



Scientific Beta Core ESG Filter: A Consensus- and Norms-Based ESG Investing Approach

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Executive Summary

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Negative screening is the oldest approach to responsible investment as well as one of the most practised globally in asset terms. Negative filtering on environmental, social, and governance (ESG) themes can be justified by investors for different reasons:

- A deontological motivation is to avoid complicity with companies that violate fundamental ethical principles.
- Self-interested investors seek to avoid exposure to companies whose ESG-related risks may not be properly priced by financial markets, e.g. so-called stranded assets.
- Investors may also seek to improve the ESG performances of companies. ESG screening/divestment contributes to influencing corporate behaviour by raising the cost of capital for companies involved in activities that the investor objects to.

On this last point, it is important to use consensus- and norms-based definitions for negative ESG screening to reinforce its influence on corporate behaviour. Not only do straightforward consensus-based ESG screening strategies send clear, unambiguous signals to company management, but the signalling effect is reinforced when investors converge on which signals to send. In contrast, positive/best-in-class screening is used in ESG integration strategies that mix ESG considerations, such as ratings, with traditional financial inputs in the portfolio construction process, which may result in inconsistent or diluted signalling effects on companies due to the multitude of variables considered jointly.

Moreover, negative ESG filtering is consistent with the fact that there is no evidence of a rewarded ESG factor. Negative screening to specifically achieve ESG objectives is thus in line with maintaining a clear distinction between financial objectives, such as superior long-term risk-adjusted performance, and non-financial objectives, such as ESG considerations.

These considerations of consensus-based negative ESG screens and the importance of maintaining a clear distinction between financial and non-financial objectives are key motivations in the design and application of Scientific Beta's Core ESG Filter.

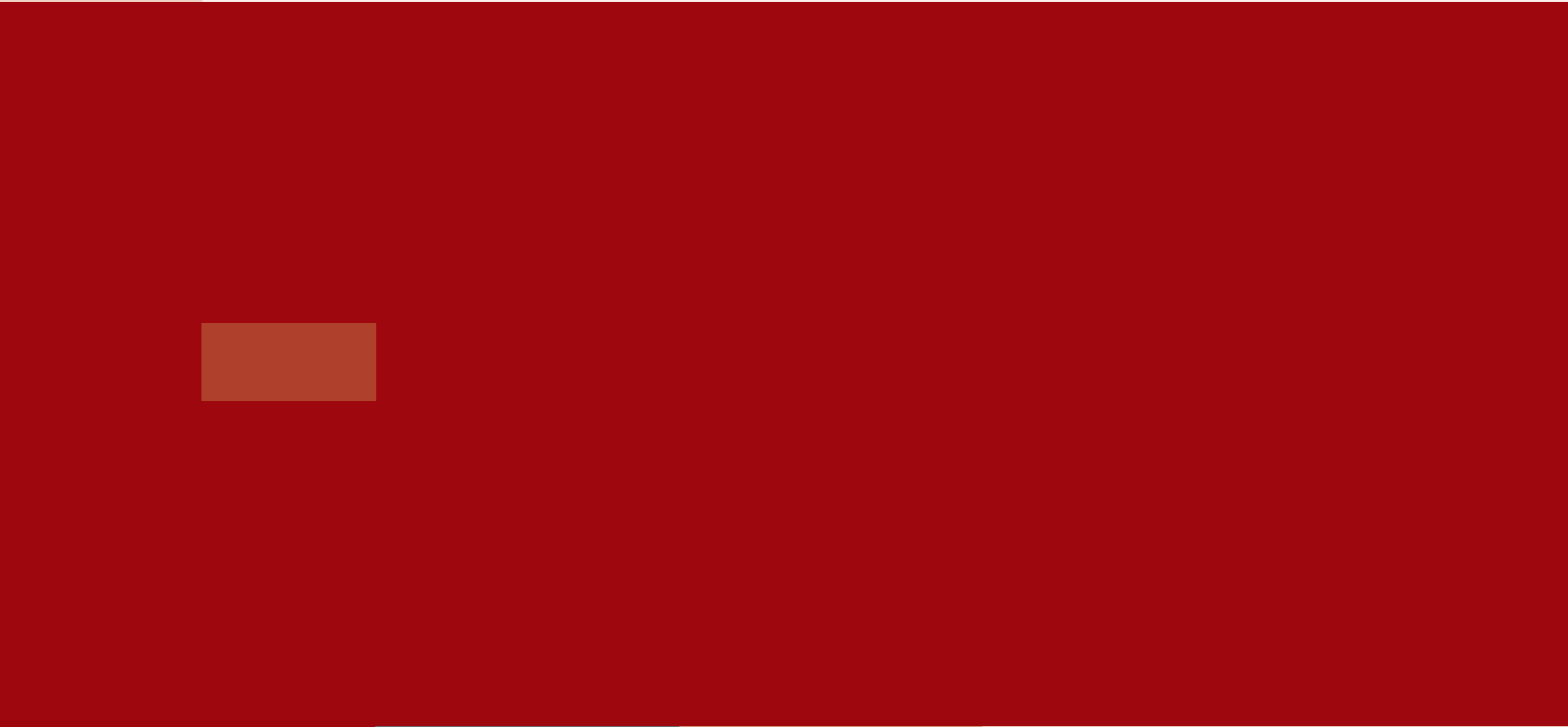
The Core ESG Filter completely removes non-compliant stocks from the investable universe. Since it focuses on the most consensus-based and serious violations of fundamental norms, the exclusions send strong and clear signals to companies on their conduct and activities, irrespective of their overall ESG ratings or financial attractiveness. The conduct-based screens reflect violations of fundamental ethical norms and companies issuing only non-voting shares, while the product screens cover controversial weapons, tobacco, and fossil fuel activities incompatible with the Paris Agreement. The definitions applied for the screens in the Core ESG Filter are updated annually to reflect evolving consensus-based ESG themes in the investment community. The divestments thus raise the cost of capital for the companies and can complement engagement efforts to facilitate improvements in corporate behaviour. Moreover, the reduction of the investable universe due to the Core ESG Filter is limited and stable over time.

Executive Summary

Scientific Beta's Core ESG Filter is a component of both its multi-factor and pure ESG/Climate offerings. Under the multi-factor offering, since June 2019 Scientific Beta has offered off-the-shelf ESG and Low Carbon indices as fiduciary options, which embed the Core ESG Filter that is also available as a stand-alone filter. The ESG and Low Carbon multi-factor indices are underpinned by the principle of separating financial and non-financial objectives highlighted above. Non-financial objectives are achieved via negative screening, while financial objectives are achieved via two sources of added value by seeking exposure to well-rewarded factors and the diversification of unrewarded specific risk within the filtered universe.

In Scientific Beta's ESG/Climate offering, the Core ESG Filter is applied in the first construction step of the Climate Impact Consistent (CIC) indices. The strong signalling effect of the Core ESG Filter complements the CIC indices' objective of ensuring consistency between stock level investment decisions and portfolio level decarbonisation. With respect to climate change, the Core ESG Filter supports portfolio decarbonisation and helps to reduce climate transition risks since it excludes coal and tar-sands companies, both of which need to be rapidly phased out to achieve a Net-Zero consistent energy source scenario and face considerable asset stranding risks.

The Core ESG Filter is offered at no additional cost for all Scientific Beta flagship indices because we believe there should be no hurdle in aligning with important and consensus-based ESG norms.

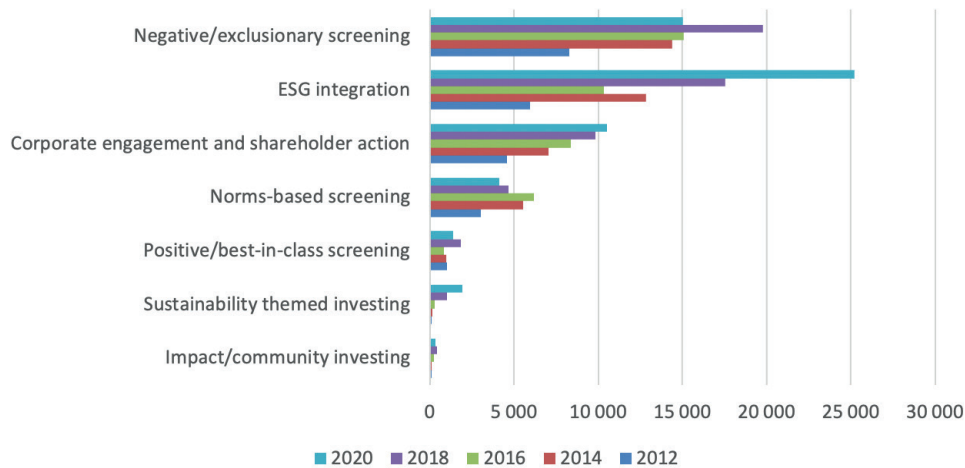


Introduction

Introduction

Scientific Beta’s Core ESG Filter reflects the most consensus-based screening criteria applied by investors. It implements norms-based and negative screening which are grounded in global norms. Exclusions promoted by the Core ESG Filter send clear signals to companies and other stakeholders. Unlike positive/best-in-class screening which are used in ESG integration strategies that mix ESG considerations, such as ratings, with traditional financial inputs in the portfolio construction process, the Core ESG Filter strictly guarantees the exclusion of companies that are known to violate ethical principles or minimum standards, irrespective of their overall ESG ratings or financial attractiveness. Moreover, negative screening is the oldest approach to responsible investment as well as one of the most practised globally in asset terms (Exhibit 1) and is a typical first building block in ambitious pro-ESG programmes.

Exhibit 1: Sustainable investing assets by strategy (in billions of USD)



Source: Global Sustainable Investment Reviews, 2014 - 2020

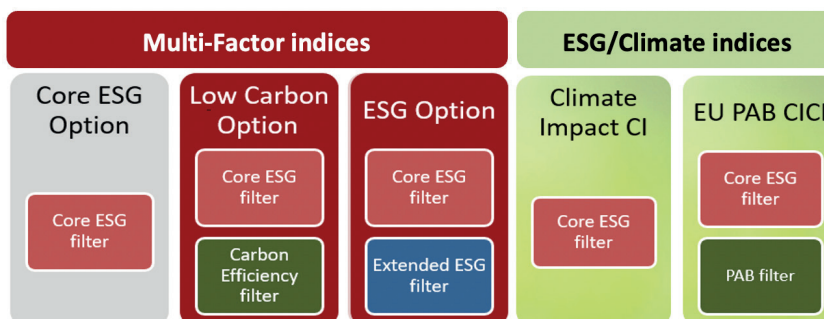
Such ESG filtering can be carried out by investors for different reasons:

- They may seek to avoid complicity with companies that perpetrate “breaches of inviolable and incommensurable standards” (Dawkins, 2018). Such a stance can be called deontological.
- Alternatively, in a consequentialist approach, investors may divest in order to seek to influence a company’s activities by increasing its cost of capital. The increased financing cost will hamper the company’s ability to pursue investments in the activities the investor disapproves of. Lower share prices also reduce the value of management’s share-based remuneration, thereby giving top executives an incentive to integrate ESG considerations. It is important to highlight that screening is not only compatible with Corporate Engagement strategies, but that screening/divestment and engagement are mutually reinforcing (Amenc et al., 2020).
- Self-interest is the motivation of business-as-usual investors who consider that certain poor ESG practices or lagging performance will lead to financial losses that have not yet been properly priced in by the markets. For example, investors may elect to divest fossil fuel companies “because they expect reduced financial returns of fossil fuel-related investments caused by stranded assets through the rapid devaluation of fossil fuel reserves” (Dordi and Weber, 2019).

Introduction

Since there is no evidence of a rewarded ESG factor¹, the clear distinction between financial objectives, such as superior long-term risk-adjusted performance and non-financial objectives, such as ESG considerations, is paramount in Scientific Beta’s investment philosophy. This is why Scientific Beta’s off-the-shelf ESG and Low Carbon indices, available since June 2019 as fiduciary options across its multi-factor flagship offering, embed a Core ESG Filter. It is also available as a standalone filter. Non-financial objectives are achieved via negative screening, while financial objectives are achieved via two sources of added-value by seeking exposure to well-rewarded factors and the diversification of unrewarded specific risk within the filtered universe.

Exhibit 2: Scientific Beta offering based on the Core ESG Filter



For the Low Carbon fiduciary option available on multi-factor indices, in addition to the filters on fossil fuel activities included in the Core ESG Filter, a Carbon Efficiency filter is implemented that eliminates the most carbon-intensive stocks, while limiting country and sector biases.

Exhibit 3: Scientific Beta Low Carbon Fiduciary Option specific screens

	Characteristics	Objectives
intensity	Removal of 10% of constituents by stock-level Carbon Intensity (worst to best)	Stock-level metric optimal for reduction in recommended metric for portfolio-level carbon exposure reporting (weighted average carbon intensity)
Carbon filter	Performed within each geographic block to mitigate country bias, and with sector controls to maintain representation of business sectors (50% exclusion cap)	Removal of the stocks with the highest Carbon Intensities and the highest Transition Risks

For the ESG fiduciary option available on multi-factor indices, the filters are extended beyond the Core ESG Filter on three aspects:

- For controversial weapons, the scope includes weapons other than antipersonnel landmines, cluster bombs and nuclear weapons in breach of the Nuclear Non-Proliferation Treaty (NPT), in particular nuclear weapons producers that do not breach the NPT.
- In addition to tobacco production, tobacco retailing is included.
- In addition to companies having violated and still in risk of violating the UN Global Compact principles, companies facing controversies with respect to these principles are excluded.

1 - We refer the reader to the white paper “Honey, I Shrunk the ESG Alpha”: Risk-Adjusting ESG Portfolio Returns” (Bruno, Esakia and Goltz, 2021), “Sustainability Alpha in the Real World: Evidence from Exchange-Traded Funds”
https://docs3.scientificbeta.com/Library/External/White_Papers/Sustainability_Alpha_in_the_Real_World

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Exhibit 4: Scientific Beta ESG Fiduciary Option specific screens

Type	Theme	Core ESG Filter	Extended ESG filter of the ESG option
Product-based	Controversial weapons	Involvement in antipersonnel landmines, cluster bombs or involvement in nuclear weapons in breach of the Nuclear Non-Proliferation Treaty	Involvement in other conventional and inhumane weapons and in weapons of mass destruction
		Manufacture of tobacco products (0% revenue threshold)	
	Tobacco		Production or distribution of tobacco (5% revenue threshold)
	Fossil fuel activities incompatible with the Paris Agreement	Coal Industry classification or thermal coal mining (5% revenue threshold); Ownership of coal reserves; Coal share in power generation capacity exit pathway (Developed: 2% decrease/year to reach 0% in 2030; Emerging: 1% decrease/year to reach 0% in 2040); Coal share in power generation capacity (absolute) (5GW for Developed and 10GW for Emerging except when companies have approved Science Based Targets consistent with 1.5C scenario); Tar Sands 10% revenue threshold	
Conduct-based	Violations of fundamental ethical norms	Companies involved in serious violations of fundamental norms and that have proven unresponsive or have failed to address their controversies over a reasonable time (Norway's GPFG)	
			Companies ineligible with the UN Global Compact Companies facing controversies of a critical nature with respect to their fundamental responsibilities in the areas covered by the UN Global Compact
	Shareholders' rights	Companies that only issue non-voting shares to the public	

In addition, in June 2021, Scientific Beta launched its Climate Impact Consistent (CIC) indices which are pure climate indices and include the Core ESG Filter as the main screening source. In line with the Net-Zero Investment Framework, the CIC indices promote climate consistent stock-level investment decisions that send strong signals on the attractiveness of stocks and maintain inter-sector consistency by organising the decarbonisation of the real economy through the financing of inter-sector climate alignment. Hence, this consistency protects investors against the risk of greenwashing. A version that complies with the European Union Paris Aligned Benchmark (EU PAB) regulation includes additional screens, both normative and based on fossil fuel activities. In addition to CIC indices, Scientific Beta offers a Core ESG Cap-Weighted index, which is designed for investors concerned by tracking error constraints, while benefiting from the Core ESG Filter exclusions.

To conclude, Scientific Beta's Core ESG Filter is offered at no additional cost because we believe that there should be no hurdle to the adoption of a policy of compliance with important and consensus-based ESG norms.

Definition of the Core ESG Filter

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Overview

The screens implemented by the Core ESG Filter are grounded in international norms, emphasise themes that enjoy universal consensus and include both product-based (i.e. controversial activities) and conduct-based (i.e. controversial corporate behaviour) exclusions.

Exhibit 5: Screening criteria of the Core ESG Filter

Type	Theme	Core ESG Filter
Product-based	Controversial weapons	Involvement in antipersonnel landmines, cluster munitions, explosive bomblets and involvement in nuclear weapons in breach of the Nuclear Non-Proliferation Treaty)
	Tobacco	Production of tobacco (0% revenue threshold)
	Fossil fuel activities incompatible with the Paris Agreement	Coal Industry classification Thermal coal mining (5% revenue threshold) Ownership of coal reserves Coal share in power generation capacity exit pathway (Developed: 2% decrease/year to reach 0% in 2030; Emerging: 1% decrease/year to reach 0% in 2040) Coal share in power generation capacity (absolute) (5GW for Developed and 10GW for Emerging except when companies have approved Science Based Targets consistent with 1.5C scenario) Tar Sands 10% revenue threshold
Conduct-based	Violations of fundamental ethical norms	Companies that prove unresponsive or have failed to address their controversies over a reasonable time and thus represent an unacceptable risk of continued serious violations of fundamental norms
	Violations of the one-share one-vote principle	Companies that only issue non-voting shares to the public

Product-Based Exclusions

Controversial Weapons Involvement

Controversial weapons are weapons that are either prohibited under international conventions or deemed inhumane due to their disproportionate or indiscriminate impact. The Core ESG Filter focuses on companies with involvement in Anti-Personnel Landmines and Cluster Munitions, which are banned under the Ottawa (1997) and Oslo conventions (2008)² respectively and are the two classes of controversial weapons most often covered by investment prohibitions in State jurisdictions.

Companies targeted by the exclusion are those that use, develop or produce, acquire, possess or retain, or transfer anti-personnel landmines, cluster munitions and explosive bomblets (as per the definitions of the Cluster Munitions and Anti-Personnel Mines Act 2008 of the Republic of Ireland and the list maintained for compliance with this act by the Ireland Strategic Investment Fund).

Note that companies that derive revenue from the production, sale and/or transfer of antipersonnel landmines or cluster bombs cannot be recognised as participants in the UN Global Compact³, the world's largest voluntary corporate sustainability initiative.

2 - The Convention on Cluster Munitions, also known as the Oslo Convention contains language that is generally interpreted as requiring signatory states to prohibit investment in the production of the weapons banned by the convention. This prohibition is therefore found in the law of certain jurisdictions. In some jurisdictions, domestic law has extended the prohibition to other weapons banned by international conventions or deemed controversial.

3 - While the organisation announced an extension of its prohibition to biological, chemical and nuclear weapons in September 2017, this decision has been quietly reversed. In January 2019 correspondence with Scientific Beta, the UNGC Chief of Staff confirmed that the scope of the prohibition does not currently extend beyond landmines and cluster munitions. As per our advice, they have updated the language on their website to remove any scope ambiguity.

Definition of the Core ESG Filter

In addition, following the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) that entered into force in 1970 and which seeks to prevent the spread of nuclear weapons beyond the nuclear-weapon states, i.e. those that had built and tested a nuclear explosive device before 1967 (the US, Russia, UK, France and China⁴), we screen companies that are involved in the production of nuclear weapons and their key components and that are in violations of the NPT treaty.

Tobacco

Tobacco consumption is now universally recognised for the major health risk it is and the significant economic toll it imposes on the affected individuals, their employers and governments. Strengthening the implementation of the World Health Organization (WHO) Framework Convention on Tobacco Control, one of most widely supported treaties in history, is a key target for the third goal of the 2015 UN Sustainable Development Goals (SDGs)⁵ and controlling tobacco is relevant to multiple other SDGs. Institutional investors have publicly signalled their support of better tobacco control and the last few years have seen top-tier investors on multiple continents announce or implement divestment approaches. The recent momentum should be maintained as investors implement pre-existing and updated commitments. In this regard, we note that the Tobacco-Free Finance Pledge launched at end September 2018 with the support of PRI and the UN Environment Programme has been extremely well received in the institutional investor community (see list).

In the interest of setting the scope of exclusion at the most consensus-based level, the Core ESG Filter limits exclusions to companies manufacturing complete tobacco products, which is the definition of the Tobacco-Free Finance Pledge and which is also consistent with the UN Global Compact. Indeed, since October 2017, companies involved in the production and/or manufacture of tobacco can no longer participate in the UN Global Compact. This new exclusionary criterion is strictly limited to companies that produce and/or manufacture tobacco (or are part of a joint venture, have a subsidiary or affiliate stake in a company that produces and/or manufactures tobacco).⁶

We rely on sector classification and the public list maintained for the Norwegian Government Pension Fund – Global, which is the closest to, and no less strict than, our desired exclusion scope. Indeed, the Fund targets exclusion of companies involved in the production of tobacco products, regardless of the percentage of revenues represented by this activity. Note that associated products such as filters and flavour additives are not in scope.

Fossil fuel activities incompatible with the Paris Agreement

Fossil fuel activities incompatible with the Paris Agreement primarily concern coal and tar sands activities.

Amongst widely used fossil fuels, coal produces the highest CO₂ emissions per heating unit produced and, since 2002, it is once again the number one human source of CO₂ emissions (IEA, 2015). The consumption of coal, even at current levels, is not compatible with achievement of the

4 - Four other states are known or believed to possess nuclear weapons: India, Pakistan, and North Korea have openly tested and declared that they possess nuclear weapons, while Israel is ambiguous regarding its nuclear weapons status. Only India, Israel, Pakistan and South Sudan have never signed the NPT.

5 - Adopted by resolution of the United Nations General Assembly on 25 September 2015, they include 17 goals and 169 targets to be achieved by 2030, with the aim to “end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda”. The third goal is to “Ensure healthy lives and promote well-being for all at all ages”.

6 - It does not apply to: sale and distribution of tobacco; production, sale and distribution of tobacco-related products (including filters, packaging, chemicals such as acetate used in tobacco filters); financing of tobacco or tobacco-related products through investment portfolios (UN Global Compact, 2017).

Definition of the Core ESG Filter

two-degree target set by the Intergovernmental Panel on Climate Change (IPCC, 2018).^{7,8} In this context, reducing reliance on coal is a priority in any energy transition scenario and divestment of companies with a major role in the supply and demand for coal sends a clear political signal to stakeholders. Since, within listed equities, thermal coal reserves represent a sizeable stake of potential emissions from fossil fuels, drastically reducing exposure to the companies owning these reserves will considerably reduce potential emissions within the filtered universe.⁹

Coal is the most vulnerable of fossil fuels in the transition, and coal reserves¹⁰ and coal-fired equipment are exposed to high risk of stranding, providing a financial motive for divestment. Meanwhile, divestment from tar sands activities is also in line with credible decarbonisation pathways since its extraction and upgrade into synthetic crude oil come at high environmental costs. The greenhouse gas emissions produced by these processes are significantly higher than for conventional oil and synthetic crude oils are amongst the dirtiest of oils. The upgrading/refining processes associated with tar sands also produces a lot of petcoke which is a cheap but inefficient coal substitute. As such, the Paris Aligned Investment Initiative Net Zero Investment Framework recommends that investors not allocate additional capital to companies taking forward new exploitation of tar sands. Ethical and risk management (high stranding risk profile) concerns make tar sands exclusion the second most common of fossil fuel exclusions.

It is worth noting that the relative efficiency of fuels at the consumption stage does not give a complete picture in terms of emissions, as the extraction, refinery and distribution of fossil fuels causes by-product and fugitive emissions of greenhouse gases¹¹ and involves different energy consumption.¹² In addition, reserves may be located in areas that store carbon dioxide, e.g. peat bogs and rainforests, which could be released if these reserves are damaged. The consensus view is that, with respect to the use of fossil fuels in the energy sector, CO₂ emissions from combustion largely dominate total greenhouse gas emissions. For this reason, we remain focused on coal and tar sands activities in the fossil fuel activity exclusions.

The Core ESG Filter excludes companies with involvement in coal and tar sands activities. Specifically, the exclusions concern:

- Companies, other than those in the Iron and Steel industry, that own coal reserves; companies classified in the coal industry or that derive 5% or more of their turnover from thermal coal mining;
- Utilities that make significant use of coal in their power generation fuel mix exceeding their Coal

7 - The production of coal is also associated with multiple environmental problems including aquifer depletion, water contamination and the destruction of headwater ecosystems, landscapes, forests and wildlife habitats. The burning of coal releases sulphur dioxide, nitrogen oxides, particulate matter (i.e. soot), and heavy metals (including mercury) that cause smog, acid rain, and toxic air pollution. Note that it is this very impurity that makes it inefficient as a fuel. Coal mines also release methane, a potent greenhouse gas.

8 - According to the IPCC (Allen et al., 2018) If targeting 1.5°C of warming, the share of primary energy from coal would be reduced to 0-13% with a large fraction of this coal use combined with Carbon Capture and Storage technology (whose deployment has lagged so far). The median reduction in coal use between 2020 and 2050 is 85% across the 1.5°C scenarios of the IPCC (minimum is -30% and maximum -100% across these scenarios); as far as energy generation is concerned, the median reduction in coal usage is 96%.

9 - One widely cited study by The Carbon Tracker Initiative (2011) notes that, according to the Potsdam Institute for Climate Impact Research, the GHG potential of the Earth's proven reserves comes to 2,795 Gt CO₂ and about two-thirds of these are from coal (65% coal, 22% oil and 13% gas). The Carbon Tracker Initiative estimates that the fossil fuel reserves of the top 100 listed coal companies and the top 100 listed oil and gas companies represent potential emissions of 745 Gt CO₂ (27% of the proven reserves), which exceeds the remaining carbon budget for the two-degree target by 180 Gt CO₂; 52% of these potential emissions are from coal, 43% from oil and 5% from gas. Note that the approach underestimates the issue with fossil fuels since only a sliver of coal, oil and gas production and reserves are in the hands of private investors (Heede and Oreskes, 2016). The respect of the two-degree objective requires control over state-owned enterprises.

10 - Also note that the proven reserves of coal companies expressed in years of consumption are significantly higher than those of the oil and gas group.

11 - For example, extraction of gassy oils releases natural gas. If the latter is not captured for economic or reinjected into the oil deposit, then emissions associated with the extraction of the oil, i.e. upstream emissions, can increase materially. For disposal the gas is flared, i.e. burned off onsite, or vented, i.e. released unburned into the atmosphere.

12 - For example, at the extraction stage, watery oil fields and deposits that are difficult to access will require more effort.

Definition of the Core ESG Filter

Exit Pathways to phase out coal (2% threshold decrease/year to reach 0% in 2030 for Developed, and 1% threshold decrease/year to reach 0% in 2040 for Emerging);¹³

- Companies with significant absolute coal power generation capacity (5GW threshold for Developed and 10GW threshold for Emerging); and
- Companies deriving 10% or more turnover from tar sands.

The exclusions rely on data licensed from Thomson Reuters (for the sector classification) and ISS ESG.

Conduct-Based Exclusions

Violations of Fundamental Ethical Norms

The most popular roadmaps for norms-based exclusions beyond controversial weapons are two international initiatives that define principles of responsible business conduct by drawing on international conventions and declarations with (quasi) universal consensus. The United Nations Global Compact is a voluntary corporate responsibility initiative with global reach while the OECD Guidelines for Multinational Enterprises are government recommendations to multinationals operating in or from adhering countries (38 since May 2021).

We adopt the UN Global Compact as a reference because its scope and simplicity make it highly accessible to the widest range of issuers.

The UN Global Compact Ten Principles are derived from the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, (1998, review 2010), the Rio Declaration on Environment and Development (1992) and the United Nations Convention Against Corruption (2005).

Against the background of this reference, the Core ESG Filter excludes only the companies that prove unresponsive or have failed to address the controversies they are facing over a reasonable time window.

To avoid relying on ESG data providers, or having to develop a proprietary approach to identify companies that fit the above description, we rely on the conduct-based exclusion list maintained for the Norwegian Government Pension Fund – Global. Companies are put on this list if there is an unacceptable risk that they contribute to or are responsible for serious violations of fundamental ethical norms. As shown in Exhibit 6 below, the dimensions considered for this list by the Central Bank of Norway ("the Bank"), which has responsibility for the management of the Fund, reasonably map the Ten Principles of the Global Compact.

¹³ - The gradual strengthening of the thresholds reflects the need for a phase-out of coal usage. For example, the power generation decarbonisation pathway prepared by the International Energy Agency (IEA) in the context of its Sustainable Development Scenario (SDS) sees the share of unabated coal at 25% in 2025, 16% in 2030 and 5% in 2040. The IEA SDS complies with the 2015 Paris Agreement and includes another two energy-related strategic goals: universal energy access and substantial reduction of air pollution (IEA, 2019).

Definition of the Core ESG Filter

Exhibit 6: Mapping the UN Global Compact Principles and the Norges Bank Conduct-Based Exclusions

Criteria for Conduct-Based Exclusions from Norway's Government Pension Fund Global	UN Global Compact
Serious or systematic human rights violations, such as murder, torture, deprivation of liberty, forced labour and the worst forms of child labour	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; Principle 2: make sure that they are not complicit in human rights abuses;
Serious violations of the rights of individuals in situations of war or conflict	Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour;
Severe environmental damage	Principle 7: Businesses should support a precautionary approach to environmental challenges;
Acts or omissions that on an aggregate company level lead to unacceptable greenhouse gas emissions ¹⁴	Principle 8: undertake initiatives to promote greater environmental responsibility; Principle 9: encourage the development and diffusion of environmentally friendly technologies.
Gross corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.
Other particularly serious violations of fundamental ethical norms	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 6: the elimination of discrimination in respect of employment and occupation.

Since 1 March 2010, the Bank is authorised to consider “the probability of future norm violations” in its assessment, which should be expected to be informed by the track record of the company in respect of controversies and its responsiveness. The latter is confirmed by the guideline language indicating that the Bank may also consider “the breadth of the company’s operations and governance, including whether the company is doing what can reasonably be expected to reduce the risk of future norm violations within a reasonable time frame” and the description of the relevant factors in these assessments as including “the company’s guidelines for, and work on, safeguarding good corporate governance, the environment and social conditions, and whether the company is making a positive contribution for those who are or have been affected by the company’s conduct”.

Hence the Bank can consider the quality of the risk management of the company and how the company is responding to the controversy, in particular whether it is putting forward remediating or corrective measures (remediative response) as well as preventative measures (proactive response). The 2010 update clarifies that exclusion is a last-resort measure and that the Bank is required to consider “whether other measures, including the exercise of ownership rights, may be more suited to reduce the risk of continued norm violations, or whether such alternative measures may be more appropriate for other reasons”. This reflects a consequentialist approach by which the Bank is required to select the tool best suited to influence companies in the desired direction.

Taking a forward-looking view that accounts for controversy risk management and a consequentialist approach leads to the number of conduct-based exclusions to be moderate.

¹⁴ - The Council of Ethics considers that companies with large emissions in absolute terms and large emissions relative to their industry may be considered for exclusion, in particular when they have no emissions reduction plan. In this spirit, the Council of Ethics started to review the oil, steel and cement sectors in 2016.

Definition of the Core ESG Filter

Deprivation of Voting Rights

Equity shares are traditionally characterised as a combination of a right to vote on important corporate matters and a financial right to share in the company's profits and net assets. Proportionality between corporate ownership and control – the “one share one vote” principle – protects all shareholders against conflicts of interest and contributes to good corporate governance and market efficiency via internal and external (i.e. the market for corporate control) mechanisms, which has been positively linked to financial performance.¹⁵

Restrictions to this principle have been used to favour certain shareholders, typically founders and historic shareholders that wish to get access to funding but are unwilling to lose control, or shareholders that can assist in entrenching management. Such restrictions can be used to allow a minority shareholder to exercise control over a company.

Proponents of these structures explain that they allow visionary leaders to implement long-term strategies by insulating companies from the stock market ethos of short-term profit maximisation. Another argument is that they give the public access to a wider range of investment opportunities as it is argued that certain controlling shareholders would oppose the sale of equity stakes to the public if they were unable to retain control.

Multiple class structures have been around for well over a century and have experienced periods of popularity before. The current interest in such structures is linked to its growing usage, notably by technology companies, starting with Google in 2004, and recent excesses such as the 2017 decision by Snap to only list non-voting shares.

In the wake of the Snap listing, a growing number of institutional investors, including the influential Council of Institutional Investors (CII)¹⁶, have lobbied index providers to review their treatment of multiple class shares. The CII and the Investor Stewardship Group (ISG)¹⁷ (which has proportionality as one of the six fundamental principles of its corporate governance framework) are now lobbying stock exchanges to impose restrictions on the use of multiple class structures, including at a minimum sunset provisions.¹⁸

The Core ESG Filter focuses on the most egregious violations of corporate governance principles by screening out companies that only offer non-voting shares to the general public. The exclusions rely on proprietary research informed by multiple public sources. While the “one share one vote” principle is widely – but not universally – recommended, there is a consensus that all shareholders should have certain minimal voting rights. The G20/OECD Principles of Corporate Governance (2015) state that “The corporate governance framework should protect and facilitate the exercise of shareholders’ rights and ensure the equitable treatment of all shareholders” (cf. Exhibit 7 below).

15 - For example, Gompers, Ishii and Metrick (2010) look at dual class firms in the US and find “strong evidence that firm value is increasing in insiders' cash-flow rights and decreasing in insider voting rights”.

16 - The CII defines itself as follows: “CII is a nonprofit, nonpartisan association of public, corporate and union employee benefit funds, and other employee benefit plans, foundations and endowments with combined assets under management exceeding \$3 trillion. Our member funds include major long-term shareowners with a duty to protect the retirement savings of millions of workers and their families. Our associate members include a range of asset managers with more than \$20 trillion in assets under management.”

17 - ISG defines itself as follows: “The Investor Stewardship Group (ISG) is a collective of some of the largest U.S.-based institutional investors and global asset managers, along with several of their international counterparts. The members are a group of 50 U.S. and international institutional investors that in aggregate invest over \$22 trillion in the U.S. equity markets. The ISG is being led by each member's senior corporate governance practitioners. The ISG was formed to bring all types of investors together to establish a framework of basic standards of investment stewardship and corporate governance for U.S. institutional investor and boardroom conduct.” (<http://www.unepfi.org/psi/tobacco-free-finance-signatories/>).

18 - In October 2018, The CII asked the NYSE and NASDAQ to either require the respect of the proportionality principle or a wind-down of the dual-class structure within seven years of IPO in the absence of a shareholder vote (on a share-for-share basis) allowing an extension.

Definition of the Core ESG Filter

These shareholder rights include voting rights on certain essential decisions, as “Shareholders should be sufficiently informed about, and have the right to approve or participate in, decisions concerning fundamental corporate changes such as: 1) amendments to the statutes, or articles of incorporation or similar governing documents of the company; 2) the authorisation of additional shares; and 3) extraordinary transactions, including the transfer of all or substantially all assets, that in effect result in the sale of the company.”

Exhibit 7: G20/OECD Principles of Corporate Governance (2015)

I. Ensuring the basis for an effective corporate governance framework	The corporate governance framework should promote transparent and fair markets, and the efficient allocation of resources. It should be consistent with the rule of law and support effective supervision and enforcement.
II. The rights and equitable treatment of shareholders and key ownership functions	The corporate governance framework should protect and facilitate the exercise of shareholders' rights and ensure the equitable treatment of all shareholders, including minority and foreign shareholders should have the opportunity to obtain effective redress for violation of their rights.
III. Institutional investors, stock markets, and other intermediaries	The corporate governance framework should provide sound incentives throughout the investment chain and provide for stock markets to function in a way that contributes to good corporate governance.
IV. The role of stakeholders in corporate governance	The corporate governance framework should recognise the rights of stakeholders established by law or through mutual agreements and encourage active co-operation between corporations and stakeholders in creating wealth, jobs, and the sustainability of financially sound enterprises.
V. Disclosure and transparency	The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership, and governance of the company.
VI. The responsibilities of the board	The corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and the shareholders.

Impact of the Core ESG Filter

Impact of the Core ESG Filter

By construction, the Core ESG Filter entirely removes exposures to companies involved in controversial products and activities defined by the filter. Exhibit 8 shows the overall impact of the Core ESG Filter, in terms of percentage of exclusions, on different Scientific Beta regions. Exhibit 9 extends the analysis and shows the breakdown of these exclusions at sector level.

On most regions, the Core ESG exclusions remove about 5% of companies, which represents a small reduction in the investable universe. At the sector level, the bulk of exclusions are concentrated in Utilities. Indeed, more than one-third of exclusions affect this sector, on average across all regions. We note some differences across regions, since on US, 54% of exclusions are in Utilities, while on Emerging, the number is only 19%. The remaining exclusions are mostly seen in the Energy, Basic Materials, Industrials and Non-cyclical Consumer sectors, which are also impacted by the fossil fuel screens as well as the remaining product-based screens on tobacco and controversial weapons, and the conduct-based screens on violations of fundamental norms, controversies, and issuing only non-voting shares to the public.

Exhibit 8: Impact of the Core ESG Filter on SciBeta Regions

As of June 2023	Developed	Developed ex-US	Global	Global ex-US	US	Developed Europe	Japan	Asia Pacific ex-Japan	Emerging
Number of constituents	1470	970	2280	1780	500	423	300	730	810
Number of exclusions	75	48	130	103	27	9	15	58	55
Percentage of exclusions	5.1%	4.9%	5.7%	5.8%	5.4%	2.1%	5.0%	7.9%	6.8%

The number of stocks and exclusions are based on June 2023 review date.

Exhibit 9: Breakdown of exclusions by TRBC sectors

As of June 2023	Developed	Developed ex-US	Global	Global ex-US	US	Developed Europe	Japan	Asia-ex Japan	Emerging
Energy	0.75%	1.13%	0.92%	1.18%	0.00%	0.24%	0.67%	1.51%	1.23%
Basic Materials	0.41%	0.52%	0.79%	0.96%	0.20%	0.24%	0.00%	1.51%	1.48%
Industrials	0.88%	0.82%	0.79%	0.73%	1.00%	0.00%	2.33%	0.82%	0.62%
Cyclical Consumer	0.14%	0.21%	0.26%	0.34%	0.00%	0.47%	0.00%	0.55%	0.49%
Non-cyclical Consumer	0.41%	0.41%	0.44%	0.45%	0.40%	0.47%	0.33%	0.41%	0.49%
Financials	0.34%	0.21%	0.31%	0.22%	0.60%	0.00%	0.00%	0.55%	0.25%
Healthcare	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Technology	0.07%	0.00%	0.09%	0.06%	0.20%	0.00%	0.00%	0.14%	0.12%
Telecoms	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Utilities	2.11%	1.65%	2.11%	1.85%	3.00%	0.71%	1.67%	2.47%	2.10%

The number of stocks and exclusions are based on June 2023 review date. The sector classification used is the Thomson Reuters Business Classification.

To conclude this section, we underscore that the Core ESG Filter has a limited impact on the number of constituents of the different Scientific Beta investable universes. Hence, the filter is not intrusive

Impact of the Core ESG Filter

and do not alter financial characteristics of multi-factor strategies. Moreover, it enables clear unambiguous signals to be sent to the management of companies that breach consensus-based ESG norms.

Conclusion

Conclusion

The Core ESG Filter applies a consensus, norms-based set of screening criteria. It represents a straightforward ESG investing approach that is suited for investors who wish to avoid complicity with companies violating fundamental ethical norms, who wish to avoid exposure to companies that may be exposed to climate transition and stranding risks, and/or who seek to improve the ESG performance of the companies targeted by the divestment. The consensus-based nature of the Core ESG Filter enhances its impact on corporate behaviour, by sending unequivocal signals that are shared by a large number of investors.

The Core ESG Filter entirely removes from the investable universe the companies that do not meet the announced ESG criteria. In addition, from a climate change perspective, the coal and tar sands activity filters in particular reduce exposure to assets at risk of stranding in the transition to a low carbon economy and lead to an improvement in the carbon exposure and footprint metrics which proxy for climate transition risks.

The Core ESG Filter is applied in the ESG/Climate indices and multifactor indices in the two pillars of Scientific Beta's offering. Based on its strong signalling effect on companies violating consensus-based ESG norms and its ability to reduce climate transition risks, the Core ESG Filter supports the climate change objectives of Scientific Beta's ESG/Climate offerings, including the Core ESG CW index and CIC indices, and it promotes similar climate change benefits when applied to its multifactor indices.

At the same time, the Core ESG Filter leads to a limited number of exclusions, and its ex ante screening has a limited impact on financial characteristics. As such, the Core ESG Filter is able to preserve the factor exposures, diversification, performance, conditionality and investability of multi-factor indices when it is applied in the Low Carbon and ESG options.

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About Scientific Beta

About Scientific Beta

Scientific Beta's aim is to encourage the entire investment industry to adopt the latest advances in smart factor and ESG/climate index design and implementation. Our institution was established in December 2012 by EDHEC-Risk Institute, one of the top academic institutions in the field of fundamental and applied research for the investment industry, as part of its mission to transfer academic know-how to the financial industry. Scientific Beta brings the same concern for scientific rigour and veracity to all the services that it provides to investors and asset managers. We offer the smart factor and ESG/Climate solutions that are most proven scientifically, with full transparency of both methods and associated risks.

On 31 January 2020, Singapore Exchange (SGX) acquired a majority stake in Scientific Beta. SGX continues to support our strong collaboration with EDHEC Business School, and the principles of independent, empirical-based academic research that have benefited our development to date.

Scientific Beta has developed two types of expertise over the years, responding to two of the major challenges that investors face:

- Smart Beta and, more particularly, factor investing.
- ESG, in particular climate investing.

To date, Scientific Beta has made offerings with two major types of climate objective available to investors:

Since 2015, we have offered products with financial objectives that respect ESG and carbon constraints. These correspond to the application of exclusion filters, the design of which allows the financial characteristics of the index to be conserved. This involves reconciling financial objectives and compliance with ESG norms and climate obligations. As such, our Core ESG, Extended ESG and Low Carbon filters can be integrated into smart beta or cap-weighted offerings in line with the financial objectives targeted by the investor.

Since 2021, Scientific Beta has also offered indices with pure climate objectives (Climate Impact Consistent Indices) that enable climate exclusions and weightings to be combined in order to translate companies' climate alignment engagement into portfolio decisions.

Since it was acquired by SGX in January 2020, Scientific Beta has accelerated its investments in the area of Climate Investing as part of the SGX Sustainable Exchange strategy, which is mobilising an investment of SGD20 million. In addition, EDHEC and Scientific Beta have set up a EUR1 million/year ESG Research Chair at EDHEC Business School.

With the aim of providing worldwide client servicing, Scientific Beta has a presence in Boston, London, Nice, Singapore and Tokyo. As of 31 July 2022, our indices had USD52.47bn in assets under replication. Scientific Beta has a dedicated team of 55 people who cover not only client support from Nice, Singapore and Boston, but also the development, production and promotion of our index offering. Scientific Beta signed the United Nations-supported Principles for Responsible Investment on 27 September 2016. We became an associate member of the Institutional Investor Group on Climate Change on 9 April 2021.

About Scientific Beta

Today, Scientific Beta devotes more than 40% of its R&D investment to climate investing and more than 45% of its assets under replication refer to indices with an ESG or climate focus. As a complement to its own research, Scientific Beta supports an important research initiative developed by EDHEC on ESG and climate investing and cooperates with Moody's ESG and ISS ESG for the construction of its ESG and climate indices.

On 27 November 2018, Scientific Beta was presented with the Risk Award for Indexing Firm of the Year 2019 by the prestigious professional publication Risk Magazine. On 31 October 2019, Scientific Beta received the Professional Pensions Investment Award for "Equity Factor Index Provider of the Year 2019." On 2 February 2022, Scientific Beta was named "Best Specialist ESG Index Provider" at the ESG Investing Awards 2022.



Scientific Beta Publications

Scientific Beta Publications

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- Christiansen, E., D. Aguet and N. Amenc. Scientific Beta Core ESG Filter: A Consensus and Norms-Based ESG Investing Approach. (June).
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