole period.

CHART 1: COMBINATIONS OF EURO STOXX 50 CORPORATE BOND TR INDEX AND EURO STOXX 50 GR INDEX (EUR) IN A RISK RETURN CONTEXT. COMBINATIONS ARE CALCULATED BASED ON MEDIAN RETURNS FOR TIME HORIZONS RANGING FROM 1 YEAR TO 5 YEARS. TIME PERIOD: DEC. 31, 2010 TO MAR. 31, 2016



Available Indices

STOXX provides five strategic asset-allocation options for investors: High Growth, Growth, Balanced, Stability and High Stability. The High Growth index is substantially tilted towards equity with an 80% equity/20% bonds allocation. The High Stability index, on the other end, is the most tilted towards fixed income with an 80% bonds/20% equities allocation. The remaining strategies would fall between these two extremes, with the Balanced portfolio being equally invested in equities and bonds. <<





Paul Amery
Freelance Journalist
and Writer
Moderator of the
conference

» INVESTING ON THE CUSP OF CHANGE

STOXX's innovat:invest conference, which took place in London on May 26, 2016, offered its 120 participants a chance to future-proof their investment strategies by hearing presentations on an eclectic mix of topics, from demographics to investment theory, smart beta and the challenges resulting from environmental trends and climate change.



Don't miss the point about demographics

Amlan Roy, head of global demographics and pensions at Credit Suisse, identified demographics as a subject that's frequently ignored. Furthermore, "once noticed, it's usually misinterpreted," said Roy, citing a comment by management expert Peter Drucker. But the implications of current demographic trends are stark and vitally important for investors, Roy argued.

"We don't have the right products," he added, arguing that the financial services sector will have to find newer, more efficient ways of delivering pensions, insurance and savings products to an older population. Apart from finance, infrastructure, natural resources, leisure and luxury, pharma and biotech are other equity market sectors that will benefit from current global demographic trends, Credit Suisse predicts.

Understanding your sources of alpha

Market inefficiencies, their causes and the implications for investors were the topic of the day's keynote presentation, delivered by Nobel economics laureate Professor Robert C. Merton of the MIT Sloan School of Management.

"I can't tell you how to get alpha, but you may be able to improve the performance of your business by better understanding its sources, whether you're on the buy-side or sell-side," Merton told the conference attendees.

According to Merton, traditional alpha is expensive and difficult for investors to scale. He sees financial services' alpha as easier to exploit. Merton further identified changes in the market

opportunity set as one cause alongside other well-known factors that appear to have significant alphas, such as the size of companies, the ratio of book-to-market value, the ratio of profits-to-market value and possibly liquidity.

"Reorganize your teams along the lines of the sources of alpha," suggested Merton. "That's likely to prove a more robust way of doing things."

Next generation indexing

Marco Corsi, head of EMEA product research and innovation at BlackRock's iShares, noted the future opportunities for smart beta in fixed-income and other non-equity asset classes. Corsi also showed "mega-trends" in investing, such as an ageing population, healthcare innovation, digitalization, and automation and robotics. These themes are not yet featured as distinct products in iShares' ETF range, but they give an indication of one current area of focus for the firm.

Matthew Peron, executive vice president and head of global equities at Northern Trust Asset Management, looked at how to improve risk-adjusted returns in factor investing. Northern Trust's preferred method of addressing risks, such as cyclical factors or difficulties of pure factor exposure, is to maximize an efficiency ratio – the extent to which the factor strategy provides exposure to the targeted factor, while minimizing unintended factor exposures.

Gianluca Oderda, Ersel Asset Management's head of quantitative investments, suggested that instead of portable alpha, investors should consider portable smart beta. He provided a model portfolio based upon four smart-beta "building blocks": equal weighting, minimum variance, high dividend-yield and inverse volatility. "Portable smart-beta strategies represent a cheap and transparent performance-enhancement opportunity," said Oderda. In our last PULSE edition, Oderda explained the portable smart-beta program, based on four STOXX indices, in detail.

Jan-Carl Plagge, head of applied research at STOXX, argued that redefining existing factors, such as country exposures, could lead to efficiency gains and a better risk-return ratio. He cited the STOXX True Exposure™ Indices, in which revenue overlaps are reduced when compared to the standard method of cap-weighting, as an example of how to reduce correlations and increase portfolio efficiency.

ESG and climate change challenges

In a roundtable discussion, Tal Ullmann, director at Sustainalytics, Max Horster, partner at South Pole Group and Anette Andersson, portfolio manager and ESG specialist at SEB, talked about how to integrate ESG and climate risks in a portfolio.

Tal Ullmann pointed out a variety of approaches for those factoring ESG into their investment policy: from those screening for ESG compliance at a security level to those aiming to integrate an ESG approach across the

portfolio as a whole. "ESG factors are still seen by many investors as a question of risk, rather than as creating opportunities," said Ullmann. This may change, however.

"We see a dramatic increase in investors' interest in climate change," said South Pole Group's Max Horster. He predicted that, going forward, our economies will look quite different and there will be numerous new investment opportunities. "Investors will have to take a stance on climate change," he argued.

For SEB's Anette Andersson, a sustainable approach to investing is not just a matter of avoiding the potential negative impact of portfolio decisions. "We are convinced that companies that include sustainability in their operations are more successful in the long term," said Andersson. SEB's approach in this area is threefold: to influence companies via stakeholder dialogue, to exclude companies which underperform on sustainability measures and to include ESG factors in the investment process.

George Richardson, director of the capital markets department at the World Bank, described how the bank is becoming an active player in the green bond market. "Green bonds have helped raise awareness of the need for private sector financing to tackle the climate challenge and include climate risks and opportunities in their investment decisions," said Richardson. <<

Our STOXX conference, with some of the best minds in the investment community, takes place annually. Stay tuned for updates on the next one!



Willem Keogh
Senior Product Development
Manager, STOXX Ltd.

» CHAIN REACTION: THE EVER- INCREASING SCOPE OF CARBON RISK

Measuring and reporting greenhouse gas emissions is a prerequisite to manage carbon risk efficiently.

Low-carbon investing is no longer just a trend, but a long-term commitment for investors. Changes affecting the global climate are leading increasing numbers of asset owners and pension fund managers to acknowledge their responsibility to take action and decarbonize their investments. Companies are also beginning to act more responsibly; more than 600 companies and investors have already joined We Mean Business, a coalition of organizations working with thousands of the world's most influential

businesses and investors. One of the organizations is the Montréal Carbon Pledge, which drives investors' commitment to measure and publicly disclose the carbon footprint of their investment portfolios on an annual basis. Support for the Montréal Carbon Pledge is coming from investors across the globe: more than 120 investors with over 10 trillion US dollars in assets under management have been participating, since the United Nations Climate Change Conference (COP21) in December 2015 in Paris.

“LOW CARBON INVESTING
IS NOT JUST A TREND, BUT
A LONG-TERM COMMITMENT
FOR INVESTORS”





“SCOPE 3 EMISSIONS ARE THE MOST CRUCIAL FOR INVESTORS”

Standardized measurement of greenhouse gas emissions

As crucial a development as this is, the challenge remains how to measure the carbon footprint of investment portfolios. So far, big steps have been taken, including the Greenhouse Gas (or GHG) Protocol – the leading international accounting standards for measuring carbon emissions. Companies and organizations around the world are using these standards to manage and disclose their emissions and thereby enable the transition to a carbon-efficient economy. By doing so, they are responding to the increasing demands for corporate information from institutional investors.

The GHG Protocol lists three specific scopes of emissions:

- **Scope 1:** Perhaps the most immediately apparent measure, Scope 1 refers to those emissions that occur from sources that are owned or controlled by companies. These can be, for instance, fumes generated by the burning of fossil fuels at factories or processing plants.
- **Scope 2:** These emissions are indirect, as they occur from the consumption of purchased energy and resources. Scope 2 includes electricity, steam, heat or cooling. Some examples are lighting in warehouses, displays in shops, computers on office desks and similar electricity-consuming processes.
- **Scope 3:** This scope has the ambitious goal of measuring the carbon footprint of a company's entire value chain. The sources of these emissions aren't owned or controlled by the company. The Scope 3 emissions are divided into upstream and downstream emissions, which are based on the financial transactions of a company. Upstream emissions are related to purchased goods and services; downstream emissions to sold outputs. Other Scope 3 emissions take into consideration employee activities, such as commuting or business-related travel.

The importance of tracking supply chain emissions

Currently, most data is available for Scope 1 and Scope 2 emissions. Scope 3 is proving to be the most difficult area for which to generate reliable data, but it is the scope with the most potential for improvement. According to the GHG Protocol, Scope 3 is an optional reporting category and therefore it is often not publicly disclosed. For institutional investors, these emissions are the most crucial as they will be closely associated with their investments, so the availability of data for all these scopes is vital for investors if they want to fully understand and identify the carbon risk exposure of their portfolio.

In response, CDP (formerly Carbon Disclosure Project), which also works with corporations and governments to provide investors with emission metrics, has created a supply chain program to help improve the measurement of Scope 3 emissions and reduce their associated risks. This initiative puts pressure on suppliers and encourages them to improve their sustainability performance. With carbon emissions becoming an increasingly crucial consideration for investors and asset managers across the world, initiatives such as the Montréal Carbon Pledge and organizations like CDP are only going to grow in importance. <<



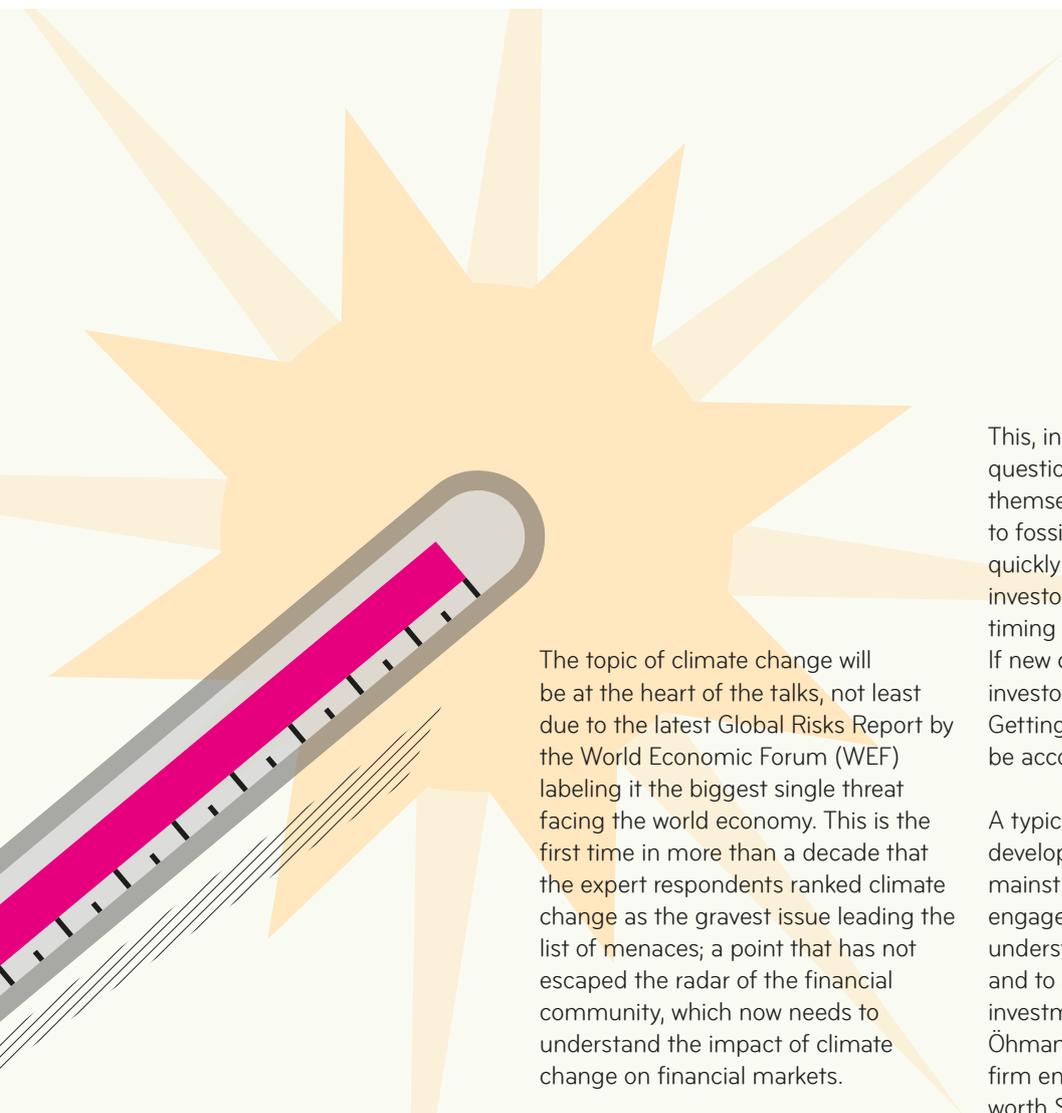
Renat Heuberger
CEO, South Pole Group

» HOW MAJOR INVESTORS ARE ANTICIPATING THE RISKS OF CLIMATE CHANGE

The financial community needs to understand the impact of climate change and how they can take action to protect their portfolios.



“THIS IS THE FIRST TIME IN MORE THAN A DECADE THAT THE EXPERT RESPONDENTS RANKED CLIMATE CHANGE AS THE GRAVEST ISSUE”



London's iconic Guildhall will soon welcome a smattering of the world's political and business elite to the Business & Climate Summit 2016. Set to build on the Paris climate agreement finalized last December, the participants, convening in the world's leading international financial center, aim to explore how businesses and governments can work together to limit global warming to well below two degrees Celsius.

The topic of climate change will be at the heart of the talks, not least due to the latest Global Risks Report by the World Economic Forum (WEF) labeling it the biggest single threat facing the world economy. This is the first time in more than a decade that the expert respondents ranked climate change as the gravest issue leading the list of menaces; a point that has not escaped the radar of the financial community, which now needs to understand the impact of climate change on financial markets.

The impact of climate change is nothing new to the investor community and the Paris climate conference (COP21) only served to bolster its importance, making it the most relevant sustainability topic for investors.

A recent Mercer study¹ indicated that several investment committees and boards are not yet well-acquainted with climate-related risks, suggesting that the investment sector is not fully prepared to address the topic and leaving many investors poorly positioned.

This, in turn, leads to a series of questions investors need to start asking themselves: Are my portfolios exposed to fossil fuels adequately valued? How quickly can I adapt? The risks faced by investors will also be linked to the timing and scope of new policies. If new changes are well-anticipated, investors can prepare for their impact. Getting caught off guard is certain to be accompanied by potential losses.

A typical 'progression' has started to develop on this topic among mainstream investors; many have engaged in activities to better understand their impact on the climate and to create transparency within their investment processes. For instance, Öhman, the Swedish asset management firm entrusted with managing assets worth SEK 39 billion (about USD 4.5 billion), conducted a comprehensive portfolio carbon footprint with South Pole Group to better understand its portfolio's exposure to carbon risk. A signatory of the Montréal Carbon Pledge, Öhman has been able to engage with internal and external stakeholders on the topic of climate change to a much greater degree, leading to a mutual understanding of problems and contribution to the development of solutions.

1. Mercer, "Investing in a Time of Climate Change", June 2015



“THE BUSINESS CASE FOR CLIMATE-SMART INVESTMENT IS GROWING”

While the Montréal Carbon Pledge encourages investors to commit to understanding and publicly disclosing the carbon footprint of their investment portfolios on an annual basis, the next step is taking action in the form of decarbonizing a portfolio. This is what the Portfolio Decarbonization Coalition is all about; this multi-stakeholder initiative aims to drive GHG emissions reductions on the ground, and is currently overseeing the decarbonization of 600 billion US dollars in assets under management.

The increasing number of signatories to such pledges supports the growing business case for climate-smart investment. The cost of inaction has recently been given a price tag of 4.2 trillion US dollars – a sum roughly on par with Japan’s entire GDP. Depending on what type of climate scenario unfolds, the average annual returns from, for instance, the coal industry could shrink by anywhere between 18% and 74% over the next 35 years. This poses the risk of assets tied to fossil fuel deposits becoming obsolete, or stranded, when they cannot be extracted and sold.

The action to minimize the possibility of stranded assets has taken the form of divestment and engagement: following the vocal divestment movement, KLP, Norway’s largest manager of pension funds, among others, has decided to sell off all its investments in companies that derive 30% or more of their revenues from coal-based operations. Nonetheless, outright divestment is only one way to deflate the growing carbon bubble; it’s a single jigsaw piece in a larger puzzle.

Another equally important approach is to entice companies to move into the direction of a low-carbon economy by changing the way they do business. The UK-based Hermes Investment Management, one of the leading engagement firms, uses smart data from South Pole Group to bring up climate strategy topics with its investees. Toronto-based research firm Corporate Knights goes one step further: together with strategic partners, the company recently launched the Decarbonizer platform, enabling anyone to easily determine the impact a divestment from fossil fuels three years ago would have had on fund or index performance. Using this metric, the platform found that the

Gates Foundation would have been better off by 1.9 billion US dollars if it had divested from fossil fuels. This has been further compounded by new research findings conducted by Waterloo University.

Reducing carbon emissions has become a global objective, and, as we can see, market participants have embarked on a 21st century quest for fully tailored solutions to decarbonize portfolios and address long-term climate risks. One of the main challenges in this process is nonetheless the availability of granular analysis of companies’ carbon footprints and their impact upon climate through the entire supply chain. This is the gap that low-carbon indices have started to fill, STOXX being a great example: by combining data from South Pole Group and CDP, STOXX has built the comprehensive STOXX® Low Carbon index family, catering to different investor needs. These indices direct and encourage investments into companies with lower emissions within their sector – and track the companies’ reporting through CDP.

Taking on a ‘wait and see’ approach will invite real danger into portfolios as risks grow and become tougher to mitigate. Embracing smart solutions and sustainable investment approaches will help get investors ready for a more carbon-constrained world and its financial implications. As the gathering at London’s Guildhall also reminds us, the global economy is truly starting to pivot around the necessity to limit global warming to well below two degrees Celsius. <<



Nico Langedijk, CFA
Regional Director
– Scandinavia, The
Netherlands & Belgium (NL),
STOXX Ltd.

» RAISING THE BAR WITH STOXX GLOBAL CLIMATE CHANGE LEADERS

STOXX provides a new index to help investors focus on companies who are committed to addressing climate change.



“CLIMATE RISKS ARE OFTEN HIDDEN IN A COMPANY’S SUPPLY CHAIN”

Investors are increasingly focused on fact-based data as the key to addressing climate change; the central sustainability challenge of our century. More than 800 investors, managing 95 trillion US dollars in assets, use the research of CDP – the world’s largest database of corporate environmental information – helping investors manage the down-side investment risks of climate change, and invest in companies that are well-positioned to generate growth in a low-carbon economy.

Climate change risks and opportunities hidden in supply chains

CDP research has uncovered a key insight: climate risks are often hidden in a company’s supply chain, both upstream and downstream. These value-chain greenhouse gas emissions (GHG) are known as Scope 3 emissions and are the most difficult to track, as not all suppliers calculate their own emissions, and customer emissions contributions often remain unmeasured. Holistically, direct and indirect emissions from operations (Scope 1 and 2 emissions) may represent only 15% to 25% of total GHG, leaving the greatest area of opportunity in managing Scope 3 emissions. Only one-third of the companies disclosing through CDP is addressing Scope 3 emissions.

CDP’s ‘A-List’ and the STOXX® Global Climate Change Leaders Index

There is a small group of companies that, besides implementing programs to reduce emissions in direct and indirect operations, also employs strategies to reduce emissions in their respective supply chains. These companies are rewarded with a place on the CDP A-List based on their emissions reduction ‘actions’ and ‘results’. They need to score at least:

- 85% on performance, including scores for Scope 3 data, climate strategy, emission performance, targets and initiatives, governance and verification.
- a 4% decrease (maximum performance point) in GHG emissions due to reduction actions over the past year (Scope 1 and 2).



“THESE LEADERS ARE EXPECTED TO CONTINUE TO OUTPERFORM ON CARBON FOOTPRINT”

In February 2016, STOXX launched the STOXX Global Climate Change Leaders Index, which is the first index available to market participants that tracks the CDP A-List. These companies not only look at climate risk, but also identify opportunities for good investments in the low-carbon economy. They are moving away from short-term thinking to raise the bar on climate change as they proportionally invest more in activities to reduce carbon. CDP A-List research showed that this small group of Climate Change Leaders accounted for 23 billion US dollars in climate change investments; almost half of the 50 billion US dollars invested all together.

STOXX Global Climate Change Leaders Index outperforms benchmark in performance and carbon footprint

The STOXX Global Climate Change Leaders Index has a global view with similar geographical divisions to the STOXX® Global 1800 Index. At the industry level, the index is widely diversified over all sectors, though companies in the high-emitting sectors, such as energy, basic materials and industrials, are under-weighted due the carbon-tilt in the weighting scheme.

Gaining 16.8% annualized, the STOXX Global Climate Change Leaders Index outperformed the STOXX Global 1800 Index which gained 15.8%, while having similar risk characteristics – revealing that companies with a strong governance on climate change can be beneficial for returns. The carbon

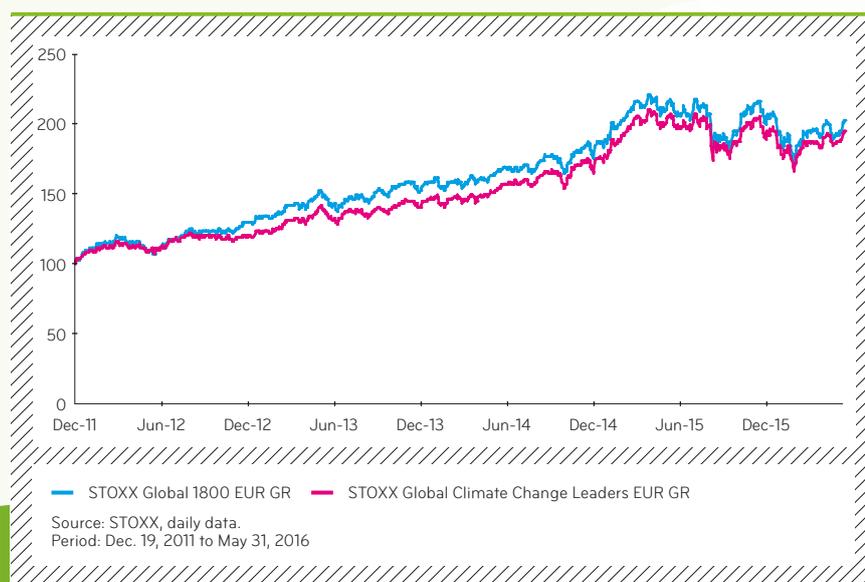
footprint was significantly reduced (>70%) while still containing companies from high-emitting sectors. These leaders are expected to continue to outperform on carbon footprint as they are judged on results and actions on climate change.

The STOXX Global Climate Change Leaders Index is built on an innovative inclusion concept that selects companies who are forward-looking leaders and who have publicly committed to reducing carbon emissions. It is an interesting index for investors looking for ways to address climate change. <<





STOXX GLOBAL CLIMATE CHANGE LEADERS



RISK AND RETURN CHARACTERISTICS¹

	STOXX Global Climate Change Leaders GR (EUR)			STOXX Global 1800 GR (EUR)		
	Overall ²	1y ²	3y ²	Overall ²	1y ²	3y ²
Performance (actual)	102.70%	-5.30%	38.40%	94.80%	-4.90%	43.10%
Performance (annualized)	16.80%	-5.10%	11.20%	15.80%	-4.70%	12.40%
Volatility (annualized)	14.00%	20.20%	15.10%	13.00%	19.20%	14.30%
Tracking error (annualized)	4.20%	3.70%	3.50%	0.00%	0.00%	0.00%
Maximum drawdown	22.10%	21.20%	22.10%	21.20%	19.90%	21.20%
Sharpe ration (annualized)³	1.17	-0.15	0.78	1.18	-0.15	0.89

¹ Source: STOXX, daily data. Relative figures calculated against STOXX Climate Change Leaders GR
² Overall: Dec. 19, 2011 to May 31, 2016; 1y: May 31, 2015 to May 31, 2016; 3y: May 31, 2013 to May 31, 2016
³ EONIA rate used as a proxy for riskless returns



FEATURED INDICES

STOXX Global 1800	YTD PERFORMANCE	52-WEEK PERFORMANCE	3-YEAR PERFORMANCE
STOXX Global 1800	3.89%	-4.02%	22.93%
STOXX Global 1800 Minimum Variance	7.82%	6.78%	37.56%
STOXX Global 1800 Minimum Variance Unconstrained	7.69%	5.35%	32.86%
STOXX Global Select Dividend 100*	6.96%	-2.05%	14.90%
STOXX Global Maximum Dividend 40*	6.50%	-8.93%	6.00%
STOXX Global Strong Quality 50	3.09%	-4.50%	33.38%
STOXX Global Strong Balance Sheet	3.63%	-0.14%	37.07%
STOXX Global Strong Balance Sheet Equal Weight	5.47%	0.58%	33.11%
STOXX Global Sharpe Ratio 100	5.32%	2.68%	27.59%
STOXX Europe 600			
STOXX Europe 600	2.82%	-10.29%	9.47%
STOXX Europe 600 Minimum Variance	3.92%	-0.81%	20.07%
STOXX Europe 600 Minimum Variance Unconstrained	5.22%	2.34%	28.33%
STOXX Europe Select Dividend 30*	5.20%	-3.28%	18.71%
STOXX Global Maximum Dividend 40*	6.50%	-8.93%	6.00%
STOXX Europe 600 Equal Weight	3.65%	-7.84%	17.17%
STOXX Europe Low Risk Weighted 100	2.06%	-3.34%	21.39%
STOXX Europe Strong Quality 30	3.41%	-16.58%	1.74%
STOXX Europe Strong Balance Sheet	3.63%	-4.78%	20.12%
STOXX Europe Strong Balance Sheet Equal Weight	5.27%	-1.64%	24.80%
STOXX Europe Sharpe Ratio 50	3.82%	1.43%	38.87%
EURO STOXX			
EURO STOXX 50	2.51%	-12.41%	5.78%
EURO STOXX Minimum Variance	3.61%	-3.51%	15.25%
EURO STOXX Minimum Variance Unconstrained	5.08%	1.61%	25.31%
EURO STOXX Select Dividend 30	8.73%	-0.95%	22.76%
EURO STOXX 50 Equal Weight	2.59%	-12.69%	7.80%
EURO STOXX 50 Low Risk Weighted	3.26%	-11.42%	8.14%
EURO STOXX Small	2.69%	-9.02%	11.35%

STOXX Asia/Pacific 600	YTD PERFORMANCE	52-WEEK PERFORMANCE	3-YEAR PERFORMANCE
STOXX Asia/Pacific 600	0.55%	-7.60%	9.09%
STOXX Asia/Pacific 600 Minimum Variance	10.24%	9.44%	30.88%
STOXX Asia/Pacific 600 Minimum Variance Unconstrained	8.06%	3.12%	22.51%
STOXX Asia/Pacific Select Dividend 30*	6.38%	-6.48%	-0.80%
STOXX Asia/Pacific Maximum Dividend 40*	3.94%	-8.17%	12.92%
STOXX ASEAN-Five Select Dividend 50	8.46%	-10.18%	-13.99%
STOXX Asia/Pacific Strong Quality 30	1.36%	-2.54%	18.06%
STOXX Asia/Pacific Sharpe Ratio 50	7.35%	1.37%	14.98%
STOXX China A 50			
STOXX China A 50	-4.81%	-30.91%	23.46%
STOXX China A 50 Equal Weight	-7.24%	-34.61%	19.13%
STOXX North America 600			
STOXX North America 600	5.24%	-0.13%	33.79%
STOXX North America 600 Minimum Variance	9.61%	8.42%	45.65%
STOXX North America 600 Minimum Variance Unconstrained	8.69%	8.00%	40.71%
STOXX North America Maximum Dividend 40*	10.29%	2.06%	23.01%
STOXX North America Select Dividend 40*	9.35%	3.90%	24.82%
STOXX North America Sharpe Ratio 50	11.11%	16.11%	38.87%
STOXX USA 900			
STOXX USA 900	5.01%	0.07%	35.87%
STOXX USA 900 Minimum Variance	6.97%	7.76%	38.63%
STOXX USA 900 Minimum Variance Unconstrained	5.79%	9.50%	44.79%
STOXX USA Strong Quality 50	4.95%	-1.84%	41.37%
STOXX USA Strong Balance Sheet	3.43%	0.77%	44.44%
STOXX USA Strong Balance Sheet Equal Weight	3.57%	-2.62%	40.47%

All indices are in USD Gross Return versions, except the ones marked with *, which are in USD Net Return versions.
Source: STOXX data as of May 31, 2016

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