



# Climate Risk and Opportunity Management

**Francis Janes**  
Industry Relations & Partnerships Director



beneficial state foundation

# Session Outline

- Setting the Stage
  - Climate Trendlines
  - Intergovernmental Panel on Climate Change (IPCC) Report
- Risk Categories
  - Physical Risks
  - Compliance Risks
  - Transition Risks
  - Market Risks
  - Reputational Risks
- What Your Institution Can Do
  - Climate Investment Opportunities
- Next Steps
  - Resources
  - Q & A

# Setting the Stage

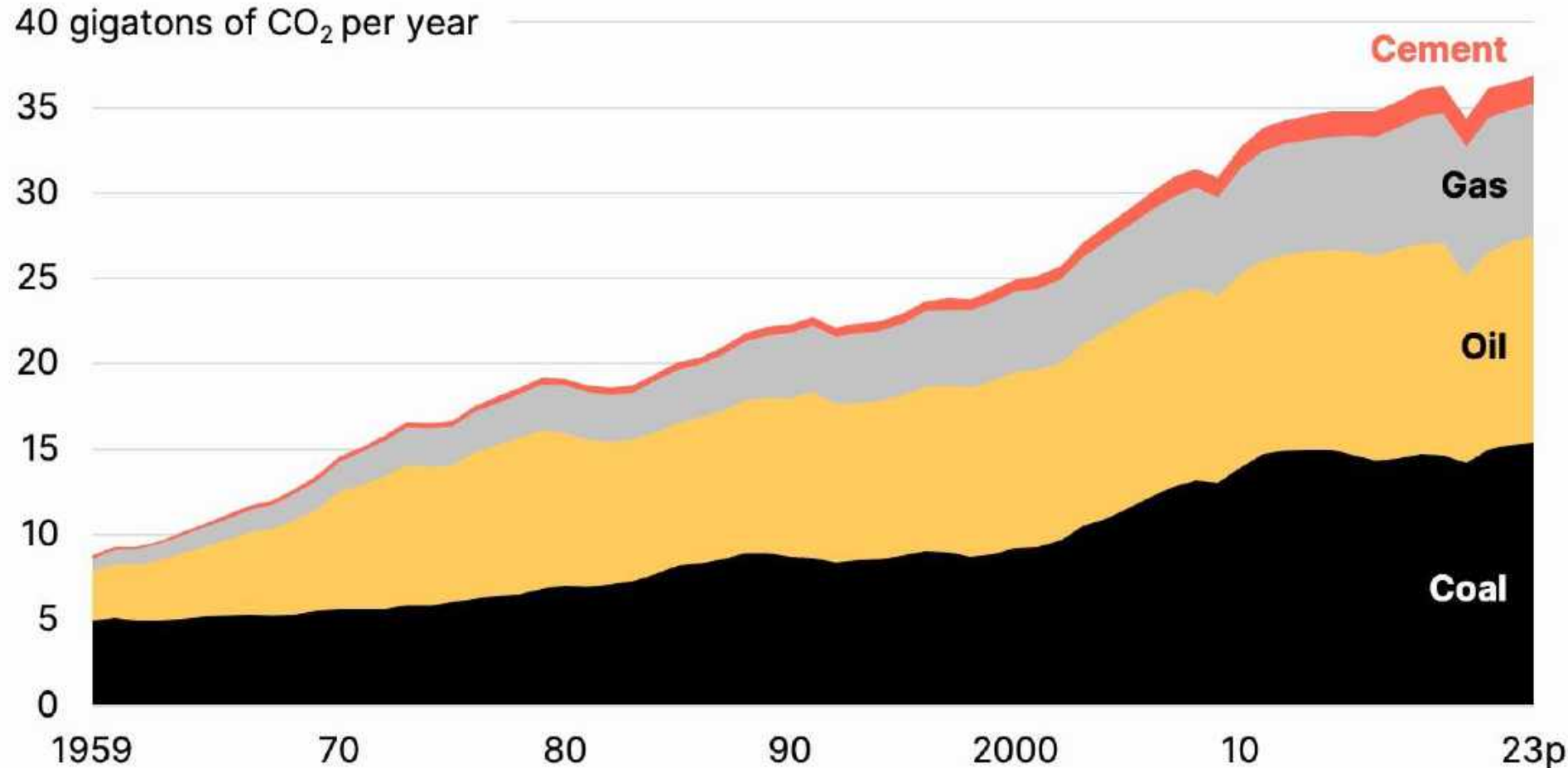




# Fossil fuel emissions are at all-time highs

Emissions have neither risen, nor declined, significantly since 2015

Source:  
Friedlingstein  
et al. (2023),  
Global Carbon  
Budget 2023



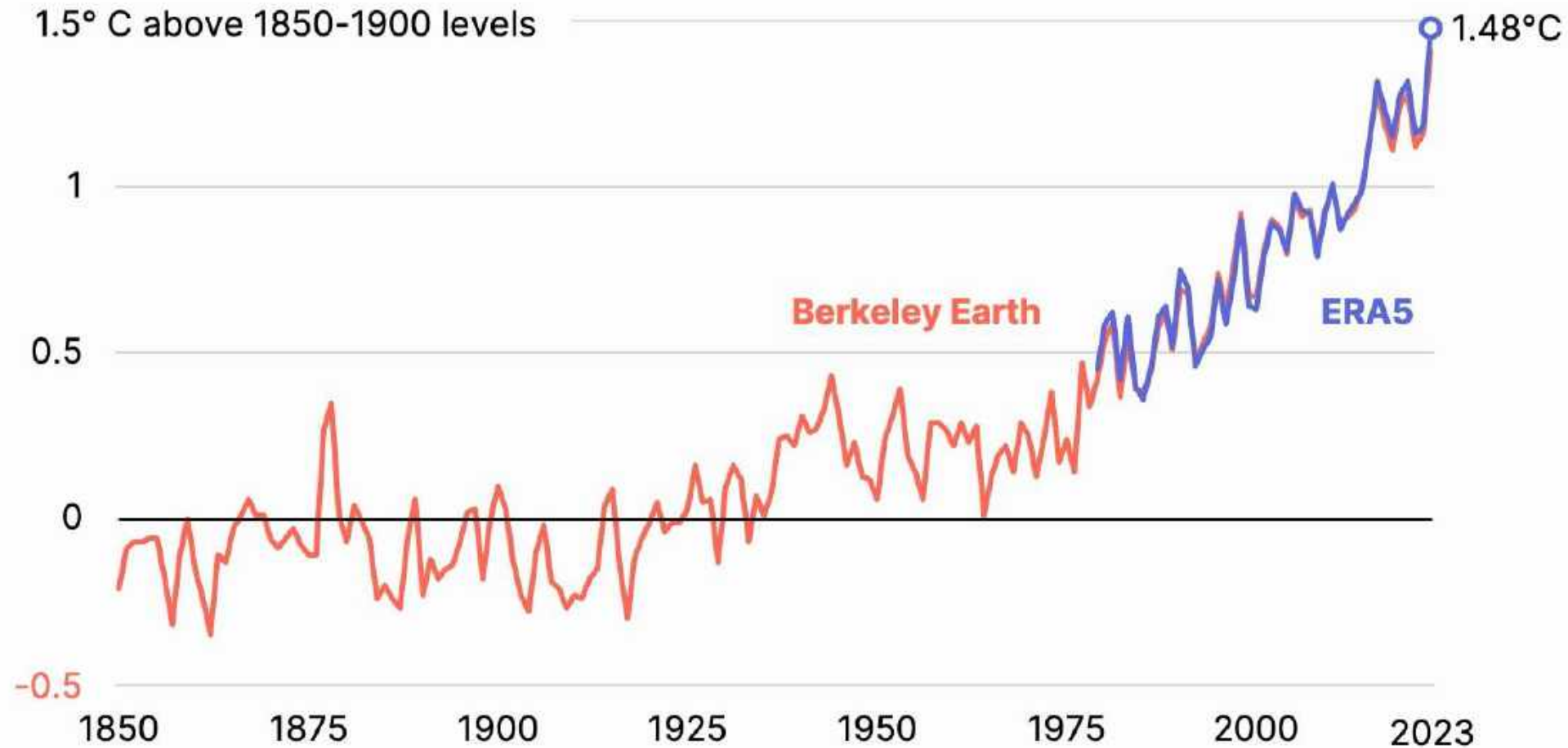
Note:  
2023 is  
preliminary



# The warmest 12 months in 125,000 years

Global temperatures were 1.48° C above the 1850-1900 average, the warmest in 125,000 years

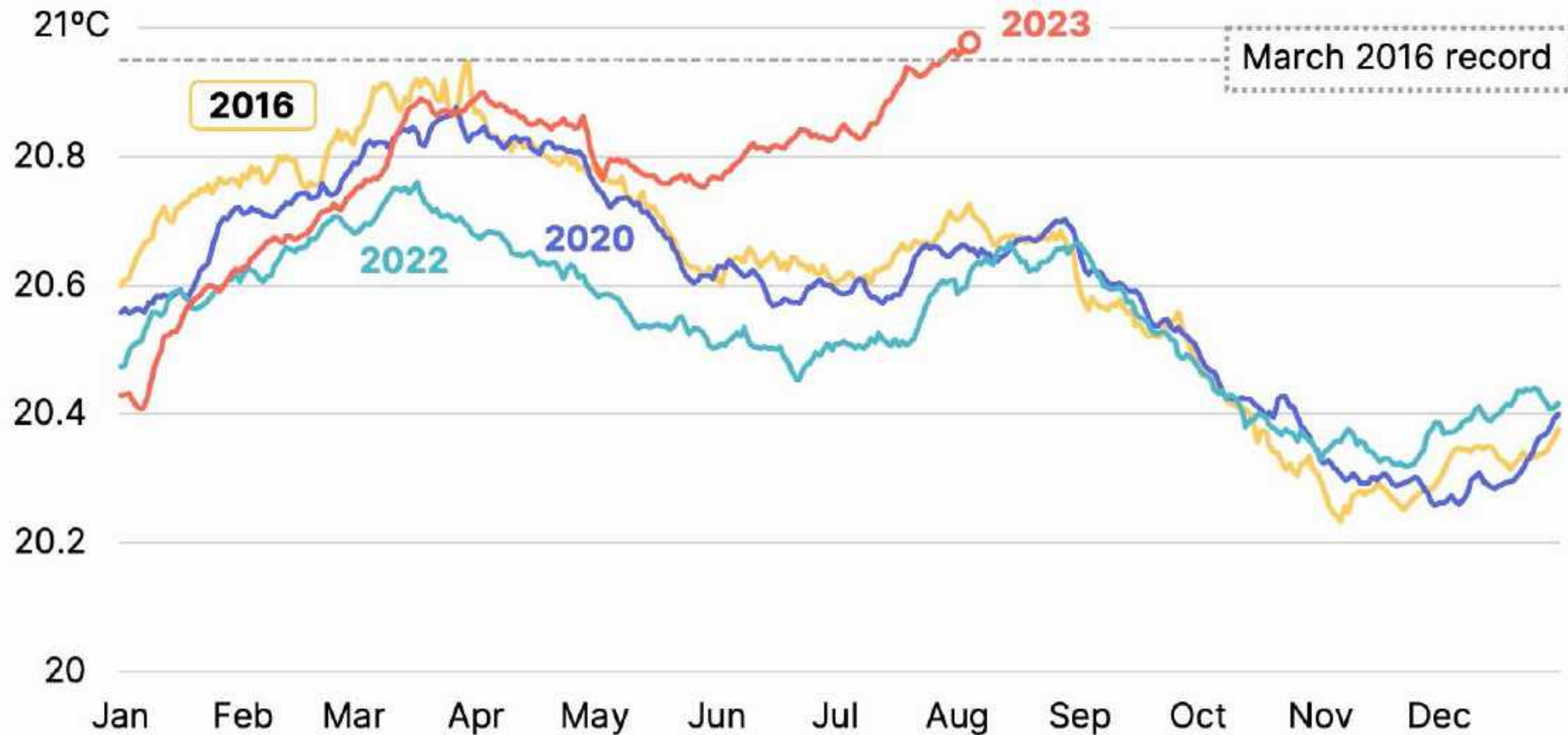
Source:  
Berkeley Earth,  
ERA5



# Exceptional temperature, exceptional time

The 2023 ocean heat record was well outside the normal seasonal pattern

Source:  
Copernicus  
Climate  
Change  
Service



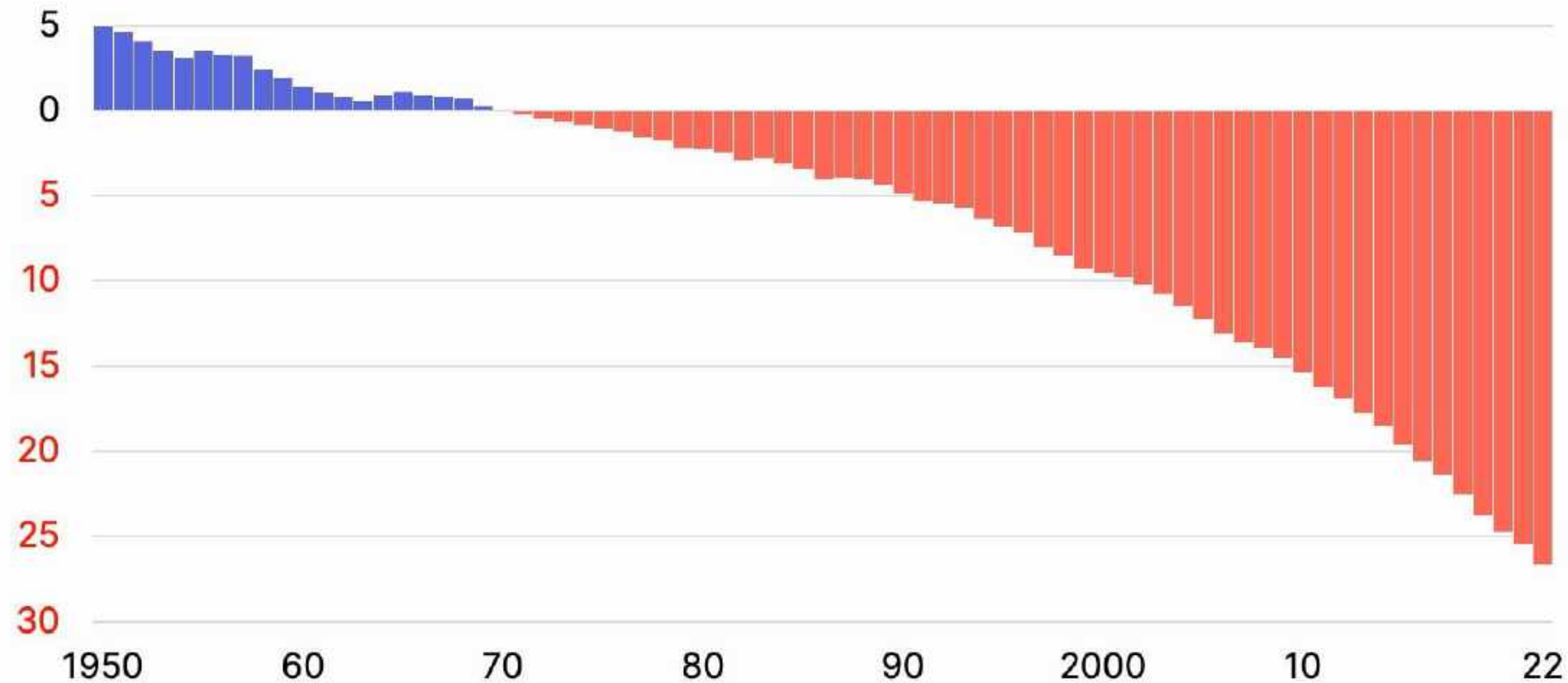
Note:  
Extrapolar  
global ocean  
(60°S – 60°N)

# Glacial mass is declining

Reference glaciers have lost more than 25 tonnes of water mass per square meter since 1970

Source:  
World Glacier  
Monitoring  
Service

10 tonnes per square meter



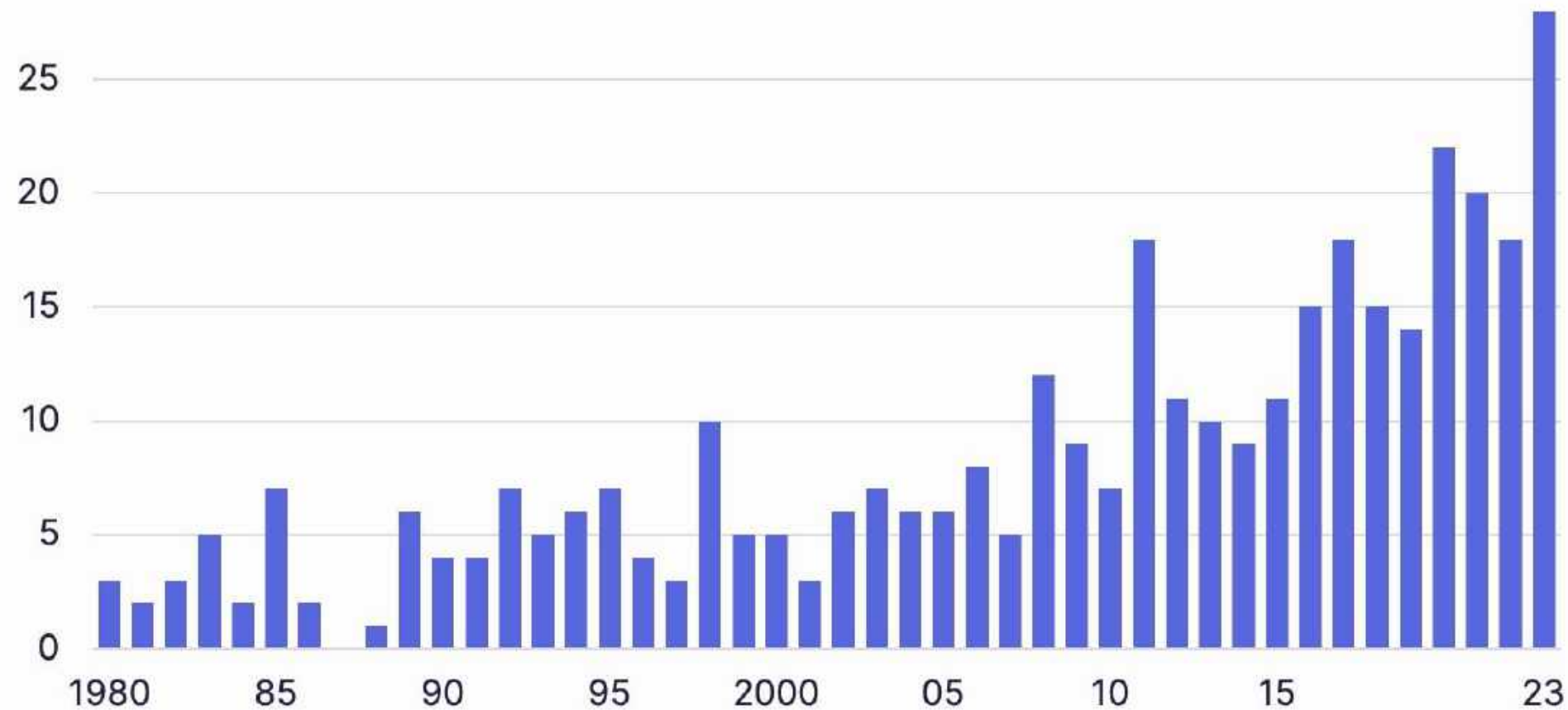


# Increasingly disastrous

The US experienced a record number of \$1 billion weather-related disasters in 2023

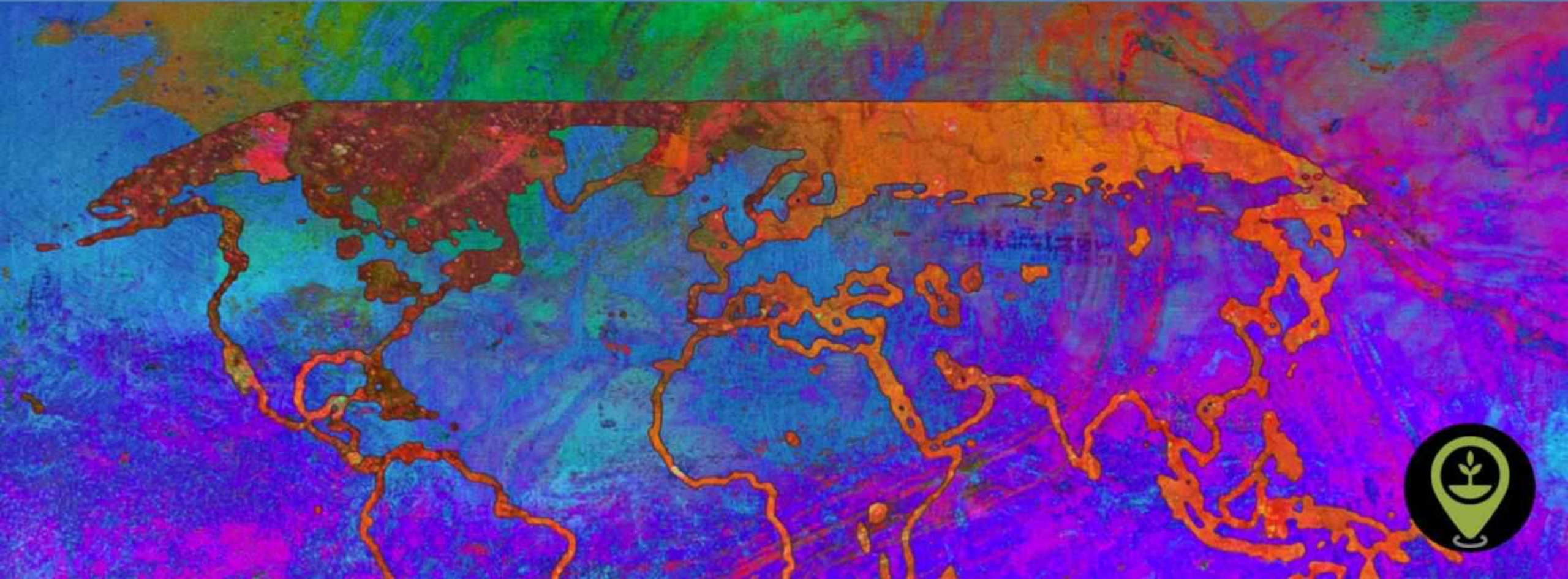
Source:  
National  
Centers for  
Environmental  
Information

30 \$1 billion+ US natural disasters (CPI-adjusted)



# ipcc

INTERGOVERNMENTAL PANEL ON climate change





Sixth Assessment Report

**WORKING GROUP I**

The Physical Science Basis

ipcc

INTERGOVERNMENTAL PANEL ON climate change



# Climate change widespread, rapid, and intensifying – IPCC

#IPCC

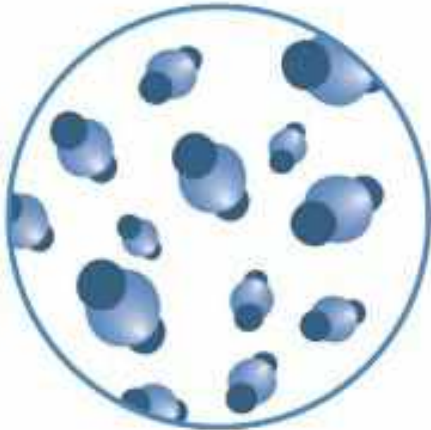
#ClimateReport





# Climate Physical Impacts

**CO<sub>2</sub>**  
concentration



**Highest**

in at least

**2 million years**

**Sea level**  
rise



**Fastest rates**

in at least

**3000 years**

**Arctic sea ice**  
area



**Lowest level**

in at least

**1000 years**

**Glaciers**  
retreat



**Unprecedented**

in at least

**2000 years**

Sixth Assessment Report

## WORKING GROUP II

Impacts, Adaptation and Vulnerability

ipcc

INTERGOVERNMENTAL PANEL ON climate change



**Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future**

**#IPCC**

**#ClimateReport**





# Climate Threats



**Extreme heat**  
More frequent  
More intense



**Heavy rainfall**  
More frequent  
More intense



**Drought**  
Increase in some  
regions



**Fire weather**  
More frequent



**Ocean**  
Warming  
Acidifying  
Losing oxygen



Sixth Assessment Report

## WORKING GROUP III

Mitigation of Climate Change

ipcc  
INTERGOVERNMENTAL PANEL ON climate change



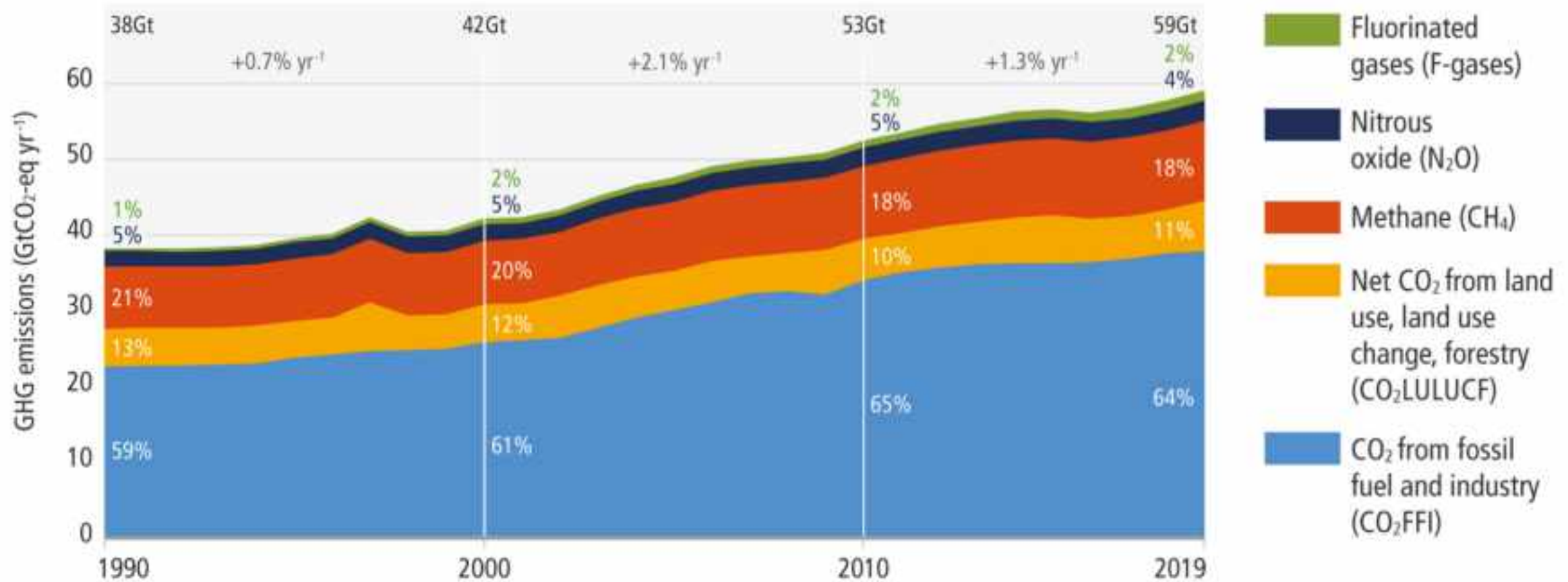
Without immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C is beyond reach.

#IPCC

#ClimateReport



# We are not on track to limit warming to 1.5 °C.





Sixth Assessment Report  
**SYNTHESIS REPORT**

**ipcc**  
INTERGOVERNMENTAL PANEL ON climate change



# URGENT CLIMATE ACTION CAN SECURE A LIVEABLE FUTURE FOR ALL

**#IPCC**

**#ClimateReport**



# The challenge

- Cut emissions quickly, sharply to create a safer, sustainable world
- Scale up practices and infrastructure to enhance resilience
- Cut global GHG emissions by nearly half by 2030
- Action required along numerous dimensions



# Increased **financing** for climate action

- 3-6 times the current climate investment
- But there is enough global financing to rapidly reduce emissions
- Developing countries require external funding to meet adaptation needs
- Options are available to scale up financing

The way forward:

# Climate-resilient development

Integrating measures to adapt to climate change with actions to reduce emissions in ways that provide wider benefits:

- Improving peoples' health and livelihoods
- Reducing poverty and hunger
- Clean energy, water and air

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“Humanity is on thin ice—and that ice is melting fast. Our world needs climate action on all fronts—everything, everywhere, all at once.”

**Antonio Guterres**

United Nations Secretary-General





# Risk Categories

# Physical Risks







**California Wildfires 2020**





**California Wildfires 2020**



# California Wildfires 2020





## California Wildfires 2021







**California Wildfires 2021**





# California Wildfires 2021







## California Wildfires 2022





# California Wildfires 2022







**California Wildfires 2022**







## California Floods 2023







**California Floods 2023**





## California Floods 2023





California Floods 2024





## California Floods 2024







## California Floods 2024





Lahaina Tragedy



**Lahaina Tragedy**





## Lahaina Tragedy



## Western States Megadrought

Severe drought conditions, worsened by climate change, continue to affect much of the Western U.S. and the Northern Plains, causing headaches for farmers and ranchers and setting the stage for large wildfires to easily spread.





# Western States Megadrought

A study in Nature Climate Change published in February 2022 suggests that **Earth's warming climate has made the western drought about 40 percent more severe**, making it the region's driest stretch since A.D. 800. Climate scientists suggest that there's a very strong chance the drought will continue through to 2030.





## Colorado River Basin Crisis

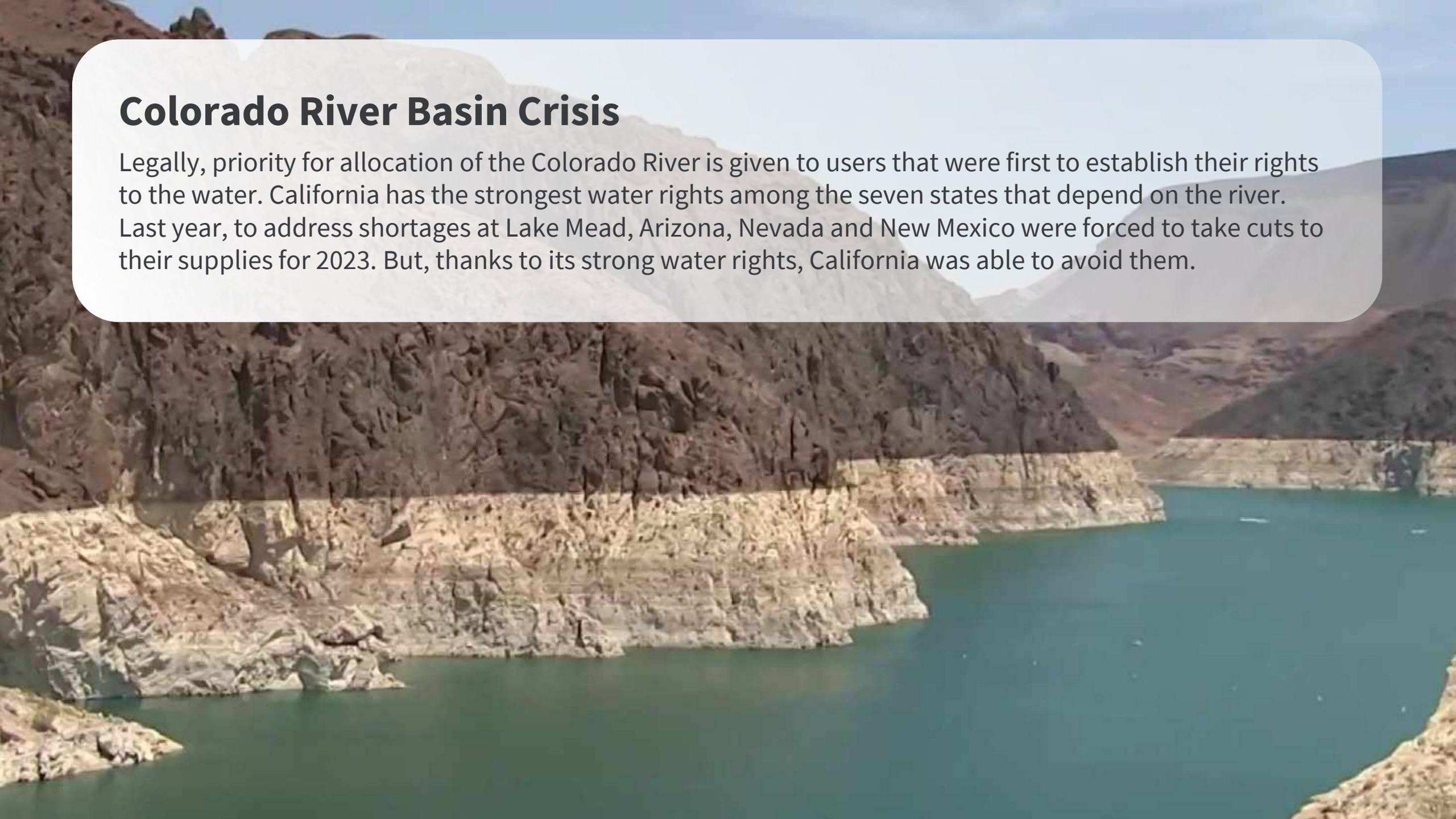
Lake Mead and the Hoover Dam straddle the Arizona-Nevada state line along the Colorado River. Lake Mead has **declined about 140 feet** since 2000 and now sits at about **34% of full capacity**.





## Colorado River Basin Crisis

Legally, priority for allocation of the Colorado River is given to users that were first to establish their rights to the water. California has the strongest water rights among the seven states that depend on the river. Last year, to address shortages at Lake Mead, Arizona, Nevada and New Mexico were forced to take cuts to their supplies for 2023. But, thanks to its strong water rights, California was able to avoid them.



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“What the future climate scientists have been warning us about for decades is now happening. It’s NOT too late to act, but the situation is urgent.”

**Dr. Jonathan Foley**

Executive Director, Project Drawdown





# COURSE UNITS

# PROJECT DRAWDOWN.



[START WATCHING NOW](#)

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# Compliance Risks





# California Climate-Related Disclosure Laws

California Senate Bill 253, known as the **Climate Corporate Data Accountability Act**, and California Senate Bill 261, known as the **Climate-Related Financial Risk Act**, was signed into law in 2023. This landmark legislation marks a pivotal moment in the establishment of **mandatory emissions reporting** around the world.





# California Climate Corporate Data Accountability Act

The Climate Corporate Data Accountability Act compels public and private companies doing business in California with annual revenue in excess of \$1 billion to disclose their Scope 1, 2, and 3 emissions starting in 2026. Scope 1 and 2 emissions disclosures will require limited assurance, beginning in 2026, then moving to reasonable assurance in 2030. For scope 3 disclosures, limited assurance will begin in 2030 subject to a review by CARB in 2027.



## California Climate-Related Financial Risk Act

The Climate-Related Financial Risk Act requires US entities that do business in California with total annual revenue of at least \$500M to prepare and submit climate-related financial reports consistent with the recommendations of the Taskforce for Climate-Related Financial Disclosures (TCFD) framework. The first report is required to be prepared by January 1, 2026, with reporting then taking place biennially.





## SEC Climate Disclosure Final Rule

In November 2021, the SEC proposed new rules that would require publicly traded companies to disclose their greenhouse gas emissions and climate-related risks. These proposed rules were finalized in March of 2024 and will mandate more comprehensive and standardized reporting on climate-related issues, providing investors with better insight into how companies are managing climate risks and transitioning to a low-carbon economy.





## SEC Climate Disclosure Final Rule

- Accelerated filers" — [defined by the SEC](#) as companies with publicly traded shares worth \$75 million or more — are required to disclose Scope 1 and 2 emissions.
- Scope 3 emissions reporting has been removed from the final ruling.
- Accelerated filers will begin reporting Scope 1 and 2 emissions in 2026.
- Costs incurred from the result of severe weather events and other natural disasters must be disclosed on financial statements.
- Actual and potential material impacts of climate-related risks to a company's strategy, business model and outlook must be disclosed.



## Bank's Scope 3 GHG Emissions > Scope 1 + 2

According to a report published by CDP, a climate nonprofit, GHG emissions associated with financial institutions' investing, lending and underwriting activities are on average **over 700 times** higher than their direct emissions, based on data from 84 financial institutions holding \$27 trillion of assets.





# Key Steps For Reporting Climate-Related Risks and Opportunities

1. Understand TCFD Recommendations
2. Assess Current Climate-Related Practices
3. Identify Key Stakeholders
4. Conduct a Climate Risk Assessment
5. Enhance Data Collection and Management
6. Integrate Climate Considerations into Strategy
7. Develop Scenario Analysis
8. Provide Disclosures in Alignment with TCFD
9. Monitor and Review Progress

**TCFD**

TASK FORCE ON  
CLIMATE-RELATED  
FINANCIAL  
DISCLOSURES



# Core Elements of Recommended Climate-Related Financial Disclosures



## Governance

The organization’s governance around climate-related risks and opportunities



## Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategies and financial planning



## Risk Management

The processes used by the organization to identify, assess, and manage climate related risks<sup>56</sup>



## Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

## **Task Force on Climate Related Financial Disclosures (TCFD)**

The Task Force on Climate-related Financial Disclosure (TCFD) recommends that banks describe significant concentrations of credit, investment, and underwriting exposure to carbon-related assets. Banks should start disclosing their climate-related risks in their lending and investing activities.

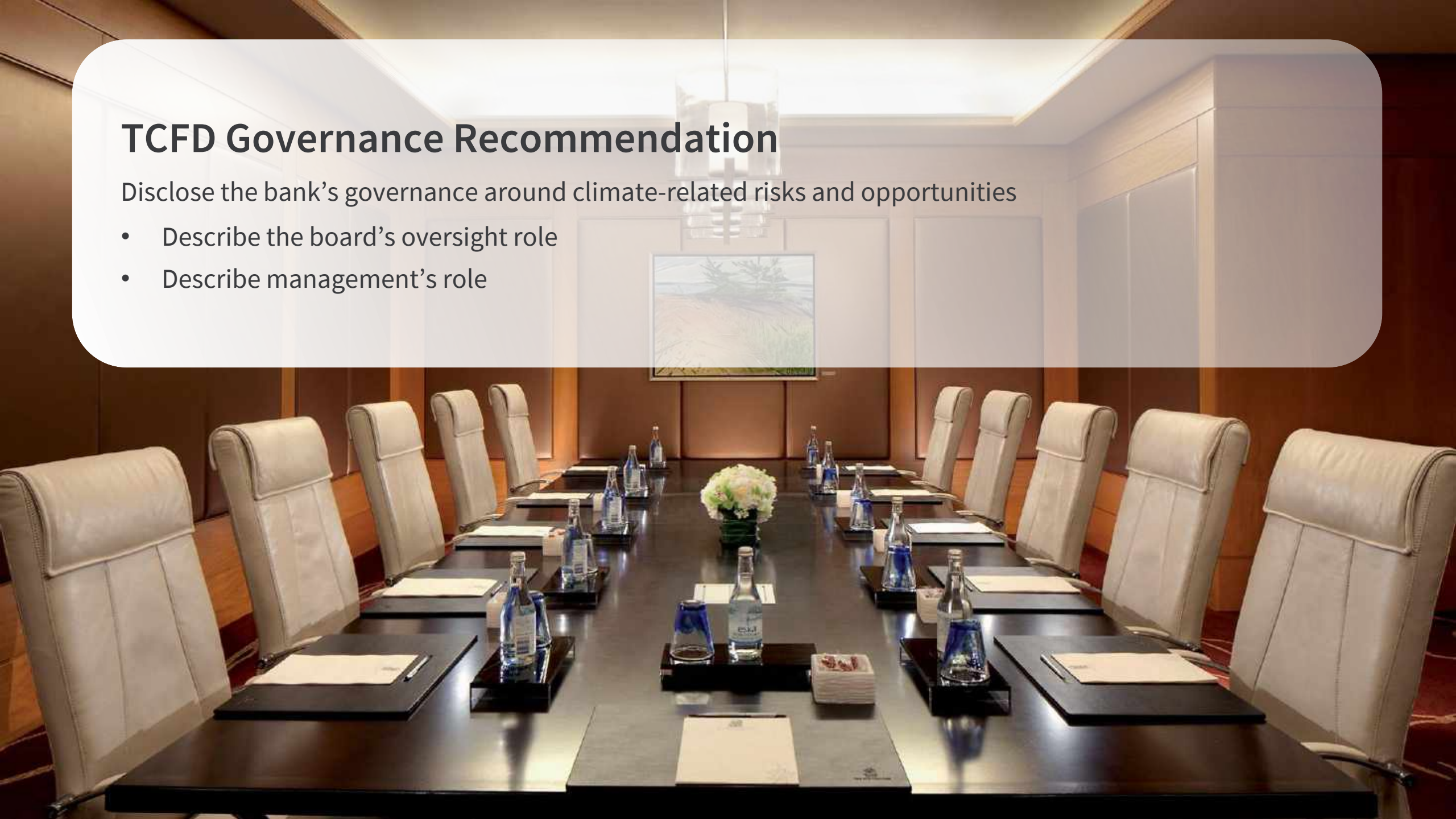




# TCFD Governance Recommendation

Disclose the bank's governance around climate-related risks and opportunities

- Describe the board's oversight role
- Describe management's role





## TCFD Strategy Recommendation

- Describe the climate-related risks and opportunities over the short, medium and long term
- Describe the impact of climate-related risks and opportunities on the bank's strategic planning
- Describe the resilience of the bank's strategy, taking into consideration different scenarios



## TCFD Risk Management Recommendation

- Describe the bank's processes for identifying and assessing climate-related risks
- Describe the bank's processes for managing climate-related risks
- Describe how processes for identifying, assessing and managing climate-related risks are integrated into the bank's overall risk management framework.



## TCFD Risk Management Recommendation

- Disclose the metrics used by the bank to assess climate-related risks and opportunities in line with its risk management process
- Disclose Scope 1, Scope 2, and if appropriate, Scope 3 GHG emissions and the related risks
- Describe the targets used by the bank to manage climate-related risks and opportunities and disclose performance against targets







# Task Force on Climate-related Financial Disclosures Report

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September 2023

# TCFD PROGRESS UPDATE

JANUARY 2023

THE TASK FORCE ON  
CLIMATE-RELATED  
FINANCIAL DISCLOSURES





2022

# TCFD Report

Task Force on Climate-Related Financial Disclosures Report

# Taskforce on Climate-Related Financial Disclosures Report 2022

Citi's Approach to Climate  
Change and Net Zero





The Task Force on Climate-related Financial Disclosures (TCFD) provides a framework for companies and other organizations to disclose climate-related risks and opportunities.

Since 2018, the number of organizations supporting TCFD has grown **five-fold**.

### Number of TCFD Supporters



In 2021, the G7 countries backed mandatory disclosures under the TCFD framework for large organizations. Some countries are enforcing disclosures before 2025:

- UK: 2022
- Japan: 2022
- New Zealand: 2023
- Switzerland: 2024

Over 1,000 financial institutions support the TCFD framework, responsible for **\$194T** in assets.

# IFRS took over Responsibility for the TCFD

Financial reporting  
standard-setting



launched at:



Global Standards for  
Sustainability and  
Climate Reporting

Reporting  
Framework



established 2015 by: FSB

De facto Industry  
Standard for  
climate-related  
disclosure

Global Goals





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“Clear and consistent climate disclosures are an invaluable tool for the banking sector to develop and frame their response to climate change, as well as demonstrating to stakeholders and the broader economy that they fully understand and are taking account of climate change in business decisions.”

**Joanna Paisley**

President, GARP Risk Institute



# Principles for Climate-Related Financial Risk Management

- The three US federal banking regulators have issued joint interagency guidance on Principles for Climate-Related Financial Risk Management for Large Banks.
- These guidelines broadly align with TCFD recommendations and principles for climate-related risk management set out by the Basel Committee on Banking Supervision.



OFFICE OF THE  
COMPTROLLER OF THE CURRENCY

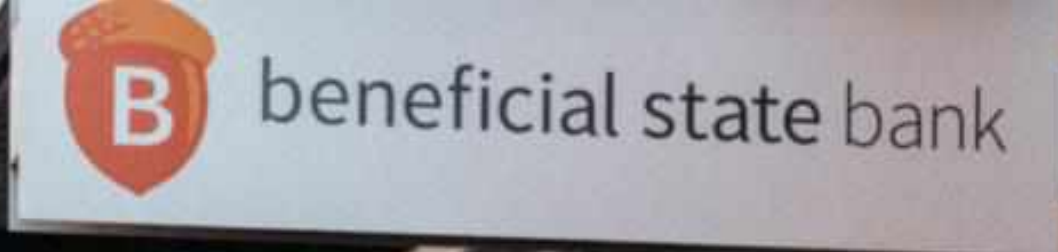
400



# Principles for Climate-Related Financial Risk Management

The principles cover six areas:

- Governance
- Policies, Procedures and Limits
- Strategic Planning
- Risk Management
- Data, Risk Measurement and Reporting
- Scenario Analysis



**What about Climate Risk Management for Banks  
Not Subject To CA Climate Disclosure Laws?**



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“As an initial step, boards and senior management of community and mid-size banks may wish to seek a better understanding about how climate-related financial risk are impacting the institution’s business, customers, and communities, and how this risk may evolve over time.”

**Martin J. Gruenberg**  
Chairman, FDIC



# Transition Risks





# CALIFORNIA BECOMING UNINSURABLE

- STATE FARM LEAVING
- REGULATOR'S RESPONSE
- ROLE OF TECHNOLOGY
- INSURANCE MARKET

TheFutureof  
**INSURANCE**  
by Dogan Kaleli

# “HIGH CLIMATE RISK”



FARMERS  
INSURANCE



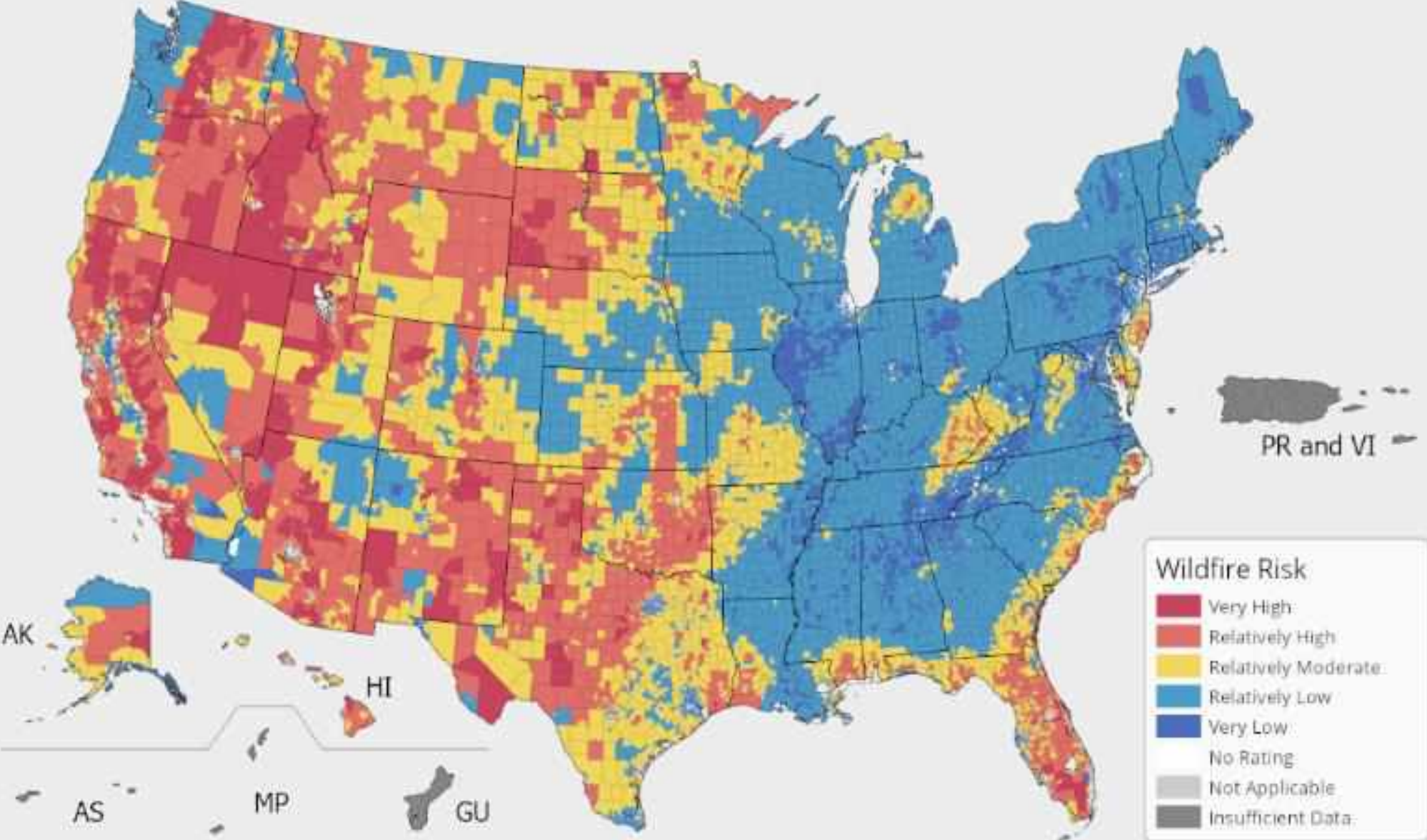
State Farm™



Allstate



# FEMA Wildfire Risk Index





# Market Risks





# ZERO-EMISSION CAR SALES IN CALIFORNIA

## NEW RULE

2021

12%

2026

35%

2030

68%

2035

100%

SOURCE: CALIFORNIA AIR RESOURCES BOARD





EXXON

Bolla Market

HUGO GYRL

EARN \$15

Best Deli & Grocery

Auto Wash  
Bolla Wash





 **jiffy lube**

**NG'S AUTO**  
SERVICE CENTER



**AAMCO**

**WORLD'S LARGEST TRANSMISSION SPECIALIST**



12860

**TRANSMISSION  
SERVICES**

**FINANCING  
AVAILABLE**

**TOTAL CAR CARE  
EXPERTS**

SALE  
OFF

SERVICE  
AREA

ONLY

ONLY

ONLY

ONLY





# meineke

car care center

car care center

14935

GVP  
OFFICIAL  
VEHICLE  
INSPECTION CENTER

Firestone  
GOODYEAR  
MICHELIN  
BF Goodrich  
UNIROVAL  
DUNLOP TIRES  
TOYO TIRES  
BRIDGESTONE

OPEN

STOP  
SHORT CUTTING  
TRAFFIC  
PROHIBITED

meineke  
car care center

meineke

meineke

WARNING  
PEDESTRIAN  
TRAFFIC



# Reputational Risks







CLIMATE  
ACTION  
NOW

STOP DENYING  
THE EARTH  
IS DYING

LET'S  
KEEP OUR  
EARTH  
BEAUTIFUL

PLANET  
OVER  
PROFIT

SKOLSTREJK  
MARCH  
FOR  
CLIMATE

STAND UP  
FOR THE  
PLANET

DENIAL

#METOO  
SAID

PLANET

WORLDWIDE

need the  
Bee  
ASTIC

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ool  
lsh

PLANET  
OVER  
PROFIT



YOUTH 4

CLIMATE

THERE IS  
NO PLACE  
LEFT

THE OCEANS ARE  
RISING  
AND WE  
ARE WE

Be a Part  
of the Solution

ADMA  
NEED  
PLASTIC

Save  
the  
Planet

น้ำท่วมทั่วโลก

PLASTIC

DO NOT  
WANT  
PLASTIC

PLASTIC

AT

280





WERE MISSING OUR LESSONS

SO WE CAN

TEACH

YOU

ONE

SCHOOL STRIKE FOR CLIMATE ACTION



WARMED  
BY 1°C  
↑ WORST CLIMATE  
SINCE 1900





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“We’re not at the point of trying to stop global warming; it’s too late for that. We’re trying to keep it from becoming a complete and utter calamity.”

**Bill McKibben**

Founder, Third Act and 350.org





WELCOME TO

# TH!RD ACT

SEPTEMBER ALL-IN CALL

MEANWHILE SOME WORKING GROUP UPDATES:

HANG TIGHT!

WE'LL BE

STARTING

SHORTLY...



Our Sacramento Working Group Bank Protests!



Virginia Working Group travel to DC to Protest Manchin's Dirty Deal!





Banks of America  
STOP DIGGING  
OUR GRAVE

KILLING THE  
EARTH  
IS AGAINST OUR  
RELIGION

WE ARE  
STEWARDS  
OF GOD'S  
EARTH

**BANKS STOP**  
FUNDING  
FOSSIL FUELS



THIRD  
ACT

RENEWABLE  
ENERGY  
NOW

PROTECT  
OUR  
FUTURE

OUR  
FUTURE

PROTECT  
OUR  
FUTURE

PROTECT  
OUR  
FUTURE

OUR  
FUTURE

PROTECT  
OUR  
FUTURE





**THIRD ACT**  
OUR TIME IS NOW!

citibank

**OUR**  
BANKS FUEL THE CLIMATE CRISIS  
CHASE  
MELLER  
CITI  
BOFA

**CUT IT OUT**  
CUT IT UP!

**BANKS:**  
STOP FUNDING FOSSIL FUELS  
**THIRD ACT**  
OUR TIME IS NOW!

**BANKS CUT IT**  
STOP FOSSIL FUELS

**FOSSIL FUELS CAUSING DEATH**

**BANKS: STOP FUNDING FOSSIL FUELS**  
THIRD ACT

18 99  
**NATIONAL ZOO**  
Check again!





I'M HERE FOR MY  
GRANDCHILDREN

ARRESTED  
ON SUSPICION

PROTECTING  
THE EARTH AND  
OUR CHILDREN



# What Your Institution Can Do



# Climate Technology Investment Opportunities





## Climate Technologies Worth Watching

Research from Management Consulting Firm McKinsey suggests that a family of ten climate friendly technologies could attract \$2 trillion of capital investment per year by 2025.



# Climate Technologies Worth Watching

1. Renewables
2. Battery + Long Duration Energy Storage
3. Circular Economy
4. Building Technology
5. Industrial Process Innovation
6. Green Hydrogen
7. Sustainable Fuels
8. Nature Based Solutions
9. Carbon Capture, Utilization, and Storage (CCUS)
10. Agriculture + Food



ENERGY  
STORAGE



# Ten families of climate technologies can play important parts in mitigating carbon emissions.

## Climate technology families and examples



### Renewables

Solar, wind (onshore and offshore), grid innovation



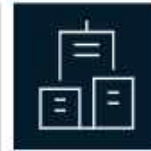
### Batteries and energy storage

Electric-vehicle batteries, long-duration energy storage



### Circular economy

Battery recycling, chemical cellulosic recycling, heat recovery, plastics recycling



### Building technologies

Geothermal heating, heat pumps, electric equipment



### Industrial-process innovation

Electrification of heat sources, green steelmaking, green cement making



### Hydrogen

Electrolyzers, fuel cells, methane pyrolysis



### Sustainable fuels

Advanced biofuels, e-fuels



### Nature-based solutions

Monitoring and verification for forests, peatlands, mangroves



### Carbon removal, capture, and storage

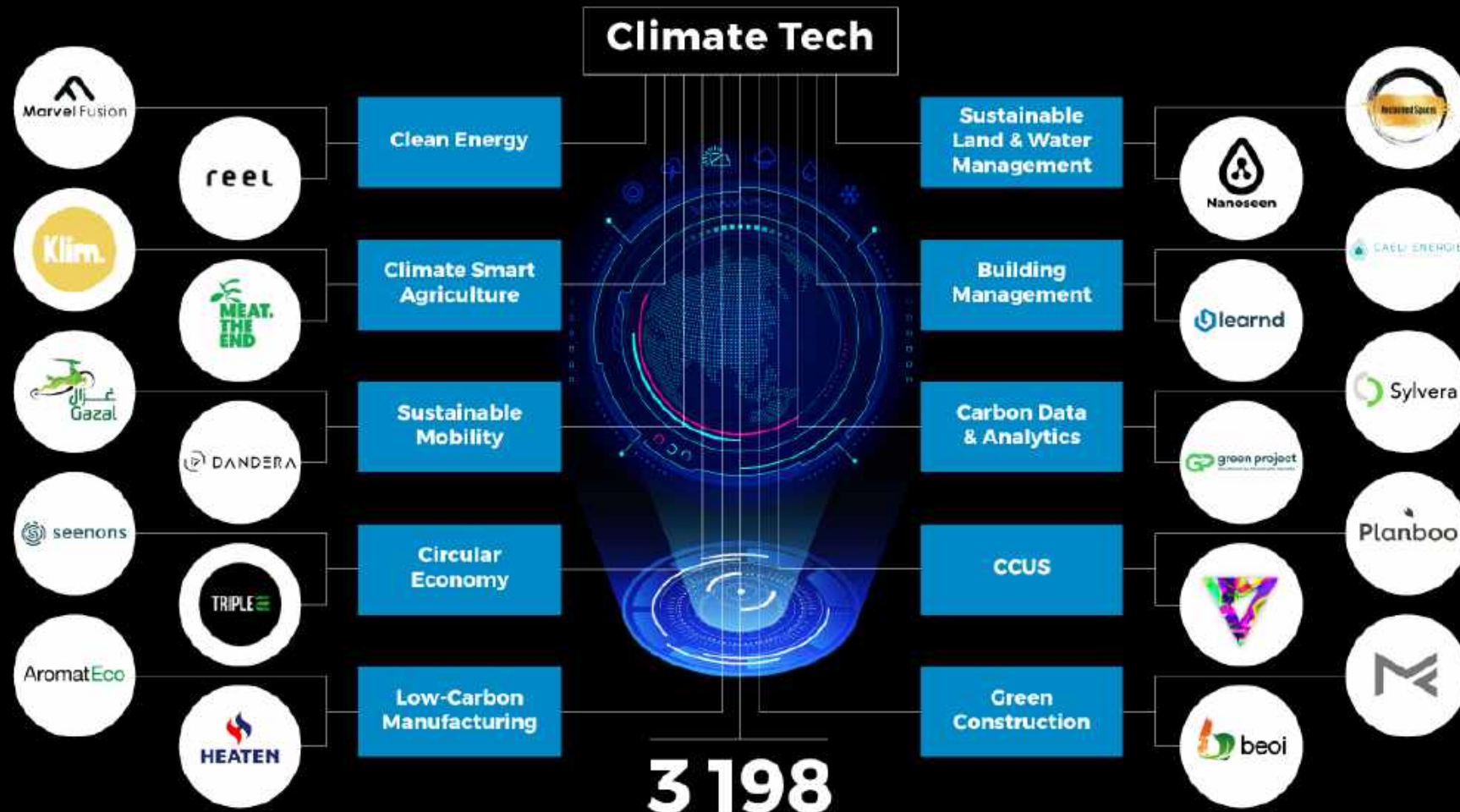
Point-source carbon capture, direct air capture



### Agriculture and food

Precision agriculture, crop preservation, regenerative tech, alternative proteins

# Top 10 Climate Tech Trends & Innovations in 2023



**3 198**

Startups & emerging companies analyzed



### Solutions mitigating greenhouse gas emissions



### Solutions removing greenhouse gas emissions



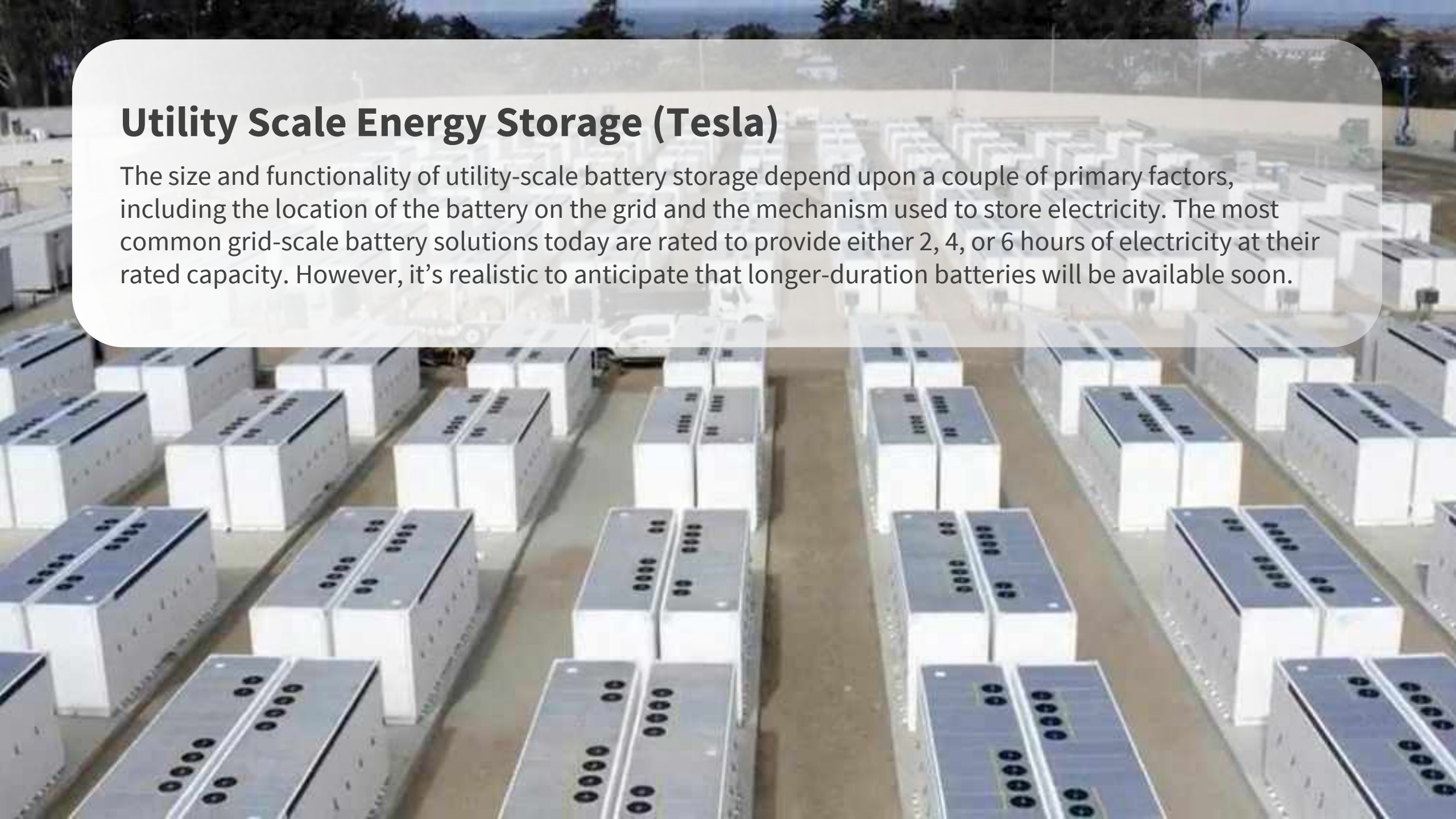
# Batteries + Long Duration Energy Storage





## Utility Scale Energy Storage (Tesla)

The size and functionality of utility-scale battery storage depend upon a couple of primary factors, including the location of the battery on the grid and the mechanism used to store electricity. The most common grid-scale battery solutions today are rated to provide either 2, 4, or 6 hours of electricity at their rated capacity. However, it's realistic to anticipate that longer-duration batteries will be available soon.





## Utility Scale Energy Storage (AES)

AES Energy Storage is a major player in the utility-scale battery storage space. Like Tesla, AES also developed a storage project in a couple of months in response to the Aliso Canyon gas facility crisis. Recently, AES announced the groundbreaking of a new 400 MWh battery storage facility in Southern California Edison's service territory, which will be among the largest battery storage facilities ever brought online.





## **Eviation All-Electric Test Flight**

Eviation Aircraft successfully launched the first all-electric passenger aircraft on September 27, 2022 from Washington State's Grant County International Airport. The test plane traveled at an altitude of 3,500 feet for its eight-minute inaugural flight. A 900kWh battery pack gives Alice a range of around 250 nautical miles. Commercial deliveries are expected in 2027 with shipping company DHL as their launch customer.





# Green Hydrogen





## Grey Hydrogen

The global demand for hydrogen for use as a fuel has tripled since 1975 and reached 94 million tons a year in 2021. Grey Hydrogen is created from natural gas or methane and is the most common form of hydrogen. Almost all the hydrogen produced in the U.S. each year is used for refining petroleum, treating metals, producing fertilizer and processing foods.



# Green Hydrogen

Green Hydrogen is produced by electrolysis from renewable power sources. Green Hydrogen does not emit polluting gases either during combustion or during production. According to projections from the IEA, we should realize annual production of 14 million tons of Green Hydrogen by 2030.





## Plug Power

Plug Power offers turnkey solutions for hydrogen fuel cells, including green hydrogen generation, storage, and dispensing. Founded in 1977, the company currently employs over 2,200 people across 10 states in the United States.



## Universal Hydrogen Test Flight

A turboprop De Havilland Dash 8-300 retrofitted by Los Angeles-based startup Universal Hydrogen took off from Moses Lake, WA on March 2, 2023 in a brief pioneering flight aimed at proving the viability of hydrogen fuel cell technology as a power source for the propeller motor.





# Agriculture + Food





## Meat Alternatives

Plant-based meats emit 90% less greenhouse gases than current animal food production practices. They also don't rely on any land use changes the way livestock farming does. **80% of the deforestation** that has taken place has been as a result of intensive animal agriculture practices. The Global Plant-based Meat Market size is expected to reach **\$15.7 billion by 2027**, rising at a market growth of **14.7% CAGR** during the forecast period between 2022 and 2027.





## Meat From Plants

Plant-based meats (from soy, or wheat or peas) from brands such as Impossible Foods are now ubiquitous across the country. Burger King introduced their Impossible Whopper in 2019. There are 56,801 Impossible Foods locations in the United States as of July 1, 2023.



**IMPOSSIBLE™**  
**WHOPPER®**



## Meat From Mushroom Roots

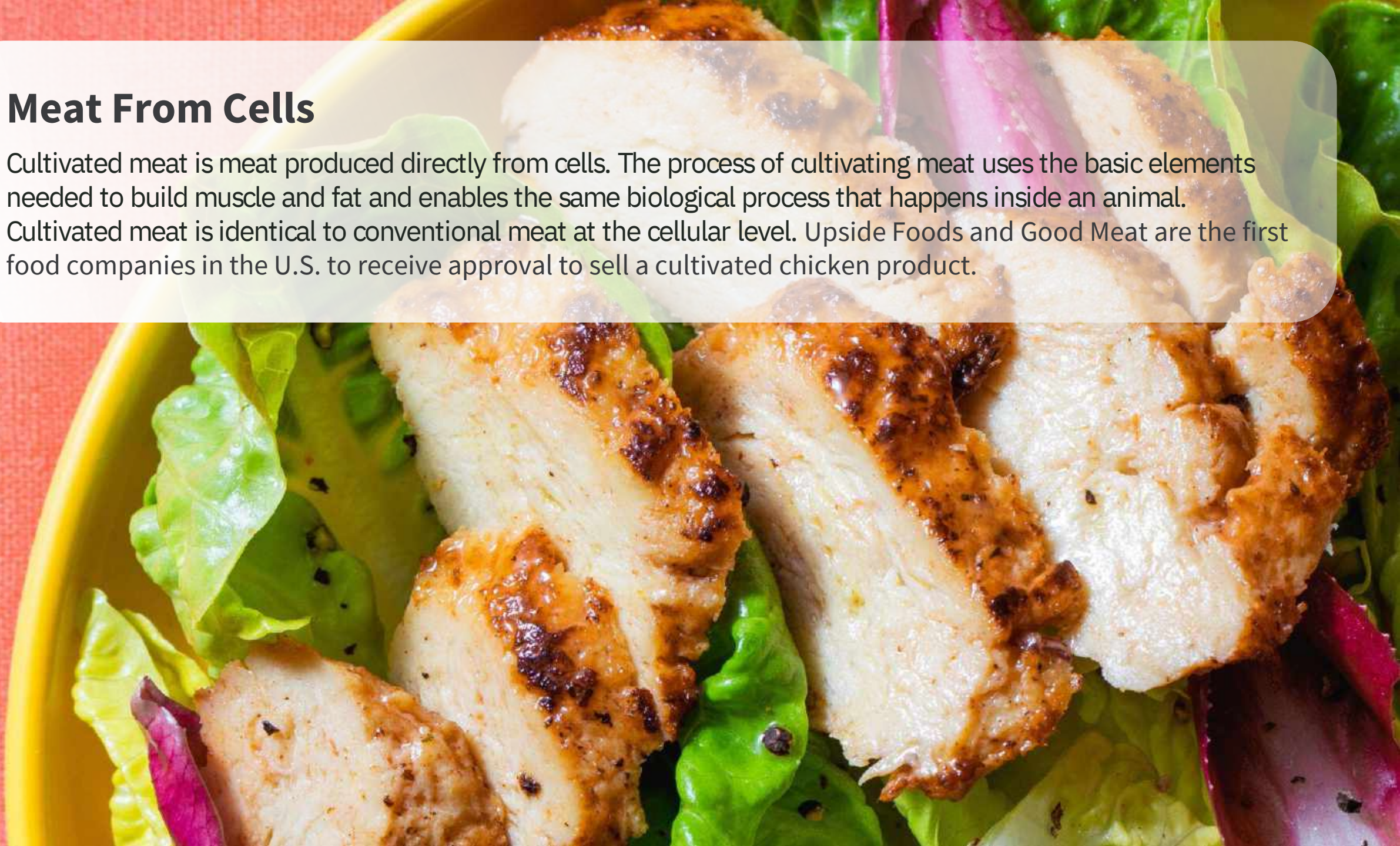
Meati Foods creates protein that looks like cuts of steak or chicken but is made from the root portion of mushrooms. When developed at scale, Meati says its plants will produce the equivalent of 4,500 cows every 24 hours and use less than one percent of the water and land required for traditional animal meat production.





## Meat From Cells

Cultivated meat is meat produced directly from cells. The process of cultivating meat uses the basic elements needed to build muscle and fat and enables the same biological process that happens inside an animal. Cultivated meat is identical to conventional meat at the cellular level. Upside Foods and Good Meat are the first food companies in the U.S. to receive approval to sell a cultivated chicken product.





China Chilcano by José Andrés,  
serving cell-cultivated GOOD Meat  
for the first time in the US

The chicken is  
here. →





# Building Technology





## Heat Pump Expanding Market Share

The global heat pump market, in terms of revenue, is expected to grow at a **compound annual growth rate of 8.1% from 2022 to 2030 to reach USD 138 billion by 2030.**





## Heat Pump Expanding Market Share

Modern heat pumps can reduce electricity use for heating by approximately 65% compared to electric resistance heating such as furnaces and baseboard heaters. High-efficiency heat pumps also dehumidify better than standard central air conditioners, resulting in less energy usage and more cooling comfort in summer months. The Inflation Reduction Act provides for a **\$2000 Tax Credit** for qualified heat pump units.





# Sustainable Aviation Fuels





# How is sustainable aviation fuel made?





## Feedstocks suitable for SAF production:



Oil seed plants and  
energy grasses



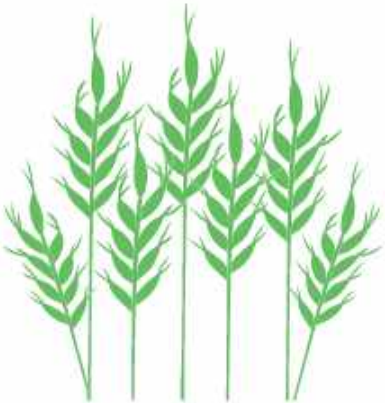
Algae



Municipal solid  
waste



Fats, oils, and  
greases from  
cooking waste and  
meat production



Agricultural and  
forestry residue



Industrial carbon  
monoxide waste gas

# Neste MY SAF is commercially available and in use worldwide

Neste MY SAF is already available at key global airports, including San Francisco International Airport (SFO), Los Angeles International Airport (LAX), Frankfurt Airport (FRA), Amsterdam Airport Schiphol (AMS), Changi Airport (SIN), and Narita International Airport (NRT), and we are scaling our production capability up to 1.5 million tons per annum in early 2024.







15

up-to 80% less emissions  
with a neat product

NESTE MY  
Sustainable Aviation Fuel

JET-A1

15

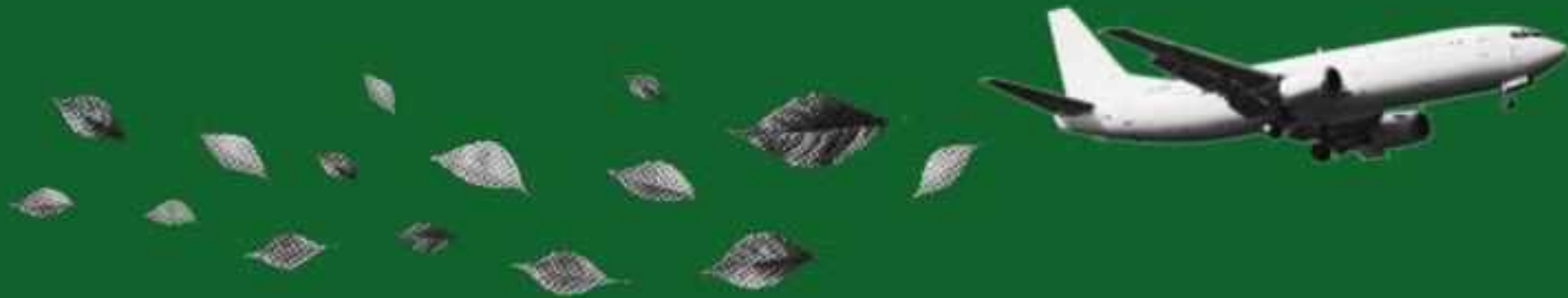
volvo



REPORT

# SUSTAINABLE AVIATION FUELS POWERLIST 2023

100 PRODUCERS · 5 PATHWAYS · 10 COMPANIES TO LOOK OUT FOR





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“Rising to this challenge will require the wholesale transformation of our carbon-intensive economies. It’s a global transition for which we have an estimated price tag: somewhere between \$100 and \$150 trillion over the next three decades. Addressing climate change is the greatest economic opportunity of our time.”

**Janet L. Yellen**

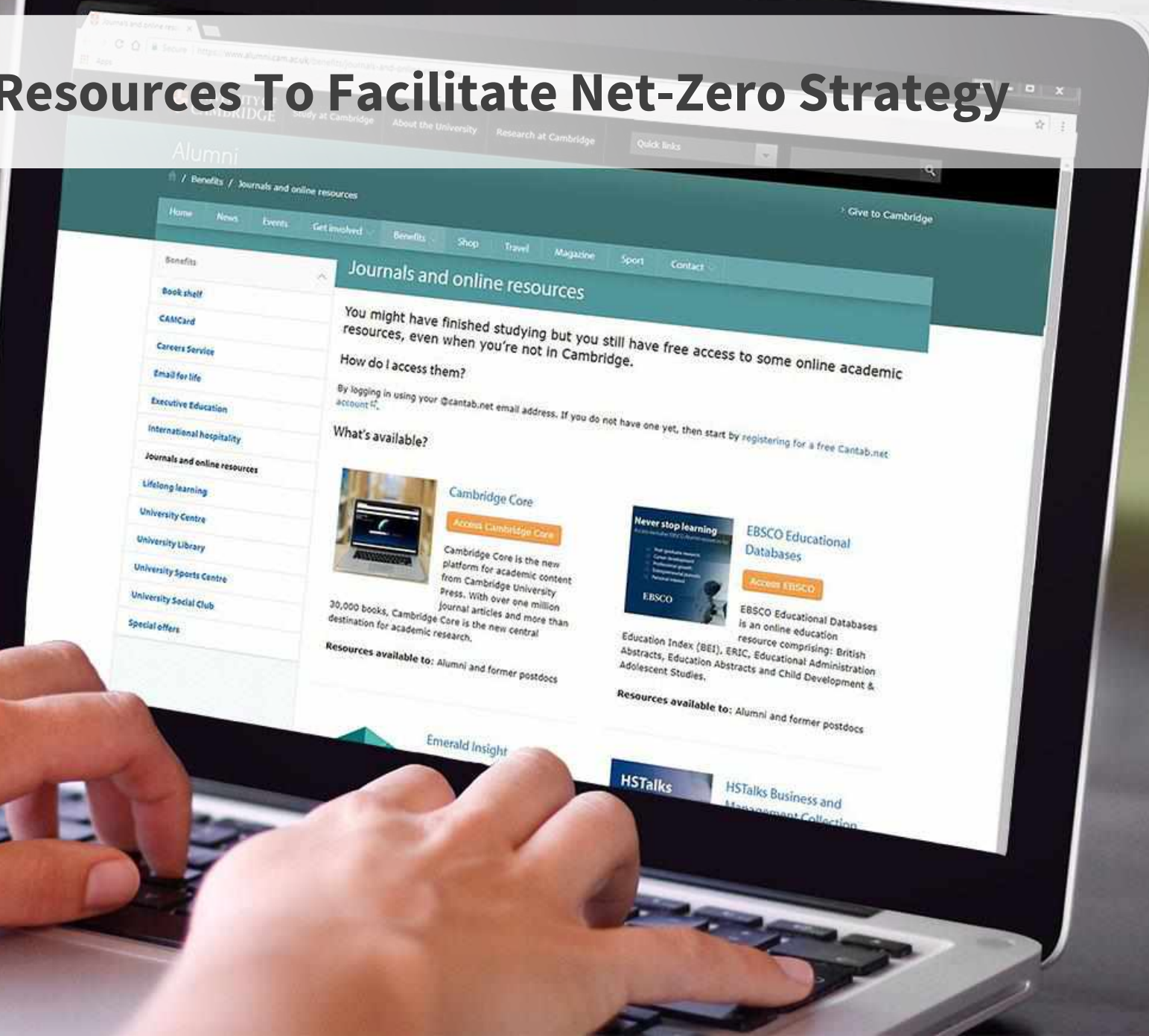
Secretary of the Treasury



# Next Steps



# Resources To Facilitate Net-Zero Strategy



## Final Report

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# Recommendations of the Task Force on Climate-related Financial Disclosures

## Task Force on Climate-related Financial Disclosures

Implementing the Recommendations  
of the Task Force on Climate-related  
Financial Disclosures



## **Partnership for Carbon Accounting Financials (PCAF)**

PCAF is a global partnership of financial institutions that work together to develop and implement a harmonized approach to assess and disclose the greenhouse gas (GHG) emissions associated with their loans and investments. PCAF enables transparency and accountability and has developed an open-source global GHG accounting standard for financial institutions. A total of 24 U.S. based financial institutions with total assets of over \$6 Trillion are members of PCAF.



**PCAFA**

Partnership for  
Carbon Accounting  
Financials

# Financed Emissions

The GLOBAL GHG  
ACCOUNTING  
& REPORTING Standard  PART A



**PCAFA**

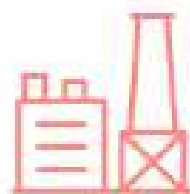
Partnership for  
Carbon Accounting  
Financials

Second edition  
December 2022

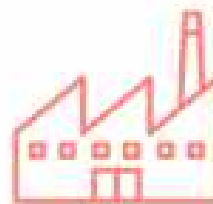




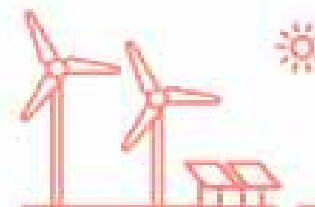
**Part A - Financed Emissions** provides detailed methodological guidance to measure and disclose GHG emissions associated with seven asset classes as well as guidance on emission removals:



Listed equity and corporate bonds



Business loans and unlisted equity



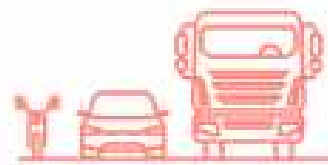
Project finance



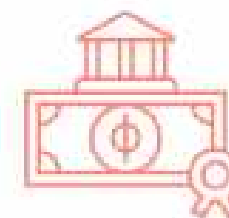
Commercial real estate



Mortgages



Motor vehicle loans



Sovereign debt

In collaboration with  
Boston Consulting Group



# Winning the Race to Net Zero: The CEO Guide to Climate Advantage

INSIGHT REPORT

JANUARY 2022



# McKinsey & Company

McKinsey  
Sustainability

## Innovating to net zero: An executive's guide to climate technology

Advanced technologies are critical to stopping climate change—and the drive to develop and scale them is accelerating. Here are five themes that could attract \$2 trillion of annual investment by 2025.

*by Tom Hellstern, Kimberly Henderson, Sean Kane, and Matt Rogers*





# Sustainable Markets Initiative



## A PRACTITIONER'S GUIDE FOR BANKS

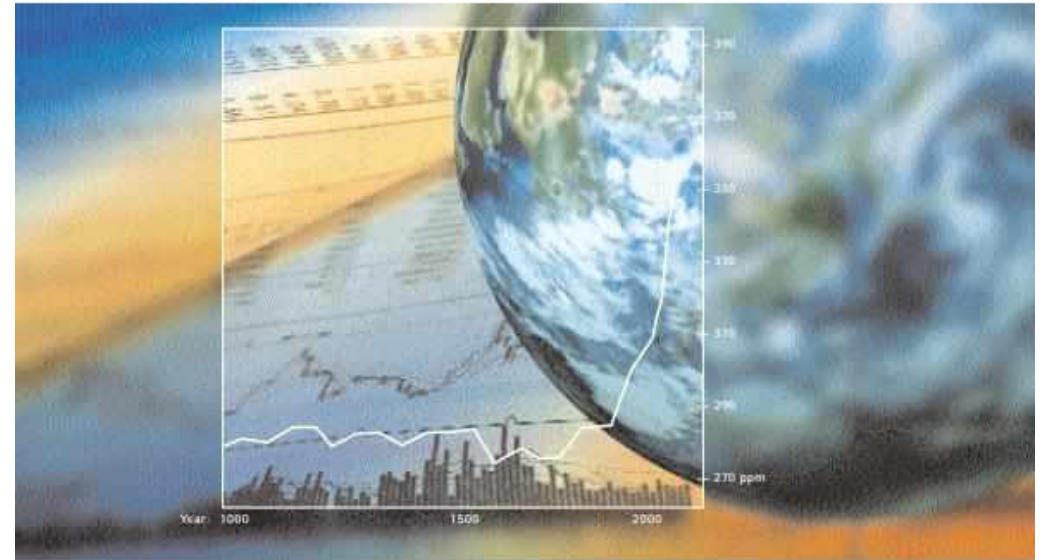
Considerations for banks in setting  
a net zero strategy

Sustainable Markets Initiative - Financial Services Taskforce





# GREENHOUSE GAS PROTOCOL



A Corporate Accounting and Reporting Standard  
REVISED EDITION





# SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



DRIVING SUSTAINABLE ECONOMIES



WORLD  
RESOURCES  
INSTITUTE



WWF



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

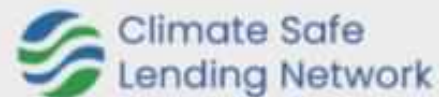
## FINANCIAL SECTOR SCIENCE-BASED TARGETS GUIDANCE

VERSION 1.1

August 2022

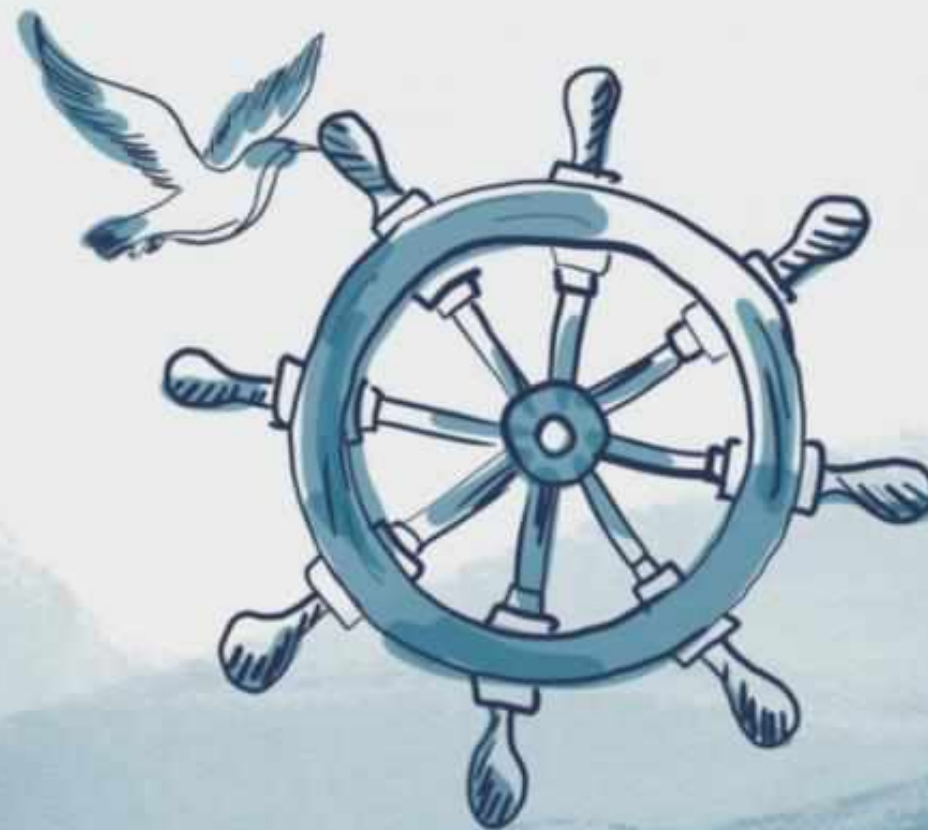






# The Good Transition Plan

Climate Action Strategy Development Guidance for  
Banks & Lending Institutions

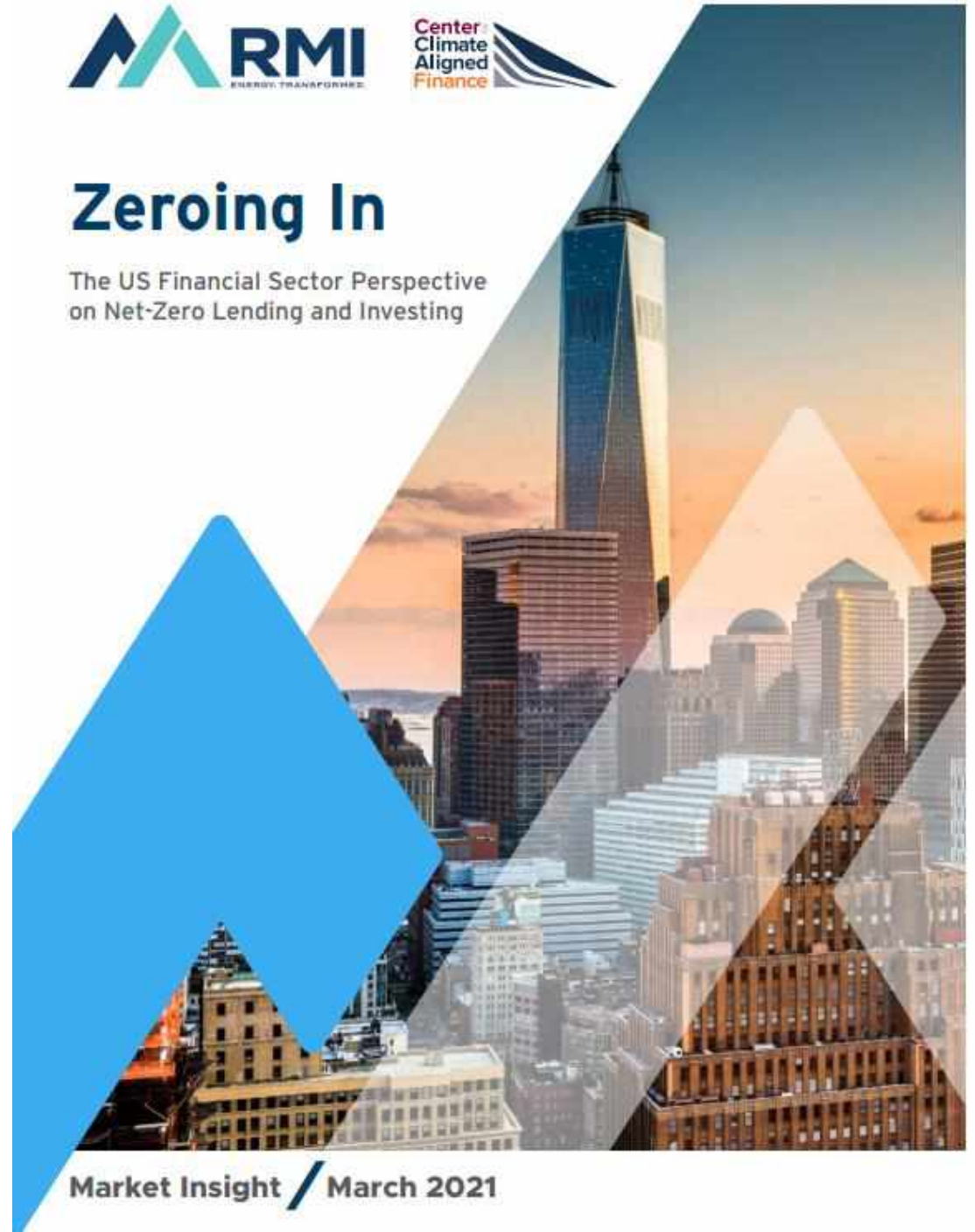




# Zeroing In

The US Financial Sector Perspective  
on Net-Zero Lending and Investing

Market Insight / March 2021







# NET ZERO

A PRACTICAL GUIDE  
FOR FINANCE TEAMS OF BANKS



## Webinars for your entire bank

Expert-led regulatory compliance and professional development training for you and your team.

[Browse all webinars](#)



### Upcoming Webinars

# Navigating Climate Change: Risks, Regulations, and Opportunities for Banks

This presentation will navigate the intricate landscape of climate change, uncovering risks, regulations, and the lucrative opportunities that lie ahead for visionary leaders in the banking industry.

\$299.00 or 1 Token

Add To Cart

Upcoming

Monday, April 29th, 2024  
1:30 pm - 2:30 pm

Presented by Francis Janes

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“The existential threat posed by climate change will be with us for generations, but we know that it is this generation’s time to act. We will act with urgency while understanding that our work to achieve net zero will not be a short-term effort. Supporting a fair and inclusive transition remains a top priority for Citi.”

**Jane Fraser**  
CEO, Citi







SAVE OUR  
PLANET

# Beneficial State Foundation Initiatives



## Equitable Bank Standards

A collaborative and shared resource that provides a measurable pathway for all banks to achieve social and environmental impact.



## Underwriting for Racial Justice

Bringing banks together to develop solutions to increase credit access to people rising from longstanding systemic inequities and barriers.



## Industry Relations

Supporting banks and industry associations to implement practices and policies that achieve more equitable outcomes in their communities.





beneficial state foundation

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**Francis Janes**

Industry Relations & Partnerships Director  
fjanes@beneficialstate.org

