CANDRIAM
A NEW YORK LIFE INVESTMENTS COMPANY

Investing in the Rapidly Changing World: Why Sustainability has the Answers

MAY 2023

All investment strategies involve a risk of loss. Please see last page for important disclosures about this document.

About the author.

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Alexandra Russo started her career in 2012 at Allianz Global Investors. At Allianz, Alexandra held various roles in marketing, operations and investments. In 2016, she became a product specialist covering equity products, with a specific focus on the Global Water fund. Alexandra also became a sustainability specialist at the firm helping to educate internal and external clients on ESG related topics. Most recently and prior to joining Candriam in March 2022, Alexandra was a director and product specialist on the Thematic Equity team, focusing part of her time on research related to sustainable themes relevant to the team's SDG strategies. Alexandra then joined Candriam in April 2022 in the newly created role of Head of ESG Client Portfolio Management for the US and UK. Alexandra, based in New York, is working with Candriam's in-house team of 25 ESG research and investment professionals, to increase awareness of the firm across the US & UK, educate on and raise assets in key ESG products and support the parent company New York Life Investment's sustainability strategy and business development goals. She has a B.A in Economics from Rhodes College.

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Time to stand up and be counted

Sustainability is at the heart of Candriam's investment philosophy.

In today's rapidly changing world, environmental, social and governance factors increasingly impact the long-term financial performance of companies and sovereign issuers.

We can no longer have an accurate understanding of a company's value by solely reviewing its financial statements. This is because intangible assets, the items off the balance sheet, nowadays account for around 90% of a company's value[1] which was not always the case. In 1975, it was quite the opposite with tangibles representing 83% of value.

As a result, investors must go beyond traditional analysis to understand long term value. This includes understanding the impact of a company's businesses on the environment and society and how a company manages its key stakeholders in day-to-day operations.

As investors and fiduciaries of our clients' assets, we believe it is essential to incorporate sustainability risks and opportunities into our investment decisions.

1 An intangible asset is an asset that is not physical in nature. Goodwill, brand recognition and intellectual property, such as patents, trademarks, and copyrights, are all intangible assets. Intangible assets exist in opposition to tangible assets, which include land, vehicles, equipment, and inventory.

Candriam and Sustainability

Candriam has been managing sustainable investments since 1996. As a responsible asset manager, we are committed to the continuous development of our long-standing sustainable investing philosophy and methodology, and to the ongoing expansion of our range of sustainable investment products.

We recognize the importance of assessing sustainability risks and opportunities in our portfolios and strive to improve the sustainable profiles of our underlying investments. Material E, S and G risks and opportunities are considered across all of our portfolios, and we take one step further to promote environmental and social characteristics or drive specific environmental and social outcomes when the underlying mandate dictates such an objective. This ultimately allows us to meet varying financial and values-based goals for our clients. Today Candriam has 148bn in assets under management, of which over 110bn are in its sustainable strategies[2].

Seeing a complete picture

Investing is like complex puzzle, where in order to complete the puzzle, we must gather and assemble all of the related pieces. But if you are missing pieces, it will be impossible to complete the puzzle and uncover the full picture. ESG information can be thought of as some of the key pieces which allow you to complete the puzzle. It is simply additional data investors now take into account when making an investment decision to better understand relevant risks and opportunities. Given that intangibles account for such a significant portion of a company's value, investors will need as much of the additional data as possible to complete the puzzle. In fact, with tangible assets only representing about 10% of a company's value, without assessing Environmental, Social and Governance (ESG) factors, analysis will miss many relevant risks and opportunities likely to impact long term financial performance. Just think if you are missing the center pieces of the puzzle, will you be able to see the full picture of the puzzle?

For example, we can look at a company's revenue and earnings in isolation, but without understanding how they fit with both its intangibles and the overall macroeconomic picture, we won't have a complete understanding of a company's long-term value.

2 Data as at 31.12.2022. Assets under management (AUM) includes assets which do not fall within the U.S. Securities and Exchange Commission's definition of 'regulatory AUM' in Form ADV, Part 1A.

Uncover
Systemic Risk

The first step in completing the ESG puzzle is to identify and remove overarching, systemic risks.

At Candriam we identify companies operating in controversial industries whose financial future is threatened by changing regulatory and societal expectations. Company-wide exclusions, regardless of the underlying sustainability mandate, include thermal coal, tobacco and controversial armaments.

In our view, these industries do not contribute to the development of economic or societal growth and are subject to sizable risks given the changing global landscape. For strategies with explicit sustainability mandates, we apply a more extensive exclusion policy removing companies operating in industries which threaten future environmental and social sustainability allowing clients to align portfolios with any non-financial objectives.

We then look to understand and identify severe risks tied to how the company conducts its business. This is done by identifying and removing issuers who repeatedly fail to respect basic human and labor rights, significantly damage the environment, or take part in corruption. These failures not only leave a trail of negative environmental and social consequences, but are likely to result in significant financial fines, and ultimately large losses for their investors. We identify such companies through the application of our norms-based exclusion policy, largely based on the UN Global Compact principles.

We also track the progress made by companies and governments to address their violations and weaknesses. Today there are a few issuers whose severe and repeated violations exclude them from any Candriam portfolio. Strategies with an explicit sustainability mandate exclude issuers with "red flags" from a sustainability perspective, or severely violate the UN Global Compact principles[3].

3 The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization’s Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.

Completing the puzzle – ESG integration

Avoiding significant risks through controversial activity analysis and norms-based analysis is not enough as we see structural shifts resulting from rapid global change and technology fueled information flow drive additional risks and opportunities.

The ever-evolving global demographics, climate change and resource scarcity are fueling sustainability challenges, making non-financial information a necessary part in investment analysis. For example, eight of the ten top global risks by severity over the next ten years are environmental and social in nature according to the World Economic Forum. This was not the case 10 years ago. This shifting landscape will impact companies, their opportunity set, and the industries in which they can successfully operate. Therefore, we must seek out the full picture and gather the intangible information, or what we call the ESG puzzle pieces. We do this through integrating material ESG factors in all our investment strategies across asset classes.

Know How

Over the years, we have developed a unique ESG analysis framework and proprietary quantitative model which covers over 8,000 equity and bond issuers and about 130 sovereign debt issuers[4]. The corporate model seeks to capture the material and industry specific ESG risks and opportunities to complete the puzzle. Thousands of data fields are populated by multiple data sources, including non ESG specific sources, in order to determine an ESG score which represents an issuer's exposure to absolute ESG risks and opportunities. This tailored approach is necessary as an EV manufacturer has a very different ESG risk and opportunity set than that of a bank, for instance.

This proprietary ESG score is determined by a weighted materiality analysis of an issuers business activities (the "What") and its stakeholders (the "How"). The "What" provides an enhanced understanding of how a company's products and services contribute, positively or negatively, to the environment and society and, ultimately, how it will perform against structural shifts in the economy.

4 The given data is indicative and may change over time.

The "How" considers the quality of a corporate's operations and its relationship with its most important stakeholders, including the environment, society, customers, suppliers, employees, and investors.

Our expert team of 25 ESG specialists then determines if the company's product and services offering or its operations is more material to the future sustainability and profitability of the business and weights the factors accordingly. The quantitative model is complemented by deep dive qualitative analysis in the form of ESG convictions. These convictions help to validate the accuracy of the model and provide additional information to our portfolio managers on potential key investments. These scores inform the entire Candriam investment platform, providing enhanced insight into potential risks and opportunities of investments.

For products with a specific sustainability mandate, the scores can be used to determine an eligible universe. For products without a specific sustainability mandate, the scores and supporting analysis are utilized for the fundamental assessment and valuation process, given the increased importance of non-financial information.

Avoiding sovereign grey swans

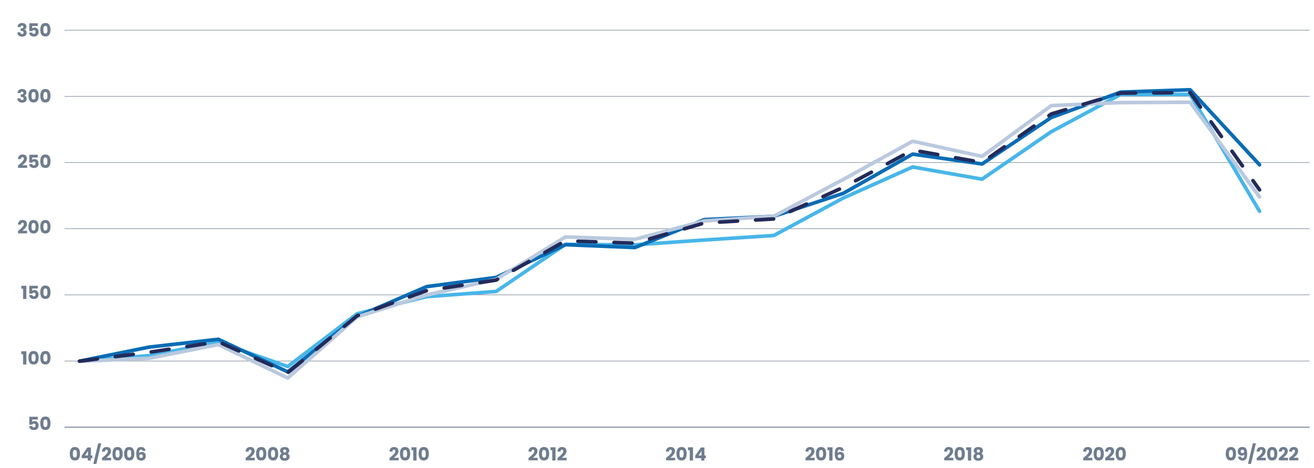
Candriam has also built a proprietary sovereign model to account for the wider geopolitical, social, environmental and economic risks affecting financial performance.

In our view, the practices of a well-run company cannot simply be applied to a country to achieve economic growth, just as the practices of a well run country cannot be applied to a company to achieve sustainable growth. Like the corporate approach, we seek to mitigate any overarching systemic risks from a country likely to experience significant issues. We believe that these risks are prevalent in autocratic regimes as, historically, democracy and respect for human rights has had a positive impact on countries' economic performance, and ultimately their ability to repay their debt.

In order to identify autocratic nations, we apply a screen from an independent research source, Freedom House (FH), which helps to identify countries that are 'not free'. We believe these autocratic nations represent significant risks. We have seen this reflected in the performance of emerging nations with "Free" countries outperforming the JP Morgan Emerging Markets Bond Index Global Diversified index (EMBIGD) by 0.31% a year over the 16-year period on an annualized basis (Source Candriam).

Figure 1:

Performance of equally weighted EMBIGD components



Past performance is not a guide to future performance. This historical simulation is used for illustration purposes only.

The above chart is an example used for illustrative and educational purposes only. This example is hypothetical in nature, does not reflect actual investment results and is not a guarantee of future results. This is for illustrative purposes only and not indicative of any specific investment or strategy. There is no assurance that any investment strategy will prove to be successful. It is not possible to invest in these indexes.

Source: Bloomberg, Factset, Candriam as at 30.09.2022

Our model seeks to score nations on potential sustainability risks and opportunities by looking at the four types of capital: natural, social, human and economic. We use the natural capital as the multiplier. This prevents nations from overcoming challenges in, or mismanagement of natural capital, with say strong economic capital which can be seen during certain time periods. We believe this differentiates our model from industry peers and helps us identify hidden risks. Find out more about our sovereign sustainability framework in our latest Report, *The Age of the Grey Swan*.

Sustainability in practice. Across asset classes and strategies.

Let's examine the different ways of utilizing this sustainability criteria in investment processes across various investment strategies.

As noted, Candriam integrates sustainability factors across all of its equity and bond strategies by systematically considering material sustainability factors in the analysis and decision making process.

In addition, our sustainability strategies address environmental and social challenges by investing in related thematics, such as climate, oncology.

Emerging Market Equities

We believe the incorporation of ESG into the investment process for emerging markets is essential if we are to capitalize on growth opportunities. Emerging markets represent 60% of the global GDP, yet this share is produced on the back of emissions and a negative impact on the climate crisis. Developing and emerging economies representing over 2/3 of the global emissions (IEA, December 2021).

Emerging market companies are typically less transparent, routinely disclosing less information than their developed market peers. This makes it often more difficult for international investors to understand potential risks. Integrating ESG factors into the investment process in such a market can be especially effective in mitigating risks, as well as seeking out opportunities as companies transition. Finally, emerging markets provide many of the raw materials and products needed to transition to a lower carbon economy, creating positive demand tailwinds.

A Case in Point 1

We can see how ESG data can help us identify financial opportunities in transitioning companies with a Chinese supplier of packaging, printing and separator films. It was previously excluded from our investable universe due it its exposure to controversial activities. The company previously manufactured packaging for the tobacco industry. However, the company has since shifted its business to provide lithium separator films for batteries essential for low carbon transportation.

Following the change in the company's business mix, the ESG team reviewed the safety and quality of Yunnan's products, as well as their environmental impact. Our forward looking ESG analysis then concluded that following the re-orientation of its activities, the company's sustainability profile allowed for it to be added to the eligible universe. However, like all stocks, Yunnan is continuously monitored to understand new risks which may stem from its evolving business.

Emerging Market Debt

Evidence of the growing importance of sustainability factors is all around us as we observe recent global events. We have seen increased geopolitical tensions following the war in Ukraine, a global health crisis with the pandemic, and more frequent severe weather events such as record floods, heatwaves and fires. Given this changed global landscape, sustainability factors are becoming increasingly important for countries, and their ability to repay debt.

While considering sustainability risks through a sovereign sustainability framework will not serve as a crystal ball to time wars and natural disasters, it will help to highlight the areas of concern.

A Case in Point 2

For example, our sovereign model flagged Russia as a risk long before it attacked Ukraine, based on the country's weak rule of law, a dictatorial form of government and a lack of checks and balances. This resulted in an underweight in our traditional portfolios as well as a zero weight across our sustainability portfolios, which helped relative performance when markets tried to digest the start of a war in Europe in February 2022.

A Case in Point 3

Our sovereign sustainability framework downgraded Sri Lanka's rating based on the deterioration of governance following the election of Gotabaya Rajapaksa as President in November 2019. After securing a 145/225 seat majority in the country's parliament, the new governing party rapidly consolidated power. We saw the quality of policy making decline, with no checks and balances on government policy in place. This left bondholders and outside parties such as the IMF with very little influence. The Sri Lankan central bank governor was also an ally of the Rajapaksa's, which diminished the credibility of the country's monetary authorities. This lack of governance resulted in loose fiscal policy and money printing, which inevitably led to significant pressure on external balances and a rundown of reserves. Sri Lanka defaulted on its external debt in April of that year, about two and half years after the 2019 election. We did not have any exposure to Sri Lanka given the lack of governance and associated risks.

Climate Action

Candriam's ESG corporate analysis framework also helps to inform our thematic investment strategies to uncover attractive long term thematics tied to structural growth opportunities. Once themes have been identified our framework also helps to define the corresponding eligible universe and the stock selection process.

For example, climate change is a key structural sustainability challenge, and the corresponding Climate Action strategy seeks to invest in companies providing mitigation and adaption solutions. Ongoing climate change and the race to net zero creates significant investment risks, but also opportunities. For example, as the world seeks to transition to a lower carbon economy, companies delivering low carbon energy solutions seek to benefit from increased demand, while companies offering adaption solutions will benefit as cities seek to weatherproof their infrastructure from increased natural disasters.

Given the capital expenditure (capex) that is starting to flow into the space and the additional capex that is still required, companies delivering solutions have tremendous upside potential. For example, $1,693bn of investment each year will be required to meet the renewable power generation objectives linked to the Paris Agreement. That is over three times the investment that was needed from 2017 to 2019 (Source: IRENA World Energy Transitions Outlook 2022).

Solutions may range from products which improve energy efficiency in carbon intensive industries, to renewable energy sources and battery storage technology. Significant capex is also needed to adapt to the impact of extreme weather events, such as damage from floods, hurricanes, droughts and extreme hot temperatures. The ESG team works closely with our portfolio managers to identify companies providing climate solutions, directing capex to one of the largest global challenges we face while capitalizing on the long term structural investment opportunity that climate creates. Once the universe is established, the portfolio management team leverages the ESG framework and model scores in its fundamental analysis in order to reflect material ESG risks and opportunities in its valuations.

A Case in Point 4

Let's dive into one of the climate solutions providers we identified through the above process, a Florida based construction company. The company has recently transitioned its business from servicing the telecom and pipeline industry to servicing the renewable energy industry. This positions the company to benefit from climate related spending, including the incentives part of the Inflation Reduction Act. Its shift in business mix has opened up a new revenue stream and long term growth opportunity as corporates and governments seek to meet net zero commitments. Today 60% of its revenues are tied to climate solutions making it eligible for our climate action portfolio. This can be seen as a win for both the company's bottom line and the environment and society.

Incorporating ESG information to meet the varying objectives of our clients

At Candriam, ESG and sustainability are embedded in our core philosophy, as we believe that investing for sustainable financial returns cannot be achieved while ignoring E, S and G information. We see this through the integration across assets classes as described above. That said, we acknowledge the varying financial and values based objectives of our clients, and strive to provide a suite of products which allow clients to meet both their financial and non-financial objectives. To do so, we utilize ESG as in input to accomplish varying outcomes and seek to provide transparency into each strategy's objectives. Our solutions range from integration to responsible investing to sustainable, thematic and impact investing strategies – all of which leverage this proprietary sustainability framework to achieve their explicit financial and non-financial objectives.

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$148B*
AUM at end December 2022

600
Experienced and committed professionals

+25 years
Leading the way in sustainable investing

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Environmental, Social and Governance (ESG) managers may take into consideration factors beyond traditional financial information to select securities, which could result in relative investment performance deviating from other strategies or broad market benchmarks, depending on whether such sectors or investments are in or out of favor in the market. Further, ESG strategies may rely on certain values-based criteria to eliminate exposures found in similar strategies or broad market benchmarks, which could also result in relative investment performance deviating. There is no assurance that any ESG focus investment strategy will prove to be successful.

* Candriam has $148.06 billion of assets under management as of 31/12/2022.
As of 31/12/2022, Candriam changed the Assets Under Management (AUM) calculation methodology, and AUM now includes certain assets, such as non-discretionary AUM, external fund selection, overlay services, including ESG screening services, advisory consulting services, white labeling services, and model portfolio delivery services that do not qualify as Regulatory Assets Under Management, as defined in the SEC's Form ADV. AUM is reported in USD. AUM not denominated in USD is converted at the spot rate as of 30/12/2022.