

CLIMATE CHANGE

YOUR JOURNEY TO INTEGRATED REPORTING



COMPLEMENTARY DISCLOSURE PRACTICES FOR A SUSTAINABLE FUTURE

Perspectives Based On The International Integrated Reporting Council Framework
And The Climate Disclosure Standards Board Climate Change Reporting Framework



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FOREWORD

Integrated reporting and climate change-related reporting have much in common: both are relatively new, both require companies to think and act in new ways, and most importantly, both can help to shape a corporation's competitive advantage over the next decade. Reporting places burdens on already strained corporate compliance functions, but recognising the synergies between the two types of reporting can minimise those burdens.

Promethium Carbon and the Climate Disclosure Standards Board (CDSB) have developed this publication to provide CEOs, CFOs, reporting committees and internal auditors with a reference tool on integrated and climate change-related reporting.

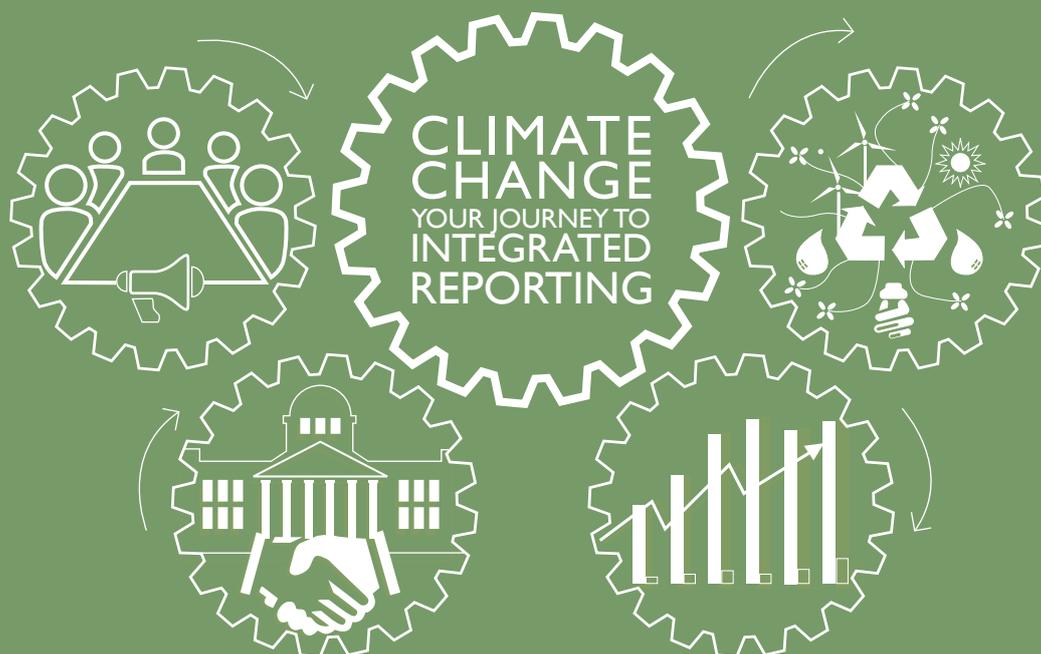
We explore and compare the fundamental concepts, guiding principles and content elements set out in the International Integrated Reporting Council's Prototype Framework with the requirements of the CDSB Framework, and illustrate the synergies and differences through examples.

Many companies are already taking great strides to improve not only their reporting practices but their entire approach to integrated thinking. A significant proportion has only made initial steps.

Promethium Carbon has been helping its clients since 2004 to prepare for, and adapt to, the low carbon economy.

The CDSB, a special project of Carbon Disclosure Project (CDP), is an international organisation specifically established and wholly committed to the integration of climate change-related information into mainstream corporate reporting. In September 2010, CDSB launched the Climate Change Reporting Framework, the first non-financial accounting framework globally, designed to facilitate, encourage and elicit information of value to investors in assessing how climate change affects the strategy, performance and prospects of companies.

Wherever you are on your journey to integrated or climate change related reporting, we hope this publication will increase awareness, deepen understanding and empower you to address the challenges posed by these new reporting practices.



Climate Change and Integrated Reporting
Complementary Disclosure Practices for a
Sustainable Future

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01

INTRODUCTION

CLIMATE CHANGE REPRESENTS A DISCONTINUITY IN THE WAY WE DO BUSINESS

Integrated Reporting is a new concept in the corporate environment. However, it builds on and adopts principles from existing forms of corporate reporting. These include climate change-related reporting which, through the work of various organizations, primarily the Carbon Disclosure Project, has been evolving for over a decade. That decade of development should significantly inform Integrated Reporting practice as the two types of reporting share many characteristics. CDP's annual information request asks companies to report on their climate change strategies, governance, performance, risks and opportunities as well as their Greenhouse Gas (GHG) emissions. Similarly, Integrated Reporting is designed to communicate information about a company's ability to create value over time by reference to their strategy, business model, risks, opportunities, governance and so on. The two forms of reporting (Integrated and Climate Change-Related) therefore have much in common.

The IIRC¹ has recently published the Prototype of the International Reporting Framework (IIRC Prototype Framework) and a Consultation Draft of the Framework is due to be published in April 2013 for public consultation. The Prototype states that it is a requirement that companies should report on the "full range of factors that materially affect the ability of an organization to create and preserve value over time"².

The material effect that climate change is likely to have on business has become clear through the work and reporting done within the CDP³. The **CDP Global 500 Climate Change Report 2012** states that "business and economies globally have already been impacted by the increased frequency and severity of extreme weather events, which scientists are increasingly linking to climate change". Leading companies are identifying the risks and opportunities associated with climate change and are adapting to a changing environment.

Integrated Reporting must be the result of integrated thinking. The IIRC states that "integrated thinking enables an organisation to understand better the relationships between its various operating and functional units and the capitals the organization uses". This approach captures the essence of what is required for any business successfully to address the way in which they affect and are impacted by climate change. Climate change impacts on all aspects of the organisation and the capitals on which it depends for success. Therefore, the planning and implementation of adaptation and mitigation actions should reflect this reality.

FOCUS ON MATERIAL INFORMATION
Climate change-related disclosure to the CDP and a reporting framework developed by CDP's sister organisation, the CDSB⁴, are specifically designed to inform investors. Similarly, Integrated Reporting guides communications by organisations to providers of financial capital. Whereas CDP provides a reporting system and platform for capacity building and information collection, CDSB's complementary Framework explains how the most material information for mainstream reporting should be identified. Like the CDSB Framework, the IIRC Framework provides that disclosures should be limited to those that have a material effect on the ability of the organisation to create value over time.

There is no longer any doubt whether climate change is material in today's business environment. Most leading companies worldwide identify climate change as one the major risks facing them today. This is a reality for all companies; irrespective of the industry or geographical region in which they operate.

It is therefore important that a company evaluates the climate change risks and opportunities to which its operations are exposed and includes those that are most material in its Integrated Report.

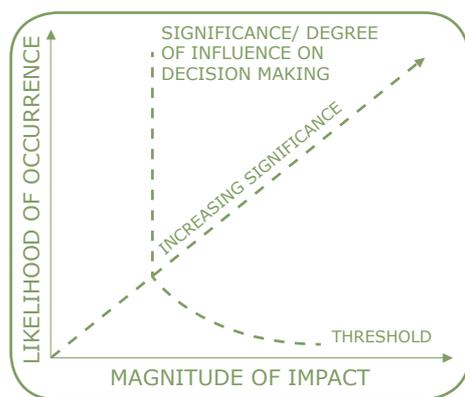


Figure 1: Materiality in Integrated Reporting (Source: IIRC)

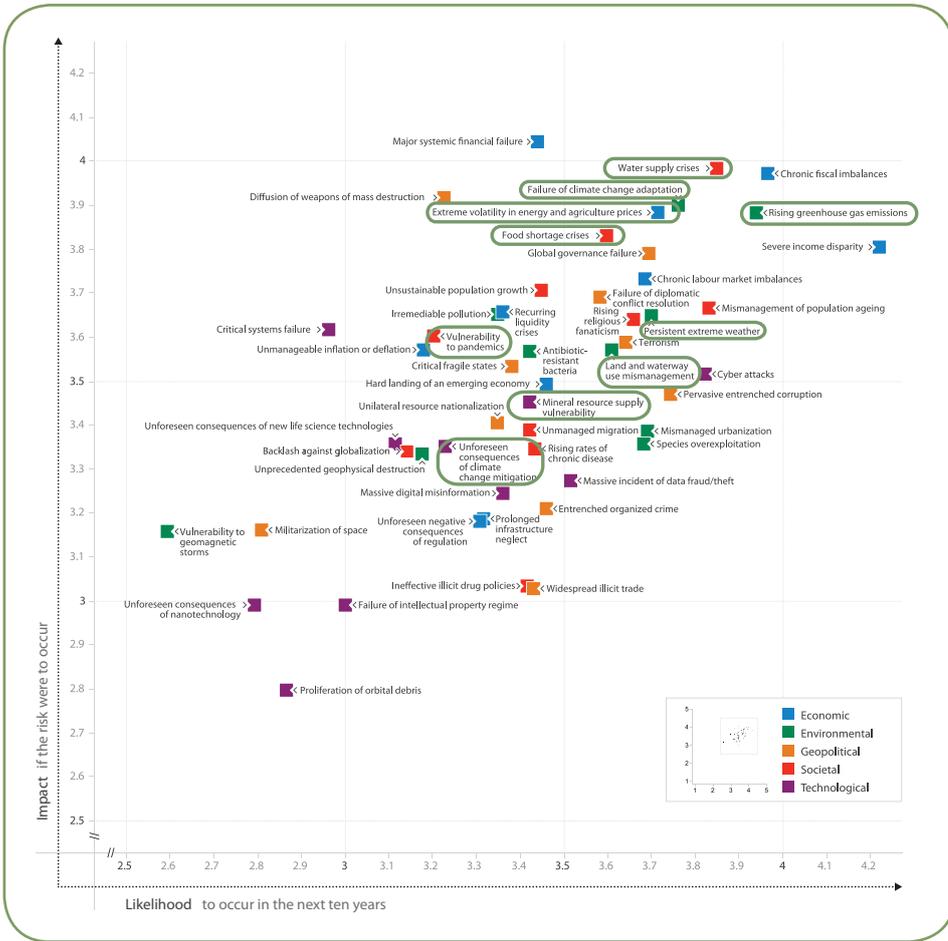


Figure 2: WEF Global Risk Matrix for 2013 with Climate Related Risks Circled⁶

The World Economic Forum identified climate change and climate change-related risks to feature amongst the top risks of their Global Risks 2013 Report: View Figure 2.

There are various definitions of and thresholds for materiality. However, one common approach to determining materiality is by reference to the likelihood of occurrences and magnitude of the impacts as shown in Figure 1.

Materiality is informed not only by the perspective of the reporting company, but also by the perspective of the company's stakeholders. The **Ceres Roadmap for Sustainability**⁷ describes the requirement for stakeholder engagement in materiality determination as follows: "Companies should identify key issues of concern to the company through an internal materiality analysis and should then share this analysis with external stakeholders. Stakeholder dialogue can be used to identify additional issues, prioritise efforts, and recognise emerging risks that could become increasingly important to the business over the long term. The company should then explore the links between identified material issues and the leadership team's vision and strategy". An example of the outcome of such an analysis can be seen in the Vodafone Materiality Matrix as shown in Figure 3.

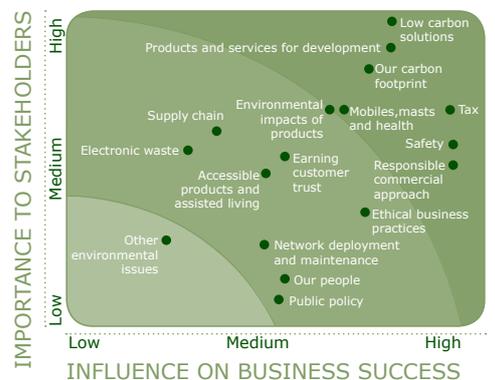


Figure 3: Vodafone Materiality Matrix⁸

¹www.theiirc.org
²Integrated Reporting, Working Draft Of Prototype Framework
³www.cdproject.net
⁴www.cdsb.net
⁵Global Risks 2013, Eighth Edition, An Initiative of the Risk Response Network World Economic Forum Report for the year ending 31 March 2010
⁶Authors' interpretation
⁷http://www.ceres.org/resources/reports/ceres-roadmap-to-sustainability-2010
⁸Pressing Forward, Vodafone Group Plc Sustainability Report for the year ending 31 March 2010

INTRODUCTION

Many companies are now reporting on the materiality of climate change in their annual reports. Some examples are:

Anglo American 2011 Annual Report:

"Climate change is becoming a major issue for the mining industry, and Anglo American seeks to play its part in helping address its causes, and mitigating its effects";

"Growing demand for water resources, along with the effects of climate change, is already leading to supply shortages, increased costs, stricter legislation and heightened social pressures"; and

"Our new climate change strategy requires that all operations and projects undertake climate change vulnerability assessments, after which all high risk sites will undergo detailed climate change impact assessments."

Wal-Mart 2011 Annual Report:

"We, along with other retail companies, are influenced by a number of factors including, but not limited to: ... weather patterns, climate change, catastrophic events, competitive pressures and insurance costs."

BASF 2011 Annual Report:

"We have also set ourselves even more ambitious goals for environmental and climate protection. We are convinced this course will take us in the right direction, even in a volatile environment. Our focus on long term trends and our strengths will work to our advantage."

Allianz Global Wealth Report 2012:

"But given the major challenges that lie ahead, from the shifts in the global economic and political weights, to climate change and demographic change, we cannot afford to take the short-sighted approach."

UPS 2011 Annual Report:

"We may be affected by global climate change or by legal, regulatory or market responses to such potential change. Concern over climate change, including the impact of global warming, has led to significant federal, state and international legislative and regulatory efforts to limit greenhouse gas emissions."

Phillips 2011 Annual Report:

"Responsible corporations are taking decisive action to fight climate change and increase resource efficiency. And Philips is leading the way."

"The challenge on the ecological axis is to optimise our impact on the environment especially on climate change and resource scarcity."

"The third transition is the global interest in energy efficiency in response to rising energy prices and increased awareness of climate change. Many countries and regions have introduced legislative measures to address energy consumption and the emission of greenhouse gases which are linked to climate change."

Table 1 offers a comparison of what to report for climate change and Integrated Reporting.

The reporting of climate change under the different approaches is aimed at the following stakeholders:

CDP investor programme:

Voluntary reporting to investors

CDSB Framework:

Mainstream reporting to investors

Integrated Reporting:

Mainstream reporting primarily to providers of financial capital

Although focused on environmental disclosure, the reporting principles established by the CDP and CDSB for climate change reporting purposes can be extended to most other forms of corporate reporting. Indeed, the requirements for organisations to report on material business strategy, risk, opportunity, performance and governance, as outlined by the IIRC's Draft Prototype Framework, mirror the requirements of the CDP information request and the CDSB Climate Change Reporting Framework. These synergies raise questions for reporting organisations such as whether conformance with the CDSB Climate Change Reporting Framework is an acceptable way of making disclosures about climate change in an Integrated Report. The IIRC Framework will not be prescribing requirements for the measurement of environmental indicators or impacts disclosed in Integrated Reports. Therefore, referencing the work of organisations that prescribe such measurements is likely to be of assistance to reporting companies. Furthermore, as policy makers increasingly require environmental disclosure, it is important that climate disclosures are compatible with regulatory developments. Through its "consistency project" and work with policy makers, CDSB has already ensured, as far as possible, that its work is suitable for adoption by regulators.

WHAT TO REPORT	CLIMATE CHANGE-RELATED REPORTING	INTEGRATED REPORTING
How the company's ability to create value	Is affected by climate change	Is affected by a wide range of factors (including climate change)
The way in which the company is impacted by identified issues	Climate change	A wide range of factors
The risks and opportunities presented by the company by identified issues	Climate change	A wide range of factors
Management's strategies, actions, governance, activities etc.	To address climate change so that the company can continue to create value	To ensure that it is able to continue to create value
Financial and non-financial information	About the effect of climate change on the company's ability to create value	About the company's ongoing ability to create value
Metrics	Greenhouse gas emissions, energy usage, etc – reported on absolute and intensity basis	No particular metrics specified – depends on business

Some of the main synergies between the work of IIRC and CDSB are as follows:

- CDSB and IIRC share the objective of encouraging an evolution in mainstream corporate reporting;
- Many of the organisations, for which CDSB members work, also support the IIRC;
- CDSB's intention was, and is, to develop a Framework, tools and resources for adoption by regulators and/or actual/potential standard setters, such as IIRC;
- CDSB has already published a Framework (the second edition has just been published), which was prepared in consultation with some of the organisations and individuals currently participating in IIRC's work. CDSB's Framework could help to strengthen IIRC's proposition by providing an example of leading integrated reporting practice albeit focused on climate change.

Table 1:
Comparison of Climate Change and Integrated Reporting

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FUNDAMENTAL INTEGRATED REPORTING CONCEPTS

THIS REPORT CONSIDERS THE WAY IN WHICH THE FUNDAMENTAL CONCEPTS, GUIDING PRINCIPLES AND CONTENT ELEMENTS SET OUT IN THE IIRC PROTOTYPE FRAMEWORK COMPLEMENT EXISTING CLIMATE CHANGE-RELATED REPORTING APPROACHES AND PRACTICES.

The IIRC Prototype Framework sets out three fundamental concepts that underpin Integrated Reporting. They are:

- the capitals,
- the organisation's business model and
- the creation of value over time

All three fundamental concepts equally affect climate change and Integrated Reporting.

Although the language of the three fundamental concepts is not used in most climate change-related reporting approaches, the sentiment and intentions of Integrated Reporting are entirely consistent with what climate change reporting seeks to achieve.

In particular, climate change reporting seeks to encourage disclosure about the way in which a company's activities affect and are affected by climate change, including outcomes for all types of capital (see below) including but not limited to financial capital.

The purpose of reporting greenhouse gas emissions for example is to enable investors and others to assess the impact of business activity on natural and human capital, to understand where intellectual capital can be applied so as to ameliorate the effects of climate change and to assess the risks to manufactured capital.

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The nature of business is to create value so as to generate a return on capital. It is fundamental that capital is preserved and grown in order for business to continue. Traditionally capital has been understood in terms of financial capital. However, the IIRC Framework extends the concept to include six types of capital that individually and collectively affect an organisation's ability to create value. These types of capitals are financial capital, manufactured capital, human capital, intellectual capital, natural capital and social and relationship capital. In particular, value is stored and expressed in reporting by reference to the language of the capitals. Climate change has significant potential to affect all of the six capitals and, in doing so, to affect the ability of an organisation to create value.

The capitals described in the IIRC Framework, are:

A. Financial capital:

The IIRC's Prototype Framework describes financial capital as:

The pool of funds that is:

- available to the organisation for use in the production of goods or the provision of services; and
- obtained through financing, such as debt, equity or grants, or generated through operations or investments.

Climate change can impact on the financial capital of a business in a number of ways:

- Expenses, costs and profitability may be affected by the introduction of market and regulatory approaches to mitigate climate change, such as carbon pricing and effects on commodities such as energy;

- Revenue may be disrupted due the direct effects of climate change such as flood damage to productive capacity, or indirect effects such as reduced sales due to negative consumer perception regarding products of the company;
- Access to capital may be affected by real or perceived risks to the business. Capital flight from a business is a real risk that must be addressed;
- Resource shortage or restriction could limit the way in which companies are entitled to make financial capital, for example from the use of natural capital. The capitals do not exist as separate "pools" – they are all interlinked within the same system. Therefore, regulatory action could affect all and any of the capitals and the way that they are used/ processed through the business model to generate financial capital; and
- Demand for more climate sensitive products and services also present opportunities for revenue generation and competitive advantage.

Entergy Cash Flow Impacted by Katrina

Hurricane Katrina hit Louisiana in August 2005. The storm killed 1 833 people and caused economic losses of \$75 billion in physical damage. The impacts of the storm were however much wider than these figures suggest. The storm impacted severely on the liquidity of energy company Entergy. On September 6, 2005, Entergy published the following statement: *"Entergy anticipates that this event (Hurricane Katrina) will influence the financial results of Entergy Corporation and of these operating companies although estimates of the effects are not available at this time. For example:*

- Revenues are expected to be lower due to extended outages, customer losses, and inability to bill and collect revenues for electricity previously delivered to customers whose property has been destroyed;
- Capital and other expenditures are expected to be higher due to the restoration, repair and replacement of damaged equipment and assets; and
- Regulatory mechanisms may be modified or created to provide for recovery of restoration costs and lost revenues in a more timely and complete manner than available under currently-in-place cost recovery methods.

The company was unable to send bills to its customers or to take meter readings following Hurricane Katrina. When it did get round to resuming normal billing, it had to make allowances for its customers' hardship. This experience has lead the company to transform itself to a point where it reported in its 2011 annual report: *"Our industry-leading storm response capability has been honed from years of experience, and the operational capability is now matched by efficient financial recovery and regulatory mechanisms put in place after hurricanes Katrina and Rita in 2005. We have also adapted in many other ways over the years, developing new technologies, improving processes and adding capabilities to better serve our customers, shareholders and communities."*

Entergy proceeds to say in the 2011 report: *"The business and financial landscape facing the utility industry is undergoing its own transformation. From volatile commodity price markets and ... potentially catastrophic risk from climate change, the future will offer unprecedented challenges. The issues we face at Entergy are no different. There is no place to hide. There is no "safe" path. The path we have chosen will not be easy. It will require outstanding execution; it contemplates an end-state that will create sustainable value for all stakeholders. At the same time, we believe we must be flexible and adaptable to bring our vision to reality."*

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Companies should analyse whether any of the assumptions made in their business and funding model could be impacted by climate change, and how such influences can affect the availability of capital to the business.

B. Manufactured capital:

The IIRC's Prototype Framework describes manufactured capital as:

Manufactured physical objects (as distinct from natural physical objects) that are available to the organisation for use in the production of goods or the provision of services, including:

- buildings
- equipment
- infrastructure (such as roads, ports, bridges and waste and water treatment plants).

The biggest climate change risk to manufactured capital is the risk of physical damage or destruction due to major climate change events such as floods, fires or hurricanes. There are, however, other impacts to consider, such as impairment to the operation of plant and machinery because of atmospheric conditions. For example, a food cold storage facility that is designed to operate under certain atmospheric conditions may fail in certain extreme temperatures that were not envisaged by the original design specification.

Another example could be the operation of telecommunications equipment that has strict operating temperature limits specified by manufacturers. There is also a risk that equipment may become outdated due to their energy inefficient design and may be in need of replacement before their intended end of life date, impacting both financial and manufactured capital.

Businesses must understand how their manufactured capital is exposed to climate change and explain how these risks are addressed.

Impact of Climate Change on Plant Design at Gold Fields

The company Gold Fields operates some of the largest and deepest gold mines in the world. They recognised the impact of climate change on the design of the chilling plants that form a central part of keeping the deep, hot mines cool enough to allow humane working conditions. The following is a statement from Gold Fields' CDP submission of 2012:

"Design parameters of all chilling plants have been changed and are now based on the results obtained from the climate change risk study done for Gold Fields by Climate Risk Management (Pty) Ltd. Chilling plants have now been designed to compensate for expected increases in temperature over the life of mines. The chilling plants at the Beatrix and KDC mine have been upgraded accordingly, with the South Deep upgrade still in process. New mines and expansions, such as the Beatrix-West expansion, are designed for higher wet-bulb temperatures based on actual or expected temperature increases."

Mondi water vulnerability

Mondi, a paper company explains its exposure to natural capital as follows in its corporate communications:

"Mondi is acutely aware that water is a critical global issue. The world's population is set to rise from 6.7 billion today to over 9 billion in 2050. This population increase will place a higher demand on water, particularly for agriculture and food production. Currently, some 70% of the world's freshwater withdrawals are for this purpose. At the same time, sea-level rises attributable to climate change will extend areas of saline groundwater and estuaries, decreasing available freshwater for humans and coastal ecosystems. Combine these two factors with rapid economic growth in developing countries and the fact that water is too often scarce, undervalued and wasted and the world is faced with an enormous water availability challenge."

The management of this natural capital is fundamental to the company's survival.

C. Human capital:

The IIRC Prototype Framework defines human capital as:

People's skills and experience, and their motivations to innovate, including their:

- alignment with and support of the organisation's governance framework and ethical values, such as its recognition of human rights,
- ability to understand and implement an organisation's strategies
- loyalties and motivations for improving processes, goods and services, including their ability to lead and to collaborate.

The World Health Authority and other organisations have published material on the likely effects of climate change on people including:

Health and well being - vulnerability to more infectious diseases, changes in nutrition due to reduced agricultural yield and the effects of environmental degradation. Impacts of climate change on human health may adversely affect livelihoods and workforces.

Motivation and loyalty – consumer and work force preferences may be altered by climate change. There is already evidence of societal demand for more corporate responsibility and accountability. The investment made by a number of European retail stores in offsetting the carbon footprint of imported goods is an example of action taken in order to maintain customer loyalty towards such goods in the face of increased consumer activism on climate change.

Education – Changing environmental, market, regulatory and societal conditions brought about by climate change are likely to demand more investment in education of workforces, technological development and innovation which may have both positive and negative effects on both financial and human capital.

D. Intellectual capital:

The IIRC Prototype Framework describes intellectual capital as:

Intangibles that provide competitive advantage, including:

- intellectual property, such as patents, copyrights, software and organisational systems, procedures and protocols
- the intangibles that are associated with the brand and reputation that an organisation has developed.

The relevance of intellectual capital to the challenges presented by climate change lies as much in the sphere of business opportunities as in risk. Climate change presents business with a discontinuity in its operating environment.

Companies that are quick to adapt will thrive and companies that are slow to adapt will lag and may even not survive. Intellectual capital with respect to climate change may create significant competitive advantage. The adaptive capacity of a company is directly dependent on its store of intellectual capital.

An example could be a company developing new technology that will reduce not just their own emissions but also that of the downstream users of their products. This will set the company uniquely apart from its competitors.

Companies should assess the intellectual capital required to respond to the climate change challenge and report on what it is doing to protect and expand this intellectual capital.

E. Natural capital:

The IIRC Prototype Framework describes natural capital as:

An input to the production of goods or the provision of services. An organisation's activities also affect, positively or negatively, on natural capital. It includes:

- water, land, minerals and forests
- biodiversity and eco-system health.

The physical risk to the natural capital available to an organisation posed by climate change is significant. All organisations should take sufficient care to understand this risk. Companies should report on what they do to understand and assess the risks to their natural capital and what they are doing to mitigate those risks.

Climate change will specifically impact on water and the water availability to businesses. It is important that reporting companies report on their vulnerability to water and the impacts of climate change thereon. Companies in a value chain that are dependent on agriculture or forestry should understand the change in ecosystem health, biodiversity and the associated regulatory changes.

The **Unburnable Carbon**¹⁰ report, published in 2011, gives an indication of the impacts that policies to limit climate change by reducing fossil fuel consumption could have on the world's stock markets.

The report analyses the amounts of carbon carried on the balance sheets of resource companies in the form of gas, oil and coal reserves. It then compares the carbon emissions embedded in those reserves with the global carbon "budget" required to prevent temperature from exceeding the agreed upon "safe" rise of 2 degrees.

The report concludes that if we are to remain within the budget, over two thirds of the reserves carried by energy companies cannot be burned. The report concludes with:

"Our report shows that fossil fuels appear to be overcapitalised. The capital markets have financed future fossil fuel development based on a false assumption: that what the corporate sector have asked investors to finance can actually be burnt."

¹⁰ Unburnable Carbon – Are the world's financial markets carrying a carbon bubble?, Carbon Tracker Initiative, www.carbontracker.org

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We believe this poses a large and currently unappreciated risk for the capital markets. In our view, the regulators charged with ensuring financial stability, tackling systemic risks and promoting long-term investment need to produce a common understanding of the financial consequences of unburnable carbon. We urge other stakeholders in the capital markets to give the regulators a strong message that they need to act to prevent the carbon bubble bursting."

F. Social and relationship capital:

The IIRC Prototype Framework defines this as follows:

The institutions and relationships established within and between each community group of stakeholders and other networks to enhance individual and collective well-being. Social capital includes:

- common values and behaviors
- key relationships, and the trust and loyalty that an organisation has developed and strives to build and protect with customers, suppliers and business partners
- an organisation's social license to operate.

Climate change is a prominent and relevant social issue. Failure to address it could result in damage to the social capital of the firm. Companies that do not address it may find that it impacts on their relationship with employees, suppliers, customers or regulatory authorities.

Companies should report on their climate change efforts in order to preserve social capital. Vulnerable communities should be identified across the value chain, and adaptive programs should be developed to strengthen the resilience of the whole value chain to climate change.

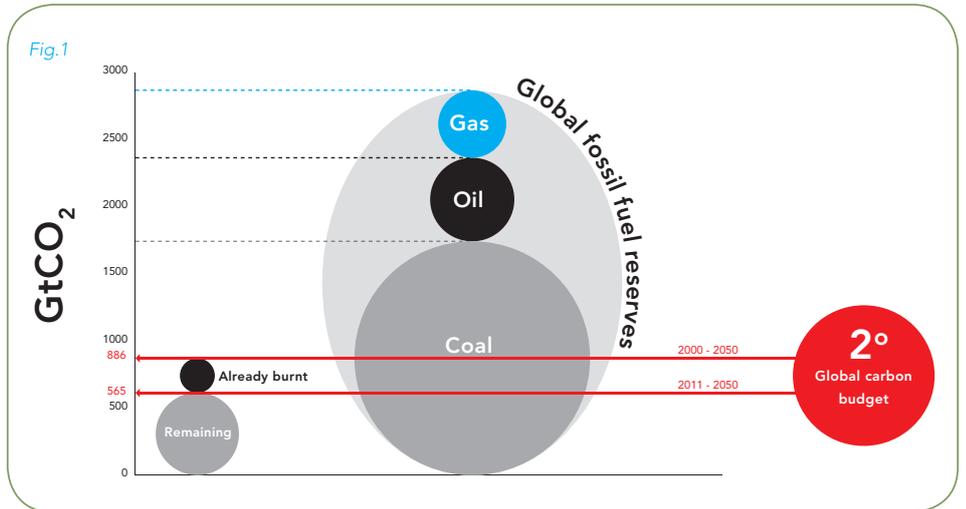


Figure 4: Unburnable Carbon Reserves (Source: Carbon Tracker Initiative)

Shell on Regulatory Relationships

Shell recognises that the relationship it has with societies, and specifically the regulators in society, will impact on its business through the imposition of laws and regulations as a result of climate change. The company states the following in their 2011 Annual Report:

"Growth in energy demand means that all forms of energy will be needed over the longer term. With hydrocarbons forecast to provide the bulk of the energy needed over the coming decades, policy makers are focusing on regulations which balance energy demand with environmental concerns. The management of carbon dioxide (CO₂) emissions – the most significant greenhouse gas (GHG) – will become increasingly important as concerns over climate change lead to tighter environmental regulation."

The relationship with society at large will be important for the future of the company as it may impact on the business in a negative way. The following is also from the Shell 2011 annual report:

"Currently enacted and proposed legislation is also expected to increase the cost of doing business. Shell, together with other energy companies, has been subject to litigation regarding climate change. We believe these lawsuits are without merit and are not material to Shell."

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THE BUSINESS MODEL

The IIRC framework defines the business model as “a system of inputs, value-adding activities and outputs that aims to create and preserve value over the short, medium and long term”.

Inputs

For Integrated Reporting purposes, inputs to a business model are to be understood in terms of the capitals (as already discussed). The IIRC Prototype Framework (paragraph 2.26) says:

To the extent that they are material to understanding the robustness and resilience of the business model, the integrated report should identify the key capitals on which the organisation depends or that provide a source of differentiation. The discussion provides a concise, yet meaningful, account of how these key inputs link to risk, strategy or financial performance (e.g. cost base).

The text above already indicates the way in which climate change affects the six capitals identified in the IIRC Prototype Framework. Based on the effect that climate change might have on capitals as inputs (for example natural resources) and also the way in which it will affect the demand for more climate sensitive outputs, some organisations are already looking at the way in which climate change will affect their business model and consequential ability to create value over time.

Reporting companies should indicate how climate change affects the quality and availability of each of their inputs and the way in which climate change or associated factors, such as regulation, might affect the company’s ability to add value to those inputs through its business model so as to generate outputs and outcomes.

Changes in the external environment brought on by climate change can significantly impact the acquisition, retention and growth of the capital required for the enterprise and this in turn can affect an organisation’s competitive position. Decision-making by readers of an Integrated Report or a climate change related report is likely to be enhanced by information that discloses whether and to what extent climate change or other factors have, or are likely to, affect the organisation’s competitive position and, if so, what measures the company is taking, including development of its business model.

Climate change could impact the cost, security of supply, and demand for inputs into a business. One of the biggest risks lies in the supply of energy and water. The next decade may well see fossil fuel-based energy priced out of the world economy. Allocation of scarce water resources is increasingly becoming a contentious issue when obtaining permits to operate, and companies must be prepared for this change. Other inputs may also be at risk. Amongst these would be energy intensive commodities, supplies that may depend on vulnerable logistic channels, and high risk items such as agricultural crops.

THE BUSINESS MODEL

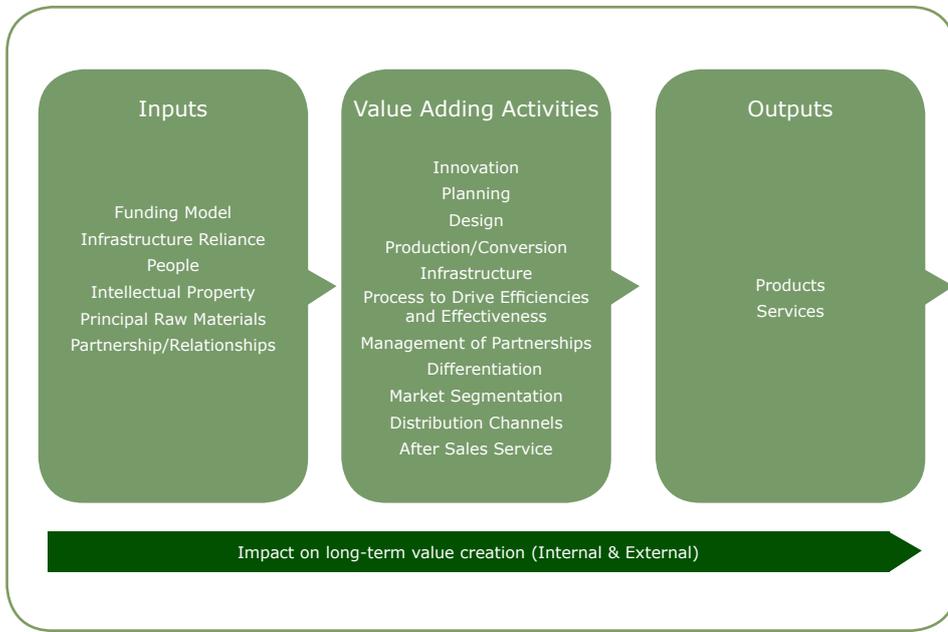


Figure 5: IIRC Business Model (Source: IIRC)

Creating and preserving value

The IIRC Prototype Framework says the following about creating and preserving value:

What an organisation does to transform inputs into valuable outputs is at the heart of the business model. These value-adding activities include the design and production of products that satisfy market needs or services that provide solutions to customer problems. Some business models are based on making suitable infrastructure available for use by other service providers.

The creation of value by and for a company depends on a number of issues that could be impacted by climate change.

Product designs may become obsolete due to high energy consumption or shifting consumer preferences. A business must be aware of such threats to its operations. They must be identified as early as possible and mitigation or adaption plans should be put in place.

It is also possible that significant opportunities as well as risks can be presented by climate change, for example through the development of renewable energy technologies.

The integrated report must articulate the planning and actions of the company with respect to how the company creates value in the changed environment.

BP Biofuels Business Model

BP has identified a need to build a business in Biofuels. Their 2011 Annual Report says the following:

"BP believes that it has a key technological role to play in enabling the transport sector to respond to the dual challenges of energy security and climate change. We have embarked on a focused programme of biofuels development based around the most efficient transformation of sustainable and low-cost sugars into a range of fuel molecules. BP continues to invest throughout the entire biofuels value chain, from sustainable feedstocks that minimise pressure on food supplies through to the development of the advantaged fuel molecule biobutanol, which has a higher energy content than ethanol and delivers improved fuel economy."

SKF on Creating Value

SKF is integrating the demands of climate change on modern business, into an innovative way of operating the company. The company describes their unique approach in their 2012 Investor CDP disclosure:

"SKF is working towards the implementation of environmental life cycle management (LCM) within the Group, with the objective to include environmental implications (including climate change) in key decision making processes. LCM requires that environmental questions are integrated into existing processes, rather than handled as a separate issue, and this is very much our objective. In 2006 we established a central team to start to understand how we could do this, develop the tools, training etc., 2011 was an important year for the implementation of 'design for environment' solutions within the design / development process which will allow our product designers and developers to understand and evaluate environmental impacts (such as climate change) and develop solutions which minimise these for our customers and in our own supply chain. We shall work through the key processes (sales, purchasing, capital equipment, logistics etc.) and implement similar integrated solutions which allow our decision makers to understand risks and opportunities related to environmental issues such as climate change."

"The BeyondZero strategy influences SKF's development of products and solutions as well as the way in which these products and solutions are produced and distributed to our customers, taking the entire Life Cycle of the products and services into account. Already in the company's product development, SKF is referring to the mandatory Environmental Design Guidelines (released in 2010), in which there is a simplified LCA process for determining the environmental impact, including global warming, from extraction of raw material, design and production, packaging and distribution, use and maintenance and end of life. By following the guidelines the designer must consider possible measures which may: reduce material input, select materials wisely, reduce impact from production, reduce emissions of hazardous substances during usage, reduce material use during usage, reduce energy during usage, optimise service life, reduce waste and optimise reusability."

Broadcom's Products Reduce Greenhouse Gas Emissions

Broadcom made the following statements with respect to the products they develop in the 2012 Investor CDP:

"With the breadth of Broadcom's advanced product portfolio, the company is able to drive innovative products to market while reducing negative impacts on human health and the environment. For example, the proprietary Auto-GrEEEn™ technology, allows system designers to quickly implement the Institute of Electrical and Electronics Engineers standard, reducing power consumption in the physical layer of the network by at least 70%. This could reduce CO₂ emissions in the U.S. alone by up to 2.85 million metric tons. Over time, more than \$7.8M has been invested in R&D in energy efficient Ethernet technology by Broadcom and will continue to be a priority in the future."

Outputs

The IIRC Prototype Framework indicates the following with respect to the outputs of the business model:

The aim of this element of the business model description is to allow the organisation to explain the key products and services that it places in the market as well as other factors such as:

- Key partnerships and relationships with intermediaries;
- How the organisation approaches market segmentation, who are the target customers and to what extent are different market offerings aimed at different potential customers;
- The business model assumptions, such as those regarding volume/margin considerations;
- The channels used to communicate with potential customers and deliver market offerings; and
- The extent to which the business model relies on after point of sales revenue generation, whether that is through extended warranty arrangements or network usage charges.

The relevance and impacts of climate change on the outputs of a firm will be dictated by the nature of the output and the exposure thereof to climate change impacts. In certain cases markets may be destroyed or created due to climate change or the perception of climate change related risks and opportunities by the market. Businesses must be able to identify these shifts and modify their business models to address these shifts.

03

GUIDING PRINCIPLES

The IIRC Prototype Framework sets out a list of Guiding Principles according to which the reporting should be done. The links between these principles and climate change are described over the following pages.

A. Strategic focus and future orientation

The IIRC Prototype Framework (paragraph 3.2) says:

An integrated report should provide insight into the organisation's strategy and how that relates to its ability to create and preserve value in the short, medium and long term and to the organisation's use of and effects on the capitals.

Climate change represents a discontinuity in the environment in which all companies operate. This includes the physical, regulatory, commercial and social environments. The changing environment dictates that the strategy of the company should be re-considered to understand the impacts of these changes.

The reporting company should show that it has grasped the changes in the environment and understands the impact thereof on the business. It should show that it has developed strategies and plans to address the issues and that these strategies and plans are implemented and operational. These strategies should indicate that the company has assessed and is aware of how the changes in the physical environment will impact on the business; highlighting risks and opportunities directly linked to climate change. As severe climate change impacts have very

long term impacts, the strategy has to have a long term view.

Climate change impacts a number of issues¹¹ such as the organisation's short and long term objectives, competitiveness, risks and opportunities.

For example; climate change impacts on the availability and affordability of the company's resources, and strategic action plans need to be in place to mitigate the risks and make the most of the associated opportunities.

Climate change represents a change in the future environment of the company in a way that is not consistent with the past environment. Human nature leads us to plan for the future based on past experience and this cannot be done any longer. The report should show that the company understands the change in planning requirements and has taken steps with respect to issues such as the balancing of short and long term objectives, and identification of critical barriers, challenges and enablers. The analysis of the sustainability of the company's business model in the context of the changing environment is important.

In addition, a company should assess whether their response to climate change will impact on its competitiveness and reputation.

UPS Strategic Focus Influenced by Climate Change

UPS reports in the 2012 Investor CDP that their business strategy is informed by climate change:

"UPS's business strategy has been influenced by climate change. Reducing fuel & energy consumption and adopting low carbon fuels is a UPS business imperative. UPS's business strategy involves optimising the processes that consume non-renewable resources through improved systems, procedures, equipment, and processes such as using transport network optimisation to minimise miles driven/flown; developing technologies to reduce dependency on fossil-based fuels; implementing energy conservation via facility design, best practices, renewable energy, and retrofitting; promoting technology, behavioral and engineering-based approaches to address UPS's and its customers environmental footprint and enhancing internal and external communications and reporting processes."

There are parallels with requirements under the CDSB Framework for making disclosures about strategic analysis. The CDSB Framework says (paraphrasing paragraphs 4.3 – 4.8) that:

"Disclosures shall include strategic analysis, risk and governance ... covering both:

- The impact of climate change on the organisation's long-term and short-term strategic objectives; and (This links climate change reporting with the IIRC Framework's requirement to report on how the organisation's strategy relates to its ability to create and preserve value over the short, medium and long term)

- The organisation's long-term and short-term strategies to address climate change, including GHG mitigation and adaptation to physical risks to address climate change.

Disclosures about strategic analysis shall include a statement about the long-term and short-term impact climate change actually and potentially has on the organisation's strategic objectives including:

- Whether or not management perceives that the implications of climate change already, or will in future, impact the organisation's business strategy;
- A description of how management has identified climate change-related issues (to report) that are of most relevance for the organisation and are most useful for investors;
- An analysis of the implications of climate change for competitiveness, access to resources, financial performance and financial condition;
- The strategic implications of climate change for resources and innovation, such as the development of new technologies, brand value and reputation, consumer confidence and employee loyalty; and
- Any significant change in the organisation's position on climate change since the last report and an explanation of the reason for the change.

Disclosures should include details of the current and future financial implications associated with climate change strategies, risks and GHG emissions including those affecting capital and operating expenses, liquidity, commitments, liabilities or revenues. Where it is not possible to quantify financial impacts, estimates together with qualitative information, may be provided in the form of ranges based on stated assumptions or scenarios.

Disclosure is useful where it connects the information that management uses internally for decision-making purposes with what is provided externally to investors for their decision making."

The extracts from the CDSB Framework mirror the concepts in the guiding principles section of the IIRC Prototype Framework as illustrated in Table 2.

	CDSB Framework	IIRC Prototype Framework
Strategic focus	Yes (4.3 – 4.8)	Yes (3.2 – 3.6)
Description of strategy	Yes	Yes
Risks and opportunities	Yes (4.9 – 4.11)	Yes (3.3)
Balancing short and long term interests	Yes (4.4)	Yes (3.3)
Future looking/ orientation	Yes (2.16 and 4.14)	Yes (3.4 – 3.6)

Table 2: Comparison of CDSB Framework and IIRC Prototype Framework

¹¹ Climate Change Reporting Framework – Edition 1.1, Climate Disclosure Standards Board, October 2012

GUIDING PRINCIPLES

B. Connectivity of information

Paragraph 3.7 of the IIRC Prototype Framework says that:

An integrated report should show, as a comprehensive value creation story, the combination, inter-relatedness and dependencies between the components that are material to the organisation's ability to create and preserve value over time.

It is important to understand that climate change impacts all aspects of a business and the resources and relationships on which the business depends. It should be indicated by the disclosure that a company understands this, and that the critical linkages have been made to ensure that the full impact and extent of the changing environment have been acted upon. The impact of climate change needs to be quantified to link back to the company's financial performance. Furthermore, acting on climate change can result in benefits beyond financial returns, such as improved customer behaviour and reputation.

The CDSB Framework also requires disclosures that reflect the interaction (i.e. connections) between management's judgment, the requirements and characteristics of the Framework and the facts and circumstances of the organisation.

C. Responsiveness and stakeholder inclusiveness

The IIRC Prototype Framework says that:

An integrated report should provide insight into the quality of the organisation's relationships with its key stakeholders and how and to what extent the organisation understands, takes into account and responds to their legitimate needs, interests and expectations.

Different stakeholders will be impacted in different ways and it is important to understand and communicate these impacts. The reporting should show that these impacts are understood and addressed. The impacts on some stakeholders are obvious and can easily be identified.

One such example is that the value of investors can be at risk. Other impacts are less obvious and need to be analysed in order to be clearly understood and reported on. The exposure of the suppliers of a business to climate change risks can be very opaque but still significant. The vulnerability of stakeholder communities requires a thorough evaluation.

Companies should report on how the different stakeholder groups are impacted and what the strategies are to manage these impacts. This possible influence on the relationships should be clearly communicated.

BHP Billiton on Connecting Information

Marcus Randolph, Group Executive and Chief Executive Ferrous and Coal at BHP Billiton connects the information about climate change risks and vulnerabilities with his company's ability to create value in the following statement:

"As we see more cyclone-related events... the vulnerability of one of these facilities to a cyclone is quite high. So we built a model saying this is how we see this impacting what the economics would be and used that with our board of directors to rebuild the facility to be more durable to climate change... If cyclone Yasi had hit Hay Point, we would have lost that facility. So it is a recognition that as these cyclones become more severe, we need to have facilities that are more able to withstand them."

He continues: *"In a carbon constrained world where energy coal is the biggest contributor to a carbon problem, how do you think this is going to evolve over a 30- to 40-year time horizon? You'd have to look at that and say on balance, I suspect, the usage of thermal coal is going to decline. And frankly it should."*

D. Materiality and conciseness

The IIRC Prototype Framework says that:

An integrated report should provide concise information that is material to assessing the organisation’s ability to create and preserve value in the short, medium and long term.

Similarly, the CDSB Framework states (paragraph 3.24) that materiality should be applied as a guiding principle of disclosure in order to “provide a workable filter on information, allowing investors to see major trends and significant events related to climate change that affect or have the potential to affect the company’s financial condition and/or its ability to achieve its strategy.”

The IIRC Prototype Framework states that the determination of materiality involves:

- Identifying relevant matters;
- Assessing the significance of those matters in order to determine their ability to influence or change decision-making; and
- Prioritising the matters identified.

Integrated reports should, therefore, include climate change issues if they are both relevant and significant to a company. Relevance is easier to assess than significance. For example, where there is a potential impact on the supply chain or distribution network of a business. It is easy to identify that such a potential disruption is relevant to the business – interruptions in the supply chain will cause interruptions in the operations and this could lead to loss of profits.

The significance is however more difficult to assess. Significance is determined by reference to both the estimated magnitude of impact of an event and its likelihood of occurrence. This is difficult to assess given uncertainties about the timing, location and magnitude of climate change effects.

Corporate (or any) activity and climate change itself can have impacts far beyond those anticipated or capable of observation by the organisation itself. The full extent of the so-called “butterfly effect” and the connections between corporate activity and climate change cannot be fully known or assessed by an organisation. The extent to which an organisation can assess and communicate the connections between their activity and climate change therefore has practical limitations.

When reporting on climate change, it is appropriate for an organisation to draw a boundary around elements and interactions that are most relevant to their business model and strategy and, therefore,

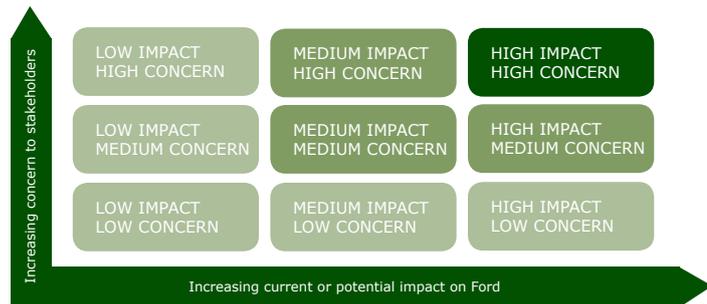
to the way in which the organisation expects to create value over time. Furthermore, reports should disclose any significant assumptions and estimates made by management in its disclosures about climate change, together with possible risks so that intended users understand the limitations of the connections that it is possible to make.

Integrated Reporting relies on users of information to assess the wider impacts (beyond the organisation’s sphere of knowledge, control and influence) of risk on a company. The organisation’s disclosures through Integrated Reporting should communicate to users whether, within the boundaries it has drawn and the assumptions it has made, the conditions are right for value to continue to be created over time.

Companies should, therefore, take great care in the assessment of these risks and exercise judgment on the materiality of these issues.

Materiality of Climate Change for Ford

Ford identified 14 material issues in the High Impact, High Concern quadrant of its materiality matrix:



Nine of the fourteen items focus on climate change-related issues. These include vehicle emissions, fuel economy, vehicle electrification, GHG regulation, water strategy, product competitiveness, sustainable mobility, supply chain environmental sustainability and sustainable raw materials.

GUIDING PRINCIPLES

E. Reliability

The IIRC Prototype Framework says that:

The information in an integrated report should be reliable.

The reliability of carbon and climate change information must be assessed for both qualitative and quantitative information.

Similarly, the CDSB Framework (paragraphs 3.13 – 3.19) requires that climate change related disclosures should be faithfully represented. This is defined in the same way as “reliability” for Integrated Reporting purposes as representing information that is complete, neutral and free from error.

As the CDSB Framework says, climate change-related disclosures are generally made under conditions of uncertainty and may be based on estimates and management’s judgment. It follows that, in the context of climate change-related reporting, reliability or faithful representation does not imply total freedom from error. However, reliability may be achieved by ensuring that sufficient information is provided about the nature and degree or omissions, assumptions and uncertainty and by basing estimates on appropriate and neutral inputs that reflect the best available information. It may also be necessary to disclose explicitly the degree of uncertainty in the reported information.

Although reliability is different from assurance or verifiability, the two are often conflated. Organisations like the CDP are currently placing great emphasis on the verification of quantitative carbon emission data. Unfortunately, accreditation for the verification of carbon and climate change matters is still under development and issues, such as the competency of auditors, remain unaddressed in many countries. In South Africa, carbon and climate change auditors are accredited in terms of ISO-14065.

Reporting of greenhouse gas data should clearly state the type of verification and the level of assurance that has been done and the plans to increase the level of confidence over time.

F. Comparability and consistency

Paragraph 3.53 of the IIRC Prototype Framework says:

The information in an integrated report should be presented in a way that enables comparison with other organisations to the extent it is material to the reporter’s own value creation story, and on a basis that is consistent over time.

The CDSB Framework also calls for comparability and consistency of reporting. Paragraphs 2.12 and 2.13 require that disclosures shall be made on a consistent basis to enable a level of comparability between reporting periods, organisations and sectors. The Framework defines comparability as the quality of information that enables users to identify similarities in, and differences between, two sets of information. Consistency refers to the use of the same policies and procedures either from period to period within an entity or in a single period across entities.

The handling of carbon and climate change information and data with respect to comparability and consistency represents a huge challenge in Integrated Reporting. The challenge in comparability, particularly for users of reports, relates to the lack of common reporting principles and approaches. Therefore the CDSB Framework recognises in paragraph 2.15 that “in the early year of its adoption... comparability of information...between enterprises and sectors may be limited pending development of disclosure approaches and practices.” However, it goes on to encourage comparability over time which depends primarily on consistency of approach year on year, including consistent reporting of performance measures and indicators over time according to consistently applied standards and policies.

Through its Framework¹² and “Consistency Project” CDSB seeks to encourage greater consistency of approach to reporting and, where possible, to align it with relevant aspects of financial reporting. Together with the OECD and UNCTAD, CDSB has produced “The Case for Consistency in Climate Change Reporting” which analyses the different protocols, frameworks and approaches to climate change-related reporting around the world and their practical and technical implications for reporting organisations and users of information alike.

Comparability, both within and outside of an organisation, requires a standard set of metrics and a common methodology of implementing those metrics. Whereas great progress has been made in the last decade with respect to the development of standards and guidelines such as ISO-14064 and the GHG Protocol, there are still huge gaps in the consistent implementation of these standards and guidelines.

Consistent reporting requires a consistent frame of reference as well as consistent standards and guidelines. The standards and guidelines with respect to quantitative GHG data are reaching a good level of maturity, but the same cannot be said for the qualitative climate change information. The most mature framework for such reporting is the CDP, but the application of the CDP is limited to major listed companies.

Reporting of, and against, benchmark data in the climate change space is difficult as many industry players construct benchmarks that benefit their specific operations and may be less applicable to their competitors.

04

CONTENT ELEMENTS

The relationship and influences of carbon and climate change issues on the Content Elements of the Integrated Report are being explored.

A. Organisational Overview and operating context

Paragraph 4.5 of the IIRC Prototype Framework says:

An integrated report should answer the question: what does the organisation do and what are the circumstances under which it operates?

A high level overview should be provided that describes the organisation's business model exposure to climate change issues. The importance of the business model in Integrated Reporting lies specifically in the creation of long-term value, and this is where the impact of climate change is the biggest. The discontinuity in the business environment created by climate change will impact most on the long-term value and sustainability of the business.

Climate change will impact a number of components of the business model, including risk and opportunities with respect to its principle activities and markets, value drivers and stakeholder dependencies, and on its internal and external risks. All of these aspects should be described in the Integrated Report. This has been described in detail above.

B. Opportunities and risks

An integrated report should answer the question: what are the key opportunities and risks that the organisation faces? (IIRC FW para 4.15)

Similarly, paragraphs 4.9 and 4.10 of the CDSB Framework require disclosures about risks and opportunities associated with climate change. The CDSB Framework lists risks as including:

- Regulatory risks and opportunities from current and/or expected regulatory requirements, including known or expected effects of:
 - GHG emissions limits;
 - Energy efficiency standards;
 - Carbon taxation;
 - Process or product standards; and
 - Participation in GHG trading schemes.
- Risks and opportunities from the physical effects of climate change including known or expected effects of:
 - Changing weather patterns;
 - Sea level rise;
 - Shifts in species distribution;
 - Changes in water availability;
 - Changes in temperature; and
 - Variation in agricultural yield and growing seasons.
- Reputational risks and opportunities;
- Litigation risks and opportunities.

Other risks include climate motivated consumer perception shifts.

An Integrated Report or mainstream disclosure about climate change therefore needs to show the reader that the systems are in place to integrate the evaluation of climate change risk with its normal risk management procedures, and that this is successfully implemented.

¹² <http://www.cdsb.net/climate-change-reporting-framework/>

CONTENT ELEMENTS

C. Strategy and resource allocation plans

An integrated report should answer the question: where does the organisation want to go and how does it intend getting there?

Similarly, the CDSB Framework calls for disclosure about the long-term and short-term impact climate change actually and potentially has on the organisation's strategic objectives including:

- Whether or not management perceives that the implications of climate change already or will in future impact the organisation's business strategy;
- A description of the way in which management has identified climate change related issues that are of most relevance for the organisation and are most useful for investors;
- An analysis of the implications of climate change for competitiveness, access to resources, financial performance and financial condition;
- The strategic implications of climate change for resources and innovation, such as the development of new technologies, brand value and reputation, consumer confidence and employee loyalty; and
- Any significant change in the organisation's position on climate change since the last report and the reason for that change.

Climate change will cause a number of discontinuities in the internal and external environment in which the organisation operates that will impact on its short, medium and long-term strategies. The Integrated Report needs to show that the company understands where these discontinuities will most likely occur, and what the impact thereof on its business will be. It must show that the changing environment due to climate change has been considered in the annual updating of the company's strategy and that the mechanisms exist to implement any changes in strategy that may come about as a result of the analysis.

D. Governance

An Integrated Report should answer the question: what is the organisation's governance structure, and how does it support the organisation's ability to create value in the short, medium and long-term?

Similarly, the CDSB Framework requires that companies should describe the governance processes and organisational resources that have been assigned to the identification, management and governing body oversight of climate change issues.

The impact that climate change has on the physical, regulatory and commercial environments in which a company operates is significant enough to warrant attention at the highest level in that company. The report should indicate where the highest level of responsibility lies and what the governance and compensation structures are to support this.

The CDSB Framework calls for:

- A description of how responsibility for climate change is delegated and how executives are held accountable for and/or rewarded for implementation of the organisation's climate change strategy;
- The nature and reliability of the underlying information and control systems used in tracking GHG emissions information and providing climate change-related disclosures; and
- Whether the organisation's climate change information is subject to the same governance processes and disclosure controls as are used for other financial reporting information.

E. Performance and outcomes

An integrated report should answer the question: how has the organisation performed against its strategic objectives and related strategies?

For climate change-related reporting purposes, performance is often assessed according to targets and plans agreed by management on GHG emissions reduction, energy efficiency and diversification, managing reliance on fossil fuels and so on. Movements in GHG emissions results over time are also relevant to determining an organisation's performance and therefore the reasons for any movements should be disclosed and explained.

For Integrated Reporting purposes, climate change issues should be integrated in the key performance and risk indicators of the company. Progress against these indicators should be reported. Aspects to be included are the nature of the greenhouse gas emission reduction plans and targets, timescales for implementation and progress against these measures.

F. Future outlook

An integrated report should answer the question: what opportunities, risks challenges and uncertainties is the organisation likely to encounter in pursuing its strategic objectives, and what are the potential implications for its strategies and future performance?

The impact of climate change on the opportunities, challenges and uncertainties of the business should be reported. Issues such as the resilience to shocks, balancing of short, medium and long-term objectives and treatment of uncertainties should be addressed.

05

CONCLUSION

Corporate reporting requirements are developing fast. Regulators, standard setters, stock exchanges, non-governmental organisations and others are steadily introducing new information requirements.

In many cases, those new requirements seek to address problems of short-termism, over-exploitation of natural resources and changing societal expectations of corporations as financial and other crises engender distrust.

Climate change and Integrated Reporting also seek to address these and other issues by encouraging disclosures that consider the implications of corporate activity on all forms of capital over the long-term. A level of consensus has now been reached that puts the materiality of climate change for business beyond doubt.

At the World Economic Forum meeting in January 2013, Christine Lagarde described climate change as “the greatest economic challenge of the 21st century”. At the same meeting Lord Nicholas Stern

warned that “the planet and the atmosphere seem to be absorbing less carbon than we expected and emissions are rising pretty strongly. Some of the effects are coming through more quickly than we thought...”.

The effect of climate change, including the way in which it will affect all forms of capital, is therefore relevant to any business today and is likely to result in material affects for some. Businesses across many sectors will therefore be looking to increase disclosures about climate change in their integrated report.



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