

Climate Risk in the Insurance Sector

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How does climate change impact investors?

Three main real-world risk factors threaten the economy and society

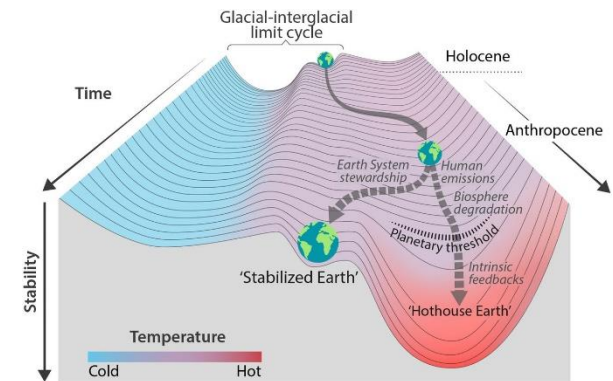
Physical Risk



Transition Risk

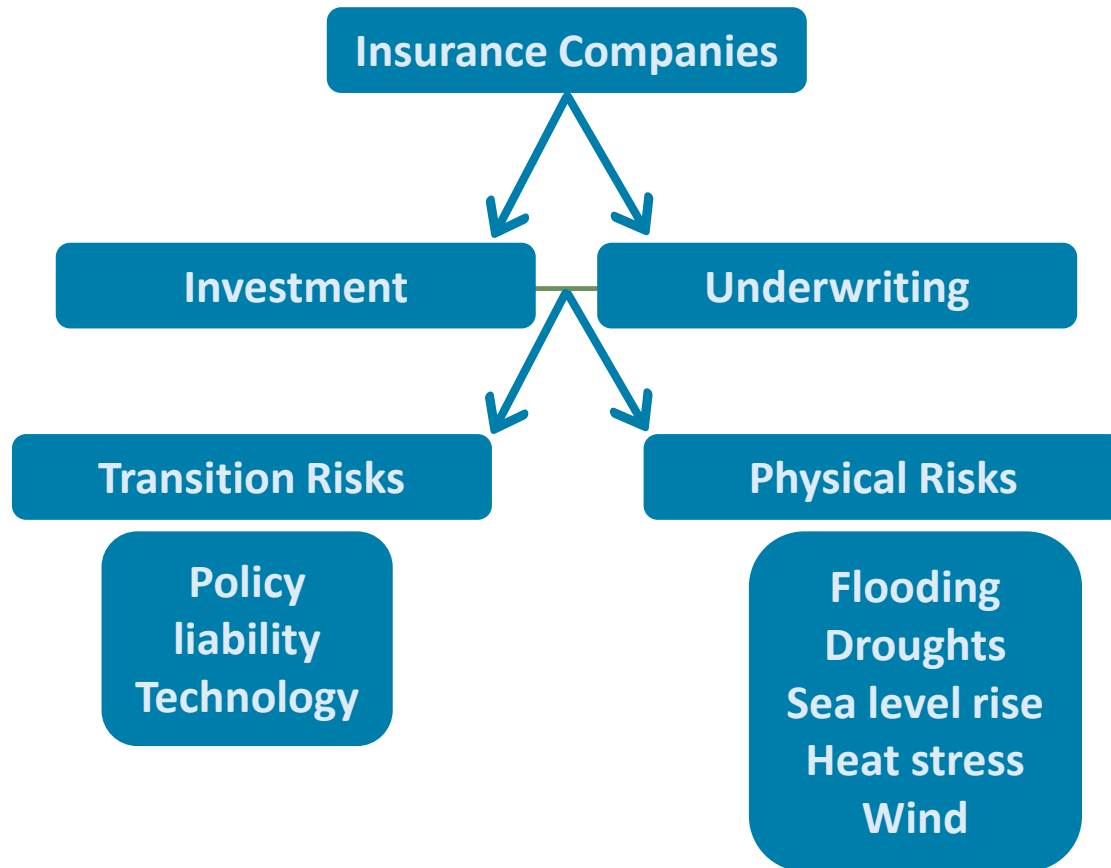


Systemic Risk



The Intergovernmental Panel on Climate Change's 2021 and 2022 reports show temperatures rising more quickly than expected and document the long-term effects of increased CO2 in the air. Insurers are especially exposed due to the risks facing both the underwriting and the investment portfolios.

Climate Risk and Insurance



Potential financial impacts

- Production / operation disruptions (e.g. power, transportation, worker availability) 
- Supply chain disruptions 
- Physical damage to assets (and raising insurance costs) 
- Changes in resource / input prices (e.g. water, energy, food) 
- Changes in demand for products / services 

Identification of Risks and Opportunities

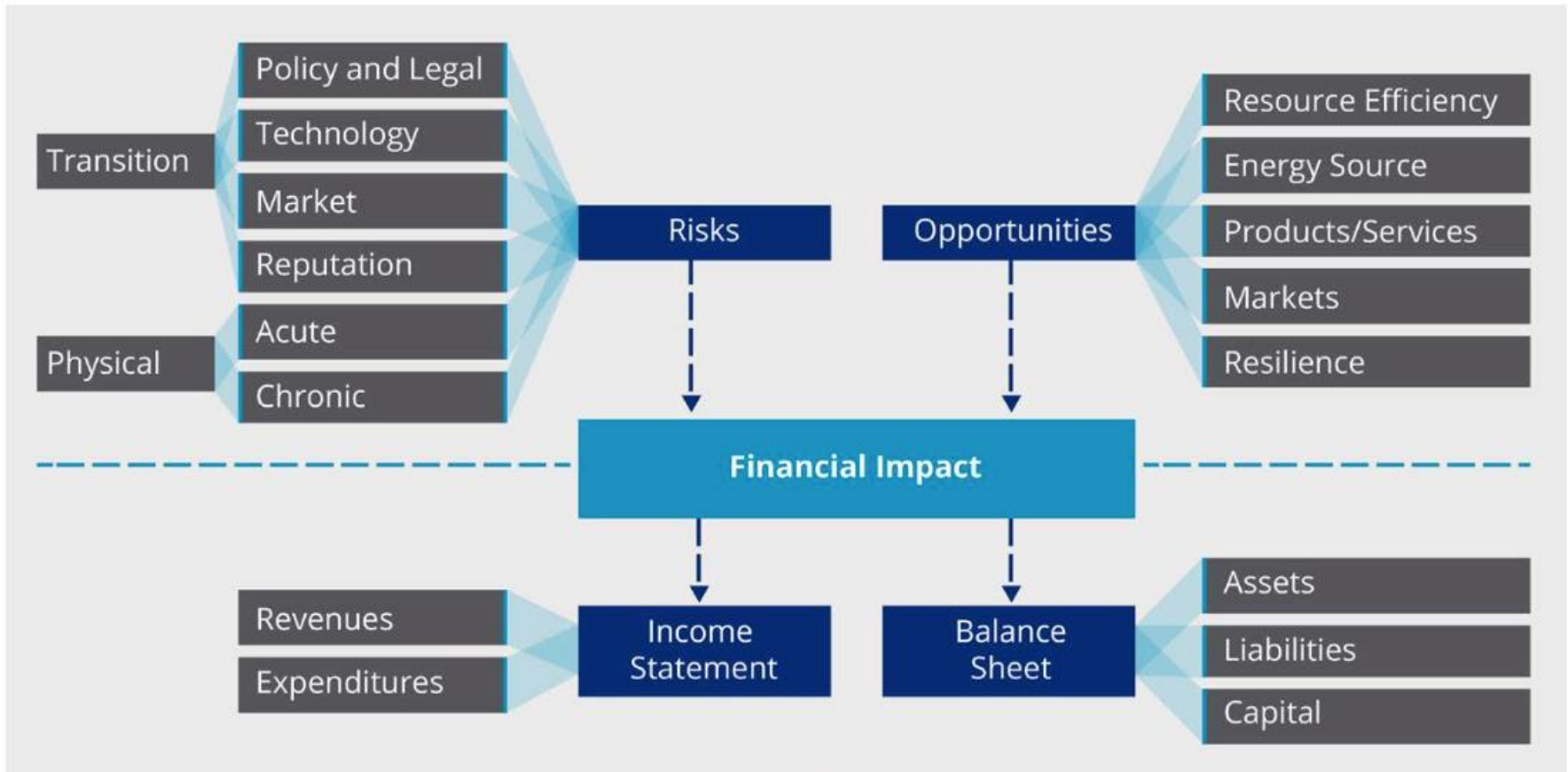
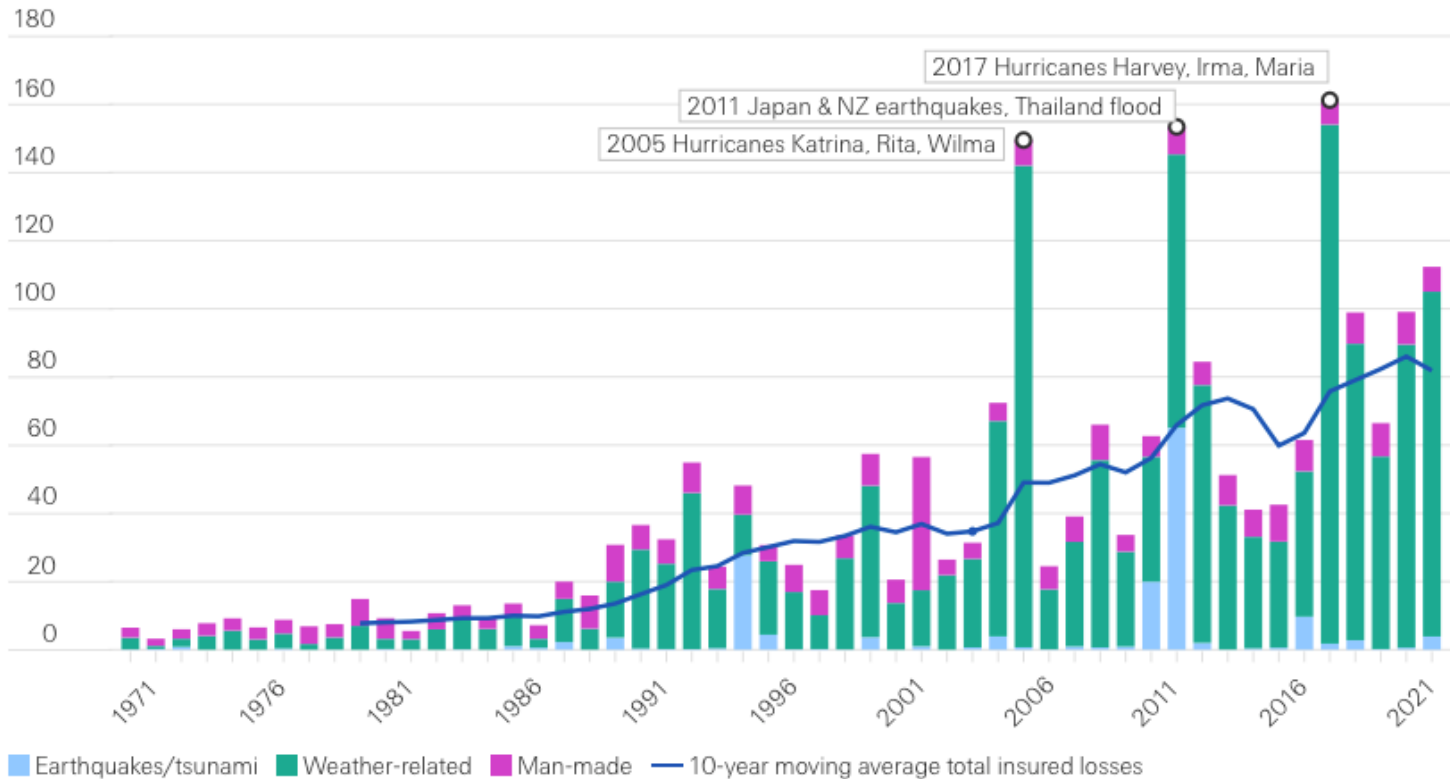


Figure 1: Insured losses since 1970

USD billion (in 2021 prices)

Rollover/touch chart for details

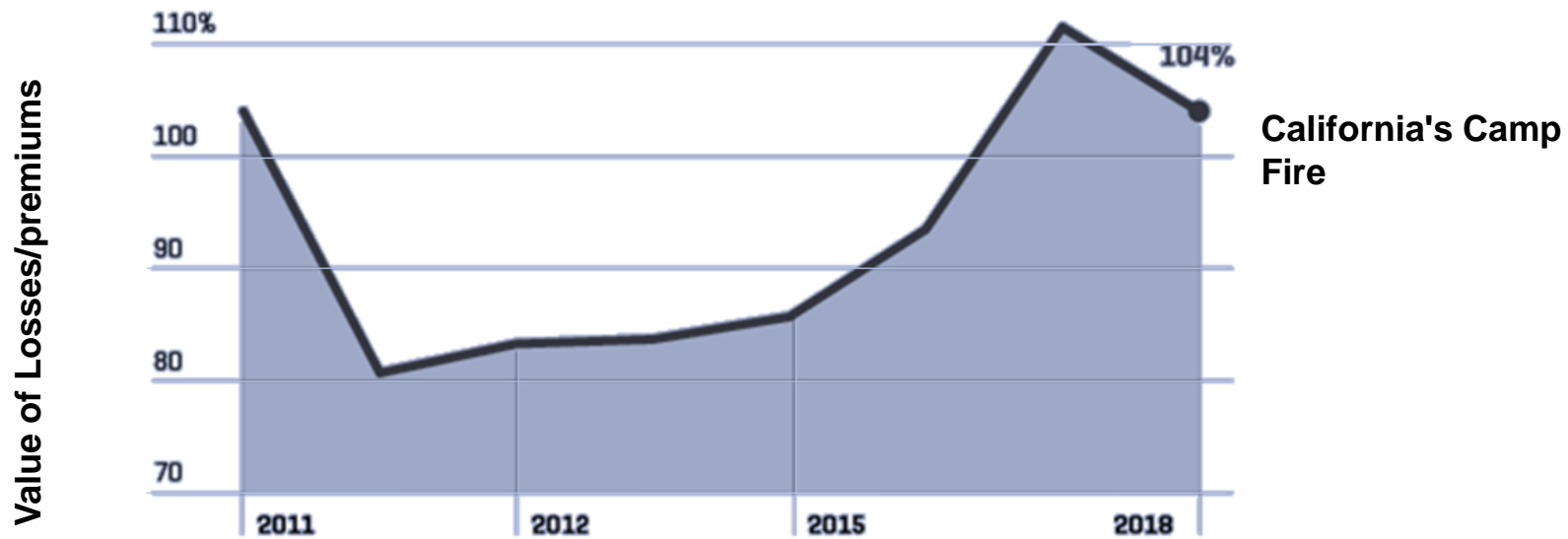


Source: Swiss Re Institute

[Swiss Re](#) notes level of insured losses due to natural disasters weather is rising 5-6% annually

Climate Change as a Financial Risk

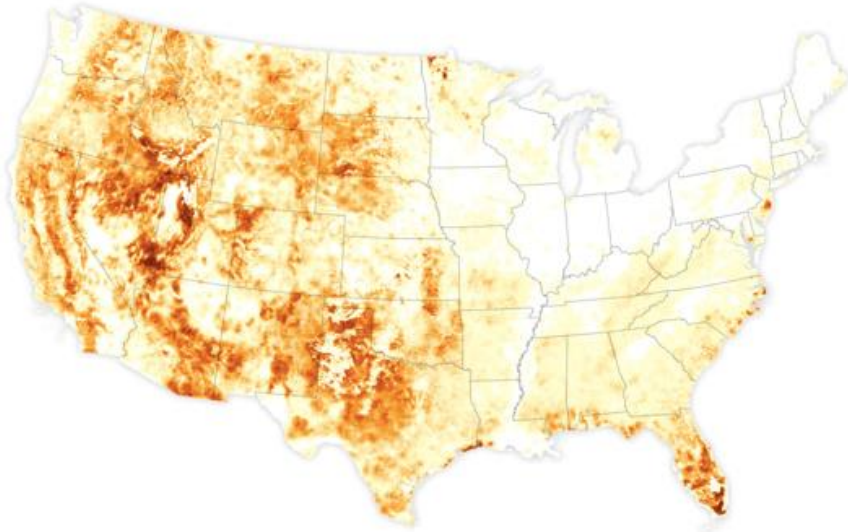
SwissRe's Global Payouts from Disasters as a Share of Premium Income



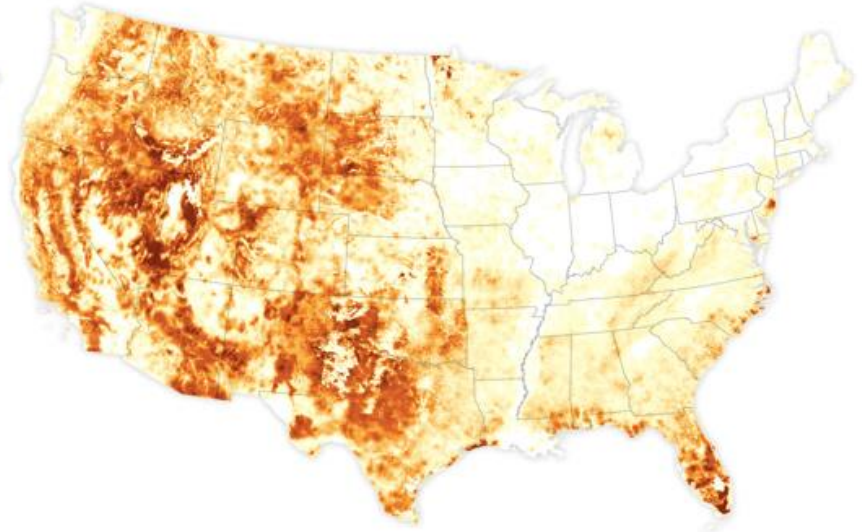
Growing Wildfire Risk



The estimated likelihood of wildfire **today**.



And **in 30 years**, with warming.



[First Street Foundation](#) Wildfire Model finds:

- half of all continental US addresses face some wildfire risk
- 686,000 face a 1% risk this year; 30 years from now 2.5 million addresses will do so
- 381,000 current property owners have a fire risk of over 50% at some point in their 30-year mortgage

Health and Life Insurers are also Affected

A recent [Nature](#) article projects that climate change and land use changes may lead to 4,000 instances of new cross-species viral transmission by 2070, with potentially severe health consequences for humanity

Researchers at [Duke](#) have estimated sharp increases in premature death in the US due to heat waves under unchecked global heating scenarios

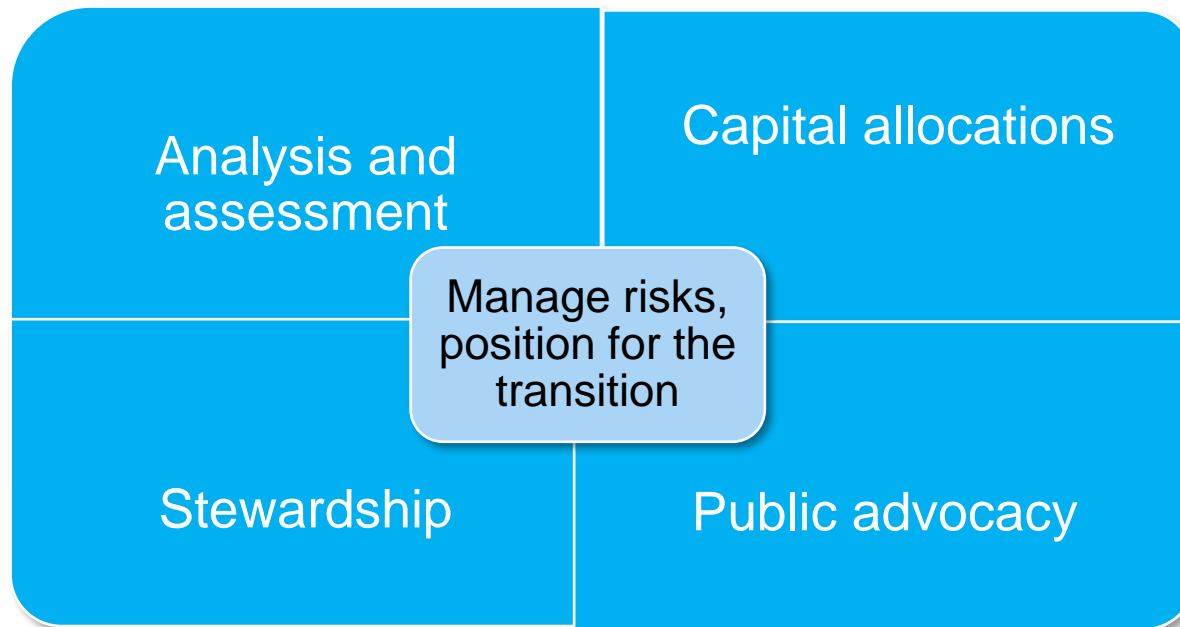
The [CDC](#) and many [health professionals](#) have noted that since higher temperatures concentrate air pollutants, climate change is projected to worsen pulmonary diseases and mortality

[UC Davis](#) researchers have shown breathing wildfire smoke produced damage to the immune cells of healthy volunteers, with currently unknown effects

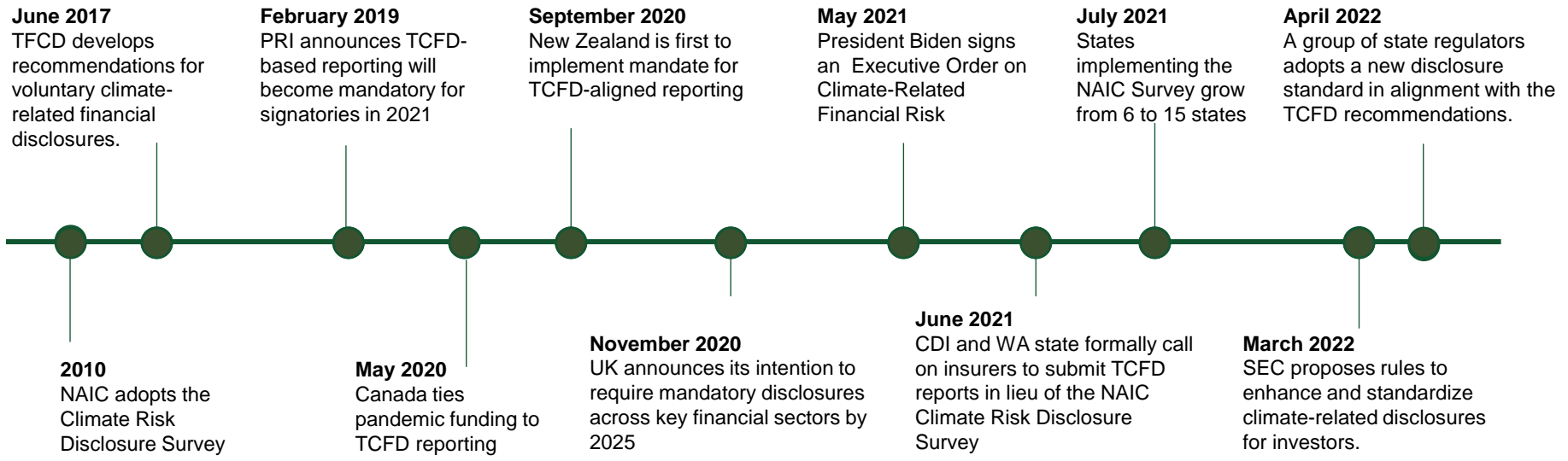
The [NY Times](#) reports that the drought shrinking the Great Salt Lake is exposing arsenic-laden soil to the air; if current trends continue, toxic dust will sometimes poison air for millions of area residents

Investors are using four main tools manage climate risk

Climate change as an investment risk



Building Momentum Behind Climate Risk Disclosure



NAIC Survey Aligns with Task Force on Climate Related Financial Disclosures

Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
<p>Disclose the organization's governance around climate-related risks and opportunities.</p>	<p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.</p>	<p>Disclose how the organization identifies, assesses, and manages climate-related risks.</p>	<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p>
<p>Recommended Disclosures</p>	<p>Recommended Disclosures</p>	<p>Recommended Disclosures</p>	<p>Recommended Disclosures</p>
<p>a) Describe the board's oversight of climate-related risks and opportunities.</p>	<p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p>	<p>a) Describe the organization's processes for identifying and assessing climate-related risks.</p>	<p>a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p>
<p>b) Describe management's role in assessing and managing climate-related risks and opportunities.</p>	<p>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</p>	<p>b) Describe the organization's processes for managing climate-related risks.</p>	<p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p>
	<p>c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</p>	<p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>

Governance and Strategy

Governance:

- Creation of board committees/changes to committee charters
- Creation of new managerial roles/changes to job descriptions
- Adjustment of processes, procedures, and key documents
- Key for insurers: where is climate governance handled within the insurer's structure, e.g., at a group level, entity level, or a combination?

Strategy

- Analysis of impact on investee firms & industries
- Possible changes to product development & business practices
- Integration into financial planning
- Key for insurers: how are customers and other key constituencies being engaged on climate risk and resiliency? Are products and services being provided to aid the transition to a low-carbon economy or adapt to climate change?

A Key Strategy Tool: Scenario Analysis

- Can be done in-house by investment staff OR with consultants
- Can involve company-by-company assessment OR macro-level holistic view of industries, sectors, and the economy
- Can include scenarios from IEA, IPCC, and Inevitable Policy Response (IPR)
- Essential to disclose:
 - methodology
 - how investor sees base case/market/"business as usual"
 - how portfolio relates to base case



Risk Management

- Incorporation of climate into risk identification, analysis and management
- Climate related due-diligence:
 - of asset managers by asset owners
 - of investee companies by asset managers
- Engagement with investee companies
- Engagement with policymakers
- Participation in investor networks



Paris Aligned Investment Initiative

Key Issues for Insurers:

Are policyholders being helped to manage risk?

Are underwriting and investment risks both being considered, along with potential interactions between them?

Metrics and Targets

Metrics:

- ✓ can provide assessment of current state of portfolio (e.g., alignment with temperature scenario; carbon intensity scaled by various factors; percentage investment in fossil fuels or green energy; levels of engagement with investee companies)
- ✓ should be presented relative to benchmark for comprehensibility

Targets:

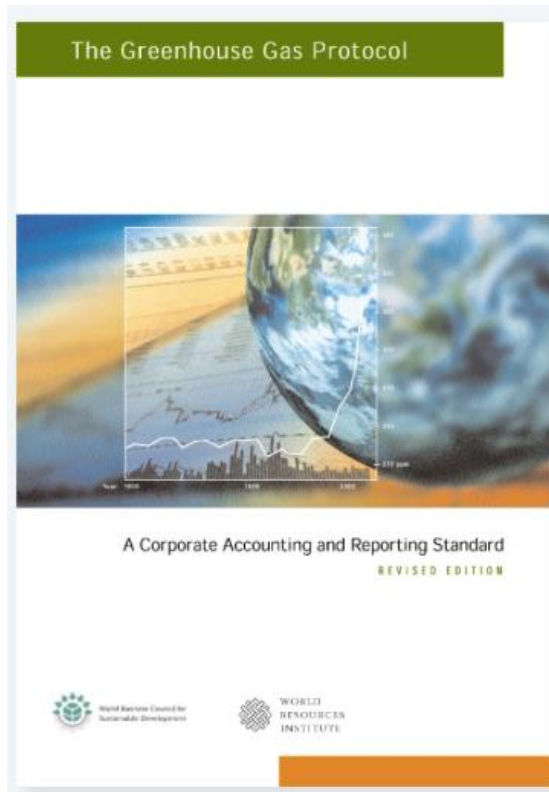
- ✓ arise from strategic planning discussions
- ✓ relate to items tracked by metrics
- ✓ should include both medium and longer-term targets

Key for insurers:

- ✓ Disclosure of underwritten emissions
- ✓ Disclosure on catastrophe modeling
- ✓ Business lines, sectors, geographies exposed to physical risk



GREENHOUSE GAS PROTOCOL



- GHG protocol developed by World Resources Institute and World Business Council for Sustainable Development
- Provides a standard method for organizations to identify, calculate and report direct and indirect emissions and set targets for reduction
- Additional calculation tools also provided, as well as guidance for cities & product life cycles

www.ghgprotocol.org



PCAFA Partnership for
Carbon Accounting
Financials

Applies the GHG standard to financed emissions in a range of asset classes

www.carbonaccountingfinancials.com

The Standard, developed by the PCAFA Global Core Team, provides detailed methodological guidance to measure and disclose GHG emissions associated with six asset classes:



Listed equity and
corporate bonds



Business loans and
unlisted equity



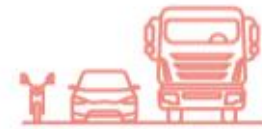
Project finance



Commercial real estate



Mortgages



Motor vehicle loans

As the Standard and PCAFA evolve, additional asset classes and case studies will be added to the Standard.

Examples of Actions Taken by Insurers & Other Financial Firms

Governance:

- Board training
- Committee charters
- Management job description changes

Risk Management

- Catastrophe Modeling
- Investee Engagement
- Policy Engagement

Strategy:

- Discount coverage on “green” assets
- Client risk control services
- Portfolio scenario analysis

Metrics and Targets:

- Absolute Emissions
- Weighted Average Carbon Intensity (WACI)
- Implied Temperature Rise
- Net Zero by 2050

For more information



<https://www.unpri.org/climate-change/climate-risk-an-investor-resource-guide/9329.article>

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