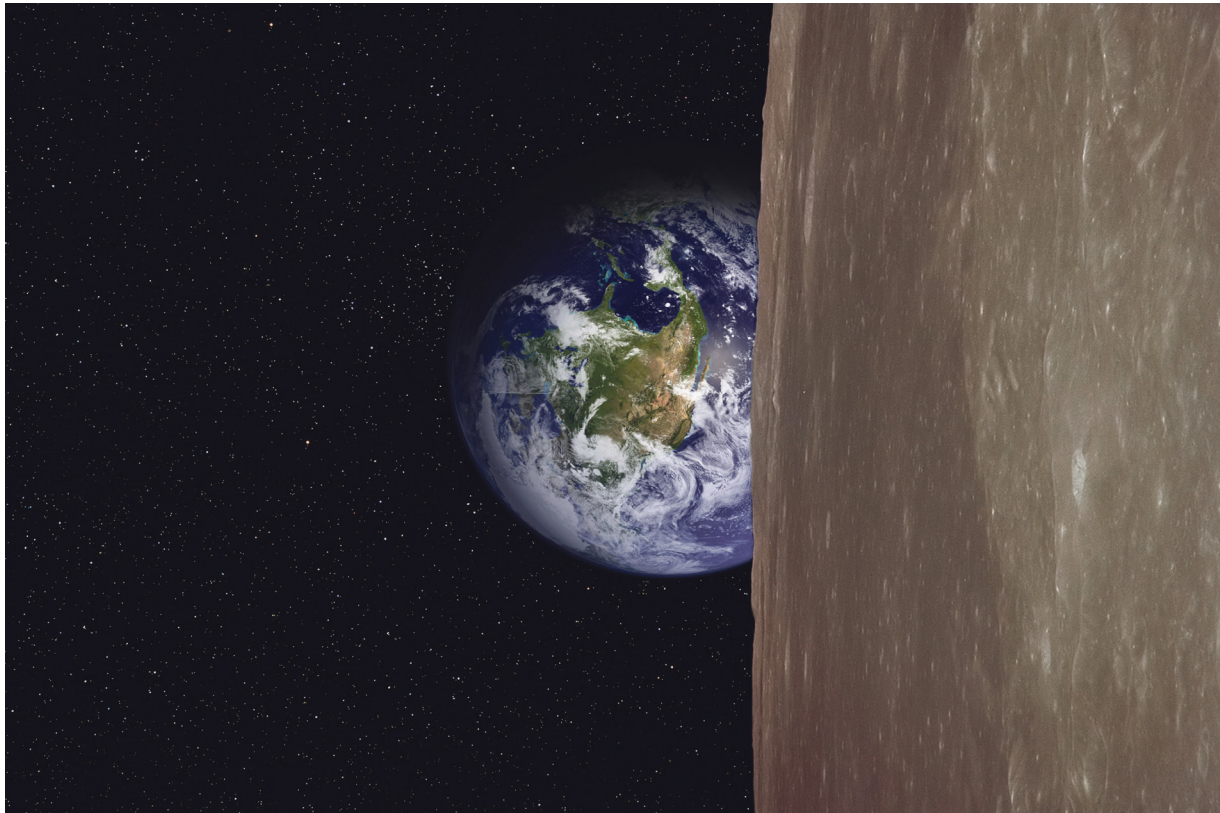


# Towards Zero Impact Growth

## Strategies of leading companies in 10 industries





# 1. Introduction

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“Capitalism is the astounding belief that the most wickedest of men will do the most wickedest things for the greater good of everyone.”

John Maynard Keynes

Sustainable development in the last twenty years has not brought about the change we needed towards a more stable global economic model. Instead, there is an increased sense of urgency that our way of capitalism is on a path of slow demise. Economic growth faces scrutiny and many of us are still fighting the remnants of a deep-rooted global economic crisis. The unsustainability of our production and consumption patterns is increasingly clarified through a plethora of reports from global think tanks, networks and initiatives. The latest wave was published due to the occasion of the Rio+20 UN Conference on Sustainable Development, which was held on 20-22 June, 2012, in Rio de Janeiro, Brazil.

In 2011, Deloitte Innovation started to collaborate with John Elkington (Volans) to envisage a new breed of inventors, innovators, entrepreneurs, intrapreneurs, investors, managers, or educators who promote wealth creation while driving adverse environmental, social, and economic impacts towards zero. John Elkington named them ‘Zeronauts’, archetypes needed for a new economic model that would achieve at least a ‘Zero Impact Growth’ economy, ensuring a baseline on how to produce and consume in a 1-Earth-Economy, respecting planetary limits and societal well-being.

In June 2012, Deloitte Innovation and Volans held the first-ever ‘Zeronauts Symposium’ in Rotterdam, the Netherlands, during which John Elkington’s book ‘The Zeronauts – Breaking the sustainability barrier’ was launched – a day filled with inspirational plenary discussions and workshops. Deloitte Innovation presented the outcomes of the ‘2012 Zero Impact Growth Monitor’, an assessment of 65 leading companies and how their strategies align with the idea of Zero Impact Growth as a sustainable growth paradigm. This report summarizes the outcomes of the Zeronauts Symposium and the Zero Impact Growth Monitor 2012. Deloitte Innovation and Volans offer to continue to build a Zero Impact Growth Community, focusing mainly on innovations in measurement, leadership and new business models.

## 1.1. The future we (didn’t yet dare to) want

June 2012 also gave us the Rio+20 Summit. More than 50.000 people from business, civil society and governments met in Rio de Janeiro to decide upon actions towards a more sustainable world. ‘Rio+20’ actually took place in the same city where 20 years earlier the ‘Agenda 21’<sup>1</sup> and the convention on biodiversity<sup>2</sup> were agreed upon. Hopes were there of the spirit of Rio once again working its magic and putting an end to the disappointing summits of earlier years, especially the various UN COP summits on climate change.

Already in November 2011, the first draft of ‘The Future We Want’<sup>3</sup> was developed, and over many rounds of negotiations, until shortly before the conference ended, this became the 49 pages closing document in which the governments of the participating countries reaffirmed the importance of many facts known about sustainability. Still, apart from some institutional strengthening, the text contains only a few commitments, such as the delegates’ vote for developing sustainable development goals until 2015, strengthening a ‘green economy’ and, related to that, more support for UNEP.

On the other hand, Rio+20 had more than a thousand side events, mainly organized by business and civil society groups. The biggest event was the Rio+20 Corporate Sustainability Forum, a four day platform organized by the UN Global Compact. During the Forum various initiatives and mandates were launched, showing that business is willing to step up to various challenges, wanting to implement sustainability deeper in their corporate strategies. In ‘Overview And Outcomes – Innovation & Collaborative Public Policy Recommendations & Commitments to Action’<sup>4</sup> the UN GC describes the process and outcomes of this event in various fields of action. One of the terms used most at Rio+20 was the idea of a ‘green and inclusive economy’<sup>5</sup>, touching one of the

<sup>1</sup> United Nations (1993): *Agenda 21 – The Earth Summit Strategy to Save Our Planet*.

<sup>2</sup> For detailed information on the ‘Convention on biodiversity’, see: <http://www.cbd.int/>

<sup>3</sup> The document ‘The Future We Want: Outcome document adopted at Rio+20’ can be downloaded via <http://www.un.org/en/sustainablefuture/>

<sup>4</sup> The document ‘Overview And Outcomes – Innovation & Collaborative Public Policy Recommendations & Commitments to Action’ can be downloaded via <http://www.unglobalcompact.org/news/249-06-21-2012>

<sup>5</sup> For more information on that concept, see: The World Bank (2012): *Inclusive Green Growth – The Pathway to Sustainable Development*.



biggest problems we need to solve collectively. It is the idea of an economic system that allows mankind to continue to live on planet earth with 9-10 billion people while stopping to overstretch the natural limits (as we have done since the mid 1980ies). Combined with the strengthened role of UN institutions to develop sustainability goals and measuring success beyond GDP-like indicators by no later than 2015, there is now a strong bedrock for the development of a sustainability context that can derive from a practicable paradigm. Zeronauts would suggest 'Zero Impact Growth' to be that paradigm (see 1.4.).

## 1.2. Growth, no growth, or simply happiness

**“We are treating this planet like a company in liquidation.”**

Al Gore

Presently, our footprints on this planet constantly expand, while the absorptive capacity and natural resources of planet earth – measured by the availability per head of population – continuously shrink. In 2010, Ban Ki Moon, UN Secretary General, called the current model of economic development and growth a 'global suicide pact'. He referred to the fact that our economic model – based on quantitative growth – is deeply unsustainable, especially when recognizing that the demographic development expects at least 3 billion more people until 2050, mostly raised and living in developing and emerging market countries.

The discussion on quantitative growth already started some 40 years ago with the publication to the Club of Rome, called 'Limits to Growth'<sup>6</sup>, authored by Dennis and Donella Meadows and Jorgen Randers. While heavily questioned in all the decades to come, their forecast then – considering the technical forecasting capabilities 40 years ago – should be revised as being fairly realistic today. In June 2012, just weeks before the Rio+20 Summit, '2052 – A Global Forecast for the next 40 Years'<sup>7</sup> was published, in which Jorgen Randers raises the possibility that humankind might not survive on the planet if it continues on its path of over-consumption and short-termism.

<sup>6</sup> Meadows et al. (1972): *Limits to Growth – a report of the Club of Rome's project on the predicament of mankind.*

<sup>7</sup> Randers (2012): *2052: A Global Forecast for the Next Forty Years*

**The conclusion is obvious: we need a new paradigm, underpinning new mindsets and tools to survive and thrive in the twenty-first century. We need to move from a fundamentally unsustainable path to a fundamentally more sustainable one.**

In the last decade we saw various initiatives to try and develop a counter model to the growing division between economic growth on the one hand and nature and societal degradation on the other hand. They included:

- The UK Sustainable Development Commission which published a report called 'Prosperity Without Growth' in 2010 and developed the concept of a steady state economy<sup>8</sup>;
- The French Enquete Commission, put in place by the former prime minister Nicolas Sarkozy and led by Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi, which published a report and a book titled 'Mismeasuring our lives – why GDP doesn't add up'<sup>9</sup>;
- The Enquete Commission on 'Growth, welfare and quality of life' installed in Germany in late 2010<sup>10</sup>;
- A concept called 'Gross National Happiness' implemented in Bhutan since many years, creating an economy of well-being rather than unending physical growth that is simply impossible<sup>11</sup>.

Beyond these different initiatives that address change to the current quantitative growth model, many additional indexes have already been developed to contrast the current GDP model. They include the Green GDP Concept, the Human Development Index, Index of Social Economic Welfare, Natural Capital Index, Living Planet Index, and, in addition, many country-specific national indicator systems on progress towards sustainable development.

<sup>8</sup> The document 'Prosperity without growth – the transition to a sustainable economy' can be downloaded via <http://www.sd-commission.org.uk/publications.php?id=914>

<sup>9</sup> The document 'Report by the Commission on the Measurement of Economic Performance and Social Progress' can be downloaded via [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr)

<sup>10</sup> For more information on the German enquete commission on "Growth and Welfare" of the German Federal Parliament, see: <http://www.bundestag.de/bundestag/ausschuesse17/gremien/enquete/wachstum/index.jsp> (available only in German language)

<sup>11</sup> For more information, see: <http://www.gnh-movement.org/>



However, until today the corporate sector's visible involvement is relatively small, both in terms of helping to develop these alternatives to GDP, and in terms of using them as a benchmark for scenarios that link individual corporate strategies to any of the models. The Rio+20 Conference outcomes could at least help to mark a turning point here.

### 1.3. Zeronauts taking action

**“A world of 9 billion by mid-century will demand fundamental changes in our mindsets, behaviors, cultures and overarching paradigm.”**

John Elkington in ‘The Zeronauts – Breaking the Sustainability Barrier’

This proliferation of concepts on both macroeconomic and microeconomic level clearly expresses the search and the appetite of the corporate sector and civil society to find sustainable solutions on various levels. The urge to become more sustainable is most certainly there. And yet, an overall, globally accepted paradigm with the ability to serve as a starting point and an implementable benchmark for various industry clusters is still lacking. **We can state that sustainability, the triple bottom line, and corporate social responsibility have helped to define directions, but have not yet led to a common understanding of a necessary joint (minimum) effort by all industries.** So far no process has been devised to help define clear roles & responsibilities for the various global industry clusters in an overall paradigm based on overall effectiveness motives rather than industry-specific efficiency programs.

Similar to various concepts at the macroeconomic level (as discussed in 1.2.) new developments towards more sustainable business (models) on microeconomic level have emerged in the last decade. The following table shows an overview of various streams, including both the macroeconomic and microeconomic levels:

Macroeconomic Approaches (see 1.2.)	Academic/Science Approaches
<ul style="list-style-type: none"> <li>• Green Growth</li> <li>• Green Economy</li> <li>• Circular Economy</li> <li>• Beyond GDP (Happiness)</li> <li>• New indicator systems</li> <li>• Global Governance</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable Capitalism</li> <li>• Creative Capitalism</li> <li>• Environmental Economics</li> <li>• Bio-based Economy</li> <li>• Behavioural Economics</li> <li>• Ecological Footprint</li> </ul>
Organizational Approaches	Enlightened Individuals & Societal Approaches
<ul style="list-style-type: none"> <li>• Resource efficiency</li> <li>• Cradle to Cradle</li> <li>• Base of the pyramid</li> <li>• Zero targets</li> <li>• Social purpose definition</li> <li>• B-Corporations</li> </ul>	<ul style="list-style-type: none"> <li>• LOHAS movement</li> <li>• SRI market developments</li> <li>• Open source developments</li> <li>• ‘Blessed Unrest’ communities</li> <li>• Social entrepreneurship</li> </ul>

Table 1: Concepts and initiatives contributing to a more sustainable economy



## ZERONAUT,

n.:

1. An inventor, innovator, entrepreneur, intrapreneur, investor, manager, or educator who promotes wealth creation while driving adverse environmental, social, and economic impacts towards zero.
2. Someone who finds, investigates, and develops breakthrough, footprint-shrinking solutions for the growing tensions between demography, consumerist lifestyles, and sustainability.
3. Political leader or policy-maker who helps to create the regulator frameworks and incentives needed to drive related '1-Earth' solutions to scale.

In 2011, Deloitte Innovation and John Elkington (through his organization Volans) started to collaborate on what John Elkington calls 'the Zeronauts'<sup>12</sup>, individuals and/or organizations that try to minimize their natural and societal impact to a zero level.

The late Ray Anderson, founder of InterfaceFlor, was seen as one of the early archetypes of a corporate leader who went through an 'epiphany' experience that changed his entire attitude towards the role of business in society. His 'mission zero'<sup>13</sup> by 2020' has become a blueprint initiative.

The book 'The Zeronauts – Breaking the Sustainability Barrier' also refers to the 'Zero Hub' concept, a platform to discuss the implications of Zero Impact Growth as the underlying economic paradigm the community of Zeronauts would strive towards.<sup>14</sup> The Zeronauts Symposium, held on 5 June 2012, at Deloitte's Dutch headquarters in Rotterdam, was the first event to help shape the idea of the Zero Hub (see Annex 5.1. for further guidance on the Zeronauts Symposium).

The book also contains a first 'Roll of Honor', a collection of 50 individuals and organisations that are shining examples of the new breed of individual or organizational Zeronauts<sup>15</sup>.

## 1.4. Zero Impact Growth – a joint minimum achievement

**"It is time we steered by the stars, not by the light of each passing ship."**

**Omar Bradley**

As a logic consequence of the Zeronauts' thinking, the question was raised which economic model this new breed of sustainability leaders would follow. We tested the idea of 'Zero Impact Growth', a growth paradigm that would help us set up an economic model that allows 9-10 billion people to live in harmony with nature and in well-being. During visits at and discussions with more than



Source: Picture taken by Ralph Thurm during a visit at InterfaceFlor Netherlands, together with John Elkington, December 2011.

<sup>12</sup> Elkington (2012): *The Zeronauts – Breaking the Sustainability Barrier*.

<sup>13</sup> For more information on 'mission zero', see: <http://www.interface-global.com/Sustainability/Interface-Story.aspx>

<sup>14</sup> Elkington (2012): *The Zeronauts – Breaking the Sustainability Barrier*, p. 12/13

<sup>15</sup> Ibid.: 45/46

60 companies, we found the people there considered it an interesting concept, simply because it has the potential to guide companies in different industry clusters towards a process of alignment and can potentially be operationalized through benchmarks.

The discussions showed us that thinking about 'Zero Impact Growth' triggered a renewed quest for clarity about several basic questions for corporations as the basis of finding a commonly shared direction. These are:

- **Intention:** Companies need to ponder on the societal purpose of their existence beyond a simple license to operate. In a 1-Earth Economy, only those players would stay in business that clearly define their intention to give back at least as much as they take from planet earth and society, and possibly even more in the future (already referred to as 'regenerative growth' by some).
- **Ambition:** In the understanding that Zero Impact Growth would only be a viable concept if there is a clear understanding about achievement levels required in different industries, companies are tasked to think about their roadmap towards achieving Zero Impact Growth, defining their long-term targets, timelines and areas to get there. A joint adaptation plan on how to get there would have to be the basis for that alignment.
- **Bottom line:** In a Zero Impact Growth economy, a new bottom line would arise, not allowing economic success on the back of nature and society. It would be challenging to define the 'Zeronautics' of this new paradigm, but some steps in the monetization of ecosystem services already show signs towards a new consolidation. The internalization of all possible external effects into the profit and loss accounts of companies is one foreseeable way, but others could be explored as well.
- **Progress & success:** In a Zero Impact Growth world, progress can only be made in global value cycles, factoring in the thinking of a circular economy and zero tolerance towards social injustice. A new definition of success would be needed, enlarging today's one-dimensional financial success thinking through additional aspects, especially looking at 'synchronized, joint and balanced' success measures that show how a company adds to the success of others (assuming a joint adaptation plan exists) or how the company has been affected by others; both figures could show positive and negative values.
- **Effectiveness:** At this moment most industry sectors, through the discussion and negotiation processes they are used to, interpret sustainability from their respective perspectives. This has led to increasing efficiency or better reputation (proving the basic business case for sustainability), but often these successes are neutralized or even overshadowed globally by rebound effects (demography, more resource use per capita, etc.) and steered by an existing economic growth model that simply sees 'more' as success. Until now, we are not able to measure whether what has altogether been achieved in the different industries is actually 'good'. The only thing we can state so far is that we became 'less bad', so the question Zero Impact Growth tries to answer is: what, as a minimum, constitutes 'enough'?
- **Roles & responsibilities:** Thinking in terms of Zero Impact Growth helps to redefine roles and responsibilities that certain industries need to take over, or hand over to other industries. For example, is it necessary that companies in consumer business, an industry that would have a negative EBITDA if all external effects they cause were to be internalized (see Trucost study in KPMG – 'Expect the unexpected'<sup>16</sup>), shrink their direct ecological footprint to zero if other industries could achieve more, more effectively? We do not have these answers available right now.

<sup>16</sup> The KPMG report 'Expect the Unexpected: Building business value in a changing world' can be downloaded via <http://www.kpmg.com/nl/nl/issuesandinsights/articlespublications/pages/expect-the-unexpected.aspx>

Given these considerations and in an attempt to define a basic consensus about Zero Impact Growth, we have found the following aspects of a definition useful in our diverse discussions, first by clarifying what Zero Impact Growth actually is not, and then looking at what Zero Impact Growth in our view indeed is:

Zero Impact Growth is **not**:

- **A completely new idea** – We look at it as an attempt to consolidate views towards a minimum joint ‘North Star’ idea, offering openings for innovation and measurable sustainable growth.
- **Zero Growth** – Unrealistic in the view of many, given demographic realities.
- **Zero targets for everything** – Not effective and more an effect of not knowing better.
- **Competitive towards other developments** – It can better serve as a calibration criteria for clarifying the contribution of other concepts.
- **An ultimate plea for legislation** – As legislation is normally a lowest common denominator, we think Zero Impact Growth is too challenging in the short term for many, but it could become the basis for later legal actions.
- **The ultimate goal** – Clearly, there is more than just Zero Impact Growth, e.g. the concept of regenerative growth (giving back more than taking from the earth and from society). As a milestone we think Zero Impact Growth paves the way and defines the boundaries for further innovation and functioning of markets.
- **A doom scenario** – Not working on Zero Impact Growth as a common denominator of necessary achievements could lead to doom scenarios, we think that Zero Impact Growth can be the opposite.

Then what **does** Zero Impact Growth **constitute** in our view:

- A ‘North Star’ definition of joint progress and success in sustainability
- Help for existing initiatives to position themselves in a need for the overall consolidation of networks and initiatives
- The basis for an overall adaptation plan
- A means to help define roles and responsibilities of industries and companies
- A trigger to nurture cross-industry collaboration, co-creation and co-venturing
- Adding scope and purpose to reporting, finally building useful sustainability context in an organization’s performance measurement
- A door opener to a world beyond Zero Impact Growth, e.g. regenerative growth
- Input into future legislation and boundary-setting for ‘sustainable capitalism’
- Support messaging that consumers can follow and that can create positivism around sustainability
- The basis for a top-down & bottom-up movement
- A concept that leads to clear and implementable action

## 2. The Zero Impact Growth Monitor (ZIG-M)

### 2.1. Background and inspiration

“Sustainability is the primary moral and economic imperative for the 21st Century and it is one of the most important sources of both opportunities and risks for businesses”

King III report, 2009

In preparation of the Zeronauts Symposium, Deloitte Innovation performed a research of 65 UN Global Compact member companies that are seen as ‘leaders’ in sustainability since they are either active members of the UN Global Compact, the Global Compact Lead program, the Caring 4 Climate Program or the CEO Water Mandate.

The research was inspired by John Elkington’s ‘Pathway to Zero’ model as described in ‘The Zeronauts’<sup>17</sup>. His five stepping-stones model is characterized by specific mindsets that Zeronauts develop while exploring their journey towards Zero Impact Growth. The five levels are called as follows:

1. Eureka – Seeing the opportunity
2. Experiment – Exploring new ways of doing business
3. Enterprise – Creation of new business models
4. Ecosystem – Start of new and collaborative markets
5. Economy – Flipping the economic system to a more sustainable state

Deloitte Innovation has aligned analogies to these five mindsets with levels of strategic readiness for a Zero Impact Growth paradigm world, assuming that different attitudes, mindsets and organizational cultures lead to different strategies, targets and ways of implementation. Thus, for the Zero Impact Growth Monitor (ZIG-M), we derived five different maturity levels as prompts/descriptors of the existing mindset in an organization:

Maturity Level	Definition from ‘The Zeronauts’	Analogy: Characteristics of a company on that level
No strategy and goals	No definition	The company barely understands the relevance of restructuring its actions towards sustainable solutions and hardly reports on sustainability. Furthermore, no strategy has been defined and no targets have been set.
Eureka	Opportunity is revealed via the growing dysfunction of the existing order.	The company understands the relevance of restructuring its actions towards sustainable solutions. No considerable actions have been taken yet and almost no strategies and targets have been set. The company does already understand the relevance of the topic though, has started reporting and communicates plans to ameliorate its sustainability performance in the future.
Experiment	Innovators and entrepreneurs begin to experiment, a period of trial and error.	Although the company has started its first innovation efforts and internal programs in certain sustainability areas and has developed initial policies and strategies, no concrete milestones and an overarching future vision have been defined yet.
Enterprise	Investors and managers build new business models creating new forms of value.	The company has developed a short- to mid-term strategy (≤ 2020) for specific areas and has set measureable targets. Nevertheless, almost no long-term milestones have been defined. Furthermore, they do not communicate an overarching future vision.
Ecosystem	Critical mass and partnerships create new markets and institutional arrangements.	Measureable, ambitious (zero) targets based on a mid- to long-term vision (≥2020) are set. Nevertheless, a conjoint approach and some collaborative aspects are still missing since the holistic zero impact growth vision has not been (fully) adapted.
Economy	The economic system flips to a more sustainable state, supported by cultural change.	The company has fully adapted the zero impact growth vision. Measureable zero targets that have been adapted jointly are set out for each field of action. A clearly defined strategy is in place on how to achieve these targets, with defined short- and long-term milestones. The underlying benchmarks are clearly defined.

Table 2: Pathway to zero model and conceptual strategic analogies

<sup>17</sup> Elkington (2012): The Zeronauts – Breaking the Sustainability Barrier, p. 123 seqq.



## 2.2. Complementarity of the approach

The Zero Impact Growth Monitor attempts to make a valuable contribution towards instigating the discussion about Zero Impact Growth as a useful umbrella and paradigm to jointly work towards in all industries (and by that including their stakeholders) and to show a maturity pattern on how to close gaps to get there. We also want to stimulate and build a community that can have valuable input for other important networks and initiatives in order to help the corporate sector to work towards a 1-Earth-Economy. Zero Impact Growth would be the basic paradigm to develop the necessary Zeronautics<sup>18</sup>, and by doing so it would be serving as a benchmark to measure success.

Here are some suggestions on how far the Zero Impact Growth Monitor and the community of active Zeronauts may contribute to existing movements:

### 2.2.1. WBCSD Vision 2050

In 2010, the WBCSD published Vision 2050<sup>19</sup>, a comprehensive overview of the pathways of many different industries from 2010-2050. While this vision already contained various aspects of zero strategies, e.g. zero waste or zero carbon, many of the envisaged industry pathways were still separated in silos and disconnected from an overall growth paradigm perspective. While many strategies to get there can be described as efficiency pathways, Vision 2050 is less radical in the potential of cross-fertilization between industries (bridging the silos). A better understanding of Zero Impact Growth by clarifying the roles and responsibilities of various industries in this paradigm and developing an adaptation plan on how to get there would benefit further implementation of Vision 2050 and would add to the needed Zeronautics as measures of success in a 1-Earth-Economy.

### 2.2.2. GRI G 3.1 and G4 Guidelines

The current G3.1 Guidelines of the Global Reporting Initiative will be replaced by G4 in May 2013<sup>20</sup>. G3.1 can still be characterized by one major weakness: all

performance information at this point is more or less relative since defining materiality is mostly a matter of negotiation between the reporting organization and its stakeholders. Both sides still lack important information about 'sustainability context', actually the most neglected GRI report content principle. Consequently, at this moment all rankings and ratings can only define 'best in class performance', while nobody is able to assess 'good performance' – we actually lack knowledge of what 'is good (or good enough)'. Zero Impact Growth and the necessary Zeronautics could be a bridge towards the 'age of context'. There is a notion that if G4 misses out on relevant context indicators, we will remain locked in another decade of context-free performance description with limited value for the necessary success measurement.

### 2.2.3. UN Global Compact

The UN Global Compact and the ten inherent principles have given all leading (and following) companies policy guidance on why and how to tackle the areas of environmental stewardship, labour rights, human rights and anti-corruption<sup>21</sup>. Furthermore, the Global Compact (GC) has introduced the Communication on Progress (CoP) as the main reporting mechanism. GC member companies can actually fulfil their CoP duties by publishing a GRI-based sustainability report. The sustainability context problem therefore is also true for the GC CoPs.

Beyond that, the Global Compact has created local networks and has started important initiatives like LEAD, the Caring for Climate Program (C4C) or the CEO Water Mandate, just to name a few. Through these activities the GC tries to further build collective programs, public private partnerships and other alliances. Using Zero Impact Growth as a litmus test for the effectiveness of these programs could be helpful as an umbrella. Certainly, the Zero Impact Growth Monitor, as explained below, delivers very valuable information on the state of the art of strategy implementation and the various gaps that prevent 'breaking the sustainability barrier'. Working with the GC programs and/or in the GC local networks could enhance their effectiveness.

<sup>18</sup> Zeronautics: 'The science of conceiving, designing, engineering and operating technologies, business models, value chains and economies on 1-Earth principles.' (Elkington 2012)

<sup>19</sup> The WBCSD report 'Vision 2050 – the new agenda for business' can be downloaded via <http://www.wbcd.org/pages/edocument/edocumentdetails.aspx?id=219&nosearchcontextkey=true>

<sup>20</sup> For more information on the GRI Guidelines, see: <http://www.globalreporting.org/>

<sup>21</sup> For more information on the UN Global Compact and its ten principles, see: <http://www.unglobalcompact.org/aboutthegc/theten-principles/index.html>

#### 2.2.4. ISO 26000

ISO 26000 was published in 2010 to cover a gap in the ISO family of documents, now covering quality, environment and adding social guidance. It is worthwhile to note that ISO 26000 is a guidance standard only, while ISO 14001 and ISO 9001/9002 are certifiable standards. After nearly 7 years of development, ISO 26000 can be seen as a valuable contribution on how to develop, structure and organize sustainability within an organization. The guidance document covers a very broad range of topics in several sustainability issue areas. However, ISO 26000 is relatively light on the connection to an effective measurement of success. Once again, linking the effectiveness of an organization's approach to a benchmarkable set of targets based on Zero Impact Growth as the overarching paradigm, could be a major step forward.

#### 2.2.5. Other networks and initiatives

As already indicated in Chapter 1, there are many other networks, initiatives and organizations that play an important role in the development of sustainable capitalism, many of them active as pieces of the puzzle of the still to-be-developed journey. The Zeronauts community and the Zero Impact Growth Monitor offer a complementary approach on developing a joint growth paradigm. The organizations, networks and initiatives we have identified as being additional players include, e.g., Trucost, VERGE (part of GreenBizz), True Price Foundation, TEEB Foundation, WWF, Global Footprint Network (GFN), Greenpeace, CERES, Sustainability Context Group (in formation), International Integrated Reporting Council (IIRC), Prince of Wales Accounting for Sustainability Project, Global Green Growth Institute, Green Economy Coalition, 2degrees network, the Regeneration Project, Circle Economy, Cost of Planet.

### 2.3. Methodological approach

The Zero Impact Growth Monitor looks at a total of 18 components of strategic relevance, in three main areas:

- **Vision and strategic ambition** – the generic research area to assess the extent of a company's overall vision on sustainable growth.
- **Environmental aspects** – a total of eight components that look at the characteristic sub-strategies and how they link to the overall strategy.
- **Social aspects** – a total of seven components, covering labour rights, human rights and societal engagement and how they contribute to the overall strategy.

The components follow the overall logic of GRI's G3.1 Guidelines, taking into account the whole holistic concept of sustainability, and using the transparency through the company's publicly available information.

All components are assessed through an underlying scoring scheme from 0 to 5, based on the maturity model as described above. For all 65 companies a spider web has been prepared to show scores in all 18 components. Also, a total score indicates how far we think companies are in their thinking on long-term growth strategies and how they are implemented (vision & strategic ambition counts for 20% of the total score, environmental aspects and social aspects get 40% each). In Chapter 3, we discuss overall outcomes and gaps, all industry and individual company scores are shown in Annex 5.2.

Area	Sub-area	Component	Focus and Definition of Items
Vision & strategic ambition		Holistic approach	Assesses how many components regarding environmental and social sustainability are covered through the company's overall sustainability approach and how these areas are tackled.
		Defined strategy	Assesses whether a concrete sustainability strategy is in place that embraces the company's sustainability efforts towards a zero impact growth paradigm.
		Level of integration	Assesses the extent in which the sustainability strategy is part of the company's business strategy.
Environmental aspects		Emissions	Efforts, strategies and targets of a company to reduce the annual direct and indirect GHG emissions.
		Energy	Efforts, strategies and targets of a company to reduce the annual direct and indirect energy consumption and to move towards the use of more sustainable energies.
		Waste	Efforts, strategies and targets of a company to reduce the annual waste streams & effluents and to increase the recycling rate of materials.
		Water	Efforts, strategies and targets of a company to reduce the annual water consumption and to move towards a more sustainable use of water.
		Biodiversity	Efforts, strategies and targets of a company to reduce the negative impact of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
		Materials	Efforts, strategies and targets of a company to increase the use of sustainable and/or recycled materials.
		Logistics	Efforts, strategies and targets of a company to reduce the negative environmental impact of the logistics network, transportation and packaging materials.
		Supply Chain	Efforts, strategies and targets of a company to reduce the negative environmental impact throughout the entire supply chain and to include the suppliers into the company's environmental sustainability approach.
Social aspects	Labour Practices & Decent Work	Health & Safety	Efforts, strategies and targets of a company to ameliorate their health & safety performance as regards rates of injury, occupational diseases, lost days, and absenteeism, and number of work related fatalities. Also included are education & training regarding health & safety.
		Training & Education	Efforts, strategies and targets of a company to ameliorate their performance regarding the training and education of its employees.
		Diversity & Equal opportunities	Efforts, strategies and targets to increase equal opportunities and to achieve the desirable level of diversity within the company.
	Human Rights	Child & Forced Labour	Operations to identify any significant risks of incidents of child and forced labour and efforts, strategies and targets to contribute to the effective abolition of child labour.
		Investment & Procurement Practices	Investment agreements and contracts that include human rights concerns. Efforts, strategies and targets to ameliorate the performance.
	Society	Local Community Engagement	Efforts, strategies and targets regarding the implementation of local community engagement and development programs (e.g. including corporate donation activities).
		Anti-Corruption & Compliance	Efforts, strategies and targets to decrease the risks for incidents of corruption and to increase compliance.

Table 3: The 18 components of the Zero Impact Growth Monitor (ZIG-M)

## 2.4. Research sample

Deloitte Innovation assessed a sample that included a total of 65 companies from 10 core industries and 25 sectors (according to the ICB definition<sup>22</sup>). All companies are part of the UN Global Compact. Furthermore, most of them are either part of the UNGC LEAD initiative, the Caring for Climate (C4C) Initiative, the CEO Water Mandate and/or report pursuant to the UNGC Advanced Level CoP. 62 companies were proposed directly by the UN GC secretariat, we added Puma, Nestlé and Nike to the

sample, given their outstanding roles regarding the creation of shared value (Nestlé), sustainable innovation (Nike) and the pioneer role on developing environmental profit/loss accounts (Puma). We also added Deloitte Netherlands to the sample since we think we need to 'practice what we preach' on top of which we can learn something from the assessment ourselves.

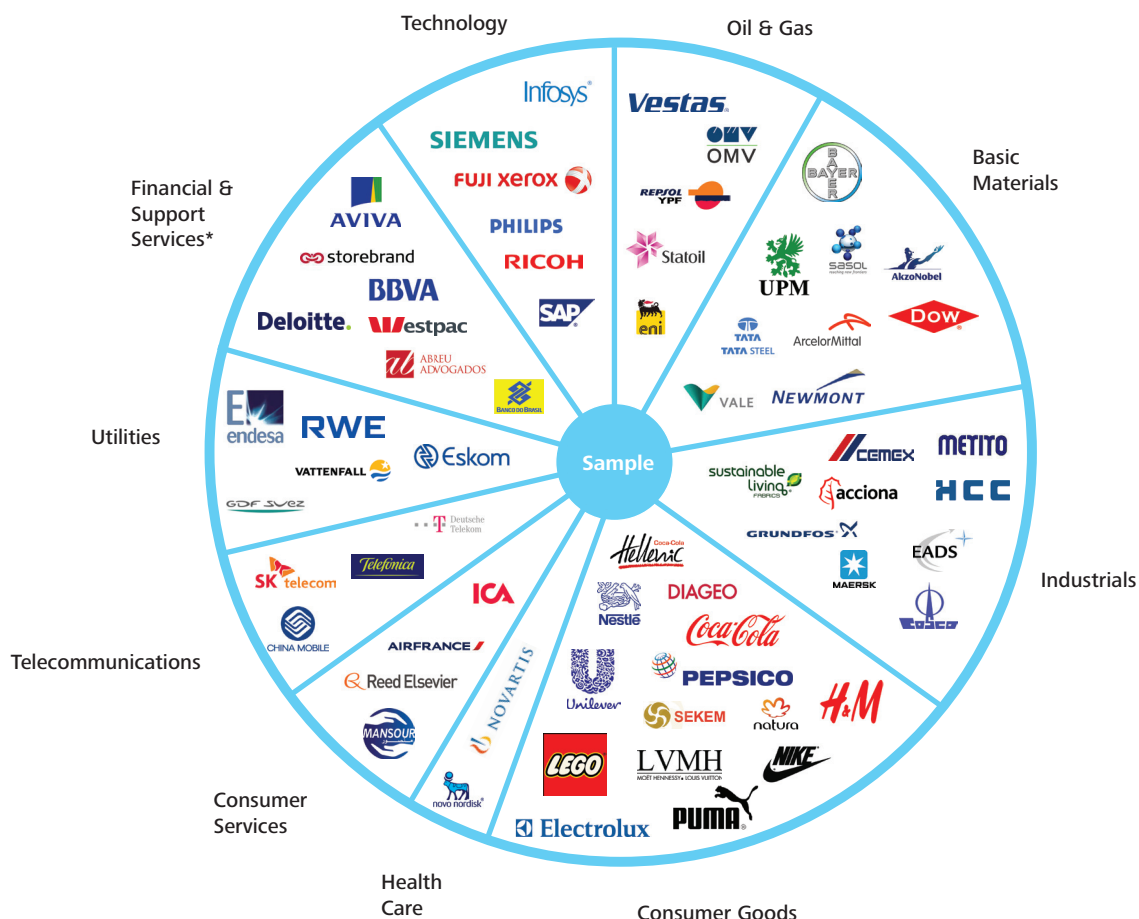


Figure 1: Sample of Zero Impact Growth Monitor. Classification according to Industry Classification Benchmark (ICB).

<sup>22</sup> For detailed information on the Industry Classification Benchmark, see: <http://www.icbenchmark.com>

## 2.5. Disclaimers

The Zero Impact Growth Monitor has been applied to a broad sample of industries, but the research sample and its related outcomes have limitations, for several reasons:

- The sample is incomplete, not entirely balanced and not representative as it includes mainly companies with a leading role in sustainability in their respective industries. However, the outcome is interesting as it helps to understand challenges in entire industries when looking at the existing gaps of their respective leaders.
- The samples used in the 10 different categories are not of equal size and – given the information available – can show considerable shortcomings in some components of the assessment, which may not be typical for certain industries.
- All data used for the Zero Impact Growth Monitor rely on publicly available information only, derived from:
  - Sustainability reports from 2009 to 2011 (up to publication in June 2012);
  - Additional website coverage (when indicated in the reports);
  - Other documents (e.g. Code of Conduct, Supplier Guidelines) insofar they have been published.
- We have not performed interviews with the companies; that remains optional for a more in-depth analysis.
- We have not used normalization factors based on existing materiality discussions included in the reports. In order to get a balanced view we have taken into account relevant omissions (as requested by GRI) when scoring sub-strategies and implementation efforts.
- Two areas that the GRI Guidelines recommend have not been evaluated: employment & labour/management relations and non-discrimination & collective bargaining. Our assessment led us to the conclusion that disclosure on these two items is generally too weak to be assessed in a 0-5 scale scoring scheme.



### 3. ZIG-M Results 2012

The outcomes of the first-ever Zero Impact Growth Monitor are showing interesting results regarding the positioning of 65 leading companies in 10 industries towards Zero Impact Growth (or other growth perspectives<sup>23</sup>). Furthermore, the results reveal several gaps that need to be overcome to effectively and jointly move forward towards a 1-Earth-Economy.

#### 3.1. Overall results according to level of maturity

All 65 companies were assessed and scored according to the 0 to 5 scoring model, and comprised the 18 components regarding vision & strategic ambition as well as related environmental and social strategies and goals. Figure 2 shows an overview of the classification of the company results according to the five maturity levels of the Zero Impact Growth Monitor (see chapter 2.1.). Bar one, all companies have at least reached the ‘Experimentation’ level, with some 20% of the companies being exactly in that group. The companies on the experimentation level have started to tackle most

sustainability areas at least via internal programs and initial innovation efforts, while in most cases they are busy developing specific policies. However, they lack clearly defined and operationalized targets in most areas and do not communicate a concrete long-term strategic vision.

The majority of the assessed companies have reached the ‘Enterprise’ level: 70%. These companies have defined a clear vision of what they attempt to achieve in a short- to mid-term perspective (≤ 2020). They have defined measurable milestones in several areas that provide a concrete outlook on their actions and measures. While all of them have chosen certain focus areas based on a materiality analysis developed in dialog with their stakeholders, most of them limit their sustainability approaches strongly to their focus areas, resulting in a less holistic approach with a long-term vision and legacy. Materiality discussions are therefore not visibly based on long-term views.



Figure 2: Overview of company classification according to the 5 maturity levels of the Zero Impact Growth Monitor

<sup>23</sup> Cf. Chapter 1 for the broad variety of concepts discussed.

## Best Practice: Holistic Approach

In the final ranking of the ZIG-M 2012, Unilever ranks first due to its truly holistic approach. The Unilever Sustainable Living Plan advocates a holistic long-term strategy, based on the overarching vision 'to create a better future in which people can improve their quality of life without increasing their environmental footprint' (Unilever Sustainable Living Plan). Their actions are led by three overarching 2020 goals:

1. We will help more than a billion people take action to improve their health and well-being.
2. We will decouple our growth from our environmental impact, achieving absolute reductions across the product lifecycle. Our goal is to halve the environmental footprint of the making and use of our products.
3. We will enhance the livelihoods of hundreds of thousands of people in our supply chain.' (Unilever Sustainable Living Plan)

These general ambitions have been broken down into measurable milestones and sub-targets in all sustainability content areas. In this way, Unilever provides a clear framework on how to embed sustainability in all of its business operations and which allows the company to move towards a zero impact level. For more information visit: <http://www.unilever.com/sustainable-living>

Six companies of our research sample (9%) have already reached the 'Ecosystem' level: Unilever, Puma, Nike, Nestlé, Natura, and Ricoh. These pioneering companies have not only set measurable and ambitious mid- to long-term targets ( $\geq 2020$ ), but have also embedded their sub-policies in a holistic strategic vision of their attempt to minimize their negative environmental and societal impacts. Furthermore, they are in the process of establishing sustainable business ecosystems and creating truly shared value by also involving their suppliers and other stakeholders in their actions. However, aspects of a conjoint approach and (cross-industrial) collaborative aspects as a necessary condition to achieve a 1-Earth-Economy are still missing to a large extent.

This overall result of the Zero Impact Growth Monitor is a clear reflection of some of the remarks made in Chapter 1 regarding the sheer proliferation of different growth concepts, industry-specific interpretations and definitions of material sustainability issue areas, as well as the lack of concrete sustainability context information in a company's reporting approach. This patchwork of different approaches and definitions leads to non-comparability and a lack of information regarding which actions may be classified as 'being truly good' and which as 'being less bad'. Once again, we think that consolidation and alignment towards Zero Impact Growth would be a great opportunity to help get a clear answer to that contextual question.

## Best Practice: Collaborative Actions

The apparel manufacturers Adidas Group, C&A, H&M, Li-Ning, G-Star, Nike Inc. and Puma – three of them also in the ZIG-M sample – show how breaking down competitive barriers and joining forces can have a catalyst effect on achieving solutions for sustainability issues. In 2011, they made a joint commitment to help lead the apparel and footwear industry towards Zero Discharge of Hazardous Chemicals (ZDHC) for all products across all pathways by 2020. Published in November 2011, their 'Joint Roadmap' explains the group's collaborative efforts and sets the standards for future actions. It also includes concrete commitments and measurable milestones. For more information visit: <http://www.roadmaptozero.com/>

## Best Practice: Internalization of Externalities

In 2011, Puma (ranked 2nd in the ZIG-M) released the first environmental profit and loss account. Supported by Pricewaterhouse Coopers LLP and Trucost PLC, they developed a methodology to use well-known ecological and economic techniques to monetize their environmental impact for the key areas of greenhouse gas emissions (GHG), water use, land use, air pollution and waste, generated through the Puma operations and supply chain. Thereby, the overall environmental impact of Puma is valued at € 145 million in 2010, with the majority (94%/€ 137m) occurring within its supply chain of external partners. This radical method of internalization of externalities clearly reveals the necessity for building sustainable business ecosystems by taking collaborative actions. For more information visit: <http://safe.puma.com>

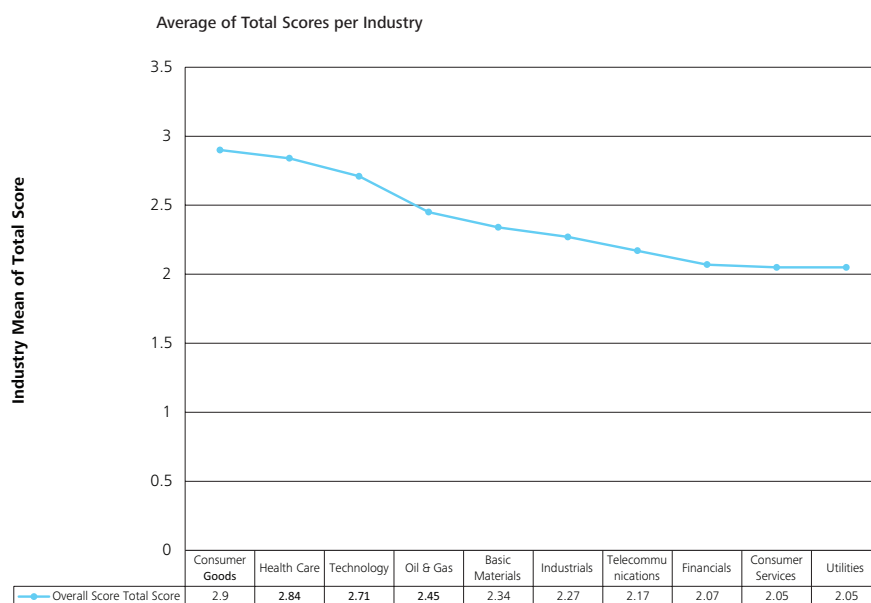


Figure 3: Average industry-specific results

### 3.2. Industry results

Let's have a look at the average industry scores. Consumer goods companies on average scored highest, with 2.9, followed by the health care industry, 2.8, consisting of Novo Nordisk and Novartis, and the technology sector, with 2.7.

In every industry the average score of the environmental components exceeded the average score of the social aspects. We will refer to this effect and the reasons for this outcome in the gap analysis below (see 3.3.3).

As regards the environmental components, the technology industry, including e.g. Philips, SAP, RICOH and Siemens, tops with an average score of 2.8, while in terms of the social components the consumer goods and health care industries once again take the lead, with an average score of 2.6.

On the lower end the consumer services and the utilities industry scored the lowest on average with 2.05. As regards environmental components, the financial industry is at the lower end of the ranking with an average score of 2.03. The worst performing industry as regards social components is consumer services with a score 1.86 on average.

### 3.3. Gap analysis

Our assessment has revealed additional insights on four major gaps. These can be classified and described as follows:

<b>GAP 1:</b>  <b>'Lost in space'</b> <b>Comparability Gap</b>	<b>GAP 2:</b>  <b>'So much talk,</b> <b>(still) too little action'</b> <b>Implementation Gap</b>
<b>GAP 3:</b>  <b>'Money counts'</b> <b>Balance Gap</b>	<b>GAP 3:</b>  <b>'Some like it hot'</b> <b>Gap in performance in</b> <b>and between industries</b>

### 3.3.1. 'Lost in space' – comparability gap

The research among the 65 companies in 10 industries has revealed a lack of consistent definitions and descriptions that companies use to explain their sustainability efforts in the various components we have examined. Hence, while it is difficult to compare their performance and, in addition, to seek consistency towards Zero Impact Growth strategies within an industry or towards a certain other growth paradigm, this becomes even more difficult among different industries. Rating and ranking organizations thus use questionnaires as their primary source of information in order to be able to compare performance on same denominators. It is fair to say that the 'questionnaire fatigue' that companies sometimes experience, is to

some degree caused by inconsistency due to a missing performance 'North Star', broken down into industry sector roles & responsibilities and aligned to 'Zeronautics', thus translating the sustainability context into measurable and comparable benchmarks.

The figure below exemplifies descriptions in the area of carbon reduction or zero carbon programs by the companies assessed.

**The challenge: in a Zero Impact Growth economy it is essential to find jointly-adapted definitions and measurement methods that enable comparable and transparent target setting (Zeronautics).**

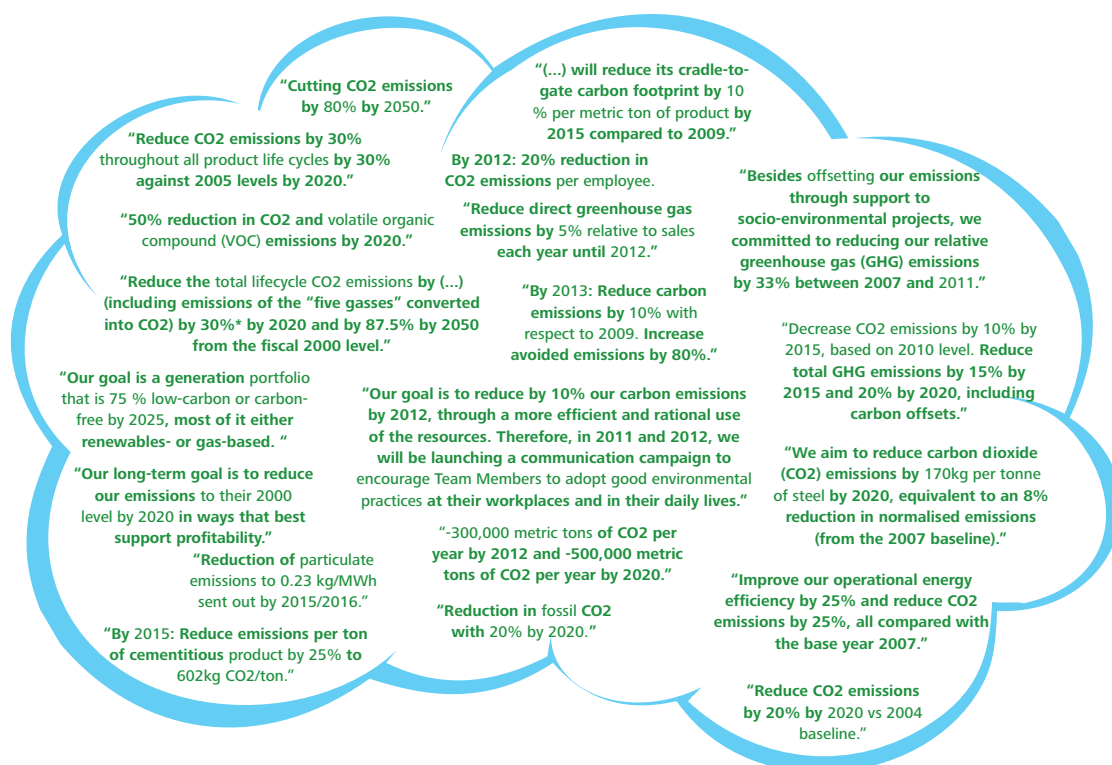


Figure 4: Lack of consistent definition leads to lack of comparability

### 3.3.2. 'So much talk, (still) too little action' – implementation gap

Some of the companies have proposed ambitious strategies that have scored high in the Zero Impact Growth Monitor. However, the degree of implementation of these overall strategies often does not receive similar scores when assessing the different components. Our research therefore suggests that in quite a considerable number of cases

an implementation gap arises between the definition of overall strategies and targets and their implementation. These findings are not just the result of timing (since implementation often takes 2-3 years), as the scoring model looks at logical contributions of the different components to an overall growth or zero impact growth strategy. In short, the combination of the environmental goals and social goals set by a company are often less

ambitious than the overall disclosed strategy suggests. We believe that these findings also correlate with earlier findings by Accenture in which more than 700 CEO's responded, in 2010, that they thought they had already fully implemented a challenging sustainability strategy, whereas reality showed their implementation to still be lacking the same consistent ambition. The figure below shows that companies generally score higher in the area of vision and strategic ambition, with an average score of 2.86 (blue dots), while in terms of implementation they score 2.4 points on average on environmental aspects and 2.2 points on social aspects (green dots). 35 companies

(53.8%) have even been evaluated with a score on the strategic ambitions of 3 or above, which already puts them on the 'Enterprise' maturity level in that area. In terms of implementation only 6 companies achieved that level.

**The challenge: use Zero Impact Growth as a 'North Star' to clarify the overall strategic ambition and how to implement it through clear targets and milestones in a way that ensures a consistent approach between targets of the various activity areas and the overall company strategy.**



Figure 5: Implementation Gap

### 3.3.3. 'Money counts' – balance gap

A third finding describes an overall tendency that environmental goal-setting is more consistent towards supporting overall strategies than social goal setting. This finding is understandable to a certain degree, since environmental strategies and their financial contribution to value creation are more advanced than the 'softer', social contributions. But, we also think that the reason for these better scores has to do with the advanced possibilities to monetize environmental strategy contributions to overall economic value added. We derive from this qualitative

assessment that more efforts to calculate the use of natural resources (including absorption capacity of greenhouse gases) can help boost the implementation of Zero Impact Growth strategies, whereas more effort needs to be put into the social aspects, which – as the image below suggests – score considerably lower, apart from some peaks like health & safety and community engagement. Once again, those two exceptions are logic since they are closest to monetization and measurability.



Balance Gap

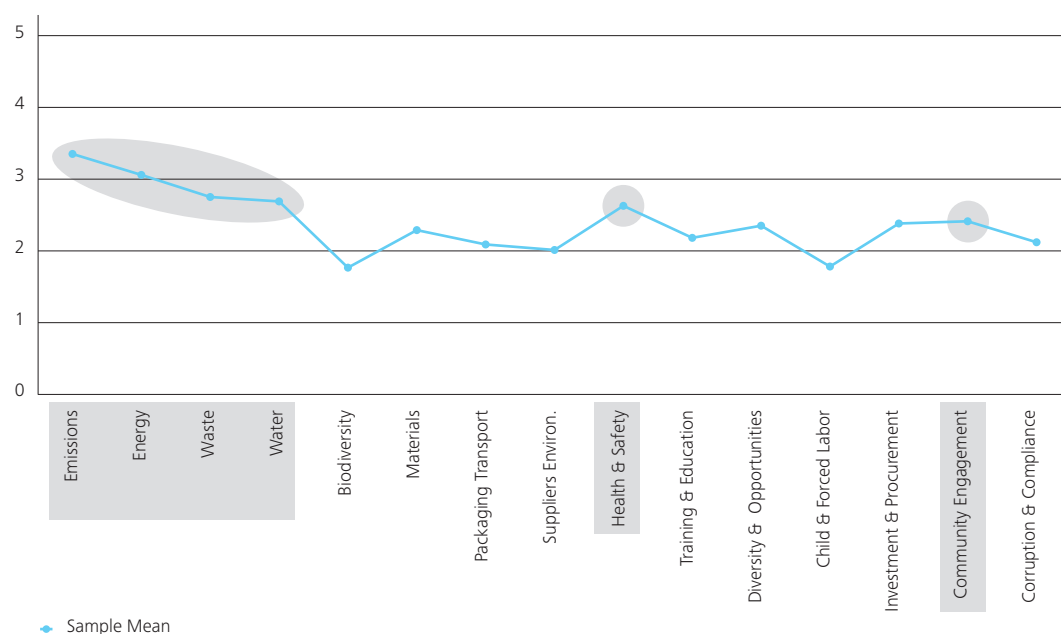


Figure 6: Balance gap

**The challenge: To deliver value in a Zero Impact Growth economy, find the balance between environmental and social issues by exploring further monetization of the different activity areas and accept the need for the internalization of external effects.**

### 3.3.4. 'Some like it hot' – gaps in performance in and between industries

All industries have leaders and followers when it comes to sustainability performance. Since we have only researched the so-called 'leading companies' we were surprised by the considerable differences in scores – even within the same industry. These differences can run up to 2 full points in our scoring model. While competition between companies may obviously limit collaboration on sustainability, we do think this is a considerable concern.

We have seen the biggest gaps in consumer goods, consumer services, basic materials and industrials, some of those industries that will see the highest EBITDA loss in case of the internalization of additional external costs (see Trucost study<sup>24</sup>). If this materializes in the next decade,

transformation will in our view lead to rather rough market developments, affecting the profitability of many players and leading to market consolidation at considerable scale.

During our research we have also observed considerable differences in the scores of various industries. Consumer goods and basic materials (while having huge variations within their industry) score higher on average than, e.g. the financials, telecommunications or utilities. In our view this constitutes a gap in potential innovation and collaboration in and between the industries, given different 'views' on the necessary contributions to a joint Zero Impact Growth paradigm.

**The challenge: a Zero Impact Growth economy needs more clarity on the different industries' roles and responsibilities. This could be achieved through a stronger focus on sustainability context.**

<sup>24</sup> The KPMG report 'Expect the Unexpected: Building business value in a changing world' can be downloaded via <http://www.kpmg.com/nl/nl/issuesandinsights/articlespublications/pages/expect-the-unexpected.aspx>

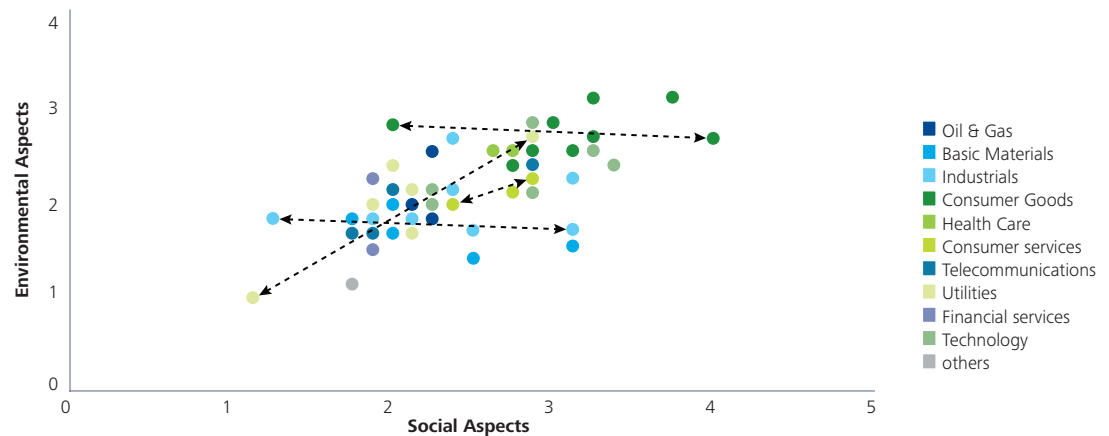


Figure 7: Performance variability in the same industry

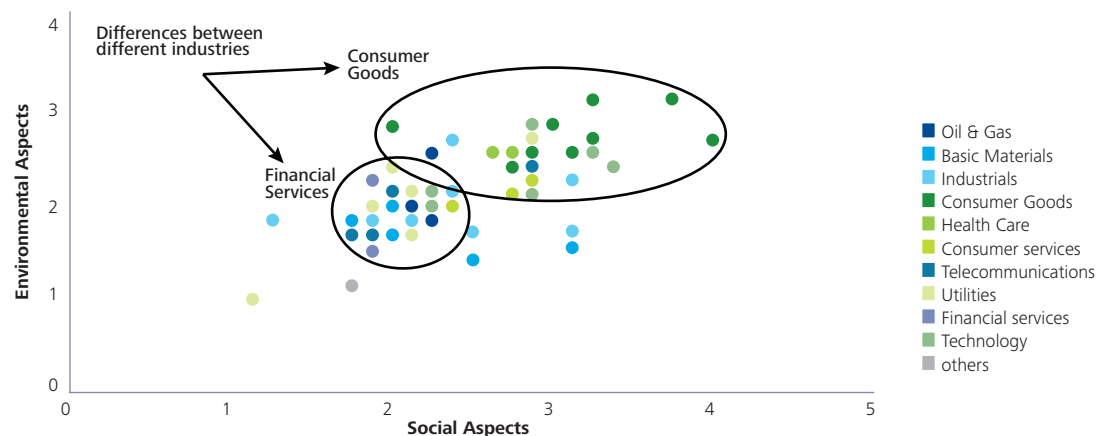


Figure 8: Performance variability between industries

### 3.4. Research summary

What are some of the key takeaways from the Zero Impact Growth Monitor 2012:

- Our research suggests that the proliferation and confusion around long-term paradigms and growth definitions leads to unclear strategies, as no or insufficient generic discussion is started on which industry does what best.
- Instead, our findings suggest that many of the assessed companies are doing 'too much, but only for a bit'. This prolongs a 'to be less bad' instead of an actually 'being good' culture and keeps the focus on efficiency strategies instead of effectiveness strategies. The latter would require more collaboration between industries.
- The lack of a clear paradigm leads to a lack of clear intentions, ambitions, success definitions, as well as gaps between vision and implementation, an imbalance between environmental and social focus and a variability in performance between and even within industries. This, in turn, even more undermines potential overall effectiveness through innovation by collaboration and co-creation.
- A joint understanding is needed of what all industries need to achieve together (and with their respective stakeholders) in order to jointly arrive at a sustainable economy.
- Clear measurement and monetization of resource use and external effects are crucial, as well as the measured contribution to human well-being. This would support a better understanding of the sustainability context and would increase the quality of stakeholder dialogs.
- We need to innovate and take action in the areas of measurement, leadership, new business models and education. A consolidated approach and an adaptation plan towards Zero Impact Growth can be a valuable contribution.

# 4. Recommendations

“The future is already here – it’s just not evenly distributed.”

William Gibson

In June 2012, more than 100 experts and corporate leaders met in Deloitte’s headquarters in Rotterdam, to discuss the idea of the Zeronauts as presented by John Elkington. The preliminary outcomes of the Zero Impact Growth Monitor 2012 were presented there as well. Several workshops were held to discuss existing thresholds to develop a ‘common sense’ around Zero Impact Growth, how to accelerate the pace to come to solutions and, finally, how to work together better and more effectively. High up, on the 44th floor of the Maastoren building, and inspired by John Elkington’s idea of ‘learning to fly again in order to bridge the chasm and to break the sustainability barrier’, we called this a ‘joint flight’. The following recommendations are the result of the Zeronauts

Symposium and, given the ample feedback we received, we clustered them in eight groups:

- Joint vision & paradigm shift
- Leadership
- Definitions and measurement methods
- Collaboration & co-creation
- Education & information
- Behavioural change
- Implementation & concrete solutions
- Others

## 4.1. Loosening the brakes

“Once we know and are aware, we are responsible for our action and our inaction. We can do something about it or ignore it. Either way, we are still responsible.”

Jean Paul Sartre

Joint vision & paradigm shift	<ul style="list-style-type: none"> <li>• Focus on profit maximization and short-term thinking in the current system</li> <li>• Belief that incremental improvements will be sufficient to solve sustainability challenges</li> </ul>
Leadership	<ul style="list-style-type: none"> <li>• Fear of decision-making</li> <li>• Lack of conviction and not enough sense of urgency</li> <li>• No clear and shared vision</li> <li>• Lack of understanding</li> <li>• Incentive systems are based on financial success only</li> </ul>
Definitions and measurement methods	<ul style="list-style-type: none"> <li>• Lack of jointly adapted definitions &amp; measurement methods</li> <li>• No common understanding of zero impact growth</li> <li>• Sustainability context not defined, operationalized, and reported</li> <li>• Today’s monitoring is insufficient</li> <li>• Lack of transparency</li> </ul>
Collaboration & co-creation	<ul style="list-style-type: none"> <li>• No real and enough collaborative actions at this moment</li> <li>• Most collaboration in industry silos, less or no cross-fertilization between industries</li> <li>• No definition of what is ‘joint’ success of all industries together</li> </ul>
Education & information	<ul style="list-style-type: none"> <li>• Lack of knowledge on all levels</li> <li>• Companies and customers still struggle with what is “sustainability”</li> </ul>
Behavioural change	<ul style="list-style-type: none"> <li>• Inherent fear of changing general habits/paradigms and to undergo a radical transformation</li> <li>• Lack of sense of urgency</li> <li>• Lack of consumer awareness &amp; interest (too much information often seen as unreliable)</li> <li>• People want to preserve their lifestyles</li> <li>• Many of the problems are still far away (not in front of my house door)</li> </ul>
Implementation & concrete solutions	<ul style="list-style-type: none"> <li>• Complexity of current system</li> <li>• Lack of concrete solutions and business models</li> <li>• No focus on scalability &amp; impact of hopeful solutions</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Current recession and fight for survival</li> <li>• Path dependencies</li> <li>• Political Borders</li> </ul>

Table 4: Main obstacles on a pathway to zero Impact Growth



We asked the participants: *What are the main obstacles on the pathway towards Zero Impact Growth?*

The answers we collected (see table 4) show that merely being aware of the existence of these thresholds can help start flipping them around and think about solutions instead of reasons why something can't be achieved.

#### 4.2. Acceleration

**“We have to continually be jumping off cliffs and developing our wings on the way down.”**

**Kurt Vonnegut**

We asked the participants: *How can we change gears and what tooling is necessary to enable the journey towards zero impact growth?*

The answers here show the need for collaborative experimentation, the involvement of all stakeholders, and incentive structures that enable the necessary excitement and innovation (see table 5). The notion ‘we’re all in this together’ needs to be supported by the right formats and designs to ‘solve all this together’. There is now great belief that corporations need to take the front seat.

Joint vision & paradigm shift	<ul style="list-style-type: none"> <li>• Adapt a joint vision (rethink current economic model)</li> <li>• Define paradigm that can be the basis for impact benchmarks</li> </ul>
Leadership	<ul style="list-style-type: none"> <li>• Leaders have to act as role models</li> <li>• Leaders have to create sense of urgency and to drive actionable change</li> <li>• Need to give the right incentives</li> <li>• Create an environment for change</li> </ul>
Definitions and measurement methods	<ul style="list-style-type: none"> <li>• Develop a common language (definitions &amp; measurement methods)</li> <li>• Monetization of sustainability indicators is needed</li> <li>• Increase evidence that environmental performance adds value on financial performance</li> <li>• Increase transparency &amp; consistency</li> <li>• Internalization of externalities</li> <li>• Adapt tax systems (burden on resource use, not on labour)</li> </ul>
Collaboration & co-creation	<ul style="list-style-type: none"> <li>• Establish new (cross-industrial) partnerships and drive collaborative actions</li> <li>• Positive thinking and working together (less competitive thinking)</li> <li>• Create places for experimentation &amp; co-creation</li> <li>• Don't fight in different systems, but be complementary to each other</li> </ul>
Education & information	<ul style="list-style-type: none"> <li>• Increase communication efforts to reach the public</li> <li>• Make sustainability is easy to understand</li> <li>• Increase education at schools/universities</li> <li>• Serious gaming as a tool for awareness-raising &amp; leadership development &amp; stakeholder dialog</li> </ul>
Behavioural change	<ul style="list-style-type: none"> <li>• Drive behavioural change on all levels of society via education and inspiration</li> <li>• Create ‘pull sustainability’ to make it more attractive for larger groups (investing in sustainability has to be more [monetarily] rewarding than exploitation of resources)</li> <li>• Offer more sustainable products</li> <li>• Involve young generation and all other groups of society (poor people etc.)</li> <li>• Make it: understood, easy, rewarding, desirable</li> </ul>
Implementation & concrete solutions	<ul style="list-style-type: none"> <li>• Need for research, innovation and experimentation</li> <li>• Provide concrete methodological tools and business models</li> <li>• Create interactive platforms of different actors of society</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Reform of the government system to create a stronger link between sustainability and government</li> <li>• Global objectives &amp; commitment is needed</li> </ul>

Table 5: Accelerators on the pathway to Zero Impact Growth



### 4.3. Joint flight

“Chance favors the connected minds.”

Steven B. Johnson

Again, the responses we received to this question suggest that there is a huge willingness to work together in light of a holistic approach, moving away from patchwork solutions (see table 6); there is a notion that a complementary approach that embraces existing networks, partnerships and initiatives would be helpful.

We asked the participants: *How can we team up together to organize our collective journey? How would you define your role in that?*

Joint vision & paradigm shift	<ul style="list-style-type: none"> <li>• Define common vision &amp; aspiration</li> <li>• Define roles, responsibilities and contributions of all players</li> </ul>
Leadership	<ul style="list-style-type: none"> <li>• Leaders have to act as facilitators to take the sustainable vision into action (ambassadors, advocates)</li> <li>• Take decisions according to a long-term vision</li> </ul>
Definitions and measurement methods	<ul style="list-style-type: none"> <li>• Develop together a common language (definitions &amp; measurement methods)</li> <li>• Harmonize measurement methods</li> <li>• Work towards radical transparency</li> <li>• Setting criteria for investments</li> <li>• Find ways how to internalize externalities</li> <li>• Develop a simple system that can be used by everyone</li> </ul>
Collaboration & co-creation	<ul style="list-style-type: none"> <li>• Push for (cross-industry) collaboration and new partnerships</li> <li>• Involvement of all stakeholders (e.g. employees and customers) along the value chain</li> <li>• Increase (open) innovation efforts</li> <li>• Partnerships along the value chain</li> <li>• Implement joint pilot projects on different levels (companies, industries, areas)</li> <li>• Form intention groups of experts</li> </ul>
Education & information	<ul style="list-style-type: none"> <li>• Increase knowledge via education, dialogue and communication</li> <li>• Use interested media and newsgroups</li> <li>• Create social media broadly</li> <li>• Create campaigns</li> </ul>
Behavioural change	<ul style="list-style-type: none"> <li>• Education events (online and offline)</li> <li>• Helping others to become Zeronauts</li> <li>• Empowerment of people at all levels</li> <li>• Drive employee engagement</li> <li>• Build serious gaming communities per industry (incl. consumers)</li> </ul>
Implementation & concrete solutions	<ul style="list-style-type: none"> <li>• Involvement of all stakeholders (e.g. employees and customers) along the value chain</li> <li>• Provide platform for joint experimentation &amp; pilot projects to come up with concrete solutions</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Realize it is a journey that needs continuous improvements</li> </ul>

Table 6: Developing the idea of a ‘joint flight’



## 5. Annexes

### 5.1. The Zeronauts Symposium 2012

During the Zeronauts Symposium we asked the participants some additional questions. This annex provides a selected overview of results:

What are your most important takeaways from the event? Explain in 3 keywords.

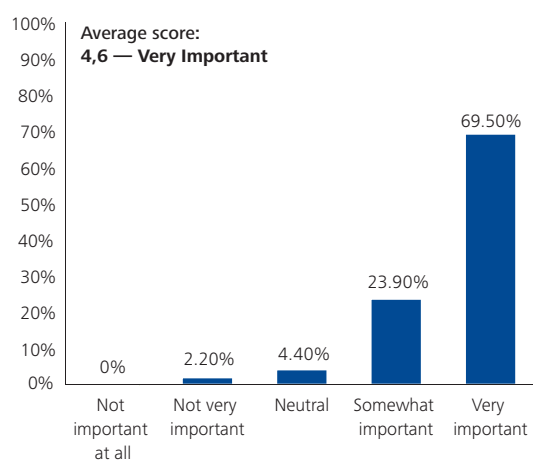
All answers given have been clustered. The wordle represents the aggregated answers weighted by their frequency of appearance.



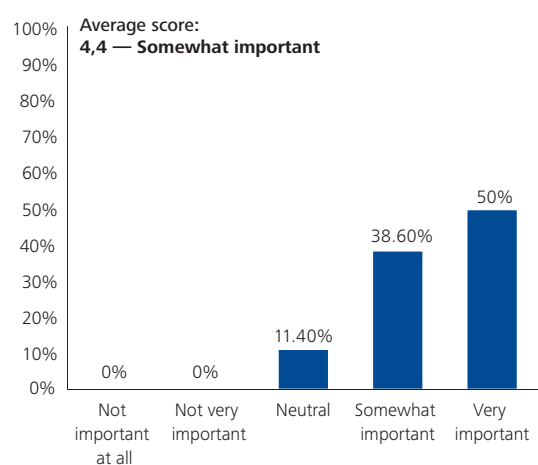


In which areas do you see the most important need for transformation?

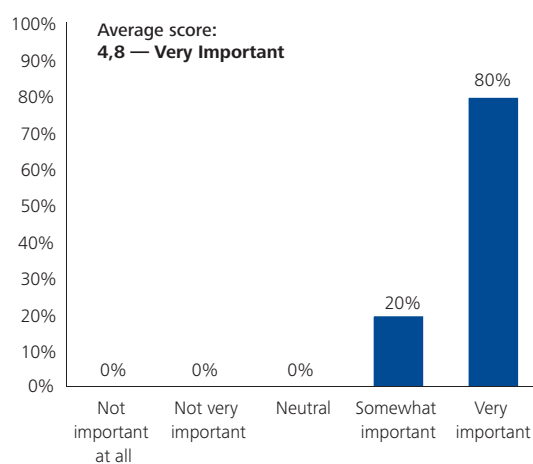
#### Measurement Methodologies



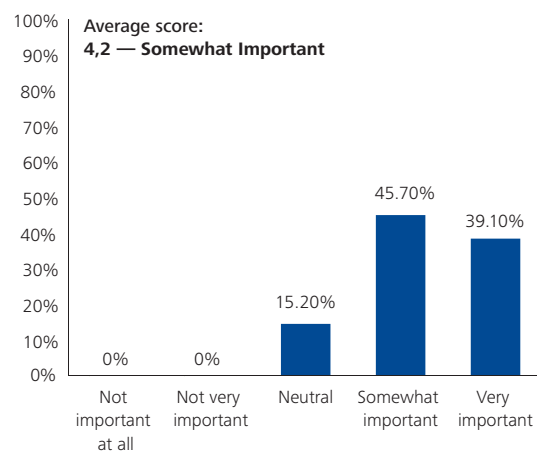
#### Products & Services

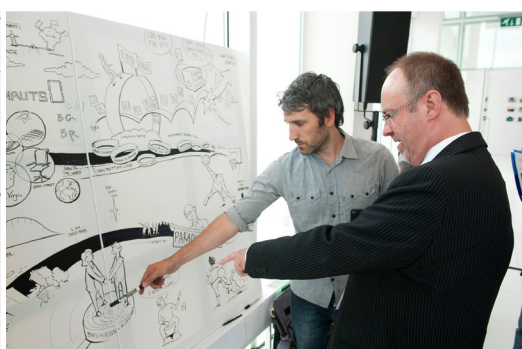
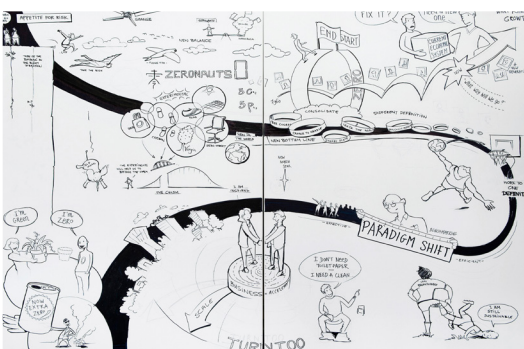


#### Leadership



#### Co-Venturing and Partnership Approaches

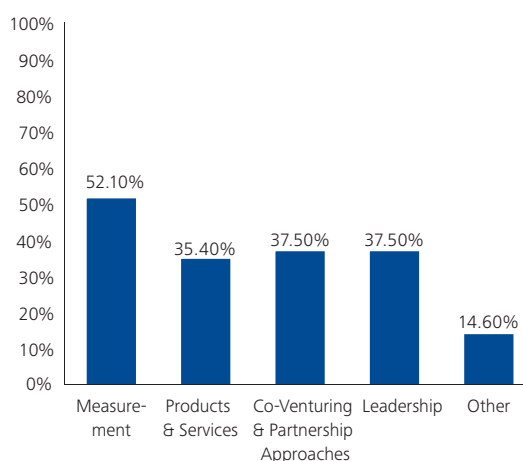




### What are other relevant topics to facilitate a journey towards zero impact growth?

Item (consolidated)	Frequency of appearance
Implementation (Business model innovation & concrete solutions)	10
Communication	4
Education & Learning	3
Government & Regulation	3
The Role of Finance	2
Community Engagement	2
Involvement of Employees	2

### In which area would you like to be involved? (Multiple answers possible)



### Would you be interested in being more involved in our journey towards zero?

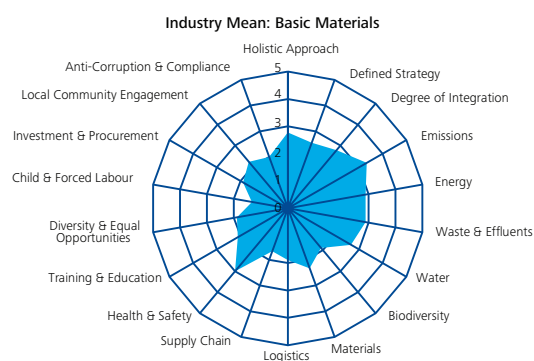
Yes	95,7%
No	4.3%

The complete review, interviews, photos and presentations from the Zeronauts Symposium can be found at: <http://bit.ly/zeronauts>

## 5.2. Individual company ZIG-M scores in 10 industries

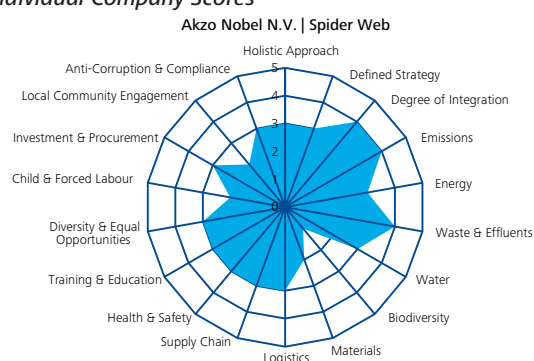
### Industry 1: Basic Materials

#### Overview of Basic Materials Industry

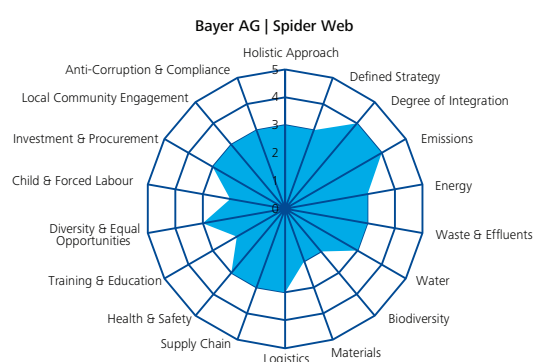


Industry	Basic Materials
Number of Companies	9
Average Total Score	2,34

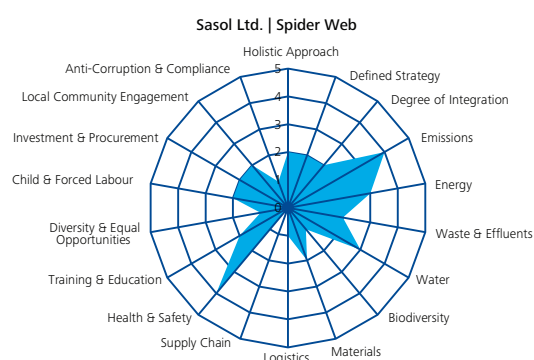
#### Individual Company Scores



Company name	Akzo Nobel N.V.
Industry	Basic Materials
Sector	Chemicals
Country	Netherlands
Total score/ level	2,9/ Enterprise
Main source of examination	AkzoNobel Report 2011

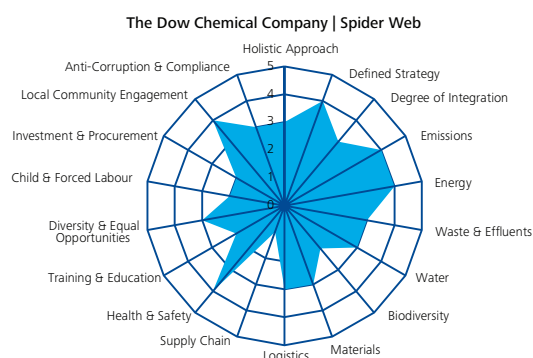


Company name	Bayer AG
Industry	Basic Materials
Sector	Chemicals
Country	Germany
Total score/ level	2,9/ Enterprise
Main source of examination	Sustainable Development Report 2011

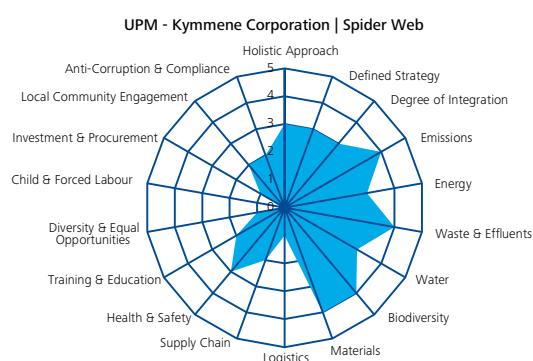


Company name	Sasol Ltd.
Industry	Basic Materials
Sector	Chemicals
Country	South Africa
Total score/ level	2,0/ Enterprise
Main source of examination	Sustainable Development Report 2011

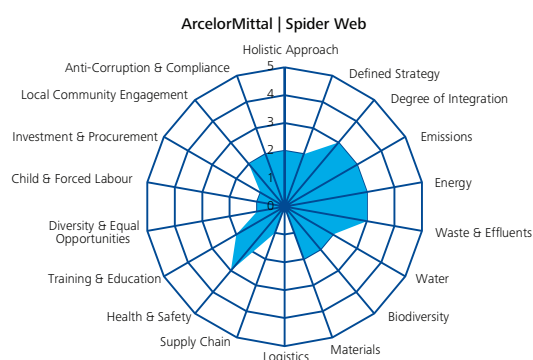




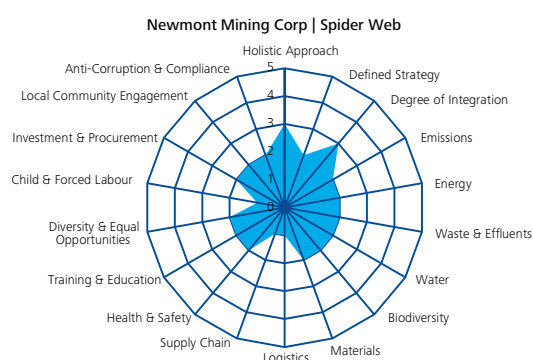
Company name	The Dow Chemical Company
Industry	Basic Materials
Sector	Chemicals
Country	United States of America
Total score/ level	2,96/ Enterprise
Main source of examination	2011 Annual Sustainability Report



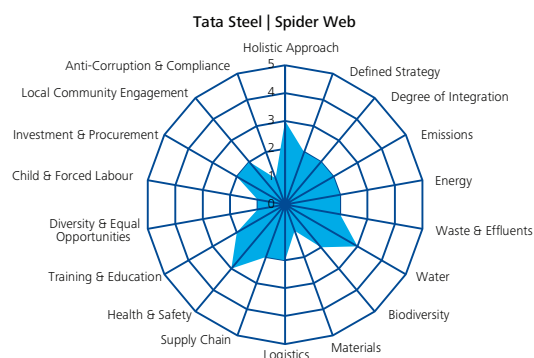
Company name	UPM-Kymmene Corporation
Industry	Basic Materials
Sector	Forestry & Paper
Country	Finland
Total score/ level	2,48/ Enterprise
Main source of examination	Annual Report 2011



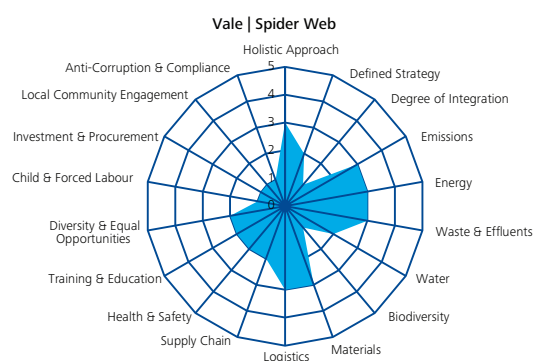
Company name	ArcelorMittal
Industry	Basic Materials
Sector	Industrial Metals & Mining
Country	Luxembourg
Total score/ level	1,95/ Experimentation
Main source of examination	Corporate Responsibility Report 2010



Company name	Newmont Mining Corp
Industry	Basic Materials
Sector	Industrial Metals & Mining
Country	United States of America
Total score/ level	1,98/ Experimentation
Main source of examination	<a href="http://www.beyondthemin.com/2011/">http://www.beyondthemin.com/2011/</a> (Sustainability Report)



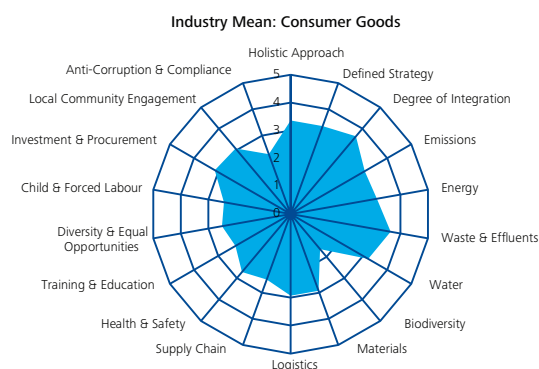
Company name	Tata Steel
Industry	Basic Materials
Sector	Industrial Metals & Mining
Country	India
Total score/ level	1,95/ Experimentation
Main source of examination	Corporate Sustainability Report 2010-11



Company name	Vale
Industry	Basic Materials
Sector	Industrial Metals & Mining
Country	Brazil
Total score/ level	1,97/ Experimentation
Main source of examination	2011 Sustainability Report

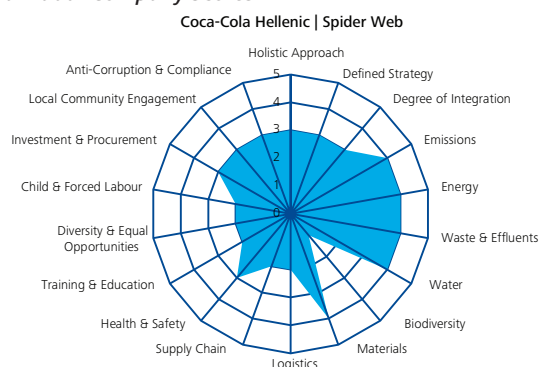
## Industry 2: Consumer Goods

### Overview of Consumer Goods Industry

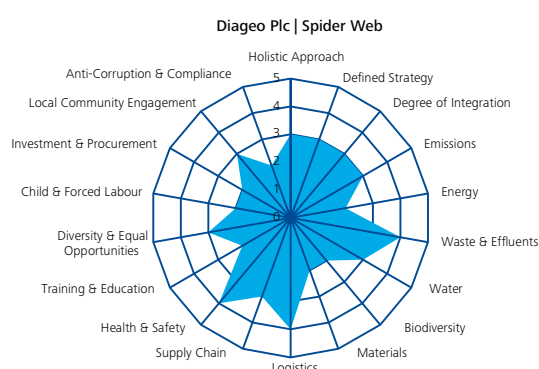


Industry	Consumer Goods
Number of Companies	14
Average Total Score	2,9

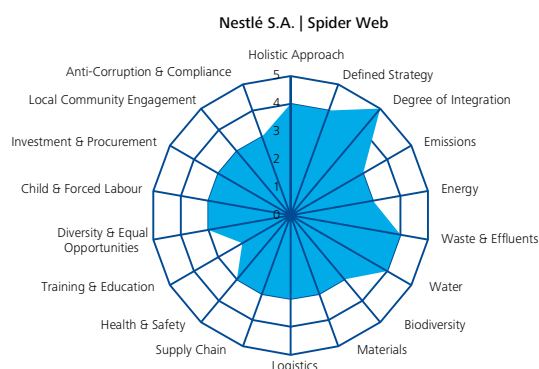
### Individual Company Scores



Company name	Coca-Cola Hellenic
Industry	Consumer Goods
Sector	Beverages
Country	Greece
Total score/ level	2,89/ Enterprise
Main source of examination	Social Responsibility Report 2010

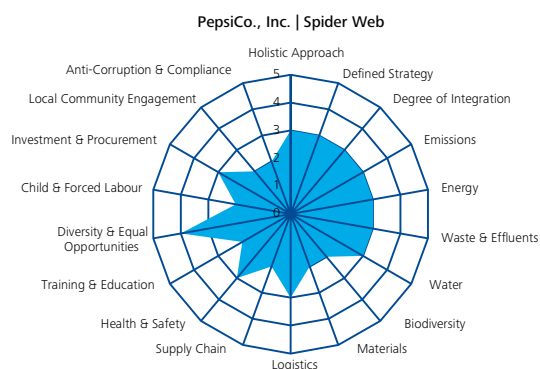


Company name	Diageo Plc
Industry	Consumer Goods
Sector	Beverages
Country	United Kingdom
Total score/ level	2,78/ Enterprise
Main source of examination	Sustainability & Responsibility Report 2011

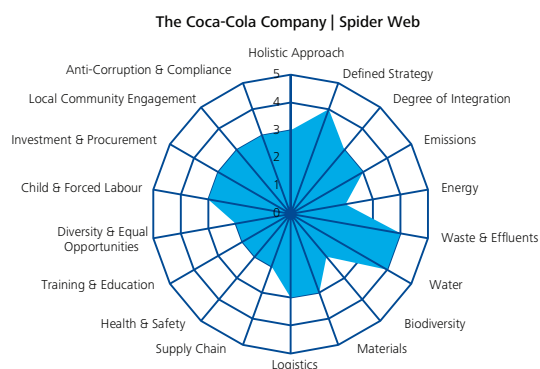


Company name	Nestlé S.A.
Industry	Consumer Goods
Sector	Beverages
Country	Switzerland
Total score/ level	3,42/ Ecosystem
Main source of examination	Creating Shared Value Report 2011

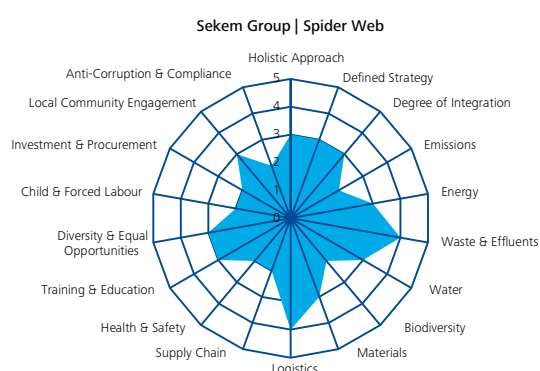




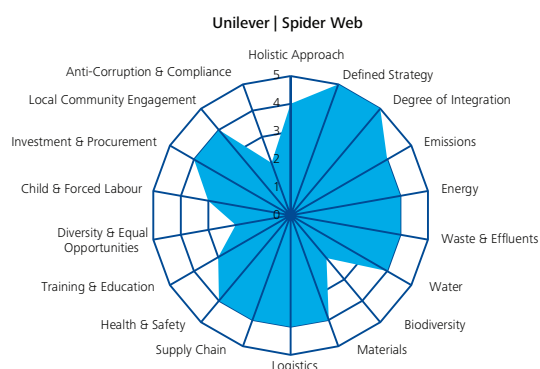
Company name	PepsiCo, Inc.
Industry	Consumer Goods
Sector	Beverages
Country	United States of America
Total score/ level	2,74/ Enterprise
Main source of examination	Sustainability Summary 2010



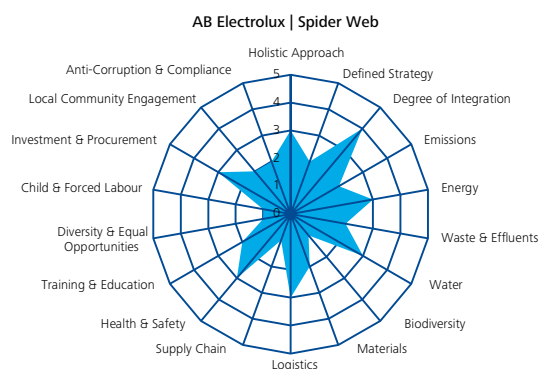
Company name	The Coca-Cola Company
Industry	Consumer Goods
Sector	Beverages
Country	United States of America
Total score/ level	2,85/ Enterprise
Main source of examination	2010/2011 Sustainability Report



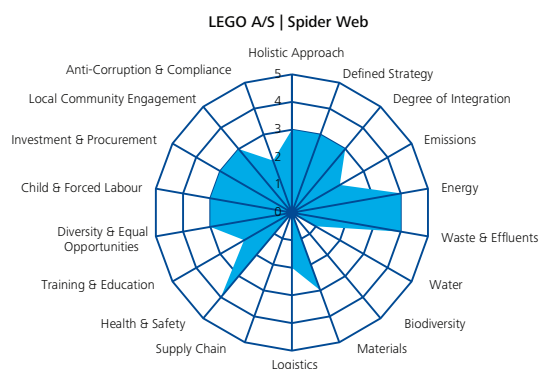
Company name	Sekem Group
Industry	Consumer Goods
Sector	Food Producers
Country	Egypt
Total score/ level	2,71/ Enterprise
Main source of examination	Report on Sustainable Development 2010



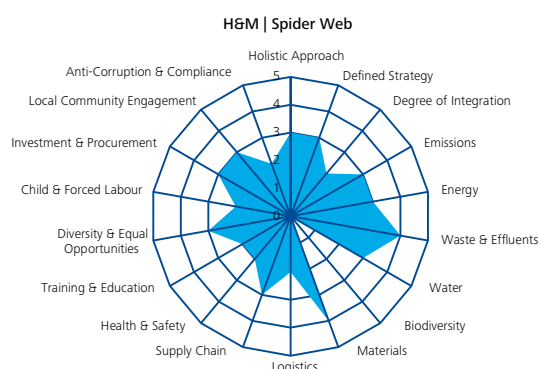
Company name	Unilever
Industry	Consumer Goods
Sector	Food Producers
Country	United Kingdom/Netherlands
Total score/ level	3,69/ Ecosystem
Main source of examination	Sustainable Living Plan 2010, Sustainable Living Plan Progress Report 2011



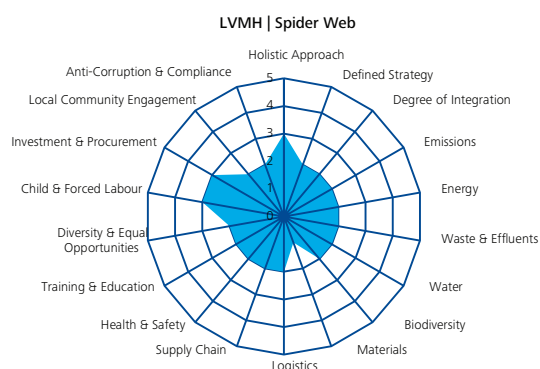
Company name	AB Electrolux
Industry	Consumer Goods
Sector	Household Goods & Home Construction
Country	Sweden
Total score/ level	2,25/ Enterprise
Main source of examination	Sustainability Performance Review 2011 (online), Annual Report 2011



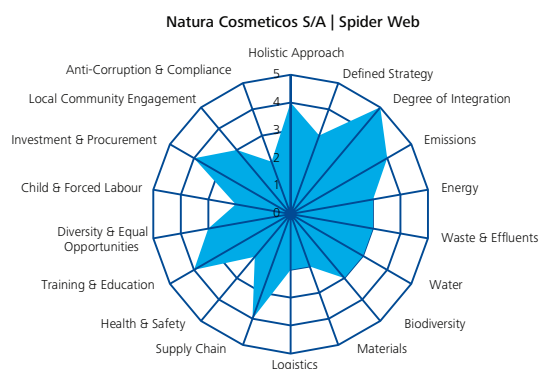
Company name	LEGO A/S
Industry	Consumer Goods
Sector	Leisure Goods
Country	Denmark
Total score/ level	2,54/ Enterprise
Main source of examination	Sustainability Progress Report 2010



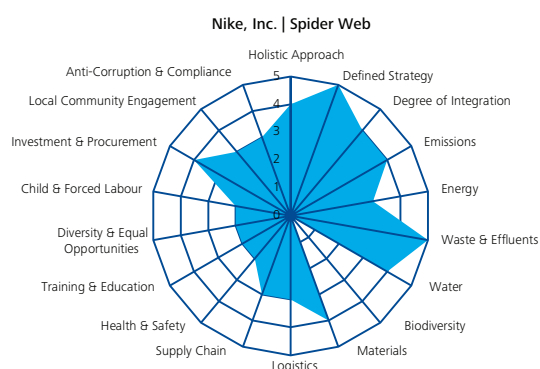
Company name	H & M, Hennes & Mauritz AB
Industry	Consumer Goods
Sector	Personal Goods
Country	Sweden
Total score/ level	2,67/ Enterprise
Main source of examination	Sustainability Report 2011



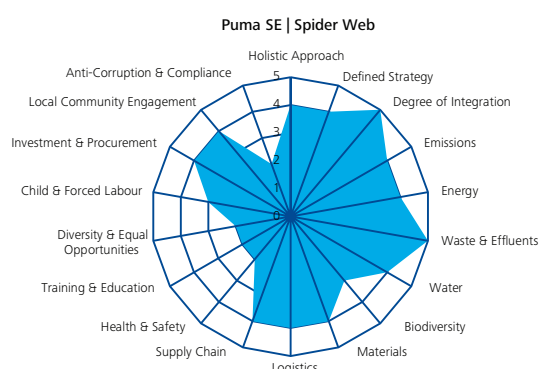
Company name	LVMH
Industry	Consumer Goods
Sector	Personal Goods
Country	France
Total score/ level	2,13/ Enterprise
Main source of examination	Annual Report 2010, Preserving the Environment 2010



Company name	Natura Cosmeticos S/A
Industry	Consumer Goods
Sector	Personal Goods
Country	Brazil
Total score/ level	3,14/ Ecosystem
Main source of examination	Annual Report 2011



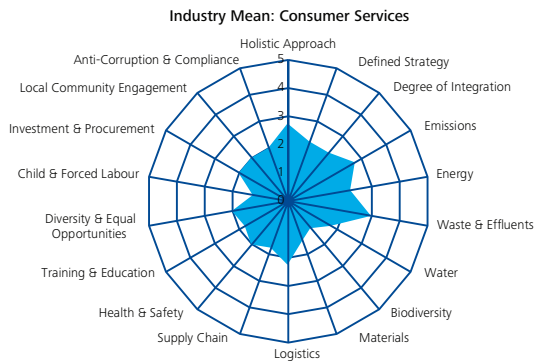
Company name	Nike, Inc.
Industry	Consumer Goods
Sector	Personal Goods
Country	United States of America
Total score/ level	3,25/ Ecosystem
Main source of examination	Sustainable Business Performance Summary 2012



Company name	PUMA SE
Industry	Consumer Goods
Sector	Personal Goods
Country	Germany
Total score/ level	3,55/ Ecosystem
Main source of examination	Annual Report 2010, Annual Report 2011

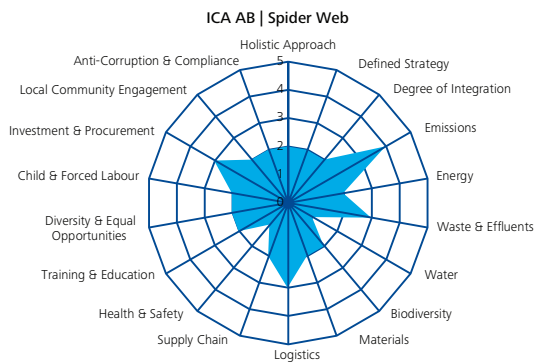
### Industry 3: Consumer Services

#### Overview of Consumer Services Industry

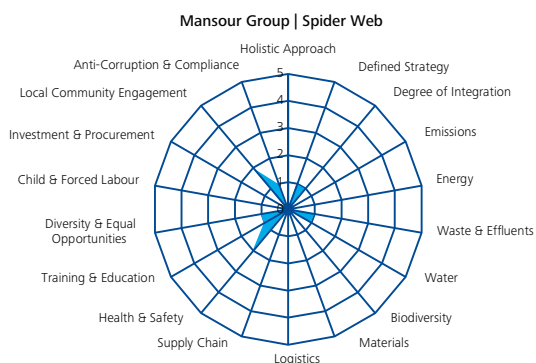


Industry	Consumer Services
Number of Companies	4
Average Total Score	2,05

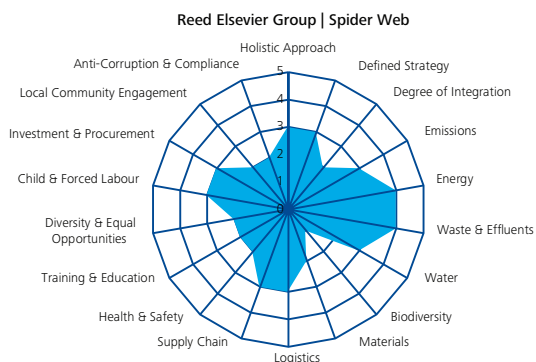
#### Individual Company Scores



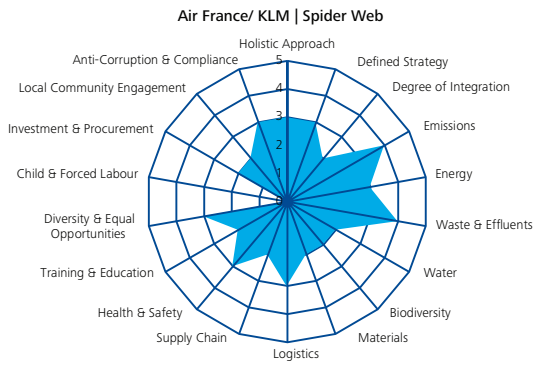
Company name	ICA AB
Industry	Consumer Services
Sector	General Retailers
Country	Sweden
Total score/ level	2,15/ Enterprise
Main source of examination	The ICA Group's Annual and Corporate Responsibility Report 2011



Company name	Mansour Manufacturing & Distribution Group of Companies
Industry	Consumer Services
Sector	General Retailers
Country	Egypt
Total score/ level	0,83/ Eureka
Main source of examination	Sustainability Report 2009-2010



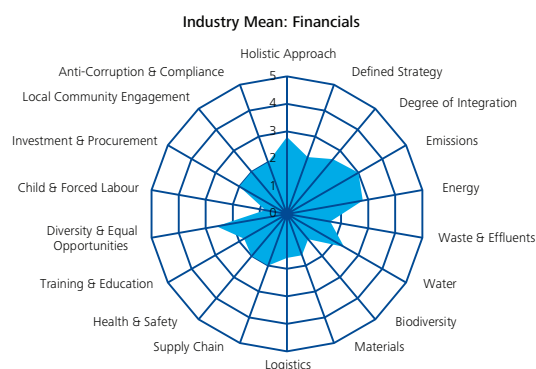
Company name	Reed Elsevier Group
Industry	Consumer Services
Sector	Media
Country	United Kingdom
Total score/ level	2,59/ Enterprise
Main source of examination	Corporate Responsibility Report 2011



Company name	Air France/ KLM
Industry	Consumer Services
Sector	Travel & Leisure
Country	France
Total score/ level	2,62/ Enterprise
Main source of examination	Corporate Social Responsibility Report 2011

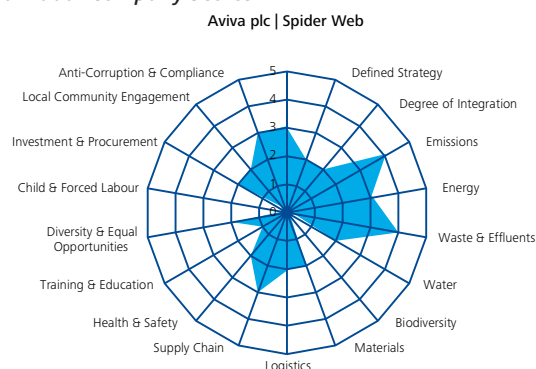
## Industry 4: Financials

### Overview of Financials Industry

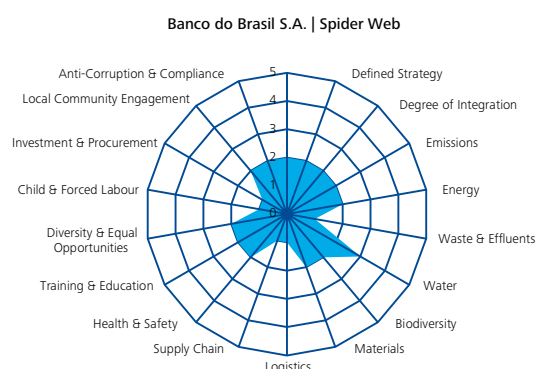


Industry	Financials
Number of Companies	5
Average Total Score	2,07

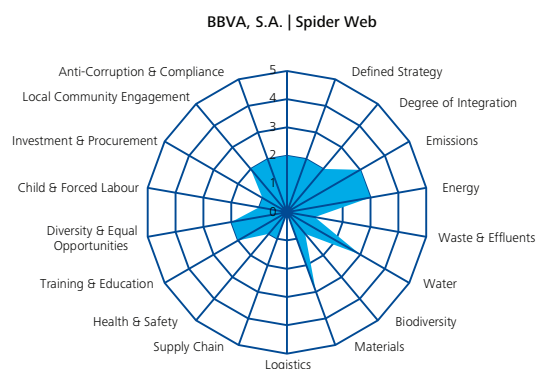
### Individual Company Scores



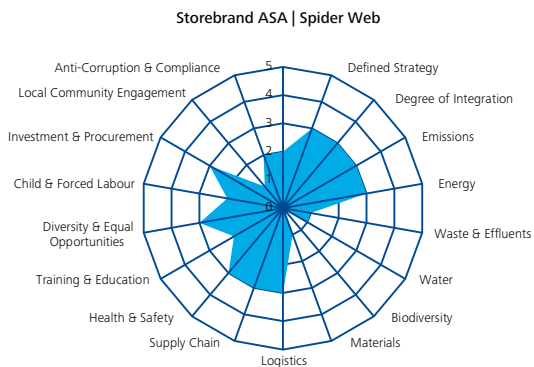
Company name	AVIVA plc
Industry	Financials
Sector	Financial Services
Country	United Kingdom
Total score/ level	2,15/ Enterprise
Main source of examination	Corporate Responsibility Report 2010



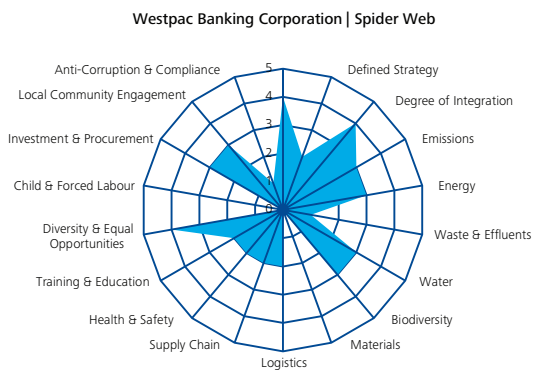
Company name	Banco do Brasil S.A.
Industry	Financials
Sector	Financial Services
Country	Brazil
Total score/ level	1,79/ Experimentation
Main source of examination	Annual Report 2010



Company name	BBVA, S.A.
Industry	Financials
Sector	Financial Services
Country	Spain
Total score/ level	1,85/ Experimentation
Main source of examination	Financial Report 2010



Company name	Storebrand ASA
Industry	Financials
Sector	Financial Services
Country	Norway
Total score/ level	2,19/ Enterprise
Main source of examination	Annual Report 2011

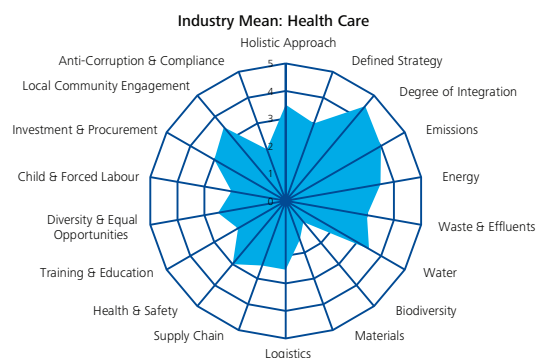


Company name	Westpac Banking Corporation
Industry	Financials
Sector	Financial Services
Country	Australia
Total score/ level	2,37/ Enterprise
Main source of examination	Annual Report 2011



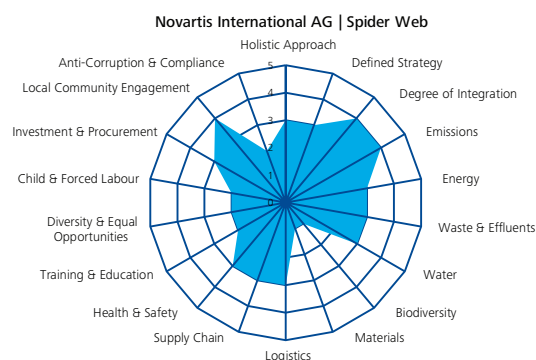
## Industry 5: Health Care

### Overview of Health Care Industry

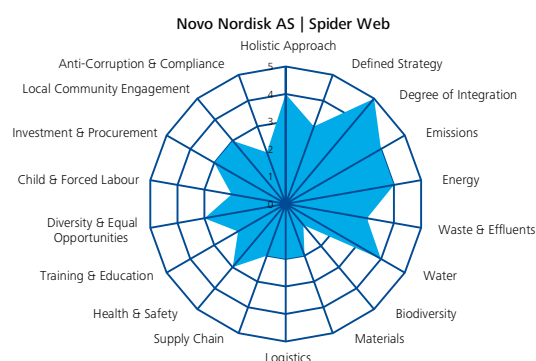


Industry	Health Care
Number of Companies	2
Average Total Score	2,84

### Individual Company Scores



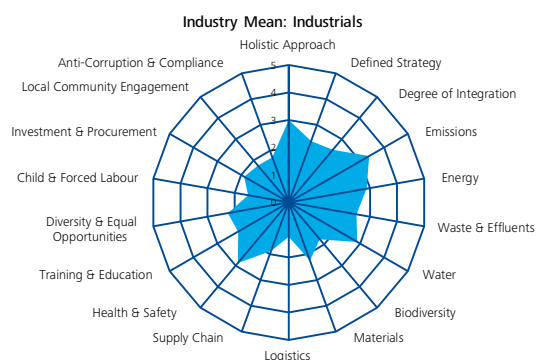
Company name	Novartis International AG
Industry	Health Care
Sector	Pharmaceuticals & Biotechnology
Country	Switzerland
Total score/ level	2,75/ Enterprise
Main source of examination	HSE Report 2011, Annual Report 2011



Company name	Novo Nordisk AS
Industry	Health Care
Sector	Pharmaceuticals & Biotechnology
Country	Denmark
Total score/ level	2,93/ Enterprise
Main source of examination	Annual Repot 2011 — Financial, social and environmental performance

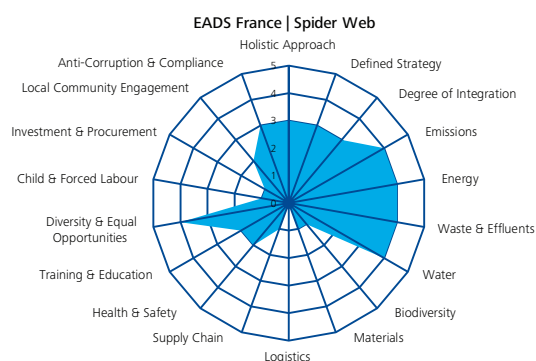
## Industry 6: Industrials

### Overview of Industrials Industry

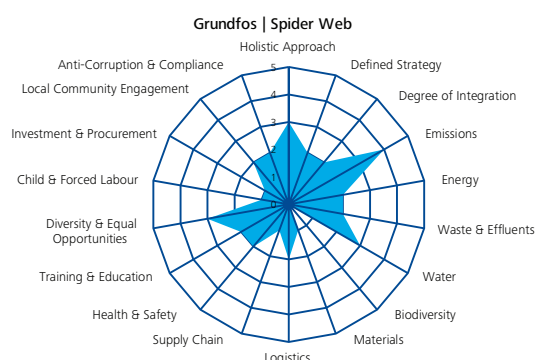


Industry	Industrials
Number of Companies	8
Average Total Score	2,27

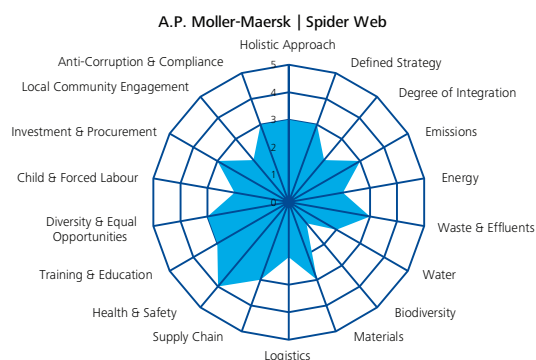
### Individual Company Scores



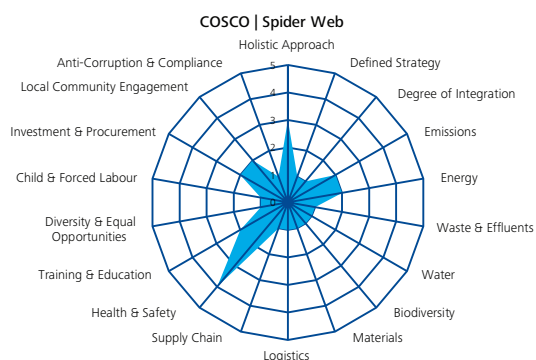
Company name	EADS France
Industry	Industrials
Sector	Aerospace & Defense
Country	France
Total score/ level	2,41/ Enterprise
Main source of examination	EADS 2010 Corporate Responsibility & Sustainability Report



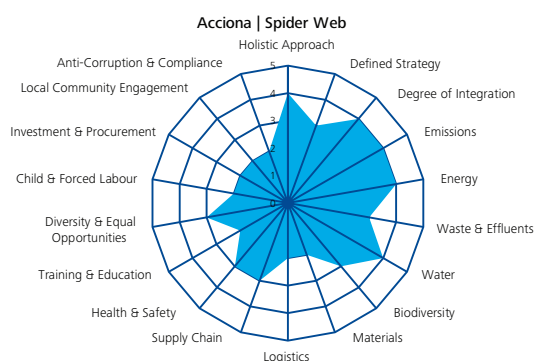
Company name	Grundfos
Industry	Industrials
Sector	Industrial Engineering
Country	Denmark
Total score/ level	1,96/ Experimentation
Main source of examination	Sustainability Data 2011, Sustainability Report 2010



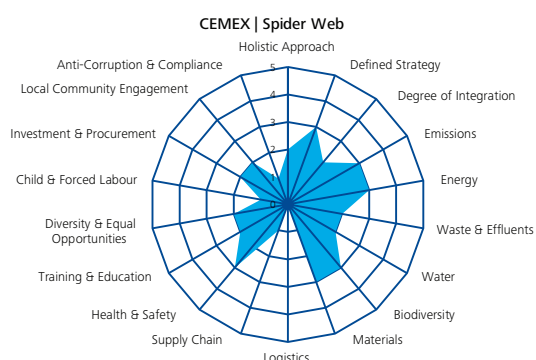
Company name	A.P. Moller – Maersk
Industry	Industrials
Sector	Industrial Transportation
Country	Denmark
Total score/ level	2,57/ Enterprise
Main source of examination	Sustainability Report 2011



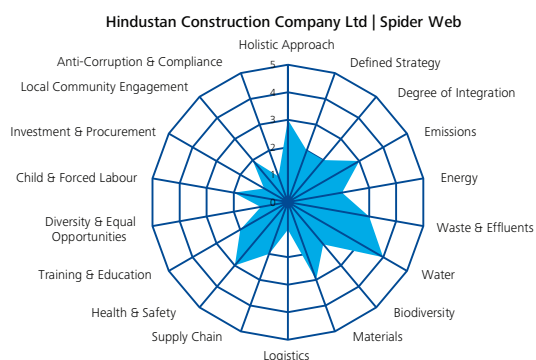
Company name	China Ocean Shipping Group – COSCO
Industry	Industrials
Sector	Industrial Transportation
Country	China
Total score/ level	1,58/ Experimentation
Main source of examination	Sustainability Report 2010



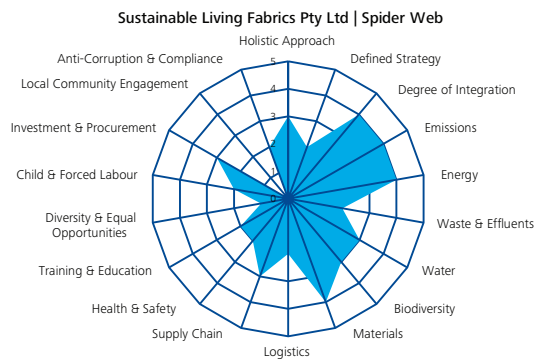
Company name	Acciona
Industry	Industrials
Sector	Construction & Materials
Country	Spain
Total score/ level	2,9/ Enterprise
Main source of examination	Sustainability Report 2010



Company name	CEMEX
Industry	Industrials
Sector	Construction & Materials
Country	Mexico
Total score/ level	2,06/ Enterprise
Main source of examination	2011 Sustainable Development Report



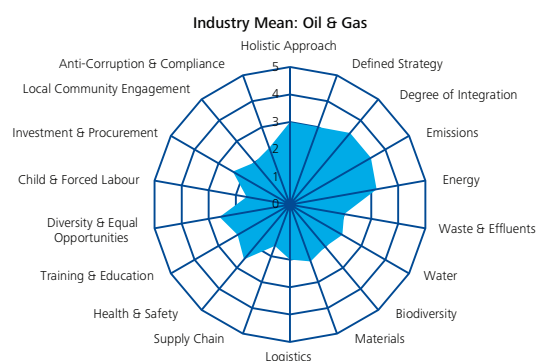
Company name	Hindustan Construction Company Ltd
Industry	Industrials
Sector	Construction & Materials
Country	India
Total score/ level	2,15/ Enterprise
Main source of examination	Sustainability Report 2010-11



Company name	Sustainable Living Fabrics Pty Ltd
Industry	Industrials
Sector	General Industrials
Country	Australia
Total score/ level	2,54/ Enterprise
Main source of examination	Sustainability Report 2009, Communication of Progress 2011 — Sustainability Report

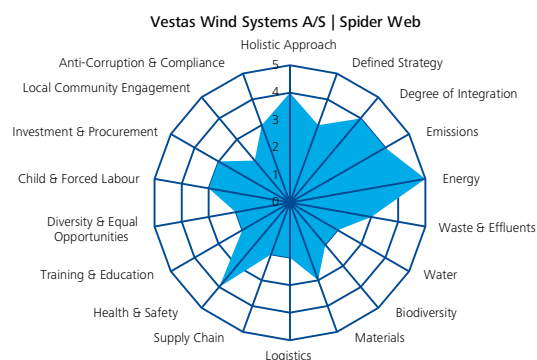
## Industry 7: Oil & Gas

### Overview of Oil & Gas Industry

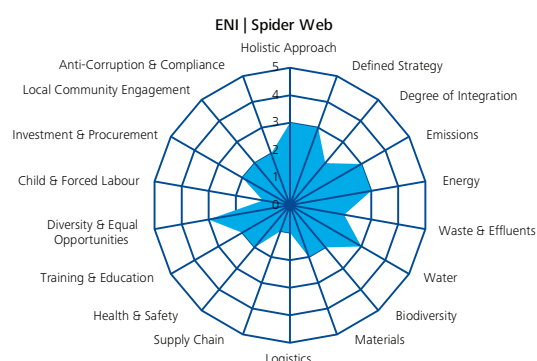


Industry	Industrials
Number of Companies	5
Average Total Score	2,45

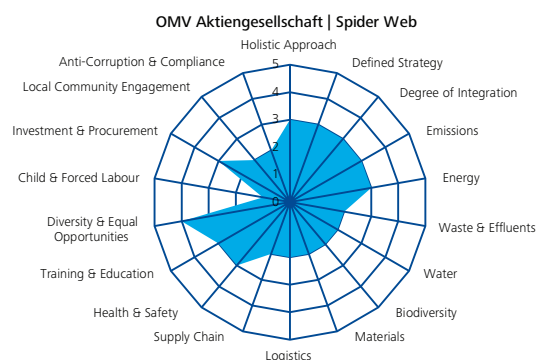
### Individual Company Scores



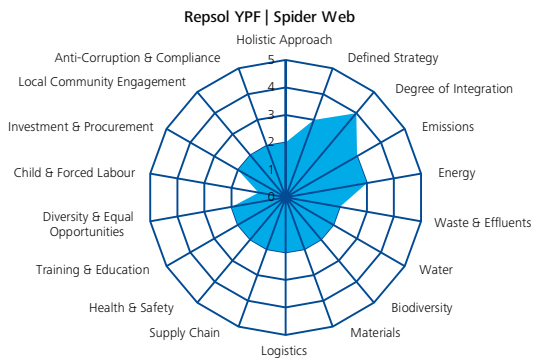
Company name	Vestas Wind Systems A/S
Industry	Oil & Gas
Sector	Alternative Energy
Country	Denmark
Total score/ level	2,97/ Enterprise
Main source of examination	Annual Report 2011



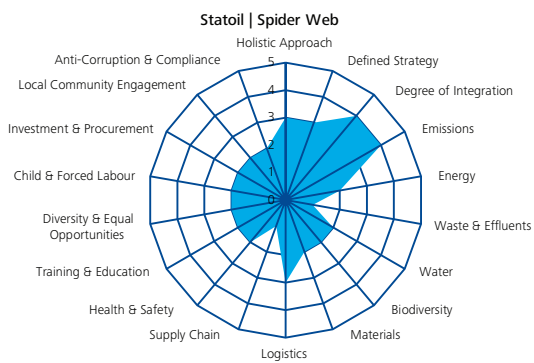
Company name	ENI
Industry	Oil & Gas
Sector	Oil & Gas Producers
Country	Italy
Total score/ level	2,18/ Enterprise
Main source of examination	Annual Report 2011, Sustainability Performance 2010



Company name	OMV Aktiengesellschaft
Industry	Oil & Gas
Sector	Oil & Gas Producers
Country	Austria
Total score/ level	2,53/ Enterprise
Main source of examination	Sustainability Report 2011



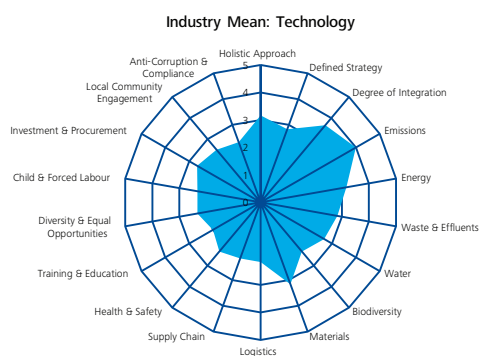
Company name	Repsol YPF
Industry	Oil & Gas
Sector	Oil & Gas Producers
Country	Spain
Total score/ level	2,24/ Enterprise
Main source of examination	Corporate Responsibility Report 2010



Company name	Statoil
Industry	Oil & Gas
Sector	Oil & Gas Producers
Country	Norway
Total score/ level	2,32/ Enterprise
Main source of examination	Annual Report 2011

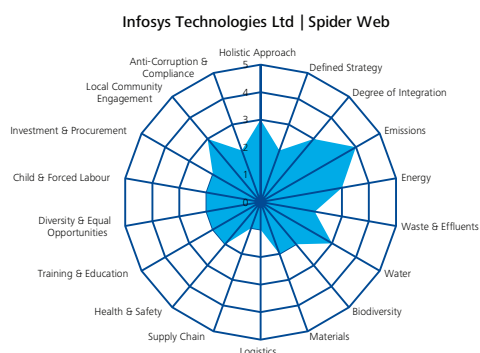
## Industry 8: Technology

### Overview of Technology Industry

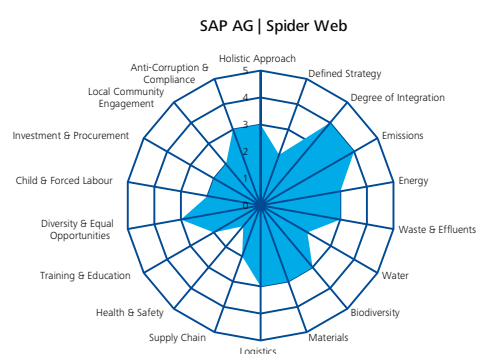


Industry	Technology
Number of Companies	6
Average Total Score	2,7

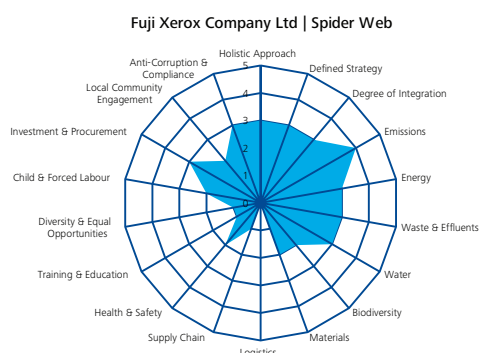
### Individual Company Scores



Company name	Infosys Technologies Ltd
Industry	Technology
Sector	Software & Computer Services
Country	India
Total score/ level	2,29/ Enterprise
Main source of examination	Business Responsibility Report 2011-12



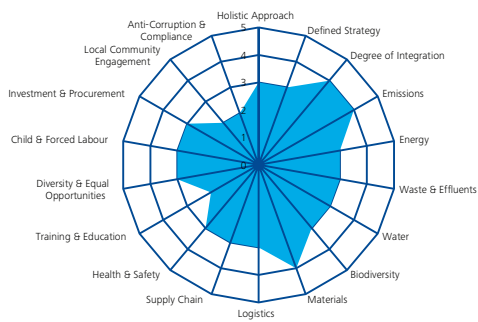
Company name	SAP AG
Industry	Technology
Sector	Software & Computer Services
Country	Germany
Total score/ level	2,6/ Enterprise
Main source of examination	Sustainability Report 2011



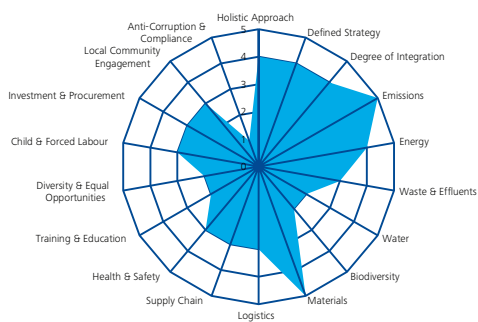
Company name	Fuji Xerox Company Ltd.
Industry	Technology
Sector	Technology & Hardware Equipment
Country	Japan
Total score/ level	2,3/ Enterprise
Main source of examination	Sustainability Report 2011



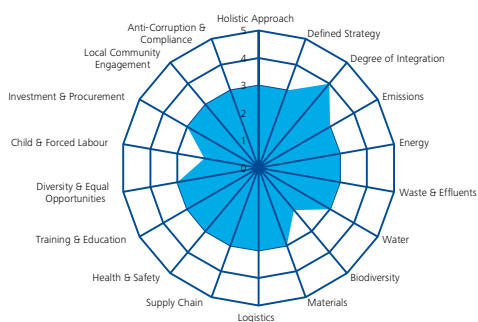
**Koninklijke Philips Electronics N.V. | Spider Web**



**RICOH Company Ltd | Spider Web**



**Siemens AG | Spider Web**



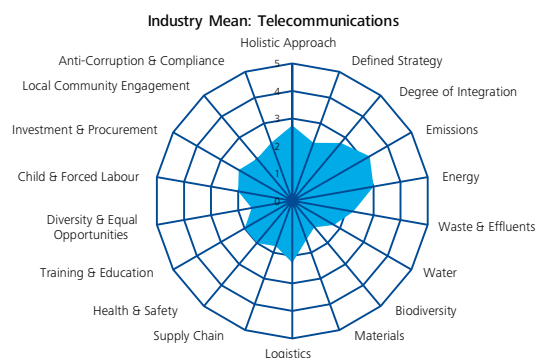
Company name	Koninklijke Philips Electronics N.V.
Industry	Technology
Sector	Technology & Hardware Equipment
Country	The Netherlands
Total score/ level	2,99/ Enterprise
Main source of examination	Sustainability Report 2011

Company name	RICOH Company Ltd
Industry	Technology
Sector	Technology & Hardware Equipment
Country	Japan
Total score/ level	3,12/ Ecosystem
Main source of examination	Sustainability Report 2011

Company name	Siemens AG
Industry	Technology
Sector	Technology & Hardware Equipment
Country	Germany
Total score/ level	2,96/ Enterprise
Main source of examination	Sustainability Report 2011

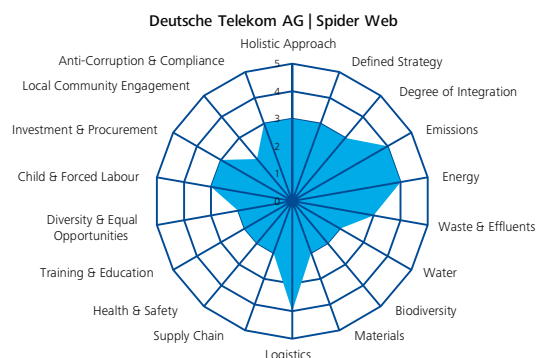
## Industry 9: Telecommunications

### Overview of Telecommunications Industry

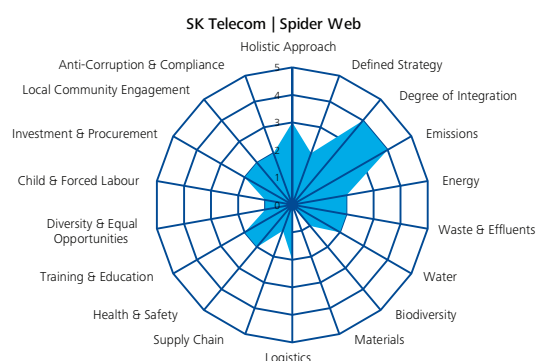


Industry	Telecommunications
Number of Companies	4
Average Total Score	2,17

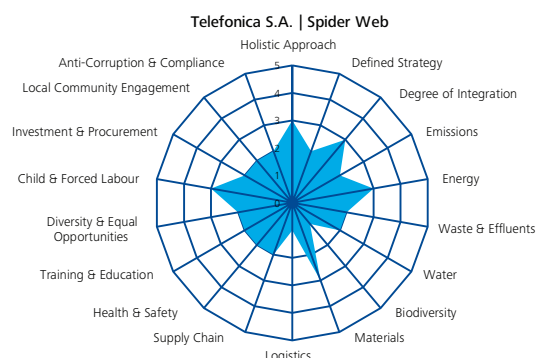
### Individual Company Scores



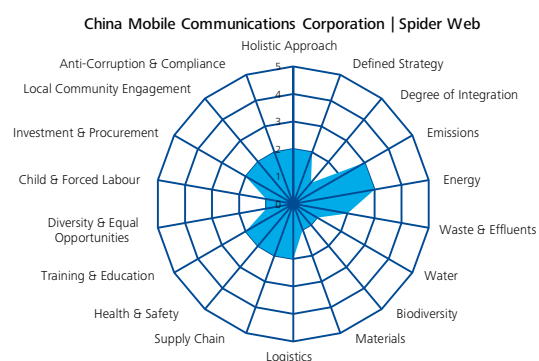
Company name	Deutsche Telekom AG
Industry	Telecommunications
Sector	Fixed Line Telecommunications
Country	Germany
Total score/ level	2,72/ Enterprise
Main source of examination	Corporate Responsibility 2010/2011



Company name	SK Telecom
Industry	Telecommunications
Sector	Fixed Line Telecommunications
Country	South Korea
Total score/ level	1,99/ Experimentation
Main source of examination	2010 Sustainability Report



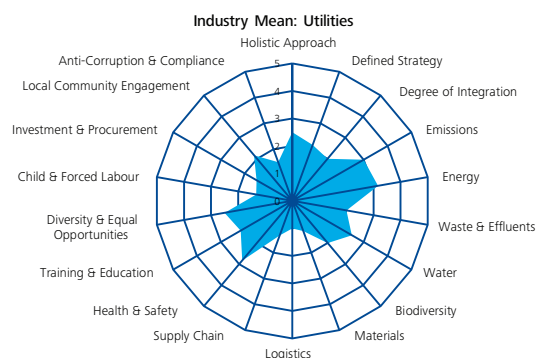
Company name	Telefonica S.A.
Industry	Telecommunications
Sector	Fixed Line Telecommunications
Country	Spain
Total score/ level	2,2/ Enterprise
Main source of examination	Sustainability Report 2011



Company name	China Mobile Communications Corporation
Industry	Telecommunications
Sector	Mobile Telecommunications
Country	China
Total score/ level	1,77/ Experimentation
Main source of examination	2010 Sustainability Report

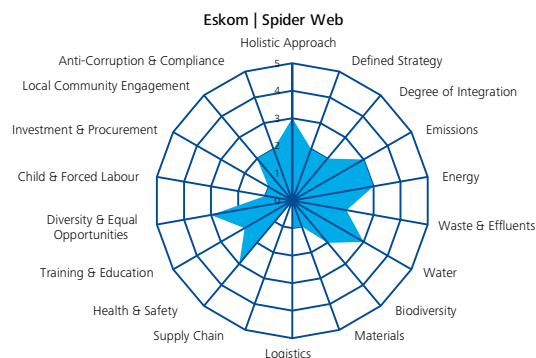
## Industry 10: Utilities

### Overview of Utilities Industry

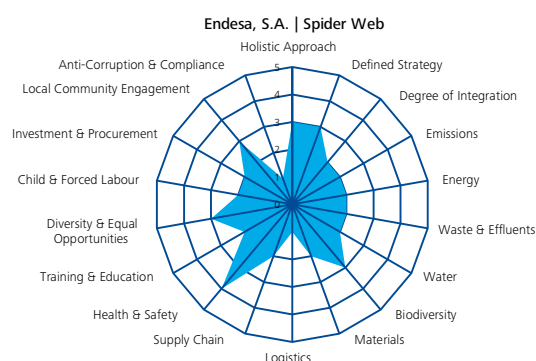


Industry	Utilities
Number of Companies	6
Average Total Score	2,05

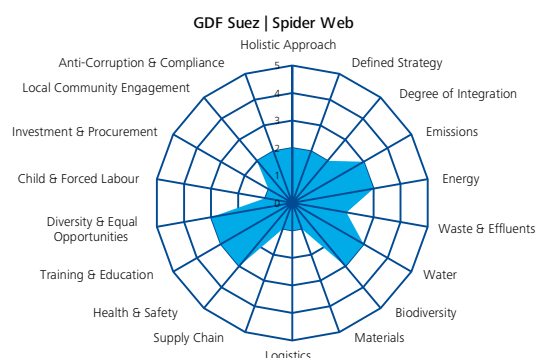
### Individual Company Scores



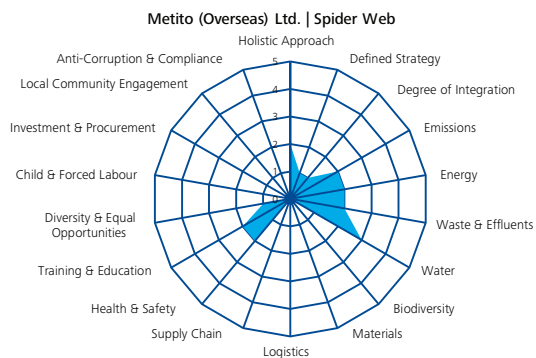
Company name	Eskom
Industry	Utilities
Sector	Electricity
Country	South Africa
Total score/ level	2,02/ Enterprise
Main source of examination	Integrated Report 2012



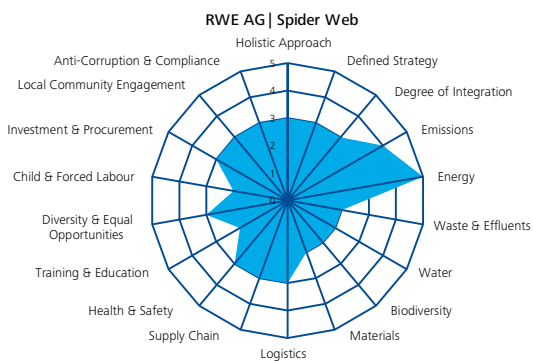
Company name	Endesa, S.A.
Industry	Utilities
Sector	Gas, Water & Multiutilities
Country	Spain
Total score/ level	2,3/ Enterprise
Main source of examination	Sustainability Report 2011



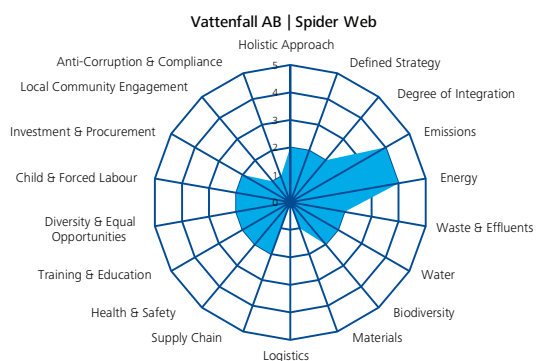
Company name	GDF Suez
Industry	Utilities
Sector	Gas, Water & Multiutilities
Country	France
Total score/ level	2,11/ Enterprise
Main source of examination	2010 Sustainable Development Report



Company name	Metito (Overseas) Ltd.
Industry	Utilities
Sector	Gas, Water & Multiutilities
Country	United Arab Emirates
Total score/ level	1,12/ Experimentation
Main source of examination	Sustainability Report 2011–2012

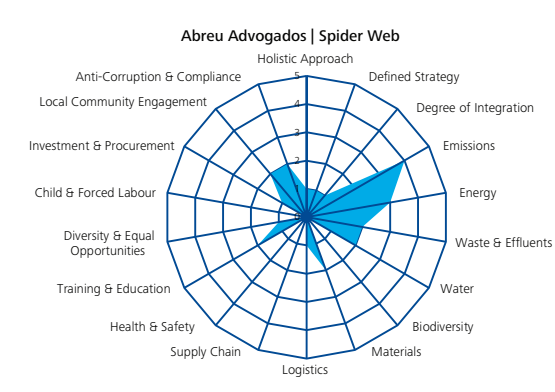


Company name	RWE AG
Industry	Utilities
Sector	Gas, Water & Multiutilities
Country	Germany
Total score/ level	2,84/ Enterprise
Main source of examination	Corporate Responsibility Report 2011

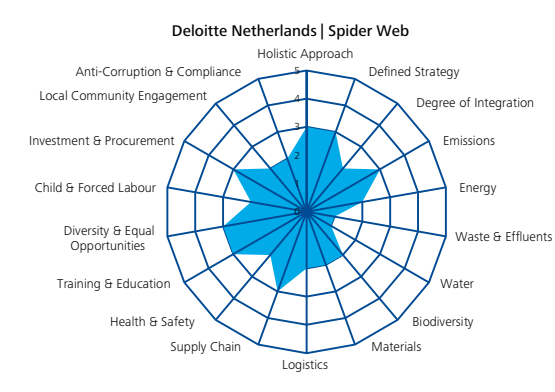


Company name	Vattenfall AB
Industry	Utilities
Sector	Gas, Water & Multiutilities
Country	Sweden
Total score/ level	1,94/ Experimentation
Main source of examination	CSR Report 2011

Further Companies



Company name	Abreu Advogados
Industry	not defined
Sector	Support Services
Country	Portugal
Total score/ level	1,36/ Experimentation
Main source of examination	2009-2010 Sustainability Report



Company name	Deloitte Netherlands
Industry	not defined
Sector	Support Services
Country	The Netherlands
Total score/ level	2,3/ Enterprise
Main source of examination	Sustainability Report 2010/2011

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## 5.4. List of figures and tables

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The photos were taken at the Zeronauts Symposium in Rotterdam on 5 June 2012.

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## 5.5. Colophon

This report was prepared by Deloitte Innovation B.V. with inputs from the following people:

**Lead author:** Ralph Thurm  
**Lead researcher:** Laura Bechthold  
**Research team:** Bob Bahlmann  
Martin Braun  
Ronnie Hossain  
Myra Wiracita

The journey towards Zero Impact Growth has just begun. Deloitte Innovation is extremely thankful to the following individuals and organizations that have supported us in our first steps in this journey:

- John Elkington, Sam Lakha and Charmian Love from Volans; their inspiration and support has helped us immensely to start the journey. Up the Zeronauts!
- The more than 60 companies we talked to all over the world, exploring how to develop and push the idea of a Zero Hub, which led to the Zeronauts Symposium as a first milestone to consolidate the expectations and grasp a notion of what could be achieved together.
- All the speakers and moderators of the Zeronauts Symposium: Max Christern (Ode), John Elkington (Volans), Ralph Thurm (Deloitte), Peter Bakker (WBCSD), Thomas Rau (RAU Architects and Founder Turntoo), Richard Mattison (Trucost), Stef Kranendijk (Desso), Henk van Houtum (Van Houtum), Tom van Aken (Avantium), Mark McElroy (Center for Sustainable Organizations), Roland Menke (Menke Corporate Finance & Venture Capital), Rudi Daelmans (Desso), Anniek Mauser (Unilever Benelux), Emma Coles (Ahold), Anneke Sipkens (Deloitte), Christiaan Kraaijenhagen (Circle Economy), Jan van Betten (Nudge), Guy Battle (Deloitte), Lieven Verbrugge (Deloitte).

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2. Energy & Natural Resource Management
3. Sustainable Operations & Supply Chain
4. Sustainability Reporting, Assurance & Compliance
5. Sustainability Governance & Risk Intelligence
6. Human Capital & Stakeholder Engagement for Sustainability
7. IT for Sustainability
8. Sustainable Innovation

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