



New Reporting Era Carbon Disclosure Project (CDP) and Task Force on Climate Related Financial Disclosure (TCFD)

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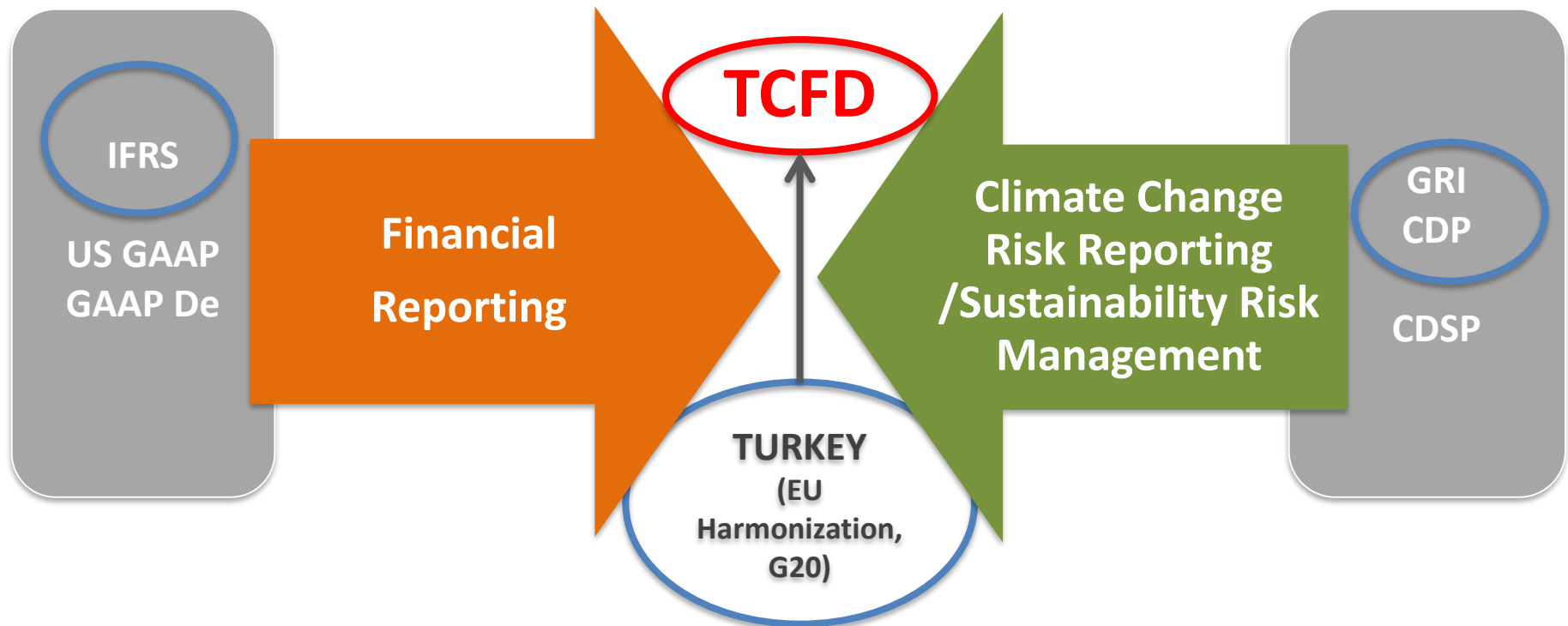


CONTENT and PURPOSE

- **Financial Disclosure in Turkey**
- **Sustainability reporting in Turkey**
- **Connecting TCFD with Financial Reporting**
- **TCFD and CDP**
- **What is awaiting Turkish companies? CDP and non-CDP respondents**



TCFD – Task Force on Climate Change Related Disclosure



IFRS: International Financial Reporting Standards
GAAP: Generally Accepted Accounting Standards

GRI: Global Reporting Initiative
CDP: Carbon Disclosure Project
CDSP: Climate Disclosures Standards Board



FİNANSAL RAPORLAMA GENEL BAKIŞ TÜRKİYE (OVERVIEW OF FINANCIAL DISCLOSURE)

“Sermaye Piyasasında Finansal Raporlamaya İlişkin Esaslar Tebliği” (Seri:XI, No:29 Tebliği) ile borsa şirketleri, aracı kurumlar, portföy yönetim şirketleri ile bunların bağlı ortaklıkları, iştirakleri ve iş ortaklıkları 01.01.2008 tarihinden sonra başlayan hesap dönemlerinin ilk ara döneminden itibaren finansal tablolarını münhasıran Uluslararası Muhasebe Standartları Kurulu tarafından yayımlanan Uluslararası Muhasebe / Finansal Raporlama Standartlarına (UMS/UFRS) göre hazırlamaktadırlar.”

Sermaye Piyasasında Raporlamaya İlişkin Esaslar Tebliği (Nisan 2008),
Değişiklik Yapılmasına Dair Tebliğ (3 Şubat 2017)

UFRS:IFRS (International Financial Reporting Standards)



- **Interconnectivity with financial statement and disclosure requirements. (FAST)**

Inter-connection

- **Elicit information about the financial implications of events and transactions**

Elicit Information

- **Integration of financial and non-financial information**

Integration

Commitment for ESG

- **Commitment to improve all social and environmental governance issues including climate.**



TCFD Comments on Accounting Considerations *

More quantitative financial disclosures, particularly disclosure of metrics, about the financial impact that climate-related risks have or could have on an organization.

1. Asset impairments may result from assets adversely impacted by the effects of climate change and/or additional liabilities may need to be recorded to account for regulatory fines and penalties resulting from enhanced regulatory standards.
2. Cash flows from operations, net income and access to capital could all be impacted by the effects of climate- related risks and opportunities.
3. Therefore, financial executives (e.g. chief financial officers, chief accounting officers, and controllers) should be involved in the organization's evaluation of climate- related risks and opportunities and the efforts undertaken to manage the risks and maximise the opportunities.



TCFD Guidance on Disclosure: Four Overarching Disclosure Recommendations

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



Recommendation 2: Strategy

Q: What should a company do about future climate related issues?

A: Disclosures should describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2° Celsius or lower scenario.

Purpose: Investors, lenders and insurance underwriters can undertake robust and consistent analyses of the potential financial impacts of climate change and appropriately assess and price climate-related risks and opportunities.



Recommendation 2: Strategy

- By TCFD; *“disclosure of organizations’ forward-looking assessments of climate-related issues is important for investors and other stakeholders in understanding how vulnerable individual organizations are to transition and physical risks and how vulnerabilities are or would be addressed”*.
- Identification of vulnerabilities stemming from climate-related transitional and physical risks would also be a first step in ensuring how best to identify climate resilience through an organization’s governance, strategy, risk management and metrics and targets processes and related disclosures.



Liabilities certain

Known liabilities associated with events that have already occurred.

Liabilities Uncertain

Dealing with future risks of climate change

Principle: Recognition

An accounting concept that is used for determining whether and how an item (for example revenue, liability or asset) should be incorporated into the financial statements. For distinction between recognized and unrecognized assets and liabilities. Two step process:



1. Does the item meet the definitions of an asset, liability and/ or economic resource discussed in the Exposure Draft of the Conceptual Framework?
2. Does the item meet the following recognition criteria:
 - It is probable that any future economic benefit associated with the asset or liability will flow to or from the entity; and
 - The asset or liability has a cost or value that can be measured reliably.



RECOGNITION PRINCIPLE:

Leaning Towards Probable Benefits, so far...

New Reporting Era: For financial accounting purposes, carbon-related assets should be recognized.

Financial Sector: Better understanding for concentration of carbon related assets.

Carbon-related Assets: “It refers to assets or organizations with relatively high direct or indirect GHG emissions” (not very clear yet)

Potential financial impact of policy and climate-related risk can be the impairment of assets. Assets mostly recognized.

Certain oil, gas and mineral reserves are precluded from being recognised as assets because of their failure to meet criteria on future economic benefits and are therefore incapable of being impaired in financial statements. What about energy sector?



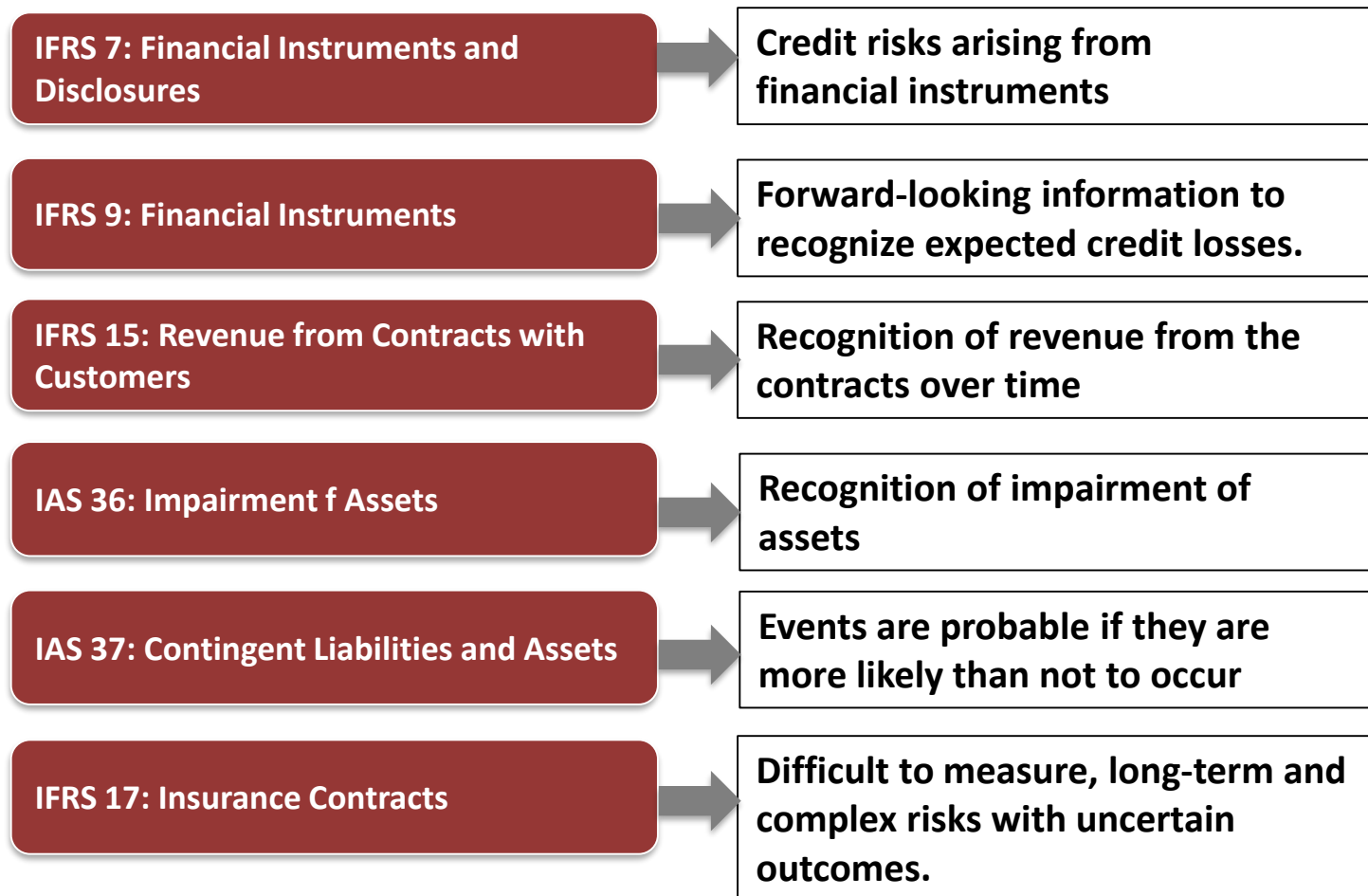
TCFD and IFRS

- In response to a March 2017 staff paper, the IASB concluded that, following a consultation on its agenda in 2015/16 the Board had *“not identified...any financial reporting implications of climate change that it believes are likely to require standard-setting over the next five years”* and that there are *“no potential implications [from the TCFD’s work] that could lead the Board to amend its current work plan.”*
- TCFD’s recommendations might be for the IASB to revisit its December 2010 Practice Statement on Management Commentary.* Management commentary is a narrative report that provides a context within which to interpret an entity’s financial position, financial performance and cash flows together with management’s explanation of its objectives and strategies for achieving them.
- Further search for connecting the IFRS and TCFD is needed and is underway.

* <https://www.ifrs.org/issued-standards/management-commentary-practice-statement/>



TCFD and Financial Disclosure*





Alignment of CDP with TCFD

- There are 27 new questions added which focus on
 - Carbon pricing,
 - Climate scenario analysis and
 - Risk assessment integration (including impact and integration into financial planning processes).
- Also, scenario analysis is the main item in the questionnaire to align CDP reporting with TCFD, in line with the Strategy component of the TCFD.
- TCFD recommends as such;
 - ✓ Identify the climate-related risks and opportunities across a range of time scales.
 - ✓ Understand how the company maybe affected over long time frames through climate-related scenario planning, with an emphasis on scenarios with a global warming of less than 2 C.



Scenario Analysis*

SCENARIO:

A path of development leading to a particular outcome.

Scenarios are not intended to represent a full description of the future, but rather to highlight central elements of a possible future and to draw attention to the key factors that will drive future developments. It is important to remember that scenarios are hypothetical constructs; they are not forecasts or predictions nor are they sensitivity analyses.

Build qualitative stories

Hypothetical, yet;

- ✓ Plausible
- ✓ Distinctive
- ✓ Consistent
- ✓ Relevant
- ✓ Challenging

Incorporate numbers for quantitative assessment

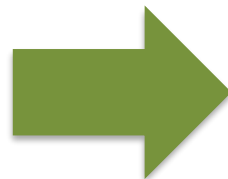
Quantitative approaches may be achieved by using existing external scenarios and models (e.g., those provided by third - party providers) or by organizations developing their own , in - house modeling capabilities. The choice of approach will depend on an organization's needs, resources, and capabilities.



Scenario Analysis*

STEP 1

- *Identifying and defining a range of scenarios, including a 2°C scenario, that provide a reasonable diversity of potential future climate states;*
- *Evaluating the potential resiliency of their strategic plans to the range of scenarios; and*
- *Using this assessment, identify options for increasing the organization's strategic and business resiliency to plausible climate - related risks and opportunities through adjustments to strategic and financial plans.*



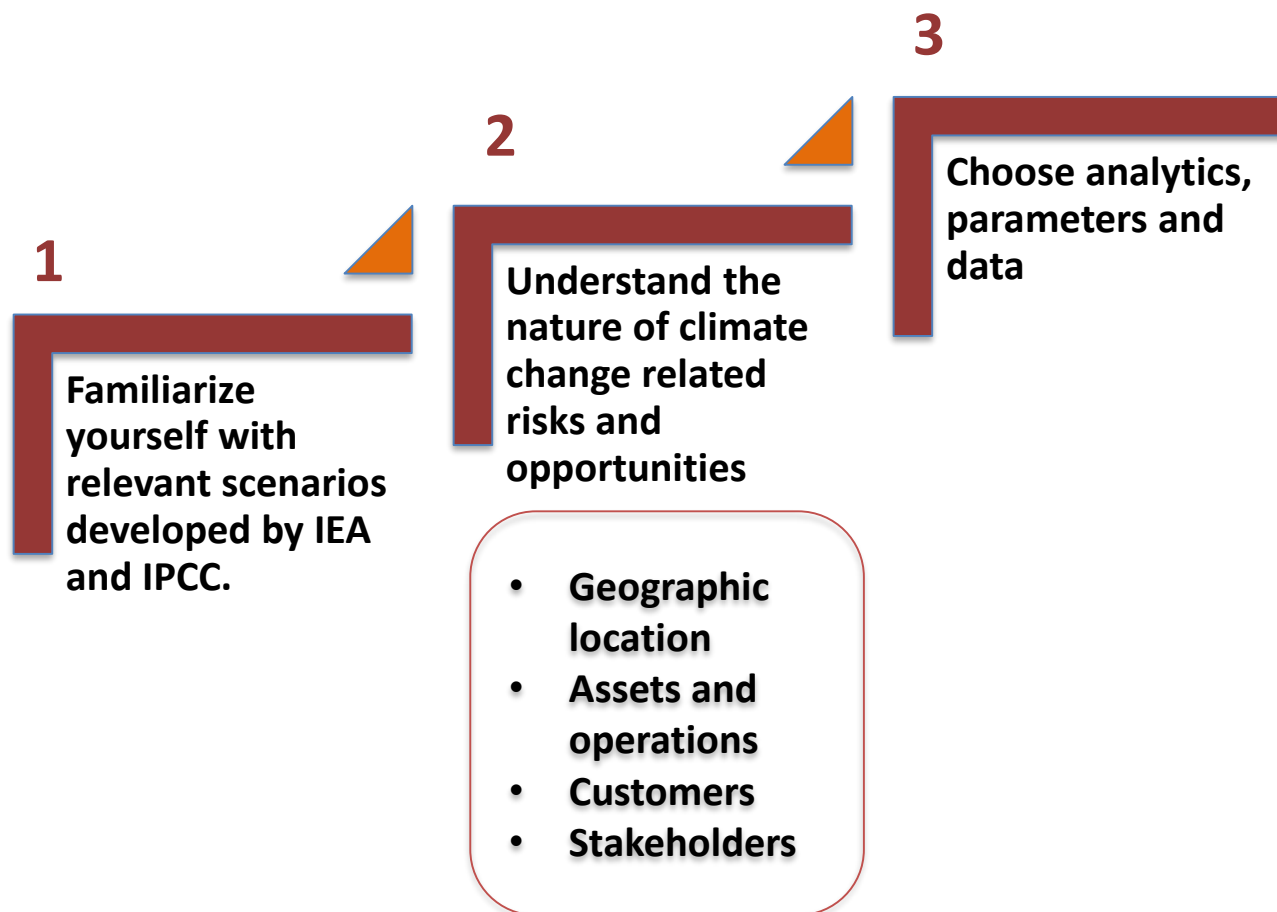
Through
documentation,
overtime

STEP 2

- *Management's assessment of the resiliency of its strategic plans to climate change ;*
- *The range of scenarios used to inform management's assessment, including key inputs, assumptions, and analytical methods and outputs (including potential business impacts and management responses to them) ; and*
- *The sensitivity of the results to key assumptions.*



KEY STEPS IN CAPACITY BUILDING FOR TCFD





PROCESS FOR APPLYING SCENARIO ANALYSIS

- Integrate scenario analysis into strategic planning.
- Identify internal stakeholders.
- Supervise relevant board committees and sub-committees.

GOVERNANCE

1

Input Cost
Operating Cost
Revenues
Supply Chain
Business
interruption
Timing

Assess
materiality of
climate risks

2

Identify and
define range
of scenarios

3

Evaluate
business
impacts

4

Identify
potential
responses

5

What are the current
and anticipated risks
and opportunities?
Are these material?

What scenarios are relevant?
Considering data and
parameters what scenarios
should be used?

DOCUMENT AND
DISCLOSE

6



TYPICAL CATEGORIES OF CLIMATE RELATED RISKS AND OPPORTUNITIES

Figure 1

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

Sources:

CDP, "Climate Change Questionnaire," 2017.

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



PARAMETERS AND ANALYTICAL CHOICES

Key Considerations: Parameters, Assumptions, Analytical Choices, and Impacts

Parameters/Assumptions	Analytical Choices	Business Impacts/Effects
<p>Discount rate – what discount rate does the organization apply to discount future value?</p> <p>Carbon price – what assumptions are made about how carbon price(s) would develop over time (within tax and/or emissions trading frameworks), geographic scope of implementation, whether the carbon price would apply only at the margin or as a base cost, whether it is applied to specific economic sectors or across the whole economy and in what regions? Is a common carbon price used (at multiple points in time?) or differentiated prices? Assumptions about scope and modality of a CO₂ price via tax or trading scheme?</p> <p>Energy demand and mix – what would be the resulting total energy demand and energy mix across different sources of primary energy e.g. coal/ oil/ gas/ nuclear/renewables (sub-categories)? How does this develop over time assuming supply/end-use efficiency improvements? What factors are used for energy conversion efficiencies of each source category and for end-use efficiency in each category over time?</p> <p>Price of key commodities/products – what conclusions does the organization draw, based on the input parameters/ assumptions, about the development over time of market prices for key inputs, energy (e.g. coal, oil, gas, electricity)?</p> <p>Macro-economic Variables – what GDP rate, employment rate, and other economic variables are used?</p> <p>Demographic variables – what assumptions are made about population growth and/or migration?</p> <p>Efficiency – to what extent are positive aspects of efficiency gains/clean energy transition/physical changes incorporated into scenarios and business planning?</p> <p>Geographical tailoring of transition impacts – what assumptions does the organization make about potential differences in input parameters across regions, countries, asset locations, and markets?</p> <p>Technology – does the organization make assumptions about the development of performance/cost and resulting levels of deployment over time of various key supply and demand-side technologies (e.g. solar PV/CSP, wind, energy storage, biofuels, CCS/CCUS, nuclear, unconventional gas, electric vehicles, and efficiency technologies in other key sectors including industrial and infrastructure)?</p> <p>Policy – what are assumptions about strength of different policy signals and their development over time (e.g. national headline carbon emissions targets; energy efficiency or technology standards and policies in key sectors; subsidies for fossil fuels; subsidies or support for renewable energy sources and for CCS/CCUS)?</p> <p>Climate sensitivity assumptions – assumptions of temperature increase relative to CO₂ increase?</p>	<p>Scenarios – what scenarios does the organization use for transition impact analysis and which sources are used to assess physical impact both for central/base case and for sensitivity analyses?</p> <p>Quantitative vs. qualitative or “directional” – is the scenario exercise fully quantitative or a mix of quantitative and qualitative?</p> <p>Timing – how does the organization consider timing of implications under scenarios e.g. is this considered at a decadal level 2020; 2030; 2040; 2050.</p> <p>Scope of application – is the analysis applied to the whole value chain (inputs, operations and markets), or just direct effects on specific business units / operations?</p> <p>Climate models/data sets – which climate models and data sets support the assessment of climate-related risks?</p> <p>Physical risks – when assessing physical risks, which specific risks have been included and their severity (e.g., temperature, precipitation, flooding, storm surge, sea level rise, hurricanes, water availability/ drought, landslides, wildfires or others)? To what extent has the organization assessed the physical impact to its portfolio (e.g. largest assets, most vulnerable assets) and to what extent have physical risks been incorporated in investment screening and future business strategy?</p> <p>To what extent has the impact on prices and availability in the whole value chain been considered, including knock on effects from suppliers, shippers, infrastructure, and access to customers?</p>	<p>Earnings – what conclusions does the organization draw about impact on earnings and how does it express that impact (e.g. as EBITDA, EBITDA margins, EBITDA contribution, dividends)?</p> <p>Costs – what conclusions does the organization draw about the implications for its operating/production costs and their development over time?</p> <p>Revenues – what conclusions does the organization draw about the implications for the revenues from its key commodities/ products/ services and their development over time?</p> <p>Assets – what are the implications for asset values of various scenarios?</p> <p>Capital Allocation/ investments – what are the implications for capex and other investments?</p> <p>Timing – what conclusions does the organization draw about development of costs, revenues and earnings across time (e.g. 5/10/20 year)?</p> <p>Responses – what information does the organization provide in relation to potential impacts (e.g. intended changes to capital expenditure plans, changes to portfolio through acquisitions and divestments, retirement of assets, entry into new markets, development of new capabilities etc.)?</p> <p>Business Interruption due to physical impacts – what is the organization's conclusion about its potential business interruption/productivity loss due to physical impacts both direct effects on the organization's own assets and indirect effects of supply chain/product delivery disruptions?</p>

The Use of Scenario Analysis in Disclosure of Climate Related Risks and Opportunities, TCFD Technical Supplement, June 2017



BUSINESS CASE: WHAT ARE OTHER ORGANIZATIONS DOING?

- In business context, scenario analysis was originally established by Royal Dutch Shell in 1970s as part of their strategic planning.
- The application of scenario analysis in the context of climate change management is a new phenomenon.
- BHP Billiton, Statoil, Conoco Phillips and Glencore are among the non-financial companies use scenario analysis.
- Also, a number of financial institutions such as pension funds – New York State Common Retirement Fund (NYSCRF), Environment Agency Pension Fund (EAPF)- or asset management companies such as PGGM also conduct scenario analysis. ICBC (International Commercial Bank of China) assessed the impact of environmental factors on the credit risk of its loans using a stress testing approach, a form of scenario analysis.



BUSINESS CASE: WHAT ARE OTHER ORGANIZATIONS DOING?

CITIBANK

In 2015, estimated that the 'Action' scenario (transition to a low- carbon economy) was cheaper than the 'Inaction' scenario (business-as-usual) due to savings from reduced fuel costs and increased energy efficiency.

Over the next 10 years, the bank has committed US\$100 billion to finance activities that reduce carbon emissions, help communities adapt to climate change and directly finance sustainable infrastructure, such as low-carbon housing.

CONOCO PHILLIPS

Through scenario analysis, ConocoPhillips was enabled to comprehend the range of risks associated with various GHG reduction scenarios, test its current portfolio of assets and investment opportunities against these scenarios, and assess where weaknesses may exist, assisting with capital allocation prioritization.

<http://www.conocophillips.com/environment/climate-change/climate-change-strategy/scenarios-in-the-capital-planning-process/>



BHP Billiton

The key characteristics of the four scenarios are summarised below:



A New Gear

Innovation delivers step-change growth in developed economies

High, sustainable economic growth unlocked by productivity gains in advanced economies. Reform success in India achieves high transformative growth. Restricted resource access in some areas. Rapid production rates for some commodities deplete basins with costly reserve replacement. Technology development focuses on highly differentiated products. Less technology transfer from major economies to emerging economies. Developed economies rely primarily on regulation to enforce reduction in emissions. Globally, the initial focus is on reactive adaptation, with some proactive investment followed by a longer-term shift towards mitigation.



Closed Doors

National self-interest drives economic policy leading to low growth

A future state enmeshed in economic decline and protectionism. Nationalism drives economic policy rather than reform. Security of supply drives resources investment policy. Limited global cooperation. Research and development dwindles with low private sector capacity and government support. Food and water supply shortages provoke instability in some economies. Climate change commitments are abandoned in favour of adaptation.



Global Accord

Unified focus on limiting climate change

Robust global economic growth sustains strong impetus to develop and implement cleaner, more energy efficient solutions that support growth. Unified societal action to address climate change leads to high cooperation and commitment to limit emissions. Technology plays a pivotal role with breakthroughs in new, next generation clean energy technologies. Higher-cost options are often deployed to meet lower emissions targets. There is an orderly transition to a 2°C world.



Two Giants

US and China-led hubs drive technology-enabled growth

Strong global growth led by China and US regional centres that enable greater liberalised trade. Reform success in Latin America underpinned by high intra-regional trade integration. Coordinated policy response and agricultural productivity gains ease water and food constraints. Significant investment in research and development and rapid transfer of technology within the two centres. Focus on stronger mitigation and proactive adaptation to climate change.

We test portfolio resilience in a 2°C world

We recognise that there is increasing interest in how companies are approaching climate change risk management. It is becoming common for investors to ask companies in which they own significant holdings to outline how a carbon-constrained future would impact the business. While we test the resilience of the BHP Billiton portfolio across all four scenarios, which represent a range of plausible and divergent outcomes, this analysis is focused on providing further insight into the impacts of a transition to a 2°C world.

The Global Accord scenario and the underlying assumptions behind it represent one possible outcome for a 2°C world.

In practice, there are many ways the world could limit global temperature rises to 2°C within this century. Global Accord considers the impacts of an orderly transition where emissions align with the levels indicated by the IPCC after 2030.

Along with scenario analysis, we also test the portfolio against shock events. These are unlikely and extreme events that are typically short-term but may have associated longer-term impacts. We have developed a shock event based on Global Accord that describes a much more rapid shift to a 2°C world where emissions align with the levels indicated by the IPCC by 2030, driven by very aggressive policy measures and technology developments.

Global Accord describes an orderly transition to a 2°C world

In the Global Accord scenario, there is stronger climate policy action than we see today, as well as successful technological innovation to achieve emissions reductions. Global Accord envisions a strong impetus to develop and implement cleaner, more energy efficient solutions to support growth in developing economies and address intensified activism and public concern in developed economies.

As a result, a more diverse energy supply mix prevails, with significantly increased use of nuclear energy and renewables in power generation and alternative fuel vehicles in transport. Unified societal action, with high cooperation and commitment to reduce emissions, creates high demand and prices for carbon. Binding emissions targets for developing economies give time for technology to transfer and prove that emissions cuts and economic growth are not mutually exclusive.

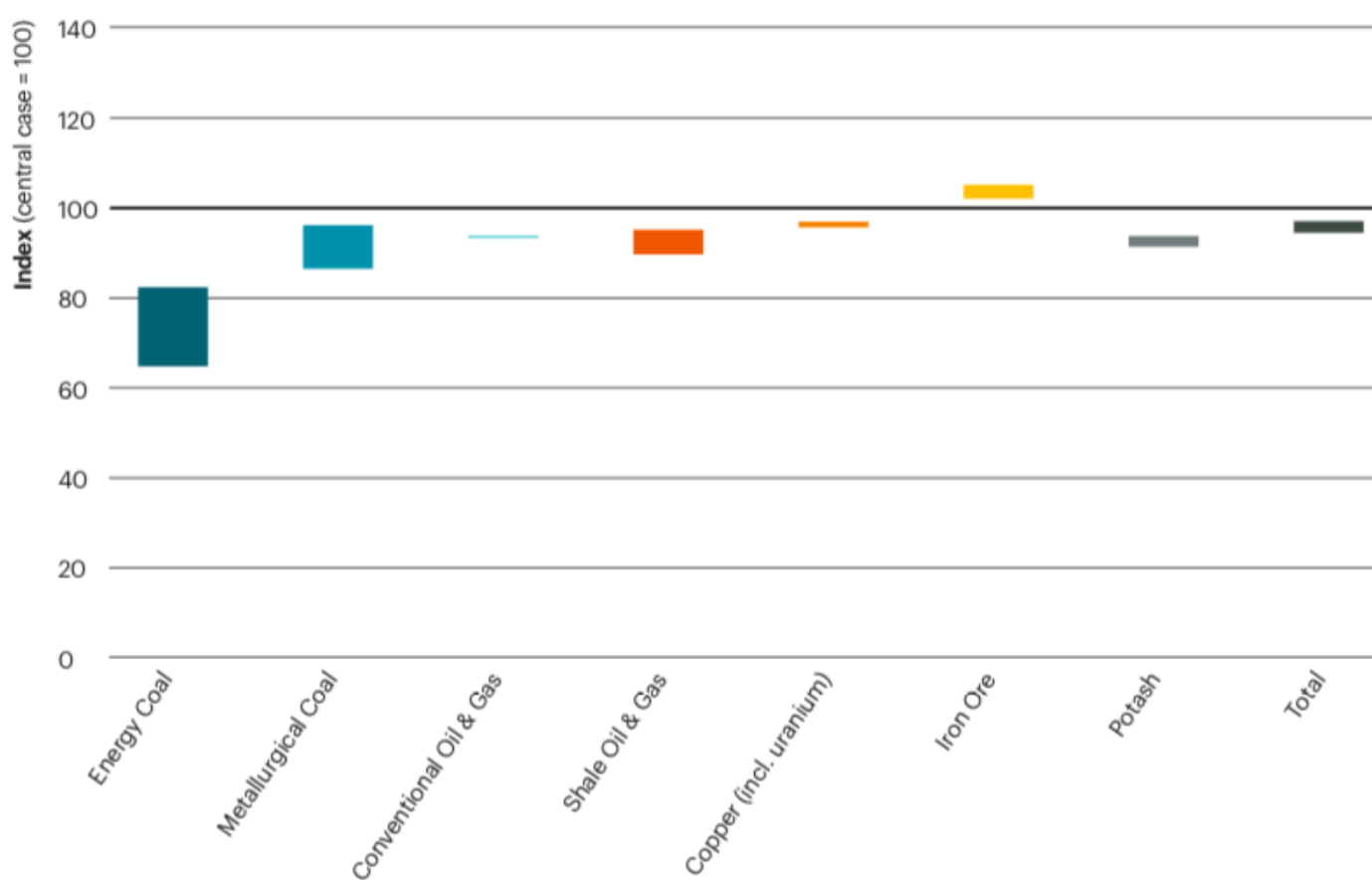
In Global Accord, CCS becomes mature and scalable to help meet long-term climate goals. In an orderly transition, the role of CCS is limited out to 2030, given the large scale of investment and the time required to reach material penetration from today's levels. Post-2030, the role of CCS increases, both in power generation and in industrial sectors.

The Global Accord scenario relies on a high level of openness and trade, geopolitical stability and low levels of resource nationalism. This promotes the development and deployment of new technology and facilitates the high level of international cooperation required to establish effective policy.

A shock event describes a rapid transition to a 2°C world

Our shock event describes an initial delay in coordinated climate change action followed by a faster than expected move to a largely decarbonised world. It simultaneously considers the impacts of several significant technology developments, such as rising renewables and battery penetration, increasing energy efficiency and ambitious climate policies to put the world on an accelerated track to achieve the 2°C goal.

In the shock event, CCS takes on a more important role, backed by stronger and earlier support from governments and the private sector. Nevertheless, the technology's contribution to global emission reductions remains significantly below that of renewables, energy efficiency and fuel-switching, at least prior to 2030.

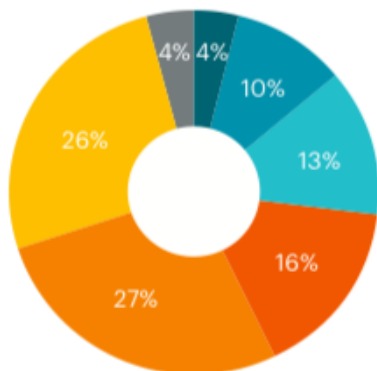


**20 YEAR
AVERAGE
EBITDA
MARGIN IN A
2 C° WORLD**

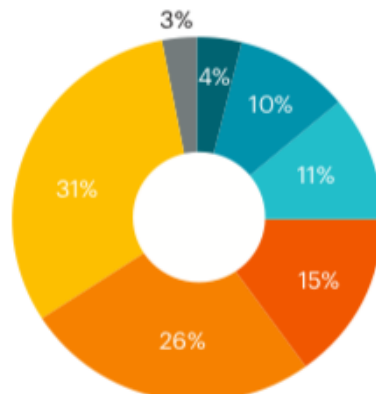
The combined Group EBITDA margins are not impacted significantly in the Global Accord scenario or the shock event, highlighting the resilience of the portfolio.

20-year average Business EBITDA contribution

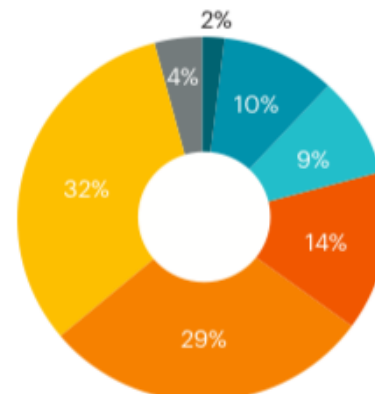
Central case



Global Accord scenario



Shock event



- Energy Coal
- Metallurgical Coal
- Conventional Oil & Gas
- Shale Oil & Gas
- Copper (incl. uranium)
- Iron Ore
- Potash



TCFD RELATED REPORTING FOR TURKISH COMPANIES –NEAR TERM

CDP RESPONDENTS by 2018

- Get familiar with IPCC and IEA scenarios,
- Identify your assets and liabilities,
- Identify your risks and opportunities,
- Establish qualitative stories,
- Introduce preliminary data and analytics for quantification.

NON-CDP RESPONDENTS

- Financial sector to report by TCFD by probably 2021 for G20 (voluntary until 2024)
- Non-financial sector to report by 2024



GAIA
CLIMATE

TEŞEKKÜRLER...

GAIA
CLIMATE

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