Guías para medir riesgos asociados a eventos climáticos y como mitigar sus efectos en la industria exportadora de alimentos

Bushfires

NSW fires: state faces 'lethal' conditions as temperatures forecast to soar past 40C

RFS commissioner says despite lower wind speed on Tuesday, high temperature and low humidity will make it a 'difficult day' with the New South Wales bushfires

Australian Associated Press

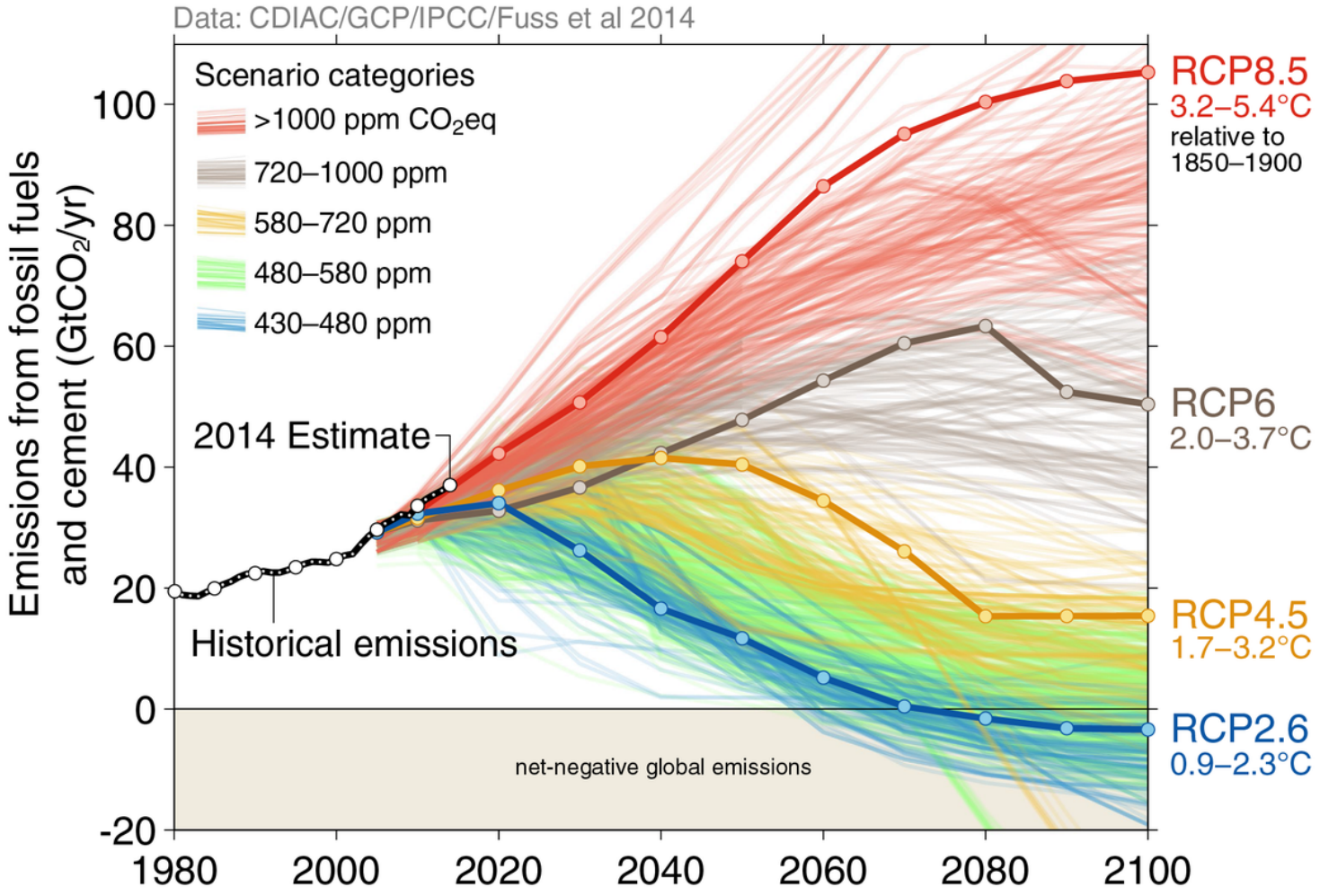
Mon 9 Dec 2019 21.07 AEDT

▲ NSW fires: the state is bracing for extreme bushfire conditions on Tuesday. Photograph: Saeed Khan/AFP via Getty Images

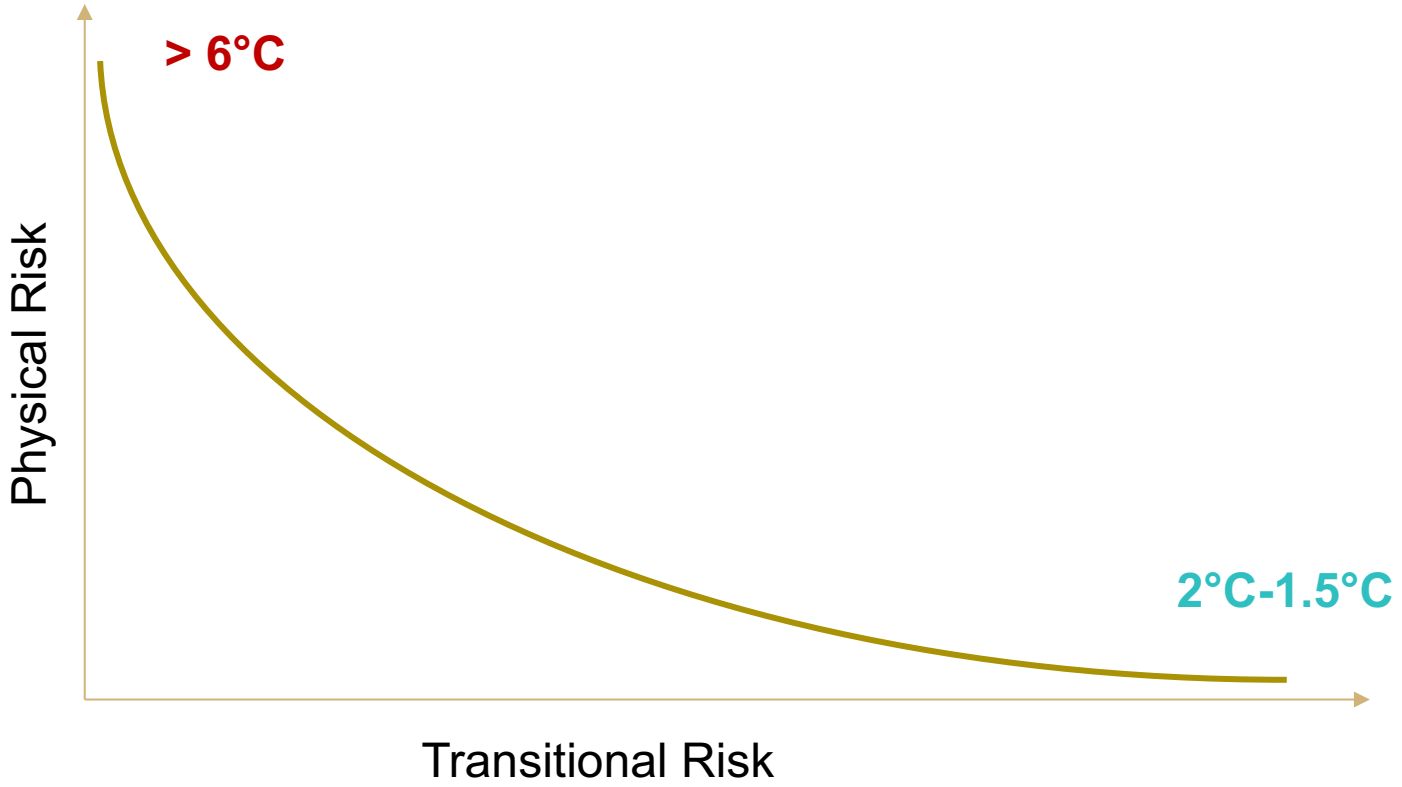
NSW is facing a potentially "lethal" cocktail of bushfire conditions with smoke pollution set to smother Sydney and temperatures to soar past 40C.

9 December 2018

9 December 2019

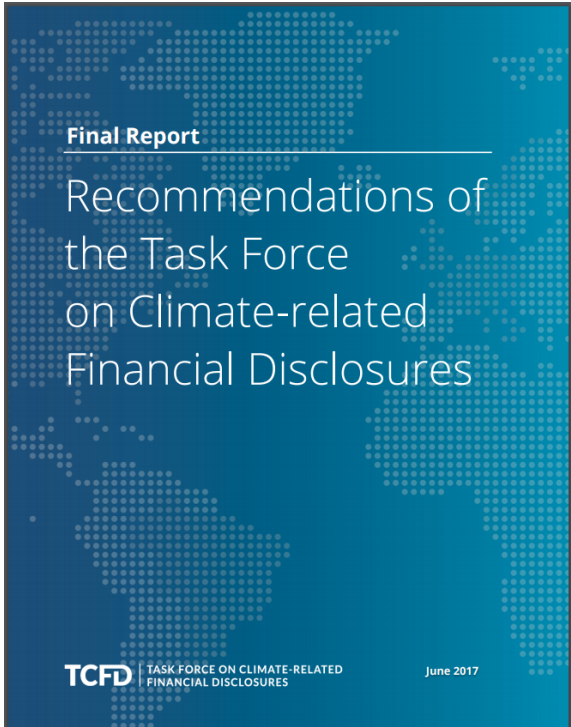

Data: CDIAC/GCP/IPCC/Fuss et al 2014
Scenario categories
>1000 ppm CO_2eq
720–1000 ppm
580–720 ppm
480–580 ppm
430–480 ppm
2014 Estimate
Historical emissions
net-negative global emissions
Emissions from fossil fuels and cement ($GtCO_2$/yr)
100
80
60
40
20
0
-20
1980
2000
2020
2040
2060
2080
2100
RCP8.5
3.2–5.4°C
relative to 1850–1900
RCP6
2.0–3.7°C
RCP4.5
1.7–3.2°C
RCP2.6
0.9–2.3°C

Transition-Physical Risk Conceptual Trade-Offs



The Task Force on Climate-Related Financial Disclosures (TCFD) was **set up by the G20's Financial Stability Board** at the end of 2015 to develop a voluntary framework for companies to disclose the financial impact of climate-related risks and opportunities.

Over 500 companies are now supporters of the TCFD, including the world's largest banks, asset managers and pension funds, responsible for assets of nearly $100 trillion



Market and Technology Shifts

Reduced market demand for higher-carbon products/commodities

Market and Technology Shifts

Reduced market demand for higher-carbon products/commodities

Market and Technology Shifts

Increased demand for energy-efficient, lower-carbon products and services

Market and Technology Shifts

New technologies that disrupt markets

Reputation

Opportunity to enhance reputation and brand value

Unilever

In 2017 our sustainable living brands grew

46%

faster than the rest of the business, and delivered

70%

of Unilever's turnover growth

UNILEVER.COM/sustainable-living


IKEA
FOR LEASE
Ingram Pinn

Reputation

Risk of loss of trust and confidence in management

Policy and Legal

Increased input/operating costs for high carbon activities

The Washington Post
Democracy Dies in Darkness

Climate and Environment

The world needs a massive carbon tax in just 10 years to limit climate change, IMF says

The international organization suggests a cost of $75 per ton by 2030.

https://www.washingtonpost.com/climate-environment/2019/10/10/world-needs-massive-carbon-tax-just-years-limit-climate-change-imf-says/

Policy and Legal

Threats to securing license to operate for high carbon activities

REUTERS

Business Markets World Politics TV More

COMMODITIES OCTOBER 8, 2019 / 3:34 AM / 2 MONTHS AGO

Column: Miners rate social license, climate change as top concerns. Really? - Russell

Clyde Russell 6 MIN READ

LAUNCESTON, Australia (Reuters) - The top concern among global miners, for a second year running, is how to keep a social license to operate, especially amid rising pressure for the industry to tackle climate change.

But knowing what the main challenge is, and knowing what to do about it appear to be two different things.

A survey of global mining companies by consultants EY showed that 44% of executives ranked maintaining a social license to operate as their leading concern, with preparing for the workforce of the future the next most important challenge.

Policy and Legal

Emerging concern about liabilities

FINANCIAL REVIEW

Climate change lawsuits are on the rise

A rise in corporations being sued for climate change inaction in Australia and abroad has affirmed a warning by former royal commissioner Kenneth Hayne that a director's duty to act in the best interests of their company includes acting on climate change risk.

An emerging trend of companies being sued for not acting on climate change follows the path paved by other social issues such as the #MeToo movement and cyber security, according to Sarah Barker, head of climate risk governance at MinterEllison.

Liz Main
Reporter

Dec 9, 2019 — 4.31pm

Save Share

FINANCIAL REVIEW

Exclusive

Hayne rebukes directors on climate risk failure

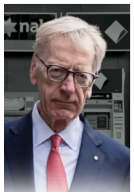
The former High Court judge says directors cannot hide behind "learned helplessness" as an excuse not to act, and lashed the "short-termism" of national debate.

James Fernyhough
Reporter

Dec 9, 2019 — 12.00am

Save Share

Former High Court judge and royal commissioner Kenneth Hayne has warned directors they have a legal duty to act on climate change risk, include it in corporate strategies and report on it to shareholders, raising the real prospect that boards failing to act could end up in court.



FINANCIAL REVIEW

Politics Electricity Print article

Climate litigation could become like tobacco actions: Martijn Wilder

More companies are seeking advice about how to combat climate change litigation should the kinds of heavyweight suits launched in New York and elsewhere come to Australia.

Martijn Wilder, Baker & McKenzie partner in charge of global environmental markets and climate change, said the firm hadn't done much climate litigation in the past but the pace of inquiries from companies

Ben Potter
Companies editor

Apr 26, 2018 — 11.00pm

FINANCIAL REVIEW

Home Companies Markets Street Talk Politics Policy World Property Technology Opinion Wealth Work & Careers Life & Luxury

Politics Print article

CBA hit with 'lawfare' from shareholders, green group over climate change

The Commonwealth Bank of Australia's woes are continuing, with a green activist group launching legal action on Tuesday on behalf of two mum-and-dad shareholders accusing the bank of failing to adequately disclose "climate change risk" in its annual report.

Physical Risks

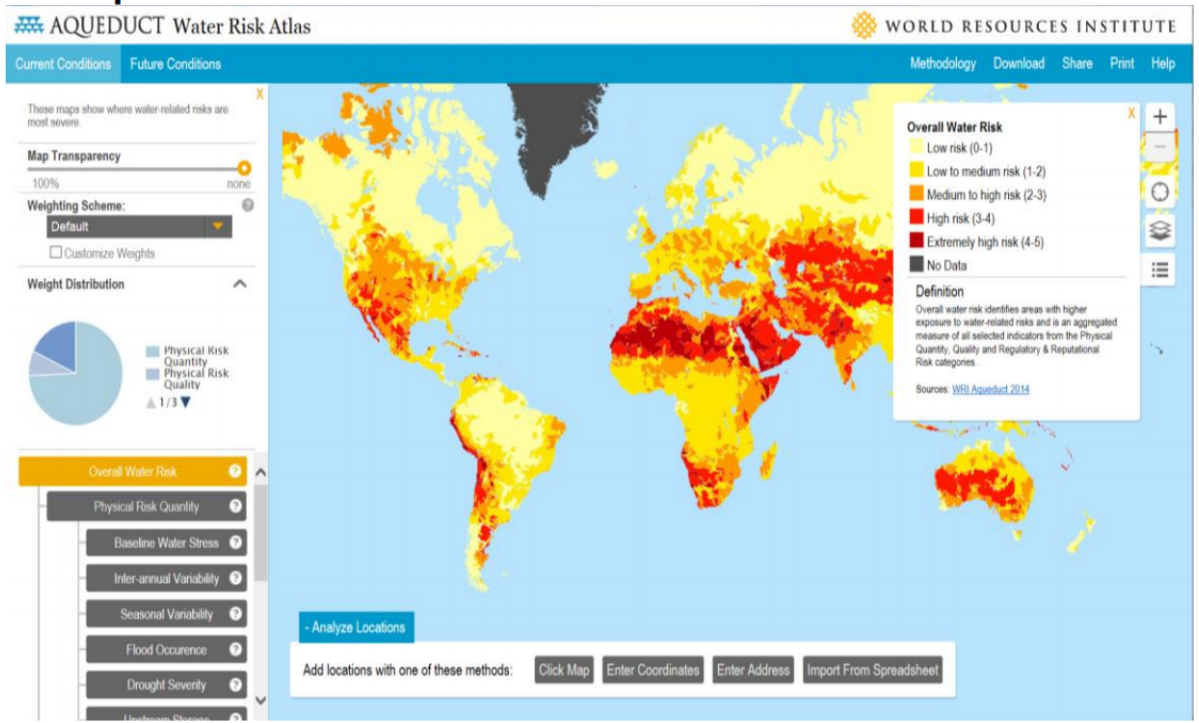
Chronic changes and more frequent and severe extremes of climate.

Natural disasters in 2017 caused overall losses of US$ 340bn

Physical Risks

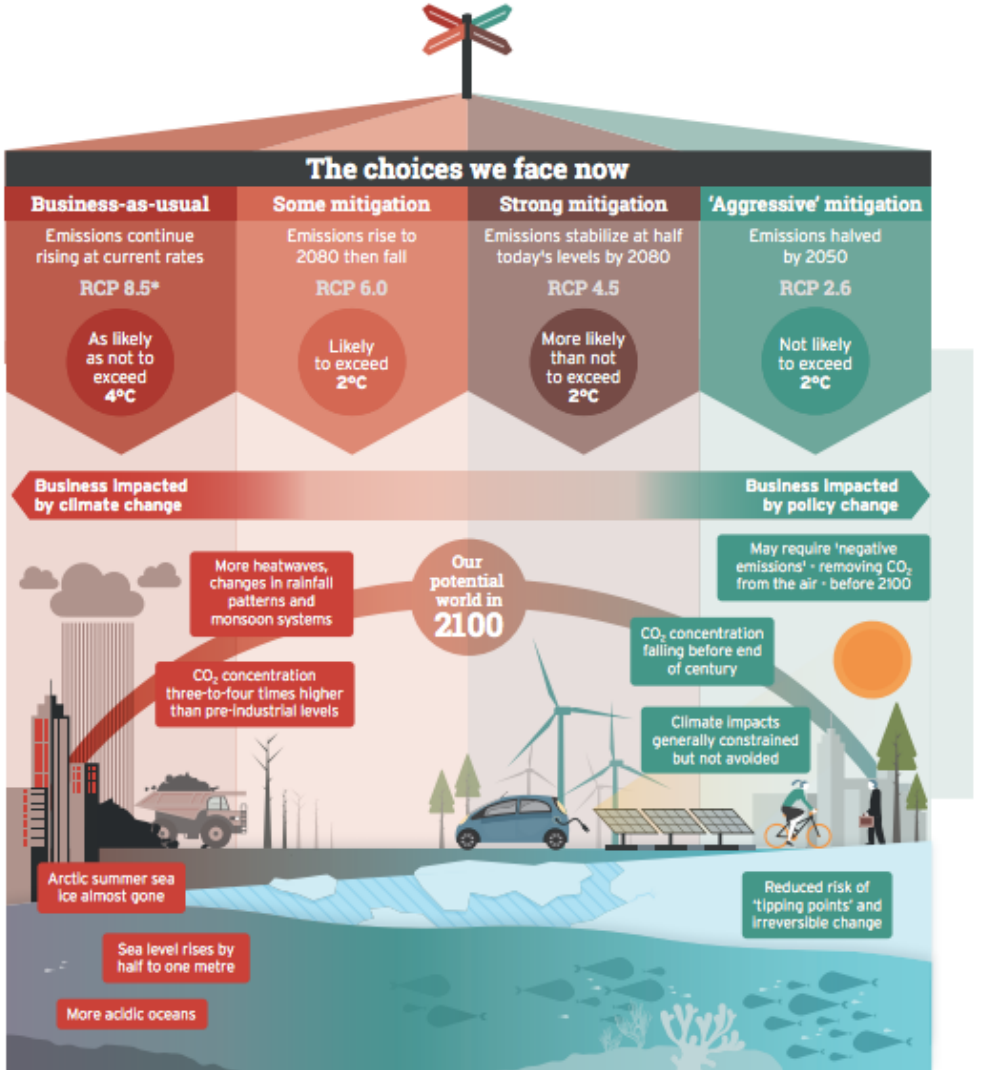
Chronic changes and more frequent and severe extremes of climate.

WRI Aqueduct Water Risk Atlas



Interplay between Transition and Physical Impacts

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES



Source: *Intergovernmental Panel on Climate Change, Fifth Assessment Report (AR5), Climate Change: Action, Trends, and Implications for Business, Cambridge University Press, 2013.*

Transition Scenarios and their Underlying Assumptions

	Scenario Description		Model Details				
Scenario	**Temp Impact Range and % Likelihood**	**Source and Data Visualization**	**Model**	**Underlying Assumption: Population**	**Underlying Assumption: Economics**	**Details: Non-Energy emissions sources[30]**	**Details: Timeframe**
IEA WEO 450 Scenario	2°C, with a likelihood of around 50%	IEA Special Report: Energy and Climate Change and WEO 2014	IEA World Energy Model (WEM)	World population to grow by 0.9% per year, from 7 billion in mid-2012 to 9 billion in 2040 (WEO 2014, pp. 42-44)	World GDP assumed to grow at a rate of 3.4% over 2012-2040 (WEO 2014, pp. 39-42)	No (p. 35)	2012-2040
ETP 2DS Scenario	2°C, with a likelihood of around 50% (p. 29)	ETP (Energy Technology Perspectives) 2016	ETP Model	Population to grow from 7.1 billion in 2013, to 9.4 billion in 2050 (p. 385)	Average World GDP growth for 2013-2050 is 3.2% (p. 385)	Yes (p. 29)	2013-2050
Deep Decarbonization Pathways Project (DDPP)	Consistent with... warming to less than 2°C with a "better than even" chance	DDPP 2015 Report		Expanded population growth of 17% from 2010-2050 across the 16 countries (p. 6)	Global average GDP growth rate of 3.1% per year (pp. 4-5)	"Some of the individual country analyses consider sources of carbon emissions other than energy" (p. 4)	2010-2050
IRENA REmap	2°C, if the lower end of CO_2 emissions reductions are achieved (p. 42)	IRENA: Roadmap for a Renewable Energy Future (Remap): 2016 edition & IRENA Working Paper: Synergies between Renewable Energy and Energy Efficiency		Population growth between 2010-2030 for 8 significant countries is in table 3 of the IRENA 'Synergies' paper	GDP change between 2010-2030 for 8 significant countries is in Table 3 of the IRENA 'Synergies' paper	"The energy use of agriculture, forestry, and fishing, as well as non-energy use is excluded" p. 27, 2016 REmap Paper	2010-2030
Greenpeace Advanced Energy [R]evolution	Aim to hold temperature increase to under 2°C (p. 59)	Greenpeace Energy [R]evolution (5th Ed)		Population expected to grow by 0.8% per year on average over the period of 2015-2050 from 7.3 Bn in 2009 to nearly 9.5 Bn in 2050	Average annual GDP growth rate of 3.1% between 2012-2050	Yes - Final energy demand includes non-energy use (p. 317)	2012-2050
IEA WEO Bridge Scenario	Aim to "keep the door to the 2°C goal open" through the energy transition. Note: this is NOT a 2°C scenario in itself.	IEA Special Report: Energy and Climate Change	IEA World Energy Model (WEM)	Population expected to grow by 0.9% per year, from an estimated 7 Bn in mid-2012 to 9 Bn in 2040 (WEO 2014, pp. 42-44)	World GDP assumed to grow at a rate of 3.4% over 2012-2040 (WEO 2014, pp. 39-42)	No (p. 35)	2012-2030
IEA WEO INDC Scenario	By 2040, all remaining carbon budget for a 50% change of 2°C will be used. If no stronger action after 2030, warming of 2.6°C by 2100, and 3.5°C after 2200 (p. 12)	IEA Special Report: Energy and Climate Change and Data/Tables	IEA World Energy Model (WEM)	Population expected to grow by 0.9% per year, from an estimated 7 Bn in mid-2012 to 9 Bn in 2040 (WEO 2014, pp. 42-44)	World GDP assumed to grow at a rate of 3.4% over 2012-2040 (WEO 2014, pp. 39-42)	No (p. 35)	2012-2030

Parameters and Signposts within Transition Scenarios

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

			Scenario				
			IEA WEO 450 scenario	**ETP 2DS scenario**	**Deep Decarbonization Pathways Project (DDPP)**	**IRENA REmap**	**Greenpeace Advanced Energy [R]evolution**
Key Drivers / Signposts	**Policy & Demand**	**Energy efficiency**	- Strong efficiency related policy action	- Around 5100 GW of new capacity is avoided between 2016 and 2050. - A decrease in energy intensity is of almost two thirds is assumed from 2013 to 2050. (p. 31)	- Average energy intensity of GDP for the 16 DDPP countries as a whole falls 64% from ~8.2 MJ/$ in2010 to 3 MJ/$ in 2050. (p. 9) - Average Carbon Intensity of electricity falls from~530 gCO_2/kWh in 2010, to ~40gCO_2/kWh in 2050. (p. 9)	- Building sector has the greatest energy savings. (p. 22, Synergies paper) - Efficiency gains from the deployment of REmap would keep the global Total Primary Energy Supply 5% below 2010 level. (p. 27, Synergies paper)	- Efficiency measures in the industry, residential and service sectors avoid the generation of about 16,700 TWh/a (by 2050] (p. 13)
		CO_2 Price	- After 2020, a CO_2 price is adopted in OECD countries. - Fossil fuel subsidies removed in all regions except the Middle East by 2035. CO_2 prices in most OECD markets reach $140/ton in 2040, up from ~$20/ton in 2020 (p. 45, WEO 2014)	Assumptions are that in the US Carbon taxes begin in2020 at $35/t$CO_2$, and increase linearly to$210/t$CO_2$ by 2050. - Where the current level of taxation is greater than this, taxes are maintained until this schedule catches up with them.	- Note: "The choice of policy instruments depends on societal preferences;" therefore in the DDPPs, the importance of carbon pricing does vary, although it is of importance in all. (pp.39-41)	- A range of USD 17-80/t CO_2 is assumed for carbon prices (p. 26-27, 2016 REmap paper)	- In contrast to the 2012 edition, the 2015 Energy [R]evolution analysis, CO_2 pricing is set aside. (p. 67)
		Energy Demand	- Global energy demand grows on average by only 0.6% per year; in 2040 demand is up 17% on 2012.	- Final energy demand to grow to 455EJ by 2050, up from 390 EJ in 2014. (p.32)	- Medium emissions/moderate income countries: Energy consumption peaks 2030-40. Fossil fuel consumption in 2050 = 2010 levels. (p.15) - High emissions/ high-income countries: Final energy demand falls 10% below 2010 levels by 2050.(p. 17)	- Global energy demand grows 30% in 2030 compared to levels today. (p. 14, Remap 2016 Paper)	- Primary energy consumption 433,000 PJ/a in 2050 (excluding non- energy consumption), down from 534,870 PJ/a today. (p.92) - Peak final energy demand reached in 2020 with a total of 355,000 PJ/a. (pp.12-13)
	Emerging Technologies	**Solar PV Deployment**		- In 2050, urban rooftop solar PV is assumed to account for around 47% of global electricity generated by solar PV, and 9% of the electricity consumed in cities. (p. 284)	- Cumulative production of decarbonized energy(GW) from Solar PV, in all DDPP countries, grows as follows: 2010: 1GW, 2020: 275GW, 2030:823GW, 2040: 1752GW, 2050: 3254GW (p. 29)	- Solar PV power generation capacity is 1760 GW by 2030, up from 180GW in 2014 and 780 GW in the reference case (p. 67, 2016 REmap paper) - Solar PV power capacity increases at a rate of 99 GW/year in 2012-2030.	- Solar PV provides 14% of total electricity generation by 2030, employing 10.3 million people. - Total generation rises from 1,090 TWh in 2020, to 2,659 TWh in 2025, and 5,067 TWh in 2030. (p. 202)
		EV Deployment	- Sale of EVs exceed 40% of total passenger car sales worldwide in 2040. (p. 109, WEO Special Report) - Advanced biofuels and EVs reduce oil consumption by 13.8 mboe per day in 2040 (p. 123, WEO Special Report)	- 100 million EVs by 2030, up from 1 Million in 2016. (p. 253) - Annual sales growth of EVs assumed to be sustained, from 53% in 2014, to 66% through 2020 and to 39% through 2025. (p. 104)	- Production of EVs (per million): 2010: 0, 2020:32, 2030:134, 2040:333, 2050: 650 (p. 29)	- The number of electric vehicles reaches 160 million units in 2030 under the Remap scenario, up from 60 million in the reference case and 0.8 million in 2013/2014. (p. 102, 2016 REmap paper)	

Typical Categories of Climate-Related Risks and Opportunities

Market and Technology Shifts

Policies and investments to deliver a low carbon emissions economy.

- Reduced market demand for higher-carbon products/commodities
- Increased demand for energy-efficient, lower-carbon products and services
- New technologies that disrupt markets

Reputation

Growing expectations for responsible conduct from stakeholders, including investors, lenders, and consumers.

- Opportunity to enhance reputation and brand value
- Risk of loss of trust and confidence in management

Policy and Legal

An evolving patchwork of requirements at international, national, and state level.

- Increased input/operating costs for high carbon activities
- Threats to securing license to operate for high carbon activities
- Emerging concern about liabilities

Physical Risks

Chronic changes and more frequent and severe extremes of climate.

- Increased business interruption and damage across operations and supply chains with consequences for input costs, revenues, asset values, and insurance claims

Source: Task Force on Climate-related Financial Disclosures, Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures, June 2017.

Core Elements of Recommended Climate-Related Financial Disclosures

Governance

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

Strategy

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

Risk Management

The processes used by the organization to identify, assess, and manage climate-related risks

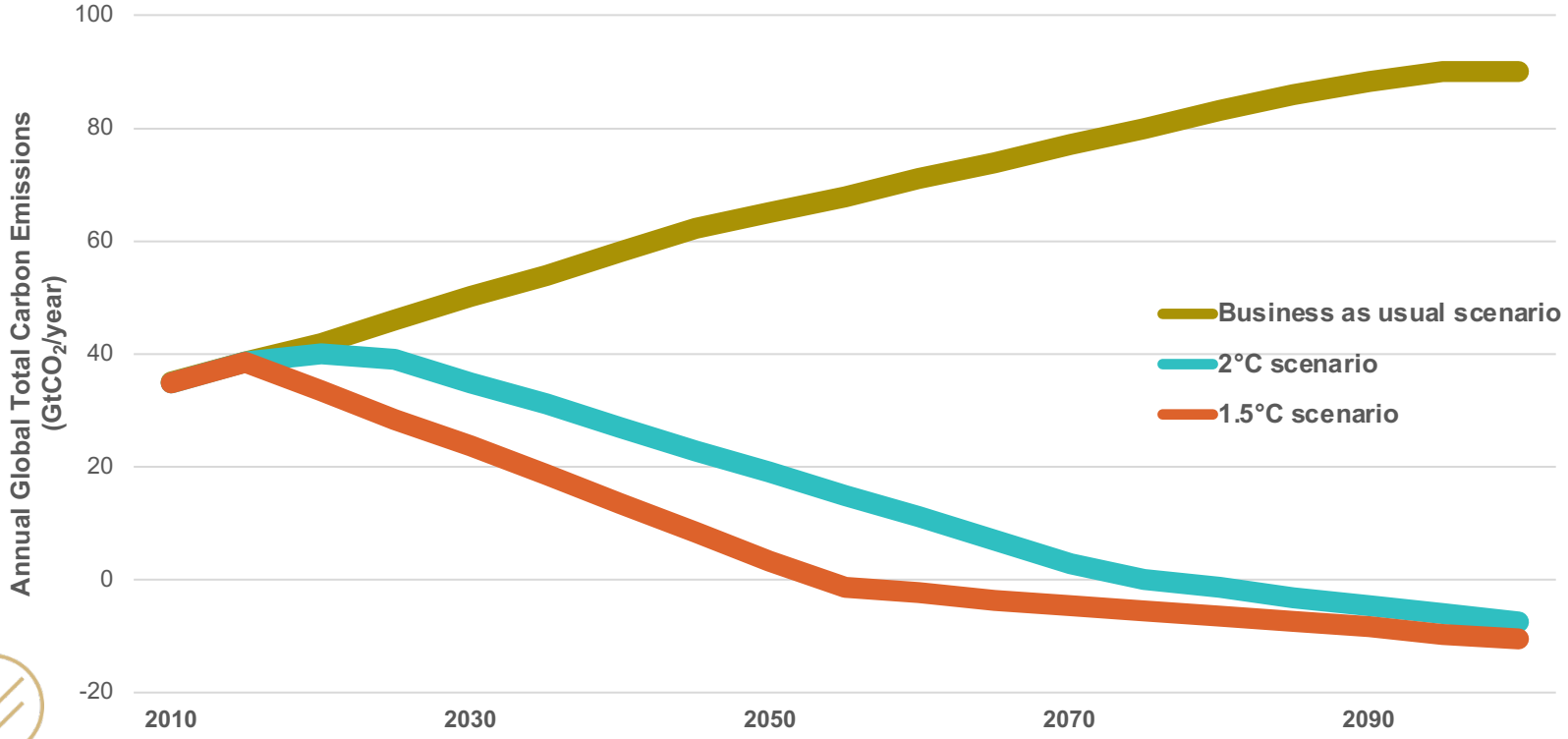
Metrics and Targets

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

Source: Recommendations of the Task Force on Climate-related Financial Disclosures June 2017


Nations Unies
onférence sur les Changements Climatiques
COP21/CMP11
Paris, France

1,000 Gigatonnes of CO_2 remains to be emitted



SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

741 COMPANIES TAKING ACTION

PARTNER ORGANIZATIONS

CDP DRIVING SUSTAINABLE ECONOMIES

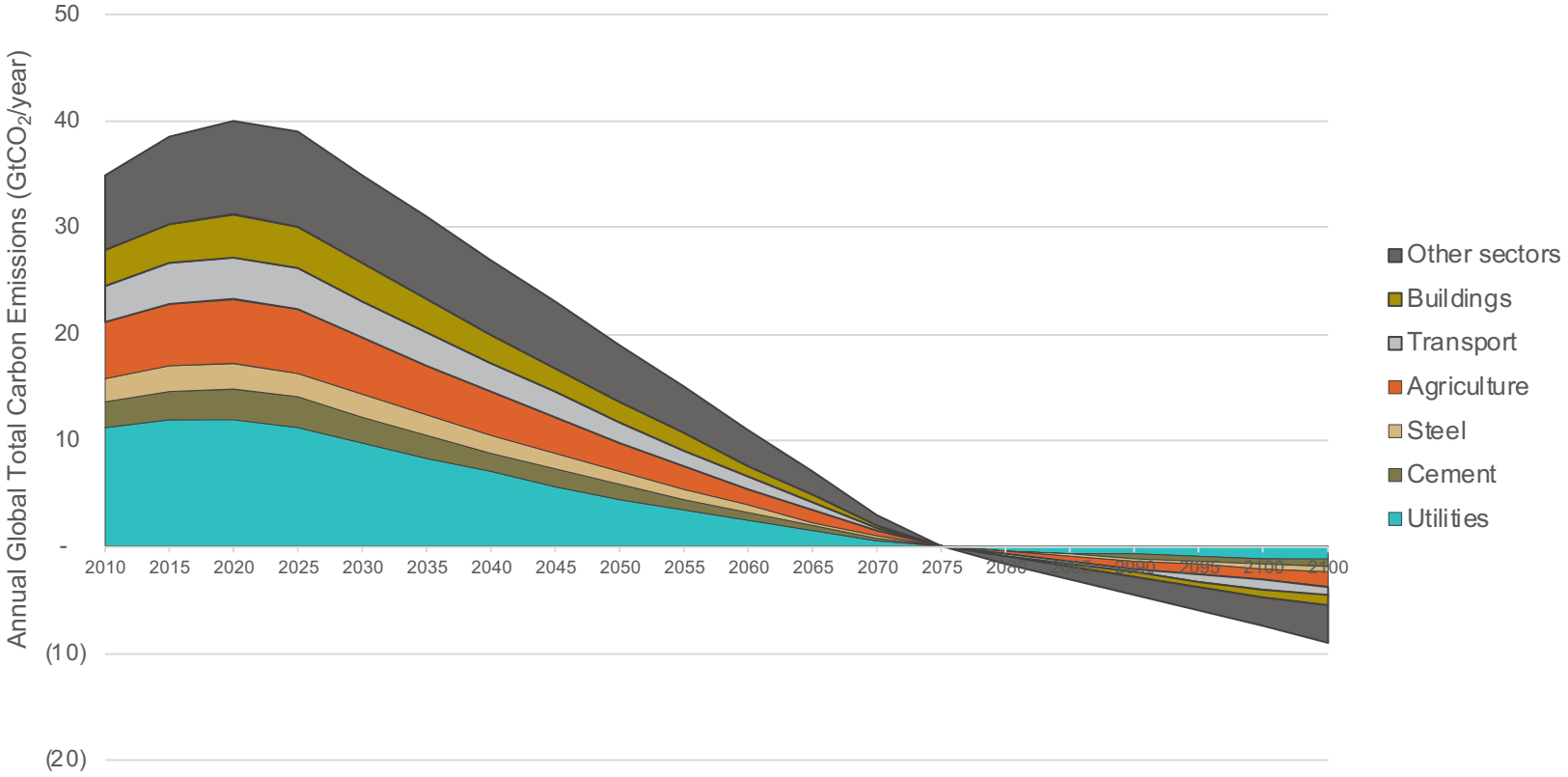
UN GLOBAL COMPACT

WORLD RESOURCES INSTITUTE

WWF

A method for setting corporate emission reduction targets in line with climate science

The Sectoral Decarbonization Approach: From climate science to individual company targets



Target Recalculation

- Targets are fluid and will require reassessment as a company evolves (i.e. no locked in risk for commitment)
- To ensure consistent tracking of performance over time, **the target should be recalculated, as needed, to reflect significant changes that would compromise its relevance and consistency**.
- A target recalculation should be triggered by significant changes in:
  - Company structure (e.g. acquisition, divestiture, mergers, insourcing or outsourcing)
  - Growth projections
  - Data used in setting the target (e.g. discovery of significant errors or a number of cumulative errors that are collectively significant)
  - Inventory processes (this will require a recalculation of the base year inventory)
  - Other projections/assumptions used with science-based target-setting methods
- The **SBTi recommends that companies check the validity of their target projections annually**.
- At a minimum, **targets should be reassessed every five years** to ensure alignment to the latest climate science. The company should notify the SBTi of any significant changes and report these major changes publicly, as relevant.

SBT examples

Olam International Ltd. commits to reduce absolute scope 1 and 2 GHG emissions **50% by 2030 and 100% by 2050** from a 2017 base year, and commits to reduce scope 3 GHG emissions 50% per tonne of agricultural product by 2030 and absolute scope 3 GHG emissions 67% by 2050

Multi-national food company, Danone commits to reduce scope 1 and 2 GHG emissions 30 percent by 2030, from a 2015 base year. Danone also commits to reduce scope 1, 2 and 3 emissions **per ton of sold product 50% by 2030**, from a 2015 base year.

Walmart commits to reduce absolute scope 1 and 2 emissions 18% by 2025, from 2015 levels. Walmart will also work to reduce CO_2e emissions from upstream and downstream **scope 3 sources by one billion tonnes between 2015 and 2030**.

ProjectGigaton™

walmartsustainabilityhub.com

VIDEOS

Prevent
1 Billion metric
tons of **CO2e**
emissions

Walmart


Project Gigaton
suppliers are leading
the way towards a more
sustainable future
Has your company joined us yet?

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

741 COMPANIES TAKING ACTION

Select Suppliers with Meaningful Targets

Americas

Adobe Systems Inc.
Advanced Micro Devices, Inc
AECOM
Autodesk, Inc.
Bacardi Limited
Ben & Jerry's
Biogen Inc.
Cisco Systems, Inc.
Colgate Palmolive Company
Dell Inc.
Farmer Bros. Co
Gap Inc.
General Mills Inc.
Hewlett Packard
Hilton
Host Hotels & Resorts, Inc.
HP Inc
Kellogg Company
Las Vegas Sands
Levi Strauss & Co.
Mars
McDonald's Corporation
Motorola Solutions
Natura Cosméticos SA
NIKE, Inc.
NRG Energy Inc
PepsiCo, Inc.
Pfizer Inc.
Philip Morris International
Procter & Gamble Company
Schreiber Foods
Stanley Black and Decker
Target Corporation
Wal-Mart Stores, Inc.
Xerox Corporation
+75 more

Europe

AB InBev
ACCIONA S.A.
AkzoNobel
AstraZeneca
AXA Group
BNP Paribas
British Telecom
Capgemini UK
Carlsberg Group
Carrefour
Coca Cola
CTT - Correios de Portugal SA
Daimler AG
Danone
Electrolux
Eneco
Enel SpA
Ericsson Group
Ferrovial
H&M
Husqvarna AB
IKEA
ING Group
Italcementi
Kering
Kingspan
Laing O'Rourke
London Stock Exchange
L'Oréal
Marks & Spencer
Nestlé
Novo Nordisk A/S
Proximus
PSA Peugeot Citroen
PUMA SE
Renault
SAP SE
SCA Hygiene AB
Schneider Electric
Suez Environnement
Swisscom
Symrise AG
TELEFÓNICA
Tesco
TETRA PAK
Thalys
UBM plc
Unilever plc
Veolia Environnement
Verbund AG
+165 more

Asia

Ambuja Cement
Asahi Group Holdings
China Steel
City Developments
Dai Nippon Printing
Daiichi Sankyo Co., Ltd.
Daikin Industries, Ltd.
Dalmia Bharat
FUJIFILM Holdings Corporation
Fujitsu Limited
Hindustan Zinc Limited
Hitachi Construction Machinery
Hitachi, Ltd
HK Electric Investments
HONDA
KAO Corporation
Kawasaki Kisen Kaisha
KDDI Corporation
Kirin Holdings Co Ltd
Komatsu Ltd.
Konica Minolta, Inc.
LG Life Sciences
LIXIL Group
Mahindra World City
Nippon Sheet Glass
Panasonic Corporation
PTT Global Chemical
Ricoh Co., Ltd.
Suntory Beverage
Singtel / Optus
SONY Corporation
Taiwan Mobile Co., Ltd
TATA CHEMICALS
TOYOTA
YAMAHA
Yokohama Rubber Yunus Textile Mills Limited
+83 more

Africa

Emira Property Fund
Exxaro Resources Ltd
Mediclinic Southern Africa
Netcare Limited
Pick 'n Pay Stores Ltd
Safaricom Limited
The SPAR GroupTiger Brands
Tongaat Hulett Ltd
Woolworths Holdings Ltd
Growthpoint Properties
Virgin Active South Africa

Oceania

Auckland Airport
Australian Ethical
Bank Australia
Contact Energy
Dexus
Edge Environment
Enviro-Mark Solutions
FRASERS PROPERTY
Investa
Kiwi Property Group
New Zealand Post
Origin Energy
SKYCITY Entertainment
Teachers Mutual Bank
Westpac
+7 more

Summary

- **Investors are asking for Climate-related Financial Disclosures**
- **Four pillars:**
  - Governance
  - Strategy
  - Risk management
  - Targets and Metrics
- **Scenarios analysis is at the heart of TCFD**
  - Market and Technology Shifts
  - Reputation
  - Policy and Legal
  - Physical Risk
- **Science-based targets is driving supply chain de-carbonisation**

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Manly NSW
Melbourne VIC
Adelaide SA
Santiago Chile

edgeenvironment.com

EDGE