



How to Leverage Data and AI to Scale Climate Resilience

May 23, 2023

Today's presenters



Laura Zizzo
Co-Founder & CEO



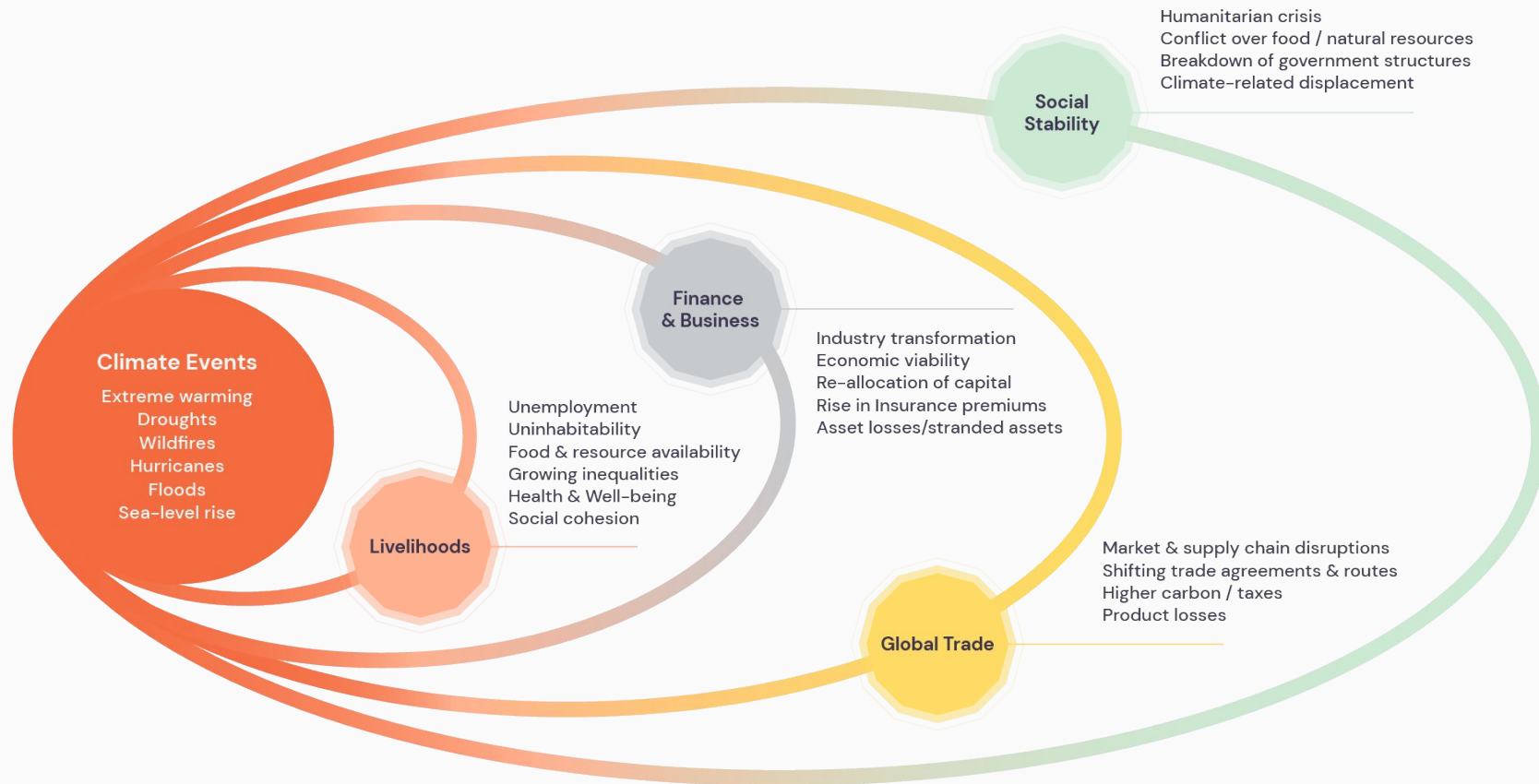
Ryan Meyers
Head of Product



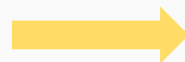
Ahmad Ghazi
Data Science Manager



Climate Risk is a Threat Multiplier

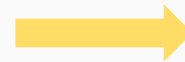


Physical Risks: *Acute and chronic extreme weather events, floods, fires etc.*



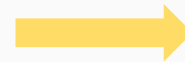
Physical risks are now differential and compounded

Transition Risks: *Arise from legal, policy, market, technology, reputational, and other impacts of societal responses to climate change*



Laws and policies designed to regulate the low-carbon transition and net-zero pathways create most market, technological, reputational, and other risks

Systemic Risks: *Multiple physical and transition risks at the same time or close to one another*



Boards, management, and professionals must manage systemic risks in line with their current and future legal duties

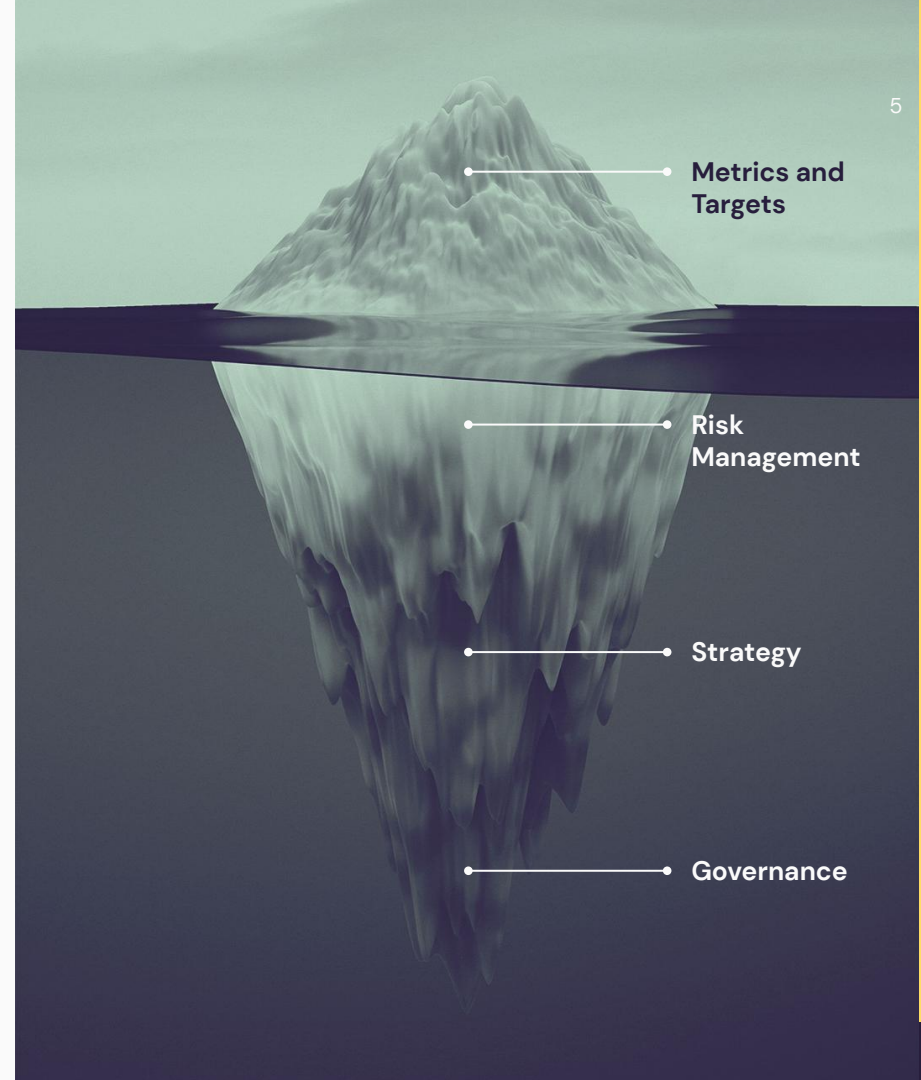


Scaling Business Resiliency through Climate Resiliency

Climate resilience refers to the ability to successfully anticipate, prepare for, and respond to the impacts of climate change.

Climate change poses business risks

Understanding an organization's Governance, Strategy, Risk Management and Metrics and Targets can empower climate strategies and inform stakeholders (investors, employees, supply chains) on how your company is navigating the climate transformation.



Lack of data is a red herring

We have lots of data but need a common language on how to connect what matters.



Challenges Navigating a New Environment

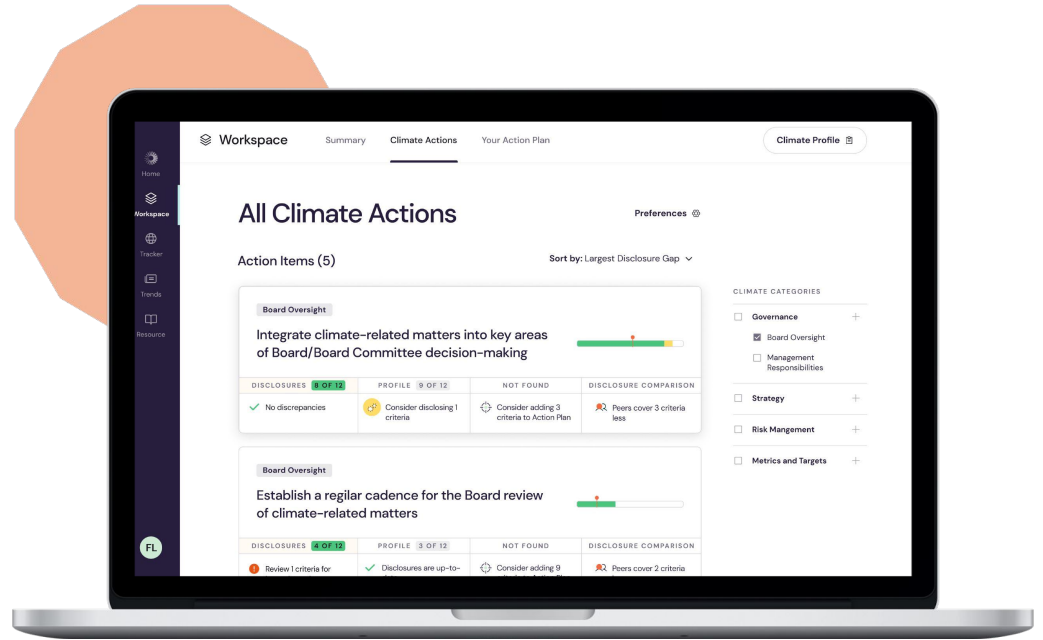
New regulations across jurisdictions

Competing and emerging disclosure frameworks and standards

Lack of standardization in climate-related data



We designed a groundbreaking, AI-powered software engine to help companies accelerate their climate strategies.



- Various sources include calls, websites, and reports
- Goldmine for understanding a company's climate risks and opportunities
- Data is often unstructured, inconsistent, and scattered
- Climate data is diverse

How do we collect, interpret, and use data meaningfully?



- It is important to build an inclusive and comprehensive dataset
- 15 years of experience built **our methodology**
- Converts raw data into standardized and actionable data points



Challenges

- Climate analysts would read and assess disclosures line by line
- Training datasets were not large enough
- Methodology was too nuanced for ML/AI

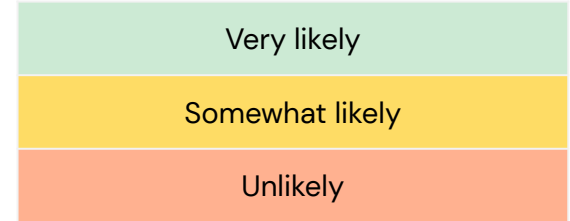
Opportunities

- We can use ML in different ways
 - Filter pages
 - QA rules



Filter pages an analyst has to read

ML Model



TCFD Alignment model (11 recommendations)

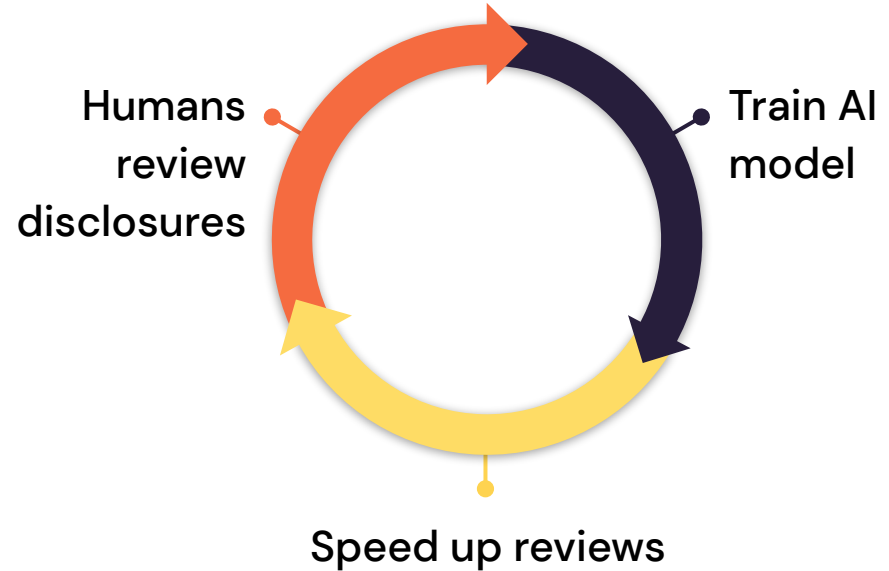
ML Model



- | | |
|--------------|---------------------|
| Governance A | Risk Management A |
| Governance B | Risk Management B |
| Strategy A | Risk Management C |
| Strategy B | Metrics & Targets A |
| Strategy C | Metrics & Targets B |
| | Metrics & Targets C |



- Exponentially grow our training dataset
 - Continually improving our ML models
 - Rule based
 - LLMs



What this has enabled




Vision: To scale climate competence and resilience globally



Vision: To scale climate competence and
resilience globally





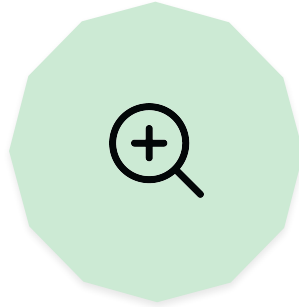
**Our software does
four things**



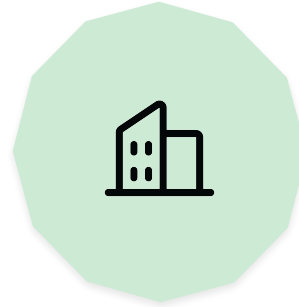
Manifest Climate Software



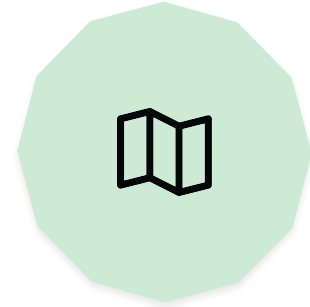
Aligns
Disclosures with
Requirements



Identifies
Risks &
Opportunities



Provides
Competitive
Benchmarks



Provides
A Clear Climate
Roadmap

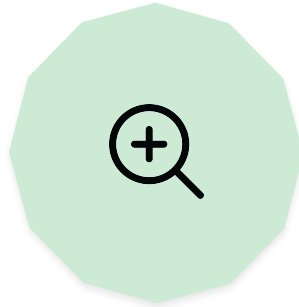


Manifest Climate Software

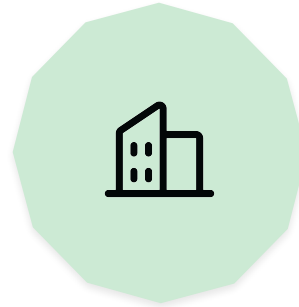
LLM / AI driven



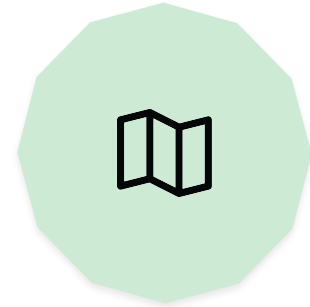
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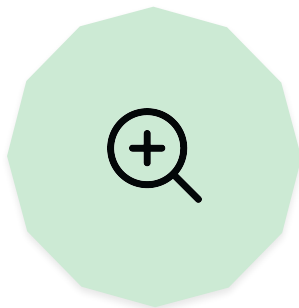
Provides
A Clear Climate
Roadmap



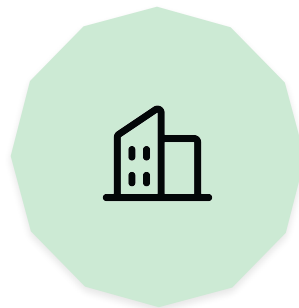
Manifest Climate Software



Aligns
Disclosures with
Requirements

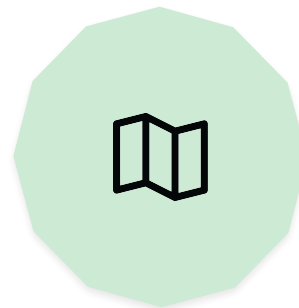


Identifies
Risks &
Opportunities



Provides
Competitive
Benchmarks

*Enabled through high
volume of data*



Provides
A Clear Climate
Roadmap



Our methodology enables everything to happen

Climate Action	Criteria	Climate Reporting Standard				
		TCFD	ISSB	UK Listing Rules	UK companies Act	SEC (draft)
...
12. Where have the impacts of climate risks or opportunities been described?	Business and strategy	Yes	Yes	Yes	Yes	
	Financial planning, financial performance and/or financial position	Yes	Yes	Yes		
	Products or services	Yes		Yes		Yes
	Suppliers or other parties in value chain	Yes	Yes	Yes		Yes
	Mitigation and adaptation activities	Yes		Yes		Yes
	Expenditure for R&D	Yes		Yes		Yes
	Business operations	Yes		Yes		Yes
	Acquisitions or divestments	Yes		Yes		
	Access to capital	Yes		Yes		
...



**Thanks to our AI and data team,
we have over:**

2,700+ documents analyzed

260,000+ pages

Spread over 3 years

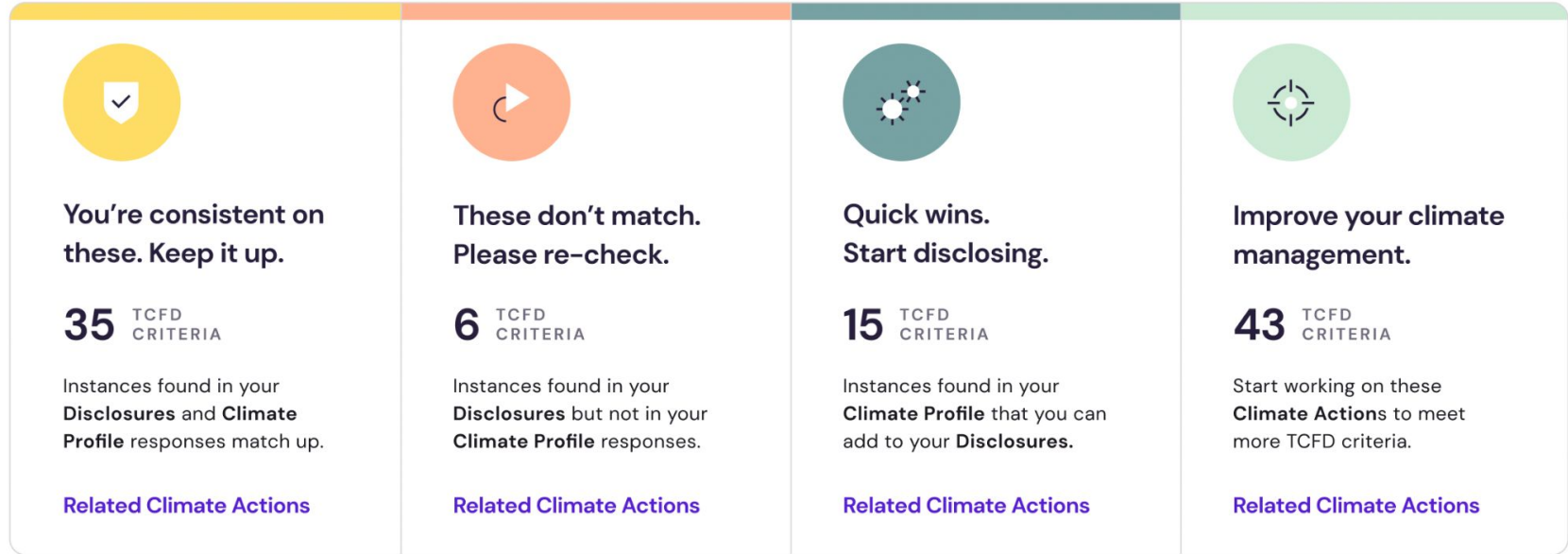
(88% in last 12 months)



94% are doing *more* than disclosed



Key areas to focus on



TCFD aligned (consistent): 40%

Doing more than disclosed: 20%

Need to improve management 40%



Improving **disclosure** quickly becomes
about improving **climate management**



There IS a common climate journey



1	Strategy A: Climate risks and opportunities identified	<i>Early stage</i>
2	Strategy B: Impacts from climate risks and opportunities on the business	
3	Risk A: Processes for identifying and assessing climate risks	
4	Metrics A: Climate metrics	
5	Metrics B: GHG emissions	
6	Risk B: Processes for managing climate risks	
7	Metrics C: Climate targets	
8	Strategy C: Climate scenario analysis	
9	Governance A: Board supervision of climate	
10	Governance B: Management responsibilities of climate	
11	Risk C: Integration of climate risks management into ERM	



1	Strategy A: Climate risks and opportunities identified	<i>Early stage</i>
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5	Metrics B: GHG emissions	
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6	Risk B: Processes for managing climate risks	
7	Metrics C: Climate targets	
8	Strategy C: Climate scenario analysis	<i>More mature stage</i>
9	Governance A: Board supervision of climate	
10	Governance B: Management responsibilities of climate	
11	Risk C: Integration of climate risks management into ERM	



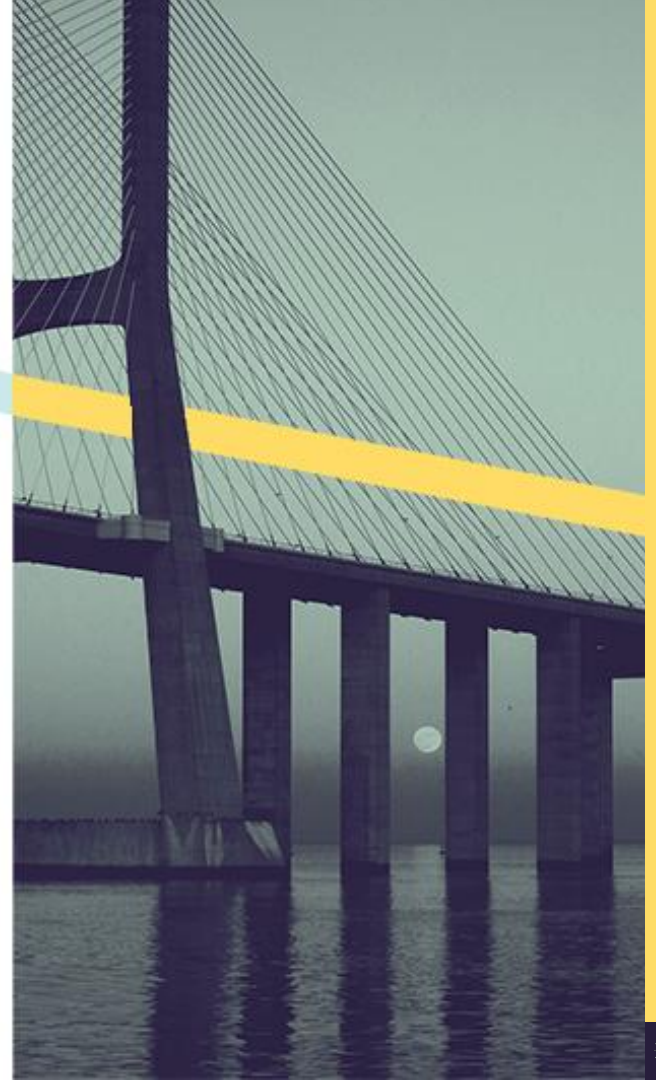
Early in climate journey

% talking about each topic in disclosures

Scenario analysis: 11%

Transition planning: 26%

Is there space within the organization to have these strategic discussions?



More climate mature

% talking about each topic in disclosures

Scenario analysis: 100%

Transition planning: 100%

The screenshot displays a dashboard with a dark sidebar on the left containing navigation icons for Home, Workspace, Tracker, Trends, and Resources, along with an 'EP' logo at the bottom. The main content area is divided into two sections: 'Best Practice Disclosures' and 'Disclosures from Your Peers'. Each section features a list of entries with a company name, a brief text snippet, a circular 'MANAGEMENT QUALITY' score, and a link to the full report.

Best Practice Disclosures (1 of 5)

- Axa** (Best Practice Disclosures): AXA applied this Climate Value-at-Risk model to all its investment portfolios (corporate bonds and listed equities) under +1.5°C, +2°C and +3°C scenarios using an average and an aggressive physical scenario. Compared to the average physical scenario, the aggressive scenario explores the most serious downside physical risks. As detailed in the above table, this model shows that aggregated climaterisks represent a potential future risk to the market value of AXA's total investment portfolio (corporate bonds and listed equities) of: > in the best scenario(6)--11.3%--5.7% for physical risks,--9.5% for transition risks, and-- +3.9... **71% MANAGEMENT QUALITY** (Axa Climate Report, Page 55)
- Legal & General**: Scenario results are pro... transition risks (well-beld... focusing on the material sovereigns. **Legal & General Climate Report,**

Disclosures from Your Peers (1 of 5)

- Teck Resources**: Similar to the conclusions with copper, zinc demand tied to low-carbon applications is set to grow across all scenarios: the more aggressive the world is in adopting renewables (i.e., the closer we are to meeting the 1.5°C scenario), the greater the demand for zinc. Zinc has multiple applications in the renewable energy and transportation sectors. One of the major uses of zinc in this context is the use of zinc to galvanize steel that is, in turn, used in low-carbon applications. For example, zinc coatings significantly extend the service life of... **86% MANAGEMENT QUALITY**
- Teck Resources**: The future demand for st... demand and the ways in... widely used materials, wi... billion tonnes, is suitable... hard to substitute in mos... development an... str... developing eco... w...

Not "if", but rather what's the **QUALITY** of actions



Common problem

What do we do next?



ABC Company's Criteria Standing

Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> ✓ 2. Board Oversight: Particular Board members and/or Board Committees are responsible for climate change ✓ 7. Management Role: C-Suite Executives, President, or Executive Committee ✓ 9. Climate Opportunities: Resource Efficiency ✓ 9. Climate Opportunities: Products and Services ✓ 9. Climate Opportunities: Energy Source ✓ 12. Climate Impact on Business: Business and strategy ✗ 12. Climate Impact on Business: Financial planning, financial performance and/or financial position ✓ 12. Climate Impact on Business: Products or services ✓ 12. Climate Impact on Business: Mitigation and adaptation activities ✓ 12. Climate Impact on Business: Business operations ✓ 19. Identifying / Assessing Risks: A well-defined process exists for identifying climate-related risks ✓ 21. Risk Categorization: Policy & Legal (Assessing) 	<ul style="list-style-type: none"> ✓ 9. Climate Opportunities: Markets ✓ 12. Climate Impact on Business: Suppliers or other parties in value chain ✗ 17. Transition Planning: Transition plan indicated ✓ 19. Identifying / Assessing Risks: A well-defined process exists to assess the likelihood and effect ✗ 21. Risk Categorization: Technology (Assessing) ✓ 21. Risk Categorization: Transition Risk (Assessing) ✗ 23. Risk Management: Well-defined process exists to manage climate-related risks and their impacts on ✓ 23. Risk Management: Well-defined process exists to determine whether to mitigate, transfer, accept, ✗ 27. Metrics in Use: Scope 3 (time-series values disclosed) ✓ 27. Metrics in Use: Energy (metric provided) ✗ 27. Metrics in Use: Intensity (time-series values disclosed) ✗ 31. Targets in Use: Total Emissions ✗ 31. Targets in Use: Scope 3 	<ul style="list-style-type: none"> ✓ 4. Decision-Maker Skills/Support: Well-defined process exists to ensure appropriate skills and compe ✗ 8. Management Workflow: Well-defined process exists to keep Management/Management Committees informed ✗ 9. Climate Opportunities: Resilience ✗ 14. Scenario Analysis: Scenario on transition risk considered ✗ 14. Scenario Analysis: Scenario on physical risk considered ✗ 14. Scenario Analysis: 1.5C scenario considered ✗ 14. Scenario Analysis: 2C scenario considered ✗ 14. Scenario Analysis: >2C scenario considered ✗ 21. Risk Categorization: Policy & Legal (Managing) ✗ 21. Risk Categorization: Acute physical (Managing) ✓ 21. Risk Categorization: Physical Risk (Managing) ✗ 31. Targets in Use: Energy ✗ 31. Targets in Use: The target includes milestones or interim targets 	<ul style="list-style-type: none"> ✓ 1. Board Awareness: 4+ per year ✗ 5. Board Workflow: Well-defined process exists to inform Board/ Board Committees about climate-related ✓ 8. Management Workflow: Cross-functional communication exists to help manage climate-related risks a ✗ 14. Scenario Analysis: Time horizons for scenarios disclosed ✗ 17. Transition Planning: Net Zero target discussed ✗ 17. Transition Planning: Mitigation activities described ✗ 17. Transition Planning: Adaptation activities described ✗ 19. Identifying / Assessing Risks: The risk terminology framework (if any) used by the organization ✗ 21. Risk Categorization: Chronic physical (Managing) ✓ 21. Risk Categorization: Transition Risk (Managing) ✗ 27. Metrics in Use: Energy (time-series values disclosed) ✓ 27. Metrics in Use: Proportion of assets or operating, investing, or financing activities aligned wi ✗ 29. Climate-Linked Pay: 	<ul style="list-style-type: none"> ✗ 1. Board Awareness: 2-3 per year ✗ 1. Board Awareness: 1 per year ✗ 1. Board Awareness: Unspecified ✗ 1. Board Awareness: 4+ per year ✗ 1. Board Awareness: 2-3 per year ✗ 1. Board Awareness: 1 per year ✗ 1. Board Awareness: Unspecified ✓ 3. Board Decision-Making: Setting business strategy, business plans, major plans of action, major tr ✗ 3. Board Decision-Making: Making major acquisitions and divestitures ✗ 3. Board Decision-Making: Establishing risk management policies ✗ 3. Board Decision-Making: Setting annual budgets and/or financial oversight ✗ 3. Board Decision-Making: Setting overall organizational performance objectives ✗ 3. Board Decision-Making: Monitoring overall organizational performance ✗ 4. Decision-Maker Skills/Support: Board member(s) have demonstrated expertise



How we apply this...



Product: Disclose

Confirm Your Climate Settings

Select Compliance Profile

- TCFD Recommendations
- CSA Proposed NI on Disclosure of Climate-related Matters
- UK Listing Rules on Disclosure of Climate-related Financial Information
- UK Companies Act Requirements on Climate-related Disclosures
- SEC Proposed Rule on Climate-Related Disclosures
- ISSB Draft Standard on Climate-related Disclosures

Select Comparison Preference

Compare: Your Peers

- All Companies
- Benchmark Leaders
- Your Peers

Save

Workspace Summary **Climate Actions** Your Action Plan Climate Profile

How to Improve your public disclosures

TCFD CRITERIA

Disclose areas in which the Board considers climate in its decision making:

	Found in Disclosures	Found in Climate Profile	Your Peer's Disclosures
You're consistent here			
Monitoring overall organizational performance	✓	✓	6 of 10
Inconsistencies			
Establishing risk management policies	✓	✗	6 of 10
Quick wins			
Making major acquisitions and divestitures	✗	✓	6 of 10
Setting annual budgets and/or financial oversight	✗	✓	6 of 10



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Workspace

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Climate Profile

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Workspace Summary **Climate Actions** Your Action Plan Climate Profile

How to Improve your public disclosures

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Benchmark Against Peers

Product: Benchmark

Climate Tracker					
Standard View		Dynamic View BETA			
View: Climate Disclosure Coverage					Download View
Company	Overall TCFD Coverage	Documents with Climate Disclosure	TCFD Coverage from Regulatory Docs	TCFD Coverage from Discretionary Docs	Metrics and Targets
Mant Co.	65%	Annual Report 2021 TCFD Report 2021 Sustainability Report 2021 Management Proxy Circular 2021	22%	64%	49%
Bank of Montreal	70%	Climate Report 2021 Management Discussion & Analysis 2021 Sustainability Report 2021	37%	66%	58%
BlackRock	57%	Annual Report 2021 TCFD Report 2021 Proxy Statement 2022 Emissions Report 2021	19%	53%	53%
Boston Properties	59%	Annual Report 2021 ESG Report 2021 Proxy Statement 2021 ESG Report 2021 Green Bond Report 2021 SASB Report 2021 Annual Report 2021	45%	55%	53%
RBC	65%	Annual Information Form 2021 Management Proxy Circular 2021 Annual Report 2021 TCFD Report 2021	39%	63%	53%



Product: Plan

Workspace Summary Climate Actions **Your Action Plan** Climate Profile

Your Action Plan

You're measured by actions not words.

The action items listed below are those that you have added to your Action Plan. Displayed is information about the individuals to whom responsibility has been assigned, progress, and details about the items themselves. Download the complete Action Plan to share it with members of your organization that are currently not active in this platform, or for handy reference in meetings and planning discussions.

[Download Summary](#)

Current Actions (2) Ready for Disclosure (2)

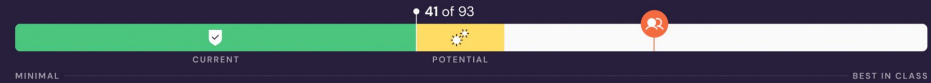
Board Oversight

Integrate climate-related matters into key areas of Board/Board Committee decision-making

TCFD Alignment

41 of 93 criteria met in your Disclosures

Peers



Key Findings



41 TCFD criteria found in Disclosures

Review 6 criteria for inconsistencies between Disclosures and Climate Profile



50 TCFD criteria found in Climate Profile

Consider disclosing 9 criteria found only in your Climate Profile



43 TCFD criteria not found

Consider adding 43 criteria to your Action Plan



Product: Execute

Resources My Resources

UPCOMING WEBINAR

Nothing Less than a Complete Transformation – the Road to Net-Zero and Climate Transparency

February 11, 2022

[View info →](#)

EXTERNAL LINK Board Supervision Management Responsibilities

ESGtoday

Mastering TCFD Will Pay Dividends in 2023's Regulatory Landscape

Manifest Climate
Dec 18, 2022

WEBINAR Board Supervision Management Responsibilities

What's in OSFI's Climate Risk Management Guideline, and How Can Firms Prepare?

Metrics and Targets

Detail and measure your expectations on your climate-related risks.

[See related Climate Actions](#)

Climate-Related Metrics

DISCLOSURES	CLIMATE PROFILE	NOT FOUND	DISCLOSURE COMPARISON
5 OF 6	5 OF 6		
✓ No discrepancies	✓ Disclosures are up-to-date	⊕ Consider adding 1 criteria to Action Plan	🔥 Peers cover 1 criteria more

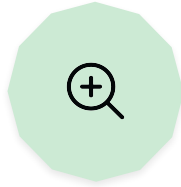
Scope 1, 2 and 3 GHG Emissions

DISCLOSURES	CLIMATE PROFILE	NOT FOUND	DISCLOSURE COMPARISON
3 OF 9	4 OF 9		
🔴 Review 1 criteria for inconsistencies	🟡 Consider disclosing 5 criteria	⊕ Consider adding 4 criteria to Action Plan	🔥 Peers cover 2 criteria more





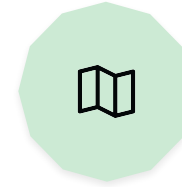
Aligns
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Identifies
Risks &
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Provides
Competitive
Benchmarks



Provides
A Clear Climate
Roadmap

Can be achieved today at high cost and inconsistently.
Requires scale enabled by data to make this widespread.



We are in a climate transformation.

LLMs, AI, and data enable more nuance
and data to be extracted.

They enable the common language
required for this next phase of change.



Thank You.

Toronto | New York | London

hello@manifestclimate.com
manifestclimate.com

