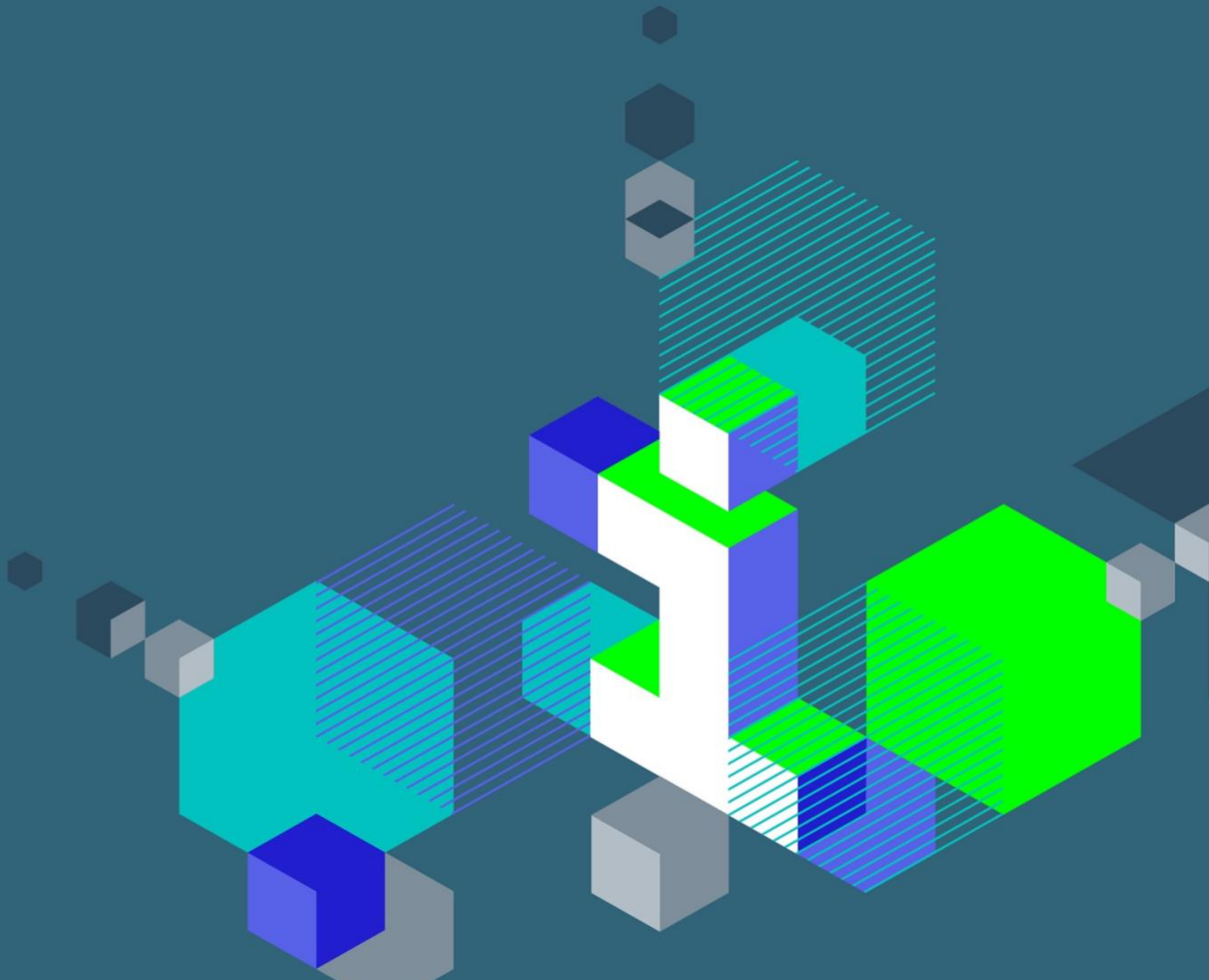


# The sustainability impact of popular passive ESG funds

March 2021





impact  
cubed



## About us

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We collate and create outcome-based impact data for all listed companies globally. From examining board diversity to evaluating water scarcity, our in-depth analysis of revenue streams across thousands of business activities equips investors with the tangible data necessary for effective reporting, regulation, and portfolio optimization, enabling them to fully understand their impact on the world.

If you would like to get in touch, we would be happy to hear from you at [info@impactcubed.com](mailto:info@impactcubed.com).

You can find out more about our data and portfolio models at [www.impactcubed.com](http://www.impactcubed.com).

## Executive Summary

The rapid growth in ESG index funds is an exciting development for investors, who can now pick and choose among a wider array of lower cost passive funds marketed as ESG.

Passive funds are designed to avoid ESG risk, but do they have positive impact? Impact Cubed quantifies portfolio impact using only commonly accepted, objective metrics. Investors use the data to validate their ESG strategies because the model has been recognized in the industry with multiple research and innovation awards. The study applies the model to some popular ESG passive funds to peel back the marketing and look under the hood.

### **Top findings:**

- Some passive ESG funds actually have an overall negative impact, with ESG performance varying four-fold between the ‘best’ and ‘worst’.
- Investors who know what to look for can find a passive ESG fund with both positive impact and low tracking error. Investors should also be aware that just because an ESG fund strays from the benchmark and has a high tracking error does not mean that it has translated that into positive impact.
- Despite the talk about ESG protecting investors’ from the fiduciary risk of climate change, some passive funds marketed as ESG actually have higher carbon intensity than the market benchmark.
- “Impact” considers the positive and negative effects of companies’ products and services, as well as the companies’ operations. Many of the passive ESG funds do well avoiding harmful products and services, but very few beat the benchmark on achieving good. For example, the market benchmark has more exposure to environmental

solutions than most of the passive ESG funds we analyzed.

- Passive funds clearly still have ESG growing pains and should disclose their impact if they want to avoid misinterpretations about being an ESG fund. The lack of attention to companies' products and services is big source of investor confusion about ESG funds. Investors who want their money to finance

environmental and social solutions – not just avoid ESG risk – should look for funds that report on impact and are more explicit about their ESG strategy.

- Conventional wisdom among some leading passive fund providers is that they can have more positive impact on the environment and society through their engagement and proxy voting activities, not through the holdings of their passive investment products. This research shows that passive ESG funds can have positive impact and it should be reported alongside financial

## Introduction

Two years ago, we published a white paper titled “Measuring the Sustainability Impact of 25 European ESG Funds<sup>1</sup>” where we compared the impact profiles of a selection of large active ESG funds. The analysis was holdings based and used only well-established quantitative metrics. The approach laid out very plainly the variety of content hiding behind these funds’ similar-looking marketing, and ever since we have been asked time and again to repeat the exercise with passive funds.

It is hence long overdue that we are publishing the results for a selection of passive ESG funds, using the same analytical model and metrics provided by Impact Cubed. While the data has been updating since the last publication, no material changes have been made to the methodology, inviting a comparison between the two sets of results. However, it is instructive enough to examine the span of results for the sample at hand. But before we delve in, a few words on the methodological approach.

## Method

The Impact Cubed model uses 14 impact metrics that span sustainability as applied to corporates, across operations as well as products and services revenue alignment with the UN Sustainable Development Goals (SDGs). The Appendix contains details on each metric used and the methodology, which is underpinned by extensive industry consultation in its development.

The impact of the overall portfolio is measured by quantifying the tracking error, in basis points, of positive factor exposures (for example, higher gender balance) and negative factor exposures (for example, lower board independence) of the fund compared to the benchmark using the holdings and weights. The impact is the net sum of positive and negative impacts.

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<sup>1</sup> Measuring the Sustainability Impact of 25 European ESG Funds, Impact Cubed, 2019. <https://www.impact-cubed.com/Content/Downloads/Impact%20Cubed%20White%20Paper%20-%20Measuring%20the%20Sustainability%20Impact%20of%2025%20European%20ESG%20funds.pdf>

To put net impact into context, we also report a ratio of the net impact to overall tracking error of the portfolio against its benchmark (or in this research, of the passive ESG fund against the reference index). A high ratio signifies that a fund achieves significant impact exposures compared with its benchmark for the tracking error taken.

This additional context is important to ensure that when looking at two funds side by side, fund A with 50 less tons of carbon per \$1m revenue than the index and fund B with 150 less, we are not simply judging them on how active or passive they are. If fund A's Impact Coefficient is similar to fund B's, we could expect it to achieve a similar reduction in carbon intensity if it relaxed its tracking error limit to that of fund B.

Conversely, if the two funds both achieve the same excellent impact characteristics compared with their benchmarks, the investor may want to choose the one that does so with less tracking error. Expected return and fund fees can also be brought into the same equation.

Most importantly, however, the impact number expressed in tracking error tells us how much any one fund differs from its benchmark. The benchmark can be chosen freely, but it is usually a mainstream index, which represents a market cap-weighted snapshot of our economy as it currently stands, on a trajectory falling short of climate commitments and the UN SDGs. The more actively a fund allocates capital away from the status quo and towards better impact factors (within its tracking error limits as applicable), the better its results under the Impact Cubed model.

Aggregating fund impact this way also removes the need to calculate a weighted average of a fund's or an issuer's performance on the individual factors. Calculating any such weighted average is an inherently subjective exercise, as it involves allocating the full impact among quite different aspects of sustainability. These weighted averages are one of the main contributors to the well-documented subjectivity of traditional scoring and rating methodologies for companies and, by extension, funds.

## Results

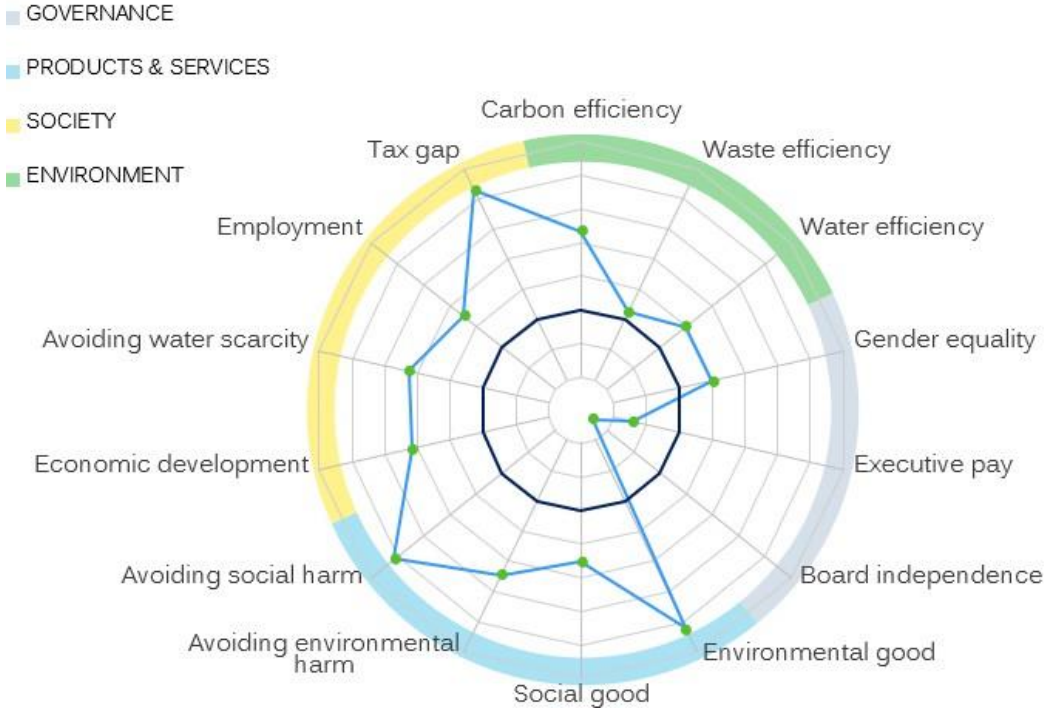
The sample of passive funds used in this research was largely determined by the availability of the underlying holdings from public sources, wherever possible the index provider directly. The constituent data was collected throughout July 2020. The authors made reasonable efforts in compiling the information to ensure the inputs are a fair reflection of the sample funds, but do not guarantee full accuracy of the holdings or results.

Among the 13 funds analysed, portfolio size ranged from 76 to over 1,500 holdings, with a tracking error from 1.0% to 12.3% against the MSCI World benchmark. The majority of funds refer to the MSCI World, with a few in the sample starting from the Solactive or Morningstar equivalents.

Before we begin looking at the individual differences, we thought it would be instructive to equally weight the passive ESG funds into an aggregate portfolio and check the footprint of this total. This is illustrated in Figure 1 below.



Figure 1. Aggregate footprint of an equally weighted portfolio of these passive ESG funds



The results look reasonably good. Exposures to 12 of our 14 factors are better than the benchmark, with a clear sign of screening socially ‘bad’ stocks and allocating to environmental solutions. We were pleasantly surprised to see strong evidence of these passive funds allocating to companies whose effective tax rate is closer to their statutory rate.

Table 1 below provides a summary of the 13 passive ESG funds. In our experience so far analysing hundreds of funds, the results are generally in line with what we would expect to see, which is a net impact between –15 and +40 bps.

**Table 1. Impact and tracking error of passive ESG funds**

Name	Impact coefficient	Net impact	Positive impact	Negative impact	Tracking error	Number of holdings
iShares ESG Enhanced	10.9%	0.12%	0.2%	0.0%	1.1%	1,290
XTrackers World ETF	7.1%	0.30%	0.4%	0.1%	4.3%	618
iShares World SRI	6.7%	0.35%	0.4%	0.1%	5.1%	370
Invesco ESG Screened	6.7%	0.14%	0.3%	0.1%	2.1%	1,489
ISS ESG Prime	4.7%	0.14%	0.3%	0.2%	3.0%	1,295
Lyxor ESG Trend Leaders	4.5%	0.17%	0.3%	0.1%	3.8%	820
La Francaise Zero Carbon	4.1%	0.30%	0.5%	0.2%	7.3%	202
MSCI World ESG Select Impact ex Fossil Fuels Index	3.7%	0.46%	1.0%	0.6%	12.3%	82
Morningstar DM Sustainability 200	3.2%	0.19%	0.4%	0.2%	5.9%	200
L&G ESG Global Markets	-2.4%	-0.07%	0.2%	0.3%	2.9%	1,511
Morningstar DM Low Carbon	-0.8%	-0.01%	0.1%	0.1%	1.1%	1,402
Morningstar DM Sustainability Leaders	0.7%	0.08%	0.4%	0.4%	11.7%	76
Invesco ESG Multi-Factor ETF	-0.3%	-0.01%	0.4%	0.4%	4.4%	181

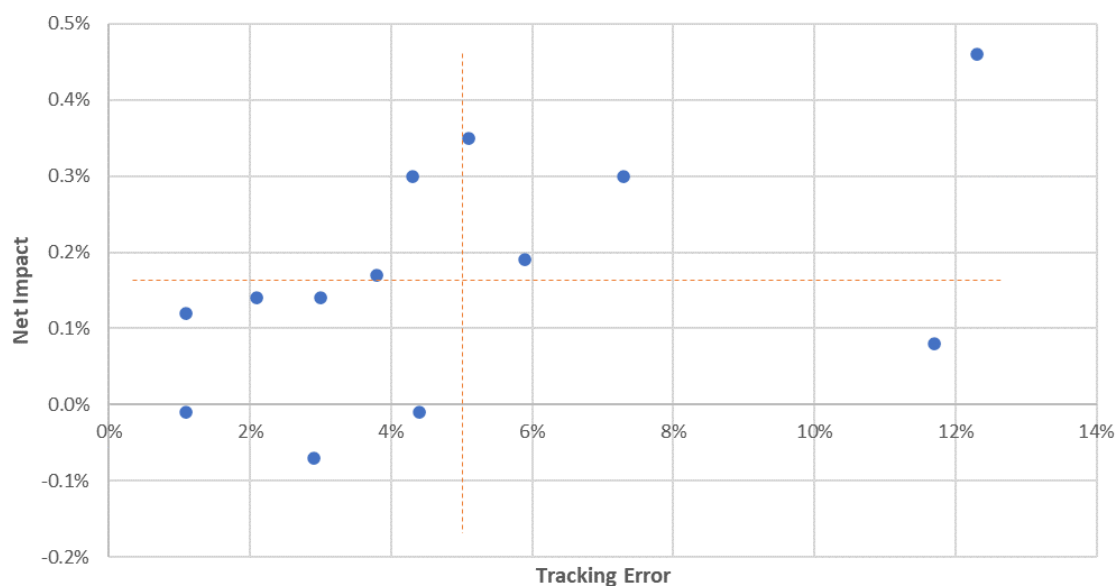
The first takeaway is that these ‘passive’ vehicles take vastly different amounts of tracking error. The MS Sustainability Leaders and MSCI ESG World Impact have fewer than 100 holdings and tracking errors greater than 11%. At the other end of the spectrum, you have the iShares MSCI World ESG Enhanced or the MS Developed Markets Low Carbon Index at 1.1% tracking error. How far to stray from the business-as-usual case of capitalisation-weighted indices is an extremely important decision for a passive investor. If one only cares about impact, then the MSCI ESG World Impact is a good

match (46 bps). However, if one also cares about tracking error, then the iShares MSCI World SRI (35 bps) may be better, as it achieves only slightly less net impact with less than half the tracking error.

The Impact Coefficient (net impact divided by tracking error) varies wildly across the passive funds with some doing a much better job of converting tracking error to measurable exposure changes in the portfolio, as shown in Figure 1. The potential for impact goes up with tracking error, but do passive funds with a high tracking error have a big impact? Not always.

It is also worth highlighting that three passive funds have an overall negative impact. We suspect that these funds focused on only one or two impact areas (for example, carbon) without managing other ESG factors. Investors who expect a passive fund that is marketed as ESG to have an overall positive impact would be wise to look beyond the index name and closely read the rationale behind index construction.

Figure 1. Net impact and tracking error of passive ESG funds



The orange dotted line is the average tracking error (5%) and net impact (0.17%) of the 13 funds

In tables 2, 3 and 4 below, we show the individual factor values for each fund and for the reference benchmark, MSCI World. As a reminder, some factors are measured as positive impacts (gender equality, board independence, environmentally or socially good revenue, and employment) and a factor value greater than the benchmark is more

ESG. For the factors measured as negative impacts (carbon, water or waste footprint; executive pay; environmentally or socially harmful revenue; economic development; water scarcity; and tax gap) a factor value greater than the benchmark is less ESG. We

have highlighted factors that are better than the benchmark in green to make it easier to interpret the results.

Top findings include:

- The passive funds vary a lot in environmental factors (especially carbon and waste), but not so much in governance factors.
- In gender, executive pay ratio and independence of the board, the exposures are rather clustered around the benchmark values. Board independence is a standout, with only one third of the funds showing better performance than the benchmark.
- The funds' carbon footprint is the most fascinating of the results we found. Unlike results from the active managers study, not all ESG passive funds have a lower carbon footprint compared with the benchmark – two have a higher carbon footprint than the benchmark. Equally remarkable on the top end is Solactive La Francaise Zero Carbon, which is designed as low carbon but manages to exceed the benchmark on *all* the environmental and governance factors.
- The four revenue classification models (environmental good, environmental harm, social good and social harm) have widely varying values. While most funds seem to do some negative screening to remove social sin stocks (tobacco, alcohol, gambling etc.), two funds are actually overweight sin stocks. The dispersion around exposure to companies providing environmental solutions also varies widely across the indices. Shockingly, seven of the funds have less exposure to environmental solutions than the benchmark.
- The final set of exposures, factors relating to a company's touch point on the larger society in which it operates, vary little across these funds. These factors are very dependent on geography. The clustering of results around the benchmark values implies a lack of geographic variety in the underlying companies' operations.

**Table 2. ESG factor performance**

Name	Carbon efficiency	Waste efficiency	Water efficiency	Gender equality	Executive pay ratio	Board independence
<b>Invesco ESG Screened</b>	141	252	6.2	24.9	79.9	77.9
<b>Invesco ESG Multi-Factor ETF</b>	67	1,735	2.7	25.7	70.9	79.1
<b>MSCI World ESG Select Impact ex Fossil Fuels Index</b>	78	27	2.3	22.5	57.9	69.6
<b>iShares ESG Enhanced</b>	97	328	3.1	24.4	78.0	78.3
<b>iShares World SRI</b>	59	574	2.2	25.1	77.1	79.4
<b>Lyxor ESG Trend Leaders</b>	143	369	4.7	24.2	73.9	77.8
<b>XTrackers World ETF</b>	57	385	2.7	25.6	75.9	78.4
<b>ISS ESG Prime</b>	73	285	1.6	24.4	76.4	75.3
<b>L&amp;G ESG Global Markets</b>	165	320	6.0	23.9	78.0	74.8
<b>La Francaise Zero Carbon</b>	66	158	1.7	26.0	76.5	78.7
<b>Morningstar DM Sustainability Leaders</b>	187	354	3.0	25.0	92.7	78.0
<b>Morningstar DM Sustainability 200</b>	138	250	6.0	23.7	74.6	76.8
<b>Morningstar DM Low Carbon</b>	139	381	5.3	23.6	78.0	77.7
<b>Benchmark</b>	156	361	5.8	24.2	78.2	78.3

**Table 3. Products and services revenue factors**

Name	Environmental good	Social good	Avoiding environmental harm	Avoiding social harm
<b>Invesco ESG Screened</b>	13.31%	10.08%	3.14%	3.66%
<b>Invesco ESG Multi-Factor ETF</b>	8.98%	12.85%	4.29%	1.82%
<b>MSCI World ESG Select Impact ex Fossil Fuels Index</b>	25.98%	15.84%	3.15%	1.96%
<b>iShares ESG Enhanced</b>	11.87%	10.76%	4.32%	3.36%
<b>iShares World SRI</b>	13.45%	15.14%	3.45%	1.91%
<b>Lyxor ESG Trend Leaders</b>	14.79%	10.01%	3.62%	2.56%
<b>XTrackers World ETF</b>	13.92%	10.51%	3.11%	2.57%
<b>ISS ESG Prime</b>	9.92%	11.55%	2.08%	2.35%
<b>L&amp;G ESG Global Markets</b>	9.97%	9.71%	5.33%	5.03%
<b>La Francaise Zero Carbon</b>	8.90%	12.02%	4.69%	5.05%
<b>Morningstar DM Sustainability Leaders</b>	7.74%	7.71%	4.16%	0.61%
<b>Morningstar DM Sustainability 200</b>	8.69%	13.30%	3.05%	3.49%
<b>Morningstar DM Low Carbon</b>	10.45%	10.81%	4.53%	4.53%
<b>Benchmark</b>	11.15%	10.35%	5.02%	4.54%

**Table 4. Society factors**

Name	Economic development	Avoiding water scarcity	Employment	Tax gap
Invesco ESG Screened	47,839	2.49	5.72%	2.3%
Invesco ESG Multi-Factor ETF	47,140	2.46	5.59%	2.3%
MSCI World ESG Select Impact ex Fossil Fuels Index	47,402	2.41	5.51%	1.6%
iShares ESG Enhanced	48,355	2.50	5.66%	2.3%
iShares World SRI	47,920	2.47	5.66%	2.1%
Lyxor ESG Trend Leaders	48,176	2.51	5.67%	2.3%
XTrackers World ETF	48,112	2.49	5.66%	1.9%
ISS ESG Prime	47,702	2.48	5.65%	2.1%
L&G ESG Global Markets	47,446	2.48	5.69%	2.2%
La Francaise Zero Carbon	46,373	2.40	5.56%	1.9%
Morningstar DM Sustainability Leaders	46,555	2.49	5.96%	2.2%
Morningstar DM Sustainability 200	47,454	2.52	5.98%	1.9%
Morningstar DM Low Carbon	47,871	2.50	5.73%	2.3%
Benchmark	48,268	2.50	5.68%	2.3%

## Conclusion

Demand for responsible investment products continues to grow at a remarkable pace. Historically, most ESG funds have been actively managed, but the growth of passive ESG funds tracks the general secular trend towards passive investments. For example, in the US in 2019, net flows into passive ESG funds totalled \$12.7bn compared with \$8.7bn for active ESG funds, and investors can now choose from over 100 ESG ETFs.<sup>2</sup> The lower fees associated with passive funds are appealing to responsible investors, not just mainstream investors.

The rapid growth in passive ESG funds is an exciting development for investors, who now have more choices to invest in line with their goals and preferences. This growth also begs the question: do passive funds marketed as ESG live up to their name?



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<sup>2</sup> The Rise of ESG in Passive Investments, US SIF, 2020.

[https://www.ussif.org/files/Publications/Rise\\_of\\_ESG\\_%20passiveinvestments\\_2020.pdf](https://www.ussif.org/files/Publications/Rise_of_ESG_%20passiveinvestments_2020.pdf)

By applying the Impact Cubed quantitative impact measurement model and running it against a selection of passive ESG funds, we conclude the following:

- 1) Passive ESG Fund performance is patchy and investors looking for environmental good are often better off with the market benchmark

“Impact” considers the positive and negative effects of companies’ products and services, as well as the companies’ operations. Many of the passive ESG funds do well avoiding harmful products and services, but very few beat the benchmark on achieving good. In particular, the market benchmark has more exposure to environmental solutions than most of the passive ESG funds we analyzed.

Passive funds clearly still have ESG growing pains and should disclose their impact if they want to avoid misinterpretations about being an ESG fund. The lack of attention to companies’ products and services is big source of investor confusion about ESG funds. Investors who want their money to finance environmental and social solutions – not just avoid ESG risk – should look for funds that report on impact and are more explicit about their ESG strategy.

There are big differences in impact among passive ESG funds. Indexes can be optimised for different ESG themes and, understandably, not every ESG fund does well on every factor. Index providers are doing pretty well screening socially bad stocks. But in some cases the overall impact is negative and the investor would have been better off investing in a market index rather than the ESG optimised version. Excluding the few worst examples in this research sample, there is a four-fold difference in impact between the best and worst funds. All other things being equal, this translates into very meaningful differences between passive ESG funds.

- 2) Smart passive investors can trade off risk and impact.

By using a measure like the Impact Coefficient, an investor can uncover blind spots to risk because indices with relatively similar impacts can have very different tracking error. Higher impacts come with bigger tracking errors, of course, and a higher tracking error means that the fund is veering away from the existing

business-as-usual economy, which should be of interest to those investors who believe the current trajectory is unsustainable.

One purpose of this paper was to provide investors with greater transparency on the differences in impact among ESG funds. Passive funds have good intentions to incorporate ESG factors into index construction. We applaud these initial efforts and acknowledge that this task is not as easy as one would think. Many passive funds do well and live up to the ESG in their name, but more still have gaps to fill. Creating a more sustainable economy will require ESG-aligned capital in practice, not just in name. We encourage passive funds to continue their efforts to give investors better visibility on positive impact, as well as ESG risk.

We also want to raise a question to start a conversation about the future of passive ESG investing. Conventional wisdom among some leading passive fund providers is that they can have the greatest positive impact on the environment and society through their engagement and proxy voting activities, not through the holdings of their passive investment products. We believe this research shows that impact can – and should – be measured for indices and reported alongside financial metrics. We look forward to the industry’s feedback and discussion on this research and this important question.

## Appendix – Methodology

Impact Cubed has developed its approach and metrics according to a set of key principles:

- 1) Each metric should be either widely available for the universe of listed corporates (for example, executive pay), or possible to estimate reliably (for example, carbon intensity). This frees the methodology from disclosure bias (and the market cap and developed market biases that go hand in hand with it) and ensures a complete coverage and applicability of the dataset to any size and type of portfolio.
- 2) The metrics rely on already established external frameworks to avoid adding to the already confusing array of ways to consider sustainability. This also removes the barrier to adopting a model that requires familiarising oneself with newly invented measures and definitions.
- 3) Each metric is a simple outcome measure in absolute terms – no scores, no layering of in-house views on industries or materiality. This allows for maximum objectivity and accountability in the analysis. Rather than make a series of inevitably subjective judgements on a corporate's promises or policies around, say, gender, the model looks purely at the management gender balance outcome.
- 4) Each metric contributes information to the model. Rather than confuse the user with tens or hundreds of variables, most of which are already highly correlated with each other, the model only includes variables that do not already meaningfully correlate with the others.
- 5) The set of metrics is intended to capture the major measurable ways any corporate impacts society and the environment. This means going beyond how the company operates and governs itself to also consider the positive and negative impacts from its products and services, and how its geographic exposures interact with many of these measures.

We have arrived at 14 impact factors for every globally listed issuer from this selection process, underpinned by extensive industry consultation in the development of the model.

Applying this dataset to portfolio impact assessment involves the following steps:

- 1) Using the holdings and weights of a portfolio (or index), calculate a weighted average for each metric (a familiar calculation from a weighted average portfolio carbon intensity, for example). This gives us the 14 factor values for each fund and a benchmark and tells us, for example, how much an ESG version of a passive fund has reduced carbon intensity compared with a reference benchmark.
- 2) To quantify the impact of the portfolio overall, as opposed to its performance on an individual factor, Impact Cubed finds the tracking error of the minimum variance portfolio with the same set of positive factor exposures (for example, a carbon intensity of 50 tons less per \$1m revenue than the benchmark, and a higher gender balance by 2%, etc.). The answer, expressed in basis points of tracking error, is the positive impact number.
- 3) The same is calculated for the negative factor exposures (for example, a lower board independence by 3%, or a higher percentage of revenues from social harm), giving us a basis point denominated negative impact number.
- 4) The net sum of the positive and negative impacts is the net impact.
- 5) To put the net impact into context, we also report [a ratio of the net impact to overall tracking error](#) of the portfolio against its benchmark (or in this research, of the ESG fund against the reference index). A high ratio signifies that a fund achieves significant impact exposures compared with its benchmark for the tracking error taken.

This additional context is important to ensure that when looking at two funds side by side, fund A with 50 less tons of carbon per \$1m revenue than the index and fund B with 150 less, we are not simply judging them on how active or passive they are. If fund A's Impact Coefficient is similar to fund B's, we could expect it to achieve a similar reduction in carbon intensity if it relaxed its tracking error limit to that of fund B.

Conversely, if the two funds both achieve the same excellent impact characteristics

compared with their benchmarks, the investor may want to choose the one that does so with less tracking error. Expected return and fund fees can also be brought into the same equation.



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Aggregating fund impact this way also removes the need to calculate a weighted average of a fund's or an issuer's performance on the individual factors. Calculating any such weighted average is an inherently subjective exercise, as it involves allocating the full impact among quite different aspects of sustainability. These weighted averages are one of the main contributors to the well-documented subjectivity of traditional scoring and rating methodologies for companies and, by extension, funds.

## Impact Cubed 14 Impact Factors

### Environmental externalities

#### 1. Carbon efficiency

Carbon equivalent, or greenhouse gas equivalent, efficiency measures how company operations link to climate change by indicating how much greenhouse gases a company emitted to earn one unit of revenue. This measure is traditionally called 'carbon footprint' in the responsible investment industry. This measure (including underlying data) is sourced from several commercial providers and covers carbon scope 1 and scope 2 emissions.

#### 2. Waste efficiency

Waste efficiency, also known as the 'waste footprint', is a closely related cousin of carbon footprint, but, instead of carbon emissions, it describes how much waste a company generated to earn one unit of revenue. Waste accounting frameworks are developing,

and we support any initiatives that refine and improve waste accounting by companies.

### 3. Water efficiency

Water efficiency is the ‘water footprint’ and measures how many litres of water a company used in generating one unit of revenue. We treat every litre of water uniquely – determining whether the litre was collected from rainwater, groundwater or cleaned waste water. We do not count any brackish or salt water used, because it is not typically a resource also needed by local communities.

Some water utility companies report the litres of water that they have delivered as the litres of water they have used to create a unit of revenue. This inflates the water number for water utility companies, as it double-counts the same water.

## Governance

### 4. Gender equality

Gender equality has a distinct dedicated SDG goal. In relation to companies’ impact, we measure the gender balance of their top management. As a starting point, we use the board-level data (often publicly available globally). To broaden the metric, we amend it with the percentage of women in the C-suite and other top management.

### 5. Executive pay

Executive pay measures the ratio of companies’ top management compensation compared with average employee compensation. Initially the CEO’s total compensation is used, and if possible we add other top management compensation, like board or C-suite, where available. All compensation includes short-term and long-term variable pay components, such as performance bonuses and stock options.

The average employee compensation is the personnel expense divided by the number of employees. The personnel expense typically includes pension expense, for example. In cases where total personnel expense is not available, we use alternative means to estimate average employee compensation, such as country-level average salaries for employees in a particular industry combined with employee count.

## 6. Board independence

The quality of powerful institutions is mentioned in the SDGs. While this typically refers to government organisations, the governance quality for (large) companies is relevant

given their systemic importance. The governance quality of any company can be measured in many ways; we chose board independence as the most representative metric.

We use the local stock listing requirements to determine whether a particular board member is independent or not. The majority owners of companies, and their appointed board members, may or may not be independent, depending on the jurisdiction that they are in. Some board members might serve on corporate boards for decades, while other jurisdictions have term limits as to how long a board member can be considered independent. In keeping with the goal of not introducing our own subjective judgement into the metrics, we do not override the local stock listing requirements with our own standard of board independence.

## Business model indicators

Our four business model indicators are constructed in the same way:

7. Environmental good
8. Avoiding environmental harm
9. Social good
10. Avoiding social harm

Each product or service is categorised into one of the four buckets or tagged as a neutral product or service. Broadly speaking, a fund avoids, for example, social harm by omitting classic sin stocks such as alcohol, tobacco, firearms and adult entertainment. Our departure point was an existing industry classification with around 2,500 product and service categories. From a sustainability point of view, many of them could be collapsed into broader categories, where added granularity does not change the sustainable impact of a product or service. As a result, our classification differentiates between 800+ products and services.

We have erred on the side of caution and neutrality in establishing the classification. There are many products and services that can be considered positive or negative

depending on one's point of view. Nuclear power, for example, can be considered positive because it creates a lot of electricity with relatively low carbon emissions. On the other hand, it can be considered negative because it creates hazardous waste as a

side product. As a general rule, whenever a controversy like this existed, we classified that particular product or service as neutral.

As a result, around 15% of the products and services were categorised in the four positive or negative categories, with approximately 85% of them being neutral.

Subsequently each company's revenue was classified into the 800+ types of products and services. For example, a \$10m investment in one company that earns 70% of its revenue in oil exploration and 30% in solar panels is the same as a separate \$7m investment in oil exploration and \$3m investment in solar panels.

Geographic mapping is applied to the business models that are scored in only a limited number of countries. Access to telecommunications is a specific sub-goal in the SDGs, but it applies in only a limited number of countries that have a lack of access to telecommunications, and so only revenues from those markets will be counted as positive. On the other hand, access to healthcare facilities is universally SDG-supportive, so all healthcare facilities in every country are positive.

## Society

### 11. Economic development

Much of the SDG text revolves indirectly around economic development. Foreign direct investment and resulting GDP growth have a positive impact in a large number of SDGs; prime examples are poverty reduction and bringing an end to hunger.

Companies operate, sell their goods and source raw materials internationally, and most look outside their domicile for growth opportunities. The more companies operate in the least-developed countries, the greater indirect positive impact they have.

This measure employs companies' geographical spread of operations and matches it against GDP per capita. The outcome quantifies how their operations indirectly support economic growth in places where there is a lack of economic activity (as signified by

low GDP per capita).



## 12. Avoiding water scarcity

Water is a local natural resource. Its availability varies seasonally, and it is difficult to transport in large quantities over long distances. The availability of water depends greatly on where in the world it is used. Therefore, to accurately reflect a company's sustainability impact with respect to water as a natural resource, we need to map its use geographically.

Water usage is typically categorised into three groups: domestic/municipal use, agricultural use and industrial use. By measuring the industrial use, we can establish how much competition it introduces against domestic use, and how much it contributes to the water scarcity in that particular area.

We factor in companies' geographical spread of operations and align them to a water scarcity map. The water scarcity maps are sourced from World Resources Institute Aqueduct maps to establish where the water is abundant and where it is scarce.

## 13. Employment

Employment is one of the SDGs. We map companies' geographical spread of operations against unemployment rates provided by the International Labour Organization (ILO).

## 14. Tax gap

The tax gap measures the difference between the total amount of taxes owed and the total amount paid. Taxes are a form of wealth transfer, and thus the amount corporations pay (or do not pay) has ramifications on social services.

We analyse companies' income statements to determine their pre-tax earnings and taxes paid. We compare that with their geographical spread of revenue sources and OECD-reported corporate tax rates by jurisdiction.

We use a five-year moving average to smooth the volatility over corporate pre-tax earnings (which fluctuate annually) over taxes paid (which also fluctuate annually but

at a different pace than companies' earnings) and corporate tax rates (which tend to vary over election cycles).

## About the authors



**Antti Savilaakso** has over 15 years' experience in sustainable investment, including leadership positions in Nordea Asset Management, MSCI ESG Research, GRI and UN PRI, acting as member and chairman of the Finsif board from 2011 to 2015. He is the author of multiple publications and a widely featured speaker on sustainable investment.



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