MANAGING CLIMATE CHANGE RISKS

UC Investments, 2023

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I. Executive Summary

This annual climate risk report integrates UC Investments' climate-related strategies, metrics, and targets. Like our 2021 and 2022 reports, the 2023 report aligns with the Financial Stability Board's Task Force on Climate-Related Financial Disclosure (TCFD). We have undertaken this reporting in the spirit of learning and with the hope it helps advance the institutional investment community's efforts to address the risks of climate change.

Since our 2021 report, UC Investments has continued to manage the risks to our portfolio stemming from climate change. Of note:

- In addition to providing carbon data and analytics for our public equities and corporate debt portfolios, UC Investments now provides carbon data and analytics for our private equity and private credit portfolios – together covering roughly 73% of our assets under management by dollar value (see Chart 9). We anticipate being able to add real estate and real assets coverage next year.
- Greenhouse gas emissions from UC Investments' public equities portfolio fell by 5.2% from 2022 – to roughly 5.5 million metric tons – even as the dollar value of that portfolio increased by 8.3% (see Chart 14). Greenhouse gas emissions from UC Investments' private equity and private credit portfolios were roughly 214,000 metric tons (see Chart 16).
- While the emissions rate of our benchmark index increased by 8.5% from 2022, the emissions rate of UC's public equities portfolio increased by only 5.8% (see Chart 17).
- Our negative screening of fossil fuel reserves has proven to be an effective means of managing climate-related transition risks. At the same time, excluding fossil fuel reserve owning companies has resulted in higher one-year, five-year and ten-year net returns versus the MSCI ACWI IMI Index (see Chart 5).
- UC's ~$1 billion investment in clean energy is now responsible for 3.2 gigawatts of newly installed wind, solar and battery storage energy projects – equivalent to five or six coal plants' worth of electricity generation.

II. Introduction

The Office of the Chief Investment Officer of the Regents of the University of California (UC Investments) manages the pension, endowment, retirement savings, and working capital of the University of California (UC). We think of ourselves as an organization that invests for the next 100 years by seeking the best long-term return on investments for our university and its stakeholders. When we make investment decisions, our centennial orientation and fiduciary duty lead us to actively consider the fundamental challenges and risks facing society, including climate change.[1]

The University of California is a leader in sustainability. Building upon the successes of its 2013 Carbon Neutrality Initiative, UC is committed to reducing total emissions (scope 1, 2, and 3) systemwide by at least 90% by 2045 without relying on carbon offsets.[2] Our pioneering faculty and researchers advance knowledge of climate change science and solutions and our dedicated staff integrate climate change considerations into the operations of our 10 campuses, six academic medical centers, extensive network of agricultural and natural resource centers and the Lawrence Berkeley National Laboratory. The University of California supports the Paris Agreement.[3]

UC Investments manages six distinct investment products, including the defined benefit UC Retirement Plan (UCRP), the defined contribution UC Retirement Savings Program (UCRSP), the General Endowment Pool (GEP), the Blue & Gold Pool (BGP), the Short-Term Investment Pool (STIP), and the Total Return Investment Pool (TRIP). As of June 30, 2023, the total value of assets across these funds stood at $164 billion, with 77% invested in public markets and the remaining 23% in private markets.[4] Of the public market assets, roughly 92% were managed through passive indices, with the remaining 8% in actively managed accounts.

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[1] For more information on UC Investments, see:
https://www.ucop.edu/investment-office/210924_ucannualreport2021_digital.pdf

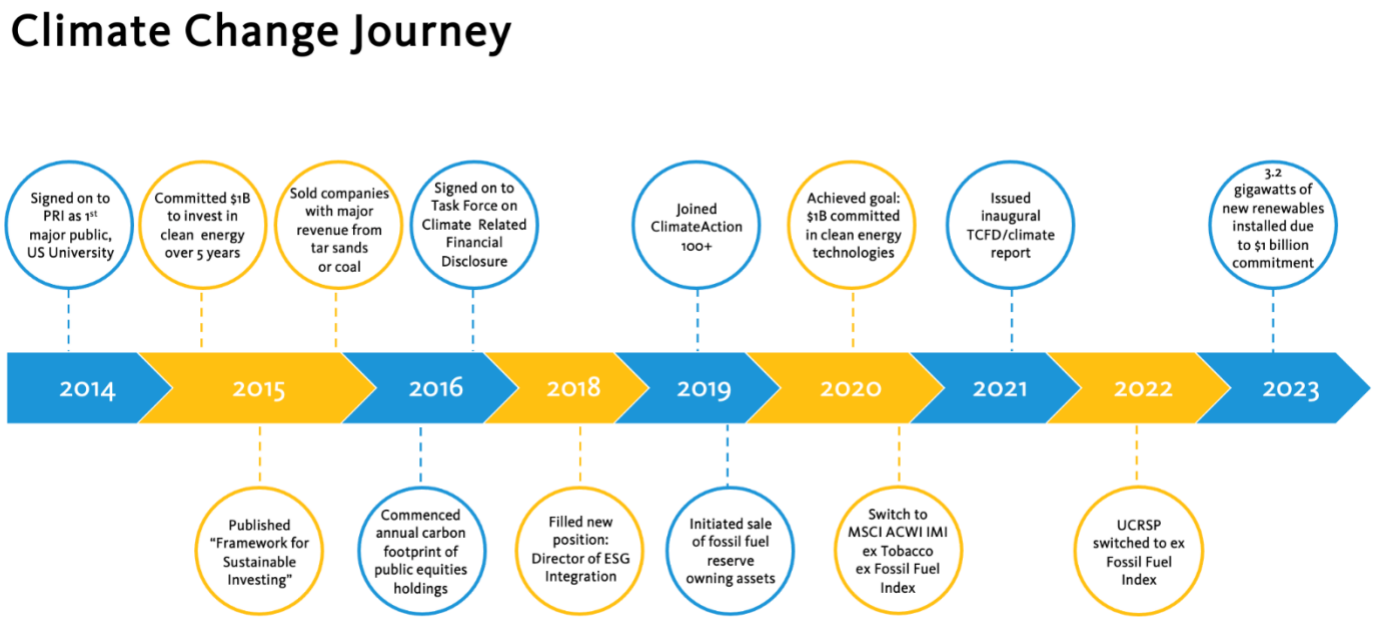
[2] **Climate Action | UCOP**

[3] See: **https://www.universityofcalifornia.edu/press-room/uc-president-drake-lauds-us-return-paris-agreement** One of the goals of the Paris Agreement is holding the increase in the global average temperature to less than 2°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

[4] Unless otherwise noted, all data on UC Investments' holdings are as of June 30, 2023.

UC Investments began our climate change journey in 2014, the same year we joined the UN Principles for Responsible Investment (UNPRI). In 2016, as a signatory to the PRI's Montreal Carbon Pledge, we began publicly reporting the "carbon footprint" – metric tons of greenhouse gas emissions – of our portfolio. We also signed onto the Financial Stability Board's Task Force on Climate-Related Financial Disclosure recognizing that robust and consistent corporate and asset owner disclosure of climate-related financial risks and opportunities can lead to more informed investment decisions.

CHART 1



III. The Task Force on Climate Related Financial Disclosures

Following the 2015 Paris Agreement, the Financial Stability Board, an international body that monitors and makes recommendations about the global financial system, developed a framework of consistent climate-related financial disclosures for corporations and investors. The recommendations report, released in 2017, focused disclosures on four areas:

1. **Governance**: An organization's governance around climate-related risks and opportunities.

2. **Strategy**: The actual and potential impacts of climate-related risks and opportunities on an organization's businesses, strategy, and financial planning.

3. **Risk management**: The processes used to identify, assess, and manage climate-related risks.

4. **Metrics and targets**: The metrics and targets used to assess and manage relevant climate-related risks and opportunities.[5]

In addition to the above recommendations, supplemental guidance requirements apply to asset owners such as UC Investments.

IV. Governance

The Board of Regents of the University of California oversees UC Investments' strategy on climate change and UC's chief investment officer (CIO) develops and implements that strategy.

The Board of Regents, pursuant to the California Constitution, has "full powers of organization and governance" subject only to very specific areas of legislative control.[6] The board defines the goals and objectives of UC's investment funds, and is responsible for establishing and approving changes to each fund's investment policy statements. Further, "[t]he Board of Regents may delegate the implementation of this policy to committees, the Chief Investment Officer and investment advisors."[7] The Investments Committee is tasked with "provid[ing] strategic direction and oversight, mak[ing] recommendations to the Board, and tak[ing] action pursuant to delegated authority on matters pertaining to University investment strategy and operations and pertaining to the review and reporting of investment results."[8]

Specifically related to climate and sustainability risks and opportunities, the board charges UC Investments with the following responsibilities:

> The Office of the Chief Investment Officer shall incorporate environmental sustainability, social responsibility, and governance (ESG) into the investment evaluation process as part of its overall risk assessment in its

[5] TCFD, "Recommendations of the Task Force on Climate-related Financial Disclosures" (2017). Available at: **https://www.fsb-tcfd.org/publications/**. For updated and expanded implementation guidance, see: TCFD, "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (2021). Available at: **https://www.fsb-tcfd.org/publications/#implementing-guidance**

[6] California Constitution, Article 9. Available at: **https://policy.ucop.edu/delegations-of-authority/california-constitution-article-9-education.html.**

[7] UC Board of Regents, "University of California Retirement Plan Investment Policy Statement" (2020). Available at: **https://regents.universityofcalifornia.edu/policies/6101.pdf**.

[8] UC Board of Regents (2019). "Appendix F – Charter of the Investments Committee." Available at: **https://regents.universityofcalifornia.edu/governance/committee%20charters/appendix-f.html**.

> investments decision making. ESG factors are considered with the same weight as other material risk factors influencing investment decision making.[9]

The CIO, who reports to the Board of Regents, is responsible for integrating climate risk into the investment process. To implement this charge, the CIO's team, including the chief operating officer, the director of ESG integration, the chief risk officer, and the investments team, analyzes and incorporates climate-related data into investment decisions. Both the CIO and COO have a portion of their compensation linked to the entity's performance on ESG integration.

[9] UC Board of Regents, "University of California Retirement Plan: Investment Policy Statement," July 1, 2020. Available at: **6101.pdf (universityofcalifornia.edu)**

V. Strategy

Since the 2015 publication of our Framework for Sustainable Investing,[10] UC Investments has proactively addressed ESG-related risks, including climate-related risks, within our investment practices. The framework identified eight ESG factors most relevant to UC Investments' work, including climate change, food and water security, and a circular economy.[11]

From there, UC Investments developed a climate change strategy through which we manage climate-related risks to our investment portfolio; invest in transformational climate solutions; engage with portfolio companies to address climate-related risks; and refine our strategy based on evolving data. This strategy applies broadly to all our assets under management, with some UCRSP-related exceptions, since, as a defined contribution plan, asset allocation and investment decisions ultimately rest with individual plan participants.[12]

CHART 2

[10] UC Investments, "Framework for Sustainable Investing," (2015). Available at: **sustainable-investment-framework.pdf (ucop.edu)**

[11] The framework's other ESG factors (inequality, aging population, diversity, and human rights) can all be exacerbated by climate-related challenges in ways that are financially material.

[12] Unlike the pension and endowment, participants are outright owners of the accumulated assets within their individual UCRSP accounts. UC Investments' responsibility is to curate an investment lineup that allows participants to build a cost effective and diversified portfolio.

We discuss managing risk and engaging as a shareholder in section VI and refining our approach in section VII. But first we turn to the element of our strategy that identifies and pursues investment opportunities in climate change solutions.

UC Investments believes the transition to a low carbon economy creates compelling investment opportunities; in 2015, we set a goal of investing $1 billion in climate change solutions over five years. This commitment is in addition to our investments in climate tech products and services created by publicly owned companies. We believe that private market investments – whether through venture capital, growth equity, infrastructure, or related fund vehicles – have provided more efficient and profitable opportunities to advance sustainable growth than have publicly owned companies. In 2020, we surpassed our $1 billion investment goal through capital commitments that have generated strong returns, contributed to a cleaner electric grid, and accelerated new technologies.

Cumulatively, UC's capital commitments to clean energy projects have led to the acquisition or development of more than 3.15 gigawatts of wind, solar and battery storage projects in the U.S., Canada, Ireland, India, and Japan. Most of these clean gigawatts were developed through investments in utility-scale renewables platforms, as well as an aggregator strategy to own and operate commercial and industrial solar opportunities.

Our investments have also accelerated the scaling of new technologies that can mitigate climate change. For example, UC Investments has committed more than $218 million to two climate tech venture capital teams, Congruent Ventures[13] and the MIT Engine Fund.[14] From electric vehicle fleet charging software to solar finance tools, to superconducting electric transmission lines, Congruent's portfolio companies are enabling and accelerating the transition to a clean, resilient energy system. The Engine Fund invests long-term capital in startups to "help bridge the gap between discovery and commercialization for the most promising teams and breakthrough inventions– so they don't get stuck inside a lab."[15] Its portfolio companies include those focused on decarbonizing the manufacturing processes for carbon-intensive industrial materials, such as cement and steel.

[13] See, **https://congruentvc.com/**
[14] See, **https://engine.xyz/about/our-mission**
[15] Id.

VI. Risk Management

The TCFD broadly categorizes climate-related financial risks as either transition risks (those stemming from the transition to a lower-carbon economy) or physical risks (those stemming from the physical impacts of climate change).[16] UC Investments manages climate change risks throughout our investment process, as shown in Chart 3 and described more fully below.

CHART 3

Negative Screening

UC Investments considers stranded asset risk as a key climate change transition risk. To mitigate this risk to our portfolio, UC Investments sold its assets related to coal and oil sands in 2015. In 2019, UC Investments announced it would sell its shares in companies held in our endowment and pension plan that owned any amount of "proved and probable" fossil fuel (defined as thermal coal, oil, and/or gas) reserves. In 2020, we expanded this commitment to cover working capital and private market assets as well. In 2022, the University of California removed all companies that own fossil fuel reserves from the UCRSP fund offering.[17]

To achieve our fossil fuel exclusion goal, UC Investments uses negative screening across all asset classes. Our largest asset class, public equities, tracks the MSCI All-Country World Index (ACWI) Investable Market Index (IMI) ex Tobacco ex Fossil Fuel Index, which excludes approximately 300 fossil fuel reserve owning companies.[18] We also exclude these companies from our investments in corporate debt. Chart 4

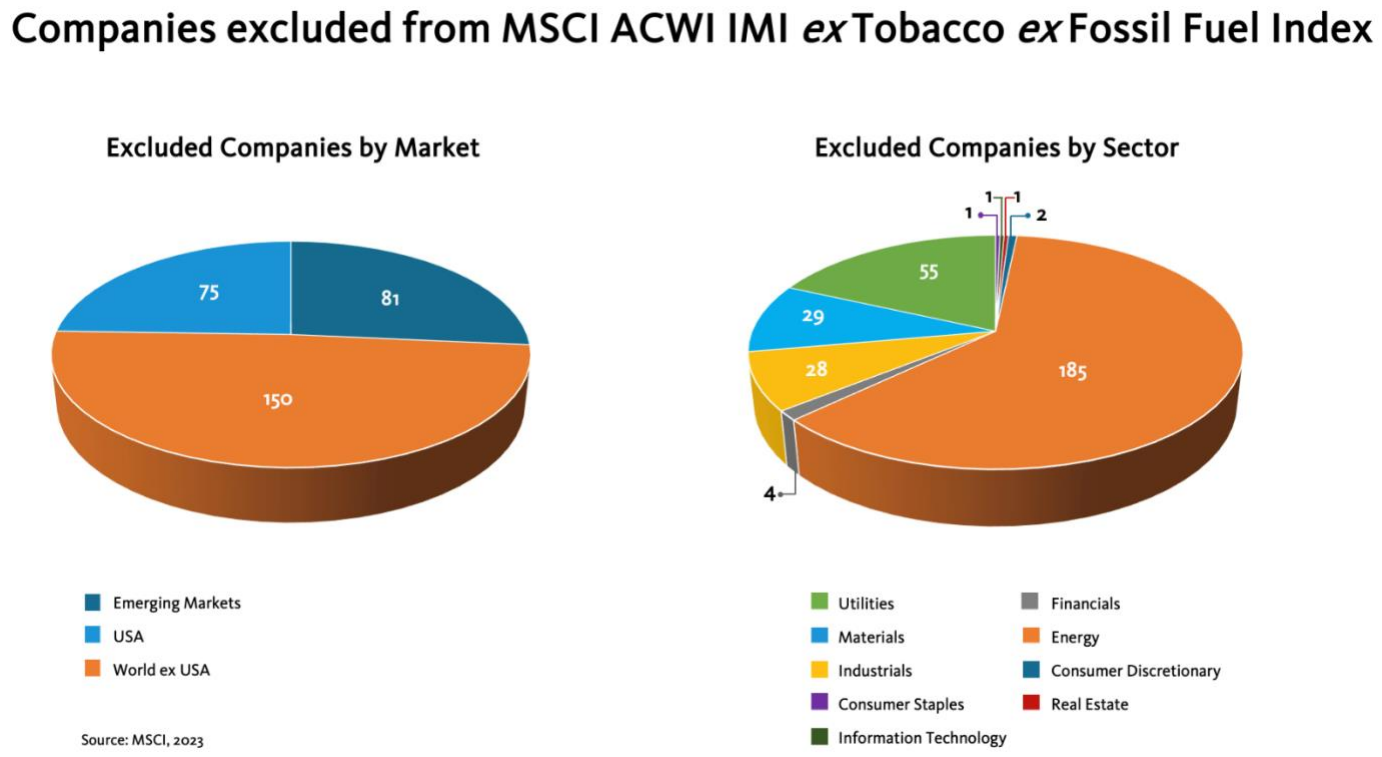
[16] TCFD, "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures," at 9 (2021). Available at: **https://www.fsb-tcfd.org/publications/#implementation-guidance**. For specific examples of transition and physical risks, please see Appendix A.

[17] For more information, see: **https://www.myucretirement.com/Resource/2312**

[18] For more information, see: **https://www.msci.com/our-solutions/indexes/index-categories/esg-indexes/global-fossil-fuels-exclusion-indexes**.

provides a breakdown – by market and sector – of companies screened by the MSCI ACWI IM *ex* Tobacco *ex* Fossil Fuel Index (as of August 2023).

CHART 4



To the extent that fossil fuel reserve owning companies are held in commingled accounts, [19] UC Investments has reduced its exposure by converting most of those accounts into separately managed accounts that exclude fossil fuel reserve owning companies. For investments in private equity, private credit, real assets, absolute return and real estate (which account for 23% of our AUM), we screen fossil fuel reserve owning assets using a bespoke process that synthesizes relevant data on portfolio companies.

As discussed in Section VII, negative screening of fossil fuel reserves has proven to be an effective means of managing climate-related transition risks. At the same time,

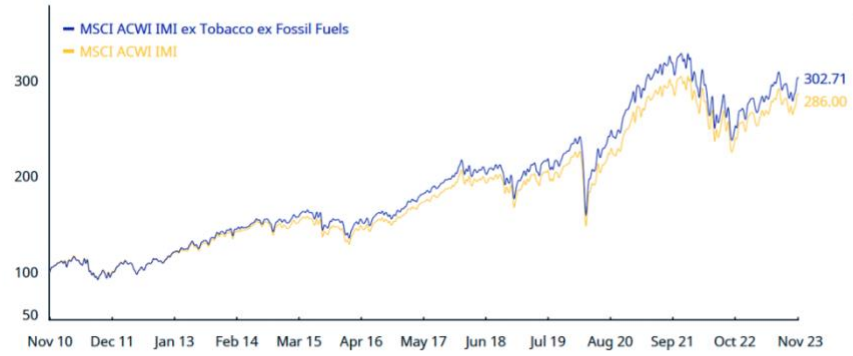
[19] "Commingled accounts" combine investments from multiple sources into one fund over which the fund's investors have no discretion.

excluding fossil fuel reserve owning companies has resulted in higher one-year, five-year and ten-year net returns versus the MSCI ACWI IMI Index, as shown in Chart 5.

CHART 5

Ex Fossil Fuel Index (Out) Performance

CUMULATIVE INDEX PERFORMANCE – NET RETURNS (USD)
(NOV 2010 – NOV 2023)



ANNUAL PERFORMANCE (%)

Year	MSCI ACWI IMI ex Tobacco ex Fossil Fuels	MSCI ACWI IMI
2022	-20.42	-18.40
2021	17.70	18.22
2020	18.52	16.25
2019	27.33	26.35
2018	-9.77	-10.08
2017	24.93	23.95
2016	7.15	8.36
2015	-0.60	-2.19
2014	5.54	3.84
2013	25.21	23.55
2012	18.32	16.38
2011	-8.50	-7.89

INDEX PERFORMANCE – NET RETURNS (%) (NOV 30, 2023)

					ANNUALIZED				FUNDAMENTALS (NOV 30, 2023)			
	1 Mo	3 Mo	1 Yr	YTD	3 Yr	5 Yr	10 Yr	Since Nov 30, 2010	Div Yld (%)	P/E	P/E Fwd	P/BV
MSCI ACWI IMI ex Tobacco ex Fossil Fuels	9.74	1.30	11.76	16.33	4.56	8.81	7.80	8.89	1.99	20.39	16.64	2.65
MSCI ACWI IMI	9.24	1.16	11.09	15.52	5.37	8.71	7.41	8.41	2.12	19.31	15.89	2.53

Source: MSCI, 2023

Shareholder Engagement

Given that most of our portfolio is invested in public equities, investment stewardship – voting our proxies and engaging directly with publicly listed companies on material ESG topics – is a core element of our climate-related risk management approach. Through proxy voting and shareholder engagement, we encourage the companies we invest in to monitor, assess, disclose, and mitigate their climate risks to help create long-term value.

UC Investments' proxy voting guidelines pay particular attention to climate change related risks and opportunities, as shown in Chart 6.[20]

[20] "UC Investments Proxy Voting Guidelines." Available at: **https://www.ucop.edu/investment-office/sustainable-investment/active-ownership/custom-proxy-guidelines.pdf**.

CHART 6

Proxy Voting to Address Climate Change Risks

We generally vote our proxy in support of shareholder proposals that:

- Seek information on a company's climate related financial, physical, or regulatory risks & on how it identifies, measures and manages such risks;
- Call for the reduction of GHG emissions or adoption of GHG goals;
- Seek disclosure of research that informed company policies around climate change; or
- Request reports on GHG emissions from companies' operations and/or products

In the 2022-2023 proxy season, UC Investments voted on 144 climate-related shareholder proposals as shown in Chart 7.

CHART 7

Proxy Voting on Climate-Related Shareholder Resolutions

Climate Theme	For	Against
Lobbying	12	0
Exploration/Use of Coal, Oil, Gas, Nuclear	2	6
Report/Scenario Analysis	33	4
Retirement Plans	5	0
Financing/Underwriting	25	2
Emission Targets	25	1
Low Carbon Transition	11	6
Just Transition	5	0
Misc.	3	4
Total climate-related votes	121	23

Data provided by ISS for the 2022-2023 proxy season.

In addition to exercising our proxy votes, UC Investments retains a consulting service that engages directly with corporate leadership on our behalf.[21] In collaboration with other large institutional investors, we identify companies for which climate change poses significant material risks and then, through our consultant, enter a sustained dialogue with corporate leadership to advance our recommended climate risk management strategies, as summarized in Chart 8. We bolster our influence and expand our reach as a member of coalitions focused on climate-related investment risks, such as Climate Action 100+, an investor-led effort that seeks to persuade high emitting companies to transition to net zero emissions.[22]

CHART 8

Climate Risk-Related Shareholder Engagement, 2022-2023

Engagement Goals	Sectors Engaged	Topics Engaged
✓ A plan to cut emissions to net zero by 2050 at the latest, with interim targets;	Consumer Discretionary	Net zero strategy
✓ A credible strategy to implement the net zero target, including alignment of capital expenditures;	Consumer Staples	Emissions Management
✓ A strong governance framework to oversee climate strategy;	Energy	Disclosure and Transparency
✓ Risk analysis and disclosure in line with the TCFD; and	Financials	Energy Transition
✓ Lobbying and public policy practices consistent with this approach.	Health Care	Resilience and Adaptation
	Industrials	Climate Finance
	Information Technology	Climate Change Other
	Materials	Just Transition
	Real Estate	Climate Change Lobbying
	Utilities	

Source: Columbia Threadneedle, 2023

Manager Selection

In addition to excluding investments in fossil fuel reserve owning assets, we seek to integrate climate change risk – both transition and physical – into our processes for

[21] See, **https://www.columbiathreadneedle.co.uk/en/inst/about-us/responsible-investment/#Active-ownership** Working through our engagement consultant, UC Investments is part of a coalition with roughly $1.16 trillion worth of combined assets.

[22] See, **https://www.climateaction100.org/**. In addition, UC Investments leverages its work on climate through the FAIRR Initiative, which assesses the physical and transition related climate risks to the food sector (see, **https://www.fairr.org/**) and the PRI, which provides resources to learn about and act on climate change's impacts to investment portfolios (see, **https://www.unpri.org/**).

selecting and monitoring active managers.[23] Depending on a manager's strategy, climate change transition and/or physical risks may be material; during our due diligence process, we evaluate the manager's climate risk and risk mitigation strategy, using quantitative and qualitative measures.[24]

VII. Refining our Approach: Metrics

We refine our climate change strategy and risk management actions over time, informed by three main sources of information: UC faculty, staff and students focused on addressing climate change, our engagement with other investors and stakeholders through peer networks and collaborative initiatives, and our metrics and targets.

UC Investments began tracking emissions of carbon dioxide equivalent (CO2e) for public equities in 2016.[25] In 2021, we began tracking CO2e emissions for corporate debt. This year, we are further expanding our carbon data coverage to include two more asset classes – private equity and private credit. As a result, UC Investments now quantifies the CO2e emissions for roughly 73% (by dollar value) of our assets (excluding cash), as indicated in Chart 9.

[23] UC Investments does not manage investments directly; rather, we select external managers to do so.
[24] To inform our integration of climate risk analysis into manager selection processes, UC Investments incorporates data, data analytics, materiality frameworks and other decision support tools from third party providers, including for example, MSCI, the Sustainable Accounting Standards Board (SASB) and the CDP.
[25] Carbon dioxide equivalent (CO2e) is a catch-all term that includes emissions of all seven greenhouse gases, not just carbon dioxide. Each greenhouse gas has a different global warming potential (GWP); CO2e normalizes the values by converting them all to the GWP of CO2.

CHART 9

Carbon Data by Asset Class

UC Investments' Asset Classes	Value as of June 30, 2023	Carbon Data Used in Report?
Public Equity	$86 billion	Yes
Fixed Income: Government	$23.1 billion	No
Private Equity	$14.5 billion	Yes
Fixed Income: Corporate	$11.7 billion	Yes
Real Estate	$10.9 billion	No
Cash	$5.0 billion	N.A.
Real Assets	$4.7 billion	No
Private Credit	$4.5 billion	Yes
Absolute Return	$2.7 billion	No
Fixed Income: Other	$0.9 billion	No
Total AUM=$164 billion. Percentage of portfolio AUM (except cash) covered by carbon analytic data=73%.		

In calculating the data for Charts 11-21 below, we rely on reports, prepared by MSCI and Burgiss, that analyze UC Investments' holdings.[26] Detailed information on the methodologies MSCI uses to calculate the carbon data we rely on is publicly available.[27] The carbon data calculations are based on available data for the dollar value of approximately 99% of UC's public equities and corporate debt portfolios (excluding cash) and approximately 78% of UC's private equity and private credit portfolios. We include Scope 1 and 2 – but not Scope 3 - emissions data, due to the lack of reliable, verifiable and/or standardized data for Scope 3 emissions.[28]

[26] Although UC Investments' information providers, including without limitation, MSCI ESG Research LLC and its affiliates (the "ESG Parties") obtain information from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness of any data herein. None of the ESG Parties makes any express or implied warranties of any kind, and the ESG Parties hereby disclaim all warranties of merchantability and fitness for a particular purpose, with respect to any data herein. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein. Further, without limiting any of the foregoing, in no event shall any of the ESG Parties have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

[27] Please see https://www.msci.com/legal/disclosures/climate-disclosures

[28] Scope 1 emissions are direct emissions of greenhouse gases, such as direct combustion of fuel from owned or controlled sources of a company. Scope 2 emissions are indirect emissions of greenhouse gases from the

CHART 10

Summary of MSCI ESG Research's Climate Metrics

Climate Metric	Unit	Investment Question Answered
Carbon Footprint	tCO_2e	What is the annual amount of CO_2e emissions from the companies in the portfolio?
Carbon Footprint Normalized	tCO_2e/$million invested (EVIC and/or market cap)	For every USD 1 million of financing of the companies in the portfolio, what is the amount of carbon emissions an investor will be responsible for?
Weighted Average Carbon Intensity	tCO_2e/USD million revenues	What is the amount of carbon emissions the companies in the portfolio emit to generate every USD 1 million of revenue?
Potential Carbon Emissions	tCO_2e/$million invested (EVIC and/or market cap)	What is the amount of potential carbon emissions (in tons of CO_2e) embedded in the fossil-fuel reserves (coal, oil and gas) owned by the companies in the portfolio?
Low Carbon Transition Risk Exposure	% of market value	What percentage of the portfolio's market value is exposed to climate transition risks?

Adapted from MSCI ESG Research, 2023

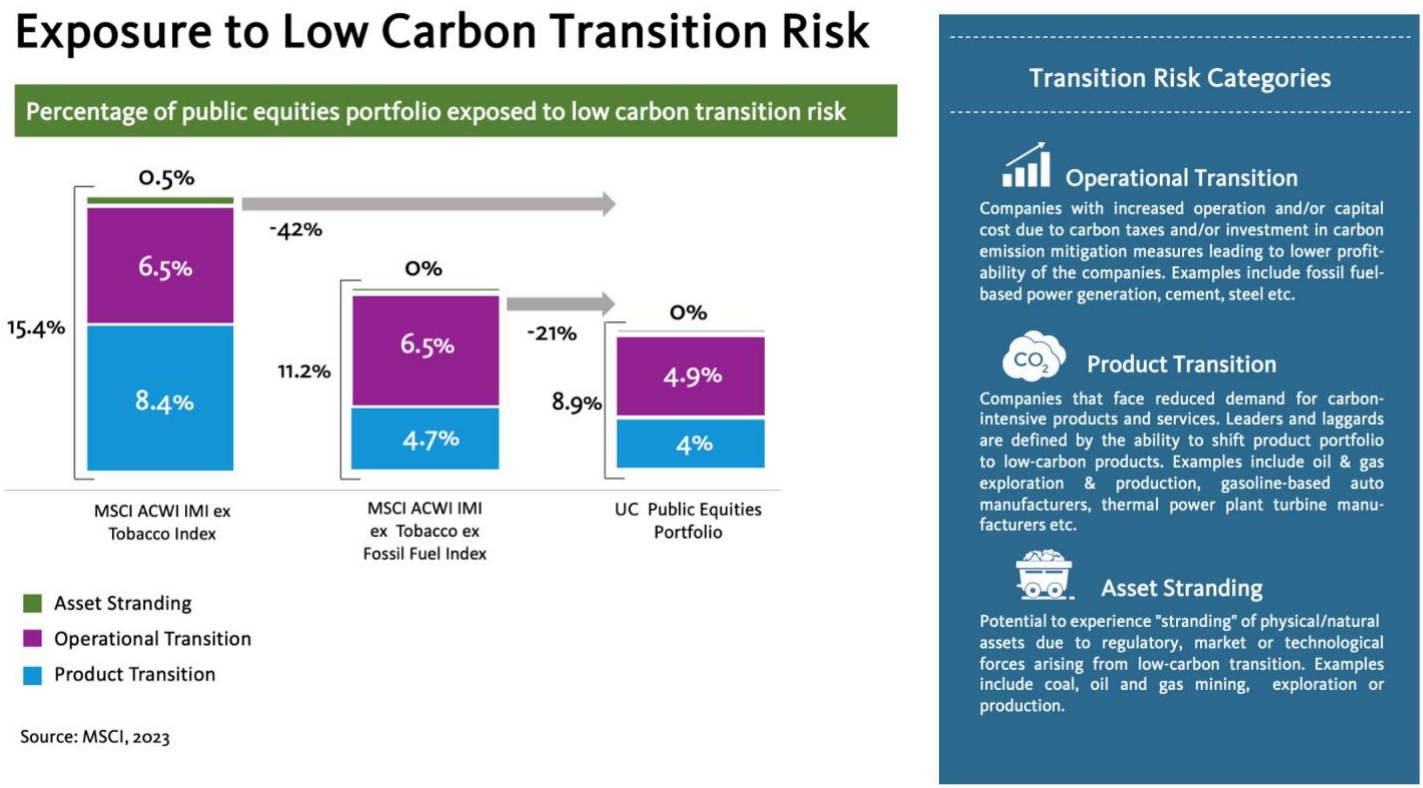
Metrics: Low Carbon Transition Risk

The term "low carbon transition" refers to the global economy's shift to low or no greenhouse gas emitting sources of energy. This transition poses risks to - and opportunities for – companies due to regulatory, technological and market forces.[29] On the one hand, companies that create low carbon products and services – such as electric vehicles and renewable energy – could benefit from the transition to a low carbon economy. On the other hand, most companies face varying types and degrees of risk. The chart below illustrates the exposure of our $86 billion public equities portfolio to low carbon transition risk – 8.9%, or roughly $7.7 billion, is exposed.

generation of purchased energy. Scope 3 emissions are all indirect emissions of greenhouse gases (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

[29] For more information on low carbon transition risks, see Appendix A.

CHART 11



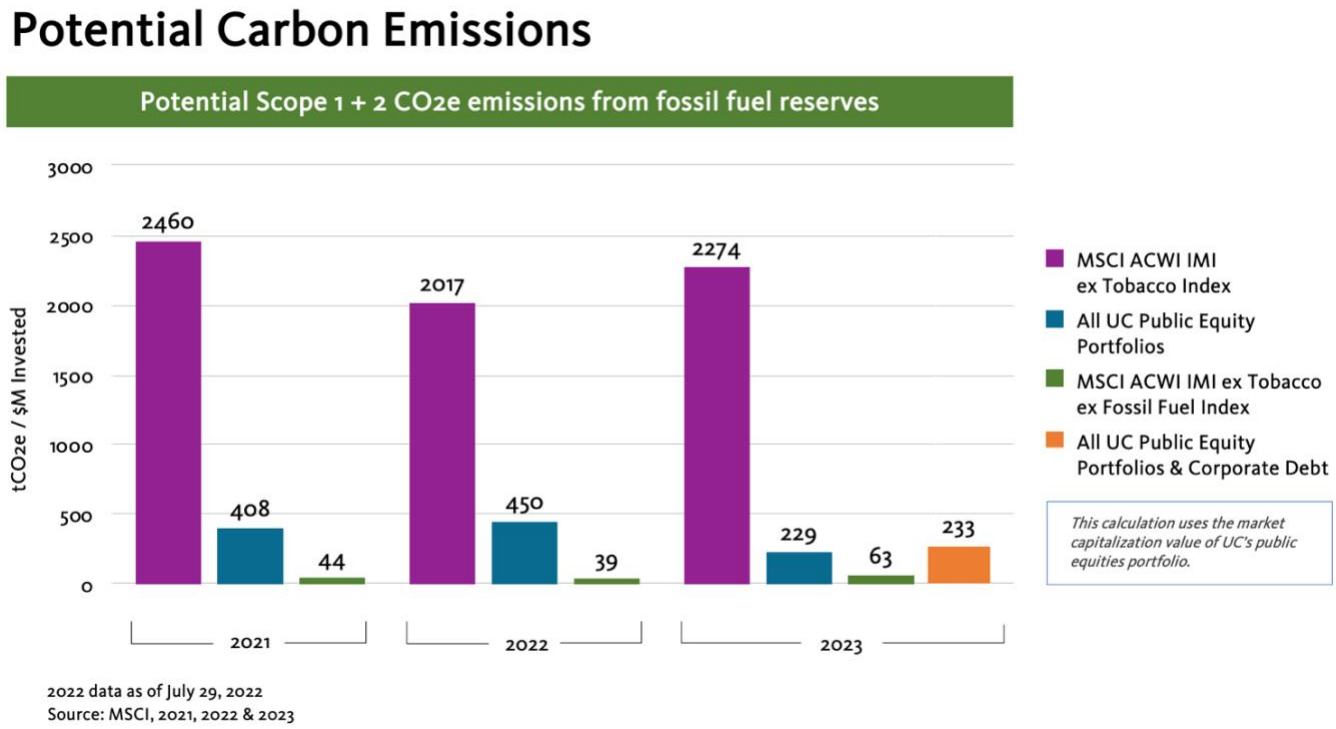
As Chart 11 indicates, our public equities portfolio is 42% less exposed to low carbon transition risk than the MSCI ACWI IMI ex Tobacco Index, primarily due to our decision to follow the MSCI ACWI IMI ex Tobacco ex Fossil Fuel Index.[30] The value of UC Investments' public equities portfolio is 21% less exposed to low carbon transition risk than the MSCI ACWI IMI ex Tobacco ex Fossil Fuel Index, primarily due to our selection of public equity managers.

Charts 12 and 13 below quantify the potential future emissions from the stranded fossil fuel reserve assets in our public equity portfolio. Using a market capitalization value of UC's portfolio, Chart 12 indicates that UC's potential future CO2e emissions from fossil fuel reserves have decreased by 49% since 2022. The potential future CO2e emissions from fossil fuel reserves in UC's public equities portfolio are 90% lower than those of a portfolio that tracks the MSCI ACWI IMI ex Tobacco Index, but

[30] These two indices contain the same roughly 9,000 securities, except that the latter excludes fossil fuel reserve owning companies. UC Investments tracked the former index until July 2020, when we began tracking the ex-Fossil Fuel Index.

72% higher than those of a portfolio that tracks the MSCI ACWI IMI ex Tobacco ex Fossil Fuel Index.[31]

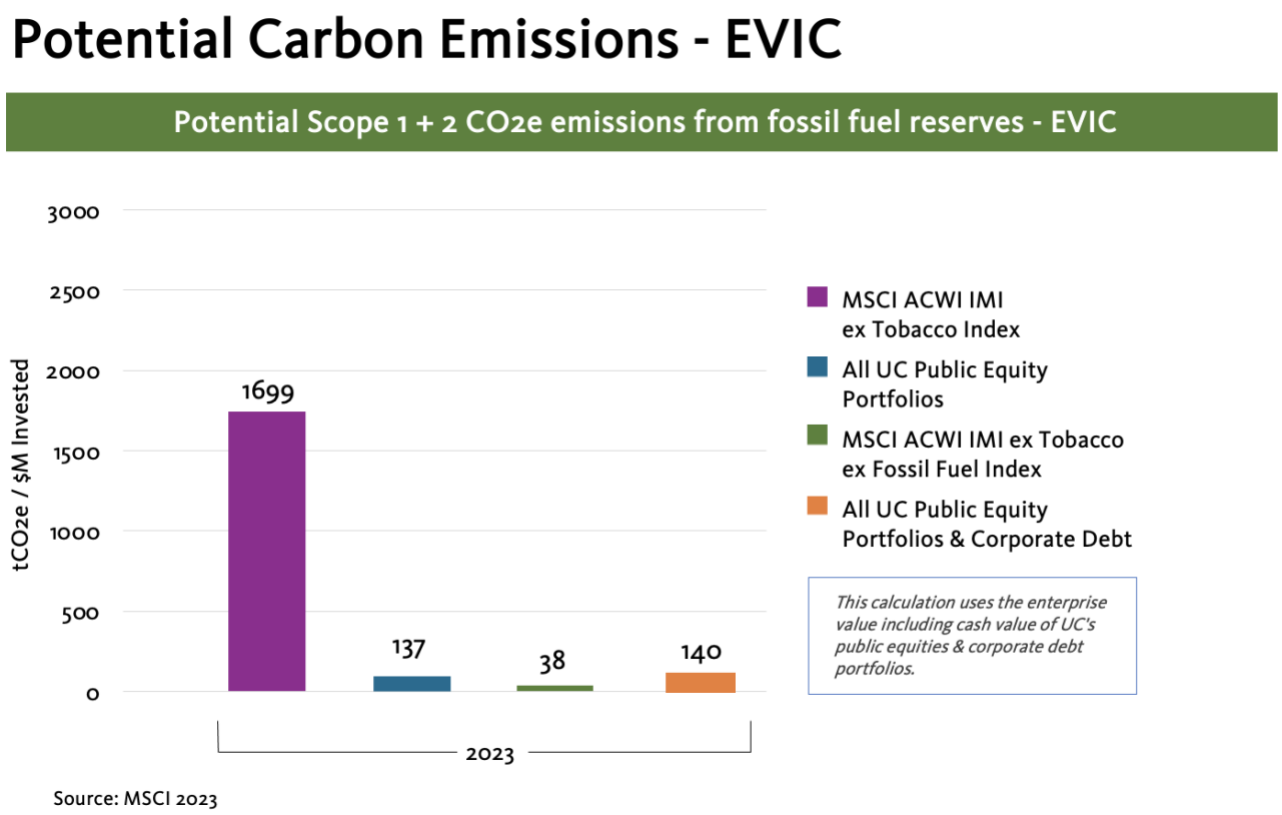
CHART 12



Using an enterprise value including cash (EVIC) value, the results are similar, as shown in Chart 13.

[31] There are some fossil fuel reserves even in the MSCI ACWI IMI ex Tobacco ex Fossil Fuel Index, as Chart 12 indicates. As outlined in the MSCI Global ex Fossil Fuel Exclusion Indexes Methodology, the Fossil Fuel Reserves screen applied does not exclude metallurgical coal reserve ownership and companies with fossil fuel reserves used for other applications such as industrial application (e.g., companies classified in the Steel, Diversified Chemicals or Commodity Chemicals sub-industries). Source: https://www.msci.com/our-solutions/indexes/index-categories/esg-indexes/global-fossil-fuels-exclusion-indexes

CHART 13

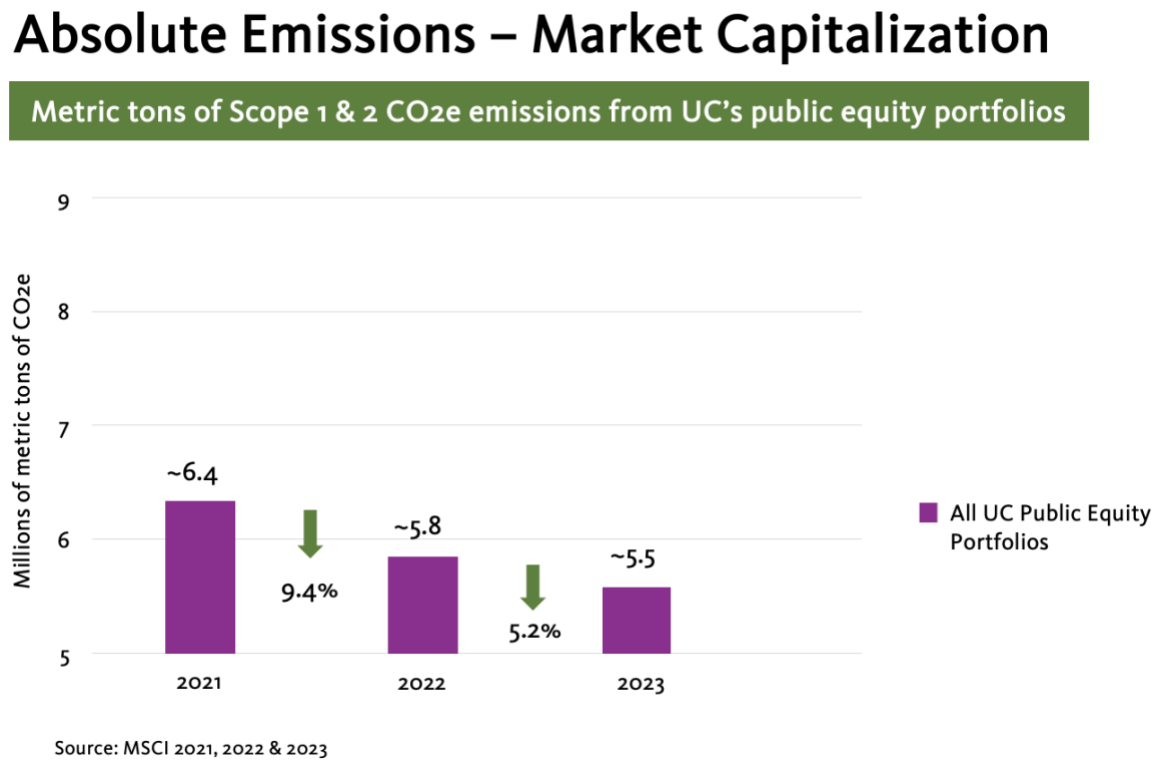


Metrics: Carbon Footprints

The "carbon footprint" of an investment portfolio, broadly speaking, measures the greenhouse gas emissions stemming from the portfolio companies. UC Investments tracks three different types of carbon footprints. One type (Charts 14-16) shows the emissions of CO2e in metric tons – essentially the climate impact of UC's portfolio; the next (Charts 17-19) shows emissions of CO2e per million dollars invested – essentially the climate impact of UC's portfolio normalized by the amount invested; and the third type of footprint (Charts 20-21) shows the weighted average carbon intensity of UC's portfolio – or UC's exposure to carbon intensive companies.

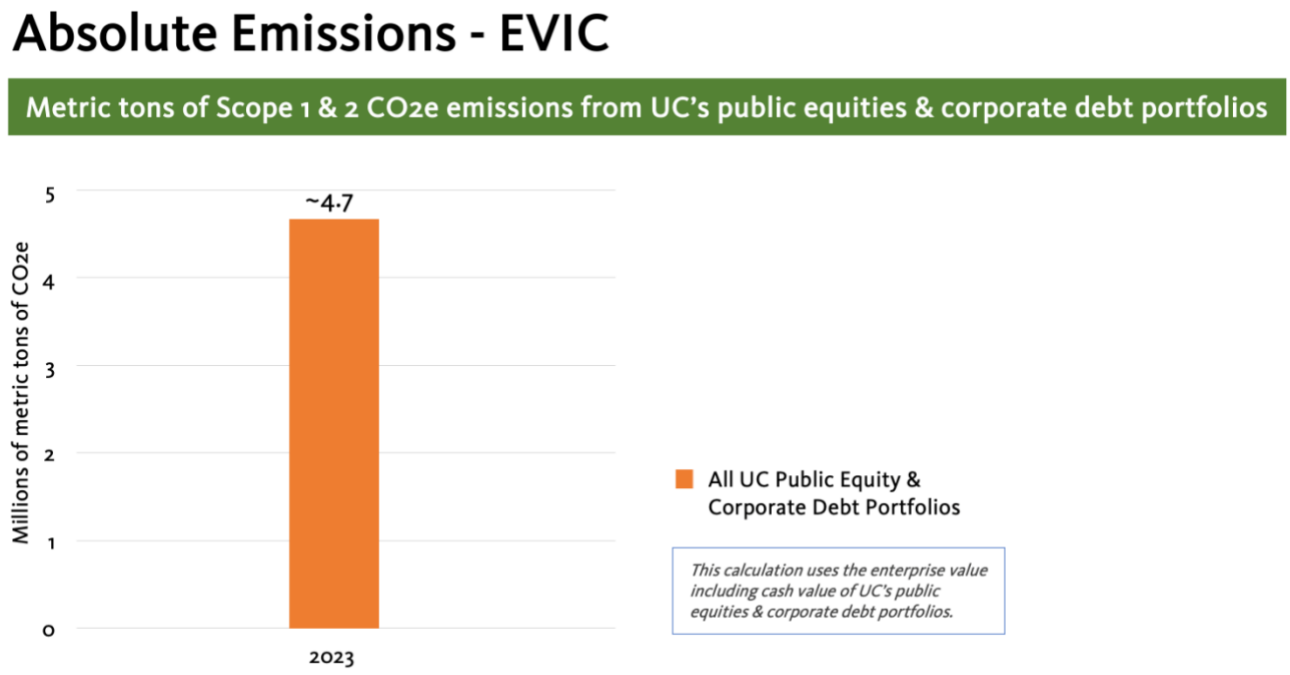
As shown in Chart 14 below, the metric tons of greenhouse gases emitted from the companies in UC Investments' public equities portfolio decreased by 5.2% from 2022 to roughly 5.5 million metric tons of CO2e in 2023. Chart 15 shows the emissions data in metric tons using an EVIC value – since this is our first year using EVIC, we have no trend data yet. Chart 16 provides the CO2e emissions of UC's private equity and private credit portfolios.

CHART 14



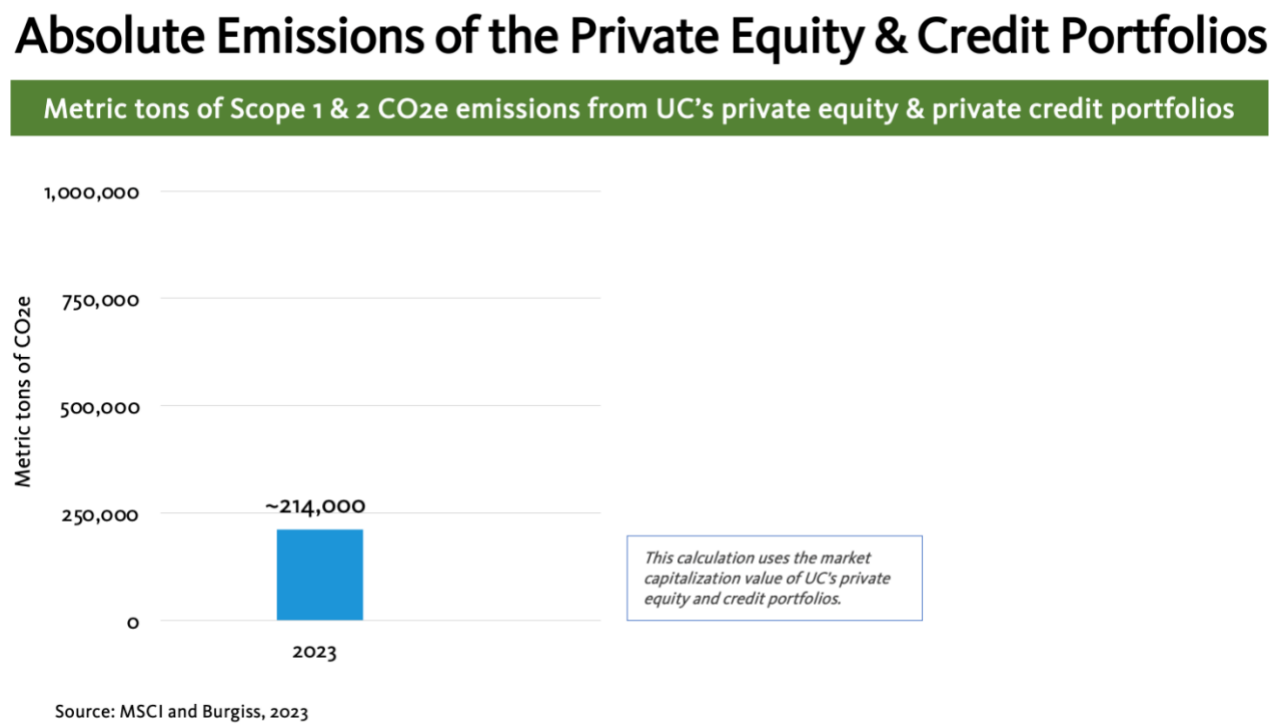
Source: MSCI 2021, 2022 & 2023

CHART 15



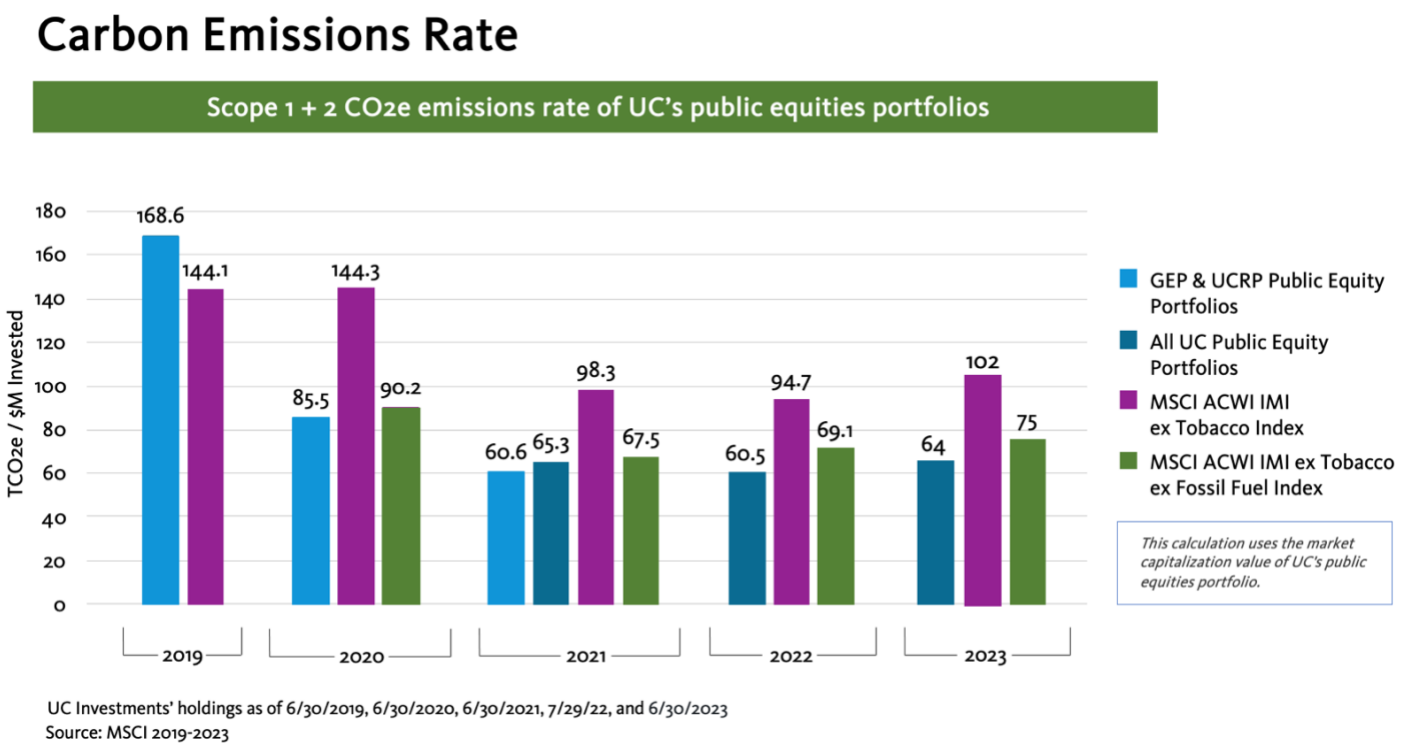
Source: MSCI 2023

CHART 16



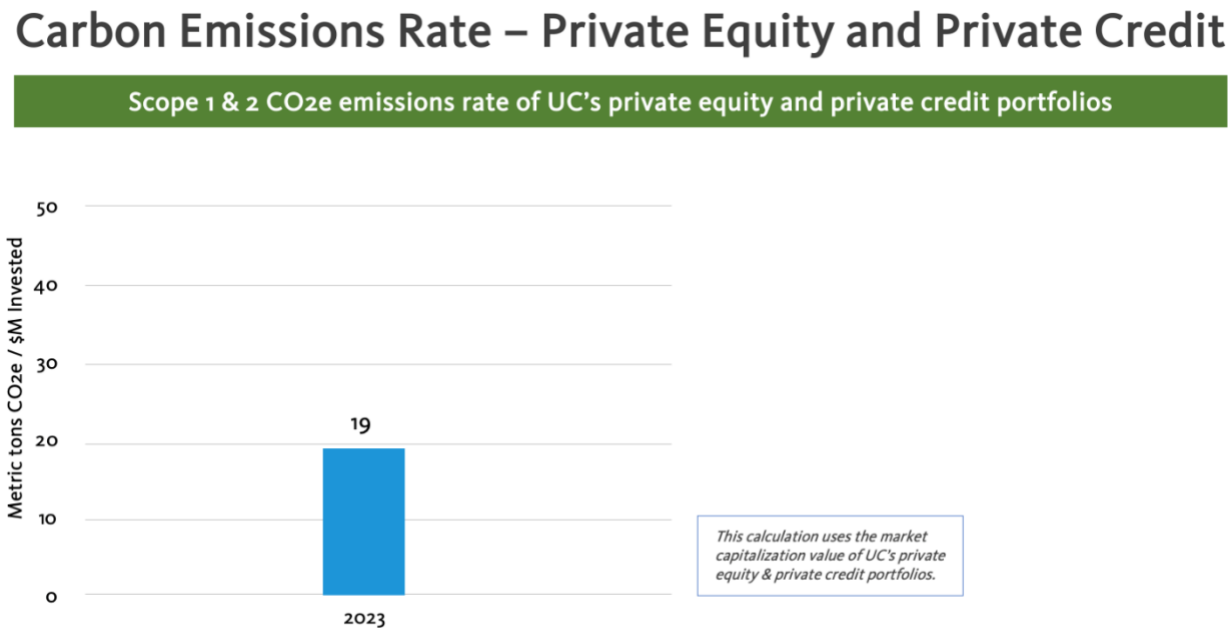
To compare the carbon footprints of portfolios of different dollar amounts, asset owners use a standardized measurement: metric tons of CO2e per million dollars invested. Since 2022, the emissions rate of our benchmark index – the MSCI ACWI IMI ex Tobacco ex Fossil Fuel - increased by 8.5%, but the emissions rate of UC's public equities portfolio increased by only 5.8%. Moreover, UC's emissions rate is 14.6% lower than the benchmark index and 37% lower than that of the "parent" index, the MSCI ACWI IMI ex Tobacco Index as indicated in Chart 17 below.

CHART 17



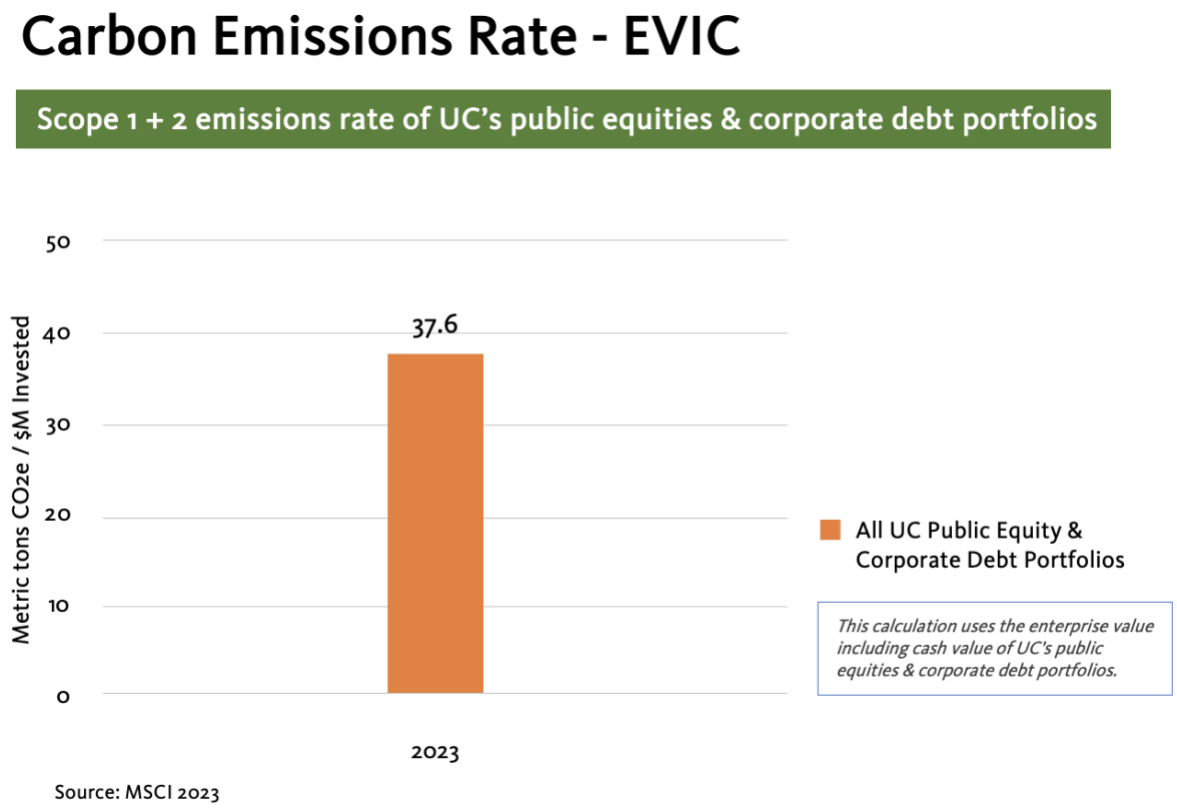
UC Investments' holdings as of 6/30/2019, 6/30/2020, 6/30/2021, 7/29/22, and 6/30/2023
Source: MSCI 2019-2023

CHART 18



Source: MSCI and Burgiss, 2023

CHART 19

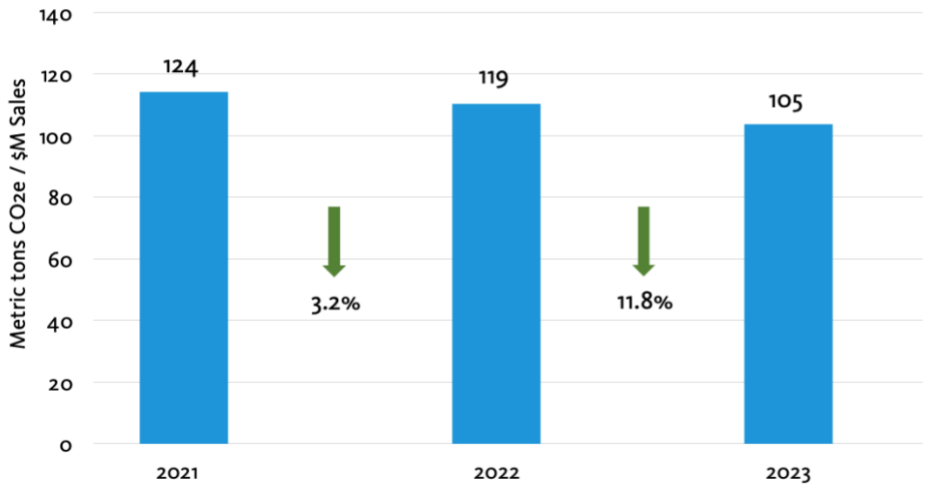


The weighted average carbon intensity (WACI) measures a portfolio's exposure to carbon-intensive companies as determined by the portfolio companies' carbon intensities (normalized over sales) and portfolio weights. This methodology enables the WACI footprint to include corporate debt as well as public equities. Chart 20 below shows that the weighted average carbon intensity of our combined public markets portfolios decreased by 11.8% from 2022 to 2023.

CHART 20

Weighted Average Carbon Intensity

Scope 1 + 2 CO_2e emissions intensity from public equities and corporate debt



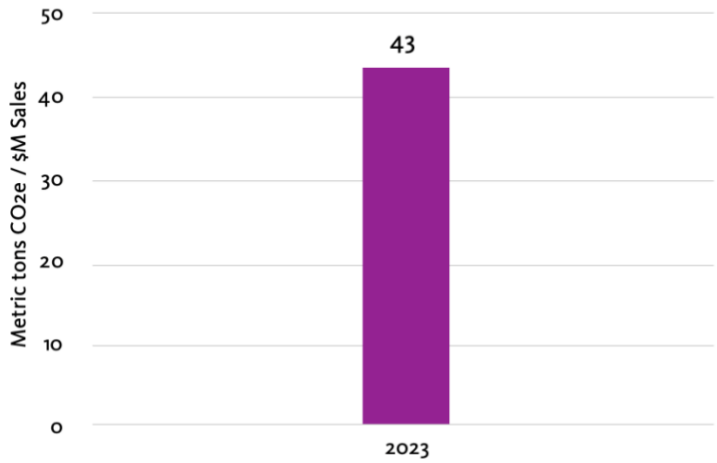
Weighted Average Carbon Intensity measures a portfolio's exposure to carbon-intensive companies by dividing the companies' greenhouse gas emissions into their sales (using portfolio weights of public equity and corporate debt).

UC Investments' holdings as of 7/1/2021, 7/29/22 and 6/30/2023
Source: MSCI, 2021-2023

CHART 21

Weighted Average Carbon Intensity – Private Equity and Private Credit

Scope 1 & 2 CO_2e emissions intensity of UC's private equity and private credit portfolios



This calculation uses the enterprise value including cash value of UC's private equity and private credit portfolios.

Source: MSCI and Burgiss, 2023

Metrics: Dollars Invested in Fossil Fuel Reserve Owning Assets

Through negative screening and sales of assets, the endowment, pension and working capital portfolios contain *de minimis* exposure – significantly less than 1% by dollar value of our assets under management - to fossil fuel reserve owning assets. UC Investments continues to reduce exposure to fossil fuel reserves in both public and private markets investments.

Targets

As discussed above in section V., UC Investments set a target in 2015 to invest $1 billion in transformational solutions to climate change over the course of five years, a target we met in 2020.

VIII. Conclusion

In 2015, UC Investments committed itself to integrating environmental sustainability into our investing, in the belief that doing so would lead to the most accurate risk-reward calculation. Almost ten years on, UC Investments remains committed to taking a leading approach to addressing climate change in our investment portfolio, and we hope this report will serve as the basis for robust dialogue, learning, and continued improvement.

Looking ahead, UC Investments will continue exploring the use of additional metrics and targets to manage climate risk throughout the investment process. We are cautiously optimistic that our data providers will be able to quantify the climate change risks associated with our real assets and real estate portfolios, to be included in our 2024 report. We will continue evaluating the use of climate scenario analysis in our investment and portfolio monitoring decisions.[32]

By continuing to inform our investment process with an assessment of climate risks and opportunities, UC Investments will preserve our ability to achieve sustainable long-term returns for the University of California.

[32]Various tools available on the market enable investors to test their portfolios' exposures against potential future climate scenarios and quantify the present-day costs of both transition and physical risks under those future scenarios. MSCI's Climate Value at Risk tool is one such product. "The premise of Climate VaR is to model costs related to specific climate risks towards the end of the century and with the help of a discounting approach calculate the impact on current asset valuations." MSCI, "Climate Data & Metrics," 2021. Available at: **https://www.msci.com/our-solutions/esg-investing/climate-solutions/climate-data-metrics**. See also: **https://www.msci.com/our-solutions/esg-investing/climate-solutions/scenario-analysis**.

APPENDIX A:
Climate Change Related Investment Risks

Examples of Climate-Related Risks and Potential Financial Impacts

Type	Climate-Related Risks	Potential Financial Impacts
Transition Risks	**Policy and Legal**	
	• Increased pricing of GHG emissions • Enhanced emissions-reporting obligations • Mandates on and regulation of existing products and services • Exposure to litigation	• Increased operating costs (e.g., higher compliance costs, increased insurance premiums) • Write-offs, asset impairment, and early retirement of existing assets due to policy changes • Increased costs and/or reduced demand for products and services resulting from fines and judgments
	Technology	
	• Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Costs to transition to lower emissions technology	• Write-offs and early retirement of existing assets • Reduced demand for products and services • Research and development (R&D) expenditures in new and alternative technologies • Capital investments in technology development • Costs to adopt/deploy new practices and processes
	Market	
	• Changing customer behavior • Uncertainty in market signals – Increased cost of raw materials	• Reduced demand for goods and services due to shift in consumer preferences • Increased production costs due to changing input prices (e.g., energy, water) and output requirements (e.g., waste treatment) • Abrupt and unexpected shifts in energy costs • Change in revenue mix and sources, resulting in decreased revenues • Re-pricing of assets (e.g., fossil fuel reserves, land valuations, securities valuations)
	Reputation	
	• Shifts in consumer preferences • Stigmatization of sector • Increased stakeholder concern or negative stakeholder feedback	• Reduced revenue from decreased demand for goods/services • Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions) • Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention) • Reduction in capital availability

Continued

Type	Climate-Related Risks	Potential Financial Impacts
Physical Risks	**Acute** • Increased severity of extreme weather events such as cyclones and floods	• Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions) • Reduced revenue and higher costs from negative impacts on workforce (e.g., health, safety, absenteeism) • Write-offs and early retirement of existing assets (e.g., damage to property and assets in "high-risk" locations) • Increased operating costs (e.g., inadequate water supply for hydroelectric plants or to cool nuclear and fossil fuel plants) • Increased capital costs (e.g., damage to facilities) • Reduced revenues from lower sales/output • Increased insurance premiums and potential for reduced availability of insurance on assets in "high-risk" locations
	Chronic • Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels	

(The sub-category risks described under each major category are not mutually exclusive, and some overlap exists)
Source: TCFD, 2021, available at: https://www.fsb-tcfd.org/publications/#implementing-guidance

APPENDIX B:
Glossary of Key Terms

Greenhouse gases (GHGs): Greenhouse gas emissions trap heat in the atmosphere and cause the greenhouse effect (climate change). There are seven GHGs: carbon dioxide, methane, sulfur hexafluoride, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and nitrogen trifluoride.

CO2e: This acronym stands for carbon dioxide equivalent. It is a catch-all term that includes emissions of all seven greenhouse gases, not just carbon dioxide. Each greenhouse gas has a different global warming potential; CO2e normalizes the global warming potential.

Scope 1 emissions: Direct emissions of greenhouse gases, such as direct combustion of fuel from owned or controlled sources of a company.

Scope 2 emissions: Indirect emissions of greenhouse gases from the generation of purchased energy.

Scope 3 emissions: All indirect emissions of greenhouse gases (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Decarbonization: The process by which countries, individuals or other entities aim to achieve zero fossil carbon existence. Typically refers to a reduction of the carbon emissions associated with electricity, industry, and transport.

Physical risks: Risks related to the physical or natural environment such as flooding and wildfires that pose a threat to physical assets e.g., buildings, equipment, and people.

Transition risks: Risks from policy changes, reputational impacts and shifts in market preferences, norms, and technology. See Appendix A for more information.

Stranded assets: Assets exposed to devaluations or conversion to "liabilities" because of unanticipated changes in their initially expected revenues due to innovations and/or evolutions of the business context, including changes in public regulations at the domestic and international levels.

Net zero CO2 emissions: Net zero carbon dioxide (CO2) emissions are achieved when anthropogenic CO2 emissions are balanced globally by anthropogenic CO2 removals over a specified period. The term "net zero" is also typically associated with the 2050 date or earlier, as this is aligned with the scientific recommendations to achieve a 1.5°C scenario.

Benchmark index: A market index that may be used as the benchmark against which portfolio performance is evaluated.

MSCI ACWI IMI ex Tobacco Index: This index is based on the MSCI ACWI IMI Index and is designed to represent performance of the full opportunity set of large- and mid-cap stocks across 23 developed and 27 emerging markets, excluding companies that are classified under the tobacco sub-industry based on the Global Industry Classification Standard.

MSCI ACWI IMI ex Tobacco ex Fossil Fuel Index: This index is based on the MSCI ACWI IMI Index and is designed to represent performance of the full opportunity set of large and mid-cap stocks across 23 developed and 27 emerging markets, excluding companies that are classified under the tobacco sub-industry based on the Global Industry Classification Standard or own oil, natural gas, or thermal coal reserves.

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