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Investing for a
world of change

Sustainability disruption: capitalising on externalities

Natural capital

June 2022

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Contents

About Ninety One

Ninety One is an active, global investment manager managing £143.9 billion in assets (as at 31.03.22). Our goal is to provide long-term investment returns for our clients while making a positive difference to people and the planet.

Established in South Africa in 1991, as Investec Asset Management, the firm began as a small start-up offering domestic investments in an emerging market. In 2020, as a global firm proud of our emerging market roots, we demerged to become Ninety One.

We are committed to developing specialist investment teams organically. Our heritage and approach let us bring a different perspective to active and sustainable investing across equities, fixed income, multi-asset and alternatives to our clients - institutions, advisors and individual investors around the world.

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The fast view

Stephanie Niven
Portfolio Manager

Sam Anthony
Analyst

- Companies are increasingly being held to account for their impacts on society and the environment, influencing their growth and profitability.
- Investors need new tools to evaluate these impacts, or 'externalities', and hence identify opportunities and risks that the market may have mispriced.
- The Sustainable Equity team has developed a Capitals Framework to assess a wide range of externalities. The Framework is an intrinsic component of the investment processes of all the team's sustainable strategies.
- We assess different categories of externalities. This paper introduces the Framework we use to do this and then focuses on how we analyse natural capital externalities.

For further information on the investment team, please see the Important information section.

Introduction

We believe the world's measure of success is shifting: from the value created for shareholders alone, to the greater value created for all as the environment, society, employees and other stakeholders are increasingly considered in business decisions. This presents an opportunity for companies that have already adopted a multi-stakeholder mindset.

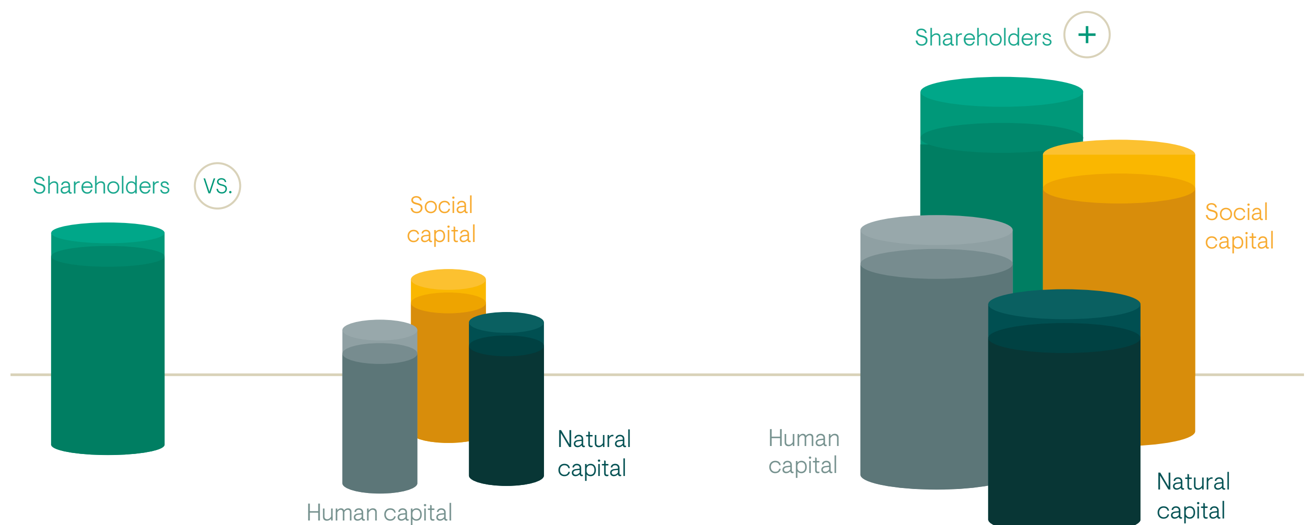
For investors, analysing externalities is critical in this new multi-stakeholder world. Externalities are the costs a company imposes, or the benefits it confers, on people, society and the environment. We believe the market often fails to recognise how a company's externalities will influence its growth and profitability, and hence misprices sustainability performance.

This paper describes how Ninety One's Sustainable Equity investment team values externalities – via a research tool we call the Capitals Framework – with the aim of identifying opportunities and risks that the market may have missed or misjudged. Understanding externalities also improves investors' ability to allocate capital for positive impact. Please see our July 2021 paper, which discusses the importance to investors of understanding externalities.

Figure 1: The world's measure of success is changing

The 'zero-sum game'
Companies generate shareholder returns at the expense of people, society and the natural world.

Greater value for all stakeholders
Companies run their businesses for the benefit of all stakeholders, creating greater value for all.



Distinctive features of the Capitals Framework

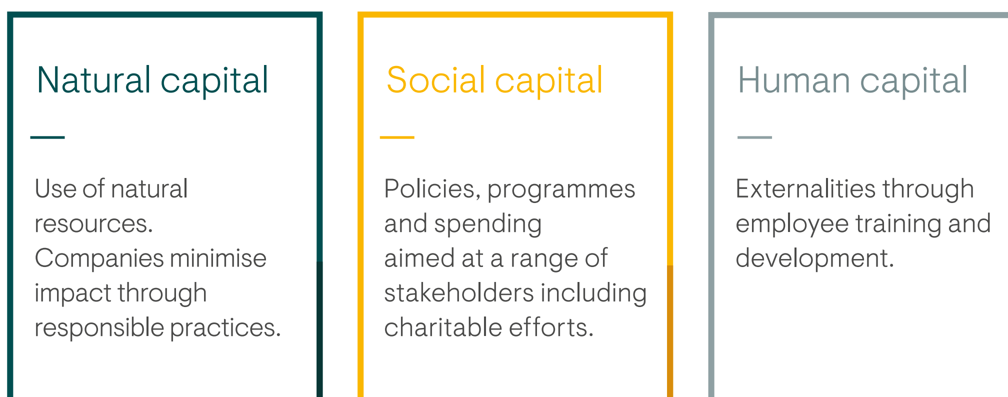
A core feature of the analysis conducted via the Capitals Framework[1] is that it explicitly links sustainability research and more traditional investment analysis. In essence, the investment opportunities identified are the gaps between Ninety One's appraisals of externalities and the market's.

We would highlight these core features of the Framework:

- Aligned to our investment philosophy: the analysis centres on the drivers of growth and returns.
- Embedded within our fundamental analysis: externalities analysis directly influences the investment case.
- Focused on value creation: the ultimate aim of the analysis is to understand how an investment creates or destroys value for all stakeholders.
- Proprietary and systematic: incorporating both qualitative and quantitative assessments, the Framework is proprietary and enables the systematic analysis of complex areas. We do not rely on third-party ESG data providers.

The Capitals Framework assesses investments across the dimensions: natural capital, social capital and human capital. These capitals span the most common points of impact between a business or country and society. The following graphic shows some of the positive characteristics we look for in companies within each 'capital'.

Figure 2: Capitals Framework



Source: Ninety One.

For further information on investment processes, please see the Important information section.

1. Source: Ninety One, full paper available on our website.

Externalities and business drivers

The following examples highlight how business value may be created when a company's products or services generate positive effects from a natural, social or human capital perspective.

Example 1

Insurance & financial services company

Social capital externality generated
Company provides insurance cover in underserved markets, notably Asia, making people more financially resilient.

Value creation

Supports growth by increasing size of addressable market.

Example 2

Internet & tech company

Human capital externality generated
Company has a culture that empowers employees to 'try, fail and try again', helping them to develop their potential.

Value creation

Drives innovation, creating revenue opportunities.

Example 3

Semiconductor equipment and testing company

Natural capital externality generated
Company offers yield-maximising solutions that reduce waste in semi-conductor manufacturing.

Value creation

Improves resource efficiency helping customers achieve their sustainability goals.

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No representation is being made that any investment will or is likely to achieve profits or losses similar to those achieved in the past, or that significant losses will be avoided.

Natural capital analysis

In the remainder of this paper, we focus on how we analyse natural capital, which can be defined as the world's stock of natural assets. It includes soil, air, water and all living things[2], all of which deliver valuable services to society. For each company, we analyse three aspects of natural capital: **carbon, biodiversity** and **water.**

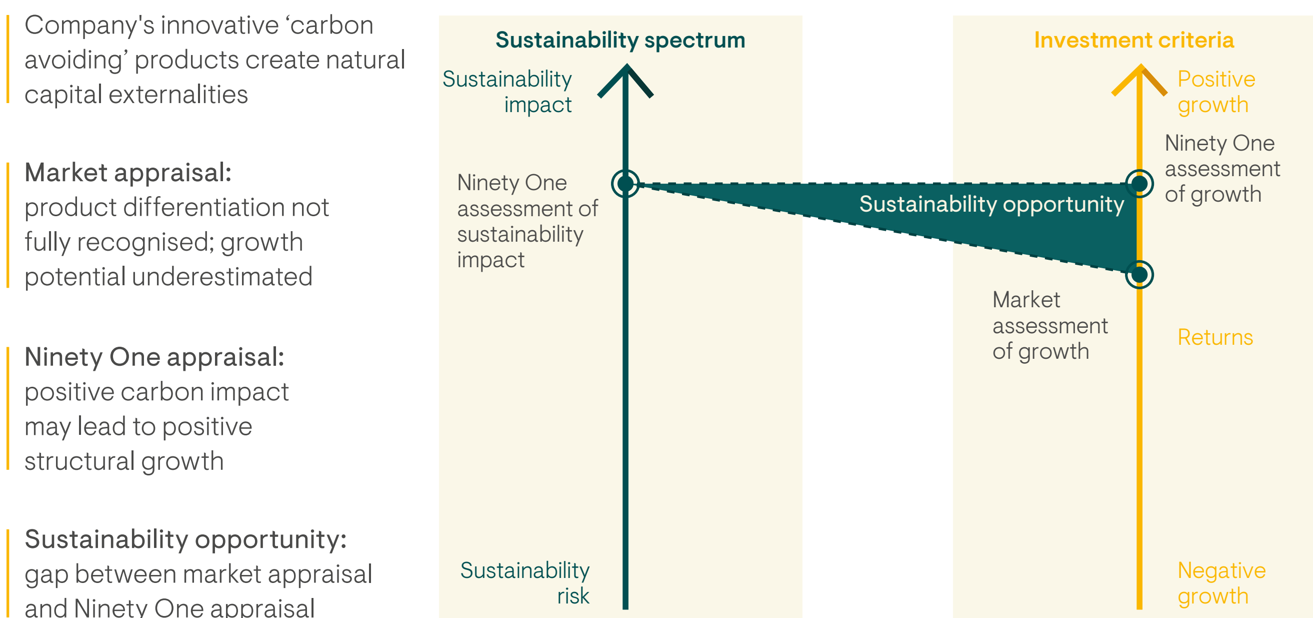
‘Risk analysis’ and ‘impact analysis’

Within each aspect, we identify externalities and evaluate how they may influence the growth and return potential of a company. For example, natural capital factors can:

- Weaken growth if consumers reduce their demand for products from companies with poor environmental credentials.
- Drive positive growth where companies offer solutions that generate positive natural capital impacts and contribute to a more sustainable future.
- Undermine returns if higher sustainability standards increase costs.
- Improve returns if sustainable products can be ‘premiumised’.

We refer to the evaluation of negative factors as ‘risk analysis’, and the evaluation of positive factors as ‘impact analysis’. Once evaluated, externalities can be mapped to a sustainability spectrum that runs from ‘risk’ to ‘impact’.

Natural capital: analysis example



Source: Ninety One.

2. Source: Convention on Biological Diversity.

Quantitative and qualitative assessments

Analysis conducted via the Capitals Framework comprises both quantitative and qualitative assessments. Quantitative components involve examining the available data, which may include 'alternative datasets', such as online discussion forums or satellite imagery.

We incorporate qualitative assessments to avoid a common error in sustainability research: focusing analysis on where metrics are available, rather than on the most material areas. Doing so also expands the investment (and impact) opportunity set available to us, as sustainability data is often incomplete. Provided robust qualitative assessments can be made, we believe incomplete data should not preclude investment analysis. We have developed analytical approaches to enable us to make robust and systematic qualitative assessments.

> We need a nuanced approach to sustainability measurement **and** assessment

Carbon analysis

Our carbon analysis assesses exposure to the risks and opportunities arising from the urgent need to reduce greenhouse gas emissions and transition to a low-carbon global economy.

Carbon risk

Carbon risk analysis evaluates the extent to which a business's carbon (greenhouse gas) emissions contribute to climate change, as well as their potential impacts on the long-term sustainability of the business, which may be undermined by consequent higher costs, regulatory penalties, consumer opposition or other factors linked to its carbon profile.

To assess carbon risk, we measure direct and indirect emissions. This gives a full picture of a company's carbon footprint, including in its supply chain and of its products during their lifecycles:

Scope 1

Direct emissions from owned or controlled sources, including fuel used on-site and by owned vehicles.

Scope 2

Indirect emissions from the generation of purchased energy.

Scope 3

Indirect emissions across 15 categories, eight relating to supply chains and seven relating to emissions linked to products.

Figure 3: Scope 3 carbon-emission categories

15 categories

1. Purchased goods and services	2. Capital goods	3. Fuel and energy related activities
4. Upstream transportation & distribution	5. Waste generated in operations	6. Business travel
7. Employee commuting	8. Upstream leased assets	9. Downstream transportation & distribution
10. Processing of sold products	11. Use of sold products	12. End-of-life treatment of sold products
13. Downstream leased assets	14. Franchises	15. Investments

Source: Ninety One, Greenhouse Gas Protocol.

As well as analysing a company’s carbon footprint, we examine its net-zero strategy. We typically look at factors including: emissions trajectory; science-based or company-defined net-zero targets; and emissions profiles. The more ambitious a company’s net-zero strategy, the faster it will reduce the potential for additional expenses arising from the implementation of a carbon price, which could undermine its long-term return on capital.

Carbon impact

Our carbon impact analysis aims to determine a company’s contribution to decarbonisation, which may influence its growth and profitability. We evaluate positive carbon impact by measuring ‘carbon avoided’. This metric quantifies how much a company’s products or services reduce emissions relative to the traditional alternative.

To illustrate the concept, the following example focuses on a single vehicle (applying an electricity-generation mix based on 70 countries[3]). Similar calculations can be scaled up to quantify company-level carbon avoided.

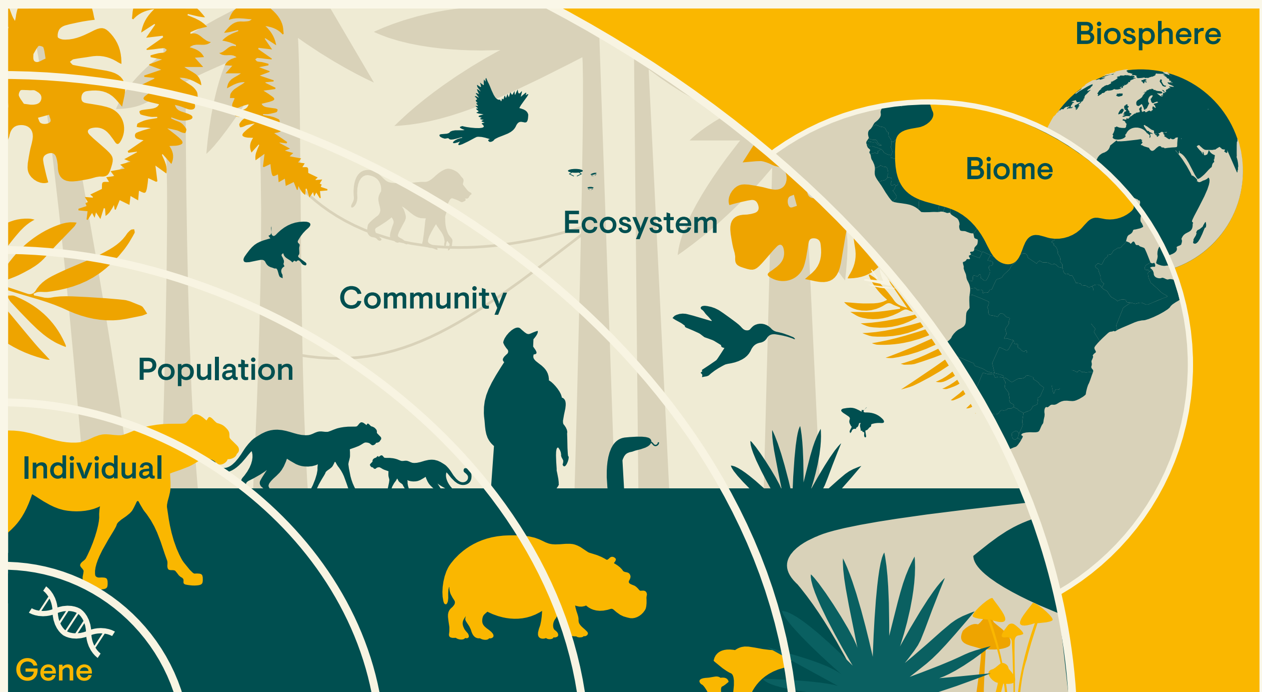
- Over its lifetime, a typical compact electric vehicle (EV) emits 67.5gCO_2e/km
- An equivalent gasoline vehicle emits 119.7gCO_2e/km
- The carbon-avoided is therefore 52.2gCO_2e/km, or a 44% saving

3. Source: Woo, Choi & Ahn. (2017). Wheel-to-wheel analysis of greenhouse gas emissions for electric vehicles based on electricity generation mix: A global perspective. Transportation Research.

Biodiversity analysis

Biodiversity can be described as the variety of life on earth[4], which enables ecosystems (communities of animals, plants, fungi and microorganisms) to function. Our biodiversity analysis assesses exposure to risks and opportunities arising from the fact that biodiversity loss is accelerating.

Figure 4: From the micro to the macro



Source: The Economics of Biodiversity: The Dasgupta Review. Please note that this diagram has been redrawn by Ninety One.

Biodiversity risk

Our biodiversity risk analysis evaluates the extent to which a company's dependency on nature contributes to the degradation of the natural world, which may impact the long-term sustainability of the company through reputational risk, regulatory hurdles and higher cost of resources. We analyse companies' biodiversity risk exposure from two perspectives:

- Resource dependency: their need for goods or services derived from ecosystems, including raw-material inputs, fuels and food.
- Process dependency: their reliance on ecosystem processes such as pollination, decomposition and flood control.

If a company is poorly managing the resources it depends on, this can create supply problems and undermine its ability to grow or generate returns on capital.

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4. Source: Mansoor & Maroun. (2016). An initial review of biodiversity reporting by South African corporates: The case of the Food and Mining sectors. South African Journal of Economic and Management Sciences.

Biodiversity impact

Our biodiversity impact analysis aims to determine a company's contribution to the regeneration of nature, which we believe may positively influence a business by driving faster growth or higher profits.

To evaluate biodiversity impact, we analyse how much a company's products or services improve the current state of nature, a positive impact we call 'biodiversity regenerated'. To illustrate this concept, we show the example of biodiversity saved from improving land efficiency:

- 0.12 hectares is used per tonne of wheat produced in the UK on average[5].
- Application of a biofertiliser can improve crop yields by 16.2%[6]. In the UK, this would equate to 0.10 hectares being used per tonne of wheat produced on average.
- This land saving of 0.02 hectares per tonne can be translated into biodiversity impact by assessing species abundance. For illustrative purposes, we assume 100 species per hectare, meaning two species would be regenerated per hectare.

Biodiversity impact assessments can be supported by data such as company locations and species information, but qualitative assessments are often required and data must be interpreted in the context of the broader ecological system.

5. Source: Department for Environment and Rural Affairs (UK).
6. Source: Schutz et al. (2018). Improving Crop Yield and Nutrient Use Efficiency via Biofertilization - A Global Meta-Analysis. Frontiers in Plant Science.

Water analysis

Our water analysis evaluates the risks and opportunities associated with global water scarcity, which companies may impact through their operations as well as through their products and services. While population growth and climate change are exacerbating water stresses generally, the materiality of water-related externalities typically depends on where a company operates (to a much greater extent than carbon emissions, for example).

Water risk

Our water risk analysis evaluates the extent to which a company exacerbates global water scarcity, and how this may impact its long-term sustainability. Companies' growth or profitability may be undermined by greater controls over water use, sourcing challenges or pollution associated with discharges.

To assess water risk, we evaluate companies from two (related) perspectives:

- Water quantity: to evaluate water quantity risks, we assess consumption/withdrawal in the context of water stress in the region. This analysis predominantly focuses on water use in supply chains and as an operational input. High levels of water use can increase water scarcity, and undermine the company's ability to continue operations.
- Water quality: this analysis focuses on pollution and sourcing. For pollution, we evaluate water discharge and toxicity, and downstream water pollution linked to products (through use or disposal). In regards to sourcing, a company may rely on different water sources. Recycling water is a more sustainable option than relying on primary water resources such as surface or ground water.

Water impact

Our water impact analysis aims to determine a company's contribution to reducing water scarcity, and whether this may be a growth tailwind. We analyse positive water impact by assessing 'water saved' by a company: i.e., how a company's products or services reduce water usage relative to an alternative product. To illustrate this concept, we show the example of the water saved by a more efficient appliance:

- Inefficient washing machines can use 45 gallons of water per load of clothing.
- The highest efficiency washing machines can use only 15 gallons of water per load.

This equates to 30 gallons of water saved per load of clothing[7].

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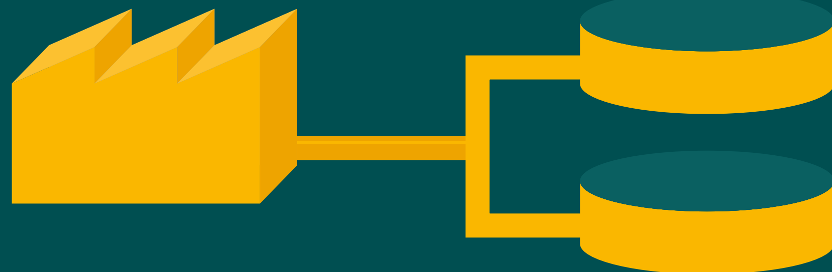
7. Source: https://home-water-works.org/indoor-use/clothes-washer

Assessment of water stress, a key consideration in analysing water-related externalities.

Assessment of water discharge and toxicity.



Assessment of potential positive impacts, e.g. reducing water scarcity through recycling.

Conclusion

With companies increasingly being held to account for their impacts on the environment, we believe that understanding natural capital externalities is becoming ever more important for investors. Through the Capitals Framework, the Sustainable Equity team seeks to evaluate these externalities – with a primary focus on impacts linked to carbon emissions, biodiversity and water – and assess how they may influence the expected return on a broad range of investments.

General risks. The value of investments, and any income generated from them, can fall as well as rise. Past performance is not a reliable indicator of future results. Investment objectives and performance targets are subject to change and may not necessarily be achieved, losses may be made. Environmental, social or governance related risk events or factors, if they occur, could cause a negative impact on the value of investments.

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Additional information on our investment strategies can be provided on request.

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Australia
Level 28 Suite 3, Chifley Tower
2 Chifley Square
Sydney, NSW 2000
Telephone: +61 2 9160 8400
australia@ninetyone.com

Botswana
Plot 64511, Unit 5
Fairgrounds, Gaborone
Telephone: +267 318 0112
botswanaclientservice@ninetyone.com

Channel Islands
PO Box 250, St Peter Port
Guernsey, GY1 3QH
Telephone: +44 (0)1481 710 404
enquiries@ninetyone.com

Germany
Bockenheimer Landstraße 23
60325 Frankfurt am Main
Telephone: +49 (0)69 7158 5900
deutschland@ninetyone.com

Hong Kong
Suites 1201-1206, 12/F
One Pacific Place
88 Queensway, Admiralty
Telephone: +852 2861 6888
hongkong@ninetyone.com

Luxembourg
2-4, Avenue Marie-Thérèse
L-2132 Luxembourg
Telephone: +352 28 12 77 20
enquiries@ninetyone.com

Namibia
Am Weinberg Estate
Winterhoek Building
1st Floor, West Office
13 Jan Jonker Avenue
Windhoek
Telephone: +264 (61) 389 500
namibia@ninetyone.com

Singapore
138 Market Street
CapitaGreen #27-02
Singapore 048946
Telephone: +65 6653 5550
singapore@ninetyone.com

South Africa
36 Hans Strijdom Avenue
Foreshore, Cape Town 8001
Telephone: +27 (0)21 901 1000
enquiries@ninetyone.com

Sweden
Västra Trädgårdsgatan 15, 111 53
Stockholm
Telephone: +46 8 502 438 20
enquiries@ninetyone.com

Switzerland
Dufourstrasse 49
8008 Zurich
Telephone: +41 44 262 00 44
enquiries@ninetyone.com

United Kingdom
55 Gresham Street
London, EC2V 7EL
Telephone: +44 (0)20 3938 1900
enquiries@ninetyone.com

United States
Park Avenue Tower, 65 East 55th Street
New York, 10022
US Toll Free: +1 800 434 5623
usa@ninetyone.com

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