

CDP Climate change 2016

Training: Turkey

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Senior Technical Officer

Agenda

- ▼ Introduction to CDP
- ▼ Business impacts of climate change
- ▼ The climate change questionnaire
- ▼ Basics of GHG accounting

Introduction to CDP

2016

info@cdp.net

Vision and mission

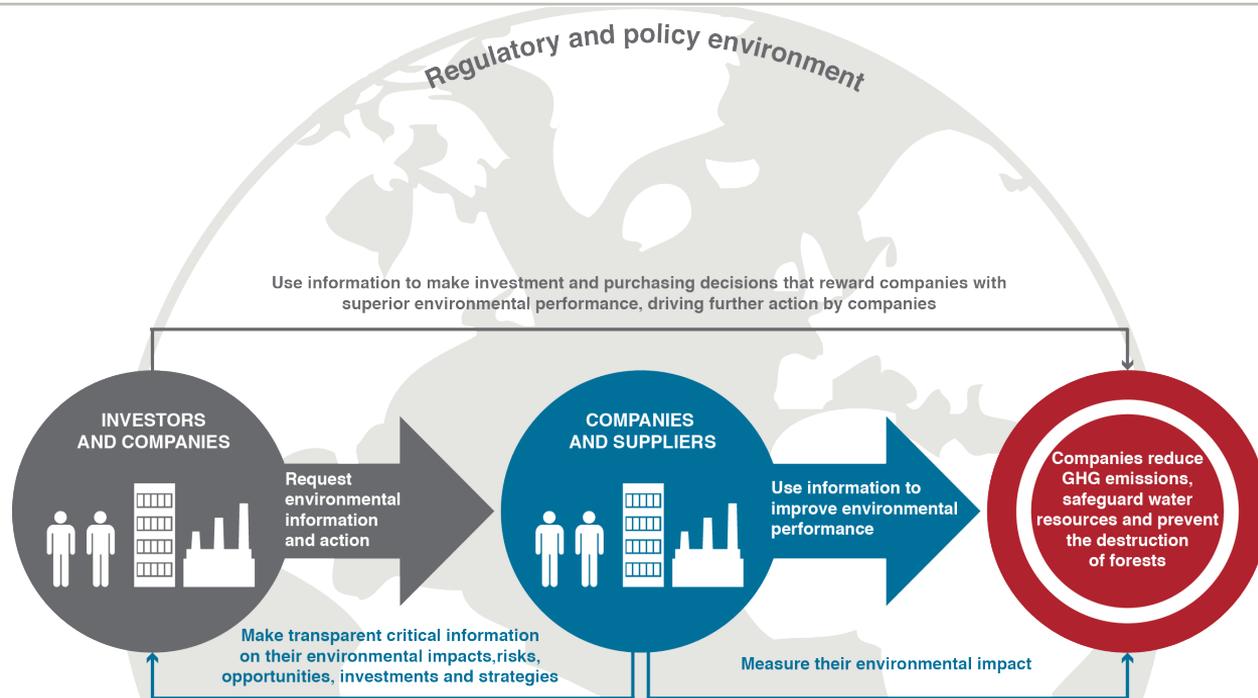
Vision

A prosperous global economic system that operates within sustainable environmental boundaries and prevents dangerous climate change.

Mission

To leverage the power of organisations and information to drive urgent action at scale by business, investors and regulators.

Theory of change



Overview



CDP Strategic aims

- ▼ To increase corporate transparency on relevant environmental impact and performance
- ▼ To make environmental performance central to investment and business decisions
- ▼ To assist cities to reduce their climate impacts and build resilience
- ▼ To support effective policy and regulation to protect the environment

Mission and what we do

CDP's mission

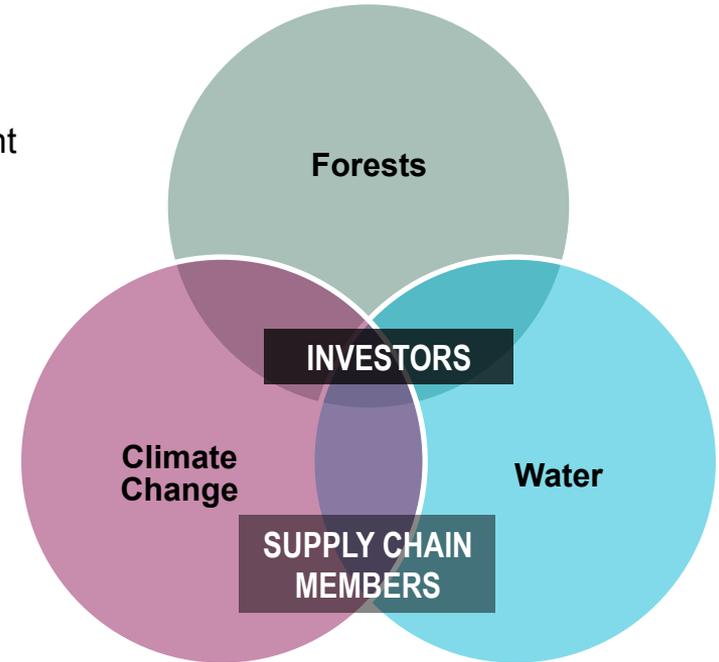
- To transform the global economic system to prevent dangerous climate change and value our natural resources by putting relevant information at the heart of business, investment and policy decisions

CDP collects information on:

- Climate Change
- Water
- Forests

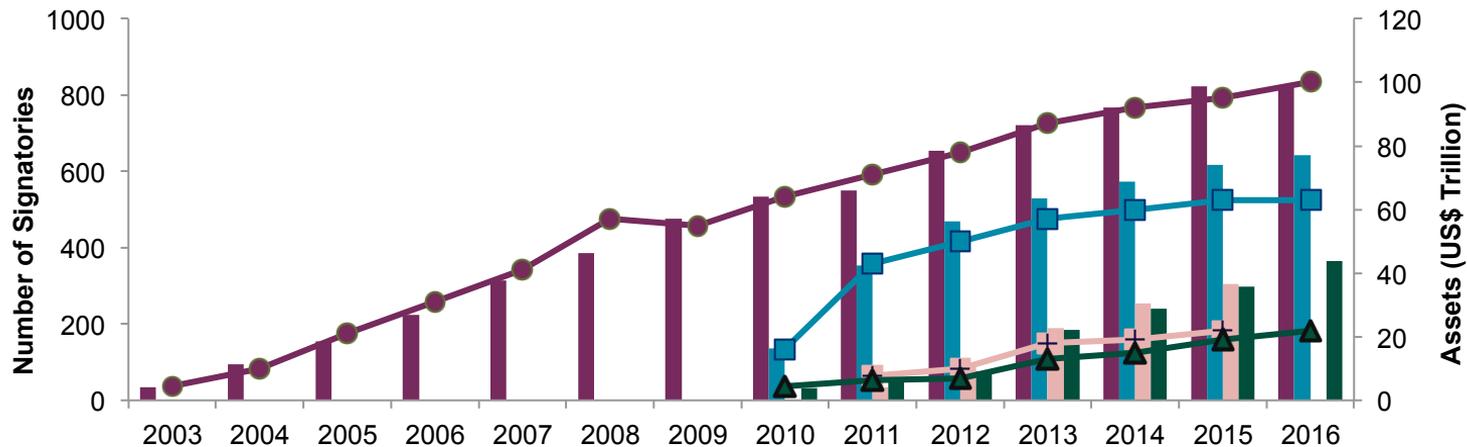
From:

- Publicly listed companies
- Their suppliers
- World's largest cities



Signatories & Assets under management, 2003-16

CDP Signatories & Signatory Assets: 2003 - 2016



■ Climate Change Signatories
■ Forests Signatories
+ Carbon Action Signatory Assets

■ Water Signatories
● Climate Change Signatory Assets
▲ Forests Signatory Assets

+ Carbon Action Signatories
■ Water Signatory Assets

Climate change

5533

Reported in 2015

Water

1237

Reported in 2015

Forests

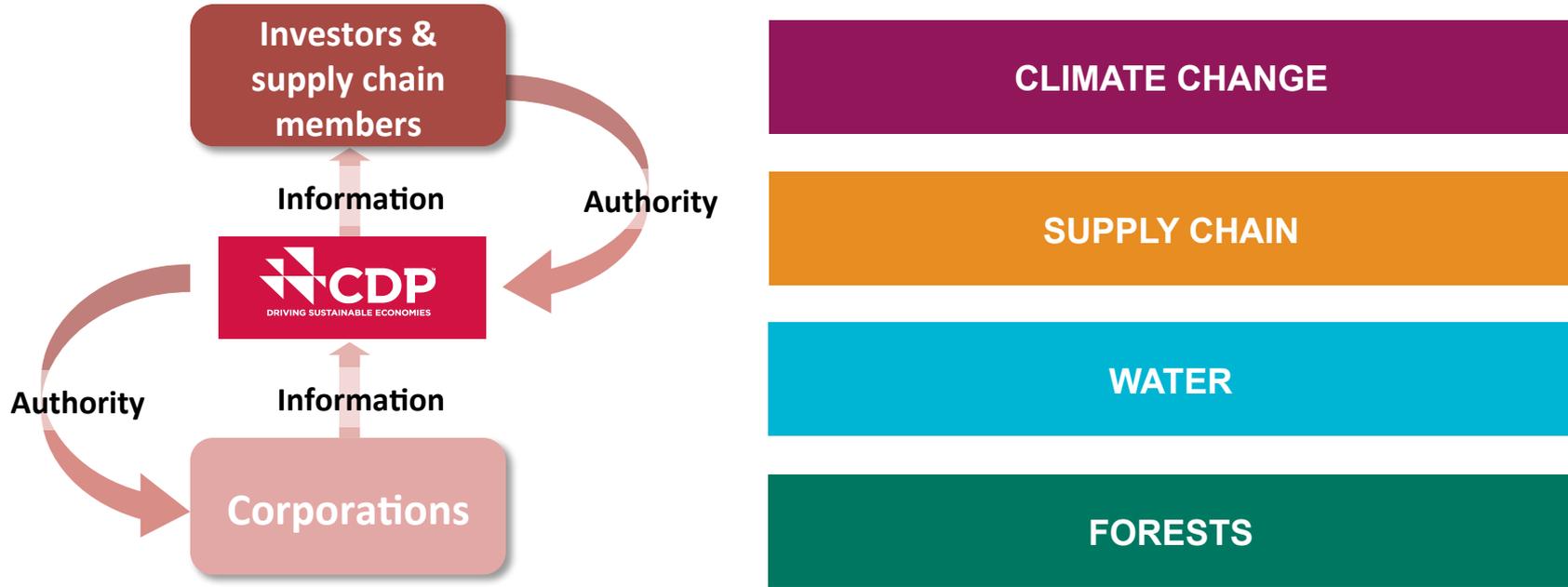
171

Reported in 2015

How We Work



How does responding work?



Example request

INVESTORS
request you
to do...

▼ CLIMATE CHANGE

14 questions on climate
change

▼ WATER

9 questions on
water

Two of your
CUSTOMERS
request you
to do...

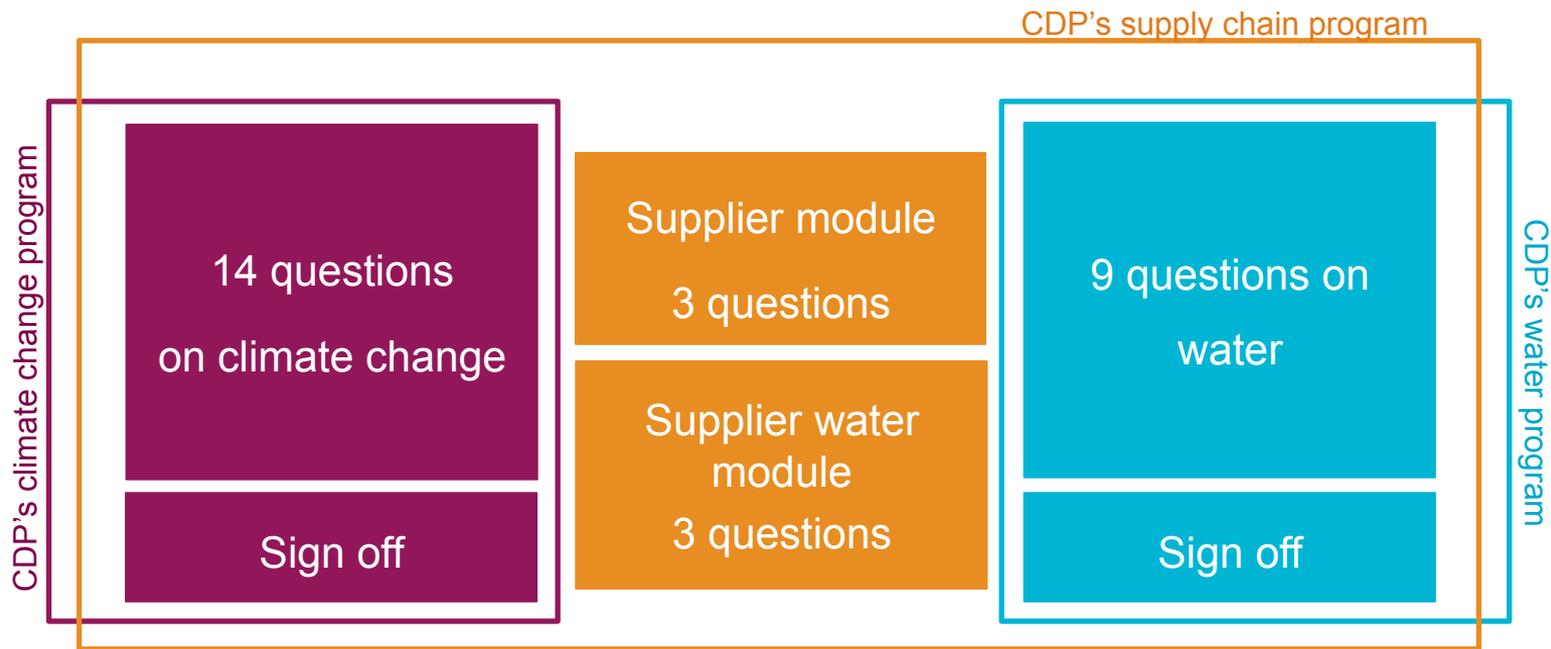
▼ SUPPLY CHAIN

14 questions on climate
change, and
3 questions on your
relationship with the
requesting customer

▼ WATER

9 questions on
water

Example request



Key facts

- ▼ Responses to the information requests should be entered into CDP's Online Response System (ORS);
- ▼ Questions follow a path. Your answers will trigger relevant follow-on questions;
- ▼ Multiple users can access the system to input responses, but only one will be able to submit;
- ▼ Response can be saved at any time and re-accessed later, printed from the ORS or exported to MS Word;
- ▼ Responses can be public or non-public; and
- ▼ CDP runs an annual consultation process on all its questions during September.

Deadlines for responding

CDP program	Deadline
▼ Climate change (investor request)	30th June 2016
▼ Water (investor request)	30th June 2016
▼ Forests (investor request)	30th June 2016
▼ Supply chain (climate change & water)	28th July 2016

Responses to all programs must be submitted by the deadline to be eligible for scoring and inclusion in reports. Please consult your local CDP office for further information.

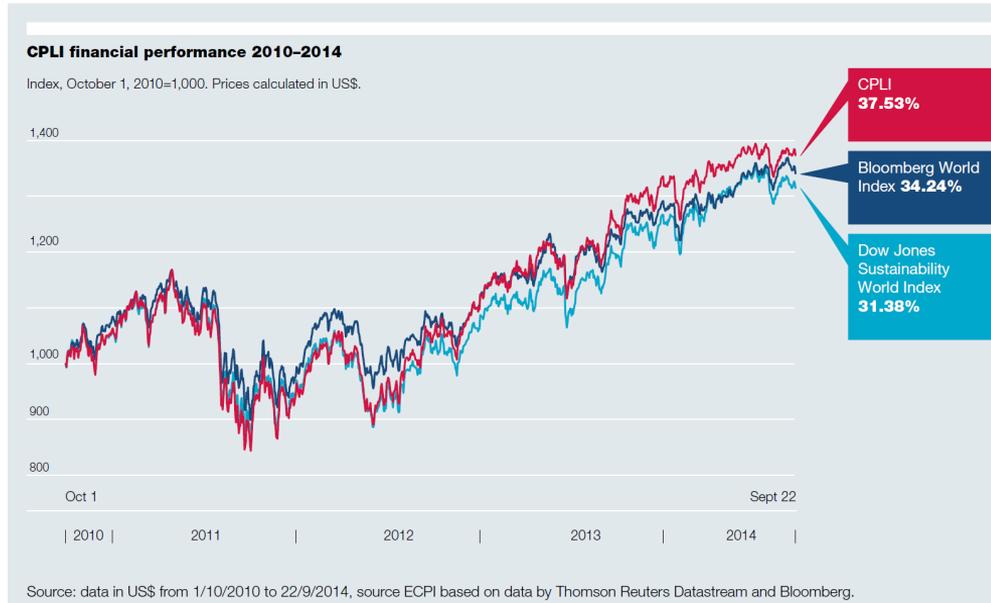
Process

- ▼ You will have received an email in February (or April if for the Supply Chain request) with a link to create your new username and password. Or you can request one from your CDP contact.
- ▼ Or respond as a self selected company!
- ▼ Simply log in to the Dashboard and click on 'Start' to begin your response in the CDP ORS (Online Response System).

Benefits of responding

“These [climate change] initiatives are intended to develop a competitive advantage by better incorporating environmental considerations into AXA's products, tap into new markets as well as reduce operational risks and enhance AXA's image and reputation.”

AXA Group

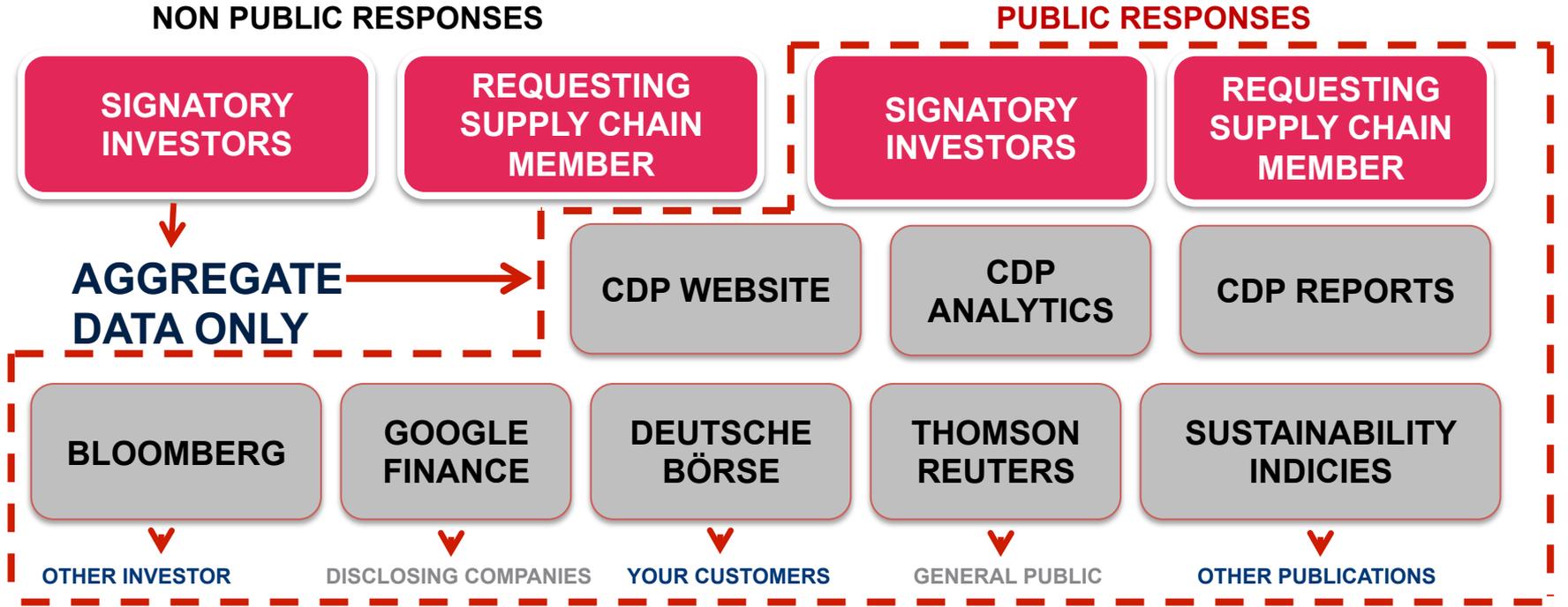


1. Engage with multiple stakeholders

2. Manage through measurement

- Understand your business better
- Realize opportunities for competitive advantage
- Identify inefficiencies
- Take advantage of opportunities for cost savings
- Benchmark performance

Data use



Why disclose to CDP?

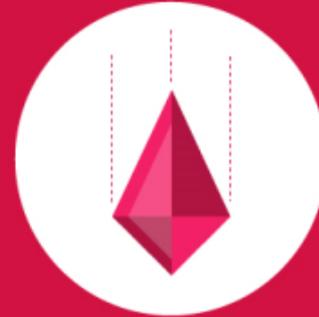
Improve your business, make your life easier



▼ Climate change



▼ Forests



▼ Water

**Demonstrate to investors, purchasers and governments
that you are managing these issues**

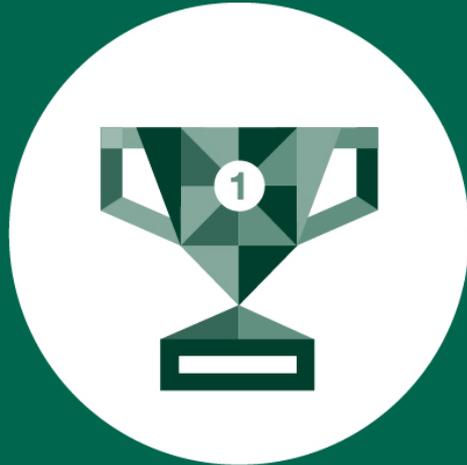
Only global environmental disclosure platform



Used by companies across more than 80 countries

Independent, trusted and vital

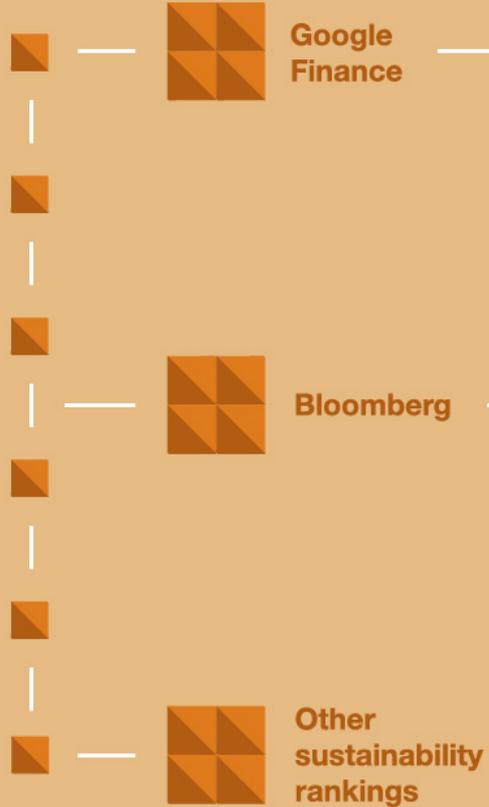
#1 IN
GLOBESCAN'S
RATE THE RATERS



**CDP IS VITAL AND
WE'VE GOT TO
GET EVERYONE
TO PARTICIPATE
IN IT**

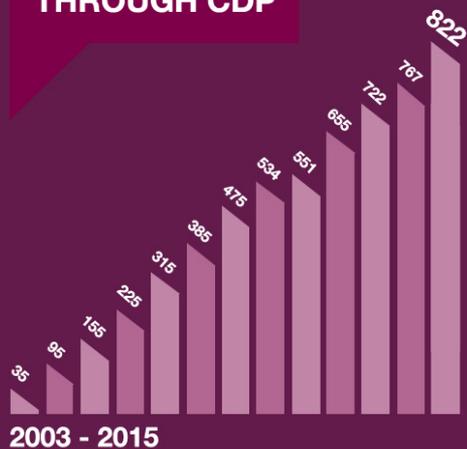
Bill Clinton
Former U.S. President

**ENTER YOUR DATA
INTO THE GLOBAL
MARKETPLACE**



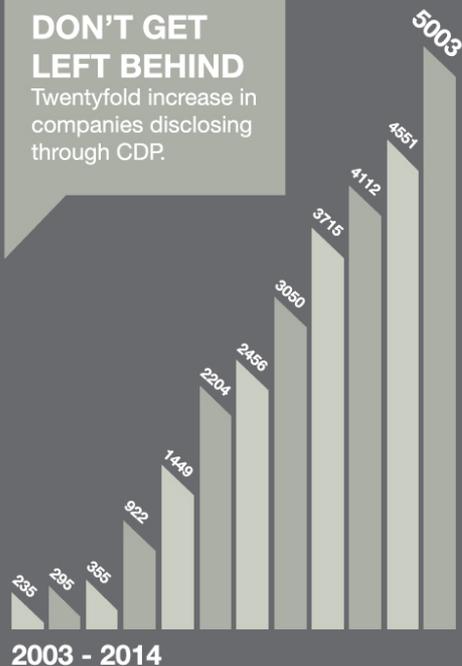
Be part of the movement

**INCREASING
NUMBER OF
INVESTORS
REQUESTING
CLIMATE DATA
THROUGH CDP**



**DON'T GET
LEFT BEHIND**

Twentyfold increase in companies disclosing through CDP.



Data and insights to inform your progress



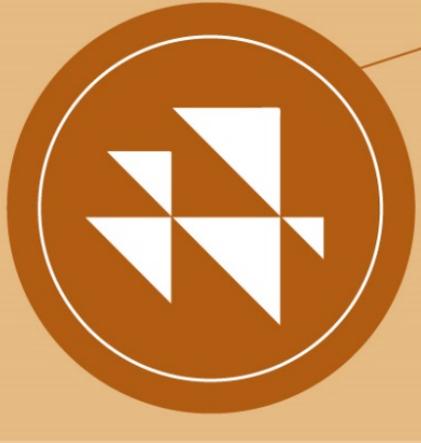
**GLOBAL SYSTEM FOR PEER
TO PEER PERFORMANCE
COMPARISON AND SHARING
BEST PRACTICE**

Largest collection of primary corporate
environmental data in the world.

The journey



The journey



Leader

Build resilience and trust. Mitigate risks. Make a positive impact. Be accountable to your stakeholders. Profit from your efforts.

Engage and collaborate with your supply chain to help improve their environmental performance too. Enjoy co-benefits.



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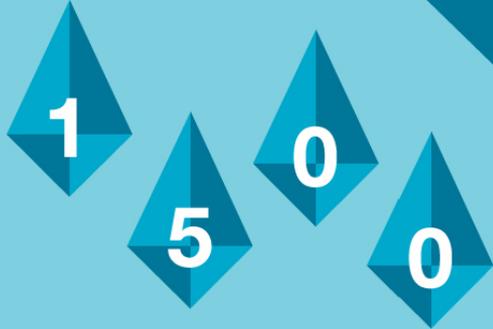
CDP impact

Companies using CDP have identified savings of over

\$53,000,000,000

CDP impact

**MORE THAN 1,500
BUSINESS
OPPORTUNITIES
IDENTIFIED THROUGH
OUR WATER PROGRAM
IN 2014**



**3.5 MILLION METRIC
TONS OF CARBON
REDUCED IN A YEAR**

Expressly from engagement with multinationals' suppliers, that's equivalent to driving 8.3 billion miles.

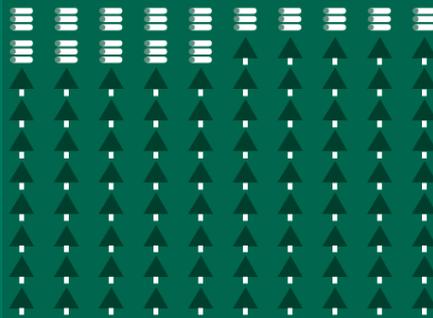


CDP impact

A QUARTER OF THE
WORLD'S 25BN METRIC
TONS OF INDUSTRIAL
CARBON EMISSIONS
ARE MANAGED
THROUGH CDP

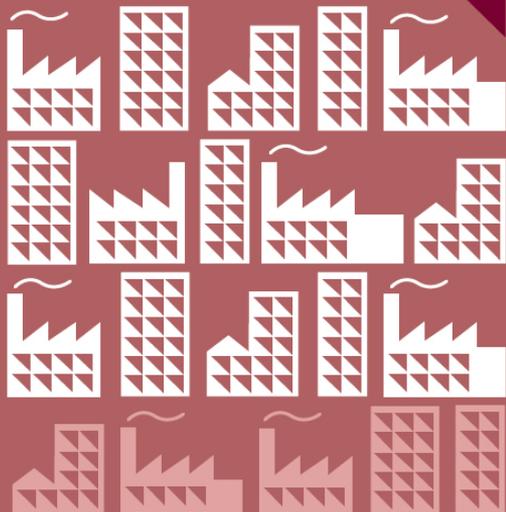


DEFORESTATION
ACCOUNTS FOR
APPROXIMATELY 15%
OF THE WORLD'S
GREENHOUSE GAS
EMISSIONS



CDP impact

**81% OF GLOBAL 500
COMPANIES USE CDP**



**ONE OF THE
MOST
SUCCESSFUL
INVESTOR
ENGAGEMENT
PROJECTS OF
RECENT YEARS**

Financial Times

A global economic system that operates within sustainable environmental boundaries and prevents dangerous climate change.

2. Business impacts of climate change

Why CDP exists? Challenging times

Our climate is changing.

We are facing unprecedented global economic challenges.

By 2030 the global population is expected to increase **18.5%** to **8.3 billion**.

This demands:

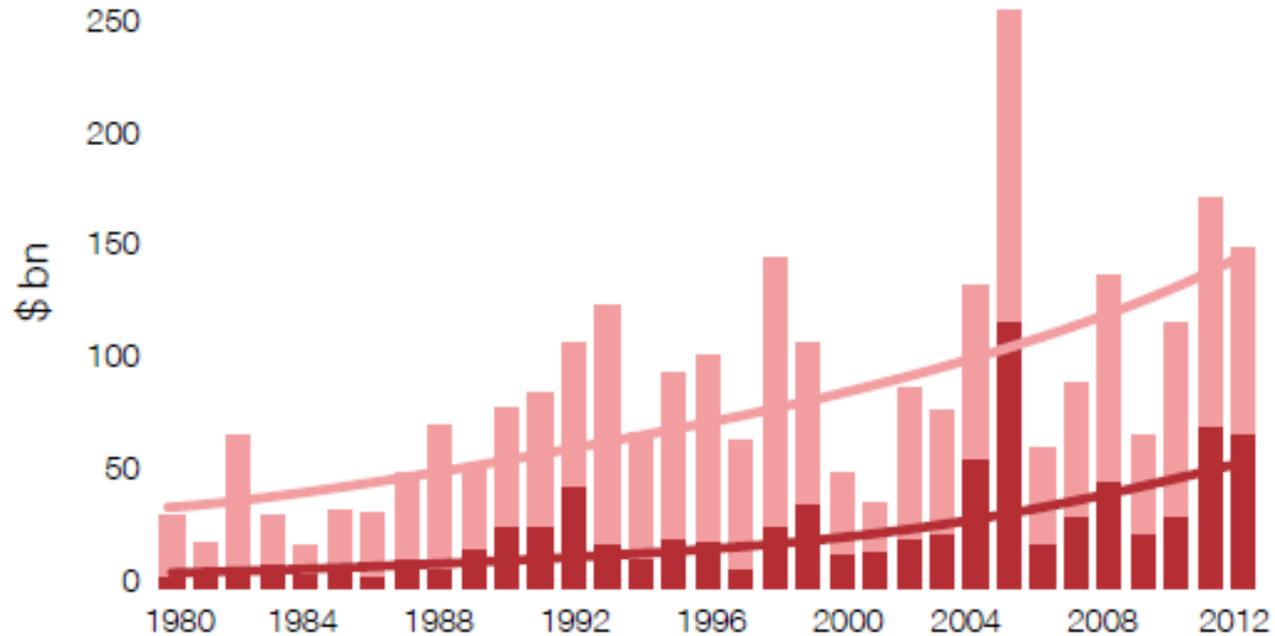
- ▼ **50%** more food;
- ▼ **50%** more energy;
- ▼ **30%** more fresh water;
- ▼ Every ton of carbon to become at least **five** times more efficient in its economic output

Materiality of climate change

Extreme weather events and resource constraints present material risks and opportunities to investors. Business continuity, productivity and profitability are threatened and liabilities are often concealed within global supply chains.



Overall and insured losses from weather catastrophes worldwide



Source: Munich Reinsurance Company, Geo Risks Research, NatCatSERVICE

Materiality of climate change: examples

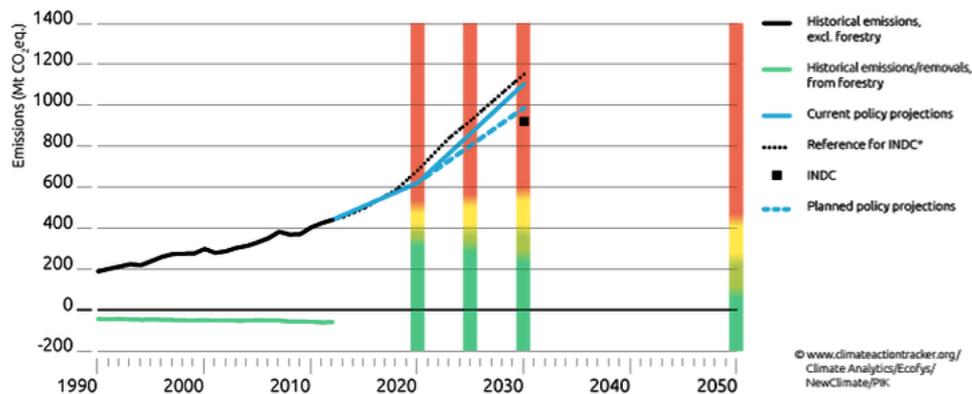
▼ In 2011 **Intel** lost \$1 billion in revenue as a result of the business interruption to their Thailand-based suppliers caused by flooding. The event also hit the Japanese automotive industry, reporting estimated loss in profits of \$450 million.

▼ At the beginning of 2014 a series of snowstorms across America shrank the American economy by 2.1% in the first quarter.

▼ A report by Mercer from 2011 estimates that institutional portfolios could be exposed to systemic risks from climate related policies that could affect investment returns by as much as 10% over the next 20 years. Insured losses from weather catastrophes have increased by an astounding 1,831% from \$3.7 billion in 1980 to \$68 billion in 2012

Predicted climate change impacts in Turkey

- ▼ Decreases of over 20% of rainfall are projected in the south of the country
- ▼ Heatwave of Summer 2007
- ▼ Coldwave of Winter 2008



A US\$5.5 TRILLION GLOBAL MARKET



Take your place in a growing market for low-carbon goods and services.

ENJOY LOWER BORROWING COSTS



Businesses disclosing to CDP save an average of US\$1.2 million in annual loan interest charges.

IMPROVE VALUATIONS



Studies show that companies disclosing their climate risk enjoy improved market valuations - transparency pays.

TACKLING CLIMATE CHANGE IS AN ENORMOUS BUSINESS OPPORTUNITY

AS A RESULT, SINCE 2010, THE NUMBER OF COMPANIES DELIVERING EMISSIONS REDUCTION ACTIVITIES HAS INCREASED FROM 47% TO 89%



ATTRACT INVESTMENT



CDP data is increasingly being used to create financial products, including the STOXX Low Carbon Indices and New York State pension fund's US\$2 billion low-carbon investment fund.

RESILIENT SUPPLY CHAINS



Procurement decisions are increasingly factoring in climate management. Organisations with US\$2 trillion annual spend are actively building sustainable supply chains, through CDP.

RISK MITIGATION



Seasoned disclosers display improved climate-risk management systems and benefit from superior savings from carbon reduction projects.

Climate Change 2016

Overview of the questionnaire

respond@cdp.net

CDP's Climate Change 2016 questionnaire

Management

CC1. Governance

CC2. Strategy

CC3. Targets & initiatives

CC4. Communications

Risks & opportunities

CC5. Climate change risks

CC6. Climate change opportunities

Emissions

CC7. Methodology

CC8. Emissions data

CC9. Scope 1 emissions breakdown

CC10. Scope 2 emissions breakdown

CC11. Energy

CC12. Emissions performance

CC13. Emissions trading

CC14. Scope 3

Sign off

CC15. Sign off

Management

- Focus mostly on qualitative data. Aims to determine the GHG emissions management processes the company has in place at a group level and identify best practice activities

CC1. Governance

- Group and individual responsibility for climate change
- Incentive structure

CC2. Strategy

- Risk management process
- Climate change integration with business strategy
- Engagement with policy makers
 - Direct
 - Trade associations
 - Funding research
 - Other
- Ensuring consistency in engagement agendas

Management

CC3. Targets and initiatives

Emission reduction targets

- Absolute and/or intensity emissions targets and/or renewable energy consumption or production targets with details
- Progress within the reporting year

Enabling third parties to reduce emissions

Emissions reduction initiatives

- Number of projects at each stage of development and estimated annual CO2 savings
- Details on implemented initiatives: estimated savings, payback period
- Driving investments for emission reduction initiatives

CC4. Communications

- Outside the CDP response

Risks and opportunities

- Aims to determine the awareness of climate change risks and opportunities in the company, their significance to the business and the management methods

CC5/6. Risks & opportunities

- Driven by regulation
- Driven by physical climate parameters
- Driven by other climate related development

Further Details

- Risk/opportunity drivers, potential, timeframe, direct/indirect, likelihood, magnitude of impact
- The potential financial implications of the risk/opportunity before taking action
- The methods the company is using to manage this risk/opportunity and
- The costs associated with these actions
- All risks should be inherent, rather than residual. In other words, risks and opportunities present before taking action to manage them.

Emissions

- Focus mostly on quantitative data – emissions accounting
- Direct and indirect emissions data to varying degrees of granularity and information on how they have been calculated
- Identifies the degree to which activities are sensitive to energy costs and energy supply as well as companies' awareness of this

CC7. Methodology

- Scope 1 & Scope 2 base year and base year emissions
- The standard, protocol or methodology used to collect activity data and calculate emissions

CC8. Emissions data

- Scope 1 and 2 emissions for the reporting year, the boundary used for the Scope 1 and 2 greenhouse gas inventory, the level of uncertainty and exclusions
- Verification/assurance status that applies to companies' Scope 1 and 2 emissions

CC9/10. Scope 1 and Scope 2 emissions breakdown

Emissions

CC11. Energy

- Breakdown of energy sources
- % of operational spend on energy
- Details of low carbon energy purchases
- Details of energy production including renewable energy production

CC12. Emissions Performance

- How absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year.
- Intensity data and year on year change
 - tCO₂e per unit currency total revenue
 - An additional intensity (normalized) metric that is appropriate to business operations

CC13. Emissions Trading

- Participation in emission trading schemes and strategy for complying
- Originated/purchased any project-based carbon credits

Emissions

CC14. Scope 3

- Relevant Scope 3 emissions
 - Sources of Scope 3 emissions
 - Evaluation status
 - Scope 3 emissions (CO₂e metric tonnes) or explanation if not relevant
 - Methodology used
 - Percentage of emissions calculated using primary data
- Third party verification/assurance status for scope 3 emissions
- Changes in Scope 3 emissions on a year-on-year basis by Scope 3 category
- Engagement with the value chain on GHG and climate change strategies:
 - Methods, strategy, and use of data

Sign off

CC15. Sign off

- Identify the person that has signed off (approved) the CDP response

Sector Modules

Sector module questionnaires are sent to companies in addition to the main questionnaire in the following GICS sectors:

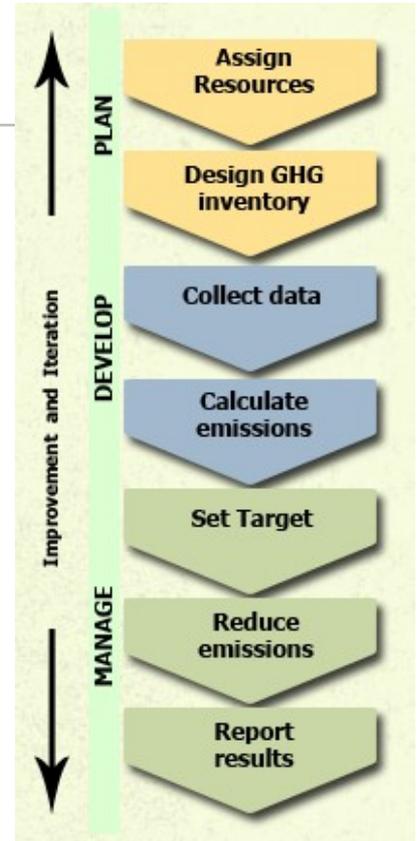
- ▼ Oil and Gas
- ▼ Electric utilities
- ▼ Auto and auto component manufacturers
- ▼ Information and Communications Technology Companies (ICT)
- ▼ Food, Beverage, and Tobacco Companies (FBT)

What is GHG Accounting?

GHG Accounting

▼ GHG accounting attempts to quantify and organise info about GHG emissions based on common standards and protocols and to attribute emissions correctly to a facility, company, nation or other entity

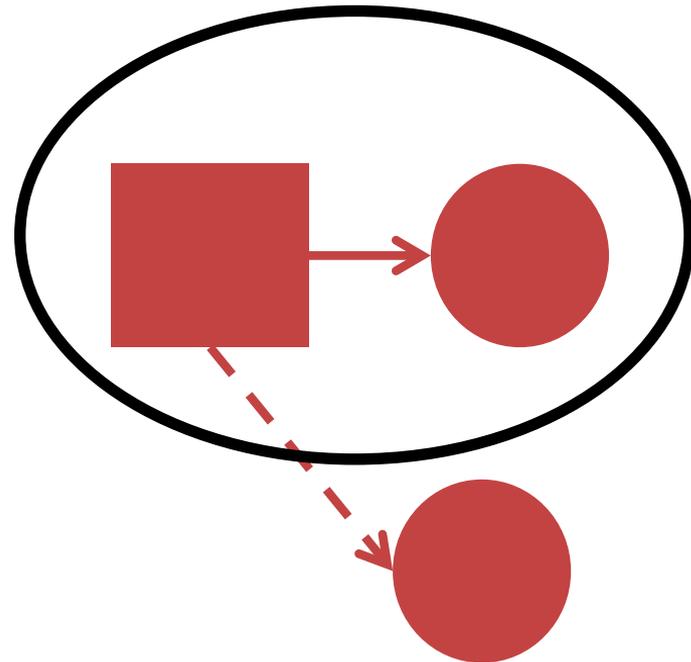
▼ GHG inventory is a quantified list of a company's or organisation's GHG emissions and sources



Organizational boundaries: defining your inventory's limits

Organizational Boundaries

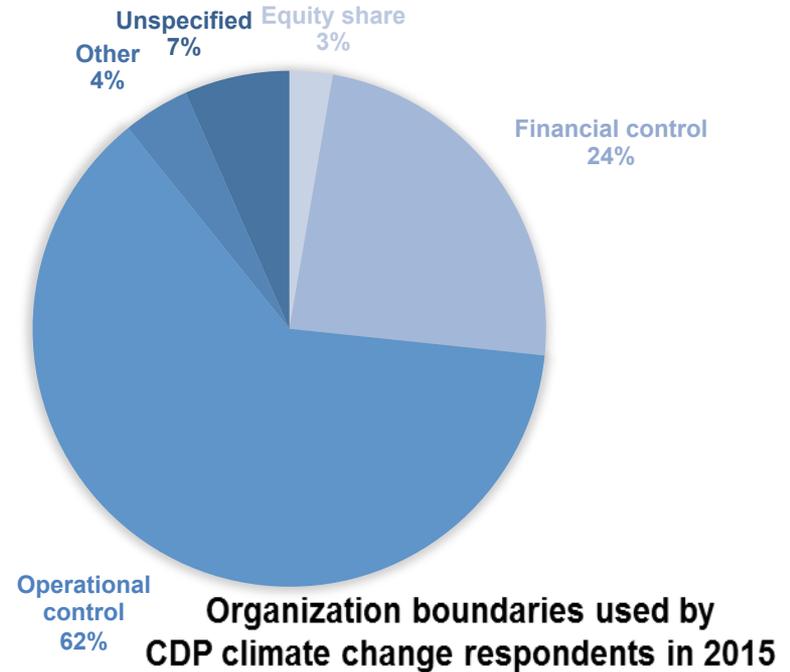
- ▼ Imaginary line encompassing the parts of your business that you should include in your inventory
- ▼ Determine which operations are owned or controlled by the company and should be included in your emissions inventory
- ▼ Three different approaches...The selected approach should be used consistently to answer all questions in the CDP climate change questionnaire.



Organizational Boundaries

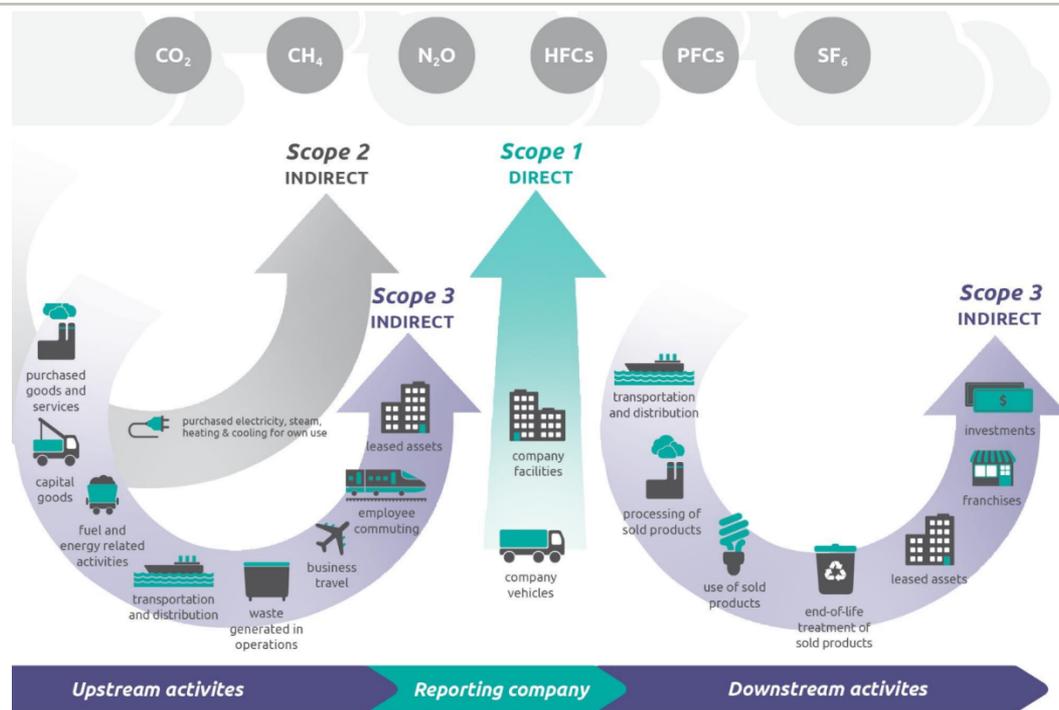
- ▼ **Equity share** - accounts for emissions according to the equity share the company holds in the operation
- ▼ **Financial control** - the company has the ability to direct the financial and operational policies of the operation with the goal of gaining economic benefits
- ▼ **Operational control** - looks at if the company or any of its subsidiaries has the full authority to introduce and implement operating policies at the operation

Companies using CDSB's Reporting Framework should select Financial Control in CC8.1



Scopes: classifying emissions (“operational” boundary)

Emission Scopes



▼ **Direct (Scope 1) emissions:** emissions within your company's organizational boundary from sources that your company **owns or controls**, like the combustion of fuel in the company's furnaces

▼ **Scope 2:** purchased electricity, steam, heating and cooling. Energy at a power plant is not owned or controlled by your company, therefore these are indirect emissions

▼ **Indirect (Scope 3) emissions:** related to your company's activities but come from **sources owned or controlled by another company**

Source: GHG Protocol Corporate Standard

Base year: tracking emissions over time

The base year

▼ What is a base year?

A base year is the **year in history against which a company's emissions are tracked over time**. It can be either one year or a series of consecutive years

▼ Why set a BY?

- Report progress towards GHG targets, either voluntary targets or as part of regulation.
- For internal management goals and benchmarking

▼ How to set a BY?

- The earliest relevant point in time for which there is reliable data, or a base year for which verifiable emissions data are available.
- Develop a base year emissions recalculation policy

▼ When to recalculate your base year emissions?

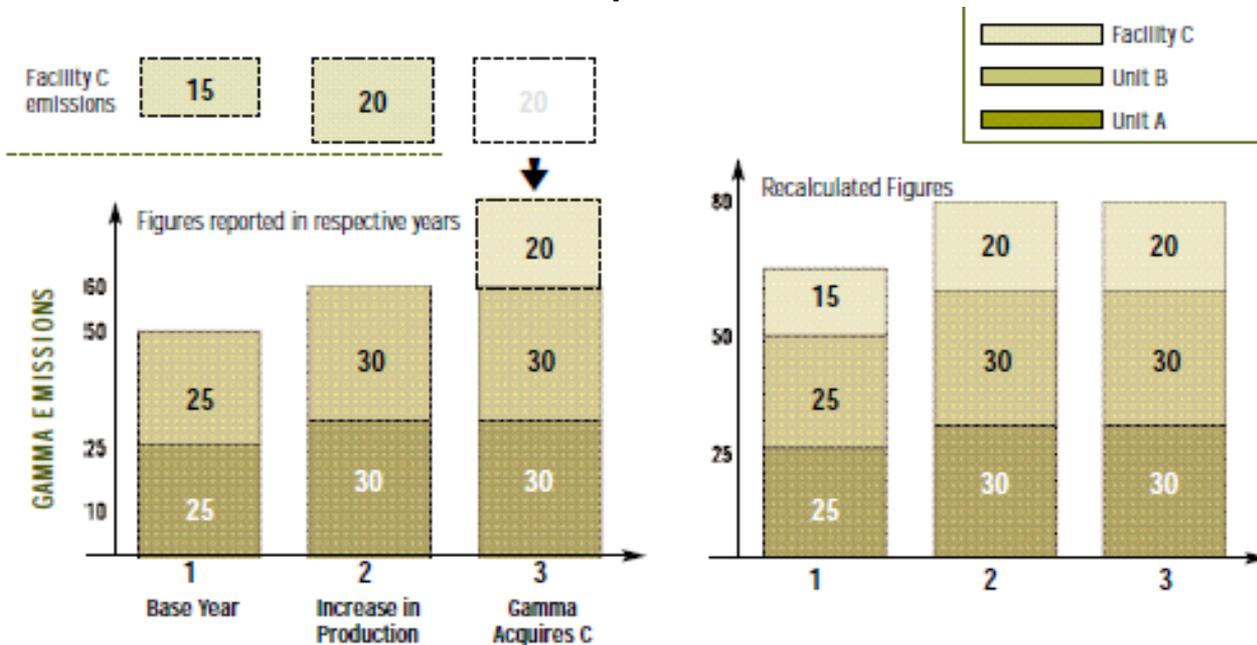
- There have been structural changes (divestments/acquisitions)
- Changes in calculation methodology or improvements in data accuracy

▼ When not to recalculate?

- Organic growth or decline
- “Outsourcing/insourcing” reported under scope 2 and/or scope 3
- Insignificant emission changes (below a policy company threshold)

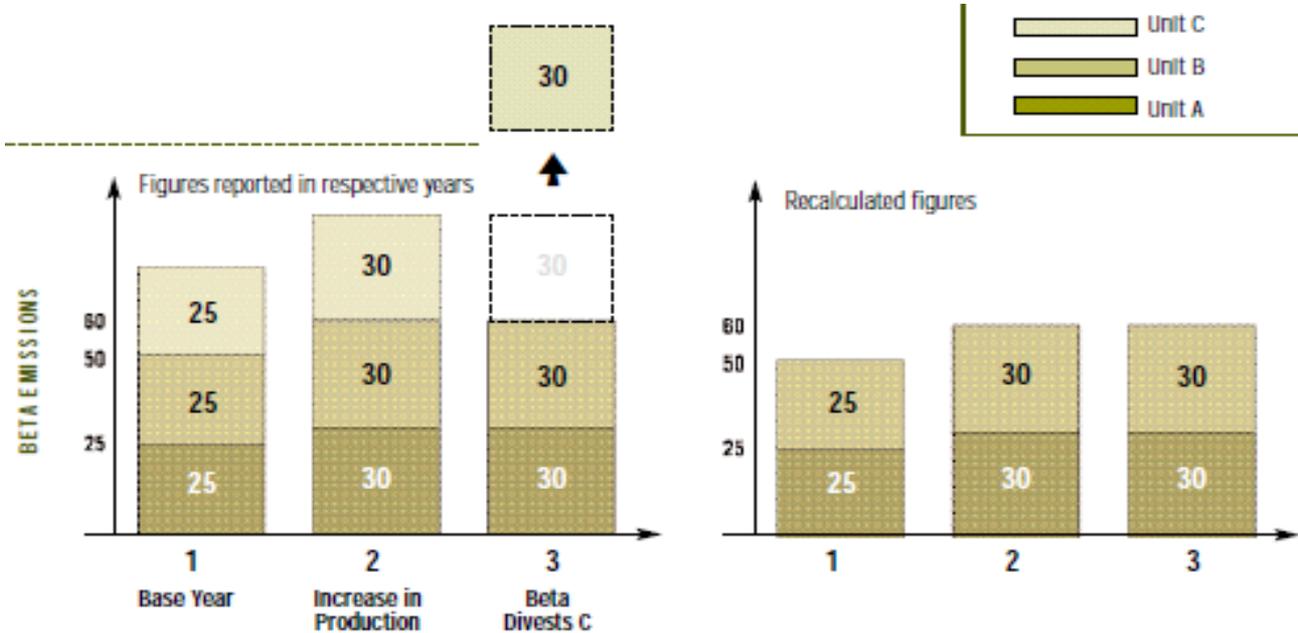
Recalculation example I

Base year emissions recalculation for an acquisition



Recalculation example II

Base year emissions recalculation for a divestment



Calculating your emissions

Not all GHG are the same

▼ Global Warming Potentials (GWP)

GHG gases differ in their contribution to climate change:

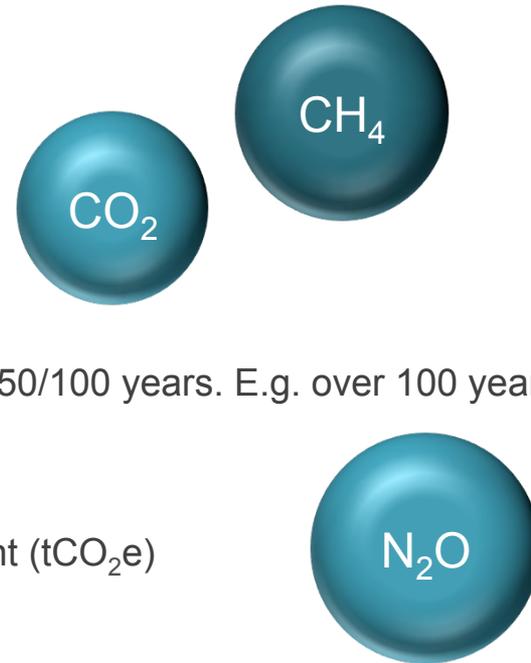
1. Amount of infrared radiation absorbed
2. Atmospheric lifetime
3. Where on the spectrum they absorb radiation (especially if they trap additional heat)

GWP compares gases using CO₂ as the standard, typically over 20/50/100 years. E.g. over 100 years, Nitrous dioxide (N₂O) has a GWP of 298 (298 times that of CO₂).

▼ “CO₂ equivalent” is calculated through **GHG x GWP**

E.g. **100** tonnes N₂O x **298** GWP = **29 800** tonnes CO₂ equivalent (tCO₂e)

CDP recommends the GWPs from the IPCC Fifth Assessment Report (SAR),



Calculating emissions

▼ Emission Factors

- Measure of the average amount of a specific pollutant or material discharged into the atmosphere by a specific process, fuel, equipment, or source.
- Published by government agencies (E.g. DEFRA, EPA, EIA, UNFCCC)
- It is expressed as kilograms of particulates per ton (or metric ton) of the material or fuel
E.g. crude oil = 3100.59 kg of CO₂ per tonne of crude oil.

▼ Calculation

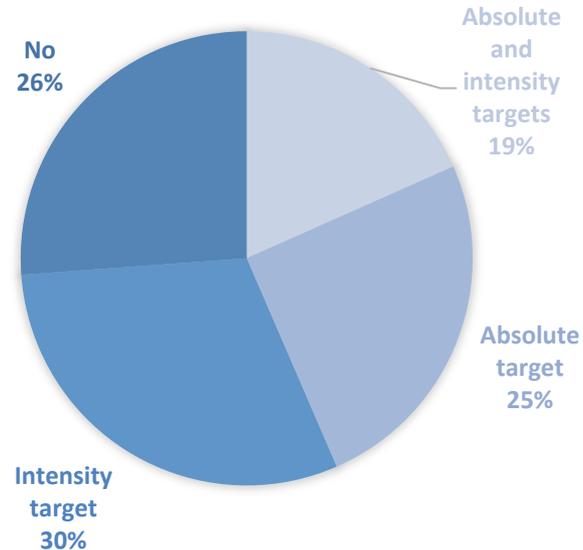
- Quantify the activities (kg of fuel, litres of heating oil or MWh of electricity) and convert activity data into emission values by using emission factors
E.g. 100 tonnes of crude oil used
= **100** (activity data) x **3100.59** (emissions factor)
= **310 059** tonnes of CO₂ generated from burning 100 tonnes of crude oil

Setting targets

Why set a target?

- ▼ Minimize and manage GHG risks
- ▼ Achieve cost savings and stimulate innovation
- ▼ Prepare for future regulations
- ▼ Demonstrate leadership and corporate responsibility
- ▼ Facilitate participation in voluntary GHG programs

- ▼ Three-quarters of responders have a target



Steps to set a GHG target

▼ Decide on a **target type**

- Absolute targets define a pure level of GHG reduction indifferent to other factors
- Intensity targets define a reduction in GHG emissions relative to some other measure or indicator
- Both

▼ Determine **target boundaries**:

- Which GHGs?
- Which geographic boundaries?
- Which sources?

▼ Choose a **target base year**

- “Fixed base year” approach: fixed historical reference
- “Rolling base year” approach
- Define the target completion date and commitment period
- Long-term
- Short-term
- Both

▼ Decide on the **target level**

Further resources

Resources

▼ Organizational boundaries

- **Climate Disclosure Standards Board (CDSB)** Climate Change Reporting Framework (http://www.cdsb.net/file/8/cdsb_climate_change_reporting_framework_2.pdf)

▼ Operational boundaries (scopes)

- **Scope 1 & 2** The GHG Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) (<http://www.ghgprotocol.org/standards>)
- **Scope 2** The GHG Protocol: Scope 2 Guidance http://www.ghgprotocol.org/scope_2_guidance
- **Scope 3** Corporate Value Chain (Scope 3) Accounting and Reporting Standard (<http://www.ghgprotocol.org/standards>)

▼ Emissions factors and Global Warming Potentials (GWP)

- CDP is not able to provide advice on this issue but CDP's **Carbon Calculator Partners** can help: <https://www.cdproject.net/en-US/WhatWeDo/Pages/carbon-calculation-partners.aspx>
- The GHG Protocol advises that companies calculate their own factors, but complete beginners might find it useful to utilize the GHG Protocol calculation tools, as a first step <http://www.ghgprotocol.org/calculation-tools/all-tools>

Coffee break!

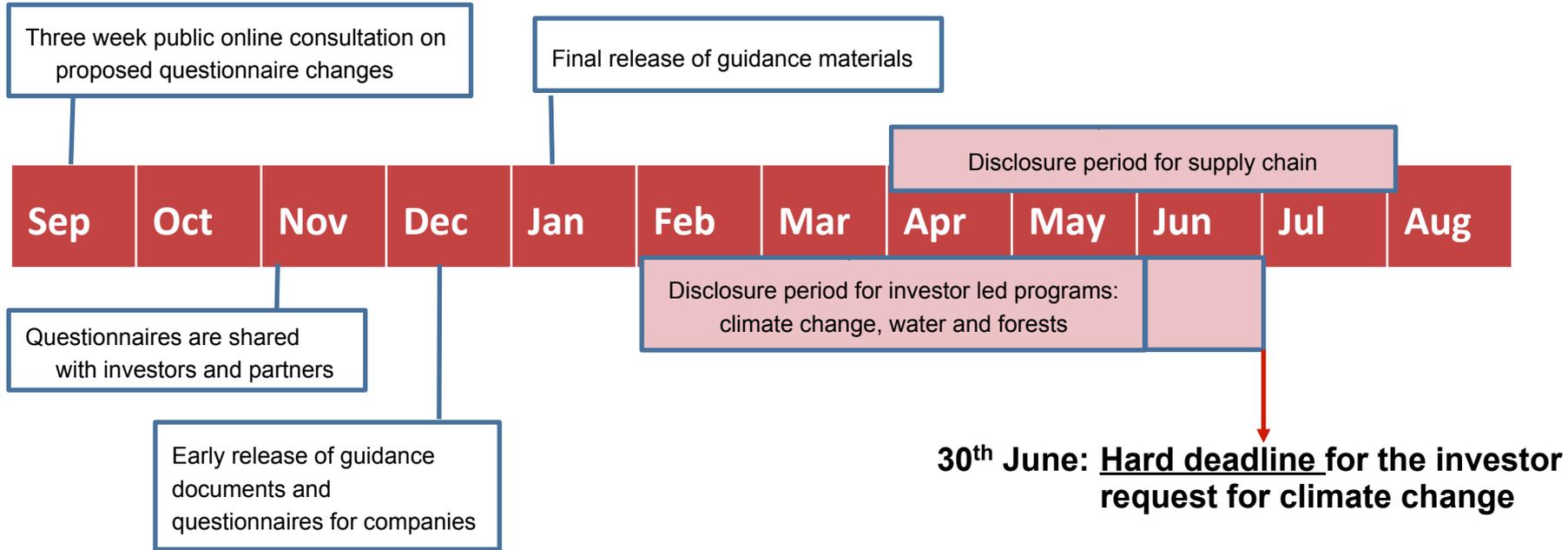
Agenda: Session 2

- ▼ Changes to the questionnaire 2016
- ▼ Changes to the scoring 2016
- ▼ The renewables space
- ▼ Discussion



CDP's annual climate change questionnaire

Disclosure cycle – important dates



Principles for questionnaire development

- ▼ Relevance to stakeholders
- ▼ Reflect developments in environmental reporting
- ▼ Improve data quality
- ▼ Make disclosing easier
- ▼ Automate the scoring process
- ▼ Support the realization of one or more of CDP's strategic aims

Refresher of previous changes, introduced in 2015

Key:	No change	Minor change	Moderate changes
------	-----------	--------------	------------------

0: Introduction	1: Governance	2: Strategy	3: Targets & initiatives
4: Communications	5: Risks	6: Opportunities	7: Methodology
8: Emissions	9: S1 Breakdown	10: S2 Breakdown	11: Energy
12: Emissions performance	13: Emissions Trading	14: Scope 3	15: Sign off

Refresher of previous changes, introduced in 2015

Moderate changes:

- ▼ Introduced two new questions asking whether companies had an internal price on carbon, or intend to introduce an internal price on carbon within the next two years
- ▼ Introduced two new questions for one year only about whether companies support an international agreement in Paris

Changes to be introduced in 2016

Key:	No change	Minor change	Moderate changes
-------------	-----------	--------------	------------------

0: Introduction	1: Governance	2: Strategy	3: Targets & initiatives
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Changes to the climate change questionnaire in 2016

Summary of changes

- ▼ Removal of questions
- ▼ Science-based targets
- ▼ Renewable energy
- ▼ Scope 2 accounting
- ▼ Low carbon products
- ▼ Minor changes



Removed questions

- ▼ **CC2.3e:** Do you fund any research organizations to produce or disseminate public work on climate change?
 - ▼ **CC2.3f:** Please describe the work and how it aligns with your own strategy on climate change
 - ▼ **CC2.4:** Would your organization's board of directors support an international agreement between governments on climate change, which seeks to limit global temperature rise to under two degrees Celsius from pre-industrial levels in line with IPCC scenarios such as RCP2.6?
 - ▼ **CC2.4a:** Please describe your board's position on what an effective agreement would mean for your organization and activities that you are undertaking to help deliver this agreement at the 2015 United Nations Climate Change Conference in Paris (COP 21)
 - ▼ **CC9.2e:** Please break down your total gross global Scope 2 emissions by legal structure
 - ▼ **CC10.2d:** Please break down your total gross global Scope 2 emissions by legal structure
 - ▼ **CC12.3:** Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO₂e per full time equivalent (FTE) employee
-

Absolute target- Science-based targets

CC3.1a: Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO ₂ e)	Target year	Is this a science-base target?	Comment

Intensity target- Science-based targets

CC3.1b: Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Is this a science-based target?	Comment
								<ul style="list-style-type: none">• Yes• Don't know• No, but we are reporting another target which is science-based• No, but we anticipate setting one in the next 2 years• No, and we do not anticipate setting one in the next 2 years	

Integrating renewable energy targets

CC3.1: Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

- Absolute target
- Intensity target
- Renewable energy consumption or production target
- No target

Renewable energy consumption and production- New question

CC3.1d: Please provide details of your renewable energy consumption and/or production target

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
Select from: RE1 RE2 RE3 ...	Select from: <ul style="list-style-type: none"> All energy consumed Combustion of fuels Electricity consumption Heat consumption Steam consumption Cooling consumption Electricity production Other, please specify 	Enter year between 1900 and 2015	Numerical Field	Numerical Field (1-100%)	Enter year between 2014 and 2100	Numerical Field (1-100%)	Text Field [maximum 2400 characters]

Accounting for electricity- New question

CC11.5: Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment
Numerical Field	N u m e r i c a l Field	N u m e r i c a l Field	Numerical Field	Numerical Field	Text field

Scope 2 Accounting

CC8.3: Does your company have any operations in markets providing product or supplier specific data in the form of contractual instruments?

Yes/ No/ Don't know

CC8.3a: Please provide your gross global Scope 2 emissions figures in metric tonnes CO₂e

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
Numerical Field	Numerical Field	

More Scope 2 accounting

12.1b: Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

- Location-based
- Market-based
- Don't know

Low carbon products- Amended question

CC3.2a: Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

Level of aggregation	Description of product/ Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Select from: Product Group of products Company-wide	Text field	<ul style="list-style-type: none"> Low carbon product Avoided emissions 	Select from: <i>Low carbon product:</i> <ul style="list-style-type: none"> Low Carbon Investment (LCI) Registry Taxonomy Climate Bonds Taxonomy <i>Avoided emissions:</i> <ul style="list-style-type: none"> Addressing the Avoided Emissions Challenge-Chemicals sector Evaluating the carbon reducing impacts of ICT Other, please specify 	Numerical value 0-100	Select from: <ul style="list-style-type: none"> Less than or equal to 10% More than 10% but less than or equal to 20% More than 20% but less than or equal to 40% More than 40% but less than or equal to 60% More than 60% but less than or equal to 80% More than 80% but less than or equal to 100% 	(including info on avoided emissions)

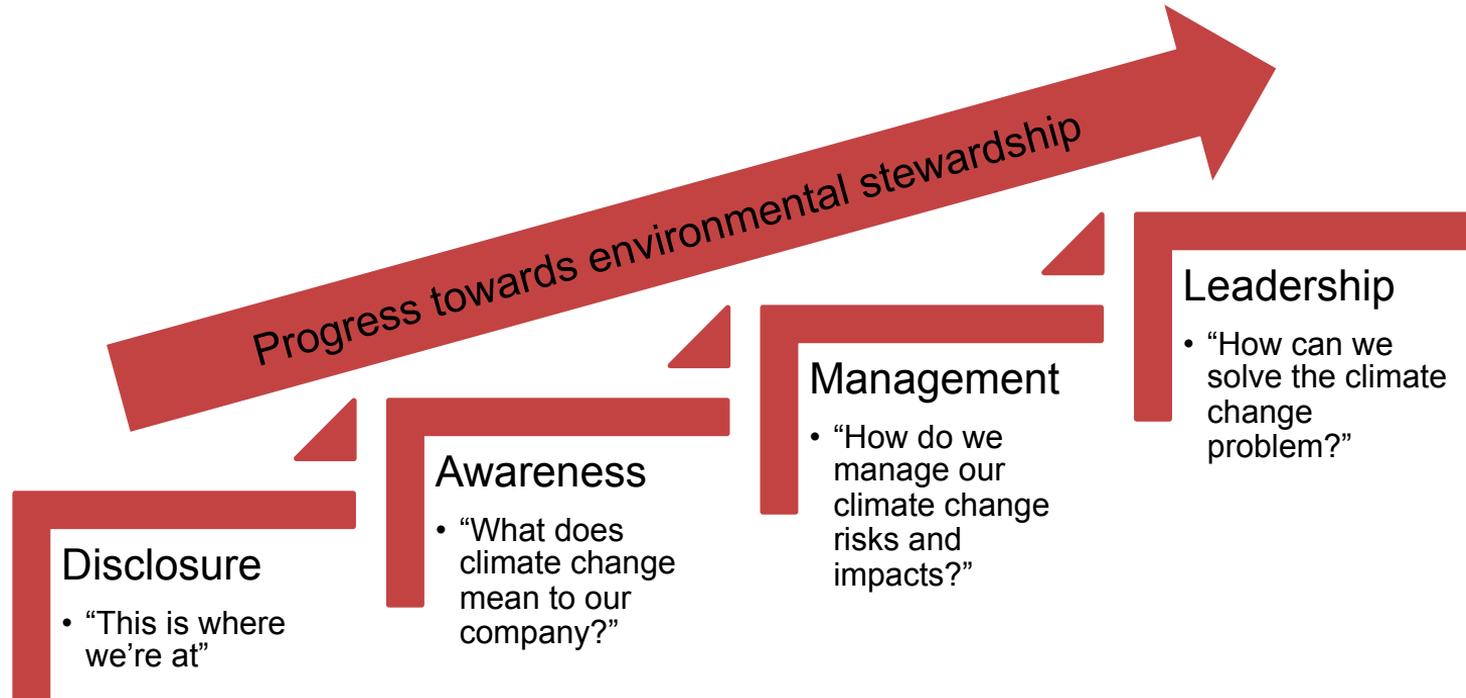
Changes to the 2016 Climate Change scoring methodology

Introduction

- ▼ Overview of scoring
- ▼ Scoring changes from 2015
- ▼ In depth scoring changes from 2015
- ▼ Rewarding leadership: the A-List

Overview of scoring

CDP's scoring approach: scoring in levels



Scoring changes from 2015

Scoring process and thresholds

- ▼ Scores will be calculated as a percentage
- ▼ A minimum score or threshold must be achieved on one level before a company will be scored on the next level.
- ▼ This incentivises:
 - complete reporting
 - action based on assessment of risks and impacts
 - consistent progress across different areas
- ▼ The score in the highest of the 4 levels achieved determines the final score

Changes in 2016

Please note:

In 2016 companies responding to CDP Climate Change information request **will not** receive a **disclosure score** and will not be eligible for a Climate Disclosure Leadership Index

Companies will be scored for:

- ▼ Disclosure
- ▼ Awareness
- ▼ Management
- ▼ Leadership

and will **receive a letter score from A to D- and F**

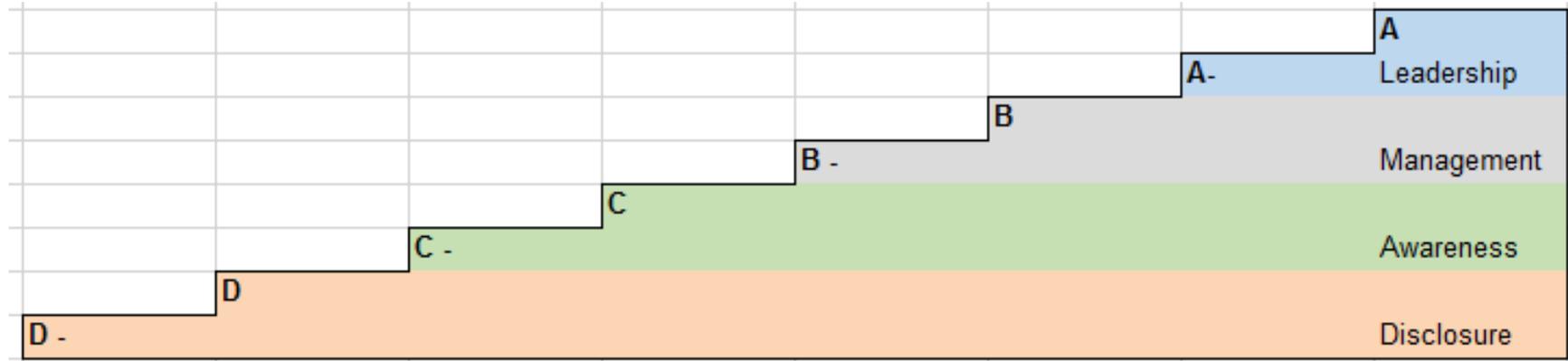
Changes in 2016

In 2016 companies that have **failed to provide sufficient information to be scored** to the CDP Climate Change information request by the response deadline will receive an F.

This will not apply to:

- *Self-selected companies*
- *Companies that are not part of a scored sample*

Scores and thresholds 2016



- ▼ Each letter score will correspond to a level
- ▼ There will be 2 bands per level
- ▼ This way the score is communicated in a consistent, intuitive way and illustrates the continuous development a company goes through

The scoring methodology

Governance page									
Number	Question	Numenor	Disclosure scoring criteria	Numenor	Awareness scoring criteria	Numenor	Management scoring criteria	Numenor	Leadership scoring criteria
Group and individual responsibility									
CC1.1 "Board/Senior Manager/Officer" routes									
CC1.1	Where is the highest level of direct responsibility for climate change within your organization?	1	Drop-down menu options: a) Board or individual/sub-set of the Board or other committee appointed by the Board; b) Senior Manager/Officer.	1	Drop-down menu options: a) Board or individual/sub-set of the Board or other committee appointed by the Board; b) Senior Manager/Officer.	Auto	Drop-down menu options: a) Board or individual/sub-set of the Board or other committee appointed by the Board - 3 points ; b) Senior Manager/Officer - 2 points .	1	Drop-down menu options: a) Board or individual/sub-set of the Board or other committee appointed by the Board; b) Senior Manager/Officer.
CC1.1a	Please identify the position of the individual or name of the committee with this responsibility	Auto	Text answer covers the job title of the individual or name of the committee and a description of its/their position in the corporate structure - 1 point	0	0 This question is not scored for Awareness	Manual	2 The answer does not contradict the selection in question CC1.1. and the highest level of direct responsibility for climate change within the organization is Board, individual or subset of the Board or other committee appointed by the Board, a senior manager or a C-suite officer - 2 points .	0	0 This question is not scored for Leadership
Total denominator route		2		1	1		5	1	1
CC1.1 "Other Manager/Officer" route									
CC1.1	Where is the highest level of direct responsibility for climate change within your organization?	1	Drop-down menu option: Other Manager/Officer	1	Drop-down menu option: Other Manager/Officer	1	Drop-down menu option: Other Manager/Officer	1	Drop-down menu option: Other Manager/Officer
CC1.1a	Please identify the position of the individual or name of the committee with this	Auto	Text answer covers the job title of the individual or name of the committee and a description of its/their position in	0	0 This question is not scored for Awareness	Manual	2 Text answer does not contradict the answer in CC1.1 - 1 point	0	0 This question is not scored for Leadership

CC 2016 scoring methodology mapping document

Questions		2016 Scoring approach			
	Question text	Disclosure	Awareness	Management	Leadership
CC1.1	Where is the highest level of direct responsibility for climate change within your company?	Same - 2015 Disclosure Scored for completion	Same - 2015 Disclosure Scored for completion	New Scored for selection	Same - 2015 Disclosure Scored for selection
CC1.1a	Please identify the position of the individual or name of the committee with this responsibility	Same - 2015 Disclosure Scored for completion	Not scored	Same - 2015 Performance Scored for explanation	Not scored
CC1.2	Do you provide incentives for the management of climate change issues, including those for senior management?	Same - 2015 Disclosure Scored for completion	Same - 2015 Performance Scored for selection	Same - 2015 Performance Scored for selection	Not scored
CC1.2a	Please provide further details on the incentives provided for the management of climate change issues	Same - 2015 Disclosure Scored for completion	New Scored for explanation	Minor change - 2015 performance Scored for explanation	Same - 2015 Performance Scored for explanation
		Same - 2015 Disclosure scored for completion	Same - 2015 Performance scored for selection	Not scored	Not scored
CC2.1	Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities				
CC2.1a	Please provide further details on your risk management procedures with regard to climate change risks and opportunities	Same - 2015 Disclosure Scored for completion	New Scored for explanation	New Scored for explanation	Minor change - 2015 Performance Scored for explanation
CC2.1b	Please describe how your risk and opportunity identification processes are applied at both company and asset level	New Scored for completion	Same - 2015 Performance Scored for explanation	Not scored	Not scored
CC2.1c	How do you prioritize the risks and opportunities identified?	New Scored for completion	Same - 2015 Performance Scored for explanation	Not scored	Not scored
CC2.1d	Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change and whether you plan to introduce such a process in the future	New Scored for completion	Same - 2015 Disclosure Scored for explanation	New 0/2 for Management in this route	New 0/3 for Leadership in this route

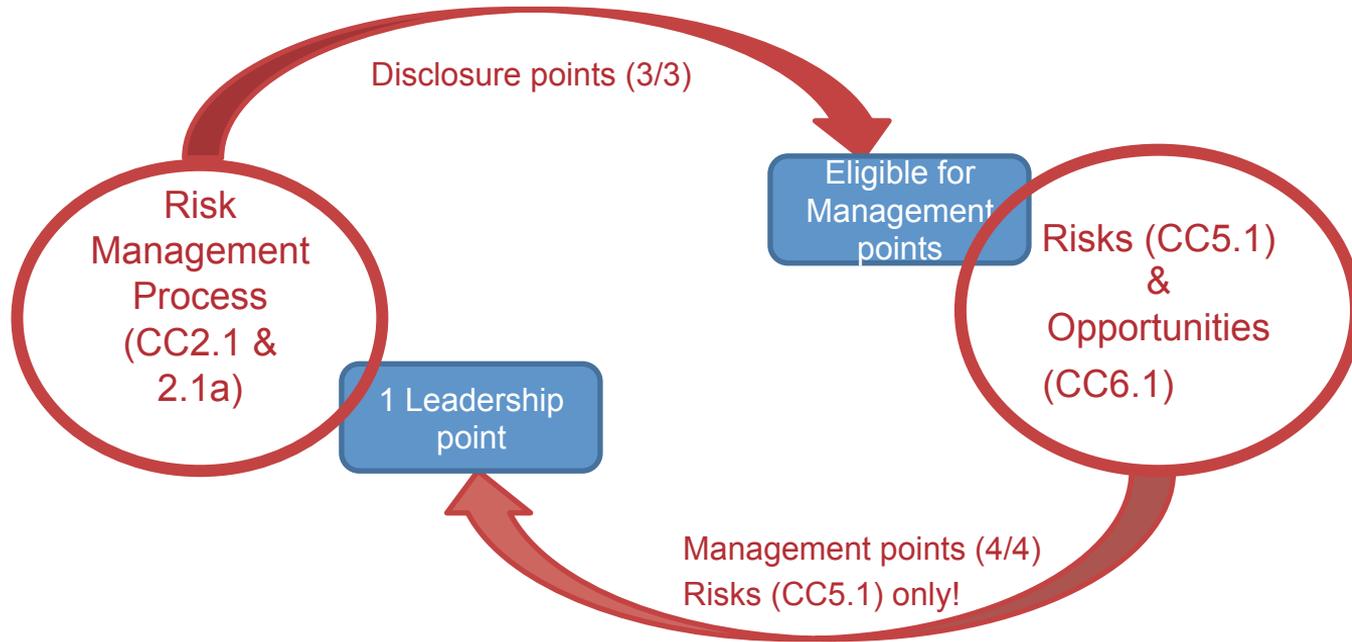
Key scoring changes from 2015

Key scoring changes from 2015

- ▼ Risk management processes (CC2.1 & 2.1a) and Risks (CC5.1) & Opportunities (CC6.1)
- ▼ Targets – (CC3.1) Renewable energy consumption or production target AND Science Based targets
- ▼ Scope 2 reporting
- ▼ Verification of Scope 1 (CC8.6a) and scope 2 (CC8.7a) emissions
- ▼ Emissions performance (CC12.1a)

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)



Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)

Risk management approach

CC2.1 "Integrated multi-disciplinary risk management processes" or "specific climate change risk management process" routes.							
Number	Question	Num	Denom	Disclosure scoring criteria	Num	Denom	Awareness scoring criteria
CC2.1	Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities	1	1	1 Drop-down menu options: a) Integrated into multi-disciplinary company wide risk management processes; b) A specific climate change risk management process.	4	4	4 Drop-down menu options: a) Integrated into multi-disciplinary company wide risk management processes; b) A specific climate change risk management process.
CC2.1a	Please provide further details on your risk management procedures with regard to climate change risks and opportunities			2 Selection or answer covers: i) frequency of monitoring (in weeks/months/years) - 0.5 points; ii) to whom are the results reported - 0.5 points; iii) geographical areas considered - 0.5 points; iv) how far into the future are risks considered - 0.5 points			2 Full Disclosure points must have been scored to be eligible for points at Awareness level and any answer except "Nobody" must be selected in the 'To Whom' column. Answer to cover: i) Frequency of monitoring (in weeks/months/years) - "Never" - 0 points; - "Sporadically, not defined" - 0.5 points; - "Every two years" - 1.5 points; - "Annually, or more frequently" - 2 points.

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)



CC6.1 "Opportunities driven by changes in regulation, changes in physical climate parameters or other climate related developments" route A/D Full Disclosure points scored in CC2.1 & CC2.1a



CC6.1 "Opportunities driven by changes in regulation, changes in physical climate parameters or other climate related developments" route A/D Partial Disclosure points scored in CC2.1 & CC2.1a, OR "No documented processes" selected in CC2.1, OR CC2.1 left blank



CC6.1 "No opportunities driven by changes in regulation / physical / other developments" route A/D Full Disclosure points scored in CC2.1 & CC2.1a



CC6.1 "No opportunities driven by changes in regulation / physical / other developments" route A/D Partial Disclosure points scored in CC2.1 & CC2.1a OR "No documented processes" selected in CC2.1 OR CC2.1 left blank



CC6.1 "Questions not answered" route

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)

Full D Points & “Yes” (a, b ,c route)

At least 4 points must have been scored at Awareness level AND the column "Management method" must be something other than "monitoring" or "research" to be eligible for Management points.

If:

i) "Management method" describes an action that has being implemented - 2 points;

ii) "Management method" contains an example or case study - 2 points.

4/4 Management points

Full D Points & “No” (d, e, f) route)

At least 4 points must have been scored at Awareness level to be eligible for Management points.

i) Full Awareness points - 2 points;

Text answer to cover:

ii) there is a clear rationale and well articulated explanation of why it does not pose Opportunity to company with example of how the Opportunity management process has been applied - 2 points.

4/4 Management points

Zero or Partial D points

Partial Disclosure points scored in CC2.1 route OR "No documented processes" selected in CC2.1 route OR CC2.1 left blank - 0 points

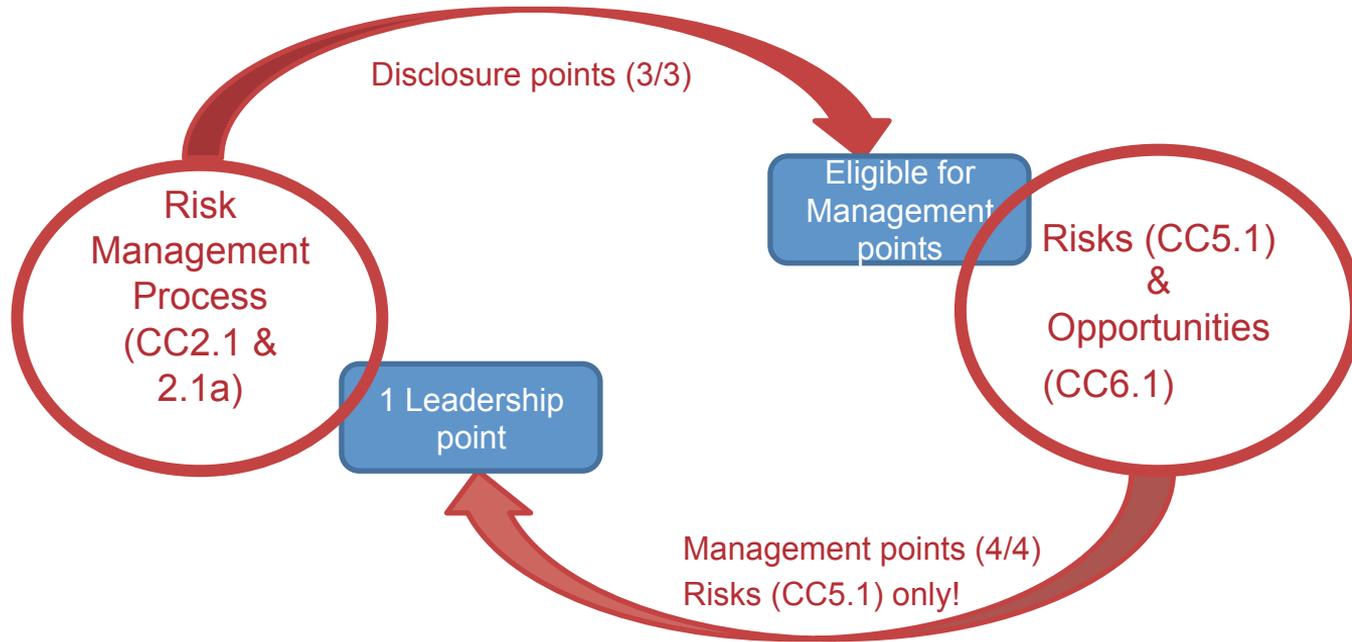
0/4 Management points

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)

CC2.1 "Integrated multi-disciplinary risk management processes" or "specific climate change risk management process" routes.								
Number	Question	Num	Denom	Management scoring criteria	Num	Denom	Leadership scoring criteria	
CC2.1	Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities	0	0	This question is not scored for Management	0	0	This question is not scored for Leadership	
CC2.1a	Please provide further details on your risk management procedures with regard to climate change risks and opportunities			<p>2 At least 1.5 points must have been scored at Awareness level to be eligible for points at Management level.</p> <p>Answer to cover:</p> <p>i) if "Board..." OR "Senior manager/officer" OR "Other committee" have been selected in the "To Whom.." column - 1 point;</p> <p>ii) If "3 to 6" or ">6 years" selected in the "How far into the future risks are considered?" column - 1 point.</p>			<p>3 Answer to cover:</p> <p>i) If "Board..." has been selected in the "To Whom.." column then award - 1 point</p> <p>ii) if ">6 years" is selected in the "How far into the future risks are considered?" column - 1 point;</p> <p>In addition, if maximum possible Management points are scored in:</p> <p>i) regulation driven risks (5.1a or d) - 0.333 points</p> <p>ii) physical driven risks (5.1b or e) - 0.333 points</p> <p>iii) other driven risks (5.1c or f) - 0.333 points</p>	

Risks Management scoring (5.1) only!

Risk management process (CC2.1 & CC2.1a) and Risks (CC5.1) & Opportunities (CC6.1)



Targets (CC3.1) - Renewable energy consumption or production target AND Science Based targets

Targets (CC3.1) Renewable energy consumption or production target

Targets

Where an organization has more than one target, targets will be scored across the entire set of questions that apply to that target (either the set of questions relating to an absolute target or the set relating to an intensity target). The score which has the most positive impact on the company's score will be recorded.

Targets which are set relative to a future "business as usual" (BAU) scenario are not eligible for points. To be eligible, targets must have a base year in or before the reporting year.

Please note that if you are reporting a renewable energy consumption or production target, you also need to report an Intensity and /or Absolute target, otherwise you will be scored as per the "Question not scored" route.

CC3.1 "Absolute and / or Intensity targets AND Renewable energy consumption or production" route								
Number	Question	Num	Denom	Disclosure scoring criteria	Num	Denom	Awareness scoring criteria	
CC3.1	Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?	1	1	Drop-down menu option: Absolute &/or Intensity targets AND Renewable energy consumption or production target -1 point	1	1	Drop-down menu option: Absolute &/or Intensity targets AND Renewable energy consumption or production target -1 point	

Companies that select this drop-down option will be presented with both absolute targets questions *and* intensity targets questions.

In common with organizations disclosing more than one target, only the target (whether absolute or intensity) that scores best overall is recorded.

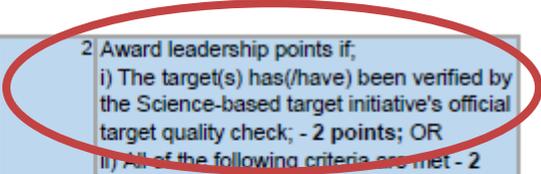
If this is an absolute target, the intensity target questions will be scored 0/0 and vice versa. As stated above, only the score of the Absolute or Intensity target will be recorded; the Renewable energy consumption or production target will be scored 0/0 for all levels.

Targets (CC3.1a) Absolute Target

CC3.1a	Please provide details of your absolute target		<p>³ The following columns must all be completed to score 2.5 points:</p> <ul style="list-style-type: none">i) scope;ii) % of emissions in scope;iii) % reduction from base year;iv) base year;v) base year emissions;vi) target year. <p>Columns i-vi must all be complete to be eligible for additional points: vii) if "Is this a science-based target" is complete - 0.5 points</p>		<p>³ Full Disclosure points must have been scored to be eligible for Awareness points.</p> <p>If:</p> <ul style="list-style-type: none">i) "Target year" is 2020 or beyond - 2 pointsii) "Is this a science-based target?" is "Yes" OR "No, but we anticipate setting one in the next 2 years" - 1 point
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Targets (CC3.1a) Absolute Target

<p>CC3.1a</p>	<p>Please provide details of your absolute target</p>		<p>3 Management points will be awarded if all criteria below have been met:</p> <ul style="list-style-type: none"> i) "Target year" ends between '2020 and 2035' ii) "% of emissions in scope" is '70% or higher' iii) the answer in CC8.4 is "No" OR for CC8.4a the relevance columns for the scope of the target are one of the following: <ul style="list-style-type: none"> a) No emissions excluded b) No emissions from this source c) Emissions are not relevant d) Emissions excluded due to recent acquisition. - 3 points. <p>If any relevant exclusions reported in CC8.4a - maximum 1/3 points.</p>	<p>2 Award leadership points if,</p> <ul style="list-style-type: none"> i) The target(s) has(/have) been verified by the Science-based target initiative's official target quality check; - 2 points; OR ii) All of the following criteria are met - 2 points: <ul style="list-style-type: none"> - the % of emissions in scope are 70% or <p>and target year.</p> <p>Please note your absolute target(s) will be assessed cumulatively for Leadership points.</p>
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<http://sciencebasedtargets.org/>

Targets (CC3.1a) Absolute Target

<p>CC3.1a</p>	<p>Please provide details of your absolute target</p>	<p>3 Management points will be awarded if all criteria below have been met:</p> <p>i) "Target year" ends between '2020 and 2035'</p> <p>ii) "% of emissions in scope" is '70% or higher'</p> <p>iii) the answer in CC8.4 is "No" OR for CC8.4a the relevance columns for the scope of the target are one of the following:</p> <p>a) No emissions excluded</p> <p>b) No emissions from this source</p> <p>c) Emissions are not relevant</p> <p>d) Emissions excluded due to recent acquisition. - 3 points.</p> <p>If any relevant exclusions reported in CC8.4a - maximum 1/3 points.</p>	<p>2 Award leadership points if,</p> <p>i) The target(s) has/(have) been verified by the Science-based target initiative's official target quality check; - 2 points; OR</p> <p>ii) All of the following criteria are met - 3 points:</p> <ul style="list-style-type: none"> - the % of emissions in scope are 70% or higher - target(s) must cover both scope 1 and 2 emissions - has a medium term time frame (target year between 2020 - 2035 inclusive) - has a long term time frame (target year after 2035) - meets at least a 2.1% year-on-year emissions reductions between base year and target year. <p>Please note your absolute target(s) will be assessed cumulatively for Leadership points.</p>
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Targets (CC3.1a) Intensity Target

CC3.1b	Please provide details of your intensity target	<p>3 Management points will be awarded if all criteria below have been met::</p> <ul style="list-style-type: none">i) "Target year" ends between '2020 and 2035' inclusiveii) "% of emissions in scope" is '70% or higher'iii) the answer in CC8.4 is "No" OR for CC8.4a the relevance columns for the scope of the target are one of the following:<ul style="list-style-type: none">a) No emissions excludedb) No emissions from this sourcec) Emissions are not relevantd) Emissions excluded due to recent acquisition - 2 points. <p>If any relevant exclusions reported in CC8.4a - maximum 1/3 points.</p> <p>Note. maximum possible score for this route is 2/3 points.</p>	<p>2 Award leadership points if;</p> <ul style="list-style-type: none">i) The target has been verified by the Science-based target initiative's official target quality check; - 2 points. <div data-bbox="1309 401 1789 645"><p>SCIENCE BASED TARGETS</p><p>DRIVING AMBITIOUS CORPORATE CLIMATE ACTION</p></div>
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Scope 2 reporting

Reporting Scope 2 emissions (CC8.3a)

	CC8.3a Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e			8 Figure provided in either column 1 "Scope 2, location-based" OR column 2 "Scope 2, market-based" - 8 points.
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- ▼ Companies will have to report a market based, or location based Scope 2 figure
- ▼ Reflected throughout the scoring methodology

Verification of Scope 1 (CC8.6a), Scope 2 (CC8.7a) and Scope 3 (CC14.2) emissions

Verification of Scope 1, Scope 2 and Scope 3 emissions

Number	Question	Num	Denom	Disclosure scoring criteria	Num	Denom	Awareness scoring criteria
CC8.6	Please indicate the verification/assurance status that applies to your reported Scope 1 emissions	1	1	Drop-down menu option: "Third party verification or assurance complete" selected	1	1	Drop-down menu option: "Third party verification or assurance complete" selected
CC8.6a	Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements	0	0	<p>The following columns must all be completed to score 3.5 points:</p> <ul style="list-style-type: none"> i) "verification or assurance cycle in place" ii) "Status in the current reporting year" iii) "Type of verification or assurance" iv) "Attach the document" <p>Each of these worth additional points:</p> <ul style="list-style-type: none"> v) "Page/section reference" - 0.5 points vi) "Relevant standard" - 1 point vii) "Proportion of reported Scope 1 emissions verified" - 1 point 	0	0	This question is not scored for Awareness

Verification of Scope 1 (CC8.6a) and Scope 2 (CC.8.7a) emissions

<p>CC8.6a</p>	<p>Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements</p>		<p>5 If the document in the "Attach the document" column meets all of the "Verification attachment criteria" below - 5 points.</p> <p>i) The statement relates to greenhouse gas (GHG) emissions, or it is clear that GHG emissions were the subject of the assurance engagement.</p> <p>ii) it relates to Scope 1 emissions</p> <p>iii) it relates to the correct reporting year matching the latest year in CC0.2 where your status is "Complete"</p> <p>iv) the verification standard used is accepted</p> <p>v) the document contains an opinion or finding which confirms verification</p>	<p>1 If both criteria below are met:</p> <p>i)</p> <p>a) If column "Verification or assurance cycle in place" is "Annual" then award 1 point if Total of accepted statements have a "Proportion of reported Scope 1 emissions verified" = 70% or higher</p> <p>b) If column "Verification or assurance cycle in place" is "Biennial" then award 0.5 points for each year with Total of accepted statements have a "Proportion of reported Scope 1 emissions verified" = 70% or higher</p> <p>c) If column "Verification or assurance cycle in place" is "Triennial" then award 0.333 points for each year with Total of accepted statements have a "Proportion of reported Scope 1 emissions verified" = 70% or higher</p> <p>AND</p> <p>ii) CC8.4 is "No" OR CC8.4a second column only has the selections below:</p> <p>a) No emissions excluded</p> <p>b) No emissions from this source</p> <p>c) Emissions are not relevant</p> <p>d) Emissions excluded due to recent acquisition</p>
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Emissions performance (CC12.1a)

Emissions performance (CC12.1a)

Emissions Performance

		CC12.1 "Increased/Decreased/No change" route					
CC12.1a	Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year			3 The following columns must all be completed for at least one row to score 3 points: i) emissions value (percentage); ii) direction of change; iii) comment			3 Awareness points will be awarded where i) the column "Direction of change" has been completed. a) Increased b) Decreased c) No change; AND if: ii) the figure in Emissions value (percentage) must be higher than zero. if no figure is provided, or if the figure is zero - 1.5 points iii) At least 1 row (other than for reason of change unidentified) must be completed - 1.5 Points Note: If no figures are provided for Emissions value (percentage), or figures are zero AND the only row completed is "unidentified" - maximum possible score 0/3 points

Emissions performance (CC12.1a)

CC12.1a	Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year		<p>5 Full points must have been scored at Awareness level to be eligible for points.</p> <p>If the row "Emissions reduction activities":</p> <ul style="list-style-type: none"> i) has a "Emissions value (percentage)" above zero - 1 point; AND ii) has a "Direction of change" as "Decrease" - 1 point; AND iii) the Formula used in calculation of figure in "Emissions value percentage" column is consistent with guidance found on page 152 of guidance document and fully provided in "Please explain and include calculation" column. - 3 points. 		<p>1 If all Management points scored award 1 Leadership point.</p>
<p>The figure given for each reason should be an assessment of how the previous reporting year's total Scope 1 & 2 emissions compare to the current reporting year. Pro-rating or averaging of emissions reductions over a number of years will not be awarded points. If purchasing renewable energy has been accounted for as an emissions reduction activity, question CC11.4 must have been completed to score any disclosure, awareness or management points for that row. Please also ensure that you have read CDP's guidance on accounting for renewable energy. Emissions reductions achieved through carbon offsetting will not be awarded points in CC12.1a.</p>					

Rewarding Leadership: the A list

A-List

Companies that have achieved a minimum threshold score in Leadership are eligible to be included in the A-list. In addition, 1 Leadership is point available if maximum possible score is achieved at Disclosure level.

To get into the A list, a company's response must be publicly available and submitted via CDP's ORS

To enter the A list, a company must have:

- ▼ A top score (bands are set after the response are received and scored)
- ▼ Scope 1 & 2 figures disclosed and maximum performance points for verification/assurance of Scopes 1 & 2
- ▼ No significant relevant exclusions in their emissions

Exclusions

Reporting relevant exclusions to scope 1 and scope 2 emissions has an impact on the scoring of CC8.6a and CC8.7a. Please refer to the scoring methodology of scope 1 verification (CC8.6a) and scope 2 verification (CC8.7a).

CDP reserves the right to exclude a company from the A-List if there is anything in its response or other information publicly available that calls into question its suitability for inclusion

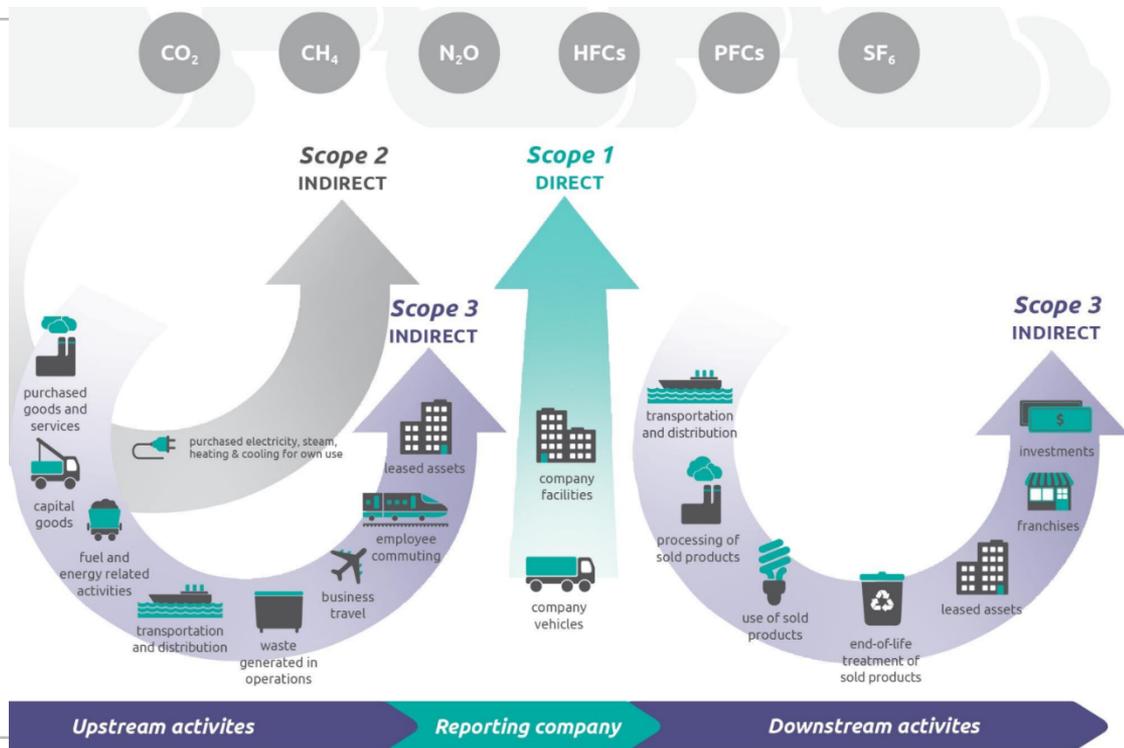
The Renewables Space

What are Scope 2 emissions, and why measure them?

What are Scope 2 emissions?

▼ Indirect emissions

▼ Electricity, steam, heat, cooling



Forms of energy in scope 2

▼ **Electricity**- It is used to operate machines, lighting, electric vehicle charging, and certain types of heat and cooling systems;

▼ **Steam**- It is a valuable energy source for industrial processes. It is used for mechanical work, heat, or directly as a process medium;

▼ **Heat**- Most commercial or industrial buildings require heat to control interior climates and heat water, as well as for specific equipment;

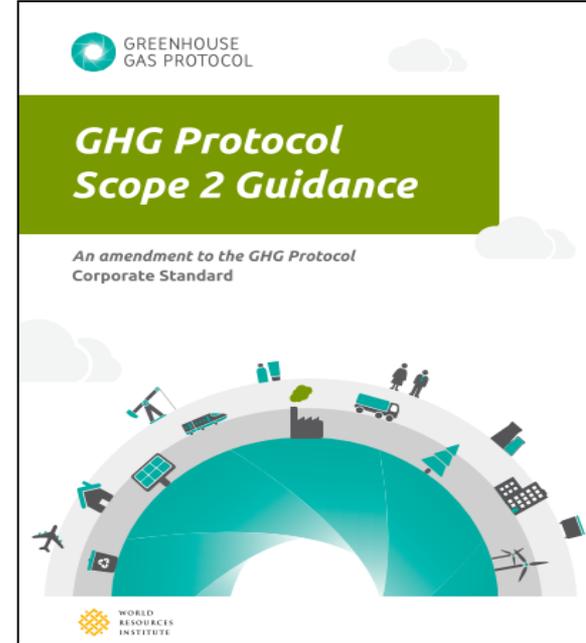
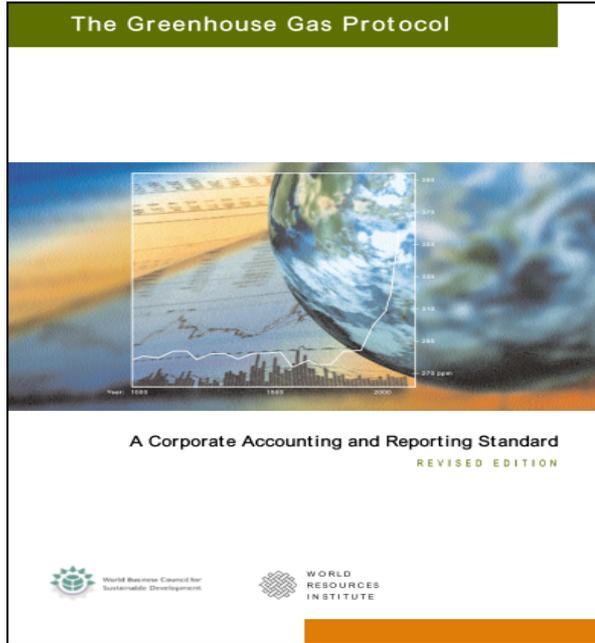
▼ **Cooling**- May be produced from electricity or through the distribution of cooled air or water.

Why report Scope 2?

- ▼ Mitigate risks
- ▼ Identify internal GHG reduction opportunities
- ▼ Efficiency and cost savings
- ▼ Drive innovations
- ▼ Increase sales and customer loyalty
- ▼ Improve stakeholder relations

Measuring Scope 2

Methodologies



CDP and the GHG Protocol Scope 2 Guidance

- ▼ CDP has actively participated in the GHG Protocol's technical working group on this issue since 2011.
- ▼ GHG Protocol Scope 2 Guidance released January 2015.
- ▼ New changes introduced in 2016 to align more strongly with the GHG Protocol
- ▼ Introduction of "dual reporting" of scope 2 emissions:
 - 1) All companies will report scope 2 emissions using the location-based methodology;
 - 2) Additionally, companies will report scope 2 emissions using a market-based methodology when applicable;
 - 3) Changes apply to section CC 3, 7, 8, 10 and 12.
- ▼ For more information please see CDP's Scope 2 Technical Note
<https://www.cdp.net/en-US/Pages/guidance-climate-change.aspx>

Location-based method

- ▼ Emission factors representing average emissions from energy generation occurring within a defined geographic area and a defined time period;
- ▼ Applies to all electricity grids;
- ▼ Emphasizes the connection between collective consumer demand for electricity and the emissions resulting from local electricity production;
- ▼ The location-based method is based on statistical emissions information and electricity output aggregated and averaged within a defined geographic boundary and during a defined time period
- ▼ Does **not** reflect emissions from purchasing agreements

Location-based method

Location-based method emission factor hierarchy

1. Regional or sub-national emission factors

2. National production emission factors

Market-based method

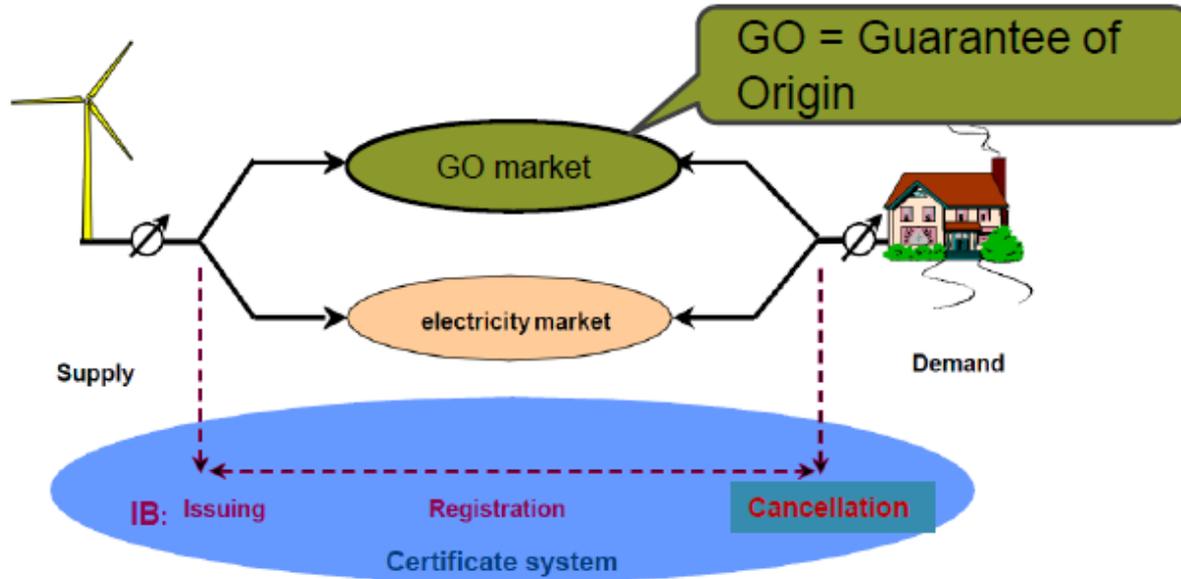
- ▼ Applies for only selected locations;
- ▼ Reflects the GHG emissions associated with the choices a consumer makes regarding its electricity supplier;
- ▼ Consumer uses the GHG emission factor associated with the qualifying contractual instruments it owns.

Appropriate contractual instruments

CDP will generally consider the following systems (and instruments) as appropriate for the purpose of tracking renewable electricity:

- ▼ Systems based on European Guarantees of Origin (GOs) such as the EECS (European Energy Certificate System).
- ▼ Systems based on USA Renewable Energy Certificates (RECs)
- ▼ Systems based on International Renewable Energy Certificates (I-REC) such as those in Israel, Turkey and Taiwan.

Contractual instruments



Discussion

Discussion: Climate Change in Turkey

- ▼ What are the key climate change issues in Turkey, and how do they affect your company?
- ▼ How do we increase uptake of renewable energy?
- ▼ Can companies work together to adapt to impacts of climate change?
- ▼ How can we support policy development in Turkey?