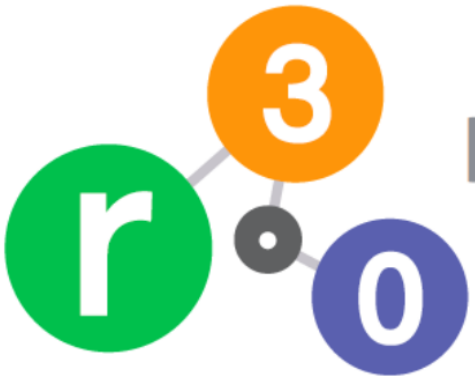

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Reporting 3.0 Platform
Blueprint Series 2016/2017

Blueprint 2: Accounting

The Blueprint for New Accounting:
Laying the foundations for Future-Fit Reporting

White Paper | Exposure Draft 2 | 12 February 2018

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Blueprint 2: The Blueprint for New Accounting

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1. Executive Summary

In late 2017 we asked members of the 3.0 Accounting Working Group (AWG) to state their vision for accounting twenty years from now.Their feedback reflected concern about three themes: *numbers* (capturing multicapital value and impact, future trends and alternative financials), *approach* (principles, business model dynamic and process, meeting the needs of shareholders, stakeholders, society), and *resources* (standards, methodologies and information technologies). These themes run throughout the Accounting Blueprint, developed through research and exchanges over twelve months. It describes a new state of affairs twenty years onwards, one with the following features:

- New accounting is a **comprehensive discipline** that comprises three subdisciplines: financial accounting, management accounting and sustainability accounting. It captures the creation of value in different forms, recognizing the use of different capitals. Some may refer to it as multicapital, integrated or intercapital accounting.

- The comprehensive discipline is practiced by "**accountants**", referring to financial accountants, management accountants and sustainability accountants. All these accountants can be "professional" – i.e. obtain a professional qualification to obtain some recognized credential or designation such as being "chartered".

- Accounting is about more than only book keeping and reporting. It provides information for managing organizational health, impact performance and direction, including past, present and future-oriented information. It lays the **foundation** for analyzing, communicating and disclosing information in various forms. The aim is to provide relevant information for decision-making that is appropriately informed, strategic and accountable. The overall goal is transformation towards green, inclusive and open economies, including healthy, responsible and accountable organisations.

- New Accounting operates on the basis of a common set of **principles**, Recognised Comprehensive Accounting Principles (RCAP) that build on principles developed in the past by its subdisciplines with financial, management and sustainability accounting and reporting in mind. While the subdiscipline principles will still be applied, the comprehensive accounting principles are more holistic, shaped to facilitate integration and enabling context-based understanding of diverse capitals and drivers behind intertemporal value.

- Core accounting information, namely **accounting statements**, look very different from mainstream financial statements of the early 21st century. They reflect integration, presenting monetary, quantitative and qualitative information in a manner that merges mainstream and alternative statements experimented with in the early 2000s.

- Companies are producing **multilayered income statements** (P&Ls), delivering the Statement of Full Comprehensive Income. This statement tracks current year costs and benefits. It includes not only economic value added based on financial

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transactions, but also internalities and externalities in the form of economic value added / destroyed bas ed on employee, social, environmental and societal impacts.

- Companies also produce **expanded balance sheets**, namely the Comprehensive Statement of Financial Position. The latter puts human capital and other capitals, including intangible ones, on the balance sheet. A company uses this two-layered balance sheet to outline its understanding of what comprises the difference between its book value and market value, providing estimated values of diverse capitals. Such estimations are determined through the use of recognized methodologies.

- Considering what their balance sheet and **risk position** may look like twenty years onwards, based on scenario planning, companies also produce the Statement of Long-term Risks and Estimated Value of Assets and Liabilities. In this statement a company provides a brief narrative on risks that its key assets (including human capital, intellectual capital, social capital and natural capital) are likely to face twenty years onwards, a brief narrative on likely implications for its liabilities, as well as monetary indication of the estimated values of such assets and liabilities twenty years onwards. The statement considers both own assets and other assets on which the organization is significantly dependent.

- New accounting statements are accompanied by **narrative text**, shaped to target priority stakeholder audiences through different forms of disclosure (including reports and digital communications). Narrative reporting provides a more holistic understanding of business model logic, multicapital context and value creation process, integrated risks and opportunities as well as quality of management enhanced through sound corporate governance. It adds meaning and clarity to the numbers presented in statements.

- In managing their comprehensive and integrated accounting systems, companies have **integrated accounting departments** where financial accountants, management accountants and sustainability accountants operate under the same roof (i.e. all three areas of expertise in the same department).

- Delivering **education** of the accountants of tomorrow, universities host faculties where the three subdisciplines of financial accounting, management accounting and sustainability accounting fall within the same comprehensive accounting department. Accounting is not fragmented across diverse departments (such as business economics, environmental accounting and social accounting). Accounting courses covering different capitals are aligned and support integrated thinking.

- Professional associations and **standards** bodies collaborate in improving alignment and integration across the subdisciplines of accounting. In doing this, they are supported by regulatory bodies, investors and other key accounting information user groups focused on a long-term understanding of value creation that is communicated in financial and multicapital terms.

Considering ways of getting to this new state of affairs, each chapter and the conclusion provides recommendations and an organization process flow chart for the way forward.

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2. Introduction, direction and contributing fields

2.1 A new measure of wealth and value creation

As is the case with economics, the discipline of accounting is seen by some as primarily describing a state of affairs and by others as having a normative function, enabling the accomplishment of some ideal state of affairs. In this blueprint accounting is approached as a discipline that provides a systematic description of a state of affairs, which at the same time presents a certain framing and analysis of events that enables progress towards some preferred state of affairs. That desired state of affairs traditionally refers to “wealth” and “value”, with special reference to the wellbeing and health of individuals or organisations. In the work of Reporting 3.0, that ideal state is a green, inclusive and open economy, made up of, among others, healthy, responsible and accountable organisations. With this overall vision statement comes a strong appreciation of the role of financial markets, business, standards and holistic management approaches to factors such as risk and opportunity in reaching a transformed state of affairs.

Adam Smith described wealth as being about "the annual produce of the land and labour of the society" (*The Wealth of Nations*, 1776). Today, based on decades of assessment and advanced information and communication technologies, we know more than ever (i) what the state of the land, labour and society looks like on a global scale, and (ii) that we face worrying and unsustainable trends related to the way we use our natural, human and societal resource base, the health of different kinds of capital as well as the ways in which we organize our economies and enterprises.

These trends are highlighted in Blueprint 1 of Reporting 3.0, reflecting on the role of reporting in interconnecting the micro (company), meso (sector, portfolio, and habitat), and macro (economic, social, and ecological) systems levels through clarified purpose, proper success measurement, and scalability of necessary transformation. Blueprint 3 on Data also highlights related trends in the use of information technologies, in how far innovations such as Artificial Intelligence can help us transform and how best to cope with a fragmented yet connected world of Big Data and over 1 billion websites.[1] Blueprint 3 calls for seamless data flows that interconnect ultimate means of Natural Capital with the ultimate ends of wellbeing, in information systems that integrates the multiple capitals, contextualizes impacts on those capitals within their carrying capacities, and activates necessary responses to catalyze transformation toward thriveability.

In addressing the role of accounting, this Blueprint considers an ideal state where wealth signals a certain quality of health and wellbeing, in other words not wealth as simply the possession of material goods and money. Enabling progress towards that preferred state, the discipline of accounting among others documents exchanges in materials and money. But accounting allows this to be framed and analyzed in a manner that facilitates the development of enterprises, markets, economies and societies that are not only sustainable but can thrive, using scare and precious resources optimally. The Accounting Blueprint sets out to investigate this role of accounting. Asking what New Accounting could look like 20

[1] “Hedge Funds see a Gold Rush in Data Mining”, *Financial Times*, 28 August 2017, https://www.ft.com/content/d86ad460-8802-11e7-bf50-e1c239b45787

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years from now, it seeks to define a new approach to accounting that defines value that is intertemporal and represents diverse kinds of interconnected values.

Accounting is not simply about record keeping, processing numbers and delivering accurate data. But while there may be agreement today that accounting has a broader purpose, there is no obvious consensus on what that purpose is. It may be the generation of information that is "decision-useful", but useful for whom and for what type of decision-making? In as far as it is about private economic and for-profit decision-making, is it all about value in the form of net income or return on investment? In the last century, it has often been assumed that the central purpose of accounting is income determination, based on the assignment of expenses and revenues to fiscal periods. Should enterprise income really be the "centre of gravity" of organizational accounting? Like the shortcomings of "GDP growth", tracking enterprise income as desired meter reading of growth or decline is problematic, among others due to what is counted or not counted in calculating income as well as the tendency to focus on the short term and not the longer-term future (Rutherford 2016).

It remains to be seen therefore how accounting can accommodate broader notions of value creation, value creation that reflects the efficient use and quality of diverse capitals with a longer-term perspective, value creation that reflects an integrated approach to long-term risk and opportunity management. This challenge for mainstream accounting and experimentations in alternative forms of accounting will be explored in the Accounting Blueprint. In doing this, it will examine ways in which accounting can capture often unrecognized value and effectively address the financial and non-financial drivers behind true value. The blueprint will address a new, integrated approach to how accounting can systematically document and strategically analyse different types of financial and non-financial data. It will also consider how a new approach to accounting can complement quantitative statements with qualitative narrative that addresses strategic and organizational questions related to value proposition, business model, governance, organizational culture and leadership.

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2.2 Blueprint structure

Having stated a new purpose for accounting, this Blueprint starts by defining "New Accounting" and providing an overview of its constituent subdisciplines, namely financial accounting, management accounting and sustainability accounting. The overview of its subdisciplines signals what strengths and weaknesses they have, providing background for the definition of a more comprehensive, aligned and integrated discipline. It notes the arrival of multicapital accounting, signaling a more integrated approach that considers the use of diverse resources by organisations, the interrelated consequences of their use, as well as a new focus on dynamic, drivers and resultant value creation or value destruction.

Our chapter 3 with its focus on Purpose and Foundations is followed by chapter 4 on principles for determining the Content and Quality of accounting-based disclosures. Chapters 5 and 6 delve into the content by addressing Statements and Narratives. Chapter 4 provides an overview of accounting and reporting principles found today in financial and non-financial accounting and reporting standards. Comparing these, it suggests what could

be a consolidated set of principles of New Accounting. It further examines two fundamental and related principles, namely that of recognition and materiality. Many would argue that materiality or more broadly relevance lies at the heart of improving the usefulness of accounting and reporting. The interpretation and application of recognition in appropriate context has important implications for the way in which relevance or materiality is approached. This includes reflection on the strengths and weaknesses of an approach that relies on monetization or financial valuation.

Chapter 5 revisits mainstream financial statements and considers how they may be adjusted to reflect multicapital dimensions and more integrated presentations of value. It focuses on the income statement (P&L) and statement of financial position or balance sheet. It highlights recent experimentations with alternative versions of these statements, such as green or integrated P&Ls, and suggests ways in which New Accounting will represent the next step of incorporating the findings of such statements in new mainstream statements. By doing this, chapter 5 tests the boundaries of converging different types of non-financial and financial data and integrating them into comprehensive sum totals.

Mindful of the shortcomings of quantified approaches and presenting numbers in isolation, chapter 6 tackles Narrative Reporting. It highlights recommendations from existing accounting and reporting standards on what should be the content and structure of narrative disclosures that complement quantitative statements. It explores progress with reporting on key items such as strategy, business model, risks and governance, considering the extent to which financial and non-financial commentary related to multicapital dynamics are fragmented or integrated. Building on recent experience with integrated reporting <IR>, it suggests what would be key features of disclosure narratives based on New Accounting systems.

Chapter 7 addresses Disclosure Timeframe, Aggregation and Strategic Outlook, covering questions such as frequency of disclosure that has implications for accounting statements as well as narrative reporting. It considers the expectation to cover past performance, present status and future outlook, plus the related expectation to cover the short, medium and long-term. It also revisits standard guidance on aggregation and segmented reporting, seen as not simply a matter of method but one with substantive implications. It highlights the related expectations of comprehensiveness and conciseness, and solutions to dilemmas accountants may have in dealing with these.

Each chapter concludes with recommendations. Key points from these are built upon in chapter 8. The concluding chapter notes consequences of New Accounting for organizational accounting systems and reporting regime, for corporate governance approach, for leadership behavior as well as for targeted stakeholder dialogue.

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2.3 Introduction to New Accounting and its contributing fields

Reporting 3.0 sets high expectations for accounting in capturing ‘integral materiality’, based on sound contextualization, proper impact assessment and integral thinking in communicating quality of management and progress. This comes at a time of growing interest in the role of accounting as change agent and the accounting profession as

possible saviour of the world.[2] The IFAC has argued that professional accountants have a special role to play in that they are key to "develop business cases, manage performance, implement reporting arrangements and systems, and assess and assist in the development of governance and risk management arrangements and strong internal controls" (IFAC, 2017: 8).

It is opportune to take stock today and ask how much has changed since the 2000s, when the CEOs of the Big Four accounting firms warned that the system is "broken" and that the 20th century financial reporting model has become redundant (*Financial Times,* 8 November 2006). An important factor behind this conclusion was a series of corporate scandals of the early 2000s and questions raised about the level of confidence that can be placed in audited financial statements. Responding to the statement by the Big Four, AccountAbility CEO Simon Zadek stated in a letter to the *Financial Times*: "Business drivers are ultimately non-financial… Mainstream financial reporting is unable to handle this simple fact" (*Financial Times,* 10 November 2006).

These were not the first calls for change in accounting practice and standards. During the 1990s the EU's Fifth Action Programme "Towards Sustainability" called for a 'redefinition of accounting concepts, rules, conventions and methodology" (European Commission, 1992, Vol. II, Section 7.4, p. 67). It was asking for this to be done with the aim to account for the use of resources, the full cost of production and reflection of such costs in market prices. In their book *The Balanced Scorecard: Translating Strategy into Action* (HBS Press 1996), Robert Kaplan and David Norton argued that the financial reporting process remains anchored to an accounting model developed centuries ago, relying on backward-looking financial measures that are no longer adequate.

Initiatives to expand the depth and coverage of reporting have led to growing frustration about complexity. In more recent years both financial reporting and so-called non-financial reporting, led by the Global Reporting Initiative (GRI) process, have come to be criticized for being too lengthy and too complex for its users (see ICAEW 2010 for overview of critiques on the current reporting model). The birth of the International Integrated Reporting Council (IIRC) was in part a response to this critique, with strong involvement of the financial accounting profession.

So what would a new, mother of all standards for reporting and accounting look like? Some argue that producing an overall conceptual framework for reporting (both financial and non-financial) would be impracticable, unless focused at the high level of principles. Mindful that analysts and different stakeholders use diverse information sources, one can at best define some pyramid of different types of measurement and disclosure tools and frameworks, some thematic and some geographic (see Figure 1). At the top of such a pyramid may feature the IASB for International Financial Reporting Standards (IFRS) and the GRI for sustainability reporting standards, as well as the IIRC with a framework for an umbrella, concise synthesis type of report.

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[2] "Accountants are going to save the Planet," said World Business Council for Sustainable Development (WBCSD) President Peter Bakker at the Rio+20 Summit in 2012. See https://hbr.org/2013/03/accountants-will-save-the-world

The aim in this Blueprint is not to define ideal type reports and standards, but rather to define the information types, information systems, accounting practices and professional skills required to enable different forms of information disclosure. In doing so, this Blueprint will outline the parameters of New Accounting, illustrating convergence and mutual fit between different types of accounting. In seeking to align different types of accounting, it will cover financial, management and sustainability accounting as subdisciplines of New Accounting.

Mindful of established work on stakeholder theory and participatory assurance, as well as calls for "democratic accounting", the focus of this Blueprint will be on the substance and structure of New Accounting but not on the engagement processes involved. It will therefore not address questions of auditing, assurance and preferences about priority stakeholder groups or user audiences. If anything, it will start the discussion on New Accounting, (i) using the language of numbers and finance as possible common ground between different types of accounting, and (ii) starting off with related content that is likely to be of more use to those who have a more direct interest with the reporting entity involved, be it internal or external stakeholders.

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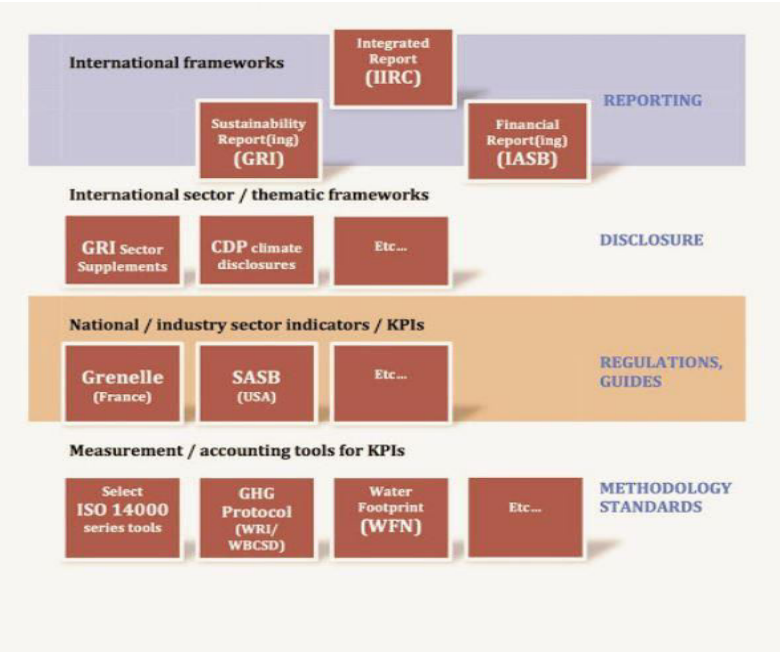
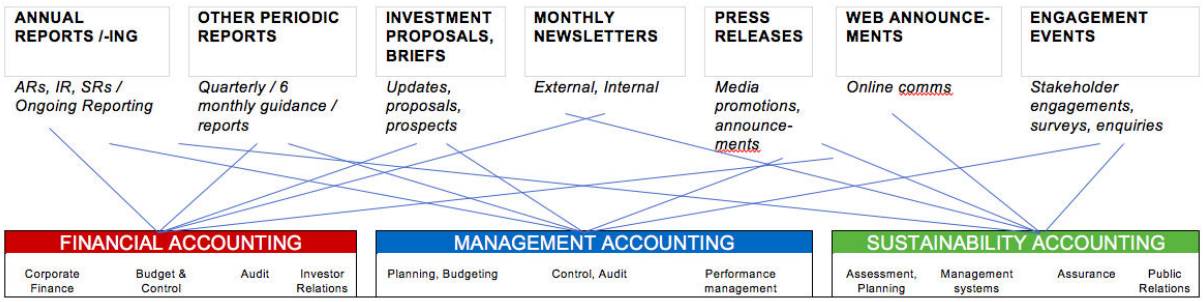
Figure 1: Map of reporting and disclosure instruments or guidance



This Blueprint explores accounting broadly defined, encompassing financial accounting, management accounting and sustainability accounting. As set out in Figure 2, this Blueprint presents New Accounting as comprehensive discipline in which these three subdisciplines are at an equal footing, aligned and operating as separate yet connected subdisciplines under one integrating umbrella. This is far removed from business as usual today, where the relation between the three subdisciplines can be described with terms such as siloed, fragmented, non-integrated and hierarchical. While greater progress has been made in connecting management accounting with financial accounting, sustainability accounting is still the youngest arrival, lacking formal recognition as profession and internationally accepted credential or chartered certification as qualification in its own right.

New Accounting at organization level is therefore broadly defined as standardized systems for *(ito process)* planning, measuring, tracking, controlling, evaluating and communicating the performance of an organization to *(ito purpose)* enable informed decision-making about its health, future direction as well as external impacts and dependencies. As accounting, it is a professional field or discipline that prefers measurement in as far as possible, leading to quantified information complemented by qualitative information. Furthermore, it involves both financial and non- or pre-financial information, as well as internal and external reporting or disclosure on the past, present and future.

Figure 2: Three accounting subdisciplines laying the foundation for diverse communications



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2.3.1 Different types of accounting and their interrelation

Financial accounting involves a process of identifying, measuring and communicating financial information. This lays the foundation for preparing *general* purpose financial statements, as opposed to *specific* purpose financial statements that may target a specific user group. The statements and accompanying narrative text make up the financial report. Financial reporting is also referred to as external reporting, versus internal reporting which is said to be the responsibility of management accounting.

Highlighting the importance of both decision-usefulness and accountability or stewardship as overall objective of financial accounting and reporting, the European Financial Reporting Advisory Group (EFRAG) has described an ongoing dialogue between management and shareholders:

> "Management and shareholders take part in a continuous dialogue. Financial statements are only one example of communication between them. But, because they are prepared in accordance with recognized standards and are audited, financial statements provide a foundation for that dialogue. To be fully effective in this role financial statements need to be prepared with an objective of accountability." (EFRAG 2013: 6)

The assumption that shareholders are the primary target audience of external reporting has been critiqued by many, although in the 1980s its emphasis was seen as an accountability counterweight to the whims of internal management. Additional elements of critique of financial accounting and reporting have been added over the last two decades (see Deegan 2013, Schaltegger and Burritt, 2010). They include being too reductionist with a legalistic

emphasis on areas of direct control, too conservative in its recognition of impacts, giving primacy to financial stakeholders and profitability rather than broader social concerns and coming short in its emphasis on monetary information as common unit of account across diverse areas of performance. As far as external impacts are concerned, double-entry accounting cannot cope with 'one-side transactions', for example the case of externalities where there appears to be no corresponding credit / debit. The focus on the core entity has also struggled to do justice to contextual factors and the principle of "sustainability context" (a GRI reporting principle).

Management accounting provides internal managers the information they need for planning, control and decision-making in the operation of a business. In addition to targeting internal rather than external users of accounting information, management accounting differs from financial accounting in that (i) it presents *more detailed (less aggregated) information* on the basis of for example projects, products, production processes or organizational units, (ii) it focuses *more on nonmonetary data* such as quantity of materials used and number of hours worked, before translating it into financial data on the basis of costing and pricing, and (iii) it is *more forward-looking*, with planning being a key purpose, including estimated costs and benefits when budgeting at the level of for example products or activities, job orders or processes. With these characteristics, some argue that management accounting (MA) can serve as a natural bridge between financial accounting and sustainability accounting (cf CIMA and AICPA 2014).

It is apparent today that management accounting has evolved in expanding from product analysis to channel and customer profitability analysis, taking a greater role in enterprise performance management (EPM), facilitating a shift towards more predictive accounting, and realizing the need for socio-cultural change and behavioural cost-benefit management (Cokins 2016). These trends reflect a realization that accounting is not simply about collecting, transforming and reporting data, but more importantly about influencing behaviour at all levels. That includes a more strategic role in planning and performance management.

Those arguing for management accounting to become more strategic – strategic management accounting (Shah et.al. 2011) – have argued the need for the discipline to be more effective in supporting planning and control, promote integration within organisations and become more outward-looking, considering strategic developments related to the market and what competitors are doing. Consider also the forward-looking and pre-emptive ability of management accounting to identify the type of risks associated with financial products that caused global financial crisis in the 2000s.

Management accounting may well be positioned to bridge some of the gaps that exist between financial accounting and sustainability accounting. Signaling a new accounting approach, integrated reporting is one way of linking sustainability considerations with internal decision-making and core business planning needs. Another tool to facilitate this in the domain of management accounting is the "sustainability balanced scorecard" (Figge et.al. 2002, Villiers et.al. 2016). Experience in large enterprises has shown the importance of a proper management accounting systems in providing a solid foundation for effective planning processes. This includes having appropriate financial and non-financial information for scenario and long-term goal development in strategic planning.

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Sustainability accounting has emerged out of the development of social and environmental accounting since the 1970s, a time when the focus was predominantly on employees and the reduction of pollution and waste. By the early 2000s the SIGMA project in the UK published a Sustainability Accounting Guide (2003), which was developed with Forum for the Future and included reference to five Capitals. A decade later, the new subdiscipline has reach the level of sophistication where a Sustainability Accounting Standards Board (SASB) was established in the USA to develop industry standards that can be used for incorporating sustainability information in annual filings by listed companies.

SIGMA (2003) has described sustainability accounting as "the generation, analysis and use of monetarized environmental and socially related information in order to improve corporate environmental, social and economic performance." Looking beyond only monetized data, it has also been described (Schaltegger and Burritt, 2010: 377) as "new information management and accounting methods that attempt to create and provide high quality, relevant information to support corporations in relation to their sustainable development… a subset of accounting that deals with activities, methods and systems to record, analyse and report (i) environmentally and socially induced financial impacts, (ii) ecological and social impacts of a defined economic system (e.g. the company), and (iii) the interactions and linkages between social, environmental and economic issues."

Borrowing approaches and principles from the financial accounting profession, sustainability accounting has evolved to shape what has been described in the 2000s as a "sustainability accounting framework" (see figure 3 below) based on certain objectives, principles, data capture tools, records (e.g. inventories), measurement techniques, reports in different formats or media and qualitative narrative disclosures. Narratives to describe policies and impacts form a critical part of sustainability accounting. The sustainability accounting framework seeks to track organisational performance toward the objective of sustainability.

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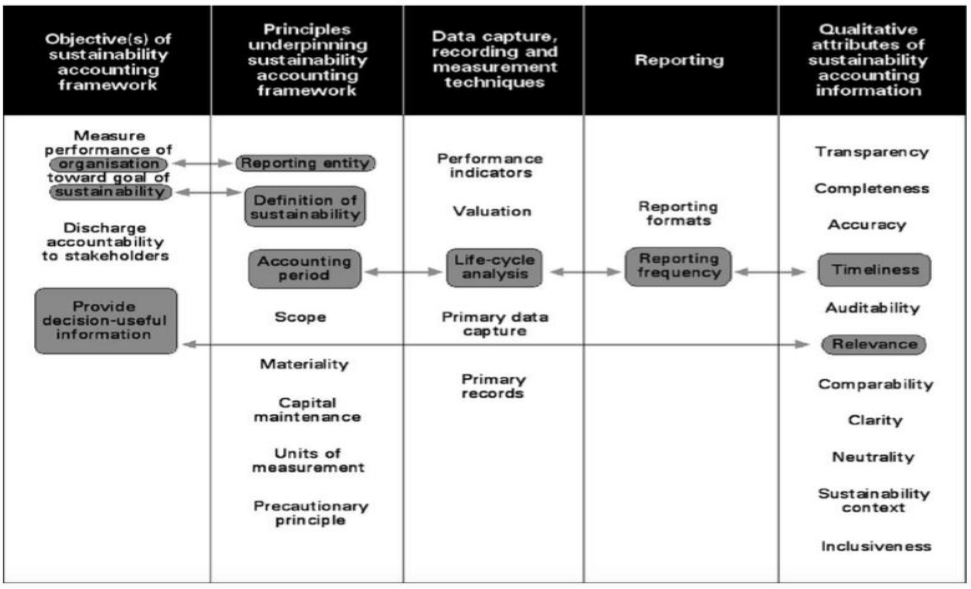
Figure 3: The Comprehensive Sustainability Accounting Framework (Lamberton 2005):



A stocktaking of research on sustainability assessments, sustainability management accounting, sustainability management control and sustainability reporting has noted the need for integration, following a tendency to treat these in isolation and not effectively dealing with the interlinkages between these. As a result, Maas et.al. (2016) have suggested an Integrated Assessment-Management-Control-Reporting Framework (see figure below). It is one that provides for feedback loops, seeking to merge inside-out (internal management decision-usefulness) versus outside-in (stakeholder theory) perspectives in a twin-track approach that drives continual improvement through an iterative process (cf Baker and Schaltegger 2015).

Figure 4: Integrated Assessment-Management-Control-Reporting Framework (Maas et.al. 2016)

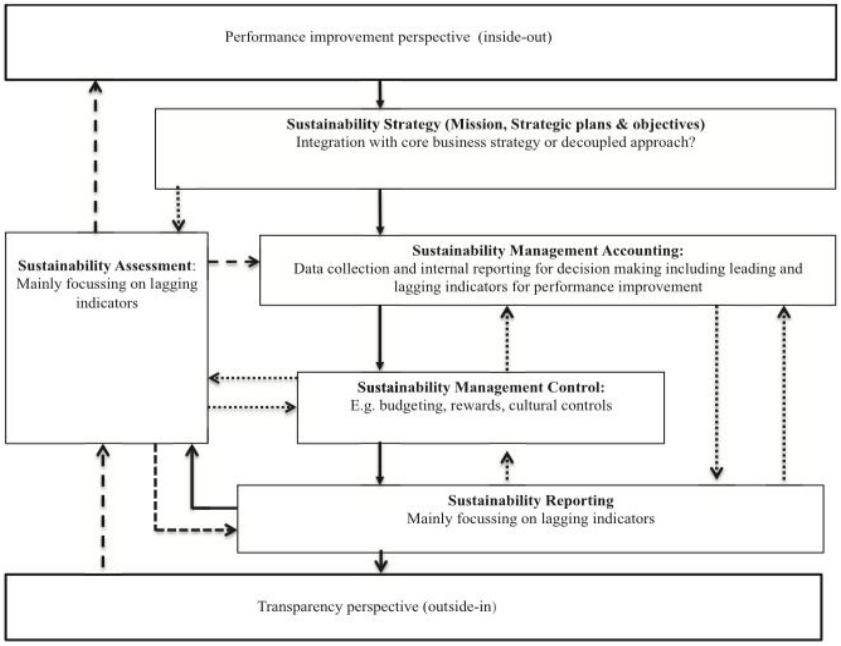


Fig. 1. Comprehensive integrated framework linking sustainability assessment, management accounting, control and reporting. ⟶ Solid lines: Generic path "performance improvement perspective" (inside–out). - - → Dashed lines: Generic path "transparency perspective" (outside–in). ⟶ Dotted lines: Linkages missing to create integration of sustainability assessment, management accounting, control and reporting (the lines do not show all possible linkages for integration).

2.3.2 Introducing multicapital accounting

The Reporting 3.0 Blueprint 1 speaks of "redesigning disclosure based on a more capitals-based approach" which will include more reflection on systemic contribution to society as well as disclosure of how financial capital has been built on the back of other capitals. This signals a move beyond multiple accounts based on the three pillars of sustainable development and the triple bottom line as defined in the 1990s by John Elkington, an approach that shaped the foundation of the GRI standards for sustainability reporting. It highlights the challenge to move beyond past experimentation with multiple accounts, sustainability accounts and fully monetized accounts towards multicapital accounts that are connected or integrated to a greater or lesser degree (cf Gray, Adams and Owen, 2014: chpt 9). We use the word "capital" as this has more commonly being used today, referring to what some prefer to call "resources and relationships" – mindful that in financial accounting

and IFRS the term “capital” refers only to the liability or contributor side of the balance sheet (i.e. provider of debt or equity capital).

The arrival of the IIRC <IR> Framework with its multicapital model has led early mover corporations world-wide to start referencing the Six Capitals in their disclosures, diverse capitals as foreseen in the past by the Six Sigma project (2003) and Forum for the Future (2009).[3] The capitals framework takes the conventional three pillars of Sustainable Development or Triple Bottom Line to greater detail and more specific reference to business resources. This also recognizes the dependence of business on certain external resources, including Natural Capital which has certain carrying capacities. While some reporting managers feared that the Six Capitals of the IIRC <IR> Framework implies a need to now prepare six sets of accounts, six sets of profits and losses, one investor commented that it is “just a framing issue ... a way of communicating that there are other stocks and flows that are important as well as financial stocks and flows” (Stubbs et.al. 2014). The idea of the Six Capitals serves to help organizations to think beyond financial capital, thinking more broadly of value and capitals that lie outside the traditional boundary of the financial accounting entity. As founding IIRC CEO Paul Druckman stated: “For too long businesses have expressed themselves only in the narrow form of financial transactions, an exclusive form of communication that hides from view the rich seams of value that can be found in knowledge, intellect, natural resources and relationships” (Gleeson-White, 2014: 191).

Early examples of integrated reporters from emerging markets such as South Africa and Brazil have shown greater willingness in explicitly using the multicapital framework, compared to their OECD-based counterparts. Shortcomings in their use of the multicapital framework (cf Haji and Hossein, 2016) reflect in part complexities around the relations between different capitals, combined with unease about disclosing possible negative information or risks not well thought through in core business decision-making (see Setia et al., 2015). The IIRC <IR> Framework recognizes these complexities, including interdependencies and trade-offs.

More connected ways of covering different resources or capitals have also emerged in the management accounting domain. Those defining an adapted Balanced Scorecard in the form of a “Sustainability Balanced Scorecard” have sought different ways in (i) reflecting different stakeholder perspectives and (ii) building in a 5th component (non-market or societal perspective that seeks to balance focus on the financial perspective). An example of the Sustainability Balanced Scorecard appears below (Figure 5), indicating cause-and-effect relationships around eco-efficiency as per the strategy maps that Kaplan and Norton (2004) suggested to define business case interactions between the four perspectives.

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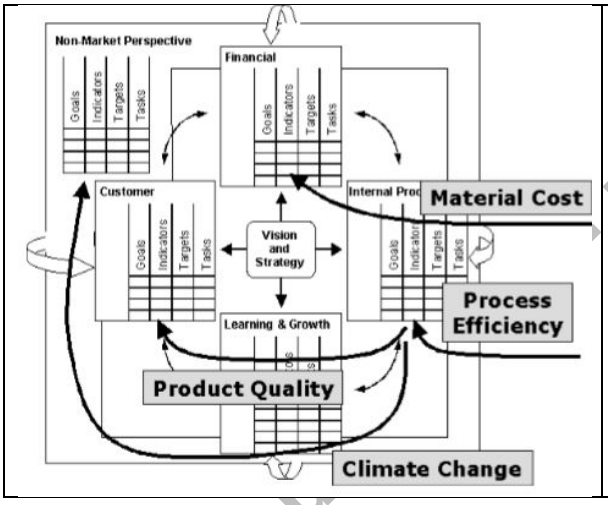
[3] See Sigma Project (2003), “The SIGMA guidelines: putting sustainable development into practice – a guide for organisations”, available at: www.projectsigma.co.uk/Guidelines/default.asp and Forum for the Future (2009), “The five capitals model – a framework for sustainability”, available at: www.forumforthefuture.org/project/five-capitals/overview.

A MultiCapital Scorecard has been proposed by Thomas and McElroy (2016), as included in Figure 5. Categorizing sustainability resources in terms of the Six Capitals, this scorecard defines key Areas of Impact (AOIs) based on "absolute" and "relative materiality" as determined through stakeholder engagement. The key AOIs are then assigned targets and weights, and performance is assessed using progression scores. Finally, a ratio is defined in terms of how far the progression score is coming short of a fully sustainable score (such as zero GHG emissions). The method also distinguishes between "internal economic capital" and "external economic capital", both having a financial and non-financial (intangible and/or non-monetized yet economic value) dimension. It gives no preferential treatment to financial sustainability. Instead it works with both monetary and non-monetary metrics to define integrated financial / non-financial performance. Rather than frame performance in terms of financial versus non-financial, the MultiCapital Scorecard subordinates both these types of performance to context-based sustainability criteria. Sustainability therefore serves as the core theory of performance by which performance in all of its dimensions is assessed in the MultiCapital Scorecard.

Figure 5: The Sustainability Balanced Scorecard (Möller and Schaltegger 2005) and the MultiCapital Scorecard (Thomas and McElroy 2016)



Sustainability Balanced Scorecard with mapping of eco-efficiency causal relationships

Vital capitals*

- Natural
- Constructed
- Human
- Social and Relationship
- Internal Economic—Financial
- Internal Economic—Nonfinancial
- External Economic—Financial
- External Economic—Nonfinancial

BOTTOM LINES	AREAS OF IMPACT	CAPITAL IMPACTS	A Progression score	B Weight	C Weighted score (AxB)	D Fully sustainable score (Bx3)	Gap to fully sustainable (D-C)	Area of impact (AOI) bottom line (C/D)	TRIPLE BOTTOM LINE SCORES
Social	Living wage		3	1	3	3	0	100%	83%
	Workplace safety		3	5	15	15	0	100%	
	Innovative capacity		1	2	2	6	4	33%	
Economic	Equity		3	5	15	15	0	100%	90%
	Debt		2	1	2	3	1	67%	
	Competitive practices		2	1	2	3	1	67%	
Environmental	Water supplies		3	3	9	9	0	100%	77%
	Solid waste		2	2	4	6	2	67%	
	The climate system		2	5	10	15	5	67%	
		OVERALL PERFORMANCE			62	75	13		83%

MultiCapital Scorecard of Company ABC, reflecting its organization-specific key areas of impact (AOI)

The arrival of multicapital accounting, producing different forms of internal and external reporting, therefore challenges traditional categories of accounting domains that were defined broadly in terms of the financial versus non-financial or the three pillars of sustainable development. It challenges us to define the meaning of "integration" and the structure of New Accounting as comprehensive discipline. Our Blueprint defines the new discipline as one with the three recognized subdisciplines of financial, management and sustainability accounting (cf Figure 2). While doing this, it will explore different ways of accounting for and making the connections between the Six Capitals, as well as new theories of performance and value creation in an intercapital manner. Making the connections and having clarity on principles will prove to be decisive in defining a coherent discipline. This requires an agreed set of New Accounting principles, a theme to which we turn in the next chapter.

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2.4 Recommendations on Purpose

Based on our discussion on purpose, contributing fields and the definition of New Accounting, the following recommendations are made for corporations, standard setters, providers of financial capital and regulators.

2.4.1 Recommendations for report preparers

STAGE	RECOMMENDATION
EDUCATE	1) Ensure that board members, senior executives and managers recognise the need for more integrated accounting approaches with a new sense of purpose and understanding of multidimensional value creation. 2) Educate executives and managers to understand the rationale for multi or intercapital accounting, aware of how financial accounting, management accounting and sustainability accounting interlinks.
ADVOCATE	3) Converse with suppliers and business partners to improve understanding and ensure appropriate systems, measurement and management tools are put in place to collect and analyse relevant information required for integrated, multicapital accounting systems. 4) Converse transparently with market and public regulators about obstacles in the way of making multicapital accounting systems, including appropriate standards and market mechanisms to counter market failure in the form of externalities and carrying capacity transgressions.
ACCELERATE	5) Create departments that include financial, management and sustainability accountants under the same roof, working on shared systems. 6) Make required institutional arrangements for New Accounting, including integrated accounting and audit committees at Board level and appropriate linkage between e.g. planning, control, audit, risk and sustainability functions. 7) Ensure that organisational infrastructure is complemented by appropriate IT infrastructure, putting in place common software systems for managing processes of financial, management and sustainability accounting.

2.4.2 Recommendations for standard setters

STAGE	RECOMMENDATION
EDUCATE	8) Collaborate and organise dialogue events for financial, management and sustainability accounting experts to come to a common understanding of the case for convergence towards New Accounting. 9) Move beyond ad hoc projects and publications to offering ongoing educational programmes for diverse accounting experts on alignment between financial, management and sustainability accounting.
ADVOCATE	10) Take fora such as the Corporate Reporting Dialogue to a new level, making the case for New Accounting and shaping agreement on the need for context-based, intercapital accounting as the new normal. 11) Converse transparently with market and public regulators about challenges and opportunities in the alignment of different accounting subdisciplines, and how regulation can support the development of context-based, intercapital accounting.
ACCELERATE	12) Define coordinated work plans and an overall roadmap with milestones for progressing over the coming 20 years towards the formalisation of New Accounting as a professional field and recognised toolset used by organisations world-wide. 13) Collaborate with educational institutions in developing New Accounting as comprehensive discipline, bringing related departments at educational institutions under the same umbrella and delivering recognised qualifications in New Accounting.

2.4.3 Recommendations for providers of financial capital

STAGE	RECOMMENDATION
EDUCATE	14) Convene executives and senior managers in capacity building events to enhance their understanding of multidimensional value as well as long-term challenges related to non-financial capitals (including their carrying capacities) and implications for financial capital. 15) Develop and define a common understanding of key information needs to ensure markets can be appropriately informed, market failure avoided and new markets developed for inclusive, green economies.
ADVOCATE	16) Better articulate investor information needs, needs defined with the goal of decision-making in support of responsible business practice and true value.

	17) Financial value chain players (up/downstream) discuss and agree on roles and responsibilities including appropriate division of labour to capture the new, multidimensional understanding of value creation and the delivery of impactful services.
ACCELERATE	18) Have collective financial initiatives agree on revision of disclosure requirements set by securities exchanges, agreeing on steps to address questions such as relevance, reliability, usefulness, timing and integration of information. 19) Define new incentives to ensure credit managers and analysts develop a proper understanding and ability to handle context-based multicapital information, enabling new approaches in comparative or fundamental analysis, valuation and assessment of business models.

2.4.4 Recommendations for regulators and governments

STAGE	RECOMMENDATION
EDUCATE	20) Create internal capacity building programmes help officials develop an improved understanding of alignment and convergence between financial, management and sustainability accounting including the meaning of integrated, true value. 21) Draw parallels between organisational level micro, meso and macro level accounting systems, considering ways in which accountants at business level can be helped in defining relevant goals, targets and performance information that also support public goals (e.g. SDGs).
ADVOCATE	22) Streamline and align policies on information disclosure, encouraging alignment between financial, management and sustainability accounting systems and standards. 23) Convene dialogue events with businesses, investors and other stakeholder groups on the need for new accounting rules for topics such as natural and human capital accounting, a new understanding of value creation and a comprehensive discipline of New Accounting.
ACCELERATE	24) Move beyond ad hoc requirements for disclosure on diverse topics to alignment, rolling out disclosure regulations that acknowledge and encourage the development of integrated, context-based multicapital accounting systems. 25) Revisit the role of market-based and economic instruments in enabling markets to send appropriate price signals, supporting the internalisation of externalities and rewarding related good practice as reported by companies.

3. Accounting principles for content and quality

3.1 Different accounting principles of different (sub)disciplines

The importance of principles cannot be overstated. When addressing the issues of complexity and usefulness of reporting content in the late 2000s, the Global Accounting Alliance (GAA) of nine of the world's leading professional accounting organizations among others recommended that principles-based standards would help reduce complexity. This position reflects a sense that seeking to be too specific and prescriptive in detail may be premature and impractical, mindful of fundamental differences between different economic sectors and different types of information.

There is no shortage of recommended principles in the different accounting domains addressed in this blueprint. The more recent kindred of management accounting and sustainability accounting have borrowed much from the historical experience of financial accounting. A related factor is the preference for principles-based accounting standards, which has been the dominant trend not only in Europe but globally, versus more procedural standards as has been more common in North America.

Table 1 below lists core accounting principles of the IFRS as defined by IASB, and similar or related principles of USA GAAP as defined by the FASB. The standards describe these in various ways, for example referring to them as qualitative characteristics, assumptions, criteria and constraints. The IASB Conceptual Framework (Exposure Draft 2015) describes "Relevance" and "Faithful Presentation" as the "Fundamental Qualitative Characteristics", while "Enhancing Qualitative Characteristics" are the principles of "Comparability", "Verifiability", "Timeliness" and " Understandability". In the development of sustainability reporting standards, the Global Reporting Initiative (GRI) introduced the distinction between "Principles for defining Report Content" and "Principles for defining Report Quality". This makes a useful distinction between what goes into the report versus the quality of what is in the report.

Guidance by the likes of IASB, FASB, IIRC, GRI and SASB focus attention on "a report" or "filing", whereas the intention in this blueprint is to highlight key principles for accounting (not only reporting) and various forms of disclosure including different types of statements. It should be added that in this blueprint on Accounting broadly, the word "Disclosure" is used generically as referring to any information made public (disclosed) by an organization. This differs from a narrower usage in financial accounting where traditionally "disclosure" is distinguished from "balance sheets, income statements and financial notes" – i.e. "disclosures" provide additional qualitative or narrative text that supplement and explain amounts in the statements of financial reporting.

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Table 1: Financial accounting and reporting principles as found in the international IASB Conceptual Framework for Financial Reporting (IFRS) and at national level in FASB Generally accepted accounting principles (GAAP)

Global IFRS *Qualitative characteristics (bold), criteria, factors*	**USA GAAP** *Assumptions, principles, characteristics*
Relevance (incl its aspect Materiality as well the characteristics of predictive value and confirmatory value)	Relevance and Materiality
Faithful representation (incl its characteristics of neutrality, freedom from error and completeness)	
Comparability	Comparability
Verifiability	Reliable, verifiable, and objective
	Consistency
Timeliness	Time Period (Periodicity) Assumption
Understandability	
Cost Constraint (cost-benefit)	Cost Constraint - Cost Benefit Principle
	Industry Practices Constraint
Going Concern Assumption	Going Concern Principle
Entity-specific (direct and indirect control)	Economic Entity Assumption (separate business vs personal)
	Monetary Unit Assumption (US$)
	Matching Principle (accruals)
Recognition (probability and measurability of economic in/outflow)	Recognition Principle
Historical Cost	Historical Cost Principle
Current (Fair) Value	
	Full Disclosure Principle
	Conservatism

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Table 2: Sustainability and integrated reporting principles as found in the GRI Guidelines and the <IR> Framework of the IIRC

Global Reporting Initiative (GRI) Guidelines *Content and Quality*	**IIRC <IR> Framework**
Stakeholder Inclusiveness Sustainability Context Materiality Completeness Balance Comparability Accuracy Timeliness Clarity Reliability	Strategic Focus and Future Orientation Connectivity of Information Stakeholder Relationships Materiality Conciseness Reliability and Completeness Consistency and Comparability

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From the IASB principles list, Relevance and Faithful Representation are the two foundational principles ("the two fundamental qualitative characteristics"). Relevance implies financial information that can make a difference in the decisions made by users. It has this capability based on its predictive and/or confirmatory value. In its 1980 Statement of Financial Accounting Concepts (SFAC No. 2) the FASB described relevance in terms of timeliness, predictive value and feedback value. Deciding whether the information has the capability of making a difference in decision-making involves applying the principle of materiality.

Faithfull representation requires the financial information to faithfully represent the economic phenomena (economic events such as transactions) that it purports to represent. The broader ESG or sustainability agenda challenges this principle in that it seeks to put "economic phenomena" related to a reporting organization in the context of broader economic, environmental and societal conditions or trends. If faithful is meant to be "truthful" and "reasonable", what is presented must enable more holistic and long-term focused decision-making. These are expectations raised by principles such as "sustainability context" and "future orientation" as found respectively in the guidance frameworks of the GRI and IIRC (see Table 2).

Faithful presentation and objectivity raises the triple concept of "fair, balanced and understandable" (FBU). In 2014 the UK Financial Reporting Council (FRC) decided to require the boards of premium listed companies on the FTSE to state in their annual reports, whether or not they consider that "... the annual report and accounts, taken as a whole, is 'fair, balanced and understandable' and provides the information necessary for shareholders to assess the company's performance, business model and strategy" (UK Corporate Governance Code, FRC 2014). Eventually the term 'reasonable' as opposed to 'fair' was chosen to ensure a clear distinction between the proposed opinion on the 'front-half' and the 'true and fair' opinion on the financial statements or "back-half" of the annual report.

A longstanding financial accounting principle is that of 'going concern'. It declares that the preparation of the company report and company accounts must start from the principle that the operator of the business will also be able to maintain its operation in the foreseeable future, to continue its activities, and that the cessation of the business, or a significant reduction in its operations for whatever reason, is not expected. If sustainability as a simple principle of "continuity" is not achieved, then several basic principles of accounting cannot be realized. Blueprint 1 on reporting additionally raised the challenge of "sustainability" not being simply about continuity but also the need for longer-term thriveability. This highlights the important message of New Accounting being strategic and long-term focused, being about much more than merely determining short-term income or profit as such.

Recently management accounting professionals under auspices of CIMA and AICPA took stock of financial and non-financial reporting developments, and came up with a core set of Global Management Accounting Principles. Their conclusions define management accounting as being at the crossroads between finance and management, well positioned with its forward-looking focus to facilitate integrated thinking and the type of content one would expect in Integrated Reporting <IR>. Its four core principles are set out below in Table 3. On relevance, it refers to information that is the best *available*, *reliable* and *accessible*, as well as *contextual* (time-related, boundary-related and data-related). Noteworthy is the focus on not only decision usefulness but also stewardship and trust. Related to this it mentions *accountability and credibility*, *sustainability*, as well as *integrity and ethics*. Also noteworthy, something it shares with the FSB Task Force on Climate-related Financial Disclosures (2016), is its emphasis on scenario analysis and modelling.

Table 3: Management Accounting Principles (CIMA and AICPA 2014)

The Global Management Accounting Principles	
Influence *Communication provides Insight that is Influential: Drive better decisions about strategy and its execution at all levels*	**Relevance** *Information is Relevant: Help organizations plan for and source the information need for creating strategy and tactics for execution*
Trust *Stewardship builds Trust: Actively manage relationships and resources so that the financial and non-financial assets, reputation and value of the organization are protected*	**Value** *Impact on Value is Analyzed: Simulate different scenarios that demonstrate the cause-and-effect relationships between inputs and outcomes*

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3.2 Laying the foundation: shared principles of New Accounting

The development of New Accounting as overall discipline will require the different accounting professions to reach common ground on what can be described as a common set of high level principles for multicapital and integrated accounting. Developing such a common set of principles shared by financial accounting, management accounting and sustainability accounting can involve the following assessments:

- **What are the core principles already shared across the three accounting disciplines**, and in how far are they interpreted in the same way? One such core principle that comes to mind is that of materiality (see next chapter).
- **What are the interrelations between the different principles**, and in how far are there possible contradictions between the different principles or how they are interpreted between the three accounting disciplines?
- **What gaps exist in terms of principles** that do not appear in one discipline but appears in the other? Each discipline would need to ask itself why the relevant principle is not used, and how it may need to be introduced in a re-interpreted manner if required.

With respect to shared core principles, the Corporate Reporting Dialogue is addressing common understanding of the principle of materiality (see chapter 5). As stated in Blueprint 1, under Reporting 3.0 we argue for incorporating the materiality and sustainability context principles together under the broader principle of 'relevance'. Clearly relevant sustainability information will make a difference in the decisions made by users, with sustainability context particularly impactful in pointing to timeliness, predictive value and feedback value - affirming holistic and circular nature with a longer-term horizon.

As far as faithful representation is concerned, institutions such as the GRI and IIRC would need to assess in how far its characteristics of "neutrality, freedom from error and completeness" are sufficiently covered by their existing sets of principles. In how far does the sustainability or integrated report and its quantitative statements provide a faithful representation of the positions and performance of the reporting organization? The related challenge for financial accounting or reporting standards and bodies such as the IASB is to determine in how far conventional financial reporting is "incomplete" in not reflecting the connectedness of diverse capitals. The (in)ability of financial reporting to reflect this sustainability context and longer term circularity puts a question mark behind its ability to offer a "faithful representation".

With respect to the interrelations among principles and possible contradictions, an illustrative case from the domain of non-financial reporting has been the relation between the principles of materiality, conciseness and comprehensiveness. The question posed by the IIRC was for example in how far there is a tension between conciseness and comprehensiveness, while seeking to produce reports that focus only on what are material topics. Here is also a link with faithful presentation. In a report on *Changes in Financial Reporting and Audit Practice*, the Audit Quality Forum of the UK has suggested that arguably the need to be clear and concise is an element of the true and fair view on which both preparers and auditors must make a judgement (ICAEW 2009).

With respect to gaps in the collection of principles recommended by the different accounting disciplines, the following can be noted:

- The non-financial accounting networks associated with the GRI and IIRC would need to consider the possible implications of the principle of "recognition" for their areas of work. Is it about recognition only of monetary values, or only of quantitative values? (see next chapter)
- Sustainability accounting professionals would need to consider the possible

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implications of using the principles of consistency, decision-usefulness, understandability, constraints (cost-benefit, industry realities), conservatism and matching.

- Financial accounting professionals and standards bodies such as the IASB would need to consider the introduction of principles related to context (at different levels including sustainability context), stewardship and accountability towards shareholders and other stakeholders, connectedness and relevance of diverse capitals as well as future orientation.
- All three the disciplines would need to develop a common understanding of the meaning of "value", "fair value" and "future value", including the use of market-based transactions to determine such value but also alternative techniques (including scenario analysis) to recognize the current fair and future values of different capitals and different intangible assets for which markets may not exist.

What would be the principles of the future context-based and intercapital accounting? Based on our overview above of the current principles prescribed by existing accounting and reporting standards or frameworks, we suggest a core set of Recognised Comprehensive Accounting Principles (RCAP) of New Accounting. Presented below (Table 4), this common set of principles applied across financial, management and sustainability accounting is required to effectively support the development of green, inclusive and open economies. The twelve RCAPs are presented in four columns, covering the Deming cycle steps (Plan-Do-Check-Act) of continuous improvement and learning. Enabling ongoing learning, the principles will facilitate the definition of interconnected and intertemporal value, covering accounting about present condition, past performance and future direction.

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Table 4: Recognised Comprehensive Accounting Principles (RCAP) for New Accounting

Relevance (symbiosis of sustainability context and materiality)	**Sound & Quality Governance** (accountable stewardship, integrity, trustworthy, continual improvement)	**Intertemporal Value** (integrated impact, weighing implications of actions for future, longer term value)	**Integrated Risk & Opportunity Management** (probability & magnitude, compliant & innovative)
Strategic (dynamic business logic, forward looking)	**Responsive Entity** (entity-specific but open, transparent, responding to stakeholders)	**Comparability** (consistent and standards-aligned)	**Decision-useful & Actionable** (measurability, clarity & timeliness)
Multicapital (interconnected, circular)	**Interdisciplinary** (integrating inputs from diverse disciplines, teams)	**Assurability** (verifiable, replicable, transparent on method)	**Faithful Representation** (reliable, accurate, objective, balanced & complete)
PLANNING	ORGANISATION	ASSESSMENT	ACTION

This new set of accounting principles will facilitate the new measure of success and approach to value creation described in Blueprint 1, reflecting a multicapital approach that acknowledges the importance of holistic and circular perspectives, as well as interconnectivity between different capitals and temporal dimensions in its understanding of value.

3.3 The accounting principle of Recognition

The use of principles such as multicapital and materiality raises questions of what common, fungible currency can be used to express level of importance and an appropriate understanding of performance. Is that currency inevitably money, based on certain transactions that have taken place or – in the absence of transactions – new forms of valuation to estimate current and future benefits or costs expected. To get a better understanding of this background to key principles of RCAP, let us revisit the accounting principle of "recognition".

What does it take for something to be "recognized" in accounting statements? And what would be the meaning of "recognition" in New Accounting, considering the ability of accountants to capture relevant multicapital information in different or integrated statements of quantitative data? Presumably the "recognition" of information in accounting statements gives it a certain status, a confirmation of materiality or more broadly relevance. One can ask: Recognition by who, and for what purpose? Current convention would have it that this is about recognition by management of the reporting entity, recognition in the eyes of management of information that is key to practically manage and steer an organization.

In financial accounting, recognition is about the process of capturing, for inclusion in the financial statements, an item that meets the definition of an element (asset, liability, equity, income or expenses). The IASB Conceptual Framework adds that this involves depicting the item (either alone or as part of a line item) in words and by a monetary amount. This implies working with monetary values, while in New Accounting this could refer to statements that also present non-monetary yet quantified information.

The criteria applied for applying the principle of recognition are technical, but it has important consequences and links with assessment of what is relevant and material. This includes the preference among some for "financial materiality", implying events that have direct financial consequences. The recognition criteria stated by the IASB Conceptual Framework (2010) in the past referred to (a) the probability that any future economic benefit associated with an item will flow to or from a reporting entity; and (b) whether such an item has a cost or value that can be measured reliably.

These criteria are demanding, requiring probability of directly related flows and reliable measurement of cost or value. As noted with respect to Natural Capital in the TEEB for Business Report (2012), "the vast majority of ecosystem services and the vast bulk of biodiversity fall outside these recognition criteria and are thus neither accounted for internally by organisations (in the public or private sectors) nor are they (or management's stewardship of them) reported externally in conventional financial statements" (Van der Lugt et. al. 2012). Exceptions to this would be only cases where for example there exists a

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recognisable market which gives rise to 'reliable' valuations (e.g. carbon trading), or where an enterprise operates in a sector where stewardship of Natural Capital and ecosystem services is fundamental to its license to operate.

3.3.1 New valuation techniques to facilitate recognition

Shortcomings in capturing and recognizing the value of investment in for example Natural Capital or Social and Relationship Capital relate in part to (a) methodological challenges and in part to (b) inappropriate regulations (failing to ensure the internalization of externalities). In approaching investment decision-making and capital expenditure, the soundness of valuation techniques becomes a critical factor. Traditional valuation techniques used in capital investment decision-making clearly have their shortcomings. Research on Natural Capital has shown how most of these tools fail to capture the value of ecosystem services or supplies from nature. The shortcoming with many valuation techniques is their failure to incorporate the costs of ecological and societal damage at the end of project life cycles.

Recognizing these complications, the WBCSD (2011) has suggested a hierarchy of appropriate techniques: (i) qualitative review, followed by (ii) quantitative assessment and (iii) monetary evaluation. This acknowledges that monetary valuation provides a particularly important means of aggregating, comparing and communicating different Natural Capital values. At the same time, limiting Natural Capital valuation to monetary indicators alone runs the risk of excluding important benefits and costs since it is rarely possible to quantify or monetize each and every ecosystem service value. The CFO Network of the Accounting for Sustainability (A4S 2014) initiative has recognized the value of incorporating financial and non-financial, quantitative and qualitative methods into a multi-criteria analysis along with other performance criteria. In a guide on CAPEX and capital investment appraisal, it recommended the use of societal value methods that results in a presentation (see figure 6 below) that adds up benefits and costs to company, shareholders and broader society.

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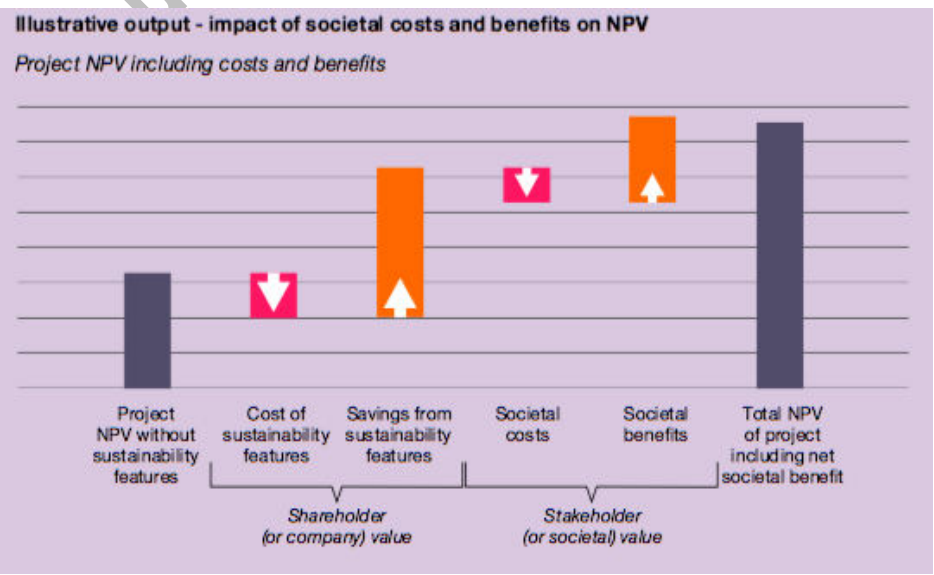
Figure 6: Total value contribution of a CAPEX project including societal value (A4S 2014)



Despite challenges in applying empirical and financial analysis to new Capital areas, sufficient experience has been gained in the last two decades to adapt and apply existing valuation techniques while giving due consideration to diverse resource inputs and outputs. Natural resource economists have for example accumulated a wealth of experience in doing assessments and analysis to determine Total Economic Value (TEV) as proposed by early pioneers such as David Pearce (1989) in the 1980s. This makes the distinction between Use and No-Use, and in the case of Use between Direct and Indirect use. It involves the application of methods that employ direct market values where relevant markets exist, and where relevant markets do not exist techniques such as determining:

- replacement costs,
- avoided damage costs,
- hedonic pricing,
- contingent valuation (based on surveys), and
- value transfer.

These are all covered in the Natural Capital Protocol (Natural Capital Coalition 2016), which was developed with sector supplements to guide businesses in assessing and accounting for Natural Capital use. It built on earlier work by the Word Resources Institute and WBCSD in developing the GHG Protocol as well as the TEEB process.[4]

3.3.2 The possibilities and limits of monetization

Blueprint 1 of Reporting 3.0 refers to the transformation of financial markets, which as described by John Fullerton (Capital Institute) at the 2015 Reporting 3.0 Conference requires cost and benefit accounting as well as translation of externalities into pricing. The implication is a need to track impact across multiple capitals, and doing so also in economic and monetary terms. Our AWG members noted that the use of monetization should serve, importantly, to make decisions on resource allocation more transparent and help to ensure the recognition of the relative importance of impacts and outcomes from the perspective of those most affected.

In financial accounting “recognized items” refers to financial numbers. Experts display different views on the ideal balance between financial and non- or pre-financial information. A word of caution from analysis of corporate climate reporting in the 2000s by ACCA and GRI (2009) was that companies may be focusing on aspects where numbers can be gathered and performance tracked, rather than concentrating on areas where they have the greatest influence. Such cases illustrate how ease of collecting numbers and reporting as such may become the driver of corporate action, leading to action plans that are not strategic.

Accountants themselves have mixed views on the benefits or not of actively pursuing or prioritizing the approach of monetization. In as far as the aim is to make a business case, there are inevitable limitations to building the case from direct financial impacts because of the uniqueness and complexity of being a responsible business. While the financial dimension is still the prevailing criterion for performance assessment, companies are too

[4] See http://www.teebweb.org and http://naturalcapitalcoalition.org

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complex to be evaluated internally and externally purely in monetary terms (EABIS 2009). Experience with valuation and monetization over the last two decades have shown the risks of seeking to add up apples and pears into combined totals. Attempts to use monetization as a means to render different capitals commensurable may also result in misleading conclusions when matters are not put in appropriate context (i.e. applying context-based monetization) as noted in Chapter 4 (Integration) of the Reporting 3.0 Blueprint on Data.

As suggested in chapter 3 on the "Purpose" of New Accounting, the emphasis in accounting will necessarily remain on quantitative information in as far as possible, complemented by qualitative information. Additionally, New Accounting will prioritize use of financial information in as far as possible, without pushing monetization to unrealistic extremes. Some arguments for and against monetization are listed in Table 5, including cases involving ethics or unacceptable risk where as a matter of principle an emphasis on financial figures would be out of place.

A key message here is not to confuse (a) monetization or financial analysis as a methodology (tool of analysis) and (b) financial performance (vs Integrated Performance – end goal) or Financial Capital. This confusion is common in debates on the Capitals, with some concluding that use of financial analysis implies that Financial Capital is more important than the other Capitals or that financial stakeholders (notably investors) are more important than other stakeholders. All organizations need to consider how they use and impact different Capitals. While seeking to use different Capitals more efficiently and responsibly, all organizations need internally to be able to employ financial analysis as means or tool of management. Integrated performance management will always need some common, fungible metric for analysis – whether it is monetary values, non-financial numbers or some other common denominator. The preference in New Accounting for translating data into financial figures *in as far as desirable and feasible* should therefore not be interpreted as giving some superior status to Financial Capital, financial performance or financial stakeholders. It simply acknowledges the practical value and need for economic analysis in the making of the green and inclusive economy.

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Table 5: Some arguments for and against monetization

FOR:	AGAINST:
Monetization is a tool for management and accountable resource allocation. It does not imply disrespect for what is being measured - the very contrary. Take e.g. human resource management and the established practice of measuring labour productivity in financial terms.	Principled topics such as human rights and corruption imply human values and ethics that cannot be justified on financial terms. It would be immoral to base committing to zero fatal accidents or zero corruption on financial figures.
Using for example Natural Capital efficiently requires measurement and valuation. Efficient use supports conservation. The question is one of sustainable use.	Monetization of complex phenomena such as biodiversity is unrealistic and paves the way of irresponsible commercial exploitation, instrumentalising Nature.
The gap between book value and market value illustrates uncertainty around the value of	Uncertainty about future costs or benefits when dealing with proximity to critical thresholds, limited

intangible assets (IAs). Managing and promoting investment in IAs requires improved data on and financial analysis of their nature.	carrying capacities and potentially irreversible ecosystem changes require the application of precaution as principle.
Money is the basic, standard medium of communication in business. To capture diverse performance items in core business decision-making - doing that in a way that facilitates comparison across different time frames, multiple types of capital and organisations - and effectively engage investment decision-makers, you need financial information to work with.	Monetization and valuation of certain externalities bring unacceptable risk. What if the numbers turn out to be wrong? We cannot do market experiments with fragile capitals.
The history of Business-as-Usual has been one of non-monetization of externalities including services provided by Natural and Societal Capital. Its track record is certainly not good, considering trends since the Industrial Revolution.	Emphasis on monetization and financializing can be shortermist and misguided, with a reductionist focus that is non-strategic and losing sight of long-term vision.

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3.4 The accounting principle of Materiality

Recognized definitions of "materiality" range from a decision by the US Supreme Court in the 1970s to definitions by the International Accounting Standards Board (IASB IFRS), the International Auditing and Assurance Standards Board (IAASB) as well as additions by the GRI and IIRC.[5] More recent contributions have sought to introduce simple and inclusive language that caters for diverse accounting fields. In 2016 seven disclosure standards organizations under auspices of the Corporate Reporting Dialogue highlighted commonalities between their respective approaches to materiality. They also produced an agreed definition of materiality, one that applies to both financial and non-financial reporting:

> "material information is any information which is reasonably capable of making a difference to the conclusions reasonable stakeholders may draw when reviewing the related information" (Corporate Reporting Dialogue, 2016)

The statement issued by the Dialogue also lists the different recommendations of its participants' standards related to organizational or subject scope, boundaries (entity plus) and intended users. As far as subject is concerned, recent additions of note are those related to natural capital and human rights. The Natural Capital Coalition has produced the following definition in its Natural Capital Protocol series, focused on the significance of natural capital "impacts and/or dependencies":

> "an impact or dependency on natural capital is material if consideration of its value, as part of the set of information used for decision making, has the potential to alter that decision" (Natural Capital Coalition, 2016)

[5] A listing of internationally recognized definitions can be found on Materialitytracker at: http://www.materialitytracker.net/standards/definitions/

The Reporting Framework for the UN Guiding Principles for Business and Human Rights has produced a definition of "salient issues" that distinguishes itself from "business materiality":

> "Companies should focus their human rights disclosure on the most severe actual and potential impacts on human rights associated with their activities and business relationships. The starting point for disclosure is, therefore, risk to human rights rather than risk to business, while recognizing that where impacts on human rights are most severe, they converge strongly with risk to the business as well. " (Human Rights Reporting and Assurance Frameworks Initiative / RAFI 2017)

This definition of salience versus materiality signals different views related to focusing on "impacts on the outside world" versus "impacts on the business". Focus on the former among others raises possible duties with respect to external stakeholders who well-being is significantly affected. Issuing its new reporting standards, the GRI has clarified that the focus in its definition of materiality is on external impacts, while highlighting that these again have consequences for the business or reporting entity itself. GRI Standard 101 (2016) notes that "(i)n financial reporting, materiality is commonly thought of as a threshold for influencing the economic decisions of those using an organization's financial statements", yet adds that in sustainability reporting the concept is broader and "concerned with two dimensions, i.e. a wider range of impacts and stakeholders" (GRI 2016).

New Accounting will provide the foundation for stakeholders to make better informed decisions, be it a manager seeking to improve internal performance, an investor seeking to strengthen the portfolio, an employee seeking better employment, a consumer group seeking accountability on a particular issue, or other type of affected or interested stakeholder drawing conclusions about a certain organizational entity. The total mix of information considered by the stakeholder user of published statements or reports will contain different levels and combinations of financial and sustainability data, displaying interconnections between different capitals involved. The scope of information covered by New Accounting – financial, management and sustainability accounting - will cover the full range of significant internal and external impacts to varying degrees. Under New Accounting, guidance on materiality will cover both qualitative dimensions (questions of interpretation, judgement and principle) as well as quantitative dimensions (questions of quantitative thresholds, related to developments internal and external to the reporting organization).

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3.4.1 Materiality thresholds

In financial accounting, materiality thresholds traditionally serve as a tool for prioritization that is captured in quantitative terms such as "5% of earnings" to assess level of significance. Yet history has shown the shortcomings of such common rules of thumb. In its Staff Accounting Bulleting No 99 (1999) the SEC in fact advised companies against using financial thresholds as ultimate determinant of materiality. This recognizes the limitations of relying on simple quantitative rules, not considering relevant context including non-financial and qualitative information.

Little guidance on thresholds can be found in non-financial accounting and assurance standards issued since the 2000s – standards such as AA1000, ISAE3000 and issue-specific standards such as the GHG and water accounting standards issued by ISO and the Water Accounting Standards Board. One early exception was the GHG Protocol of the WRI/WBCSD (2004). It suggested that as a rule of thumb, an error is considered to be materially misleading if its value exceeds 5% of the total inventory for the part of the organization being verified. The Protocol adds that what the verifier needs to assess an error or omission in context. For example, if a 2% error prevents a company from achieving its corporate target, this would most likely be considered material.

The seemingly limited guidance on quantitatively determining the materiality of non-financial issues have led some to suggest that qualitative factors are more likely to be considered in these cases. In its sector and industry-based standards for material metrics, SASB for example includes technical protocols with guidance on narrative as well as "qualitative metrics". Qualitative factors may include the possible contravention of the law or breach of a contract if a legalistic or principled approach is followed. Proximity to internal organizational targets or external thresholds such as tipping points may imply materiality, based on interpreted context or direction (positive/negative). Qualitative factors may also include the seriousness and salience of a socio-economic or environmental problem faced by the reporting organization in its operational or local community context.

Sustainability experts increasingly emphasize the need to convey performance in context and define science-based targets. In doing so, they focus on thresholds that refer not to financial accounting metrics but to the condition of ecology and society within which the business operates. It has for example been argued that sustainability requires contextualization within thresholds. The type of thresholds referred to are often environmental ones, employing concepts such as "critical loads", "tipping points", "ecological carrying capacity" or the nine "Planetary Boundaries".[6]

It is evident that New Accounting would need to distinguish between two types of thresholds: those that are *internal* (organizational performance, entity-specific) and those that are *external* (ecological thresholds and socio-economic thresholds, entity-related). This implies that prioritization is based on relevant information related to the reporting organization and its key resources, including internal and external capitals.

Considering non-financial capitals, what "thresholds" would apply in the social domain, say Human or Social Capital? Relevant external thresholds (milestones) may relate to socio-economic conditions in the regions and countries where reporting companies operate. In some cases organizations may need to refer to qualitative references in the absence of reliable quantitative data. Quantitative references could be threshold indicators such as levels of poverty and inequality by country, levels of unemployment by country, or levels of health with respect to globally critical illnesses such as AIDS, tuberculosis, malaria and obesity by country. These imply the types of indicators related to targets of the UN's Sustainable Development Goals (SDGs). Guidance for reporting organisations on targets and indicators for reporting on the SDGs have been developed by the WBCSD, GRI and UN Global Compact and a core set of indicators have been defined under auspices of

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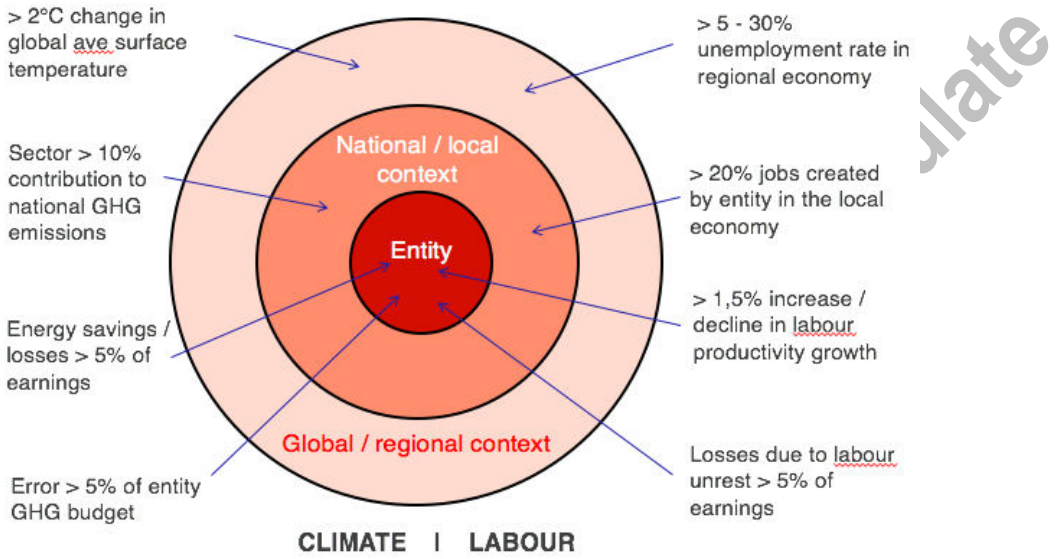
[6] See www.stockholmresilience.org

UNEP and the UNCTAD Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR).[7] The relevant indicators can be found at the intersection of data needs for SDG monitoring, regulatory requirements for corporate disclosure and existing company reporting practices.

Figure 7 (below) gives an illustration of internal and external thresholds applied at different levels, with reference to the two material topics Climate and Labour.

Figure 7: Internal and external materiality thresholds at different levels / scales:



Source: www.materialitytracker.net

3.4.2 Deciding materiality in context

Most would agree that performance information should be interpreted within appropriate context. The problem is a difference of opinion on what constitutes the relevant "context". It may be operational context, market and industry context, regional and national country context, or societal and ecological context. For each of the multicapitals there is a more relevant context, depending also on the product, service, organizational unit or type of business involved.

Accounting standards have always recognized that materiality is context-specific, implying the circumstances of the reporting organization. It points to factors that also courts would view as reasonable considerations. In financial accounting the tendency has been to interpret this first and foremost as referring to the operational context of the reporting organization itself, its industry (peers) and markets. The social responsibility debate since the 1980s has taken "context" to a broader, ecological and societal meaning.

[7] On the UNCTAD ISAR consultations see http://isar.unctad.org/sustainability-reporting/ and the SDG Compass by WBCSD et.al. see https://sdgcompass.org

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The GRI has "sustainability context" as one of its reporting principles, encouraging users to consider for example available public scientific reports and to convey the magnitude of their impacts in appropriate geographic contexts. This is part of the "combination of internal and external factors" the GRI expects the reporting organization to refer to when determining if a topic (aspect, indicator) is material. Sustainability context raises in particular scientific studies, identifying the "(r)easonably estimable economic, environmental, and/or social impacts (such as climate change, HIV-AIDS, or poverty) identified through sound investigation" (GRI Standard 101).

Experts such as the Sustainability Context Group have argued that most corporate sustainability programmes come short in that they focus on the micro level. They advance incremental improvements in company performance compared to past years or peers, but not compared to limits and thresholds at the broader social and environmental levels. The Sustainability Context Group argues that Sustainability Context is a performance accounting principle that calls for the specification of organization-specific standards of performance as a precursor to measurement and reporting. Their position is that Sustainability Context as principle must take into account (1) whom an organization's stakeholders are, (2) the duties and obligations it owes to them to manage its impacts on vital capitals in ways that can affect their well-being, (3) the carrying capacities of the capitals involved, and (4) its fair, just and proportionate shares of the carrying capacities and/or burdens to maintain them.[8]

3.4.3 Procedural methods for applying materiality

Our focus in this Blueprint is not on assurance or engagement processes (and related materiality determination processes as recommended by AA1000, GRI Standards, the <IR> Framework or ISAE3000). The emphasis in this paper is rather on the content involved and, importantly, the recommended procedural methods recommended for applying the principle of materiality. The procedural methods or "tests" for applying materiality as recommended by the different standards involved suggest areas of information and data collection, which raises challenges for the scope and boundaries of the relevant accounts developed by reporting organisations. Table 6 below lists the tests recommended by non-financial standards since the 2000s. For comparison, some common terms across the four lists are highlighted in bold.

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Table 6: Procedural methods or tests for applying the materiality principle

AA1000 (2003)	GRI G4 / Standards (2013, 2016)	<IR> Framework (2013)	SASB Standards (2014)
1. Direct short term **financial impacts** 2. **Policy**-related performance 3. **Business peer**-based norms 4. **Stakeholder**	1. Reasonably estimable sustainability impacts, risks or opportunities, identified through sound investigation	1. Could substantively affect **value creation** 2. Link to **strategy**, governance, performance or prospects	1. **Financial** impacts & risks 2. Legal, regulatory & **policy** drivers 3. **Industry norms** & competitive drivers 4. **Stakeholders**

[8] On the Sustainability Context Group of experts and their position, see http://www.sustycontext.org/about/

behavior and concerns 5. **Societal norms** (regulatory and non-regulatory)	/ by **science** 2. Main sustainability interests and topics, and indicators raised by **stakeholders** 3. Main topics and future challenges for the sector reported by **peers and competitors** 4. **Relevant laws, regulations,** international agreements, or voluntary agreements 5. Key **organizational values, polices**, strategies, operational management systems, goals and targets	3. Are important to key **stakeholders** 4. Form the basis of **boardroom** discussions 5. May intensify or lead to **opportunity** loss if left unchecked.	concerns & societal trends 5. Opportunities for **innovation**

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The above-listed methods illustrate the traditional interest in financial impact or impact on value creation, what peers are doing and what regulators are undertaking, as well as more recent emphasis on what stakeholders are saying and what science is saying. Experts including different types of accountants have varying preferences about the relative merits of engaging stakeholders in pursuing these methods versus doing desk research and using new software-based tools such as Artificial Intelligence (see 3.0 Data Blueprint). New Accounting will involve the full mix of tools, using people engagement as well as smart IT. Importantly, as a Redefining Materiality II paper by AccountAbility (2013) made clear, the above tests go beyond reporting. The materiality determination methodology needs to be embedded within an organisation's ongoing processes of strategy development, performance management, accounting, reporting and stakeholder engagement.

As far as the test of "evidence of financial impact" is concerned, many (especially those in the financial community) assume that an item is only really material once financial consequences can be reliably defined – i.e. when it is "financially material". Some lawyers would argue that materiality by definition implies financial consequences, and that the term should therefore only be used in statutory filings (annual financial reports) and not in non-financial reporting in order to avoid inconsistencies in the external disclosures of an enterprise. The counter argument would be that materiality is a strategic concept, and that more significant impacts are often longer term consequences which in the short term may not be reliably reflected in accurate financial figures. To satisfy among others the legal and auditing professions, we therefor need to define different scopes of "materiality".

To enable New Accounting to practically accommodate these different views, we recommend that it employs a methodological approach that distinguishes between

three fields of materiality, namely ID Materiality (Internal Direct, own operations), ED Materiality (External Direct) and EI Materiality (External Indirect, systems level). These distinctions are only methodological, allowing financial, management and sustainability accounting to work with three different categories of materiality that enable the inclusion of items on different types of accounting statements and related narrative reporting. *It should NOT be interpreted as signaling one e.g. internal scope is by definition more important than another e.g. external scope.* Analysis on sustainability performance has often illustrated that some of the most significant developments may lie externally at the systems level, for example far up in the supply chain.

We use the term "fields" (signaled by abbreviations) rather than "scope", in order to avoid misinterpreted prioritization or confusion with for example GHG accounting. Our three fields provide a practical way to categorize different types of information. While all three categories may involve the identification of financial metrics, what distinguishes them methodologically is rather organizational scope (core entity control versus entities 2, 3, 4…n) and level of data certainty (EI Materiality involving more uncertainty in terms of measurability, causal mapping and predictability). The three categories of materiality are illustrated in Figure 8 (below) in the context of the value chain and broader systems level environment.

To illustrate practically what using this methodology implies, consider the following examples:

- **ID Materiality:** For example planning and budgeting for an internal capex project; planning and tracking progress for a talent management programme; developing new governance and remuneration policy; monitoring and improving reduction of GHG emissions from own, controlled operations. *(information / metrics more likely found in management accounting and sustainability accounting documents, statements or periodic reports)*

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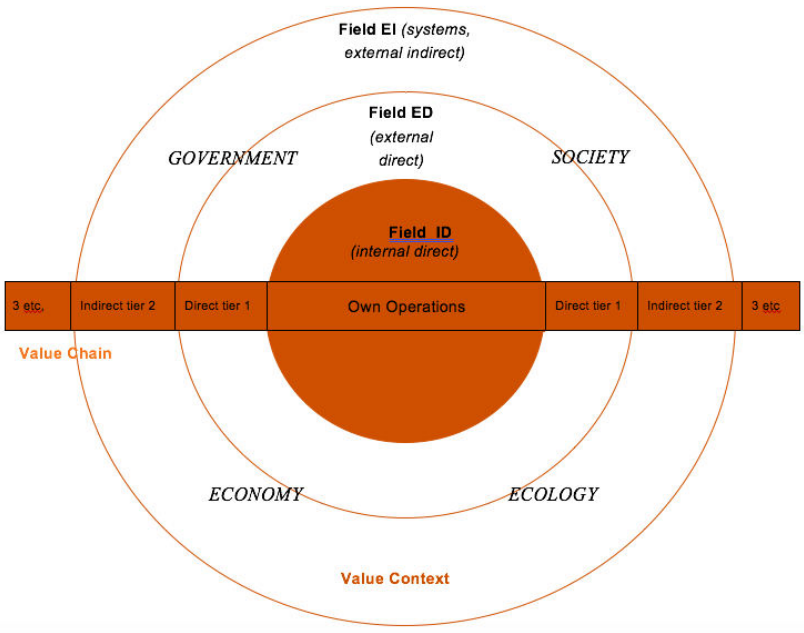
Figure 8: Three Fields of Materiality, along the value chain and beyond



- **ED Materiality:** For example, transaction-based activities such as working with suppliers to procure and improve quality standards; providing downstream customers certain services; paying taxes to public authority; incomplete or non-transaction-based activities such as Other Comprehensive Income (OCI) investments, a voluntary project to conserve local natural resources; a human rights initiative with local community groups. *(information / metrics more likely found in financial accounting and sustainability accounting documents, statements or periodic reports)*

- **EI Materiality:** For example health & safety standards in tier 2-n supplier operations abroad; socio-economic contribution to development in a certain country; water scarcity and resource competition in certain watershed or basin area; consumer lifestyles and health in society; IT-supported education in a region. *(information / metrics more likely found in sustainability accounting and financial accounting including risk management documents, statements or periodic reports)*

The Reporting 3.0 Blueprint 1 (BP1) argues that a new materiality process needs to take on board the idea of an organization serving a 'bigger whole', and that leads to better inclusion of systemic risk and transformation risk, but also opens a discussion about root-cause opportunities. Current materiality definitions and approaches tend to miss the micro-macro element as well as accumulative or systemic effects. Our categorization of three fields of materiality provides a practical accounting tool for applying a new approach, one that puts three scope dimensions on an equal footing and allows for interspatial (e.g. inside/outside) and intertemporal (e.g. past/present/future) analysis.

The integral and context-based materiality determination process recommended by Blueprint 1 involves three steps, (i) identifying impacts on capitals vital to stakeholder wellbeing, (ii) determining if impacts compromise carrying capacities of capitals, and (iii) ascertaining strategic innovation opportunities to enhance capitals. Combined with materiality tests defined by accounting and reporting standards, the following Key Actions for applying Integral Materiality or Relevance can be defined for multicapital accounting purposes (Table 7 below).

Table 7: Key Actions for applying Integral Materiality or Relevance in New Accounting

1. **Map your Integrated Value Creation Process**, including current / future Value Proposition and Business Model with their associated intended impacts

2. **Assess your Impacts**, including impactful unintended consequences of your business, relying on scientific opinion on risks associated with carrying capacity and impacts on vital capitals

3. **Assess innovation opportunities**, including opportunities around enhancing use of different capitals and ways of turning negative impacts or risks into opportunities and positive impacts

4. **Consider your organizational Policy, Values and Strategy**, including different types of values such as business values, ethical values, behavioural values and cultural values.

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5. **Consider industry and market trends**, including peer behavior, evolving industry norms, standards and foresight

6. **Consider societal trends**, including societal behavior and norms, governmental laws and regulations

7. **Engage with prioritized stakeholders on findings related to the above**, seeking to improve understanding, prioritize topics and validate your management approach

8. **Discuss conclusions from the above with internal leadership, management and audit**, agreeing on follow-up actions in view of implications for accounting systems, processes, data requirements, different disclosure documents and aligned performance communications

Considering the 12 steps of the integral and context-based materiality determination process recommended by Blueprint 1 (page 46), many of these relate to assessing impacts and taking action to improve, working on the basis of scientific thresholds and allocations agreed with stakeholders or rightsholders. They also point to critical examination of business model and value creation process, including tracking of societal trends and working with future scenarios.

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3.5 Recommendations on Content and Quality

Based on our discussion on principles for Content and Quality, the following recommendations are made for corporations, standard setters, providers of financial capital and regulators.

3.5.1 Recommendations for report preparers

STAGE	RECOMMENDATION
EDUCATE	26) Board members, senior executives and managers need a more holistic understanding of materiality and value, aware of key risks and opportunities associated with the use of diverse capitals. 27) Company financial, management and sustainability accountants need educational programmes on meaning and convergence between different accounting principles.
ADVOCATE	28) Converse with business partners and industry associations on convergence between accounting standards and agreement on core principles. 29) Engage with standards setting bodies and regulators on the development of a core set of principles for appropriate content and quality in context-based, intercapital accounting systems.
ACCELERATE	30) Support your financial, management and sustainability accountants in working with professional accounting and standards bodies to secure agreement on the core principles of New Accounting. 31) Through corporate disclosures illustrate to diverse stakeholders the value of applying the core principles of New Accounting, displaying a more integrated understanding of performance and true value

	creation.

3.5.2 Recommendations for standard setters

STAGE	RECOMMENDATION
EDUCATE	32) Converse and collaborate in facilitating improved understanding of the interrelations between and meaning of the principles of different accounting disciplines. 33) Collaborate in developing learning examples of how business accounting systems and disclosures can deliver different, misaligned messages due to lack of common understanding of accounting principles and propose solutions to address such misalignments and inconsistencies.
ADVOCATE	34) Use fora such as the Corporate Reporting Dialogue and Reporting 3.0 to shape agreement on a core set of principles of New Accounting. 35) Jointly address key principles such as recognition, materiality and faithful representation, including technical detail to shape agreement on items such as context-based thresholds and procedures to determine materiality.
ACCELERATE	36) Publish joint guidance on key aims and principles of context-based, intercapital accounting, proactively shaping a common understanding and the development of New Accounting as a common profession and more comprehensive discipline.

3.5.3 Recommendations for providers of financial capital

STAGE	RECOMMENDATION
EDUCATE	37) Establish capacity building and educational events to ensure that fund managers and analysts have a proper understanding of principles and ways in which core principles of New Accounting can facilitate more responsible and impactful financing practices. 38) Support research and publications that illustrate a more future-fit understanding of relevance, the need for context-based and longer-term perspectives, and how fundamental analysis needs to change to reflect a more multidimensional meaning of value.
ADVOCATE	39) Produce a collective statement of New Accounting principles that will better enable clients to provide the accountable and decision-useful information you need. 40) Engage partners from the upstream to the downstream of financial

	value chains in a dialogue on accounting approaches and principles to secure better and more comprehensively informed markets.
ACCELERATE	41) Stock exchanges and finance initiatives need to jointly agree on accounting approaches and principles they believe are essential to ensure markets are appropriately informed and equipped to develop green, inclusive economies. 42) Agree with standards bodies and regulators on appropriate incentives for disclosures that are more accountable and long-term focussed, in the midst of new infotech developments such as the growing popularity of ETFs and automated research & analysis.

3.5.4 Recommendations for regulators and governments

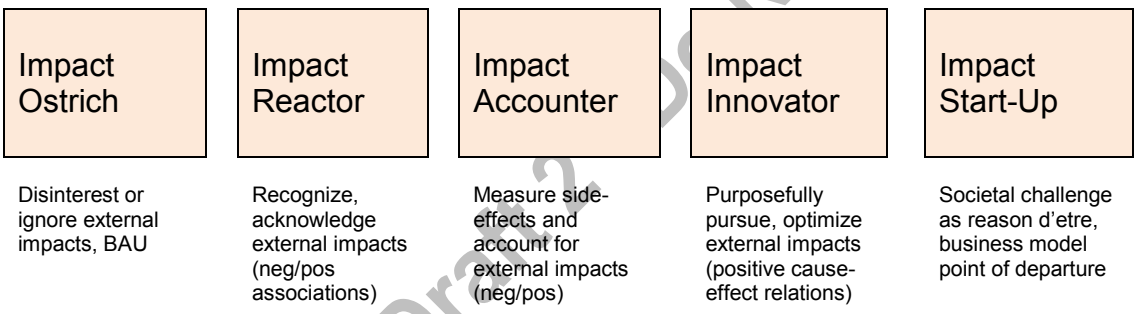
STAGE	RECOMMENDATION
EDUCATE	43) Present internal capacity building programmes provide for officials to assess the meaning of and alignment between different principles for accounting systems at organisational level. 44) Engage different professions – e.g. legal, auditing, accounting and management professions – in dialogue on their interpretation of the principles of relevance and materiality. This can elaborate the pros and cons of more compliance driven versus more strategic innovation driven, the more public versus more private driven, and the more rules versus more principles driven approaches.
ADVOCATE	45) Engage professional bodies, educational institutions and standard setters in a dialogue on alignment between standards, including principles most appropriate for a new, integrated and multicapital discipline of accounting. 46) Collaborate with research institutions in convening learning events and policy dialogues on experience with monetisation, and delivering recommendations on preferred policies and approaches.
ACCELERATE	47) Issue new guidance on key principles believed to be critical for accounting systems and disclosures that deliver relevant content and reliable quality of information appropriate for well-informed markets. 48) Convene educational and professional institutions to agree on the approach and core principles of New Accounting, and steps to ensure that its comprehensive approach is offered with recognised qualifications issued by educational institutions.

4. Financial statements and steps towards integrated statements

4.1 Introduction to statements and disclosure role models

Interest in the multicapital approach to value creation in recent years have highlighted the need to better reflect movements or interactions between the capitals (financial and other), the reality that performance has multiple dimensions that inter-relate, and efforts to define interlinkages or connectivity that suggest some correlation or cause-and-effect between (non)-financial performance and broader notions of value creation in the short, medium and long term. Behind the attempt to innovate in measuring and analyzing these trends are new strategies initiated by some, approaches such as "shared value" that either reflect stronger awareness of external spill-over effects or conscious attempts to take certain societal challenges as point of departure in initiating a new product line, new business model or new business. The following type of approaches to multicapital value accounting can be identified – each with its own implications for how performance measurement, accounting and reporting statements are developed.

Figure 9: Different disclosure role models and their accounting implications



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With the above in mind, various examples can be sited of innovation in disclosure over the last two decades, resulting in alternative statements such as social balance sheets, green P&Ls, Economic Value Added and Total Contribution statements. Examples of environmental financial statements, alternative income and total contribution statements from companies such as Baxter, STMicroelectronics, Puma, LafargeHolcim, ABN-AMRO and Crown Estate are provided in the ANNEX to this Blueprint.

Baxter has been publishing environmental financial statements since the 1990s. STMicroelectronics has been a good example in the 2000s of reporting costs and savings associated with environmental expenditures. In the last decade Puma has provide good illustration of natural resource use impacts and dependencies in different tiers of its value chain, an approach further developed today by the Kering Group. Before merging with Lafarge, Holcim published an Integrated P&L with transparent indication of the methodological assumptions behind its calculations related to key environmental and social topics. ABN-AMRO in 2016 published its initial Integrated P&L findings focused on among others its mortgage services and categorizing impacts according to the Six Capitals. Since 2013 Crown Estate has been publishing an annual Total Contribution Report on its impacts across the Six Capitals, seeking to define value created beyond financial return and

determining its adjusted Gross Value Added (aGVA) once positive and negative flows (impacts) have been added up.

Where does all this economic analysis and accounting experimentation leave the core financial statements of financial accounting? What are the implications for budgeting, planning and performance management tools used in management accounting? Can we define the complementarity and links between these different tools, in order to bring some coherence and structure to the discipline of New Accounting? In its Conceptual Framework (Exposure Draft 2016), the Sustainability Accounting Standards Board (SASB) argues as follows:

> "Corporate reporting must extend beyond financial statements to facilitate the measurement and reporting of sustainability information that will enhance a decision makers' understanding of all material risks and opportunities. Like financial accounting, sustainability accounting has both confirmatory and predictive value, so it can be used to evaluate past performance as well as for future planning and decision support. As a complement to financial accounting, it helps provide a more complete view of a corporation's performance and its ability to create long-term value." (SASB 2016)

The experience of financial accounting shows that certain types of information rather belong in minimalistic, compliance driven statements containing audited, hard facts, whereas other types of information about trends, stocks and flows in complex and long-term focused domains rather belong in alternative, strategic statements. Considering the scope or fields of information (Figure 8) defined in the previous chapter, the different types of statements will contain different combinations of financial, non-financial quantitative and qualitative information. Conventional financial statements lend themselves more to current year performance and compliance-driven financial information, while alternative statements and narratives lend themselves to more long-term, future-oriented and strategic information.

The financial accounting experience also illustrates that alignment between different statements and their add-ons (including notes) should not be taken for granted. We start by revisiting the mainstream financial statements, followed by an update on new, alternative statements and their expansion as well as areas of convergence with mainstream statements. As foundation this chapter focuses on the Income Statement and Balance Sheet or Statement of Financial Position, but not on the Cash Flow Statement and Statement of Changes in Equity (including retained earnings versus dividends paid). For the purposes of defining New Accounting, the most significant of the four mainstream financial statements to focus on are the Income Statement and Balance Sheet.

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4.2 Income Statement or P&L Account

Highlighting the complications (including subjectivity and verifiability) of measuring and reporting on intangible assets (more below), the ICAEW (2010) has noted from research that when valuing a business analysts look to the income statement rather than the balance sheet. For this reason the content of the income statement is a very sensitive issue for standard-setters. Earnings are also seen as reflecting the contribution of intangible assets and thus provide a basis for valuing a business, even when it has valuable intangible assets missing from the balance sheet. Clearly, accounting and business valuation has come a

long way compared to the pre-industrial era when conceptions of profit were very simple and accounting was essentially used for record-keeping purposes. The definition and measurement of profit became more sophisticated alongside industrialization as business became more complex, and economies saw the arrival of new products such as credit markets, derivative transactions and international markets (Acevedo 2012). It was only by the 1970s that GAAP in the USA set some uniform standard of measuring income, expenses and profitability.

Conventional wisdom in financial accounting is that the income statement or profit & loss account is the key "performance statement" to assess the *profitability (return)* of a company, while the balance sheet is as key statement to assess the *risk* associated with a company. While the latter addresses stocks (the status as on a certain date), the former captures flows and the efficiency with which a company has been using its resources. The main components of the income statement tells you what revenue (topline) the company has been generating, what costs it incurred in doing that, and on that basis what profit (or loss – bottom line) remains. Of these three components, costs is the one where the absence of sustainability externalities is most evident. This is especially the case with negative externalities, associated with Cost of Goods Sold (CoGS) or the direct costs of labour and resource supplies. Positive externalities may impact both sales costs (offsetting) and sales revenues (boosting sales if internalized). Furthermore, negative (or positive) externalities may affect other operating costs such as distribution costs as well as non-operating expenses such as finance costs and taxation.

Traditionally the formal position in financial accounting has always been that not one of the core financial statements is more important than the others, but that the cash flow statement, income statement and balance sheet should be treated equally and as a whole. Importantly, and a challenge for the conventional P&L, is that adding credibility to financial statements can be done through linking financial and non-financial performance indicators reflected in narrative reporting such as the MD&A of the annual report. Further credibility will also be added by linking the financial and non-financial performance indicators found in other types of statements or reporting other than the conventional annual report. Overall, such reconciliation of information (data) provided adds usefulness and clarity to reporting.

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4.2.1 Statement of other comprehensive income (OCI)

In the revision of the IASB Conceptual Framework for Financial Reporting during recent years, it has been argued that in the absence of a definition of 'profit or loss' it is difficult to form a view on what income and expenses should be reported as other comprehensive income (OCI). This highlights ongoing confusion and diverse views on what constitutes "the bottom line" as well as the ambiguity of "financial performance". It also highlights that both reporting managers and investors can be quite opportunistic when given the choice of reporting location (between different types of statements) or when seeking to locate publicly available information where it is the easiest and least costly to locate and process.

Discussion on Other Comprehensive Income (OCI), which added to net income results in a total Comprehensive Income (CI), raises questions about what is really considered when calculating "net income (profit or loss)" and in how far reporting organizations are allowed

flexibility in including or excluding items that are not associated with their core business or items whose value involve a great deal of volatility. It can be asked whether the income statement really records all revenues, expenses, gains and losses. While standards bodies such as IASB seek to promote transparency on decision-making in this and on the components of OCI, additional questions have been raised about where and how such items should be presented (for example in the income statement or balance sheet) to better meet the information needs of investors and creditors.

Though involving long-term assets and liabilities, OCI primarily consists of highly volatile and transitory unrealized gains and losses caused by market fluctuations. The FASB (2011) listing of the components of OCI (ASC 220-10-45-10A) includes foreign currency translation adjustments, gains and losses on derivative instruments that are designated as cash flow hedges, unrealized holding gains and losses on marketable security investments as well as gains or losses associated with pension or other postretirement benefits (that are not recognized immediately as a component of net periodic benefit cost). The value of OCI can be significant, especially for some sectors such as financial institutions that manage large investment portfolios.

The FASB (2011) Accounting Standards Update (ASU) No 2011-05 gave reporting entities two options for presenting OCI:

- *A single, continuous statement of comprehensive income* — Entities must include the components of net income, a total for net income, the components of OCI, a total for OCI, and a total for comprehensive income (CI).
- *Two separate but consecutive statements* — Entities must report components of net income and total net income in the statement of net income (income statement), which must be immediately followed by a statement of OCI that must include the components of OCI, a total for OCI, and a total for comprehensive income (CI). A reporting entity may begin the second statement with net income.

The above makes for the presentation of income in a ***multiple-step or layered format*** to reduce the emphasis on net income. The International Accounting Standard Board (IASB, 2011) issued its own guidance that provided for the same two options. Overall, the US FASB and international IASB are steering toward a layered presentation of comprehensive income, which has led some commentators to conclude that the presentation in a single statement is only a matter of time.

The experience with OCI holds important lessons for how sustainability or multicapital-related income gets incorporated in reporting statements. Consider factors such as the following:

i) in how far an item is associated with core business or not,
ii) in how far the value of an item is subject to high volatility,
iii) in how far a user has mainly interest in “net income” (profit) versus a more nuanced Comprehensive Income figure,
iv) the ability to reclassify different / multi-capital gains or losses, depending on whether they are “realized”,
v) the location and positioning of multi-capital gains and losses on different statements, as well as

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vi) the role of contextual factors such as economic crisis or disaster events in sharpening investor interest in “Other” (OCI) items.

Overall, a case may be made for the development of a Statement of Integrated Comprehensive Income or Multicapital P&Ls, building on experience with developing alternative statements. Let us consider what this may look like, revisiting efforts to revise the income statement by defining value added in different and expanded ways.

4.2.2 Statements of value and Full Comprehensive Income (FCI)

The Value-Added Statements (VAS) refines the P&L account by expanding it with reference to wealth / value generation and wealth / value distribution, recognizing both an entity performance dimension and societal performance dimension. Put differently, the performance of the reporting entity is also assessed based on its “social performance”. Value distribution is broken down in terms of the distribution of value among stakeholders (who have contributed to company performance) such as employees, government, finance suppliers, community, environment as well as shareholders (see Figure below). The GRI Guidelines has referred to it as “direct economic value generated and distributed” (EVG&D – G4 Economic Indicator EC1), with the new GRI Standard Disclosure 201-1 breaking gross value distribution down in terms of operating costs, employee wages and benefits, payments to providers of capital, payments to government by country, and community investments. The IIRC <IR> Framework recognizes value addition in terms of wealth created and wealth distributed categorized – referring to the different capitals - by for example personnel expenditure (human capital), finance costs (financial capital) and government (social and relationship capital).

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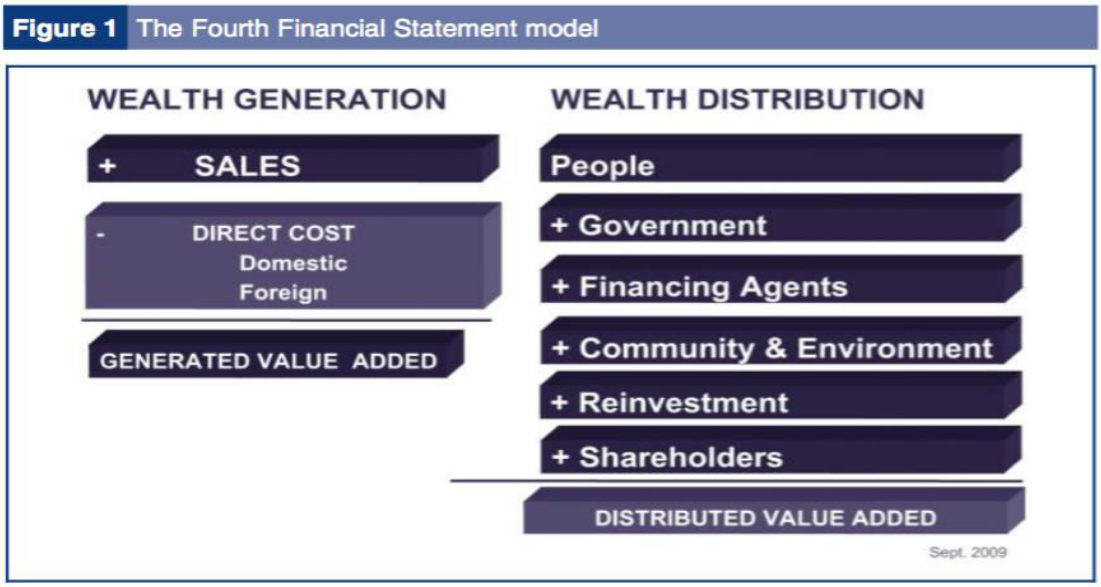
Figure 10: The Value Added Statement (VAS): aligning mainstream financial and social responsibility accounts (extract from Aldama and Zicari 2012)



Shortcoming in the usefulness of the VAS have also been identified. This for example emerged from a survey among report users in South Africa during the 1990s, a period when

over half of 400 companies listed on the JSE produced VASs that were included in their annual reports (see Van Staden 1998). Shortcomings related to factors such as lack of standardization and comparability, lack of external assurance, how much more information is really provided in addition to what already appears in financial statements, and how much can be deducted from the information (for example indication of productivity and mainstreaming versus philanthropy). Yet it is recognized that refined versions of the VAS can serve well to promoting reporting and accounting integration (see Haller and Van Staden 2014). The development of the VA figure over time can serve as a good (material) indicator of the future ability of wealth creation, a good indicator of the (in)dependency of a company and its business model to structural market changes, and a good indicator of interconnectivity between different capitals and stakeholder interests.

Included in the VAS can also be Intellectual Capital, one of the IIRC's Six Capitals. A case can be made, if material, to disclose the direct revenues from intangibles (licenses, trademarks, etc.) as components of operating VA separately in a refined VAS. This is reflected in the refined VAS below.

These versions of the VAS reflect monetized values based on market transactions and direct payments made by the producing entity that issues the statement. Experts have also experimented with expanded VASs that include:

i) monetized value estimations for externalities, and
ii) these values presented not only for a particular / past year but for a future period … for example 20 years (such as a project life cycle).

The above results in an Expanded Value Added Statement (EVAS – see Mook 2004) that includes direct and indirect outputs and impacts. What is described as indirect really refers to values that are not monetized and captured in conventional financial statements, notably externalities that are also not captured in the type of VASs discussed earlier. These additions in the expanded VAS reflect the externalities that can be found listed in more recent experimentations with alternative or integrated P&Ls and Total Contribution statements to determine Net Positive Impact (NPI) or adjusted Gross Value Added (aGVA).

Including the often non-monetized items in the form of externalities can substantially improve the ratio of a company's value added to purchases (costs of external goods and services). This is provided that the experiment involves reasonable estimates and a balanced coverage of all significant positive and negative impacts. In addition, enabling analysis that puts these numbers in broader context and comparison with core financial data will benefit from including them in combined, multilayered statements. This is what we suggest with the Statement of Full Comprehensive Income (FCI) as presented in Figure 12.

The multilayered Statement of FCI presents (i) Other Comprehensive Income, (ii) Value Added Distributed, as well as (iii) Indirect Benefits and Costs to arrive at a total FCI. It separates internalities (covered in the Value Added Distributed section) and externalities (covered in the Indirect Benefits / Costs section). The former presents monetary values based on recorded transactions between the reporting entity and others, while the latter presents monetary values based on scientific estimations. The items listed under the former covers the fields of ID Materiality and ED Materiality, while the items listed under the latter

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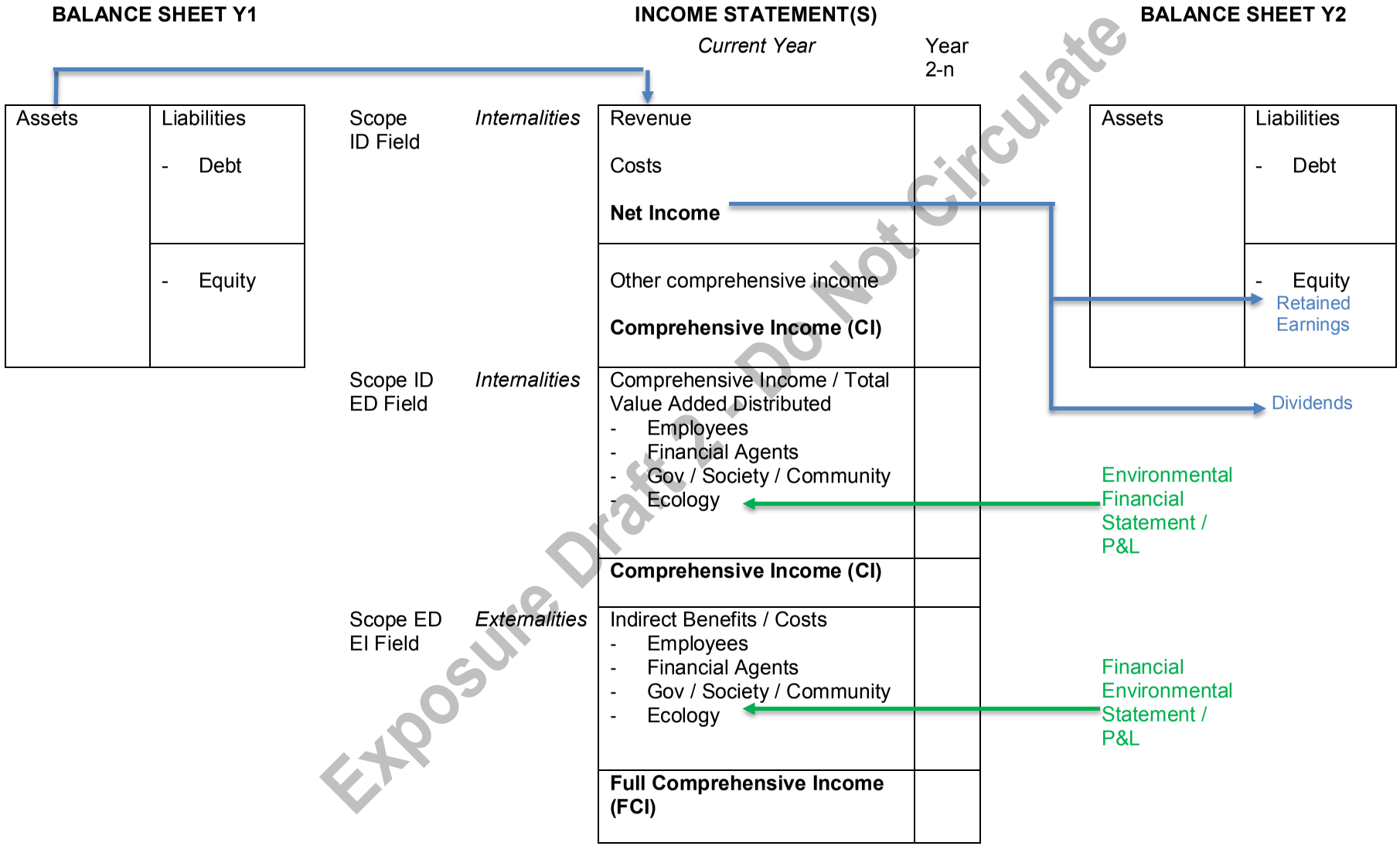
cover the fields of ED Materiality and EI Materiality. Breakdown categorization of the items in the externalities layer can be refined to reflect capitals such as Human, Societal and Relationship, as well as Intellectual Capital. The “external” dimension of Human Capital in the form of “own employees” relates to issues such as work/life balance and the health impacts of societal phenomena such as epidemics.

Figure 11: Refined Value Added Statement (VAS) model (Haller and Van Staden 2014):

Panel A: statement of sources of value added (value added generated)			
Sales			XXX
Less	Cost of related bought-in materials and services (M&S)	XX	
Less	Decreases in finished goods or work in progress	XX	
Sales-based gross operating value added			XXX
Plus	Increases in finished goods or work in progress (minus related bought-in M&S)	XX	
Plus	Self-produced non-current assets (minus related bought-in M&S)	XX	
Production-based gross operating value added			XXX
Plus	Revenues from intangible assets (minus related bought-in M&S)	XX	
Plus	Other operating revenues (minus related bought-in M&S)	XX	
Gross operating value added			XXX
Less	Depreciation of tangible fixed assets	XX	
Less	Amortization of intangible assets	XX	
Net operating value added			XXX
Plus	Income from investments and other financial instruments	XX	
Net ordinary value added			XXX
Plus/less	Value added from extraordinary items	XX	
Plus/less	Value added from discontinued operations	XX	
Total value added generated			XXX
Panel B: statement of value added appropriation (value added distributed)			
Employees' share			
	Net wages		
Plus	Wage taxes withheld	XX	
Plus	Contribution to social security withheld	XX	
Plus	Pension premiums	XX	
Plus	Other additional employees benefits	XX	
Plus	Bonuses	XX	
Total employees' share			XXX
Government's and society's share			
	Income taxes	XX	
Plus	Indirect taxes (e.g. VAT, tariffs, duties)	XX	
Plus	Other public charges and duties	XX	
Less	Subsidies (from government)	XX	
Government's share		XXX	
Plus	Other contributions to society, such as donations, social activities, etc.	XX	
Total contributions to the public and society			XXX
Capital providers' share			
	Interest paid	XX	
Plus	Dividends and other payments to shareholders	XX	
Total capital providers' share			XXX
Value added retained in the organisation			
Plus/less	Additions or reductions to retained earnings	XXX	
			XXX
Total value added distributed			XXX

Figure 12: The Statement of Full Comprehensive Income (FCI) and its cyclical relation to the Balance Sheet



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4.3 Balance Sheet or Statement of Financial Position

The balance sheet is key for assessing the level of risk associated with a reporting organization. This includes indication of what the organization owns, its level of debt and the extent to it is leveraged or geared (borrowed capital versus investor capital). **From a sustainability point of view, the presentation of assets and liabilities as per a certain date raises the following key questions:**

- How accurate is the number that represents the value of its assets? Have fixed (non-current) assets been revalued recently? Does it include, for example, polluted land that is overvalued or biodiverse land that is undervalued? In how far are intangible assets valued, recognized and appropriately amortized?
- What kind of debt providers are involved? Have they applied ESG criteria in doing due diligence and a credit risk assessment of the organisation involved? Is the level of debt (and therefore leverage) healthy, considering the industry and region the organization is based in?
- What kind of investors are providing equity? Have they applied ESG criteria in their screening and analysis? Is it transient financiers or institutional ones applying longer term time horizons in their investment decision-making?

On the depreciation of *tangible* fixed assets and the amortization of *intangible* fixed assets, it is noteworthy that these can involve life times of several years. The domain of fixed (non-current) assets is therefore one where long-term planning is (should be) common and where the long-term investment decision-making perspective should be anchored. Consider examples of fixed assets such as property, plants and vehicles. A property or a power generating plant may have an assumed life time of 50 years, and a mining site 100 years. Consider examples of intangible (no physical substance, cannot be touched, seen or heard), non-current assets such as patents, trademarks, licenses and software.

The frequency with which fixed assets are re-valued depends typically on the volatility of the value of the asset involved, and/or whether there is strong difference between current market value compared to book value. Significant change in real or estimated value may reflect deeper uncertainty about the resilience or future use-ability of the non-current asset involved. Take the case of stranded asset risks. The ACCA (2016) has recommended that fossil fuel companies publish valuations of their reserves using a range of disclosed price/demand scenarios. This comes against growing awareness of the impact that stranded assets or a carbon bubble could have on the market value of fossil fuel companies. Analysis of annual reporting by fossil fuel producers has shown that many are recognizing asset impairments. For any company from a climate high impact industry it may be asked how much carbon it has on its balance sheet. For industries vulnerable to the physical impacts of climate change, questions may be asked about likely future value of their property considering different climate scenarios.

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4.3.1 Intangible assets

How much we can read from a balance sheet is influenced by what appears on or off the balance sheet, as well as the reliability of values reflected on the balance sheet. Weakness in the latter has been exemplified with a growing debate on the value of Intangible Assets (IAs) and the growing gap between book value and market value. In its *Statement and Guidance on Non-Financial Business Reporting* (2008), the International Corporate Governance Network (ICGN) recognized among benefits of non-financial reporting the ability to better capture intangibles, assets whose market value may be impaired by mismanagement.

The birth of the IIRC <IR> Framework was in part a response to the seeming inability of conventional annual reporting and traditional financial statements to effectively address the creation, maintenance and pricing of IAs. These have been of growing importance in recent decades. Studies by Ocean Tomo (2015) has signaled how IAs have accounted for close to 85% of market value of S&P500 companies by 2015 compared to only 17% in 1975. Fundamental equity analysis needs to be revised to effectively address the growing importance of IAs. These assets are especially important to less heavy industries, for example the service industries where topics such as talent management, reputation and trust are highly material.

Frustration with the inability of conventional statements to capture the value of IAs relate to a broader sense that conventional GAAP-based approaches to accounting and reporting "do not readily portray the value created by social investment - for either the organisation or for society" (Adams et.al. 2016). At stake here is therefore not only value destruction but also value creation, including the opportunity costs of not effectively capturing value that feeds back into long-term value of the company itself.

Research on investment in different IAs and the resultant impact on competitive advantage has illustrated the interrelationships between tangibles and intangibles, as well as challenges in monetizing the costs and benefits of investment in IAs (see Greco et.al. 2013). Figure 13 below lists a variety of IAs grouped as value drivers in two main categories, the Relationship Category and the Knowledge Category with each their own subcategories. Tacit knowledge refers to the tacit know-how of human resources and the corporate culture within the organization, while explicit knowledge refers to the intellectual property of the organization (e.g. trademarks, patents and licenses) and its processes.

In financial accounting IAs are categorized, importantly, in terms of whether they are (a) purchased or internally created, and (b) whether they have limited life or indefinite life. Important in defining IAs is whether – associated with assets that lack physical substance - there are transactions that allow economic benefits to be reflected on financial statements. Another key consideration is whether it involves resources that are likely to be the primary sources (value drivers) of the company's future cash flows – for example brand name or trademark in the case of an agrifood retailer. Many IAs are industry-specific. Whether an asset resorts under "goodwill" or not depends on whether it is not separately identifiable as of an acquisition date. By example, the workforce of an acquired company cannot be separated (sold or transferred separately) from it, and the value of that workforce is therefore subsumed under goodwill in an acquisition (Cheng et.al. 2016: 42).

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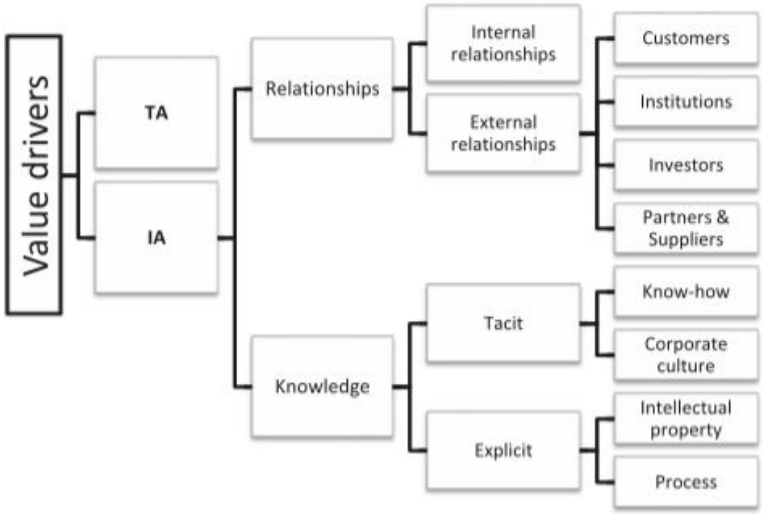
Figure 13: Categories and components of the IA Value Drivers tree (Greco et.al. 2013)



With respect to measuring IAs, the "fair value" (exit price a party would be willing to pay when selling the IA) versus the initial purchasing price of the asset can be determined, as stipulated in the FASB Accounting Standards Codification (2009), based on three approaches, namely (i) the market approach (assets actively traded), (ii) cost approach (replacement costs based on production costs) and (iii) income approach (future amounts to be derived from the asset converted to a single current or present value using a discount rate). IAs often lack an active market in which they are traded, and production costs are not easily defined to determine replacement costs, which leaves the need for pursuing estimations of future income. As noted in chapter 4 on the principle of recognition, work on valuation of Natural Capital has made good progress over the last two decades in applying exactly these three mentioned approaches to determine Total Economic Value (TEV).

If IAs are of such increasing importance, and decision-makers need greater clarity on how they contribute to value creation, how can mainstream statements be revised to facilitate better informed decision-making in this respect? How can the conventional balance sheet or statement of financial position be revised to capture the value of IAs and address the gap between book value and market value? We seek to answer this in the next section with the proposal for an expanded, two-layer balance sheet.

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4.3.2 The Expanded Balance Sheet and Statement of Long-term Risk

Blueprint 1 speaks of the evolution from double entry bookkeeping – which was good enough for the throughput economy – towards multicapital bookkeeping, which will be required in the making of the circular economy. Figure 12 above shows the logical link between balance sheets and income statements, the latter presenting flows associated with business activity during a certain period and the relative efficiency with which assets or different resources have been used to arrive at a certain financial position at the end of the financial year. Our proposed Statement of Full Comprehensive Income (FCI) provides an important pillar in supporting circular economic approaches, as its recognition of externalized and indirect costs and benefits addresses, among others, value destroying

activities such as the generation of waste. Both management and sustainability accounting will play key roles in defining the relevant costs and benefits, including ways in which alternative business models, products and solutions will turn value destroying into value creating, circularity-minded business activities.

But if the conventional financial P&L needs to be replaced by a more comprehensive, multilayer income statement on value addition, what should be expected of the conventional statement of financial position? What would an alternative balance sheet look like, one that reflects the dependence on multicapital assets and risks (or opportunities) associated with their condition (stocks) at a certain point in time? How would an alternative balance sheet, covering among others IAs key for product or business model innovation and long-term transformation, give an indication of True Future Value? One can also ask if the existing balance sheet should be expanded, or if in addition companies should be expected to accompany the current statement of financial position with a Future-Date Balance Sheet of financial or value position say 20 years onwards.

In the following pages we present an expanded balance sheet, the Comprehensive Statement of Financial Position for the current or past year (Table 8). It adds a new layer to the conventional balance sheet, referring to the market value of the enterprise to come up with a new total which is Total Comprehensive Liabilities including market capitalization of Owners Equity. The market value and associated Price/Book Value Ratio is calculated on the basis of share price as at 31 December. To avoid the impact of short-term shock events, the share price can be taken as the average price of the last month.

On the left-hand side of the expanded balance sheet, the reporting entity is invited to give its estimation of the relative contribution of its non-purchased IAs with indefinite life to the difference (gap) between market value and book value. If the share is undervalued, the reporting entity can give an estimation of the relative values of such non-purchased IAs which are not effectively recognized by the market and which would make the difference in taking the Price/Book Value Ratio to par and beyond 1/1. Of course each enterprise would make the case that its shares are worth substantially more. If a reporting enterprise added up more or less scientific estimations of the assets involved - for example brand value, reputation value, or employees value – it may result with a grand total far more than Total Comprehensive Liabilities (incl Market Value of Owners Equity). However, short of giving reporting entities a complete blank check in suggesting the real value of their enterprises, the expanded statement uses current Market Value to set a ceiling.

Note also that the second layer of the expanded balance sheet differentiates between “own” and “shared” capitals, the latter providing for the social, relationship and natural capitals. The former includes Human Capital and the workforce, one of the most obvious assets whose absence on conventional balance sheets many find surprising. Most financial accountants would agree that IASB recognition criteria could be met for Human Capital. An entity can measure the value of its workforce, and prove future economic benefit associated with the cost and investment involved. Why then could the value of the workforce not be capitalised on the balance sheet? The value that a reporting entity would enter on our expanded balance sheet would focus not on expenditure on employees, but rather on investment in employees – i.e. capturing activities that are expected to generate income beyond one year (longer term). Calculating the value of Human Capital will therefore be

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based on components such as total compensation and expected income – the reporting entity will generate economic income returns from Human Capital in future periods.

The Social and Relationship Capital is dependent on the reporting entity taking action, meaning it co-creates the capital and can bring it to an end if it so wishes. Being co-created, it remains at best shared and cannot be owned. In the case of Natural Capital, this refers to external assets that may belong to others or may be a public good. Different from a company's own land and assets, as reflected in the conventional balance sheet, these external Natural Capital assets can at best be shared and its services purchased. As the expanded balance sheet uses Market Value to set an overall ceiling to what is reported as Total Comprehensive Assets in the Comprehensive Statement, the real value of external Natura Capital assets that the reporting entity relies on is likely to be substantially greater than what is reflected in this statement. The statement only gives an estimation of relative importance, as currently recognized by the market, of that portion of Natural Capital services on which the entity is directly and highly dependent.

What the expanded Balance Sheet does is to provide for more informed decision-making related to the gap between book value and market value today (this year). It seeks to present a more complete Statement of Financial or Value Position. But related to future direction and prospective outlook, a remaining question is that of future risks related to long-term assets as reflected on the conventional balance sheet. To address this, we suggest a Statement of Long-Term Risks and Estimated Non-Current Asset / Liability Value (see Table 9). Partially a Future Balance statement addressing future value, this statement presents a combination of quantitative, financial and qualitative, explanatory information. The reporting entity is invited to provide estimations (range) of what may be the value of its long-term assets and liabilities twenty years from now. For industries such as oil & gas, mining, power generation and water services it is common to do planning related to assets with lifespans of for example 50 – 100 years. For the purposes of facilitating a discussion on long-term risk across industries, a period of 20 years however suffices – a period for which demographic and other trends are understood with greater certainty.

New Accounting will therefore challenge the reporting entity to illustrate to stakeholders that it is prepared and able to exercise informed decision-making about long-term risks associated with its non-current tangible and intangible assets. These include land, reserves and building property that may be vulnerable in the face of global climate change. The brief descriptive text provided by the reporter in the Statement of Long-Term Risks can be expanded on in narrative reporting, as addressed in the following section of this Blueprint. Compared to the Comprehensive Income Statement and its coverage of flows, this combination of the expanded balance sheet and statement of long-term risks addresses current and future stocks. Its presentation of financial and explanatory information in a balance sheet type structure serves to enhance integration and narrow the gap between narrative discussion and financial statements. It presents an approach more focused on timely values and less on the reliability of numbers, resulting in what ICAEW (2016: 18) has referred to as a form of Full Fair Value Accounting. It follows the prediction that 'in the New Economy, companies will need to continuously measure and report all assets at fair value to all users' (Boulton et al, 2000). And the fair or market value of today incorporates expectations of future value.

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Table 8: The Comprehensive Statement of Financial Position / Balance Sheet as at 31 December

Current Assets:		**Current Liabilities:**	
- Cash	6	- Short term debt	15
- Accounts Receivable	44	Owed to banks	(7)
- Inventories	52	Current portion of Long-term debt	(8)
- Prepaid expenses	2	- Accounts Payable	37
Total Current Assets	104	- Accrued expenses	2
Noncurrent Assets:		*Total Current Liabilities:*	54
Property, plant & equipment:		**Noncurrent Liabilities:**	
- Land	10	- Long-term debt	42
- Buildings and improvements	50	*Total Noncurrent Liabilities*	42
- Equipment	30	**Owners Equity:**	
- Less accumulated depreciation	(34)	- Common Stock	30
Other noncurrent assets:		- Retained Earnings	45
- Financial Assets & Intangibles	10	- Treasury Stock	(2)
- Less accumulated amortization	(1)	*Total Owners Equity*	73
Total Noncurrent Assets	65		
TOTAL ASSETS:	**169**	**TOTAL LIABILITIES AND OWNERS EQUITY:**	**169**
Non-Purchased (e.g. self-created or shared) Intangible or Tangible Assets of Indefinite Life *(key factors generating value beyond 1 year, explaining difference between Book Value and Market Value):*		Difference Book Value (total shareholders equity) to Market Value *(146 based on Share Price/Book Value 2/1 as at 31 December):*	73
Own:			
- **Human Capital** – e.g. employee competencies, capabilities and experience	30		
- **Intellectual Capital** - organizational capital e.g. leadership, tacit knowledge, systems, procedures, governance protocols and brand value	20		
Shared:			
- **Social and Relationship Capital** – reputation, impact value proposition, institutions and the relationships within customers, communities, other stakeholder groups or networks	15		
- **Natural Capital** – shared (non-owned) renewable and non-renewable natural resources and processes	8		
Total Non-Purchased (e.g. self-created) Intangible or Tangible Assets of Indefinite Life	73		
TOTAL COMPREHENSIVE ASSETS:	**242**	**TOTAL COMPREHENSIVE LIABILITIES (INCL MARKET VALUE OF OWNERS EQUITY):**	**242**

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Table 9: Statement of Long-Term Risks and Estimated Non-Current Asset / Liability Value

Non-Current Assets in 20 yrs:		**Non-Current Liabilities in 20 yrs:**	
Forecast value of purchased or paid for Non-Current Assets at 31 December 2037:		*Forecast value of Long-term Debt at 31 December 2037:*	
- **Land (natural capital)** Brief description of long-term risk, valuation, assumptions, scenario used and possible future implications for investment, restructuring, write-downs, or impairment.	00	- **Long-term debt** Brief description of value calculation and assumptions, key financial risks involved including expected debt - equity structure / leverage and ability to repay / refinance existing debt or creditworthiness as a result of impact of long-term asset-related risks	00
- **Reserves (natural capital, recoverable** – non-extracted and extracted, e.g. water, minerals, oil for which title rights held) Brief description of key long-term risk, valuation, assumptions, scenario used and possible future implications for investment, restructuring, write-downs, or impairment.	00		
- **Buildings (built capital)** Brief description of key long-term risk, valuation, assumptions, scenario used and possible future implications for investment, restructuring, write-downs, or impairment.	00		
- **Equipment (manufactured capital)** Brief description of key long-term risk, valuation, assumptions, scenario used and possible future implications for investment, restructuring, write-downs, or impairment.	00		
- **Financial assets (financial capital)** Brief description of key long-term risk, valuation, assumptions, scenario used and possible future implications for future investment	00		
- **Intangible assets (intellectual capital-based, purchased, with limited / identifiable life** – incl patents, copyrights, licenses, software, contracts, leaseholds and trademarks) Brief description of key long-term risk, valuation, assumptions, scenario used and possible future implications for investment, restructuring, write-downs, or impairment.	00		

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Note that the proposed forward-looking Statement (Table 9) focuses on “purchased or paid for” non-current assets, while our proposed expanded Balance Sheet adds “non-purchased

(e.g. self-created or shared)" assets of indefinite life. A more ambitious version of the forward-looking Statement could also list estimated future values for *non-purchased assets* (such as the value of a shared natural resource) and *non-purchased debt* (such as a debt owed to nature due to the use of a shared natural resource). The existence of non-purchased or non-paid-for debt raises the possibility of systemic risk, in the cases of an unsustainable debt that involves the degeneration of a public resource beyond healthy thresholds. The implications of this and proposal work with scientific allocations in such cases is addressed in the 3.0 Reporting Blueprint. As is the case with stranded assets when dealing with purchased or paid for assets, such situations will require supplementary narrative (including Notes to the statement) that for example described transitional plans. The narrative therefore completes the meaningfulness of what is presented in predominantly quantitative statements, which takes us to the next chapter on Narrative Reporting.

4.4 Recommendations on Integrated Statements

Based on our discussion on Financial Statements, alternative versions thereof and our proposed expanded, forward-looking and integrated statements, the following recommendations are made for corporations, standard setters, providers of financial capital and regulators.

4.4.1 Recommendations for report preparers

STAGE	RECOMMENDATION
EDUCATE	49) Task newly formed, multidisciplinary accounting teams to assess alternative statements and come to an understanding of the implications of developing integrated P&Ls and alternative balance sheets, including multi-layered and mainstreaming versions thereof.
ADVOCATE	50) Engage with research, professional, standards setting and regulatory bodies on experience gained with the development of alternative statements. Shape agreement on areas of where standard guidance or regulation is required to ensure that fully comprehensive statements can be developed most effectively and efficiently.
ACCELERATE	51) Have newly formed, multidisciplinary accounting teams initiate an agreed approach and development of fully comprehensive statements for your organisation, including multi-layered income statements that capture material externalities and statements of current/future value position with estimations of key intangible assets and long-term risks.

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4.4.2 Recommendations for standard setters

STAGE	RECOMMENDATION
EDUCATE	52) Organise joint management education seminars for staff members so that finance, management and sustainability accountants participate and learn jointly about the evolution of mainstream and alternative statements. Debate the content of new integrated, fully comprehensive statements.
ADVOCATE	53) Convene with research service providers and ratings organisations such as the Global Initiative for Sustainability Ratings (GISR) to enhance agreement on common approaches to support the development of alternative and reliable, integrated statements by enterprises.
ACCELERATE	54) Task the management accounting profession to define efficient approaches and best practices for putting in place systems that enable gathering and analysis of relevant information from project and product level to business unit and organisation-wide level with the goal of producing aggregate, comprehensive and forward-looking statements. 55) Agree on a roadmap with allocated responsibilities for the development and agreement on approach and content of fully comprehensive, integrated statements – statements of full comprehensive income, value position and future risks.

4.4.3 Recommendations for providers of financial capital

STAGE	RECOMMENDATION
EDUCATE	56) Use educational events to ensure fund managers and analysts understand evolving approaches and the meaning of alternative statements, including expanded income statements and alternative balance sheets to provide more comprehensive coverage of different assets and liabilities, intangible items and long-term risks.
ADVOCATE	57) Engage partners from the upstream to the downstream of financial value chains to recognise, use and encourage the development by enterprises of alternative and integrated statements, comprehensively covering key elements of efficient use of different capitals as well as current/future assets and liabilities to better inform lenders and investors.
ACCELERATE	58) Develop assessments and commentaries on alternative statements (including integrated P&Ls or Total Contribution statements) published in recent years by leading corporates, defining areas for

	improvement and ways of scaling up. 59) Jointly define strategic shortcomings in current, conventional financial statements and recommend priority areas for improvement, suggesting to professional accounting and standards bodies key items to be covered in comprehensive, intercapital statements of a New Accounting practice.

4.4.4 Recommendations for regulators and governments

STAGE	RECOMMENDATION
EDUCATE	60) Internal capacity building programmes for governmental officials from diverse departments need to include coverage of new approaches by business to capture multicapital impacts in alternative statements, including identification of areas where policy and regulations facilitate or provide barriers to finding reliable, standard ways of capturing externalities in economic terms.
ADVOCATE	61) In collaboration with professional bodies, educational institutions and standard setters, consider ways of supporting their efforts to advance the development by business of alternative statements, ones that track multicapital impacts and communicate performance in ways that prevent long-term market failure and value destruction.
ACCELERATE	62) Issue policy statements and guidance that acknowledges the contribution of alternative statements and suggest ways of framing new, intercapital statements in ways that consider principled approaches to integrated risk management, informed markets, long-term business development and generational equity.

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5. Narrative reporting

5.1 Introduction: Moving towards more holistic understanding

In the future we anticipate that accounting will provide a foundation for different forms of disclosure and reporting in diverse formats for different audiences with diverse information needs. This includes so-called “narrative reporting”, which in future could be qualitative text provided in different forms of periodic or annual reporting. As signaled in the previous chapter, narrative reporting contributes to the meaningfulness of statements and serves to ensure that the metrics found in statements are interpreted in appropriate (including operational, market and sustainability) context.

Following the financial crisis of 2008 onwards, a practice statement on management commentary was issued by the International Accounting Standards Board (IASB, 2010) recognizing that reporting is likely to become increasingly narrative (see Fraser et al. 2010). The increase in the importance of management commentary was positively related to financial statement complexity. In other words, as financial statements of large organizations became increasingly complex, and full of clutter including wide-ranging footnotes, it was up to the front-end of annual reports with its narrative text to give it all a holistic, integrated and understandable meaning. This among others raised questions related to an apparent disconnect between the front-half and the back-half of annual reports, the audit and assurability of different types of potentially biased information disclosed, as well as the level of skill and interest shown by investors and other stakeholders in both the front and back-half of annual reports (cf ICAS 2016).

The Enhanced Business Reporting Consortium published an exposure draft of *The Enhanced Business Reporting Framework* in 2005. It sought to provide structure for the type of narrative discussion required in many countries, current examples of which are the MD&A in the US, the OFR in Australia and the Strategic Review in the UK. It provided a framework of 35 recommended disclosure categories under four headings: Business Landscape, Strategy, Resources and Processes, and Performance. Today, thinking on the non-financial parts of annual reports has evolved with more focus on the business model, the value creation process (including transformation of multiple capitals), governance, risks & opportunities, strategy and trends in quantitative and qualitative metrics. This trend has been influenced by international <IR> Framework including where report preparers have not explicitly referenced it (see Adams et al, 2016).

An issue here is not just how narrative reporting is structured, but also – if not more importantly – how different reports and sections are connected. Many integrated reporters have failed to effectively make the link between strategy, goals, targets and performance indicators. A holistic and faithful picture of the value creation process is therefore missing.

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5.2 Strategic content of narrative reporting

Reporting on business models

The European Financial Reporting Advisory Group (EFRAG, 2014) argues that the business model should play a role in 'financial reporting'[9] and be considered in the IASB's Conceptual Framework, noting that their views are shared by financial reporting standard setting bodies in France, Germany, Italy and the UK. They argue that an understanding of the business model is essential to follow the Conceptual Framework's fundamental principles of relevance and faithful presentation. In their view an understanding of the business model is necessary to: determine future cash flows from long term assets; produce accounts which reflect economic reality; and, inform about changes in the business model and hence changes in how assets and liabilities are used. The EFRAG report provides an example of the business model being ignored by IAS 16 Property, Plant and Equipment where the chosen deprecation policy is applied to a whole class of assets regardless of how they are used.

EFRAG (2014) went through a similar exercise to Gould et. al. (IIRC 2013) when writing the *Business Model Background Paper for <IR>* in examining what the term meant. Whilst EFRAG uses the term 'value creation' which is central to the <IR> Framework, the focus of their discussion of the business model is much more about the process of driving profitability and generating revenue, than is the definition used by the IIRC:

> "An organization's business model is its system of transforming inputs, through its business activities, into outputs and outcomes that aims to fulfil the organization's strategic purposes and create value over the short, medium and long term." (IIRC Framework 2013: 33)

where value creation reflects changes in multiple capitals – not just financial capital:

> "The process that results in increases, decreases or transformations of the capitals caused by the organization's business activities and outputs." (IIRC Framework 2013: 33)

The UK's Financial Reporting Council (FRC) has similarly defined the business model in narrower terms as:

> "what the company does, how it does it, and how it creates economic value now" (FRC 2016: 6, emphasis in original)

The IIRC's broader definition is reflective of the increased importance of narrative reporting, driven by a need for non-financial information to assess an organisation's ability to create value in the future. This definition, and the thinking behind it about the substance of how an organization does business and creates value deserves consideration as a basis for new financial reporting as well as non-financial reporting. In terms of financial reporting, the

[9] This was also the topic of an earlier report published by the Institute of Chartered Accountants of England and Wales (ICAEW, 2010).

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focus would be on cash flow generation and profitability but with the understanding that transformations of other forms of capital could drive cash flow generation and profitability, particularly in medium and longer term. Definitions of the business model as focusing solely on cash generation or short term economic value fail to: 1) address the concerns of significant investors (such as pension funds) on long term returns; and, 2) recognize the importance of non-financial capitals in generating financial capital.

Value creation and the value creation process

Value creation, the value creation process and the multiple capitals are fundamental concepts of the <IR> Framework (IIRC, 2013). The <IR> Framework encourages organizations to think of multiple capital inputs to the process of creating value for the organization and its stakeholders. The process of thinking about what value means for an organization and how it is created is referred to as integrated thinking. It has been found to be particularly valuable in articulating and developing a shared understanding of what an organization does. The multiple capital model broadens and deepens understanding about how value is created (or diminished) (see Adams, 2017).

The <IR> Framework provides a framework for capturing value creation drivers and reflecting these in (reporting on) strategy. The <IR> Framework encourages organisations to identify multiple capitals and external factors, including social, environmental and institutional factors, that are required in or impact on the value creation process. These are incorporated into the development of the organisation's strategy to create value. Organisations should disclose material externalities impacting on strategy and capitals needed to deliver on it. Reporting should also consider how the organization delivered on its previous year's strategy and capitals transformed in that process.

Risk reporting: business, market and ESG risk

A number of issues have been identified with the current level and quality of risk reporting and strong arguments put forward regarding benefits to both users and reporting organisations for better reporting (ACCA, 2014; Elshandidy et al 2015; FSB, 2012; Ryan, 2012). Arguments put forward by the ACCA (2014) for better risk reporting include:

- increased investor confidence in the quality of management ,
- provides a better idea how a company's performance will be affected if a risk materializes,
- demonstrates Board accountability, and
- adds value to the reporting organization.

Regulation and Stock Exchange requirements for risk reporting vary considerably across jurisdictions (ACCA, 2014; Elshandidy et al, 2015). The extent and nature of mandatory risk reporting requirements have been found to be significantly associated with the nature of the legal system and culture. There have been calls for risk reporting to for example be clear, balanced, understandable, comprehensive, relevant, consistent over time, comparable across an industry, provided on a timely basis (FSB Enhanced Disclosure Task Force, 2012). It has also been argued that risk reporting should present risks in well-structured format, separate components of comprehensive income (CI) that are primarily driven by

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variations in cash flow versus those primarily driven by variations in the cost of capital, use fair value accounting and disclose primary historical and forward-looking attributes with respect to model-dependent risk disclosures (Ryan, 2012).

ESG risk and opportunity can have a major impact for an organization's strategy and hence on its ability to create value (Adams, 2017) and, should be reported on to the extent that they have a (potential) material impact. ESG risk consideration have tended, however, to be an add-on rather than something considered and reported alongside other risks the organization faces. New accounting will incorporate ESG risk assessment into mainstream risk consideration. Accompanying the multilayered and expanded income statements and balance sheets, with the statements of Long-term Risks and Estimated Asset / Liability Value, narrative reporting would add further explanation of context, methodology and the financial figures provided in these statements.

Governance reporting

Good governance is essential to quality reporting (IFAC, 2011). National corporate governance codes in countries world-wide require reporting on compliance with the national corporate governance framework – in many cases explicitly requiring inclusion of a Corporate Governance Report (i.e. separate chapter) within the annual report.

Increase in corporate governance disclosures over the last two decades can be attributed to:

- corporate governance scandals (such as Enron, Worldcom and VW[10]) (Hermalin and Weisbach (2012);
- reporting frameworks which require Board involvement in reporting and/or specified governance disclosures (see Adams, 2017);
- concern about executive pay (Hermalin and Weisbach (2012); and,
- concern about gender diversity and breadth of experience of the Board where the concerns are accountability, performance and/or having the Board take responsibility.

Whilst Boards are required to take responsibility for financial reporting and integrated reports which follow either the King IV Code (in South Africa) or the International <IR> Framework (IIRC, 2013), they have traditionally had little or no involvement in sustainability reporting (although Chan et al, 2014 found a link between governance quality and CSR disclosure). Adams (2017) found that Board involvement in reporting, specifically integrated reporting, could improve the Board's understanding of the purpose of the business and their responsiveness to, and understanding of, ESG risk. This is especially important considering the duty of Board directors "to exercise reasonable care, skill and diligence", an area that Garratt (2012) has signaled is one where most Boards fail.

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[10] See https://drcaroladams.net/the-vw-scandal-green-revenue-manipulation-and-corporate-governance/

5.3 Recommendations on Narrative Reporting

Based on our discussion on Narrative Reporting, we present recommendations for corporations, standard setters, providers of financial capital and regulators. These recommendations are concerned with improving the quality and increasing the quantity of narrative disclosures on the business model, the value creation process (including transformation of multiple capitals), governance, risks & opportunities, strategy and trends in quantitative and qualitative metrics. The recommendations are aligned with the International <IR> Framework (with the exception that they acknowledge a diverse audience with different information priorities), the work of the GRI on metrics and recent regulation on narrative reporting such as the OFR in Australia and the Strategic Review in the UK. The recommendations also cover actions required to develop 'integrated thinking' as defined in the International <IR> Framework.

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5.3.1 Recommendations for report preparers

STAGE	RECOMMENDATION
EDUCATE	63) Develop multidisciplinary accounting, reporting and communications teams to reassess their current approach to narrative reporting. 64) Identify key weaknesses related to lack of consistency and connection between different narrative disclosures, including lack of connectivity and limitations in the communication of the business model, transformation of multiple capitals, governance, risks & opportunities, strategy and trends.
ADVOCATE	65) Engage with key stakeholder groups on the content of narrative reporting on material matters, including areas of improvement in the complementary roles of different narratives in different types of reporting or disclosure.
ACCELERATE	66) Collaborate with standard setting organisations and regulatory bodies in developing reporting guidance.

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5.3.2 Recommendations for standard setters

STAGE	RECOMMENDATION
EDUCATE	67) Engage with users and preparers from the financial, management and sustainability accounting domains to assess the extent of misalignment or complementarity of narrative disclosures in different types of periodic reports.
ADVOCATE	68) Engage with professional bodies, responsible investor and sustainable finance initiatives and regulatory bodies on the

	decision-usefulness and common but differentiated purpose and standardisation needs of narrative disclosures in different types of reporting.
ACCELERATE	69) Through collaborative processes reach agreement on standard, key content elements such as: organisation (including corporate governance); business strategy & value creation; risks (current / future, trends); opportunities (current/future, trends); and, contextualised analysis of performance (including non-financial and qualitative metrics). Develop guidance on these matters.

5.3.3 Recommendations for providers of financial capital

STAGE	RECOMMENDATION
EDUCATE	70) Providers of educational programmes and qualifications in credit and investment management need to develop and provide good practice publications and courses with comparative analysis of narrative reporting from financial, integrated and sustainability reports by corporations, related guidance by bodies such as the IASB, IIRC and GRI.
ADVOCATE	71) Engage partners from the upstream to the downstream of their value chains to refine and promote their recommendations on decision-useful and accountable narrative reporting including preferences on key narrative content elements.
ACCELERATE	72) Collaborate with professional organisations and standards bodies of the financial, management and sustainability accounting domains to supporting the development of guidance on aligned approaches to narrative reporting and content elements.

5.3.4 Recommendations for regulators and governments

STAGE	RECOMMENDATION
EDUCATE	73) Develop internal capacity building programmes for governmental officials from diverse departments (including finance, business & industry, labour, environment, welfare and statistics) which include trends in international narrative reporting standards and corporate narratives on value creation and impact connect with public goals such as the SDGs.
ADVOCATE	74) Through collaboration with local professional bodies, educational institutions and standard setters, develop ways of supporting their efforts to promote decision-useful and accountable narrative

		reporting that enables a context-based and reliable assessment of multicapital impacts and longer term value creation.
ACCELERATE	75)	Develop policy statements, guidance and initiatives that promote decision-useful and accountable narrative reporting by corporations. This includes addressing strategic risks and opportunities related to multicapital and systemic developments such as climate change.

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6. Disclosure timeframe, aggregation and strategic outlook

6.1 Introduction to time and strategic framing

Our discussion on statements showed how important the presentation of accounting information can be, considering its ability to effectively inform the users of reported information. As important as the *presentation*, including structure and centralization or disaggregation of information, is the *timing* with which performance information is disclosed. It remains to be seen what impact new IT capabilities and the possibilities of realtime data disclosure will have on accounting practice and human behavior. The reliability and discipline with which organizational performance information is collected, processed and reported has been a signal of the importance attached to it, as well as level of experience in having established the required accounting systems.

While time has different value in different industry sectors, senior executives and managers are challenged to maintain a sense of balance when processing the immediate operational needs of today, expectations for the coming months and planning for years ahead. The same applies to accountants. While sustainability and management accountants are used to work with longer term and future focused developments, financial accountants are confronted with the daily realities of implementation and pressure for reporting results on quarterly or short term basis. This highlights the need for sustainability accountants to learn from financial accounting about the discipline and controls of delivering reliable information on a periodic basis. It also highlights the need for financial accountants to learn from corporate finance, strategy and sustainability about keeping track with longer term and systemic developments.

Leading the definition of key accounts and setting up comprehensive accounting systems, what specifications should a Chief Integrated Accounting Officer give to her accounting and IT professionals? How many years of data needs to be covered? How frequently should overall results be reported, internally and externally? How would backward-looking versus forward-looking information be dealt with differently, and what are the related research, analysis and resource allocation requirements? We start by reflecting on these questions for New Accounting by revisiting the expected types of information and frequency of disclosures.

6.1.1 Historical data and long-term, forward-looking information

Large businesses are under pressure to report more forward-looking information. What is the content of “forward-looking” information? It can be forecasts about earnings, revenues, cash flows, special expenses or capital expenditures, as well as disclosure of business plans or strategies alongside defined risks and opportunities. Probably no issue demands future, long-term focused disclosure more than that of climate change. Seeking to promote more structured and standardized information in climate-related financial disclosures, the FSB Task Force on Climate-related Financial Disclosures (2016) defined four core areas of disclosure: metrics and targets, risk management, strategy and governance. It addresses the forward-looking dimension by recommending scenario analysis, seen as key to better understanding the potential financial implications of climate change on an organization. The Task Force noted: “It is important to undertake both historical and forward-looking analyses

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when considering the potential financial impacts of climate change on an organization, with greater need for forward-looking analyses as the efforts to mitigate and adapt to climate change are without historical precedent" (TCFD 2016: 10).

The TCFD leaves it to reporting organizations to decide what time frames they apply when assessing short, medium and long-term impacts, considering for example the life of their assets and the profile of the climate-related risks they face. An example of sector specifics is that of water services. Many of the A4S CFO Network members involved in its "managing future uncertainty" project are water services companies, for whom assessment of risks to water resources and water management systems over a time frame a coming 50 – 100 years is common. The need for a long-term focus in decision-making is a given. In its comments on the TCFD Dec 2016 Recommendations, the Network for Sustainable Financial Markets (2017) has urged for longer-term strategic planning disclosure requirements. It argued that climate-related disclosures will lack necessary information if they do not disclose whether a company has a strategic plan extending 5 – 20 years into the future (or longer, depending on the industry). It cited the example of Toyota which recently disclosed a 35-year strategic plan and technology roadmap.

In its assessment of the influence of accounting practice on long–term versus short-termist investment decision-making, the ICAEW (2016) has considered whether requiring companies to publish long-term series of data as supplementary information in financial reporting could improve management accountability for long-term performance. This could involve providing 20 years of data on key financial reporting indicators. At the same time it pointed to the reality that investors already construct and manage their own data series on companies, based on their own analysis of annual reports or data they buy from 3d party, commercial information providers. With respect to the forward-looking, long-term future, a further consideration is also the fact that in our Internet world change can be surprisingly rapid and the reliability of long-term planning is therefore more complicated.

Figure 14 below maps the scope of information to be covered by accounting and reporting, considering its forward and backward-looking dimensions as well as the nature of the information being positive or negative. The natural tendency for a report preparer is to underplay risks and overplay opportunities. While forward-looking information on opportunities therefore holds the possibility of abuse, it is with respect to risks that the responsible provider of financial capital would want to push for more forward-looking information. The coloured bars in the graphic signals the likely time frames for which reliable information – be it financial, pre-financial quantitative and qualitative – could be collected and reported. Information on past performance can more easily be defined as entity-specific ("hard information" based on organizational performance records), whereas collecting information on future performance will tend to be more challenged in being entity specific and relating diverse trends (scenarios) to the likely future performance of a specific reporting entity.

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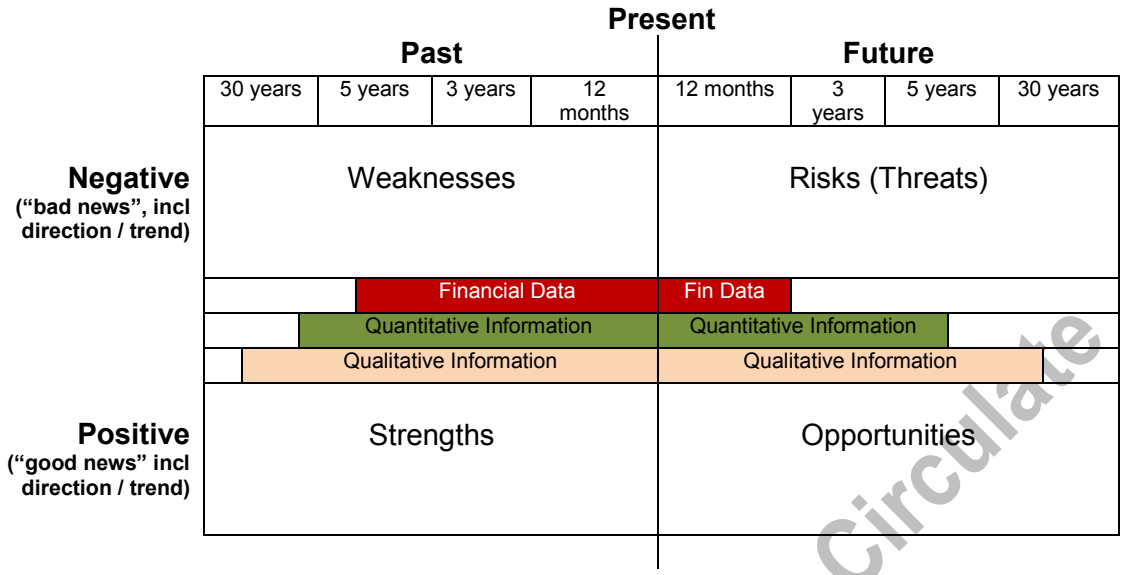
Figure 14: Scope of information, including time frame and nature



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6.1.2 Frequency of disclosure, quarterly and other

If accounting were to be a change agent, one factor not to be underestimated in its role is the frequency with which collected and interpreted information is disclosed, through periodic reports and other disclosure vehicles. This implies the managing of expectations, as reflected in the tradition of quarterly earnings reporting. Managing expectations also faces new challenges in view of ongoing IT innovation, including the ability of new technologies such as Artificial Intelligence to bring new insights on an ongoing basis. Any single "report" is "after the fact" or outdated as soon as it is published, as real-time information flows challenge conventions such as "closing the books" in a timely fashion.

In the 2000s the Chartered Financial Analysts Institute (CFA 2006) issued a white paper recommending that companies eliminate quarterly earnings guidance. For some the disclosure of forward-looking information in the form of forecasts raise alarm bells related to possible misrepresentation or abuse (e.g. managers making over-optimistic or misleading forecasts). For others it represents a way of enhancing accountability, by facilitating greater transparency and longer term strategy. Financial regulators can protect reporters from legal liabilities in the event of inaccurate forecasts (safe harbor provisions), provided that the forecasts are made in good faith.[11]

Debates on the merits of voluntary forward-looking statements over the last four decades have shown diverse opinions. In a Public Policy Paper on long-term investment and accounting, the ICAEW (2016) has argued that evidence need to be refined on the suggestion that more frequent (e.g. quarterly) reporting encourages short-termism in decision-making by business managers and impedes ling-term investment. It highlighted

[11] Cf regulation of Fair Disclosure by the SEC and the Private Securities Litigation Reform Act passed by the US Congress in 1995.

apparent trade-offs that exist between transparency and managerial autonomy, as well as between reporting timeliness and reliability of information. Questions involved here include:

- the regularity and time frame of disclosure (for example quarterly, six-monthly, annually),
- the impact of tying management incentives / rewards / remuneration to results reflected in such disclosures,
- the type of investor (e.g. institutional or transient investor), and
- the type of investments (e.g. investment in assets with long lives or investments held for long periods) involved.

Greater reporting frequency is often assumed to increase transparency (lower information asymmetries) which leads to beneficial capital market outcomes (lower cost of capital, greater market liquidity). Finance executives have highlighted benefits of regular earnings guidance and reporting such as promoting a reputation for transparency, attracting analyst following, constraining price volatility and reduced litigation risk. Yet reporting too frequently can also lead to greater (perceived) volatility in performance and market pricing, and additionally undermine long-term investment. The Kay Review of UK Equity Markets and Long-Term Decision-making (2012) took note of the risk of earnings manipulation by managers to meet quarterly earnings targets and recommended that quarterly reporting requirements should be removed.

Ways of addressing the above short-termism include recommendations to do away with quarterly earnings guidance and quarterly reporting, and/or rather providing regular guidance on long-term performance. The Generation Foundation and KKS (2015) have weighed the perceived benefits of earnings guidance and its costs, the latter involving actual costs in the form of earnings management, attracting a short-term investor base, enhancing analyst herding and insider trading. It concluded that the costs outweigh the benefits, and like institutions such as the CFA Institute and US Chamber of Commerce recommended doing away with earnings guidance. It recommended steps for companies to announce and stop providing earnings guidance, following the examples of companies such as Coca-Cola, Unilever and Google.

The Generation Foundation and KKS (2015) recommend replacing earnings guidance with Integrated Reporting and Integrated Guidance. It foresaw that the latter will not seek to provide numeric forecasts about specific metrics regularly, but will rather inform market participants about changes over time in a firm's different forms of capital and their effect on the future competitiveness of the company over the long-term. It argued that a company can provide the market with Integrated Guidance every one to three years. This idea of integrated guidance, for example on longer term changes in the different capitals of a firm, complements our earlier proposal of an expanded balance sheet accompanied by a Statement of Long-Term Risks and Asset/Liability Value. The latter needs to be accompanied by narrative reporting that can be included in the Integrated Guidance.

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6.1.3 Strategic outlook: From accounting to strategy

On the "qualitative characteristics of useful financial information", the IFRS Conceptual Framework for Financial Reporting (2016) states:

> "Financial reports provide information about the reporting entity's economic resources, claims against the reporting entity and the effects of transactions and other events and conditions that change those resources and claims… Some financial reports also include explanatory material about management's expectations and strategies for the reporting entity, and other types of forward-looking information." (Par 2.2)

Apparently the place for qualitative discussion of strategy lies within the narrative MD&A, Director's Report or similar variants. But there are limitations. The Framework (2016: par 1.6) notes that "general purpose financial reports do not and cannot provide all of the information that existing and potential investors, lenders and other creditors need", adding that these users need to consider other sources for information on for example economic conditions and industry or company outlooks.

With "Strategic Focus and Future Orientation" as its first principle, the <IR> Framework expects the integrated report to describe the strategy of an organization, and how the strategy relates to the organization's ability to create value in the short, medium and long term and to its use of and effects on the capitals. With respect to the implementation of strategy, integrated accounting needs to be able to communicate and track a logical linkage from overall strategic goals and objectives to related targets and key performance indicators.

One of the <IR> Framework's recommended content elements is Outlook, asking – with reference to short, medium and long term - what challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance? The GRI Guidelines (Standard Disclosure 102-14) expects executive leadership of the company to state its strategy for addressing sustainability. The required statement should present an overall vision and strategy for the short term, medium term, and long- term, particularly related to managing the significant economic, environmental and social impacts of the reporting organization.

What the <IR> Framework describes appears to be *business strategy*, whereas what the GRI Standard describes comes across as *sustainability strategy*. SASB makes the case for a sustainable business strategy. Needless to say, the end goal has to be integrated strategy, i.e. a strategy for a sustainable and thriving business with a long-term focus. The key point here is that accounting is challenged to provide the raw material of what becomes a discussion about strategy, its implementation and longer term direction. This also implies that disclosure on Outlook becomes more than only a hint of likely trends (e.g. market, economy, country) of the coming year, but discussion of longer term developments. As shown by the experience of management accounting and sustainability accounting, New Accounting has inherently also a forward-looking and strategic dimension.

Assessing future risks and opportunities requires a more forward-looking assessment and examination of value proposition, business model and strategy. It also recognizes the

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shortcomings of relying only on past (financial) performance as a more or less reliable indicator of future investment returns. It is with this perspective that asset managers using the SASB standard listing of material topics state that “ESG analysis adds an additional level of rigor to fundamental analysis and helps to assess the reliability of future cash flows”, mindful of the value of ESG information (which tend to involve long term developments) in complementing fundamental investment analysis (SASB 2016).

This more strategic perspective also takes financial accounting into corporate finance. While in the past experts had different views on whether corporate finance is part of accounting or vice versa, the above suggests a positioning of financial accounting within Corporate Finance as a broader field, including strategic financing and investor relations. Within corporates, work in the field of New Accounting will cut across different departments, including finance, control and sustainability.

6.2 Level of analysis, aggregation and conciseness

Debates on the length and understandability of corporate reporting since the 2000s have often raised the words “complexity” and “clutter”. Associated with this is the challenge of understanding and effectively communicating about complex phenomena of our modern world, phenomena such as “global financial crisis”, “climate change” and “digital revolution”. Also associated is different approaches in responding to calls for accountability, transparency and market efficiency, with some assuming the best approach is to bombard information users with more information, often compliance-driven and repeated boilerplate information or excessive technical detail. Involved are matters of technical complexity, misguided innovation in managing stakeholder expectations as well as lack of understanding on how new possibilities of IT and digital communications can best be employed to deliver real (not just artificial) intelligence.

In part the issue of information clutter or overload has underlined the need for effectively applying the principle of relevance and materiality. With this comes the question of conciseness versus completeness of reporting, which we will discuss in the following section. To start with, let us consider the need for reporting in appropriate context (for example sustainability context). It implies the level of analysis, aggregation and segmentation in accounting and reporting. Blueprint 1 states that accounting needs to serve accountability at the micro, meso and macro levels. How can organizational level accounting better enable such multilevel accountability?

The decision on aggregation and consolidation of collected data or information is not simply a methodological matter of processing metrics and related information. It also implies substantive considerations involved in compiling a “relevant” and “faithful representation” of the status and performance of an organization. Some would argue that sustainability context requires applying the principle of “subsidiarity”, disclosing and communicating information in as far as possible in local context. In the next section we consider the relevance of local context, as well as core market and business operational context in presenting performance information appropriately.

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6.2.1 Aggregation and segmented reporting in context

On the structuring and presentation of accounting information in globally aggregated or consolidated format, consider in how far segmented reporting based on for example region or business line is more relevant – among others from a responsible, multicapital investment point of view. When publishing its revised operating segments standard IFRA 8 (Segment Reporting) in 2009, the International Accounting Standards Board (IASB) acknowledged the benefits of viewing business unit performance "through the eyes of management". With this pragmatic and functional management approach for segment reporting, it provided greater flexibility for management to report measures such as underlying earnings, industry specific measures and other "non-GAAP" (non-audited or non-financial) information at the segment level. Whereas external stakeholders are mostly interested in aggregated figures of a whole company (group), a production site or entire product life cycles, company internal actors also need detailed, disaggregated information for the exact examination of internal organizational, process and product improvements (Maas et.al. 2016).

Disclosures by reportable operating segments can include, according to IFRS8, internal and external revenues. Internal revenues (for example based on internal trading between subsidiaries within a group) will fall within the field of ID Materiality as we defined earlier. Also, the standard dictates that it can include material items of income and expense disclosed separately. It may very well be therefore that what is considered not material at global or group level may be considered material at operating segment level – for example water use by the Africa Unit in a water scare region versus global level water use by a global beer & drinks producing group.

Related to the principle of Clarity, GRI Standard 101 acknowledges that the level of aggregation of information can affect the clarity of a report if it is more or less detailed than stakeholders expect. The IIRC <IR> Framework recommends a level of aggregation (by country, subsidiary, division, or site) that is appropriate to the circumstances of the reporting entity, adding:

> "In some circumstances, aggregation of information can result in a significant loss of meaning and can also fail to highlight particularly strong or poor performance in specific areas. On the other hand, unnecessary disaggregation can result in clutter that adversely affects the ease of understanding the information." (IIRC Framework 2013: par 4.61)

The IIRC approach is also that of the management view, considering how senior management and those charged with governance manage and oversee the organization and its operations, which typically results in presenting information based on business or geographical segments used for financial reporting purposes. Investors have expressed appreciation for segmented data by market, for example geographical region (say Latin America versus Asia Pacific).

Note the SASB approach with its Sustainability Industry Classification System (SICS), considering not only whether companies have similar business models, products and services and the like but also in how far they face common sustainability challenges. This

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underlines the value of having performance information collated and presented in a manner that enables investors and other users to make more meaningful comparisons between peers and to ensure they interpret disclosed information on appropriate context (industry operational and sustainability context).

Evidently there is an interrelation between having a disclosure that is concise as well as readable and transparent. Key with respect to aggregation and segmentation in New Accounting is the following:

i. **Aggregation is not used as a technique to hide bad news or risks** (cf Transparency International's critique of some sectors for not reporting taxes paid country-by-country[12]). The decision about (dis)aggregation has to serve the purpose of decision-useful information and stewardship accountability.
ii. **Sustainability context** implies the decision about (dis)aggregation is substantively important and not simply a methodological technicality. This includes weighing the relative importance of local versus regional versus global context – i.e. geographical context in addition to industry or sector context.
iii. Preferred levels of aggregation and segmentation has implications for how **accounts are defined, set up and maintained**, including alignment between accounts related to different capitals (all of which will cover both financial and non-financial units of measurement).

Related to the macro-micro link or gap identified in Blueprint 1, experience in the domain of Natural Capital and ecosystem services valuation presents extensive experience gained by leading corporates over the last decade in the combination of bottom-up versus top-down measurement or assessment approaches. Work by analysts such as True Cost and the True Price Foundation as well as the Natural Capital Project in developing an Integrated Evaluation of Ecosystem Services and Tradeoffs (InVEST) software has illustrated the pros and cons of relying on global or industry-based data sets versus local site-specific data sources in doing modelling (cf Tallis and Polasky 2011). In some cases, for example when dealing with strategy and defining likely hot spots in global supply chains, a top down approach suffices. In other cases, when for example investigating local impact and country level risk, a bottom up approach in data collection and accounting is required.

The range of levels of analysis on Natural Capital impacts and dependencies is illustrated by the two graphic images in Figure 15, taken from ecosystem valuation work done by for example the WBCSD and WRI. Quantifying impacts and doing economic analysis in these cases can involve dealing with monetary measuring units (e.g. US$) when dealing with environmental impacts or resources. When dealing with social impact and resources, measuring units may involve alternatives such as "risk hours by country" calculated on the basis of man-hours spent by supplier country and indexed risks such as occupational safety and forced labour. The latter approach was presented by Otto Group at the 2014 Reporting 3.0 Conference in Berlin. It points to the intersect between multilevel private and public

[12] TI expects disclosure of key financial information on a country-by-country basis. On their regular assessment of reporting by multinational corporations, see http://www.transparency.org/whatwedo/publication/transparency_in_corporate_reporting_assessing_emerging_market_multinat

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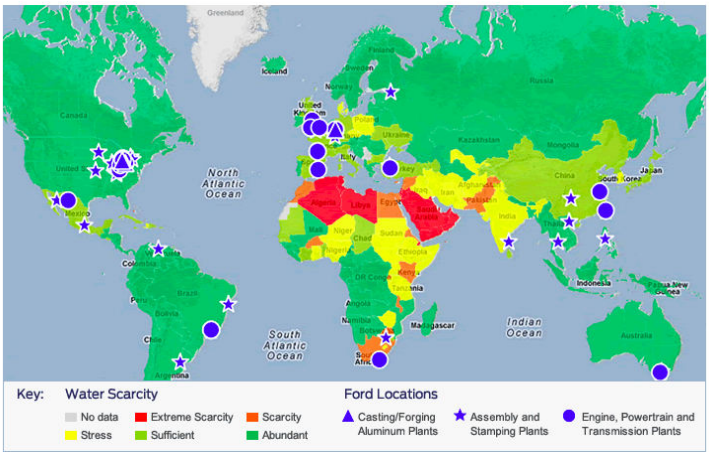
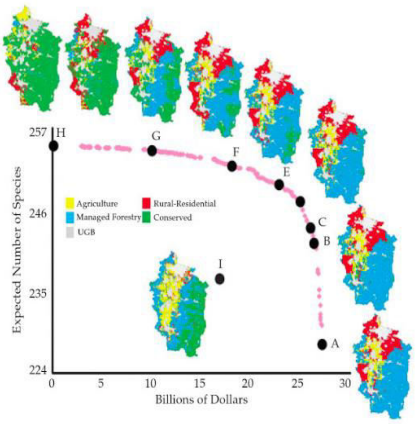
accounts, and the need for national accounting (public statistics) institutions and industry bodies to meet and define improved ways in which relevant public level information can be made available to help businesses conduct more scientific assessments and target setting.

Figure 15: Risk and Scenario Mapping, reflecting global to local level data and use by a business entity of management accounting and sustainability accounting tools



Ford mapping of its plants world-wide and 2025 Projected Annual Renewable Water Supply per Person globally, based on WBCSD Global Water Tool[13]



Efficiency frontier showing maximum feasible combinations of economic returns and biodiversity scores associated with different local land management scenarios (Polasky et.al. 2008)

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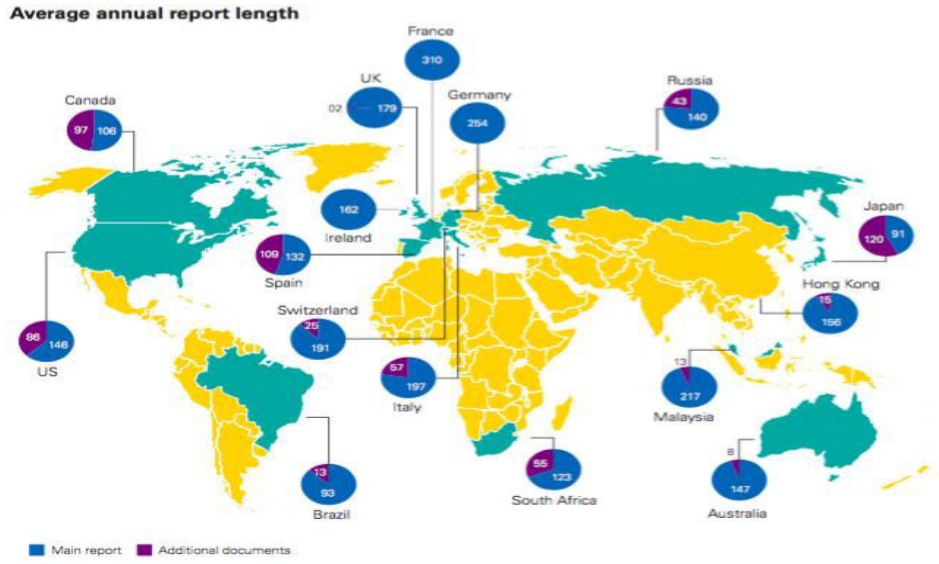
6.2.2 Reconciling comprehensiveness and conciseness

As can be seen from the KPMG analysis of annual reports of listed companies from 16 countries (Figure 16), their length commonly ranges 200 – 300 pages. Concerns about the growing length and complexity of annual financial reports have led for example the UK Financial Reporting Council to publish a report entitled *Cutting Clutter: Combating clutter in annual reports* (FRC 2011) and the Australian Financial Reporting Council to set up a Managing Complexity Task Force (Australia FRC 2012). The Institute of Chartered Accountants of Scotland and the New Zealand Institute of Chartered Accountants co-published a report entitled *Loosing the Excess Baggage* (2011). In a report on complexity entitled *Louder than Words* (FRC 2009), the UK FRC noted that increased use of fair value accounting has resulted in lengthy valuation assumption disclosures. It cautioned that this type of disclosure is fundamentally different from segmental disclosures, which provide greater disaggregation of core business results. It recommended testing user feedback on usefulness of various 'assumptions' and 'disaggregation' disclosures.

[13] Ford stated in 2013: We use the World Business Council for Sustainable Development's (WBCSD) Global Water Tool to evaluate which of our operations are projected to be in water-scarce regions by 2025. The analysis shows that approximately 26 percent of our operations are projected to be in such regions (defined as areas of extreme scarcity or scarcity). http://corporate.ford.com/microsites/sustainability-report-2011-12/water-stressed.html

Figure 16: Growing length of annual reports



Length of annual reports from 16 countries (KPMG 2016)

The IIRC has set out to promote a new form of reporting that results in producing more concise documents. Doing so, it has been confronted with seeming contradiction between the principles of "conciseness" and "comprehensiveness" while seeking to strengthen application of the related principle of materiality. It joined the Association of Chartered Certified Accountants (ACCA) and International Association for Accounting Education and Research (IAAER) in commissioning research on the topic. The resultant research report (ACCA et.al. 2016) highlighted, based on examination of company reports and interviews with preparers as well as auditors, the importance of the process of materiality determination, as well as the explicit or implicit consideration of magnitude and likelihood of occurrence as criteria. The study also signaled bias in favour of numbers, in particular financial figures, when deciding on materiality. Interviewees reported use of techniques such as report layout, centralized graphics, cross-referencing within a report and to additional materials on a website.

The question of possible tension between the principles of conciseness and completeness is really one of clarifying their meaning. Here it is helpful to compare how the IIRC and GRI respectively define "completeness". The <IR> Framework defines completeness in terms of including "all material matters, both positive and negative". The GRI Standards (101) defines completeness in terms of including "material topics and their boundaries", reflecting "significant economic, environmental, and social impacts". The essence therefore is addressing all material topics while covering the full spectrum (econ-env-social) of the sustainability or multicapital agenda. About conciseness, the term GRI uses is "level of coverage" when deciding how much information to disclose related to each material topic. On the principle of "clarity" the GRI also refers to information being understandable and accessible, adding the test that a "report contains the level of information required by stakeholders, but avoids excessive and unnecessary detail" (GRI 101).

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The level of ambition in tracking different types of information (internal/external, past/future, global/local, etc) has implications for the planning, organization and resource requirements of setting up comprehensive accounting systems. Naturally managers would consider the financial accounting principles of conservatism and cost/benefit constraints. In as far as they face an expanding sustainability agenda, key will be the application of the principle of relevance and materiality in terms of the three fields we defined. When in 1976 the US Supreme Court referred to "total mix of information" in defining materiality, it was never meant to imply "all information". It implied the information "likely to be considered" by a reasonable investor, the information that more likely than not (>50% chance) has the potential for influencing the decisions made by that investor. The same logic applies when the Corporate Reporting Dialogue defines materiality in terms of "information which is reasonably capable of making a difference to the conclusions reasonable stakeholders may draw" (see chapter 6). In this respect materiality is both determined in terms of internal or external thresholds and itself conceptually represents a threshold for the amount of information that is included in disclosures.

Our definition of three fields of materiality (ID, ED, EI) and the possibility of information packages defined in terms of prioritized stakeholder group will enable users including the legal, audit and financial professions to have clarity on different levels of assurance, certainty and accuracy implied. The three fields do not imply a hierarchy, and a piece of EI information may prove to be significantly more relevant than a piece of ID information. Also, the definition of disclosure packages in terms of target audience (prioritized stakeholder groups) will enable more concise and focused reports.

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6.3 Recommendations on timeframe, aggregation and strategic outlook

Based on our discussion on Timeframe and Aggregation, including strategic outlook at different levels of analysis, the following recommendations are made for corporations, standard setters, providers of financial capital and regulators.

6.3.1 Recommendations for report preparers

STAGE	RECOMMENDATION
EDUCATE	76) Task multidisciplinary accounting teams to assess your current approach to disclosure timeframes and aggregation, consider the recommendations of different standard setters (e.g. IASB, GRI, IIRC, TFCD) on forward-looking information, aggregation criteria and multilevel systems context. Decide on implications for new accounting systems, data collection and disclosure formats.
ADVOCATE	77) Engage your business partners, up and downstream in the value chain, in making the case for improved, multicapital information gathering and context-based analysis.
ACCELERATE	78) Collaborate with standard setting organisations in defining improved guidance on timeframes, aggregation and segmentation, as well as the related principles of materiality, comprehensiveness and

	conciseness, considering new criteria such as country demographic and bioregional context. 79) Collaborate with infotech (ICT) industry initiatives in defining user needs and specifications for software solutions that enable improved data collection and accounting systems at different levels (vertical, horizontal), common systems that support the information requirements of financial, management and sustainability accountants.

6.3.2 Recommendations for standard setters

STAGE	RECOMMENDATION
EDUCATE	80) Organise collaborative assessments involving your managers from the financial, management and sustainability accounting domains on different approaches to timeframe, aggregation and segmentation, as well as implications of related principles such as materiality, context and conciseness in ensuring different stakeholders and markets are better informed.
ADVOCATE	81) Organise dialogue events with professional bodies, business initiatives, and public institutions including statistics departments on key country and regional developments, with the aim to determine how relevant disclosure by business covering different timeframes, levels of aggregation and segments can better support informed and accountable decision-making.
ACCELERATE	82) Define combined guidance on timeframe, aggregation and segmentation, considering different types of financial / sustainability / integrated disclosure, applying agreed interpretations of the related principles of materiality, comprehensiveness, conciseness and sustainability context while considering new criteria such as national development and bioregional context.

6.3.3 Recommendations for providers of financial capital

STAGE	RECOMMENDATION
EDUCATE	83) Providers of education and qualifications in credit and investment management need to develop good practice publications and courses that address questions of timeframe (timing of disclosures as well as timeframes of disclosure content), aggregation, segmentation and context in analysing corporate disclosures, with special consideration of relevance, multicapital connectivity, integrated risk management and multi-level accountability.

ADVOCATE	84) Engage partners from the upstream to the downstream of your financial value chains to improve shared understanding of appropriate timeframes, levels of analysis, aggregation and segmentation while considering New Accounting principles. This includes use of country risk & opportunity profiles, with scientific information about socio-economic and ecological trends.
ACCELERATE	85) Collaborate with professional organisations and standards bodies in supporting the development of New Accounting guidance on timeframe, aggregation and segmentation, applying agreed understanding of principles and enabling analysts to access priority information for employing New Accounting ratios and other interpretive tools at appropriate levels of analysis.

6.3.4 Recommendations for regulators and governments

Circu

STAGE	RECOMMENDATION
EDUCATE	86) Have internal capacity building programmes for officials from diverse departments address accounting systems at different levels, including timeframe (future scenarios) of information covered and ways of making relevant public scientific information sources more accessible for use by corporates for their accounting and risk management purposes.
ADVOCATE	87) Collaborate with industry, professional and standards bodies as well as tertiary research institutions in defining linkages between micro, meso and macro level accounting systems and requirements for improved public resources that corporates can easily access to obtain relevant scientific information.
ACCELERATE	88) Establish initiatives with industry, professional and standards bodies as well as tertiary research institutions for the establishment of improved public resources that corporates can easily access to obtain relevant scientific information including future scenarios and data about the local / national / regional market, economy, societal and environmental contexts in which they operate.

7. Conclusion

7.1 Overall conclusion

Accounting twenty years from now will look very different from accounting today, and so would accounting practice and accounting education. New Accounting will be recognized as comprehensive discipline, accompanied by interdisciplinary practice producing statements and disclosures that are much closer to market values, forward-looking developments and societal realities. It will be accounting, as we said in the introduction, with a broader sense of purpose and a different understanding of wealth and value creation. Working together as professional, interdisciplinary teams, financial, management and sustainability accountants will pave the way for New Accounting to make its contribution to green, inclusive and open economies with healthy, responsible and accountable organisations.

Our Accounting Blueprint proposes twelve Recognised Comprehensive Accounting Principles (RCAP) of New Accounting, it suggests a way of dealing with the challenge of recognition and monetization, it identifies key actions for determining integral materiality while considering internal and external thresholds, and shows how accounting can be more strategic and holistic. Importantly, it gives financial statements a facelift and suggests what multilayered, more comprehensive income statements and balance sheets may look like twenty years onwards.

Like different views on monetization, there are different thoughts among experts on the desirability or feasibility of integrating ESG information into mainstream financial statements. Some would argue that this is pre-mature, and that more realistic and meaningful would be the further development of quantitative non-financial statements (such as integrated P&Ls or Total Contribution statements) alongside financial statements. Some would refer to these as value statements, which can be populated with either quantitative and/or qualitative content. Our Blueprint tests the boundaries of what is do-able and what may be the new normal by 2040. This implies integrated, holistic statements that capture different types of information in a meaningful and structured manner.

Mindful of calls for greater accountability in the use of diverse capitals, fairness to different stakeholders or rightsholders - current and future - as well as decision-usefulness in the midst of information overload, the Accounting Blueprint suggests ways in which accounting can be more strategic in its analyses and narrative communications. It highlights valuable lessons learned from integrated reporting <IR>, showing how narrative reporting has a key role to play in making up for the shortcomings of conventional financial or sustainability statements and improving understanding of various drivers behind value creation with a longer term focus.

Our Blueprint chapters 2 – 6 provide a series of recommendations for companies, accounting standard setters, providers of financial capital and regulators. They have far-reaching implications for how companies organize their accounting practices internally, for collaboration with value chain partners and standard setting as well as professional organisations, as well as engagement with responsible investors, regulators and other stakeholders.

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Figure 17: Organisational process flow for New Accounting

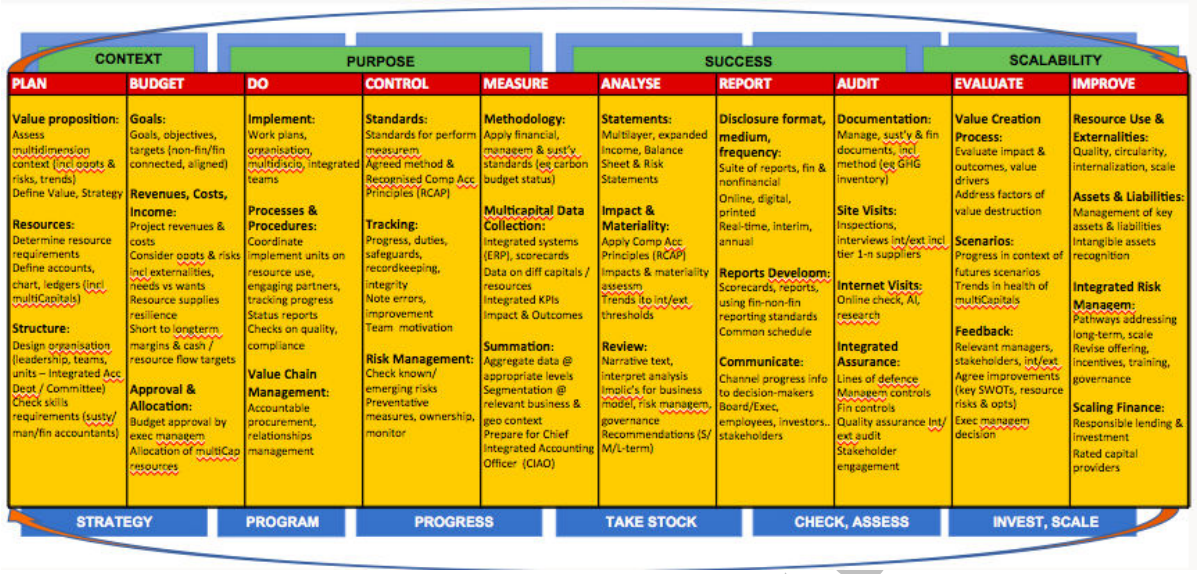

Figure 17 above presents a process flow chart for management leaders to consider what a New Accounting set-up in their organisations may look like. It starts off with getting clarity on the understanding of value and strategy, as well as defining accounts and organizing interdisciplinary accounting teams. It includes the application of the twelve RCAPs in developing expanded, comprehensive statements and looking at a complete value creation process when assessing impact and outcomes with a multi and intercapital perspective. Building on this, let us consider the foreseen consequences of New Accounting for accounting systems and reporting regimes, corporate governance approach, leadership behavior and targeted stakeholder engagement.

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7.2 Consequences for accounting systems and reporting regime

The delivery of New Accounting will require accounting systems that, as the rule and not the exception, incorporate information managed by financial, management and sustainability accountants. This is an organizational challenge as well as an information systems and IT challenge. Managers in large organisations are well familiar with the challenges of developing more integrated Enterprise Resource Planning (ERP) systems, including ones that reflect the main components of the balanced scorecard management tool. But before the IT challenge of having appropriate software systems in place is addressed, managers need clarity on the organization and definition of what will be key data needs, data collection and accounting processes, key accounts and general ledgers. The definition of key pre-integration accounts will be categorized with reference to different capital categories, for example financial capital accounts, human resource accounts, natural resource accounts, materials & waste accounts, manufacturing & supplier accounts, customer relation accounts, societal and community relations accounts. Managers will also need clarity on common procedures for closing books in a timely fashion so that the three accounting sub-fields deliver periodic information according to aligned time frames.

This new accounting and reporting regime implies alignment of processes of internal and external reporting, as well as different activity areas from assessment, planning and budgeting to tracking performance, managing working capital and defining integrated results (including outcomes). The main difference between the accounting documents involved will relate to their sustainability versus management versus finance dimension, but also and more importantly to the time dimension, having across the three subdisciplines components that cover past performance, current period developments, and future performance.

Management accounting at corporate level will play a leading role in integrating and connecting the different accounts, planning elements and controls. Building on its experience in calculating cost/benefit metrics at product, process and broader organisational levels, management accounting will also take the lead in defining inter-Capital connections, including financial-non-financial connectivity, and integrated KPIs. Sustainability accounting procedures would need to be sufficiently mature to be subject to internal controls and report results in the same timeframe as management and financial accounting. This is required to leave sufficient time for management to interpret results, integrate data and develop an integrated narrative for communicating comprehensive results to priority markets and stakeholder groups.

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7.3 Consequences for corporate governance approach

Experience with integrated reporting <IR> during the 2010s has illustrated the need for (i) Board level and senior executive engagement upfront, securing buy-in to the multicapital and integrated approach, as well as (ii) having accounting and reporting processes involving multidisciplinary teams with managers from diverse departments, often overseen by the Chief Finance Officer. While the establishment of New Accounting may initially see some turf battling between different departments, key is that the responsible teams involve managers from different departments. We foresee processes that are more inclusive internally than financial or sustainability reporting has ever displayed.

Importantly, as suggested in our recommendations, New Accounting will require corporations to have in place comprehensive accounting departments in which financial, management and sustainability accountants work in the same office. The integrated accounting department will be led by a Chief Integrated Accounting & Audit Officer[14], and its activities overseen at Board/ Executive level by an Integrated Accounting & Audit Committee. The implication is also that Board/Executive agendas need to provide for discussion of (i) progress, risks and opportunities related to diverse capitals, as well as (ii) holistic and strategic discussion of the interconnections between the different capitals, linked with the comprehensive performance of the reporting organization and its longer-term value creation. Board directors and senior executives will discuss and sign off on our proposed Statement of Full Comprehensive Income (FCI), Comprehensive Statement of Financial Position, Statement of Long-term Risks and Estimated Non-Current Asset/Liability Value, as well as their accompanying strategic narrative reports defined in terms of priority stakeholder groups (including Owners and Creditors reports).

[14] Mervyn King (2016) suggested the creation of a Chief Value Officer position. A Chief Integrated Accounting & Audit Officer can fulfil that function.

In performance management, managers and employees will be rewarded and given incentives tied with performance associated with the different capitals. The relevant performance indicators and targets involved will reflect integration (for example sales growth of new products with a social impact label or mitigation of key asset risk factors). The definition of cost centres and value creation centres will reflect the longer-term integration of material externalities and intangibles (including internalities such as Human or Intellectual Capital), as reported in new multilayered income statements and expanded balance sheets.

7.4 Consequences for leadership behavior

Reference was made above to the need for interdisciplinary teams cutting across functional departments, as well as certain institutional arrangements such as having a Chief Integrated Accounting & Audit Officer as well as Integrated Accounting & Auditing Committee in place. These will require leadership that appreciate the importance of combatting silo cultures and having interaction not only across business lines and geographical units, but most importantly across the different functional areas of the internal and external value chain. And while managers are familiar with the value chain and value proposition concepts, management for New Accounting will work with a more holistic understanding of value, aware of its intertemporal nature and multicapital value drivers behind it. These will be covered in new, strategic narrative disclosures complementing comprehensive statements.

The new Chief Integrated Accounting & Audit Officers will need to display the ability to build trust and shape influential communications, as required by the new Management Accounting principles in defining a bridge building role, while also showcasing their holistic understanding of relevance and value. They will need to have a sound understanding of the twelve RCAPs of New Accounting, including its responsiveness and interdisciplinary understanding of risk and opportunity. They will be working with fellow officers (incl CFOs, COOs, and CSOs) who lead functional and capital-based areas such as financial resources, human resources, natural resources and different asset classes. They and the accountant employees they oversee will have expertise and education in New Accounting, having the skill sets to take past innovations such as the balanced scorecard to new a new interdisciplinary and organizational level. Their accounting education will have been shaped by a comprehensive discipline offered by educational and management institutions and complemented by New Accounting training programmes run by professional associations and standards bodies.

7.5 Consequences for targeted stakeholder dialogue

Advances in IT and new tools such as Artificial Intelligence have led some to conclude that software investigation and Internet searches can produce more reliable business intelligence than in-person meetings and dialogue with diverse stakeholder groups. IT and its ability to process Big Data may enable us to do more comprehensive stocktaking of current developments. Yet growing uncertainty, unpredictability and complexity associated global sustainability trends reminds us of the reality that human interaction and open discussion will remain critical. What will be all the more evident twenty years from now is how new technologies enables us to have more comprehensive and integrated information,

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and how prioritisation of stakeholder groups and their targeted engagement is all the more critical in defining real, as opposed to artificial, intelligence.

The implications of the above, and the arrival of New Accounting, will require stakeholder groups to educate themselves and develop an ability to assess organizational performance in accounting terms. This includes an ability to interpret integrated data, and to show an interdisciplinary understanding of multicapital, intertemporal value. Such expertise will be essential in the mainstreaming of what is required to build green, inclusive and open economies. It highlights the need for educational and training institutions to offer qualifications and courses in New Accounting as comprehensive discipline. It implies a new education of also the providers of financial capital, including investors and their analysts.

By 2040, New Accounting will be accompanied by integrated investment analysis (IIA) as mainstream function by any quality investment institution. New Accounting will also provide relevant and reliable information for long-term focused dialogue with key providers of diverse capitals and key rightsholders most impacted by consequences for related capitals that they are highly dependent upon. Confirming the application of New Accounting principles in the processes behind delivering such information for improved decision-making will be assurance, the future of which is worth a whole Blueprint in its own right.

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8. ANNEXES

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Cornis has over 20 years of experience working globally in the field of sustainability standards. In the 2000s he was deeply involved in the establishment of the Global Reporting Initiative and UN Global Compact. In recent years he was member of the financial sector working group of the Sustainability Accounting Standards Board (SASB) as well as a leading analyst in use of the IIRC's <IR> Reporting Framework. His past work includes developing guidance for managers and benchmarking reports on good practices with partners such as SustainAbility, AccountAbility, Standard & Poors, KPMG and the World Resources Institute. He holds a PhD from Stellenbosch University and MBA from the Haute Ecole de Commerce (HEC, Paris).

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Carol has been involved in various global corporate reporting initiatives> This includes being Chair of the GRI (Global Reporting Initiative) Stakeholder Council and a member of the Institute of Chartered Accountant's of Scotland's (ICAS) Sustainability Panel, the ACCA's Global Forum on Sustainability and the Climate Disclosure Standards Board's Technical Working Group. Previously she served as a Director and Council Member of AccountAbility and was involved in the development of the first AA1000 Framework. She was a member of IIRC's Capitals Collaboration Group, co-authored the Capitals Background Paper for <IR> and is author of: Adams, CA (2017) "The Sustainable Development Goals, integrated thinking and the integrated report" published by the IIRC and ICAS.

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8.4 About the Reporting 3.0 Blueprints series

The Reporting 3.0 Platform was established to convene a neutral, pre-competitive, global public good space for diverse stakeholders to co-create solutions whereby the reporting field raises its level of ambition to play its rightful role in spurring a regenerative, green, inclusive and open global economy. Reporting 3.0 does this by curating events (such as conferences, labs, regional roundtables and virtual online dialogues) and Blueprint Projects that gather Working Groups to collaborate on designing new structures that build off the foundations of existing standards and frameworks in order to recommend steps that boost transformation in disclosure. The platform, often seen as a global research and development (R&D) Think Tank, naturally fosters the type of collaboration that makes a new operating system for future-fit disclosure practices possible.

Reporting 3.0 was launched in 2012 with the aim to create a global multi-stakeholder community focused on identifying and fulfilling the potential of reporting to serve the intersecting interests of sustainability, financial performance, and economic growth. To better serve this interest and expand its public good value, Reporting 3.0 is the flagship program of ‚On Commons', an independent not-for-profit, registered under German law as gGmbH (gemeinnützige GmbH).

8.4.1 Four Blueprints – one systemic approach

Reporting 3.0 has held 3 major international conferences in 2013, 2014 and 2015, gathering a whole array of international experts from 4 continents and 15 countries.[15] In addition, various Transition Labs and Regional Roundtables were held in 2014. As an outcome of the 2015 conference, a work ecosystem consisting of 4 interdependent Blueprint Projects was explored and designed in 2016. This design stems from the following outcomes of the earlier conference deliberations:

- ***Sustainability and integral disclosure need a clearly defined ‚North Star', a serving purpose***. The Reporting 3.0 community recognizes the absence of this clear end-goal in current sustainability and integrated reporting standards & frameworks. As government leaders at Rio+20 in 2012 have already proclaimed to be aiming for a *green & inclusive economy* as an overall macro perspective, sustainability and integrated reporting disclosure, so far designed as a micro perspective of organization-specific focus, that inadequately links to current macro-economic thinking and its shortcomings, still needs to develop that link through feasible disclosure elements. This is best addressed through a needed closure of what we call the *sustainability context gap* and still has to motivate reporters to explain their micro contributions to the macro level, mainly described through issue-specific urgencies like global warming, water shortages, biodiversity loss, human rights abuses and corruption. More frankly spoken: there can be no sustainable business in an unsustainable world, so there will never be true sustainability without a seamless connection to an economic system logic that still needs to be designed in a way that market mechanisms ‚do the right thing' through price signals and monetary incentivation, including subsidies and taxation.

[15] See http://www.reporting3.org for conference reports of 2014 and 2015. The 2013 conference was held in German language only.

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- A green, inclusive and open economy needs a **corresponding financial market understanding**, with a focused *purpose* to contribute achieving a green, inclusive and open economy. Disclosure that feeds investors to make the right decisions at the necessary scale will not suffice through existing disclosure. Environmental, Social and Governance (ESG) ratings, rankings and indexes fall short of necessary information that combines financial success with positive impact information through corporate disclosure. However, there is already evidence that overall material ESG information leads to better stock price performance due to a meaningful level of information that companies can use[16], but it is not yet proven or deliberately clear on a company-by-company case, while that is decisive for the individual investment decision on the one hand, and managing through feasible dashboards at board level on the other hand.

- In addition, even material ESG information doesn't yet automatically cut through to fiduciary duties, a still existing **disconnect to risk management due** to shortcomings in the discussion of materiality. In consequence, now underscored by new research by the World Business Council for Sustainable Development (WBCSD) [17] amongst their member companies, only 29% of the companies who outline material sustainability risks in sustainability reporting reflect the same information in their legal filings or disclosures. While 89% of companies indicate that sustainability issues could have a financial impact on their business, 70% don't believe their risk management practices are adequately addressing those risks. At Reporting 3.0 meetings the **need for convergence and the definition of 'true materiality'**, based on sound contextualization and proper impact assessments (integral thinking) became constantly evident, with the need to combine truly material sustainability issues with risk management, governance and remuneration.

- A work environment that describes necessary enablers to create the disclosure needed depends on a collaborative approach. Reporting 3.0 has observed a certain **stagnation in the area of the current reporting standard setters, accounting organizations, data providers and new business entrepreneurs**, to identify, update and act at the level of ambition necessary in order to clarify purpose, success measurement and scalability at rates needed to be ‚on target' for minimally achieving what's needed to survive as a human race. That is what the four Blueprints aim to address all together and what is soundly based in the definitions and principles for disclosure for a green, inclusive & open economy.

- Thinking about a third generation in reporting (after the first generation of financial reporting and the second generation of sustainability and integrated reporting, with the possibility of ‚integral reporting' as a placeholder description for generation 3) a fluid **exchange of learning** in all 4 areas described by the below Blueprint design is needed. We also believe that there needs to be a **revolving process in place to update the**

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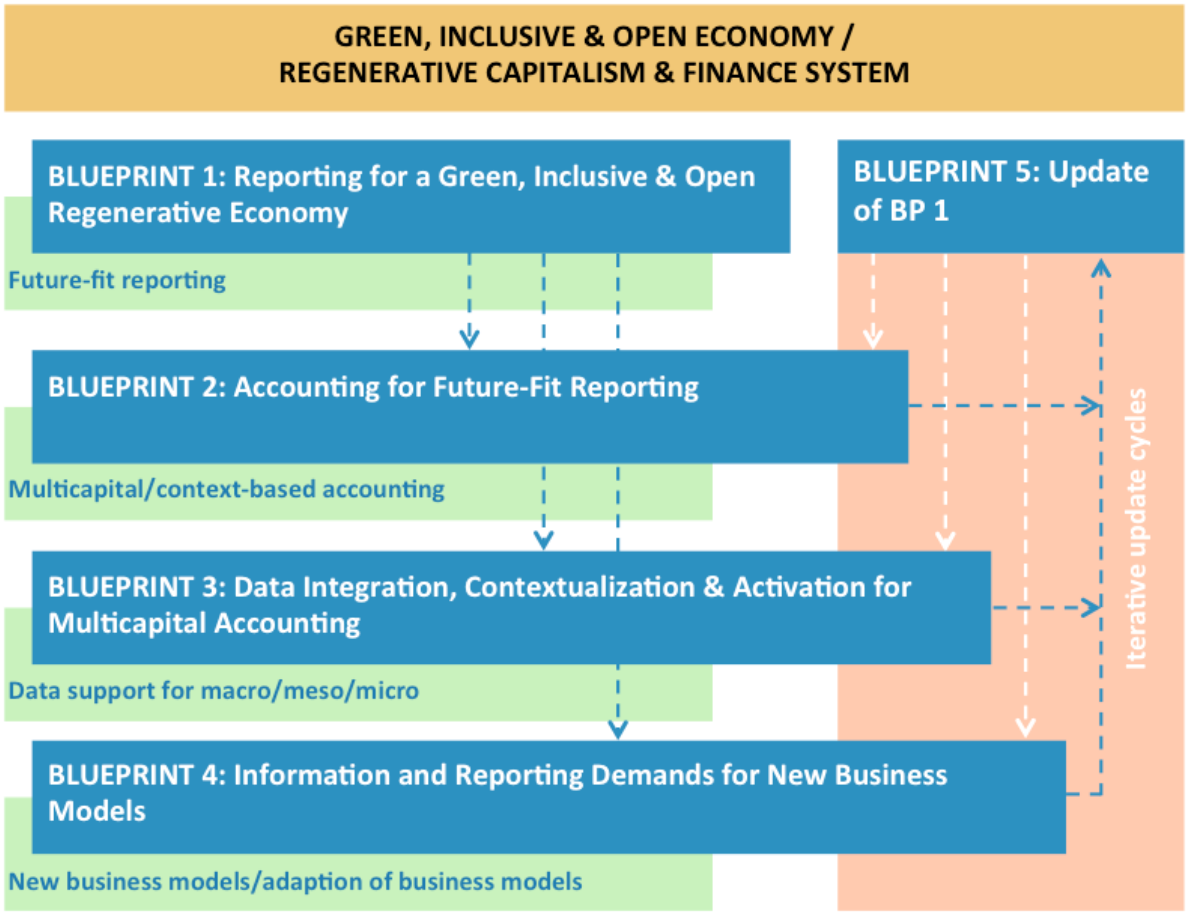
[16] Khan, Mozaffar and Serafeim, George and Yoon, Aaron S., Corporate Sustainability: First Evidence on Materiality (November 9, 2016). The Accounting Review, Vol. 91, No. 6, pp. 1697-1724.. Available at SSRN: https://ssrn.com/abstract=2575912 or http://dx.doi.org/10.2139/ssrn.2575912

[17] WBCSD, Sustainability and Enterprise Risk Management – The First Step Towards Integration. http://www.wbcsd.org/Projects/Non-financial-Measurement-and-Valuation/Resources/Sustainability-and-enterprise-risk-management-The-first-step-towards-integration

Blueprints about every 2-3 years, given the speed of developments in all areas related to this set of recommendations for the related constituencies.



The Reporting 3.0 Blueprint Ecosystem

8.4.2 Pre-competitive, collaborative, multi-stakeholder, global public good

Reporting 3.0 does not exist to define yet another reporting standard, accounting standard, software product or new business model canvas. We are building on the strong shoulders of the existing reporting, accounting and data infrastructure. We simply believe that **the combination of these partial pockets of expertise (siloed industries) isn't yet working towards the end-goal of necessary systems level change and at the right speed**, and is restricted through their mandates. As a consequence, we remain on a blind flight. It is, 55 years after Rachel Carson's *Silent Spring*, 45 years after *Limits to Growth*, 30 years after the *Brundtland Report* and 25 years after the first Rio Conference, **still impossible to properly assess whether a company is sustainable or not**. We therefore aim to boost cross-fertilization of these 4 still distinct markets through crowd-sourced collaboration. So far, we see **Reporting 3.0 as the only pre-competitive and open community with this level of ambition**. Through our discussions we know that there's isn't yet a curriculum that offers this needed breadth between micro, meso, and macro aspects, cross-cutting economic theory, social and environmental education as well behavioral science. It is the lack of langauge, lack of forums to meet and lack of the sheer awareness of the magnitude

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of the urgency for global change that holds colleagues back to even address what Reporting 3.0 aims to achieve. That is where we'd like to make a real difference. We offer flexible engagement opportunities as Sponsor Partner, Advocation Partner, Working Group Partner, Validation Partner, Pilot Project & Testing Partner or through various public engagement opportunities like virtual dialogues, events and public comment periods. We aim to update the Blueprints every two years and disseminate them as a package to the constituencies that work with us and target audiences. We hope to stimulate market reaction accordingly, so that the recommendations that are made in the Blueprints will effect positive change positively and needed systems change. We are also convinced that if our recommendations are ignored by existing players, someone else will step up and rise to the challenge in a more collaborative way. While competition has served the existing economic system to develop and dominate, collaboration will replace it in a green, inclusive & open economy.

8.4.3 Audiences

The Blueprint ecosystem addresses four major areas that are minimally necessary to be combined to elaborate on the trajectory of disclosure at various levels. These four areas attract the following audiences:

- Reporting serving a green, inclusive & open economy: Reporting standards setters, reporting organizations, statistics offices, governments, NGOs; academics (both macro economic and micro economic, social science and environmental science), financial markets experts;

- Accounting that serves a new success definition of a green, inclusive & open economy: Accounting standard setters, accountants, controllers; academics in accounting and controlling;

- Data integration, contextualization and activation: reporting standard setters, companies, investors, software and analytics companies, data science experts, academics.

- New business models: Entrepreneurs in circular, sharing, collaborative business models, business model designers, new business model initiatives, existing corporations, funders, venture capitalists.

We believe that **without those 4 areas in combination breakthrough thinking and action will not emerge**. As an outcome the new disclosure has to aim for a seamless information flow between corporations and their related supply and demand chain (micro level), industries or regions (meso) as well as habitats, nation states and global social and environmental ecosystems (macro).

It is to be expected that we are also addressing the outcomes of our deliberations to these actors, but **the chapters are designed in a way that they are written for those main parties that need to contribute to the breakthrough in disclosure by actively applying**

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our recommendations. These are reporting standard setters; governments, legislators and multilateral organizations; corporations; and finally, investors.

Of course, all other constituencies are invited to use the recommendations for their own thinking, too, but these four groups should actively apply the recommendations, so we understand all other constituencies are important enablers of the Blueprint applications, e.g. NGOs, academics, data scientists, statisticians, economists, consultants, etc. They are also invited to contribute to the outcome of the Blueprints and support the dissimination of their outcomes.

8.4.4 Link to the economic system thinking

Failures of economic system thinking, ecological system thinking and education system thinking are the main reason for the failure of sustainability. We coin that **the ‚triple-e-failure'**. Sustainability, in the way it is applied in corporations, in standard setting, in data collection, in business model creation, is only a redux version of what it was originally meant to be. The reduction from people, planet and prosperity to people planet and profit, totally losing the focus on overall wellbeing through inter- and intragenerational equity, has led to incrementalism that doesn't add up to solve global challenges and is subordinated to be applied in current economic system thinking.

However, **capitalism, if focused on the right outcomes through the right incentives, can generally support a green, inclusive & open economy.** Regenerative capitalism as the financial market answer to the idea of a green, inclusive & open economy is therefore a necessary element. Overall, a new global level playing field through an adjustment of cost calculation by internalizing a full spectrum of externalized costs into cost accounting, the addition of benefit accounting, the translation into pricing, and an adjusted tax regime that burdens resource use while lowering tax on labor, are the main ingredients of the necessary readjustment. In total, without engaging all humans on this planet and reaching the necessary scalability by incentivizing leaders, while making all others followers through a new level playing field, sustainability will never be reached. This is one of the blunt truths we need to understand.

Reporting 3.0 is therefore taking those necessities into account in the design of the Blueprints. They are integral parts of the ‚North Star'[18] understanding.

8.4.5 Leadership & responsibility of the corporate sector

At Reporting 3.0, we see a necessary interplay between the macro level, the meso level and the micro level. The interplay has to be organized through international policy, regulation and implementation standards. The existing economic system boundaries have so far not allowed sustainability to lead, they actively act against a green, inclusive & open economy by neglecting the need to serve the wellbeing of every global citizen, by respecting the limitations of nature and by limiting a financial system to purely act in service of the real economy. Recommendations for disclosure need to think through the ‚ideal

[18] We acknowledge that the term 'North Star' is more come in the Northern hemisphere, whereas the 'Southern Cross' might be better fitting in the Southern hemisphere.

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setup' of a green, inclusive & open economy, a fitting regenerative capitalism, and the role of the different constituencies. But very importantly, all that interplay needs leadership, and we think **most of the leadership, sheerly driven by a survival sense or an ambition to excel beyond our limited applied understanding of sustainability, will come from the corporate sector.**

> Leaders will understand that they will need to take action to advise of the overall economic system conditions, defining the necessary level playing field, in order to scale up sustainable policy making, technological changes and financing mechanisms. For their own organization the real challenge is how to become sustainable beyond reducing negative impact and how to excel through transformation capabilities that allow the organization to lead. **Leadership excellence and organizational transformation capabilities are necessary ingredients of being ‚future ready'. So far reporting standards don't have any disclosure available for investors and other stakeholders to show where an organization stands on its pathway to be future ready**. These are additional ingredients and new reporting elements that need coverage in an interplay between purpose, success measurement and scalability of any organization.

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10. STATEMENT EXAMPLES

Example 1: Baxter Environmental Financial Statement (published since 1990s)

Baxter 2013 Environmental Financial Statement

Estimated Environmental Costs, Income, Savings and Cost Avoidance Worldwide[1]

ENVIRONMENTAL COSTS (dollars in millions)	2013	2012	2011	2010	2009
Basic Program					
Corporate Environmental – General and Shared Business Unit Costs[2]	$3.1	$2.7	$2.3	$2.0	$2.0
Auditor and Attorney Fees	0.4	0.4	0.3	0.4	0.4
Energy Professionals and Energy Reduction Programs	1.4	1.3	1.2	1.1	1.0
Corporate Environmental – Information Technology	0.3	0.3	0.3	0.4	0.4
Business Unit/Regional/Facility Environmental Professionals and Programs	13.3	12.0	11.6	11.9	11.6
Pollution Controls – Operation and Maintenance	3.9	4.0	3.9	3.7	3.6
Pollution Controls – Depreciation	2.5	2.3	2.4	2.5	3.1
Basic Program Total	**$24.9**	**$23.0**	**$22.0**	**$22.0**	**$22.1**
Remediation, Waste and Other Response (proactive environmental action will minimize these costs)					
Attorney Fees for Cleanup Claims and Notices of Violation	$0.3	$0.3	$0.2	$0.1	$0.1
Settlement of Government Claims	0.0	0.0	0.0	0.0	0.0
Waste Disposal	10.3	9.8	9.2	7.9	8.7
Carbon Taxes, Credits and Offsets[3]	1.2	1.2	1.0	1.1	0.2
Environmental Fees for Packaging[4]	0.9	0.9	0.9	0.9	1.0
Environmental Fees for Electronic Goods and Batteries	0.0	0.1	0.1	0.1	0.1
Remediation/Cleanup – On-site	0.2	0.2	0.2	0.4	0.1
Remediation/Cleanup – Off-site	1.2	1.5	0.4	0.8	0.4
Remediation, Waste and Other Response Total	**$14.1**	**$14.0**	**$12.0**	**$11.3**	**$10.6**
Total Environmental Costs	**$39.0**	**$37.0**	**$34.0**	**$33.3**	**$32.7**
ENVIRONMENTAL INCOME, SAVINGS AND COST AVOIDANCE (dollars in millions; see Detail on Income, Savings and Cost Avoidance from 2013 Activities below)					
From Initiatives in Stated Year					
Regulated Waste Disposal	$0.1	$0.6	$0.3	$1.4	($0.5)
Regulated Materials[5]	(4.9)	(1.8)	(0.7)	3.6	(1.1)
Non-hazardous Waste Disposal	0.2	1.2	(1.0)	0.8	0.3
Non-hazardous Materials[5]	2.8	9.6	(11.4)	3.4	2.6
Recycling (net income)	7.2	6.6	5.0	5.9	3.5
Energy Conservation	3.4	3.6	2.3	0.5	4.6
Water Conservation	0.0	0.4	(0.2)	0.4	0.7
From Initiatives in Stated Year Total[6]	**$8.8**	**$20.2**	**($5.7)**	**$16.0**	**$10.1**
As a Percentage of Basic Program Costs	35%	88%	-26%	73%	46%
Cost Avoidance from Initiatives Started in the Six Years Prior to and Realized in Stated Year[6,7]	**$37.9**	**$38.4**	**$41.2**	**$87.6**	**$100.2**
Total Environmental Income, Savings and Cost Avoidance in Stated Year	**$46.7**	**$58.6**	**$35.5**	**$103.6**	**$110.3**

DETAIL ON INCOME, SAVINGS AND COST AVOIDANCE FROM 2013 ACTIVITIES (dollars in millions)	Income and Savings	Cost Avoidance	Total Financial Benefit
Regulated Waste Disposal Cost Reduction	$0.1	$0.0	$0.1
Regulated Waste Materials Cost Reduction	(6.5)	1.6	(4.9)
Non-hazardous Waste Disposal Cost Reduction	(0.5)	0.7	0.2
Non-hazardous Waste Materials Cost Reduction	(0.8)	3.6	2.8
Recycling Income	7.2	n/a	7.2
Energy Consumption Cost Reduction	(6.5)	9.9	3.4
Water Consumption Cost Reduction	(1.8)	1.8	0.0
Total	**($8.8)**	**$17.6**	**$8.8**

COST AVOIDANCE DETAIL FROM EFFORTS INITIATED IN THE SIX YEARS PRIOR TO REPORT YEAR (dollars in millions)	2013	2012	2011	2010	2009
Regulated Waste Disposal	$0.7	$0.8	$0.4	$0.8	$0.0
Regulated Waste Materials	(11.8)	(5.9)	(2.8)	0.3	(0.5)
Non-hazardous Waste Disposal	3.1	2.5	1.2	3.9	3.5
Non-hazardous Waste Materials	11.0	5.3	2.2	19.6	25.3
Energy Consumption	30.1	30.1	35.3	55.3	64.6
Water Consumption	4.8	5.6	4.9	7.7	7.3
Total	**$37.9**	**$38.4**	**$41.2**	**$87.6**	**$100.2**

[1]Financial numbers rounded to nearest US$100,000 to reflect appropriate degree of data accuracy. [2]Corporate environmental costs comprise total environmental costs related to operating corporate environmental programs that report into Baxter manufacturing and legal groups. While corporate Environment, Health and Safety (EHS) and certain business unit EHS groups were integrated in 2003, total business unit program costs remain in the Business Unit/Regional/Facility Environmental Professionals and Programs line, as those environmental costs more directly support facility programs. [3]Carbon taxes, expenses associated with purchasing renewable energy from electric utilities, renewable energy certificates, and carbon credits purchased on the European Union ETS and Chicago Climate Exchange (CCX), through the U.S. IntercontinentalExchange. [4]Following completion of the 1996-2005 packaging-reduction goal, Baxter discontinued tracking program costs and financial savings associated with packaging-reduction initiatives at the corporate level. Baxter may reinstitute this line item in future financial statements. [5]Reflects change (positive for decrease and negative for increase) for purchases of raw materials due to changes in material use efficiency and associated generation of waste. [6]In calculating savings and cost avoidance for waste-, energy- and water-reduction activities, it is assumed that production and distribution activities grew proportionately with Baxter's publicly stated cost of goods sold, adjusted for changes in inventory and the average of three inflation indexes. Baxter uses a three-year rolling average of the annual percentage change in adjusted growth in the cost of goods sold to determine the financial values for each stated year. For 2013, the three-year rolling average was 5%; for 2012, 3%; for 2011, 3%; for 2010, 1%; and for 2009, 3%. This rolling average helps avoid distortions due to certain acquisitions/divestitures and the delayed environmental effects from changes in production. [7]To be conservative, the accumulation of reported cost avoidance from conservation activities in prior years is terminated after seven years, the approximate duration of many facility conservation and process-improvement projects, after which additional process improvements and changes are possible.

Example 2: STMicroelectronics – Sustainability Report 2011

Environmental costs versus savings | EN30 | STEV8 | STEV35 | STEV58 | US$m

Indicators	2006	2007	2008	2009	2010
Total costs	35	28	41	48	53
Energy savings	129	201	192	87	219
Water savings	26	27	25	15	25
Chemical savings	82	90	86	58	87
Total saving	237	318	303	160	331
Balance (cost savings)	202	290	262	112	278

The method used to calculate the savings shown in this table is the following:

1) we set a baseline using the 1994 model with the assumption that there are no installation enhancements, except for chemicals for which the baseline is 2000;

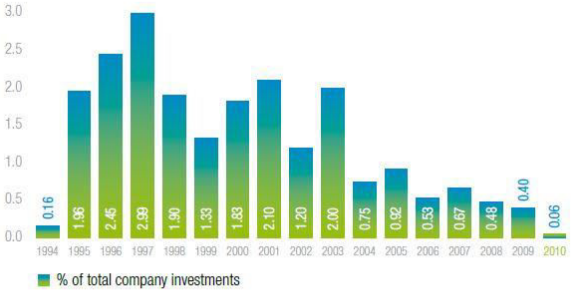
2) this baseline is projected each year (in relation to the quantities produced);

3) each year, the actual value is compared to this projection; and

4) the result shows the theoretical benefits due to the installation improvements concerning the savings for energy, water and the use of chemicals.

Total costs cover expenditure of environmental management areas (including waste and remediation) and yearly net investment and equipment depreciation.

Environmental investments | EN30 | STEV6 |



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Example 3: PUMA Environmental P&L (2010)

The table below sets out for the first time in monetary terms the changes in human welfare which result from PUMA's environmental impacts. Details on how these monetary values were derived are set out in 'How it was done' on pages 12-22.

The top half of the table splits the total impact of EUR 145 million between that attributable to our own operations and each tier of our supply chain. The latter half of the table shows where the impacts occur by our key regions and segments, including the impacts by segment normalised by sales.

The Environmental Profit and Loss

EUR million	Water use	GHGs	Land use	Other air pollution	Waste	TOTAL	% of total
	33%	33%	25%	7%	2%	100%	
TOTAL	**47**	**47**	**37**	**11**	**3**	**145**	100%
PUMA operations	<1	7	<1	1	<1	8	6%
Tier 1	1	9	<1	1	2	13	9%
Tier 2	4	7	<1	2	1	14	9%
Tier 3	17	7	<1	3	<1	27	19%
Tier 4	25	17	37	4	<1	83	57%
Regional analysis							
EMEA	4	8	1	1	<1	14	10%
Americas	2	10	20	3	<1	35	24%
Asia / Pacific	41	29	16	7	3	96	66%
Segments							
Footwear	25	28	34	7	2	96	66%
Apparel	18	14	3	3	1	39	27%
Accessories	4	5	<1	1	<1	10	7%

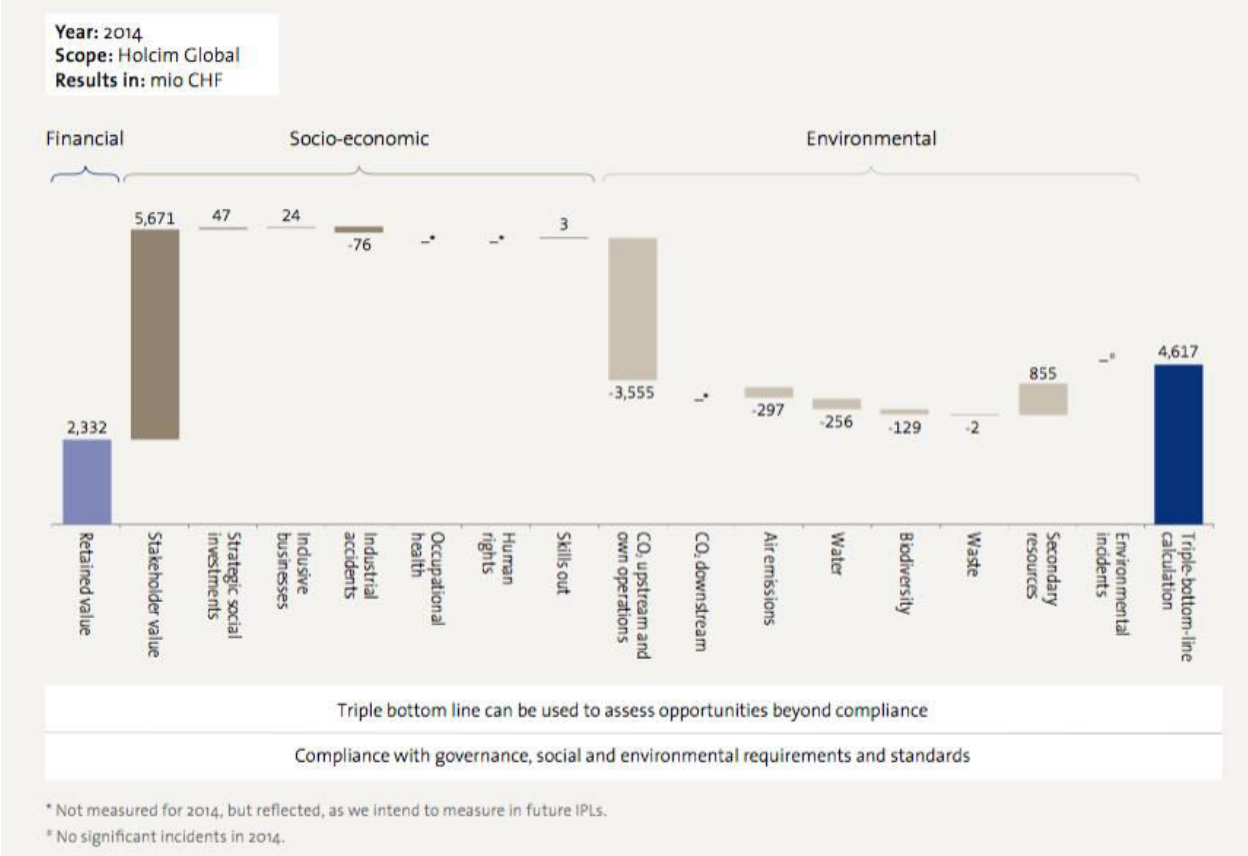
Intensity	Environmental impact (EUR) per EUR 100 of sales						
Footwear	1.8	2.0	2.4	0.5	0.1	6.7	
Apparel	1.9	1.5	0.3	0.3	0.1	4.1	
Accessories	1.2	1.5	0.00	0.3	0.00	2.9	

The drivers of environmental impacts

The table below sets out our environmental impacts in more traditional metrics. This data was used to generate the monetary values in the E P&L and shows for the first time our environmental impacts from our own operations and our entire supply chain.

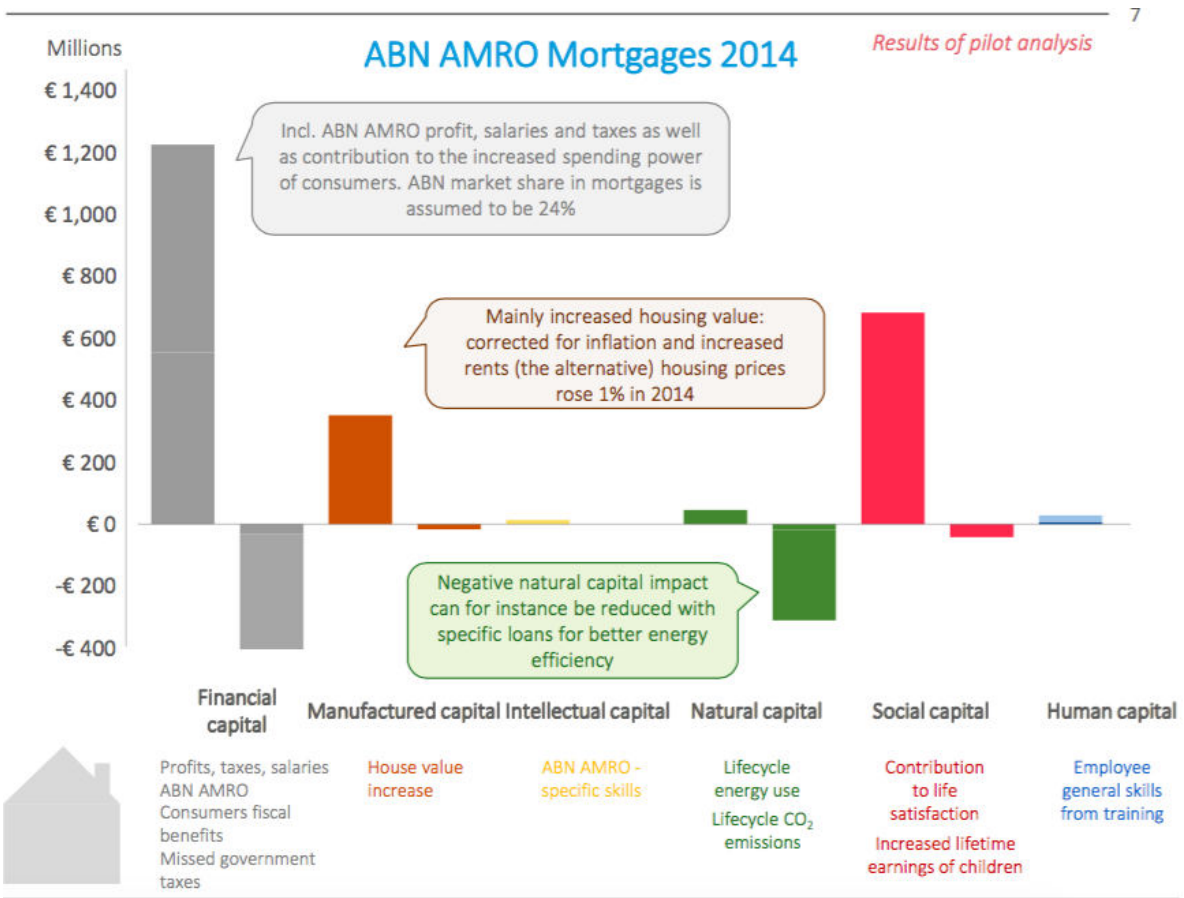
	Water use Million cubic metres	GHGs Tonnes CO_2e ('000)	Land use Hectares ('000)	Other air pollution Tonnes ('000)	Waste Tonnes ('000)
TOTAL	**77.5**	**717.5**	**107.8**	**6.6**	**42.3**
PUMA operations	0.1	110.1	<0.1	0.4	6.5
Tier 1	5.3	131.4	0.3	1.1	21.2
Tier 2	20.3	108.8	0.2	1.0	8.3
Tier 3	18.4	112.7	0.2	1.2	3.3
Tier 4	33.4	254.5	107.1	2.9	3.0

Example 4: Holcim Integrated P&L (2015)



Domain	Topic	Indicator	Base price/ multiplier	Unit	Base year	Inflation factor*	Price/ multiplier adjusted for inflation	Price/ multiplier used for calculation in CHF**
Socio-economic	Industrial accidents	Number of fatalities			See page 13 for details			
		Number lost time injuries			See page 13 for details			
	Strategic social investments	Education	118%	%	2014	1.000	118%	**118%**
		Community development and "other" projects	267%	%	2014	1.000	267%	**267%**
		Low-income housing (SSI)	231%	%	2014	1.000	231%	**231%**
		Infrastructure	250%	%	2014	1.000	250%	**250%**
	Inclusive business	Sanitation	550%	%	2014	1.000	550%	**550%**
		Shelter (products and services)	391%	%	2014	1.000	391%	**391%**
		Livelihood (employability, supply chain, distribution channels)	184%	%	2014	1.000	184%	**184%**
	Stakeholder value	Salary		%	2014	1.000	100%	**100%**
		Finance cost		%	2014	1.000	100%	**100%**
		Tax	100.00%	%	2014	1.000	100%	**100%**
		Indirect tax		%	2014	1.000	100%	**100%**
		Dividend		%	2014	1.000	100%	**100%**

Example 5: ABN-AMRO Mortgage Services Integrated P&L (2015)



Exposure Draft

Example 6: Crown Estate Total Contribution Statement (2017)

Direct aGVA indicators based on the average of three years' data (2013/14 – 2015/16)

	Indicator	Impact +/-	Valuation (£) – 3 year average
Financial resources			
1	Gross value added (in summary, turnover minus the cost of goods and services we procure)	+	319,500,000
	Net total	+	319,500,000
Physical resources			
2	New development and retrofitting	+	123,200,000
3	Fixed asset upgrades (property, plant and equipment)	+	1,137,000
4	Damage to property due to workplace activity	-	(3,600,000)
5	Wear and tear of fixed assets	-	(3,000,000)
6	Reduction in value due to external events (natural, social and political)	-	(200,000)
	Net total	+	117,537,000
Natural resources			
7	Specific habitat investment	+	235,000
8	Soil recovery strategies	+	245,000
9	Greenhouse gas emissions	-	(149,000)
10	Waste generated	-	(170,000)
11	Water consumed	-	(382,000)
12	Carbon sequestered and stored	+	575,000
13	Greenhouse gas emissions avoided	+	38,000
14	Other ecosystem services	+	26,348,000
	Net total	+	26,740,000
Our people			
15	Contribution to private healthcare	+	97,000
16	Contribution to public healthcare	+	1,064,000
17	Investment in other wellbeing programmes	+	131,000
18	Workplace injuries	-	(241,000)
19	Workplace fatalities	-	0
20	Sickness absence days	-	(180,000)
21	Gender equal opportunity	-	(82,000)
22	Employee engagement	+	15,000
23	Employee volunteer programmes	+	59,000
	Net total	+	863,000
Our know-how			
24	Employee training and development	+	797,000
25	Research and development	+	1,847,000
26	Knowledge decay	-	(422,000)
27	Suboptimal employee turnover	-	(355,000)
28	Value added	+	367,409,000
29	Consumption of public information	-	(212,000)
30	Production of public information	+	591,000
	Net total	+	369,655,000
Our networks			
31	Customer management systems	+	49,000
32	Local and wider communities (e.g. Stewardship Programme)	+	9,120,000
33	Late payment of suppliers	-	(151,000)
34	Employment placements	+	2,659,000
35	Visitor wellbeing (from ecosystem services)	+	3,500,000
	Net total	+	15,177,000