

# THE NEXT GENERATION OF GREEN AND SUSTAINABLE INVESTING AT GMO

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## **Overview**

GMO recognizes clients are at various stages of their climate change journey, ranging from measuring emissions data to setting targets for managing investment portfolios. Effectively managing portfolio carbon transition risk and capitalizing on climate change opportunities presents a challenging endeavor to investors. GMO has devoted significant time and resources into developing a holistic approach that seeks to successfully navigate through the economic transition to net zero by maximizing climate opportunities, while minimizing all scopes of emissions and severe ESG risk. Here we provide a detailed summary of GMO's discussion of our research and Green Revenues strategy. Please contact your GMO relationship manager for a replay of the event or for additional information.

## **Event Summary**

### **SCOPE 3 AND INDIRECT EMISSIONS<sup>1</sup>**

When considering carbon transition risk of companies, it is important to understand emissions exposure across the entire end-to-end value chains, meaning scope 3, to identify hidden climate risks.

In our research, we found a major problem with reported scope 3 data, given how investors need to use the data. To promote increased reporting of scope 3, the Greenhouse Gas (GHG) Protocol provides companies with significant optionality in how they choose to estimate and report their own scope 3. This results in inconsistent estimation methodologies, which consequently means that reported scope 3 data is not comparable across companies. This issue is explicitly mentioned in the scope 3 standard, and presents a crucial problem to asset managers as managers need comparable data as we assess company carbon footprints during portfolio construction and aggregate exposures across our portfolios.

GMO's solution was to go back to first principles and not use reported scope 3 data anywhere in the GMO Indirect Emissions model. We know that a company's indirect emissions are someone else's direct emissions, so we created a novel methodology that allows us to estimate indirect emissions for all companies in our model universe from the bottom up using the underlying direct emissions (scope 1 and household emissions).

By directly incorporating bottom-up data into a company supply chain model, we allow companies to distinguish themselves from their peers based on characteristics of their specific value chains. We then propagate direct scope 1 and household emissions through the supply chain model to calculate indirect emissions across end-to-end value chains. This is how we calculate indirect emissions from the bottom up and avoid using reported scope 3 data.

<sup>1</sup>

What are Scope 1, 2, and 3 emissions?

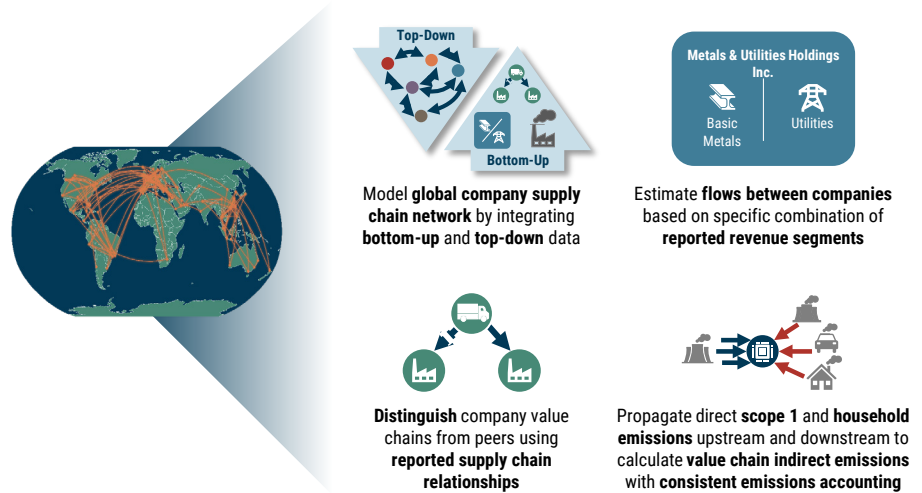
Scope 1: Direct Greenhouse Gas (GHG) emissions from operations owned or controlled by an organization.

Scope 2: Indirect GHG emissions from the generation of electricity purchased and consumed by an organization.

Scope 3: Indirect GHG emissions from sources and activities within the value chain of an organization that are not owned or controlled by that organization.

*For use with institutional investors only*

## EMISSIONS ACCOUNTING ACROSS COMPANY VALUE CHAINS



One of the most distinguishing aspects of our approach is that we are able to trace all indirect emissions back to their origins, meaning our model provides complete transparency and attribution of indirect emissions down to the company level. Our attribution analysis also indicates that we are likely capturing emissions exposures that are being missed by other vendors, especially across upstream value chains. Overall, we find indirect emissions account for 82% of total company carbon footprints, which is about 4.5 times larger than that of scope 1.

The GMO Indirect Emissions model ensures our estimates are comparable across companies because we consistently count emissions for all companies using the same methodology. This solution provides GMO and our clients with a more comprehensive and transparent view of carbon transition risk across portfolios.

## GMO GREEN REVENUES STRATEGY

The GMO Green Revenues strategy provides investors with a balanced exposure to climate opportunities while effectively managing the associated risks. Designed as a core component of a sustainable program, this strategy aims to deliver a return experience similar to the underlying investment universe (MSCI ACWI), while targeting climate opportunities, managing ESG risk, and optimizing direct and indirect emissions efficiency. This solution leverages GMO's deep knowledge in portfolio construction and ESG integration to construct a style-neutral and diversified portfolio, setting it apart from other climate-themed products in the market.

Our portfolio construction process uses the following inputs:

- Climate opportunities - by investing in companies that generate green revenue according to the FTSE Russell Green Revenue dataset, our process ensures the portfolio has exposure to at least 40% green revenue.
- Scope 1 (Direct) & GMO Indirect Emissions – using the proprietary dataset we have created for indirect emissions alongside scope 1 emissions, we optimize portfolio-level carbon efficiency.
- ESG risks – we capitalize on GMO's proprietary ESG model to limit exposure to risks under the E, S, and G pillars that might affect the future profitability of firms. In addition, we exclude companies flagged with "severe" or "very severe" controversies in the MSCI



**Chris Heelan**

Dr. Heelan is a researcher at GMO and is responsible for ESG-related quantitative analysis across the firm's investment product strategies and asset

classes. Previously at GMO, he was the Machine Learning Development Lead for the Investment Data Solutions team. Before joining GMO in 2020, he was a senior quantitative research associate at Brown University where he worked in the Neuroscience Department using cloud computing and machine learning to analyze large-scale brain data sets. Dr. Heelan earned his bachelor's degree in Electrical Engineering and Biomedical Engineering from Vanderbilt University, and his MS in Innovation Management and Entrepreneurship and Electrical Engineering and PhD in Electrical Engineering from Brown University.



**Deborah Ng**

Ms. Ng is the Head of ESG and Sustainability at GMO. Prior to joining GMO in 2022, she was the Head of Responsible Investing at Ontario Teachers' Pension

Plan (OTPP), where she spent more than 18 years. At OTPP, Ms. Ng developed and led the Plan's Responsible Investing Strategy and climate change initiatives, and was responsible for key deliverables, including thought leadership, integration, and corporate engagement. Previously at OTPP, Ms. Ng was part of OTPP's Strategy & Asset Mix team, where she focused on the research, evaluation, and introduction of asset allocation strategies. Ms. Ng currently sits on the Investment Committee of the United Church Pension Plan and is a past board member of the Global Real Estate Sustainability Benchmark (GRESB). Ms. Ng earned her Bachelor of Commerce and Master of Finance from the University of Toronto. She is a CFA charterholder.



**George Sakoulis**

Dr. Sakoulis is the Head of Investment Teams at GMO and a partner of the firm. He previously worked at GMO from 2009 to 2014 leading quantitative research for

GMO's Emerging Markets Equity team. Prior to rejoining GMO in 2020, he was most recently a Managing Director and Head of Global Multi-Asset Solutions for QMA, where he focused on systematic total and absolute return investment solutions. Before that, he led QMA's Global Portfolio Solutions group. Previously, Dr. Sakoulis also served as the Director of European Equity Strategies for Numeric Investors and as a Director for UBS O'Connor. He earned his bachelor's degree in Economics and Statistics from San Francisco State University and his MA in Economics and PhD in Financial Econometrics from the University of Washington.

Controversies dataset, with the aim of ensuring companies "do no significant harm" in the pursuit of green revenues.

- Finally, we introduce country, sector, and beta constraints to neutralize style biases.

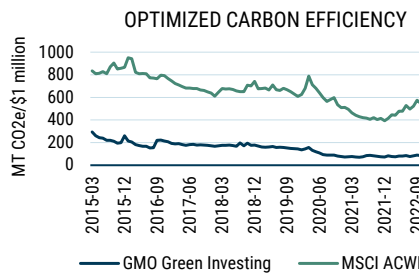
By design, the resulting backtested portfolio characteristics are:

- Financed green revenue of approximately twice that of MSCI ACWI
- Carbon efficiency of approximately 65-80% less than MSCI ACWI (considering both scope 1 and GMO Indirect Emissions)
- High active share but a low tracking error
- Style neutrality

**BACKTEST RESULTS**

**Backtest Statistics\***

Alpha	0.68
Portfolio Return	7.91
Benchmark Return	7.18
Tracking Error	1.68
Information Ratio	0.40
Names	160
Active Share	90.1



**FINANCED GREEN REVENUE**

Average green revenue financed by a \$1M investment

<b>Green Sector**</b>	<b>Backtested Portfolio</b>	<b>MSCI ACWI</b>
Energy Equipment	5,046	3,341
Energy Generation	1,466	2,842
Energy Management & Efficiency	16,511	8,189
Environmental Resources	1,497	2,327
Environmental Support & Services	2,842	457
Food & Agriculture	4,944	1,452
Transport Equipment	4,307	3,716
Transport Solutions	6,619	1,605
Waste & Pollution Control	3,306	2,355
Water Infrastructure & Technologies	5,333	1,505
<b>Total</b>	<b>\$51,872</b>	<b>\$27,788</b>

\*Backtest starts on 2015-03 with \$1B cash and ends on 2022-12. Portfolio returns are net of fees assuming a constant fee of 20 bps per year. Benchmark is MSCI ACWI. Statistics are annualized, except Names and Active Share, which are averages. Past performance, whether backtested or actual, is no guarantee of future results. Please see important disclosures at the end of this presentation.

\*\*Green sectors are based on the FTSE Russell Green Revenue Classification System.

While the portfolio is designed as a thematic standalone offering, we think asset owners can use this portfolio as their core holding in their sustainable program and tilt toward a particular style by other means based on their views.

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