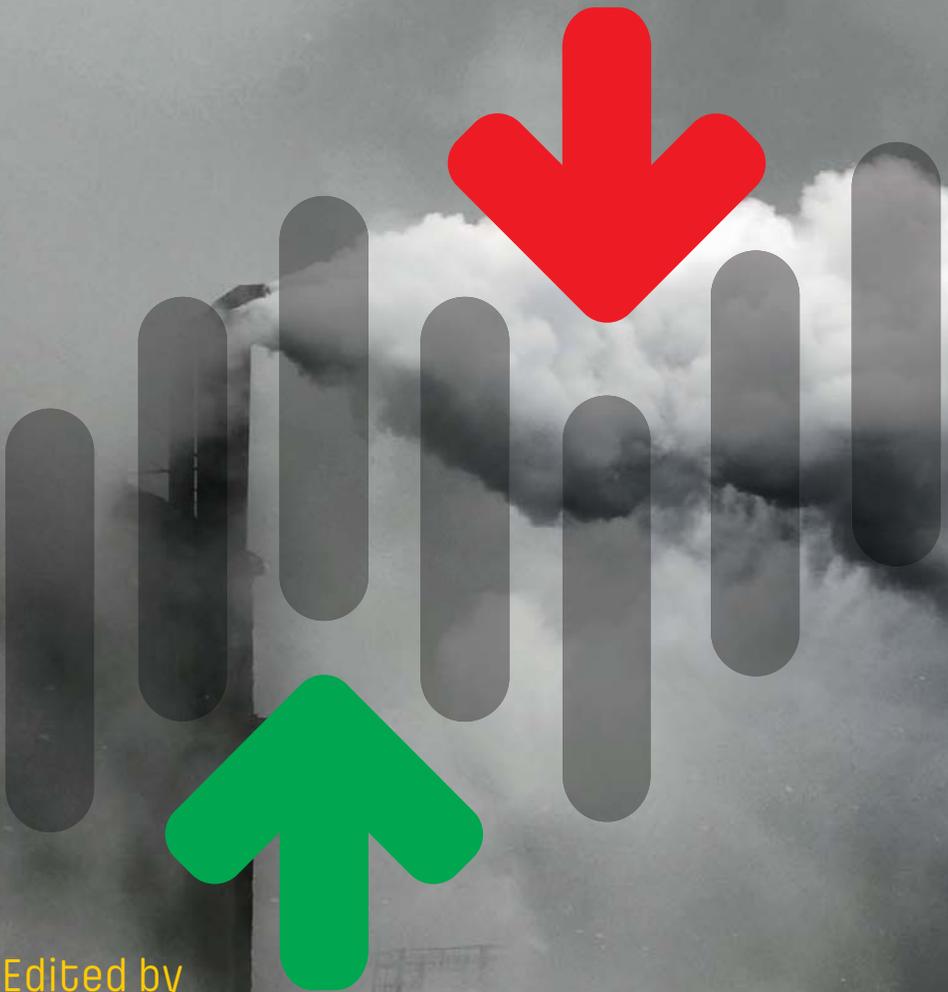


Values at Work

Sustainable
Investing and
ESG Reporting



Edited by
Daniel C. Esty
Todd Cort



Values at Work

Daniel C. Esty · Todd Cort
Editors

Values at Work

Sustainable Investing
and ESG Reporting

palgrave
macmillan

Editors

Daniel C. Esty
Yale University
New Haven, CT, USA

Todd Cort
Yale University
New Haven, CT, USA

ISBN 978-3-030-55612-9 ISBN 978-3-030-55613-6 (eBook)
<https://doi.org/10.1007/978-3-030-55613-6>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2020

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover image: © kabandlshutterstock.com

This Palgrave Macmillan imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Values at Work is dedicated to all those striving to harness the power of markets and finance to protect the natural world, promote human well-being, and create a more equitable economy and society.

Acknowledgments

We are deeply grateful to a number of people and organizations that made *Values at Work* possible. First, of course, we would like to thank the 21 authors who contributed their time, expertise, and perspectives to this book. Their efforts within and insights about the field of sustainable finance demonstrate the leadership needed to create and fund a more sustainable planet. We are especially appreciative to our *Values at Work* editorial team led initially by Timothy J. Mason, Associate Director of the Yale Center for Environmental Law and Policy, and later by Tyler Yeargain and Maximilian W. Schreck, our Editorial Manager. Despite the COVID-19 pandemic, our group of Yale student editors excelled under pressure, ensuring the quality of the content in this book: Taryn Akiyama, Liam Chun Hong Gunn, Kara Hoving, Brett Cozzolino, Andy Xie, Omar Motala, Alexandra L. Wisner, Charles W. Harper, Robin Happel, Gillian Cowley, Maliya Ellis, Daiana Lilo, Ben Santhouse-James, and Margaret K. O’Leary.

Any project of this kind requires resources. AllianceBernstein, Barclays, Calvert, and Richmond Global Compass all provided critical sponsorship for the 2019 Yale Initiative on Sustainable Finance Annual Symposium, which served as the jumping off point for this volume. The Editors also received important support from the Yale School of the Environment, the Yale School of Management, and the Yale Law School as well as the Yale Center for Business and Environment and the Yale Center for Environmental Law and Policy. Additional resources were provided by supporters of the Yale Initiative on Sustainable Finance including Roberta Gordon and the Ida and Robert Gordon Family Foundation, NN Investment Partners, Vanguard, Mirova, and ClimateWorks Foundation.

We also benefitted from careful review and comments on the draft materials that became the chapters of this book from many colleagues and peers. In particular, we would like to thank the Advisory Board members of the Yale Center for Environmental Law and Policy, the Yale Center for Business and the Environment, and the Yale Initiative on Sustainable Finance for their feedback on the book's themes and content as well as their broader advice and support.

Finally, we want to express appreciation for all those who have been part of the Yale Initiative on Sustainable Finance programs and conversations on how to advance environmental, social, and governance (ESG) metrics and reporting as well as to understand the prospects for and obstacles to a world of expanded sustainable finance that would provide greater flows of capital to clean energy infrastructure and other elements of a sustainable future.

New Haven, CT
July 2020

Daniel C. Esty
Todd Cort

Further Praise for *Values at Work*

“With authors whose knowledge of sustainable investing and business practices is second to none, *Values at Work* cuts through the confusion and complexity surrounding ESG reporting to pinpoint what really matters, where the industry is going, and how serious investors can take full advantage of the trends.”

—Martin Whittaker, *Chief Executive Officer, JUST Capital*

“The trend towards sustainable investing has accelerated. But measurable impact on the planet hasn’t followed. *Values at Work* offers a clear call to action in outlining what’s needed for the sustainable investment community to create meaningful change in the coming critical decade.”

—Charlotte Kaiser, *Managing Director of NatureVest, The Nature Conservancy*

“At the heart of sustainable finance is the need to connect capital flows to the corporate actors who are true innovators in developing best practices and leading the way to a sustainable future by incorporating ESG values into their operations and policies. *Values at Work* offers the roadmap for investors who want to get to this future.”

—Robert Jenkins, *Global Head of Research, Refinitiv/Lipper*

“More than a decade ago, Dan Esty led the way in teaching the capital markets how to drive corporate sustainability. His commercial sense and pragmatism helped us move from ideology to implementation. He and his team of authors in *Values at Work* are now bringing this same leadership to sustainable investing.”

—Erika Karp, *Founder & CEO, Cornerstone Capital Group*

“Sustainable investing is not about financial products, it is about fulfilling the financial sector’s fiduciary responsibility toward investors and asset owners. Professors Esty and Cort’s book should get everyone speaking the common professional language that will enable the finance world to accelerate the transition toward a more sustainable global economic model.”

—Patrick Odier, *Senior Managing Partner, Lombard Odier Group*

“Investors need information about what matters. If you are not asking for information about climate change, natural systems, how the workforce and community are treated, how power is used at the Board level, you are investing in a fantasy financial world or for another planet which we haven’t got. *Values at Work* will get you on the right track.”

—James Cameron, *Founder, Climate Change Capital*

“*Values at Work* is a masterful collection of great minds laying out a simultaneously practical and fascinating roadmap for the essential changes needed to improve sustainable investing and integrate sustainability into our capital markets.”

—Mindy Lubber, *CEO and President, Ceres*

“Dan Esty and Todd Cort and their team of *Values at Work* authors have made a critical contribution to the market for sustainable investing. They underscore the urgent need for more accurate and quantitative ESG information to allow investors to make informed decisions on allocating capital.”

—Matthew Arnold, *Global Head of ESG and Corporate Responsibility Engagement, JPMorgan Chase*

“*Values at Work* shows how financial regulations might be recast to ensure that capital flows to companies that are helping to address challenges such as climate change and sustainable development—and advancing transatlantic values more generally.”

—Edouard-François de Lencquesaing, *President, European Institute of Financial Regulation*

Contents

Part I Introduction

- 1 Sustainable Investing at a Turning Point** 3
Daniel C. Esty and Todd Cort

Part II Measuring Environmental and Social Impacts

- 2 Evolution of ESG Reporting Frameworks** 13
Satyajit Bose
- 3 ESG Risk Depends on Management Control Quality** 35
Todd Cort
- 4 Creating Investment-Grade Corporate Sustainability Metrics** 51
Daniel C. Esty
- 5 Asset-Level Physical Climate Risk Disclosure** 67
Natalie Ambrosio Preudhomme and Emilie Mazzacurati
- 6 Mosaic Theory in Sustainable Investing** 81
Valerie S. Grant

7	Toward a Next Generation of Corporate Sustainability Metrics	97
	<i>Daniel C. Esty and David A. Lubin</i>	
Part III ESG Financial Products		
8	Financing the Transition to Green Infrastructure	111
	<i>Ella Warshauer and Cary Krosinsky</i>	
9	Private Equity and ESG Investing	127
	<i>Christina Alfonso-Ercan</i>	
10	Avoiding the Tragedy of the Horizon: Portfolio Design for Climate Change-Related Risk Management and the Low-Carbon Energy Transition	143
	<i>Jennifer Bender, Todd Arthur Bridges, Kushal Shah, and Alison Weiner</i>	
Part IV Regulations, Liability, and Fiduciary Duty of ESG Disclosure		
11	Recent Developments in ESG Reporting	161
	<i>Paul A. Davies, Paul M. Dudek, and Kristina S. Wyatt</i>	
12	Reasonable Investors' Growing Awareness of Climate Risk and Its Impact on U.S. Corporate Disclosure Law	181
	<i>Hana V. Vizcarra</i>	
13	Can Investors Rely on Corporate Sustainability Commitments?	195
	<i>Diane Strauss and Aisha I. Saad</i>	
14	Financial Regulations and ESG Investing: Looking Back and Forward	211
	<i>Michael Eckhart</i>	
	Index	229

Notes on Contributors

Christina Alfonso-Ercan advises top global fund managers and asset management firms across North America, Europe, and Latin America on sustainable investment strategies and ESG integration. A pioneer in using data-driven approaches to build high-performance ESG portfolios, she co-founded Madeira Global in 2012 to continue developing these insights. As Madeira’s CEO, she is dedicated to elevating the mission of the financial markets to include impact-conscious practices. For this work, she was recognized as a “Game Changer” by the U.S. Green Chamber of Commerce, she has served on the advisory boards of PathNorth and the Milken Institute’s Young Leaders Circle, and is a graduate of Fordham University and ESADE Business School.

Natalie Ambrosio Preudhomme is Director of Communications at Four Twenty Seven, where she manages publications, thought leadership, and engagements. Natalie’s recent publications include, “Community Resilience and Adaptive Capacity: A Meaningful Investment Across Assets,” published by the Federal Reserve Bank of San Francisco, and “Addressing Climate Risk in Financial Decision Making,” in *Optimizing Community Infrastructure*. Previously, Natalie’s work at the Notre Dame Global Adaptation Initiative helped to develop an assessment of U.S. cities’ vulnerabilities to climate change and their readiness to adapt. Natalie holds a BS in Environmental Science and a certificate in Journalism, Ethics, and Democracy from the University of Notre Dame.

Jennifer Bender, Ph.D. is a Senior Managing Director at State Street Global Advisors (SSGA) and Director of Research for the Global Equity Beta Solutions team. Jenn joined SSGA in 2014 and since then has been responsible for leading SSGA's research across key areas of index investing, including core beta, smart beta, ESG, and thematic investing. Previously, Jenn was a Vice President in the Index and Analytics Research teams at MSCI and has held research roles at State Street Associates and Harvard University. Jenn also serves on the editorial boards for *The Journal of Portfolio Management* and *The Journal of Systematic Investing*. Jenn holds M.S. and Ph.D. degrees in Economics from Brandeis University.

Satyajit Bose is Professor of Practice at Columbia University, where he teaches sustainable investing, cost-benefit analysis, and mathematics. His research interests include the value of ESG information, carbon pricing, the link between portfolio investment and sustainable development in emerging markets, and the optimal use of environmental performance metrics for long horizon investment choices. He is co-author (with Dong Guo and Anne Simpson) of *The Financial Ecosystem: The Role of Finance in Achieving Sustainability* (Palgrave, 2019). He oversees a number of research projects at the Earth Institute's Research Program on Sustainability Policy and Management.

Todd Arthur Bridges is a Partner and Global Head of Sustainable Investing and ESG Research with Arabesque. His expertise lies at the intersection of sustainable finance, climate finance, market governance, and investment research. Todd has worked with global institutional investors across central banks, sovereign wealth funds, state pensions, corporate pensions, foundations, endowments, family offices, advisors, etc. Todd's education and training includes stints at Brown University, Harvard University, University of Chicago, and Cornell University in the United States as well as research fellowships at Oxford University and the Max Planck Society in Europe.

Todd Cort, Ph.D. works at the intersection of sustainability and investor value. For over 20 years, he has applied a scientific and economic lens to corporate social responsibility and environmental sustainability. Working with a diverse range of stakeholders, both through academia and consulting, Todd has sought to identify the areas that create the greatest value for investors, businesses, and society. Todd is a faculty member at the Yale School of Management with courtesy appointment at the Yale School of the Environment. He serves as Faculty Co-Director for the Yale Center for Business and the Environment (CBEY) and the Yale Initiative on Sustainable Finance (YISF). In addition, Todd serves as Treasurer on the board of Save the Sound,

a regional environmental nonprofit serving communities around Long Island Sound.

Paul A. Davies is a Latham & Watkins partner in London who serves as the Local Department Chair of the Environment, Land & Resources Department and Co-Lead of Latham's Environment, Social & Governance Practice. He is recognized as a Thought Leader for Environment by *Who's Who Legal: Thought Leaders 2017–2019*, and was the only European lawyer named for the distinction from 2011 to 2017. He advises clients around the globe on ESG related matters. Paul holds an M.Phil. and LLB from the University of Wales, Cardiff.

Paul M. Dudek is a Latham & Watkins partner in Washington, D.C. who advises on all aspects of cross-border capital market transactions involving non-U.S. companies and sovereigns. He has particular insight on trends related to ESG reporting by public companies, as he previously served 26 years with the U.S. Securities and Exchange Commission's Division of Corporation Finance, most recently as Chief of the Office of International Corporate Finance. Paul holds a JD from New York University School of Law, cum laude, Order of the Coif, and a B.A. from Fordham University, Phi Beta Kappa, summa cum laude.

Michael Eckhart is Clinical Professor for Sustainable Finance at University of Maryland and Adjunct Professor at Columbia University. Previously, he was Global Head of Environmental Finance at Citigroup where he led the banking industry's development of the Green Bond Principles. Earlier, he was founding President of the American Council on Renewable Energy and President of the SolarBank Initiative in Europe, India, and South Africa, and had a 20-year career in power generation and renewable energy. He served in the U.S. Navy Submarine Service, and holds a BSEE degree from Purdue University and an M.B.A. from Harvard Business School.

Daniel C. Esty is the Hillhouse Professor at Yale University with primary appointments at the Yale School of the Environment and the Yale Law School and a secondary appointment at the Yale School of Management. He serves as Director of the Yale Center for Environmental Law and Policy and co-directs the Yale Initiative on Sustainable Finance. Dan is the author or editor of twelve books and dozens of articles on environmental and energy policy, corporate sustainability, and sustainability metrics. His recent (edited) volume, *A Better Planet: 40 Big Ideas for a Sustainable Future*, was named a top book of 2019 by *The Financial Times*. He served as head of the Connecticut Department of Energy and Environmental Protection from 2011 to 2014 and in several leadership roles at the U.S. Environmental Protection Agency

from 1989 to 1993. He is a founder and principle of Constellation Research and Technology, a fintech firm focused on providing advanced sustainability data analytics to the investment marketplace.

Valerie S. Grant, CFA is a Senior Vice President and Senior Portfolio Manager at AllianceBernstein, where she manages the Responsible US Equities portfolio, co-chairs AB's Equity ESG Research Committee and serves on the Proxy and Governance Committee. Previously, she was a senior research analyst for several of AllianceBernstein's small-, mid- and large-cap equity portfolios. Valerie is a member of the Standards Advisory Group at the Sustainability Accounting Standards Board. She holds a BS in Economics from the Wharton School at the University of Pennsylvania and an MBA from Harvard Business School, where she was a George F. Baker Scholar.

Cary Krosinsky is an educator, author, and advisor with teaching that includes popular classes on sustainable finance at Brown and Yale. He is a leading author of several books on sustainable finance. His latest book focuses on modern China and calls for more cooperation to solve societal challenges. He is also Co-Founder of the Carbon Tracker Initiative and a member of the 2018 NY State Common Decarbonization Advisory Panel. He has written papers on a broad range of issues, including the Value of Everything, and in 2016, for the Principles for Responsible Investment (and their signatories) to aid the development of their asset owner climate change framework. His latest book is *Modern China: Financial Cooperation for Solving Sustainability Challenges* (Palgrave, 2020).

David A. Lubin is a serial entrepreneur and corporate sustainability thought leader. He has more than 30 years of business experience founding and managing business analytics companies including Spectrum Interactive, Palladium Group, and Renaissance Worldwide, a pioneer in enterprise performance management and tracking. David is a founder and managing director of Constellation Research and Technology, a sustainability data analytics firm. He previously served on the faculty at Tufts and Harvard University.

Emilie Mazzacurati is the founder and CEO of Four Twenty Seven ([427mt.com](https://www.427mt.com)), a leading provider of data on physical climate and environmental risks, and an affiliate of Moody's. Emilie has published extensively on climate risks disclosure, the impacts of climate change on equity and U.S. muni bond markets, and adaptation finance opportunities. Previously, Emilie was Head of Research at Thomson Reuters Point Carbon. She also served as an advisor

to the Mayor of Paris on environmental policy. Emilie holds a Master of Political Science from the Institut d'Etudes Politiques de Paris and a Master of Public Policy from UC Berkeley.

Aisha I. Saad is a fellow at Harvard Law School's Program on Corporate Governance. She was previously a Research Scholar in Law and the Bartlett Research Fellow at Yale Law School. Aisha holds a J.D. from Yale Law School and a D.Phil. from Oxford University. Her research focuses on the public challenges of the modern corporation and legal doctrine relating to the corporate form. She has previously served as summer extern for Judge William Fletcher on the U.S. Court of Appeals for the Ninth Circuit and Judge Edward Chen on the U.S. District Court for the Northern District of California.

Kushal Shah is a Senior Associate at State Street Global Advisors (SSGA) in the Global Equity Beta Solutions Research team. He is responsible for research and development of equity strategies with a focus on incorporating ESG factors in the portfolio construction process. Prior to joining SSGA, Kushal worked at HDFC Bank with the FX Sales team. Kushal holds an M.S. in financial economics from Columbia Business School, an M.B.A. from the Indian Institute of Management, Bangalore, and a B.S. in Electrical & Electronics Engineering from the National Institute of Technology, Trichy.

Diane Strauss is the lead of the NGO Transport & Environment in France, where she seeks to accelerate the energy transition of the transportation industry through advocacy. She is the former Research Director of the Yale Initiative on Sustainable Finance (YISF) where she developed and conducted research projects. She has eight years of experience in sustainable finance and policy. Before joining YISF, Diane worked for the think tank 2DegreesInvesting Initiative, for the European policy office of the World Wildlife Fund (WWF) and for the French investment bank Natixis. She is the author of several research papers published with the UNEP-Inquiry, France Strategy, and Columbia University/Palgrave Macmillan editions, looking into the impact of public policies on the flow of capital for sustainable investments.

Hana V. Vizcarra is a staff attorney at Harvard Law's Environmental & Energy Law Program (EELP), where she leads EELP's portfolio on private sector approaches to climate and environmental issues. Her research includes analyzing legal issues in climate-related risk management and disclosure. Before joining EELP in 2018, Hana practiced environmental law for over seven years at two law firms. She represented clients in environmental litigation, counseled on compliance and regulation, and advised on environmental

aspects of transactions. Before practicing, she worked in political research and communications for seven years. Hana received her JD from Georgetown Law and B.A. from Pomona College.

Ella Warshauer works at the intersection of business and environmental sustainability. She writes on sustainable finance and accelerating the transition to the low-carbon economy, and has researched and published papers on investing in green infrastructure, gender diversity, and the UN Sustainable Development Goals. Ella has experience in the financial services sector, having worked as an analyst at BlackRock, as well as in business operations, where she helped to scale a seed-stage tech startup. Ella earned her B.A. in Economics from Brown University.

Alison Weiner is an ESG Investment Strategist at State Street Global Advisors. Ali's career has focused on mobilizing the public, private, and nonprofit sectors to take collective action on social impact and responsibility goals. She previously worked as a Senior Strategist at Purpose, a strategy consultancy that builds social movements. There, she served businesses, foundations, and nonprofits, designing and implementing strategic advocacy campaigns on several health, human rights, and environmental issues. Ali holds an MBA from the Stanford Graduate School of Business, a Master of Public Administration from the Harvard Kennedy School, and BAs in History and Political Science from Yale College.

Kristina S. Wyatt serves as Latham & Watkins's Director of Sustainability in Washington, D.C., and has written extensively on ESG issues, particularly focusing on public company reporting, green finance, and board governance. She previously served as Legal Counsel to Commissioner Roel C. Campos of the U.S. Securities and Exchange Commission. Kristina holds an M.B.A. (Sustainability) from Yale University, a JD from the University of Colorado, and a B.A. from Duke University.

List of Figures

- Fig. 6.1 Mosaic theory in traditional investing (*Source* Corporate Finance Institute, “Mosaic Theory: The Analysis of Public and Non-Public Material and Non Material Information to Determine a Security’s Underlying Value,” www.corporatefinanceinstitute.com accessed October 18, 2019) 91
- Fig. 6.2 Mosaic theory in context of responsible investing and big data (*Source* Corporate Finance Institute, “Mosaic Theory: The Analysis of Public and Non-Public Material and Non Material Information to Determine a Security’s Underlying Value,” www.corporatefinanceinstitute.com accessed October 18, 2019; AllianceBernstein analysis) 91

List of Tables

Table 8.1	The value of everything (United Nations Environment Program. (2015). <i>The Value of Everything.</i>)	115
Table 10.1	Sample climate/environmental data	149
Table 10.2	Detailed results of simulated climate change-aware portfolios	156
Table 14.1	Global guidelines	218
Table 14.2	Government managed markets	221
Table 14.3	Green bond guidelines and standards	223

Part I

Introduction



1

Sustainable Investing at a Turning Point

Daniel C. Esty and Todd Cort

Abstract Sustainable investing has expanded from a niche interest to a mainstay of investment strategies around the world. With a growing number of investors focused not just on the financial promise of the companies in their portfolios but also the environmental, social, and governance performance of these enterprises, the demand for better ESG metrics and reporting has skyrocketed. This book explains the critical concepts, trends, risk frameworks, and investment tools that investors of all kinds—including those in stocks, bonds, private equity, infrastructure projects, and impact investing—need to know. With informative essays from a range of scholars, policy experts, and investment practitioners, it explores the state of play in sustainable finance with particular focus on the data, guidelines, legal standards, and principles required to make ESG reporting more trustworthy and thus sustainable investing more mainstream.

Keywords Sustainable investing · ESG reporting · Sustainability imperative · Financial regulation · Sustainable Development Goals · 2015 Paris Climate Change Agreement · Sustainable finance · Impact investing

D. C. Esty (✉) · T. Cort
Yale University, New Haven, CT, USA
e-mail: daniel.esty@yale.edu

T. Cort
e-mail: todd.cort@yale.edu

Intro

Sustainable investing has become a booming investment category. According to the Morningstar 2020 Sustainable Landscape Report, there are now more than 300 sustainability-oriented mutual funds and Exchange Traded Funds (ETFs) in the United States with total assets as of 2020 just under \$150 billion—up nearly 35% in the past three years.¹ While stock markets tumbled as a result of the COVID-19 pandemic, sustainability funds showed much greater resilience than other investment vehicles. And as markets recovered, the flow of capital into sustainable equity funds outpaced competing conventional equity funds.² As attention shifted from the public health crisis to economic recovery, a growing emphasis emerged in many circles on the need to “build back better”³—meaning more sustainably. In addition, the Black Lives Matter protests that erupted around the world in 2020 threw into high profile a series of social concerns including racial justice and economic inequality and raising questions about corporate cultures and workplace diversity. All of these recent events offer a signal of just how significant sustainable investing and finance have become—and explain why interest in *environmental, social, and governance* (ESG) metrics has taken off.

This interest spans the world. Indeed, the Global Sustainable Investment Alliance estimates that the assets under management (AUM) in funds that deploy some form of sustainability screening in their investment strategy now exceed \$30 trillion.⁴ While this figure may be an overestimate—because the depth of the sustainability focus considered by these funds varies widely—the scale of these numbers suggests that sustainable investing must be seen not as a fad but rather the new essential lens for investors in the twenty-first century.

Tracking Trends

The growing interest in sustainable investing reflects a number of trends that this book seeks to map and explain. Most notably, an ever-expanding number of mainstream investors have begun to insist that their portfolios better reflect their *values*—including their concerns across a spectrum of environmental, social, and governance (ESG) issues. Of course, investors range widely in their specific interest in ESG performance, with some focused narrowly on single issues such as climate change or diversity in the workplace. Others want to exclude companies that produce goods or services that they find objectionable, so some funds engage in *negative exclusions*—divesting from

whole industry categories such as alcohol, tobacco, gambling, and firearms, or from poor performers on select issues such as greenhouse gas emissions or respect for human rights. And yet others simply want their investments tilted toward companies that are moving the world toward a sustainable future and to underweight those that are not helping to shift society onto a sustainable trajectory.

The rising interest in sustainable investing and finance, and the related focus on ESG reporting, has begun to reshape not just equity markets but the world of fixed income investments as well. So-called *green bonds*, for example, grew from \$2.6 billion in 2012 to \$257.7 billion in 2019.⁵ As this volume demonstrates, a similar push toward sustainability can be found among private equity investors, hedge funds, and other specialized investment vehicles.

Investors vary not only in the sustainability issues they care about but also in how they deeply they want to lean into sustainability factors and their tolerance for risk, leading to a wide range of sustainable investing strategies. Some strategies seek to deliver outsized returns or *green alpha*. Others simply tilt toward sustainable companies using *smart beta* strategies. And some are aimed at investors who will accept sub-par returns because their focus is on *impact investing*, which means they prioritize societal benefits alongside their financial gains.

A second factor driving interest in the flow of capital toward support of a sustainable future can be traced to two landmark 2015 agreements: the UN Sustainable Development Goals (SDGs) and the Paris Climate Change Agreement. The 17 SDGs spell out a set of clear policy priorities for governments across the world, highlighting the need for improved results on a diverse set of critical challenges including hunger, poverty, clean water, economic development, human rights, and climate change.⁶ Beneath the 17 topline goals, the UN effort specifies 169 quantitative targets to sharpen the focus on what needs to be done by not just governments, but also the business community and non-governmental organizations of all kinds. In this regard, the negotiations that led to both the 2015 Paris Agreement and the SDGs made it clear that success in achieving progress would require substantial flows of capital toward meeting the needs that had been defined.⁷ Both agreements specifically indicate that traditional development assistance and other government funds will be insufficient to the task—and thus that private capital will be essential for expanded sustainability efforts in general and to the global response to climate change in particular.

Policymakers estimate that as much as \$3 trillion per year in new investments will be needed to shift society toward a sustainable energy future and

to meet the targets set by 2030 Sustainable Development Goals.⁸ Delivering capital at this scale necessitates a vast increase in *sustainable finance*—with funds flowing toward sustainable projects, infrastructure, and companies. The UN Secretary General has outlined various barriers to the scale-up of funding for sustainability projects⁹ with particular emphasis on “misaligned incentives and regulations, limited awareness, and difficulties in identifying, measuring, and reporting on sustainable investments.”¹⁰ Various chapters in *Values at Work* offer suggestions about how to overcome these obstacles.

Investment Logic

Both more data on corporate ESG performance and expanded incentives to channel capital toward companies and projects are needed to facilitate the transition to a sustainable future. But whether sustainable investing makes sense from a *financial* perspective continues to be debated. In the chapters that follow, we review the issues under contention. In particular, we explore the theoretical logic for investing in sustainability leaders, including the pathbreaking work of Harvard Business School professor Mike Porter, who hypothesizes that sustainability efforts can spur innovation.¹¹

We also look at the empirical studies that purport to demonstrate a correlation between the integration of ESG indicators into portfolio choices and investment outperformance.¹² But while cutting-edge corporate environmental strategy and sustainability leadership leads to financial success in some instances,¹³ not every claim of sustainability pays off. And the exact causal relationships and correlation circumstances remain unclear.¹⁴ Moreover, some analysts theorize that companies focused on sustainability will underperform their peers, especially in markets that do not regulate effectively and permit pollution harms to go unaddressed (or as economists would say, for externalities to go *uninternalized*), thus damaging the competitiveness of companies that run out in front of the market in terms of their commitment to greenhouse gas emissions control or other sustainability actions.¹⁵

Some investors clearly anticipate a sweeping societal transformation toward a more sustainable future. They hope that a focus on ESG metrics will allow them to capture the upside of the economic shifts driven by this *sustainability imperative*.¹⁶ They may seek to invest in renewable power companies or those selling energy efficiency goods and services that stand to benefit from the transition toward a clean energy future. Others will focus on divesting from companies that are heavily invested in fossil fuels that create *carbon exposure*

and the risk of *stranded assets* such as oil and coal reserves that might never get to be exploited.

Yet other sustainability-minded investors see high scores on ESG metrics as a signal of resiliency and the capacity to outperform under difficult circumstances or in a down market. And indeed, the COVID-19 epidemic provides some evidence in support of this hypothesis, as sustainability funds weathered the market drop much better than their conventional counterparts.¹⁷ In a world where resilient companies are more likely to deliver long-term growth, investors have shown increasing interest in ESG screening as an important signal of likely future marketplace success.

Ramping up Sustainable Investing

In this book, we review and explain the tools, standards, frameworks, and tangible efforts that will be needed to make ESG screening more effective and trustworthy—thus building the confidence of investors who want to bring a sustainability emphasis to their portfolios, which in turn will translate into scaled-up sustainable investing.¹⁸ In Part II, we explore the current state of play in terms of measuring corporate ESG performance as well as the impact of sustainable investments. We highlight how ESG metrics will need to evolve and improve to allow greater comparability across companies—thereby permitting *real* sustainability leaders to be distinguished from those engaged in *greenwashing*—as well as to generate deeper insights for investors, providing ESG signals that are meaningful and likely to translate into long-term financial value.

In Part III, we look at the changing world of financial products in the sustainable investing marketplace. While sustainability-oriented fixed income products, such as green bonds, have scaled-up dramatically in recent years, bond funding will be insufficient to the scale of infrastructure that must be built. Thus, several chapters analyze how an ESG focus is being brought to other asset classes. In particular, we assess what will be required to expand equity investments, both public and private, to deliver the capital flows required for sustainable future growth.

In Part IV, we explore the complex and interdependent worlds of financial regulation, sustainability disclosure, and legal liability. ESG disclosures in the context of financial reporting represent one of the fastest changing elements of the sustainable investing realm, as investors demand increasingly detailed and decision-useful ESG performance data. Meanwhile, companies face difficulty in balancing potential legal challenges and business risks from