Insert" then choose "Picture" – select your picture.

Right click your picture and "Send to back".
Contents

- Contextualizing climate change
- 2017 leadership
- 2018 disclosure
- Insights

"1/5 of global emissions are now managed through CDP, as reported by companies who represent over half the global market cap."
Context
Starting with the Science

Increase in average temperature and variance

Source: NASA
Existing US Weather/Climate Related Impacts

Source: NOAA
Government Engagement

Trends in climate change litigation

- United States of America: 654
- Europe: 119
- Asia Pacific: 102
- Canada: 13

Source: Columbia Climate Law
Shareholder Resolutions (climate, 2°C)

Driving organizations?

- Wespath Benefits and Investments
- New York State Comptroller
- Other notables

New support from major asset managers is acting as game changer

% in favor

- Occidental Petroleum: 67%
- ExxonMobil: 62%
- PPL: 57%
- Dominion Energy: 48%
- Ameren: 47%
- Duke Energy: 46%
- Southern Company: 46%
- Marathon Petroleum: 41%
- AES Corporation: 40%
- Danaher Corporation: 30%
- Dominos Pizza: 23%
- Verizon: 15%

CDP Score (Proxy for CC maturity)

- A-  - B  - C  - D  - F
- G  Global 100

Source: Ceres investor resolutions database
Ongoing Engagement

- 68% of asset owners have staff who are responsible for including climate change considerations in the investment decision making.
- 70% of Asset managers have a voting policy covering environmental issues, with 20% explicitly stating support for climate change resolutions, usually centered on disclosure and reporting. The other 50% consider climate resolutions on a case by case basis.

Statistical Breakdown:

- 500 world's largest asset owners
- 50 largest asset managers
- Climate risk management in their portfolios

NGO rating

Scored on capabilities aligning with CDP key areas:

- Governance & Strategy
- Portfolio Carbon Risk Management
- Metrics & Targets
Using CDP to Respond…

827 investors are now requesting data from companies through CDP's climate change program. These investors represent US $100tn.

253 Responses

+/- 6,300 Responses


CDP

10

The business of sustainability
Leaders are Positioning for Change

**Building resilience**
- Supply Chains Disrupted

**Assets developed**
- Assets impaired

**New sources of finance**
- Compliance burden rising

**Cost reductions**
- Projects delayed or refused licence to operate

Business risks and opportunities are growing

**Products banned**
- Demand for some commodities surging

**Markets eroded**
- New markets with disruptive innovations

**Disclosure requirements rising**
- Stronger stakeholder relationships

**Brands tarnished**
- Build brand trust

The business of sustainability
Key 2017 USA CDP Stats

18 USA companies of 112 worldwide received A scores
- Adobe, Biogen, B of A, Colgate, HP, Las Vegas Sands, The Mosaic Company and Waste Management

No energy, utilities, real estate or telecommunications services made the A list

S&P 500 and Carbon Action Average for:
- Overall
- Emissions management
- Governance and strategy
- Risks and opportunities
Interpreting an A - Leadership

Baseline Expectations

- Governance
  - Broad engagement on climate change from employees with Board oversight
- Business strategy incorporates climate change
  - Programs to ensure consistency
- Goals and targets

Emerging Areas

- Emissions reductions
- Adoption of science based targets
- Use of internal carbon prices
- Uptake of renewable energy
- Low carbon products and services
- Value chain engagement
Focus on Targets

Since officially launching in June 2015, through November 2017:

- **317** Companies have formally joined the SBTi
- **73** Companies have approved targets
- **~3.5** Companies join the initiative on average every week
To Drive Reductions

Options for Meeting SBT Obligations

- **Reductions**
  - Facility / Process and Product Modifications

- **Energy Alternatives**
  - Fuels, Renewables, & Generating Equipment

- **RECs**
  - Market Based Solutions

- **Efficiency**
  - Facility or Product Specific Reducing emissions

- **Energy Substitution**
  - Facility Specific Reducing emissions

- **Market Approach**
  - Potential to Purchase RECs

**Governance**
- Executive/ Board engagement, employee engagement - carbon pricing
Changes
Proposed Changes

Sector specific questionnaires for agriculture, materials, energy, and transport have been proposed. Questions will be tailored to the industry sector and integrated into the questionnaire – not a separate module.

For companies not receiving a sector specific module, the general questionnaire has been streamlined and is much shorter.

That said, the CDP has modified and added new questions to align with the Task Force on Climate-related Financial Disclosure’s (TCFD).

There will also be new or modified questions as well as changes to the questionnaires to further align them with other frameworks such as DJSI, SASB, GRI, etc, as well as, industry specific frameworks.

To streamline the process for first time reporters – CDP is introducing a Minimum tier questionnaire.

The changes to the questionnaire are still being finalized so – there are potentially more shifts to come.
Sectors introduced in 2018 include:

**Agriculture**
- Agricultural commodities
- Food, beverage & tobacco
- Paper & forestry

**Energy**
- Coal
- Electric utilities
- Oil & gas

**Materials**
- Cement
- Chemicals
- Metals & mining
- Steel

**Transport**
- Transport services
- Transport vehicle manufacturers

Companies outside of these sectors will receive a general questionnaire, as in previous years. Further sectors will be introduced in 2019.
## General Questionnaire (proposed)

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Governance</td>
<td>Governance</td>
</tr>
<tr>
<td>2</td>
<td>Strategy</td>
<td>Risk &amp; Opportunity management</td>
</tr>
<tr>
<td>3</td>
<td>Targets and initiatives</td>
<td>Strategy and Scenario Analysis</td>
</tr>
<tr>
<td>4</td>
<td>Communications</td>
<td>Targets and Performance</td>
</tr>
<tr>
<td>5</td>
<td>Climate Change Risks</td>
<td>Metrics</td>
</tr>
<tr>
<td>6</td>
<td>Climate Change Opportunities</td>
<td>Carbon pricing &amp; trading</td>
</tr>
<tr>
<td>7</td>
<td>Emissions Methodology</td>
<td>Engagement</td>
</tr>
<tr>
<td>8</td>
<td>Emissions Data</td>
<td>Signoff</td>
</tr>
<tr>
<td>9</td>
<td>Scope 1 Emissions Breakdown</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Scope 2 Emissions Breakdown</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Energy</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Emissions Performance</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Emissions Trading</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Scope 3</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Signoff</td>
<td></td>
</tr>
</tbody>
</table>
CDP is integrating the TCFD recommendations into the 2018 questionnaire as part of the reimagining disclosure process.

The TCFD final recommendations report was published in 2017.

TCFD task force members represented users and preparers of disclosures across economic sectors and financial markets.

TCFD developed a set of recommendations for voluntary climate-related financial disclosures that provide decision-useful information for lenders, insurers, investors.
## TCFD Core Recommendations

**Figure 3: Recommendations and Supporting Recommended Disclosures**

<table>
<thead>
<tr>
<th>Governance</th>
<th>Strategy</th>
<th>Risk Management</th>
<th>Metrics and Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclose the organization’s governance around climate-related risks and opportunities.</td>
<td>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.</td>
<td>Disclose how the organization identifies, assesses, and manages climate-related risks</td>
<td>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities.</td>
</tr>
</tbody>
</table>

**Recommended Disclosures**

| a) Describe the board’s oversight of climate-related risks and opportunities. |
| b) Describe management’s role in assessing and managing climate-related risks and opportunities. |
| c) Describe the potential impact of different scenarios, including a 2°C scenario, on the organization’s businesses, strategy, and financial planning. |

| a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. |
| b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning. |
| c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management. |

| a) Describe the organization’s processes for identifying and assessing climate-related risks. |
| b) Describe the organization’s processes for managing climate-related risks. |
| c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets. |

| a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. |
| b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. |

---

*The business of sustainability*
TCFD Process

1. **Ensure governance**
   Integrate scenario analysis into strategic planning and/or enterprise risk management frameworks. Assign oversight to relevant board committees/sub-committees. Identify which internal (and external) stakeholders to involve, and how.

2. **Assess materiality of climate-related risks**
   - Market and Technology Shifts
   - Policy and Legal
   - Reputation
   - Physical Risks

3. **Identify and define range of scenarios**
   - Transition Risk Scenarios
   - Physical Risk Scenarios

4. **Evaluate business impacts**
   - Impact on:
     - Input costs
     - Operating costs
     - Revenues
     - Supply chain
     - Business interruption
     - Timing
   - Evaluate the potential effects on the organization's strategic and financial position under each of the defined scenarios. Identify key sensitivities.

5. **Identify potential responses**
   - Responses might include:
     - Changes to business model
     - Portfolio mix
     - Investments in capabilities and technologies
   - Use the results to identify applicable, realistic decisions to manage the identified risks and opportunities. What adjustments to strategic/financial plans would be needed?

Source: ERM / G20 Financial Stability Board, Task Force on Climate-related Financial Disclosures (TCFD)
Using Energy Transition Scenarios

Global energy growth shifting to lower carbon

Key question is “how quickly”

IEA

(1) Electrification / energy storage

83% of growth over next 25 years in natural gas and zero-carbon fuels

(2) Divestment from coal

(3) Gas as a transition fuel

Source: IEA World Energy Outlook 2016, BP 2035 Outlook, XOM 2040 Outlook
## Changes Between 2017 and 2018 (proposed)

<table>
<thead>
<tr>
<th>Number</th>
<th>New Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC 1.1b</td>
<td>What is the board/committee’s oversight of climate related issues for TCFD?</td>
</tr>
<tr>
<td>CC 1.1c</td>
<td>Below board-level, please identify the position of the individual or name of the committee in management with the highest responsibility for climate change.</td>
</tr>
<tr>
<td>CC 2.1</td>
<td>Please describe what your company considers to be short-, medium- and long-term horizons.</td>
</tr>
<tr>
<td>CC 2.2</td>
<td>Please describe the processes used to determine which climate-related risks and opportunities could have a substantive financial impact on your business, operations, revenue and expenditure, assets and liabilities, and capital allocation.</td>
</tr>
<tr>
<td>CC 2.3</td>
<td>Select the option that best describes your risk identification and assessment procedures with regard to climate change risks and opportunities.</td>
</tr>
<tr>
<td>CC 2.3b</td>
<td>Describe your risk management procedures for identifying and assessing climate-related risks and opportunities.</td>
</tr>
<tr>
<td>CC 2.3c</td>
<td>Identify which of the following criteria are factored into your organization’s climate risk assessments (related to regulation/value chain issues)</td>
</tr>
<tr>
<td>CC 2.5 (previous 5.1)</td>
<td>Modified: Have you identified any inherent climate change risks that have the potential to have a substantive financial impact on your business, operations, revenue or expenditure, assets and liabilities, and capital allocation?</td>
</tr>
<tr>
<td>CC 2.5a (previous 5.1a)</td>
<td>Modified: Please provide details of your identified risks that have the potential to have a substantive financial impact on your business, operations, revenue or expenditure, assets and liabilities, and capital allocation.</td>
</tr>
</tbody>
</table>
### Changes Between 2017 and 2018 (proposed)

<table>
<thead>
<tr>
<th>Number</th>
<th>New Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC 2.7c</td>
<td>Please describe where and how your identified risks and opportunities have served as an input to your financial planning process.</td>
</tr>
<tr>
<td>CC3.1a</td>
<td>Indicate whether your company uses climate-related scenario analysis to inform your business strategy?</td>
</tr>
<tr>
<td>CC3.1b</td>
<td>Indicate whether your company has developed a low-carbon transition plan to support the long-term business strategy?</td>
</tr>
<tr>
<td>CC3.1d</td>
<td>Disclose details of your company’s use of climate-related scenario analysis.</td>
</tr>
<tr>
<td>CC3.1e</td>
<td>Disclose details of your company’s low-carbon transition plan</td>
</tr>
<tr>
<td>C3.1g</td>
<td>Describe why your company does not use climate-related scenario analysis to inform your business strategy.</td>
</tr>
<tr>
<td>CC4.2</td>
<td>Please provide details of other key climate-related targets not already reported in question CC4.1/a/b. (includes renewable energy consumption/production, waste, energy/land use, supplier engagement)</td>
</tr>
<tr>
<td>CC7.1b</td>
<td>Please give details of methods of engagement and measures of success in engaging with your customers.</td>
</tr>
</tbody>
</table>
Engaging Internal Stakeholders

How can we leverage the 2018 CDP/TCFD as a tool to drive our program?

Sustainability

Who’s talking about it?

Research and Development

Are there market trends from the scenario analysis that can be used to enhance our products?

Risk Manager

How can we use scenario analysis/TCFD to enhance our enterprise risk management systems to incorporate climate change?

Investor Relations

What are we hearing about CDP/TCFD?
# Managing Expectations

<table>
<thead>
<tr>
<th>Current Score</th>
<th>Baseline (D and C)</th>
<th>Moderate (B)</th>
<th>Advanced (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maturity</strong></td>
<td>Baseline companies have an inventory and reporting program with a solid foundation and numerous opportunities for accelerated improvement.</td>
<td>Moderate reporters have a baseline program in place but some inconsistency around governance and actions. There are areas where they are leaders.</td>
<td>Advanced reporters are aligned with best practice and looking to adopt emerging trends.</td>
</tr>
</tbody>
</table>

**Key Program Components**

- GHG inventory
- Basic response
- Building a climate strategy from existing policies and programs
- GHG inventory verification
- Scope 3 inventory
- Alignment of governance and actions
- Performance driven
- Carbon reduction strategy
  - Carbon pricing
  - Renewables
- TCFD ready
- Science-based target (SBT)
- Product sustainability (LCA)
- Supply chain engagement
Final Tips

1. Screen for Financially Material Climate Related Risks
2. Develop a Greenhouse Gas Inventory
3. Analyze for Climate Risks and Opportunities
4. Perform a Questionnaire Gap Assessment
5. Conduct Interviews
6. Draft Disclosure
Questions?
Live Poll

1) Grab your phone or open up a new internet tab on your computer

2) Go to www.menti.com

3) Enter the code 18 34 16

4) Tell us if you plan to integrate the TCFD into your CDP response in 2018

5) Tell us if you would like more information from ERM on the TCFD
Today’s Presenters

Ariane Burwell
ariane.burwell@erm.com
San Francisco, CA
+1 (628) 221-7813

Wairimu Mwangi
wairimu.mwangi@erm.com
Washington, DC
+1 (202) 471-2109

Moderator

Jennifer Eastes
jennifer.eastes@erm.com
Denver, CO
+1 (720) 200-7126