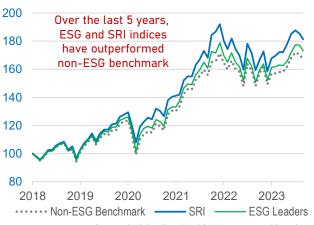


Summary

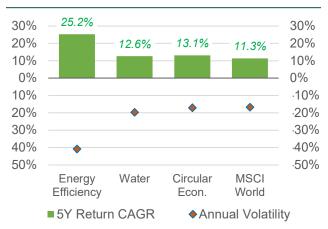
- 1. Investing sustainably has outperformed: since 2018, Environmental, Social and Governance (ESG), Socially Responsible Investing (SRI) and Low Carbon indices have all beaten the MSCI World index. This positive link between ESG and financial performance is backed by academic research summarised by NYU Stern and McKinsey.
- 2. Thematic sustainable indices have also outperformed, but at higher volatility: since 2018, selected sustainable themes such as energy efficiency, clean water, and the circular economy have also outperformed the MSCI World index, at greater volatility reflecting their narrow focus.
- 3. Know the biases inherent in each ESG/SRI "flavour": there are sizeable sector and country weighting differences versus non-ESG indices. benchmark SRI indices exclude companies with involvement in controversial activities, while low carbon indices avoid the Energy sector. As a result of exclusion, ESG Leaders indices typically hold half of the stocks in a non-ESG World index, while the more restrictive SRI PAB index holds only 24% of the constituents in the non-ESG World benchmark.
- 4. If you buy ESG/SRI exposure, you tend to have a modest quality factor bias: according to EDHEC-Risk, any ESG outperformance is largely due to a quality factor bias. Note that the quality factor has delivered superior long-term returns at lower downside risk than benchmark indices.
- 5. Only pick a sustainable thematic exposure if you accept the higher risk: many sustainable themes, such as clean energy, are inherently growth-oriented, more volatile and not suitable as a core investment for risk-averse investors.

SINCE 2018, WORLD ESG/SRI INDICES HAVE MARGINALLY OUTPERFORMED



Source: BNP Paribas Wealth Management, Bloomberg. Note: MSCI World indices

THEMATIC ESG/SRI INDICES: HIGHER RETURNS, BUT HIGHER VOLATILITY



Source: BNP Paribas Wealth Management, Bloomberg Note: all based on global stock indices



Global CIO BNP Paribas Wealth Management



The bank for a changing world



Investing sustainably without impacting long-term performance

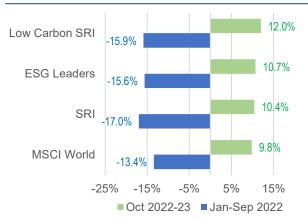
If I invest sustainably, will my investments fare worse? This is the key question that many clients ask us when we discuss sustainable investments, via managed funds or passive index ETFs. They are understandably concerned that a choice to invest in a sustainable fashion does not imply a worse investment performance as a result.

If we look at the performance of a number of sustainable investment methodologies in equities, as that is the most well-established form of sustainable investing, the answer is **NO**.

In fact, over the last five years or so, a range of sustainable equity indices have actually outperformed standard non-sustainable benchmark stock indices such as STOXX Europe or MSCI World.

- * Socially Responsible Investing (SRI) indices, such as MSCI World SRI, have delivered a 10.6% compound annual growth rate (CAGR) in euro returns since the beginning of 2018, 1.5% more than the MSCI World (non-ESG) index (9.1%).
- Environmental, Social and Governance (ESG) indices, such as the MSCI World ESG Leaders Select, have returned an annual average of 9.7% in euros since 2018, 0.6% more than the MSCI World.
- Low Carbon indices, which aim to avoid high carbon-emitting companies, such as the Euronext Low Carbon 300 World PAB (Paris-Aligned Benchmarks) index, have delivered 11.4% CAGR since 2018, ahead of the 9.3% achieved by MSCI World in euros over the same period.

SUSTAINABLE STRATEGIES SUFFERED MORE IN 2022, BUT HAVE REBOUNDED FASTER



Source: Bloomberg. Returns in euros.

How "exclusive" do you want to be?

There are two basic methods in which a sustainable index can be constructed. The first is **ESG integration**: this will take the ESG scores for each company in the starting universe of stocks, and then will give a greater weighting in the final index to companies with a higher ESG score – a so-called "tilt".

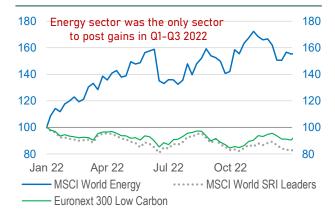
Then there is **exclusion**: for SRI indices, for example, this can be the exclusion of companies which engage in activities that responsible investors want to avoid, such as tobacco or weapons.

In reality, all sustainable indices tend to combine these two methods but to different degrees. For instance, SRI indices tend to have a smaller number of members as more companies are excluded due to involvement in controversial business activities. In contrast, the MSCI ESG Leaders indices will exclude far fewer stocks, but use company ESG scores more extensively to determine the weightings of each qualifying company in the final index.

Ultimately, there is a trade-off between how strict investors want to be in their choice of which business activities to avoid. Reducing the potential investment universe through exclusions does mean that the resulting portfolio will be quite different in terms of both sector and country weightings from a non-sustainable benchmark index like MSCI World.

In 2022, the only sector to gain ground from January to end-September was Energy. This was a key reason for the modest underperformance of Low Carbon and SRI portfolios versus MSCI World, as they had little or no exposure to Energy stocks by construction.

ENERGY SECTOR OUTPERFORMANCE IN 2022 PENALISED SUSTAINABLE STRATEGIES



Source: BNP Paribas Wealth Management, Bloomberg. Returns in euros



Greater tracking error risk in sustainable indices

The combined use of exclusions and ESG score tilts to determine stock weightings leads to significant divergence from non-ESG benchmarks in industry and country weightings.

Due to the greater use of exclusions in SRI index methodologies, the resulting country and industry weightings differ markedly from the MSCI World benchmark. But even in the ESG Leaders indices, where ESG scores are used more to determine stock weightings and fewer stocks are excluded outright, there are still significant differences at the country and industry level from the MSCI World index.

Lower weighting to Technology, Bias to Healthcare

The MSCI World SRI index is underexposed to the Technology and associated Communication Services sectors compared with the MSCI World index. This results in a 9.7% exposure to the "Magnificent 7" group of tech-related stocks, with only 2 out of the 7 stocks in the SRI index. This compares with a 19% weighting in the MSCI World index. At a country level, this results in a lower 64% US weighting. Energy is a third sector which is also underrepresented in all three flavours of a sustainable index.

In contrast, the ESG Leaders, SRI and Low Carbon indices are all more heavily exposed to Healthcare, Financials and Industrials than the standard MSCI World index.

These significant variations in country and sector exposure represent a source of risk (tracking error), compared with the overall MSCI World, which contains more than 1,500 members in all.

Is outperformance really due to better sustainability scores?

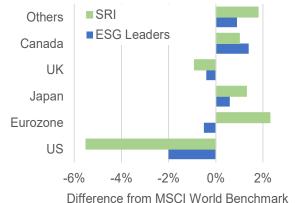
Is Sustainability or Quality the real factor behind outperformance? Proponents of ESG argue that there are not just moral benefits to investing according to environmental, social and governance goals: ESG funds also outperform their peers over time. But these excess returns may really be coming from another source, according to the Scientific Beta April 2021 paper "Honey I shrunk the ESG alpha".

Scientific Beta has found that 75% of the outperformance of ESG strategies cited in popular academic studies on the subject was due to their exposure to quality factors that are mechanically constructed from balance sheet information (such as low net debt). Indeed, the MSCI World SRI index does tend to outperform the benchmark MSCI World at the same time as the MSCI World Quality factor index, underlining EDHEC-Risk's conclusion.

Sustainability-oriented investors still win: whether the out-performance is due to sustainability or to a indirect quality bias should not matter to long-term investors. Ultimately, these sustainable strategies have still delivered long-term risk-adjusted outperformance up to now, as for quality factor strategies.

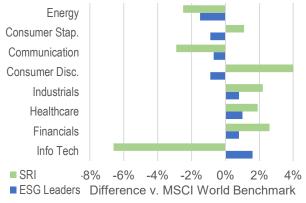
Additionally, investing in ESG/SRI funds can also deliver a number of other benefits, such as the hedging of climate risk, aligning investments with clients' ethical stances and effecting a positive impact on society.

SIZEABLE UNDERWEIGHT IN US WEIGHTING FOR ESG, SRI INDICES VS MSCI WORLD



Source: BNP Paribas Wealth Management, Bloomberg.

CONCENTRATED IN BIG TECH- AND COMMUNICATION-RELATED UNDERWEIGHTS



Source: BNP Paribas Wealth Management, Bloomberg



General ESG, SRI exposure or focused thematic exposure?

Is the objective to replace general equity portfolio exposure, or to seek specific thematic exposure for growth? The choice between a more generalised and thus diversified ESG/SRI exposure on the one hand, or a specific thematic exposure to one subtheme within sustainability depends on one's investment objectives.

Investors looking simply to replace overall equity portfolio exposure with a sustainable equity exposure should opt for diversified funds or ETFs tracking a broad ESG/SRI benchmark index.

However, investors looking to target a specific sustainability subtheme for a small part of their overall equity exposure to generate higher growth could look to specific thematic funds/ETFs in themes, such as the future of food, clean water, the circular economy, energy transition, or diversity & inclusion.

Greater risk in specific thematic funds: given the larger concentration on a specific theme and fewer stocks, specific thematic funds naturally tend to have higher risk metrics than more diversified ESG funds.

High risk, high rewards in clean energy, carbon credit and electric vehicle/battery funds: clean energy/energy transition, carbon credit and electric vehicle and battery funds are all highly correlated with the technology sector and the growth investment style more generally. This is evident in the high correlation between the Wilderhill Clean Energy index and the ARK innovation ETF since 2019.

More steady outperformance of late from clean water and circular economy funds: these thematic sustainability indices have performed in a more steady fashion since November 2020, outperforming the diversified MSCI World index by varying degrees. But each have remained highly correlated to this broad equity index, exhibiting similar levels of volatility. This is unsurprising, since the composition of each of these thematic indices includes a high proportion of stocks drawn from more defensive factors and sectors, such as the Quality factor and the Utilities sector.

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