

Environmental Tracking 3.0

Does the investment
community hold the key to
tackling climate change?

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Dedicated to

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i. Prelude

The problem: climate risk

The Environmental Investment Organisation (EIO), the not-for-profit body set up to put into practice the principles set out in this book, does not get involved in climate science; choosing instead to leave that to those with the necessary competence. The EIO does take a view, however, on the issue of future risk. It argues that it would be an act of extreme irresponsibility to ignore the scientific advice we are being given on climate change and on that basis, responds to this advice with the same urgency and clarity justified by any impending emergency.

Climate change is a problem of risk. Risk is not just related to the likelihood of a given outcome, but also to the scale of the consequences if that outcome is realised.

The Intergovernmental Panel on Climate Change (IPCC) has produced a range of scenarios, based on different trajectories of global greenhouse gas (GHG) emissions and resulting temperature increases. These scenarios relate to varying emission level ranges: reduction; stabilisation; or, continued increase. It estimates an

increase in average global temperatures of between 1.1°C and 6.4°C during the course of this century.¹

The most recent data suggests emissions have increased by almost a third in the first decade of this century alone, with data from the International Energy Agency stating that more emissions were released in 2010 than ever before, in spite of the global economic downturn.² A recent study from the Global Carbon Project, based on the latest emissions data, asserts that at current levels we are on course for a 6°C rise.³

The wild card known as ‘positive feedback’, which could lead to ‘runaway climate change’, is perhaps the most frightening aspect of this predicament. In nature this phenomenon occurs when certain environmental thresholds are crossed and the effects become self-perpetuating, spiralling out of control, like a microphone getting too close to a speaker and the ‘feedback loop’ that ensues. If that happens, then the effects of climate change are far more likely to resemble or exceed the most severe predictions.

If 99% of the mechanics you visited told you that your car had faulty brakes and was dangerous to drive, would you listen to the 1% that told you it was safe? We simply do not have the right to run such risks with our climate system and leave later generations to suffer the consequences.

Following Lord Stern's Review on the *Economics of Climate Change* in 2006, he concluded that "failure to avoid the worst consequences of climate change... could risk global GDP being up to 20% lower than it otherwise might be".⁴ We could end up spending 50% of our economic output on a problem we had the chance to avoid.

Lord Stern originally proposed that 1% of global GDP, later changed to 2%⁵, needs to be invested each year to avoid those worst effects. As such, given that there is no sign of governments investing at the scale required, we need to galvanise the support of the investment community if we are to have any chance of tackling the problem.

Perhaps one of our greatest attributes as a species is our capacity for foresight, surely now is the time to use it!

Chapter 1

Introduction

This abridged version of the original *Environmental Tracking* publication has a single aim: to explain a strategy for achieving a worldwide reduction of corporate greenhouse gas (GHG) emissions within a 5-15 year time-frame.

Environmental Tracking is a 'market mechanism' designed to apply economic pressure to global, publicly listed companies to reduce their GHG emissions. The concept consists of two parts: The *Environmental Tracking* (ET) Carbon Rankings and the *Environmental Tracking* (ET) Index Series.

The ET Carbon Rankings score the world's largest companies by their GHG emissions intensity, whilst factoring in different levels of disclosure and verification. Their aim is to create a 'spotlight effect', drawing attention to the state of corporate emissions, and, to place a dynamic pressure upon companies to lower their emissions and improve their positioning relative to their peers. Given the large emphasis companies place on image and reputation, no company wants to be at the bottom of a global Carbon Ranking for failing to disclose any information.

The ET Index Series uses the Rankings as the basis for a suite of stock market indexes, much like the FTSE100 or S&P500. The difference, however, is that companies within the indexes are *re-weighted*, either positively or negatively, on a sliding scale, according to their position in the ET Carbon Rankings. When *tracked*, or used, by a significantly large pool of investors, such indexes can begin to alter the demand for company shares according to emissions and transparency. Consequently, this will influence company share price and as such is a potentially powerful tool in the battle against climate change. All the more so given that every company's *raison d'être* is to generate shareholder value.

By exerting pressure on the largest global companies, focusing not just on their own direct operational impact, but also on their indirect supply-chain impact (see discussion on Scope 3 emissions in Chapter 5), the knock on effect will be felt throughout the wider economy.

Why propose the world's stock markets as the focus for a solution to this problem?

The *economic* incentive to 'go green' is lacking, even for the most engaged environmentalists, let alone those who are perhaps yet to be convinced of the merits of protecting the planet. For the majority of people, understandably concerned with their own day-to-day

priorities, there is very little incentive to be environmentally conscientious. This is because, at present, we do not pay the full environmental price for our actions - although in the long-term it is very likely we will end up paying the environmental price as a society.

In this respect, to date, there has been no serious attempt to harness the financial firepower of the global financial system in a way that could be used to create the type of incentive structure we so desperately need. Indeed, one could argue that our economic system is designed to do its level best to avoid paying for any 'external' costs incurred, let alone the environmental ones.

It is the assertion of the EIO that the global investment system, which greases the cogs of our global 'economic wheel', has the potential to address the root cause of the climate crisis. It is arguably the most influential, omnipresent and powerful system outside of the institutions of government. It underpins the very fabric of our society. To ignore its strategic value in the fight against climate change would be an immensely costly error.

Stock-markets can be targeted immediately, independently of, and parallel to, governmental initiatives and agreements, thereby offering a

complementary strategy to the on-going intergovernmental climate negotiations, which as yet have failed to yield the results many had hoped for.

Re-aligning incentives

The main obstacle we face in tackling climate change, especially in the context of endemic 'short-termism', is the lack of *economic* incentives, which would encourage businesses, governments and individuals to act.

The real challenge is in implementing the required actions, such that they become routine, across the multitude of companies which drive the global economy. In the wake of the industrial revolution, through its role in directing capital - which is, in fact, our capital - the investment system has fuelled huge development throughout the globalised world. Free-market capitalism has brought us many things in the name of profits and 'progress', but it has also brought about much environmental degradation. Pursuing a less environmentally friendly course has often been more 'cost effective'. This is due to the fact that the environmental costs, i.e. the impacts, of business activities are not fully taken into account, with 'Corporate Social Responsibility' often acting as a hollow smokescreen.

These ‘externalities’ – the environmental and social costs which remain unaccounted for – are the Achilles’ heel of the system. The over-dependence on fossil fuels has led to vast quantities of GHGs being released, in turn leading to man-made climate change. Part of the problem is the free-market system’s reluctance to take the long view. Whilst it may be good for short-term profits, exploiting our resources at the rate we currently do is illogical when we consider that we live on a planet of finite resources.

Government regulation, particularly through the introduction of a carbon price, might offer the remedy to this predicament, but at present we remain too reliant on government action, anticipating the arrival of a silver bullet which will relieve us from our own responsibility to act. Whilst government action will always play a central role in any eventual mitigation of man-made climate change, governments are fighting an uphill battle. In order to take all of the measures necessary to bring about the emission reductions demanded by science, governments would have to impose policies unlikely to be popular with voters and business – at least within the current paradigm where externalities remain unaccounted for. This provides a disincentive for them to act. Even if one government did, there are huge problems with political negotiations between 150+ nation states, as recently witnessed at

the Copenhagen and Cancun Summits. The commendable strategies of some countries prepared to lead by example do not guarantee a global result within the time-frame required.

In order to address a problem of this magnitude, we cannot rely solely upon individual conscience and acts of consumer choice. Therefore, in the absence of worldwide, co-ordinated government action, or a worldwide revolution overthrowing the existing capitalist model, we have to devise a method to enable the free-market system to put us on a different trajectory; one which will not lead us on a path towards climate catastrophe. So why not go directly to the heart of the problem? Why not create a market mechanism in which corporations are rewarded or penalised according to their GHG emissions, without waiting for the outcome of a complex political processes?

The *Environmental Tracking* concept is one such approach. By linking a company's share price to its carbon emissions, this strategy places an incentive mechanism right at the centre of the investment and business decision-making process. It would serve to act as a subtle form of environmental pricing, which would damage a company's share price if it pursued an environmentally detrimental course of action.

The ET concept and its logical applications, the ET Carbon Rankings and ET Index Series, are based on a clear view of the undeniable urgency to avoid climate catastrophe within an emergency timescale. Not within 50 years, or 100, but 10. Left too long and we, and future generations to whom we will bestow the planet, will be facing a far bigger problem.

Chapter 2

A tool to incentivise global corporate emission reductions: *Environmental Tracking*

Environmental Tracking is designed to incentivise the world's largest companies to reduce their GHG emissions, improve levels of disclosure, and encourage investment in the development of new low-carbon technologies.

The concept consists of two key aspects. Firstly, a Ranking system which encourages emission reductions, greater standards of disclosure, and, higher levels of external verification of those emissions. Secondly, the creation of an investment platform which translates the Rankings into a share price incentive-mechanism that encourages companies to improve their positions within the Rankings.

The EIO has translated these principles into the publicly accessible ET Carbon Rankings and recently launched ET Index Series.

How does the *Environmental Tracking* system incentivise companies to reduce their emissions?

Firstly, the ET Carbon Rankings create a ‘spotlight effect’, highlighting the best and worst companies in terms of emissions and disclosure. Given the significant value companies place on image and reputation, this encourages them to take action to avoid being seen in a bad light by consumers.

Secondly, the ET Index Series creates a means for private and institutional investors to pool money together in the form of *index funds*. Index funds are ‘passively managed’ funds that invest their money according to an index. In other words, index funds buy shares in companies according to the weighting of each company in the chosen index they are following.

Index investing has marked a fundamental change in investment patterns since its inception in the mid 1970s. This success rests on two key advantages: firstly, the lower risk associated with a broadly diversified index reflecting the overall market, and secondly, lower fees relative to ‘actively managed’ funds that try to ‘beat the market’ by attempting to pick winners.

Nobody knows exactly how much money is indexed, but a rough estimate is that at least a quarter of worldwide stock market assets, currently fluctuating between \$50-60 trillion, is indexed in one form or another, and growing year on year. UK pension funds, for example,

invest around a third of their money through index funds. By enabling a new type of index fund, *Environmental Tracking* Indexes provides a way for that money to be utilised in order to penalise and reward companies, through affecting their share price, according to their GHG emissions and levels of transparency.

How exactly does an ET Index create share price pressure?

An ET Carbon Ranking is composed of the largest companies by market capitalisation (no. of shares x price of shares) in a given geography. Converting it into a stock market index follows the same principles as those involved in creating a traditional market capitalisation-based index, like the FTSE100 or S&P500, except that a company's normal weighting within an ET Index is *adjusted* according to its position in the ET Carbon Ranking. The re-weights range from a maximum positive re-weight of +50% through to a maximum negative re-weight of -50%, moving in increments of, for example, 1% according to the number of companies in the index.

If we use a simplified example of a 100 company index, the company with the lowest ET Carbon Ranking will be re-weighted by -50%, the company with the second lowest ranking will be re-weighted by -49%, and so on.

Conversely, the company with the highest ET Carbon Ranking will be re-weighted by +50%, the company with the second highest ranking will be re-weighted by +49%, and so on.

When a sufficiently large pool of investors begin using an ET Index as the basis for index funds, this re-weighting process will positively or negatively shift the demand for company shares within the index. In other words, if a company's weighting within the index is decreased during the re-weighting process, demand for its shares decreases, negatively impacting its share price. Likewise, on the other hand, if a company has reduced emissions and improved transparency, increasing its weighting within the index, demand for its shares increases, which, in turn, will positively impact its share price.

Influencing a company's share price is important for three key reasons. Firstly, a weak share price reduces a company's ability to issue more shares at high prices to raise more money for expansion. Secondly, any decrease in share price negatively impacts the wealth of shareholders. If you are a shareholder in a company which is pursuing a course of action that damages its share price, you have the right to vote for the removal of the board. Remember, as shareholders, you own the company. Thirdly, a reduced share price increases the

risk of hostile takeover, during which a competitor attempts to purchase the company and force out the existing management.

The risk of a reduction in share price can thus have a profound effect on business behaviour, because the attempt to maximise the share price of a company is ultimately the justification for virtually every corporate decision. In an interview discussing the *Environmental Tracking* concept, The New Economics Foundation's Head of Finance and Business, Tony Greenham, pointed out that the mere threat of influencing a company's share price may be enough to achieve the desired results. *Environmental Tracking* Indexes thus have great potential to encourage emission reduction strategies, and incentivise further investment in green technologies which can help de-carbonise our economy. Furthermore, as the Rankings are updated annually, dynamic and continuous pressure is created – if a company finds itself at the top, it will have to continue to lower its emissions and increase efficiency in order to stay there.

In order to be capable of attracting enough investors to impact share prices, ET Indexes have to be designed to offer investors a similar risk/reward profile to traditional mainstream index investment models, such as the FTSE100. Limiting the maximum re-weight to +/- 50% provides an effective compromise between creating the

maximum incentive for companies to reduce emissions and improve transparency on the one hand, and minimum deviation from the performance of the mainstream index on the other. Through this mechanism investors can achieve the same level of diversification and a similar risk/return profile to a traditional index, but *also* help tackle climate change.

The effect of the ET mechanisms could be comparable to a 'carbon tax' imposed on the largest global corporations, with a rebate given to those who take the lead. The key advantage, though, is that it can be implemented independently of government by the world's investment community on behalf of millions of ordinary investors. It has the ability to permeate international borders via the financial markets, sidestepping the difficulties inherent in getting world governments to reach a consensus.

The beauty of *Environmental Tracking*, which goes beyond simply naming and shaming, is that it can begin to work immediately, or as long as it takes to launch an index fund. It is 100% democratic. If enough people choose to support it, effectively voting with their money, it will work. ET Indexes will encourage shareholders to use their voting rights to ensure a company's share price is not undermined by a company failing to improve its position under the Carbon Ranking system. For the first

time, management at every level will be able to directly justify new carbon reduction strategies as a means to support their company share price.

Once established, *Environmental Tracking* may begin to alter market psychology. Even before the *tipping point* is reached whereby the ET Index system is directly impacting company share price, the perceived threat of its ability to do so may be enough to bring about the necessary changes in corporate behaviour.

Environmental Tracking thus turns a theoretical risk to shareholder value arising from high carbon emissions into a concrete market reality that demands action. It is a simple and cheap form of investment which can help to fight climate change by cutting right to the heart of the problem.

Scale and rapidity of uptake among investors are central to this mechanism fulfilling its potential, which will only be realised through decisive investor participation. The 1970s saw the beginning of a revolution in indexing, a concept hitherto unheard of. Will the 21st century mark the beginning of an ET Index revolution?

Chapter 3

Why index funds make investment sense

Environmental Tracking is a mechanism built on the index fund platform. It is thus worth briefly exploring why index funds make investment sense, independently of the merits of the ET adaptation.

The concept of indexing is actually fairly simple. Rather than trying to ‘beat the market’, you simply go with the market. Instead of trying to work out which companies will perform best in the market, you simply own shares in each company within that market. It doesn’t allow you to beat the market, but you’ll never do worse than it either. As many of the great investment gurus will tell you, ‘diversification’ – owning a broad range of non-related shares – is a great way to minimise risk.

Part of the appeal of the indexing style is that less of your investment is lost in the high fees incurred with conventional ‘actively managed’ funds, whereby a fund manager is paid large sums of money in order to do the necessary research required to try outperform the market. Those fees frequently eliminate any excess returns achieved during active management.

To illustrate just how much sense index funds make, let's examine the maths. Considering that as a group investors own the stock market and all of its collective returns, total investor returns must by definition average out to the average stock market return. Therefore, every time one investor does better than the average, another investor will do worse in equal proportion. The gain relative to the average has to come from somewhere and the fundamental truth is that as a group, 'active investors' who try to 'beat the market' are playing a zero sum game in which at least 50% of investors will be losers relative to the overall market. Published performance statistics attest to this and it ought to be no surprise to anyone – their average under-performance is a simple consequence of the mathematical logic of averages.

The real twist is that when you factor in all the costs involved with paying a fund manager to try and 'beat' the market, you soon start to incur heavy fees. Active fund management requires a great deal of research and analysis, plus incurs the frequent transaction costs of buying and selling the stocks held, rather than simply replicating the market and doing nothing beyond that. Once you are paying potentially between 1% and 3% every year for management and transactions fees, you have to perform *even better* than the average to *actually beat* the market. With a suitable broad market index

fund though, you can expect to closely follow the market and pay a fraction of 1% every year in fees, with the cheapest index funds ranging from around 0.2%-0.5% per year in management fees.

In light of its downsides, it is surprising the active model has survived so successfully. Perhaps it is because we are instinctive gamblers, convinced that we will be in the smaller portion of the market that does actually outperform the average consistently year on year. Always read the small print: 'past performance is not necessarily a guide to future performance'. Need any more be said?

If past performance is not necessarily a guide to future performance, then surely the future performance of an index fund can't be guaranteed either. This is true, but by holding stocks across the whole economy - whether that be a national economy, a continental economy, or even the global economy - you effectively reap the rewards of the productivity of all of the companies within it. Of course there are peaks and troughs, but you are effectively predicting a general increase in productivity over time, which during the last 100 years has proven to be a fairly safe bet.⁶

Not all indexes are alike. There are broad market indexes and there are specialist indexes. Broad market

means that the index attempts to reflect the value of the largest part of the market, which was the original purpose and logic of indexing the stock market. This might be, for example, the value of the largest 100 companies nationally, or the largest 300 companies regionally, or the largest 1000 companies globally. It could be argued that as we are increasingly moving towards a global economy, wherein the world's economies are increasingly interlinked, global indexes now most accurately reflect the traditional broad market concept as originally conceived.

Specialist indexes come in many different shapes and sizes, but ultimately they select companies based on certain specialist criteria. For example, they may pick companies from a particular sector of the market, or, as discussed in the next chapter, they may pick companies based on a variety of Socially Responsible Investment (SRI) criteria. However, once you begin *cherry picking* companies from within a market, it starts to resemble trying to 'beat the market'.

In summary, broad index funds charge the lowest price possible compared with actively managed funds of all types, and they also avoid the pitfalls of exaggerated performance claims and lower than average returns. So why not follow the logic through and tick another box by being part of a movement to incentivise the world's

largest companies to cut their emissions by tracking an ET index?

Chapter 4

Why ethical index funds make less sense

The Socially Responsible Investment (SRI) community can be divided into two main categories. There are those that seek to influence companies by the power of ownership, employing what are often known as 'engagement' strategies. Then there are those that seek to capitalise on ethical and environmental trends by launching funds focusing on a variety of ethical or environmental issues, many of which handpick companies meeting their selective criteria and employ 'exclusion screens'. They remain committed to seeking above average returns in exactly the same way as other high-cost 'actively managed' funds.

The 'exclusion' based approach to SRI has also more recently been supplemented by a host of specially designed 'best in class' indexes. These indexes deviate from the traditional broad market approach to indexing to such an extent that they are, in effect, a formalised version of 'active indexing'. It should also be noted that since the original publication of this book several 'hybrid SRI indexes' which are much closer to the ET Index model have been launched. However, as yet, none of these are global in their approach, or based on a fully transparent scoring process which is designed to foster

systemic emission reductions, and improved disclosure or verification of emissions across the world's largest companies.

Ethical indexes, such as the FTSE4Good Series, or the Dow Jones Sustainability Index, pick a selection of companies based on varying Environmental, Social, and Governance (ESG) criteria, allowing investors to invest in them through index funds. Whilst it is undeniably good that certain companies are being highlighted for environmentally superior and broader ethical practices, this assumes there is a reliable method for establishing such a claim. The criteria selected and the standards applied are highly contentious and subjective.

Furthermore, these indexes do not have any obvious structural effect on all of those companies falling outside of these standards. They fail to create a pressure within the entire market which will incentivise companies to change their behaviour. Worst of all, assessments across a broad range of criteria lead to many of the world's largest polluters being described as '4Good'.

Note, for example, the inclusion of BP until just after the oil spill in the Gulf of Mexico in 2010 when its continued inclusion became completely untenable. This is a company that by its own admission accounted for 5% of the total world GHG emissions in 2003.⁷

In terms of the FTSE methodology, it should also be noted that climate change criteria were not incorporated until 2007, and they themselves admit that the “criteria [employed] are not yet set at a level compatible with the substantial emission reductions expected to be necessary to stabilise atmospheric GHG concentrations at a sustainable level. Instead, th[ey] reflect... what is currently possible for leading companies within the current regulatory and business environment”.⁸ This is precisely the problem: even the leading SRI index is not trying to be a catalyst, but rather waiting for the market to play catch up. Conversely, *Environmental Tracking* seeks to be the catalyst that drives the changes required.

These exclusionary approaches, whether manifested in SRI funds or ‘best in class’ indexes, will not solve the climate change problem, and it is difficult to observe any evidence over the last twenty years to the contrary. Furthermore, since not all companies fit their criteria, SRI funds fail to appeal to the mass of index investors seeking to spread their investments across the widest range of companies. As such, they cannot leverage enough pressure to bring about structural change. Stock-picking ethical and green funds fall into the ‘active’ and ‘managed’ end of the fund spectrum. They cannot offer investors the required diversification or comparative value for money.

It is worth noting that beyond the confines of specialist funds and indexes, 'shareholder activism' has done a great deal of important work in encouraging positive changes in company environmental behaviour and reporting. Shareholder engagement and activism are excellent strategies which can work side by side with *Environmental Tracking*. Nonetheless, the investment community has been unable to truly exploit its central position of ownership and influence with regard to the climate crisis. In many cases ethical investors sit on the sidelines, having excluded themselves from any relationship with those companies most in need of reform. Despite best intentions of being the most active proponents of change, they are often in practice the least effective.

In order for *Environmental Tracking* to achieve its aims, the concept must have enough appeal to mainstream investors who do not necessarily wish to invest in a selective group of companies. In order to do so it must offer virtually the same risk/return profile as traditional forms of index investment. Mass participation and unanimous investment industry support is the only logic that will enable a system, that continues to aid and abet emission increases, to address these very issues head on.

For those who would have previously liked to invest ethically but were less than convinced of the credibility of the models on offer, or were concerned to maintain a broad market investment approach, *Environmental Tracking* offers a new possibility.

Chapter 5

The ET Carbon Ranking: measuring the true carbon footprint

The current emissions reporting landscape for measuring and verifying total GHG emissions is haphazard and highly disorganised.

As highlighted by the EIO's 2011 ET Europe 300 Carbon Ranking report: "carbon reporting is, with few exceptions, extremely inconsistent. The majority of companies do not follow the guidelines provided by the Greenhouse Gas Protocol, the most widely-used international accounting tool for the quantification and management of GHG emissions, by providing clear data for their Scope 1, 2 & 3 emissions, with many that do failing to present the data in a clear manner."

Whilst the most widely accepted standard is the GHG Protocol, there are also different standards used at national level. Many of these are compatible with the GHG Protocol Scope 1, 2 and 3 model, but add to the confusion of what is already a complex arena.

Generally speaking, companies are able to pick and choose their own standards and have discretion over whether or not they have their data verified and by

whom. Despite progress in launching new and improved frameworks in recent years, we have yet to achieve a universally adopted and consistent standard.

GHG reporting starts with a calculation methodology, often referred to as *carbon footprinting*. The GHG Protocol is the most widely adopted approach, but the process is subject to a vast array of different reporting styles which then appear in a company's Sustainability Report, Annual Report, or website.

Finally, the calculation methodology and the reporting methodology are supposed to be subject to a verification methodology. This can range from 'limited assurance' of the contents of a Sustainability Report, to a detailed professional audit of GHG data to a 'reasonable standard' compatible with financial reporting. These different standards of verification and assurance represent the weakness of the current GHG reporting process.

Many companies go to great lengths to accurately collect large amounts of GHG data according to the prescribed methodology of the GHG protocols, but then present this data through conflicting reporting standards, such as the Global Reporting Initiative (GRI), which don't always directly correlate in terms of terminology. This can also give rise to potential

confusion and misinterpretation. Thus, when this data appears in a Sustainability Report, it is in a format that is frequently not comprehensible to a ‘reasonably diligent member of the public’.

The ET Carbon Rankings are designed to reward higher and more consistent levels of disclosure and verification, aiming to be a catalyst in the evolution of the reporting landscape.

Simplicity, wherever possible, is built into the model in order for the general public to easily understand and cross-compare between companies. The system only requires five pieces of information from each company. The resources a large company requires to provide this information are minuscule. Many already provide it to varying degrees, but not all.

The five pieces of information required are:

1. Total **Scope 1** (direct) emissions;
2. Total **Scope 2** (indirect electricity) emissions;
3. Total **Scope 3** (all other indirect) emissions;
4. Whether the emissions total represents **more than 95% of the entire company’s operations**; and,
5. Whether the emissions total has been **verified** by an independent third party.

With these five pieces of information a ranking can be created that can reduce global carbon emissions fast.

The original *Environmental Tracking* concept, as originally conceived by Michael Gill in the mid 1990s, envisaged a broad environmental scoring process. The problem at the time, however, was how to track a company's environmental performance on a quantifiable and transparent basis, given that at the time the data was either non-existent or sparse. The past two decades, however, have seen a transformation in the landscape of corporate environmental governance. Reporting is increasingly no longer the exception, but the rule, as civil society, the investment community and government, demand greater social and environmental accountability from companies.

Step one: know your Scopes!

With the emergence of climate change as the impending environmental catastrophe of the 21st century, the ET concept has been refined to focus specifically on greenhouse gas emissions. The traditional approach in measuring corporate GHG emissions is to distinguish between a company's direct and indirect emissions caused by the activities it carries out.

Scope 1 emissions refer to direct emissions within the

operational boundaries of the organisation. This includes, for example, emissions from on-site furnaces controlled by the company or from vehicles it owns.

Scope 2 emissions refer to indirect emissions created during the production of electricity that is purchased from an external provider and brought into the company's organisational boundary. This can be adjusted to account for renewable sources.

Scope 3 emissions are those which are emitted in relation to a company's products or services, but that are not necessarily produced by the company. They are often the largest⁹ and refer to total upstream and downstream 'life cycle' emissions throughout the production, consumption and disposal stages of a company's various different products and services.

The New Scope 3 Standard from the GHG Protocol breaks these emissions down into 15 upstream and downstream categories, including aspects such as employee commuting, waste, third-party transportation, investments and other supply chain activities.¹⁰

Scope 3 is undeniably the most contentious of the three Scopes and certainly the trickiest of the three to measure, but measuring these indirect emissions is vital in order to assess the true impact of a company's

behaviour. For example, Scope 3 allows us to effectively measure the impact of a company that might have an exceptionally carbon-efficient method for producing a product which, when used, releases large quantities of greenhouse gases.

For example, what is the environmental impact of a car company with highly efficient production processes (Scope 1) sending out a range of luxury 4x4 vehicles with high fuel consumption (Scope 3)?

By including Scope 3 emissions in the ranking methodology, the ET Carbon Rankings have the ability to transcend the c. 1,300 largest global companies presently covered. By incorporating these emissions, the *Environmental Tracking* system has the ability to influence the wider economy through the various supply chains and other business-to-business and business-to-consumer interactions.

For example, global supermarket giant Wal-Mart, with an extensive supply chain, has begun demanding increasingly stringent transparency in environmental reporting from its suppliers; and they are not the only ones to be doing so. If every company in the global ET Carbon Rankings were to follow suit, the effects would be widespread.

There is a potential for double counting, given that one company's Scope 1 and 2 emissions are often another's Scope 3 emissions. However, it should be borne in mind that if the objective is to reduce GHG emissions overall, surely it is far better to double count than not count at all.

With the launch of the new Corporate Value Chain (Scope 3) Accounting and Reporting Standard from the Greenhouse Gas Protocol in October 2011, there is finally an internationally agreed standard for dealing with the three Scopes upon which the GHG Protocol is based.

Step two: Categorise!

The second step in the ET Carbon Ranking process is to place companies in one of four categories, using the five pieces of information previously identified:

- 1. Public, Complete Scope 1 and 2 emissions, and Verified;**
- 2. Public, Complete Scope 1 and 2 emissions, and Unverified;**
- 3. Public, Incomplete Scope 1 and 2 emissions, Verified or Unverified; and,**
- 4. No Public Data**

Once companies have been correctly placed in these

categories according to the disclosure of their Scope 1 and 2 emissions, they are then ordered according to the completeness of their Scope 3 emissions data.

Given that not all companies currently provide complete information on their total GHG emissions, a logical system needs to be employed for filling the gaps.

Step 3: Inference!

This is why the EIO employs an ‘inference system’ to penalise companies failing to disclose data in the public domain, and enabling companies to be placed in a ranking system.

Currently, wherever data is not complete, which means Scope 1 and 2 emissions have not been reported for the company’s entire operations, or they have not been expressed in a sufficiently clear manner, or indeed no public data is available, a worst case figure is *inferred*. This inferred figure is based on the highest reported emissions intensity of any company within the same sector within the Ranking. In other words, companies failing to report complete data are benchmarked against the company disclosing the largest intensity figure from within the same sector.

This is designed specifically to encourage disclosure and to avoid penalising companies honest enough to report their emission figures.

The same principle is applied, but in a slightly different way, to Scope 3 emissions. Because of the controversial nature of Scope 3 emissions, which are not under the ownership or direct control of the reporting company, the EIO does not give these emissions equal weight to Scope 1 and 2 emissions. The EIO's solution is to halve the intensity of any fully reported and verified Scope 3 emissions total. This is then added to the Scope 1 and 2 total that has already been reported.

Whenever a company does not report a complete Scope 3 total, the ranking methodology applies exactly the same inference method described for Scope 1 and 2 emissions. The company with the highest reported Scope 3 figure in the relevant sector is identified and used to infer a figure for companies that fail to disclose their Scope 3 emissions, thus avoiding penalising a company for being honest enough to report a complete figure. The only route by which a company can avoid being given an inferred figure is to report its own complete Scope 3 emissions total.

Step 4: Rank!

Once companies are categorised according to their disclosure and verification, they are then ranked within the categories in terms of GHG emissions intensity. The final intensity figure is derived from dividing the company's GHG emissions by its revenue, thus enabling a comparison across companies of varying sizes.

The Ranking categories are designed so that companies with externally verified data will always find themselves ranked above those with unverified information; and, companies that do not make their data public will always find themselves at the bottom of the Rankings. This is done so that the companies that are actually providing data are not unfairly penalised and has the dual effect of penalising inaction and encouraging disclosure.

Where two companies have the same emissions intensity, the advantage is given to the company with the lowest market value. The rationale being that the larger the company, the greater the resources at its disposal to measure and manage its emissions.

Conclusion

Some companies pollute more than others; and, moreover, many of these companies provide valuable and vital services to society. Yet without strong

incentives to change their business models, they will continue to carry out their activities in a way which is detrimental to the environment, which is simply unsustainable. The vast majority of the technologies required to transition to a low-carbon economy already exist, or are only a few years away with the necessary investment.

The required emission reductions and investment in low-carbon technologies can be achieved by creating a system which influences share price according to the environmental costs of a company's actions. This is precisely what *Environmental Tracking* seeks to do.

The ET Carbon Rankings only cover the largest companies, where the majority of the stock market value resides. By way of illustration, the FTSE100 accounts for over 80% of the market value of the entire London Stock Exchange. Within the confines of an investment platform which focuses on the largest global companies, additional emissions created within the wider economy must be 'internalised' - or factored in - right up the chain. For such a method to achieve the necessary results, therefore, it is imperative to include Scope 3 emissions in the Ranking system.

Looking forward: Scope 4?

The other challenge that lies ahead for the field of GHG emissions reporting will be the accounting of ‘positive contributions’ made by companies in the transition towards a low-carbon economy, through the products and services they offer. Scopes 1, 2 and 3 only account for negative contributions. This is problematic when applied, for example, to a company like Vestas, one of the world’s leading wind energy companies, for which the core business activity is in aiding the transition towards a renewable energy-powered world.

Whilst there would evidently be challenges in developing such a reporting framework, Scope 4 will be a vital step in ensuring that the *Environmental Tracking* system penalises and rewards companies accurately.

Chapter 6

Environmental Tracking: a logical imperative

To briefly recap: *Environmental Tracking* is a concept via which we can tackle climate change in the face of adversity.

Firstly, there is no additional performance-related risk in using an ET Index over conventional investment methods, due to the fact that the average re-weighting of companies within an *Environmental Tracking* Index is so slight. In a global index made up of the 800 largest companies in the world, it would require extraordinarily implausible statistical patterns for your investment in an ET Index to be markedly different compared to a traditional index.

Furthermore, *the long-term interests of investors are ultimately the same as the long-term interests of the planet and its inhabitants*. Investing to harm the planet is against your own long-term interests and the interests of future generations. Investing through an ET Index is a way of investing for the planet's benefit and your own.

Environmental Tracking is intended to act as a catalyst in the transition to a clean and sustainable economy. It is a simple innovation which improves upon the existing

model and offers greater benefits. Thousands of micro-decisions can arise from the proposed re-alignment of incentives which, when combined, can result in a macro-level change. This is not simply a logical investment proposition. This is an ecologically essential proposition.

Chapter 7

What next?

We have asked the question: How do we incentivise the business system to act to avoid a climate catastrophe?

We have offered the following responses:

Firstly, the investment system sits at the heart of the business system, and index funds sit at the heart of the investment system.

Secondly, we, as investors, now have the opportunity to exploit the index principle to create a mechanism capable of tackling the problem of climate change, whilst still benefiting from the risk/return advantages of index investment.

If you are convinced by the logic set out in this book, is there anything you can do to help? The answer is yes.

You can spread the word about the *Environmental Tracking* initiative throughout your networks.

As a second step, you could contact your fund manager/pension fund/insurance company and ask them to include the option of tracking an ET Index. You

can also support the “1% towards the planet’s rent” campaign. This is a campaign led by the Environmental Investment Organisation aimed at encouraging asset owners and managers to allocate 1% of their equity assets to an *Environmental Tracking* investment strategy.

1% might sound like a small dent in the world’s \$50+ trillion stock market value, but it is the critical starting point. If the assets following these indexes were to double every year such that 1% became 2%, and 2% became 4%, within 6 years we would have passed the 30% mark for global stock market equity assets. At that level of participation a dynamic market mechanism would be in place to incentivise dramatic corporate emission reductions.

For more information, including links to all our social media channels, please visit: eio.org.uk

Follow us on Twitter: [EIO_org_uk](https://twitter.com/EIO_org_uk)

Facebook: Environmental Investment Organisation

Find us on YouTube: youtube.com/EIOorg

The Origins of the idea

This book is an evolution of the original, *Environmental Tracking - Can Environmental Investment Revolution Prevent Ecological Catastrophe*, first published in 1997 by Michael Gill, which first set out a methodology by which the index fund concept could be applied to environmental questions. This updated version has been re-written by his son, Sam Gill, who currently runs the EIO's day-to-day operations, in order to summarise and update its contents, appeal to a wider audience, and, ultimately, solve a problem.

Michael Gill graduated in International Relations from the London School of Economics, specialising in International Economics and Strategic Studies and went on to advise campaigning NGOs on strategic nuclear policy. After several career paths, including training as an Auditor under an NHS/PricewaterhouseCoopers collaboration, he worked as an investment analyst and as a fund manager for two leading city firms, before turning to greener pastures. Since then, he co-founded the LSE Environmental Initiatives Network and was its elected Chairman for many years alongside founding the not-for-profit Environmental Investment Organisation. The EIO, which is currently made up of a team of dedicated volunteers, has contributed to turning the

ideas proposed in the original book into a reality over the last 10 years.

Sam Gill graduated from the University of London Institute in Paris with a first class honour's degree in French language, history and culture. Prior to joining the EIO, Sam worked for Google at their EU Headquarters in Dublin, and subsequently instigated the *EnviroBike* Project, an initiative designed to increase the number of bike sharing schemes and reduce transport emissions. He co-authored *A Solution to Global Warming...*, the first update to the original *Environmental Tracking* publication, outlining the logic behind EIO's work. Sam took on the role of Project Coordinator for the EIO in early 2009 and was instrumental in launching the first pilot *Environmental Tracking* (ET) Carbon Rankings. In June 2010 he was appointed as the EIO's Operational Director and currently co-ordinates a network of over 50 global volunteers working towards building the *Environmental Tracking* movement. He currently oversees the successful implementation of the ET Carbon Rankings and ET Index Series.

About the EIO

The Environmental Investment Organisation (EIO) was set up in 1996 as an independent not-for-profit body to put the ideas set out in this book into practice. Today it carries out this mission by implementing and maintaining the ET Carbon Rankings and ET Index Series. As a not-for-profit entity, it will use any profit generated in its work - including from this book - beyond the requirements of its own operational costs, to seek out environmental investments which can help facilitate the transition of our economy to a more environmentally sustainable model.

Further Reading

BASC and DELS, 2003. *Understanding Climate Change Feedbacks*. Available at:
http://www.nap.edu/catalog.php?record_id=10850#orgs.

Dawson, B., Spannagle, M., 2009. *The Complete Guide to Climate Change*. Taylor & Francis.

Hegerl, G.C., F. W. Zwiers, P. Braconnot, et. al., 2007. *Understanding and Attributing Climate Change*. In: *Climate Change 2007: The Physical Science Basis*. IPCC AR4. Cambridge and New York: Cambridge University Press. Available at:
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch9.html.

Nordhaus, W., 2007. *A Review of the Stern Review on the Economics of Climate Change*. *Journal of Economic Literature*. vol. XLV, pp.686-702

Pew Center on Global Climate Change, 2009. *Climate Change 101: Science and Impacts*. Available at:
<http://www.pewclimate.org/docUploads/Climate101-Science-Jan09.pdf>.

RealClimate, 2006. *Climate Feedbacks*. Available at:
<http://www.realclimate.org/index.php/archives/2006/08/climate-feedbacks/>.

The Royal Society, 2010 . *Climate Change: Summary of the Science*. Available at:
<http://royalsociety.org/climate-change-summary-of-science/>.

Weitzman, M., 2007. *A Review of The Stern Review on the Economics of Climate Change*. *Journal of Economic Literature*, vol. XLV, pp.703-724.

¹Pachauri, R.K. and Reisinger, A. (Eds.), 2007. *Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. IPCC. Geneva, Switzerland

²Harvey, F., 2011. *Worst ever carbon emissions leave climate on the brink*, [Online]. Available at: http://www.guardian.co.uk/environment/2011/may/29/carbon-emissions-nuclearpower?CMP=twf_fd [Accessed 1 October 2011].

³Friedlingstein et al., 2010. *Update on CO2 emissions*. Nature Geoscience, doi: 10.1038/ngeo_1022. [Online] Available at: <http://www.globalcarbonproject.org/carbonbudget/>. [Accessed 1 October 2011].

⁴Stern, N., 2007. *The Economics of Climate Change*. The Stern Review, Cambridge, Cambridge University Press.

⁵Stern, N., 2009. *A blueprint for a safer planet: how to manage climate change and create a new era of progress and prosperity*. London, UK: Bodley Head.

⁶Markiel, B., 2007. *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing (Completely Revised and Updated)*. W. W. Norton & Company Inc.

⁷British Petroleum, 2003. *Defining our path - Sustainability Report 2003*. [Online]. Available at: http://www.bp.com/liveassets/bp_internet/globalbp/STAGING/global_assets/downloads/B/BP_Sustainability_Report_2003.pdf. [Accessed 1 October 2011].

⁸FTSE, n.a. *FTSE4 Good Climate Change Criteria*. [Online]. Available at: http://www.ftse.com/Indices/FTSE4Good_Index_Series/Downloads/FTSE4Good_Climate_Change_Criteria.pdf. [Accessed 1 October 2011].

⁹ACCA, 2011. *The Carbon We're Not Counting*. [Online]

Available at:

http://www.acca.co.uk/pubs/general/activities/library/sustainability/reporting_pubs/not_counting.pdf [Accessed 1st October 2011].

¹⁰GHG Protocol, 2011. *Corporate Value Chain (Scope 3)*

Accounting and Reporting Standard. [Online] Available at:

[http://www.ghgprotocol.org/files/ghgp/Corporate%20Value%20Chain%20\(Scope%203\)%20Accounting%20and%20Reporting%20Standard.pdf](http://www.ghgprotocol.org/files/ghgp/Corporate%20Value%20Chain%20(Scope%203)%20Accounting%20and%20Reporting%20Standard.pdf) [Accessed 18th October 2011].