

Benchmark Circular Business Practices 2015

A comparative study of 52 Dutch listed companies





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*We would like to thank all participants of our expert sessions on circular economy
for their contributions to this report.*

The first copy of this report was presented to BAM Group.

Disclaimer

The contents, conclusions and recommendations of the report are the sole responsibility of the VBDO.



Contents

Foreword	6
Executive summary	10
1) Introduction	12
2) Methodology	16
3) Results	18
4) Recommendations	29
Appendix: Methodology in detail	31

Foreword



Annemieke Reijngoud
Project Manager VBDO

Natural resource scarcity is one of the greatest challenges of our time, with major implications for economy and society at large. The principles of circular economy provide a solution to this challenge. This is why, in 2014, the Dutch Association of Investors for Sustainable Development (VBDO) selected circular economy as one of its three priority themes for its active ownership activities. During that year, we noticed that some companies were already familiar with the concept and had started working on it, but for many others it was the first time they had heard of it.

In 2015, we continued to promote circular economy thinking to companies in the Netherlands and beyond through our questions in 64 Annual General Meetings and approximately 100 one-on-one engagement meetings.

Furthermore, to inspire a race to the top, we conducted a comparative study on the circular performance of Dutch listed companies. This report presents the results of this study, along with several good practices that we have identified.

I would like to express my sincere appreciation to Accenture for their support, as well as to Catharine van Wijmen and all participants of the expert sessions on circular economy for their valuable feedback. Last but not least, special thanks to Liesbet Hanekroot, who helped prepare and coordinate the expert sessions and this report.

I hope that you find this report helpful, and would welcome your feedback.

Annemieke Reijngoud

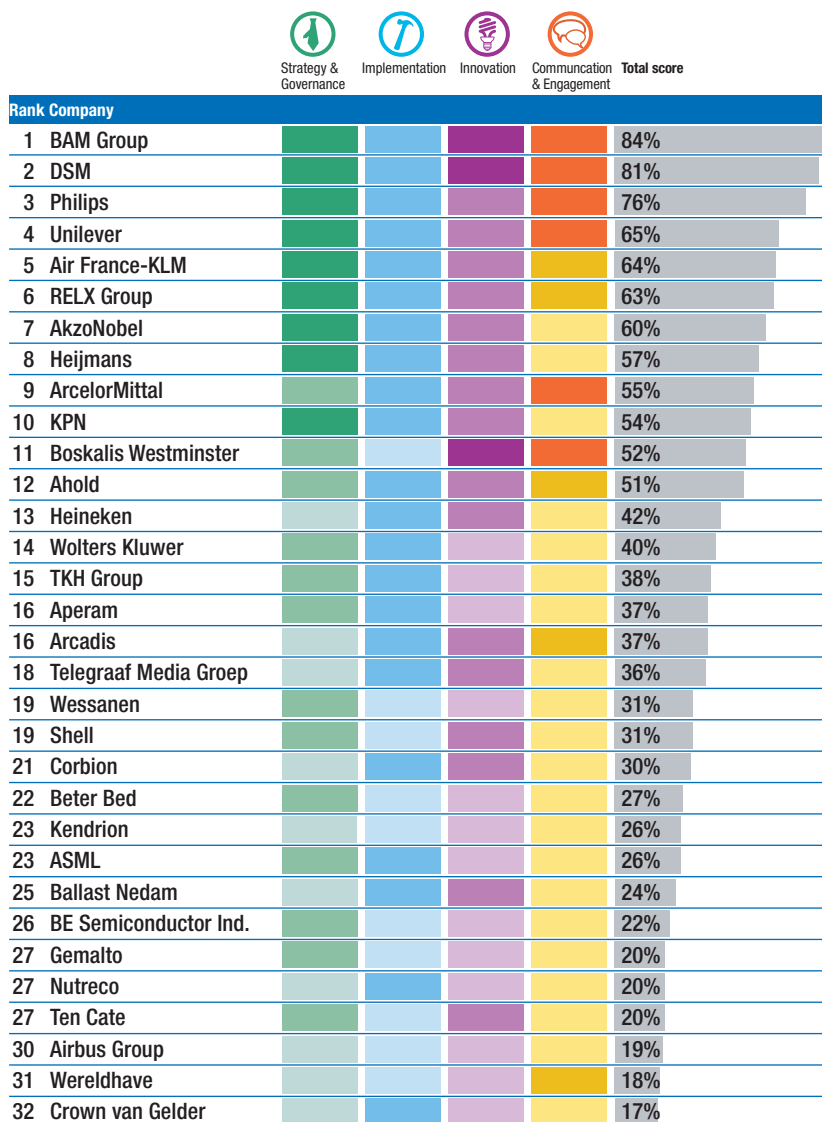
It is with great pleasure that I present this benchmark on such a relevant and current issue. Measuring circular business performance is not self-evident, but our team managed to give a fair picture of the current performance of 52 Dutch listed companies, with the much-appreciated support of several experts. This research would not have been possible without the contribution of our members. Thank you very much! I look forward to our continued collaboration.

Ton Bervoets

Executive Director VBDO, *ad interim*

Benchmark Circular Business Practices 2015

Figure 1: Overall ranking of the Benchmark Circular Business Practices 2015.



Strategy &
Governance

Implementation



Innovation

Communication
& Engagement

Total score

Rank	Company	Strategy & Governance	Implementation	Innovation	Communication & Engagement	Total score
33	Aalberts Industries					16%
33	PostNL					16%
33	Accell Group					16%
36	Sligro					13%
36	SBM Offshore					13%
38	ASM International					11%
39	Grontmij					9%
40	AMG					8%
40	Acomco					8%
42	TNT Express					6%
43	Eurocommercial Properties					5%
43	Holland Colours					5%
43	Nedap					5%
46	NSI					3%
47	Fugro					0%
47	Macintosh Retail Group					0%
47	OCI Nitrogen					0%
47	Ordina					0%
47	Vastned					0%
47	Vopak					0%

Legend

	0-3 points		0-3 points		0-2 points		0-2 points
	4-7 points		4-7 points		3-5 points		3-4 points
	8-10 points		8-11 points		6-8 points		5-6 points

Executive Summary

A circular economy provides a solution to the global challenges of resource scarcity and ecosystem degradation. The business case for a circular economy is also compelling.¹ According to a recent report by the Ellen MacArthur Foundation, SUN and McKinsey, Europe can take advantage of circular economy principles and create a net benefit of € 1.8 trillion by 2030: €0.9 trillion more than in the current linear development path.²

In this report we share the results of the Benchmark Circular Business Practices 2015. This study compares the current efforts of 52 Dutch listed companies to realise a circular value chain. On average, the companies in scope achieve a score of 28%. Twelve companies have a score of 50% or higher, with three companies emerging as clear frontrunners with a score above 75%, see Figure 1. BAM Group leads the benchmark with a score of 84%.

These are the key results:

- 52% of the companies assessed have integrated circular thinking into their strategy;
- 48% have set SMART targets on aspects of their circular ambition;
- 23% have implemented a circular business model, but none specify what revenue is generated from that;
- 63% substitute unsustainable input materials for more sustainable alternatives;
- 65% reduce waste in production;
- 31% reduce waste in consumption;
- 31% increase the reusability of materials at products' end of life cycle;
- 19% extend product lifespan;
- 12% contribute to up-cycling of materials;
- 44% have formulated expectations regarding the circular performance of their suppliers;
- In the past year, 33% piloted a circular business model or product;
- 29% of the companies in scope have engaged with external stakeholders on circular economy.

¹ <http://www.ellenmacarthurfoundation.org/circular-economy/overview/concept>.

² Ellen MacArthur Foundation (2015). *Towards a Circular Economy: Business Rationale for an Accelerated Transition*.

Based on these results, we provide the following recommendations to companies:

- Formulate your circular economy ambition and develop a comprehensive KPI dashboard to track and trace all aspects of it;
- Design your products and packaging for disassembly, reuse and repurposing;
- Collaborate with your supply chain partners (up- and downstream) to capture circular economy opportunities;
- Promote innovation to develop circular business models and roll out the viable pilots;
- Engage your employees on the circular economy.

Investors are also encouraged to bring together companies in their portfolio to explore opportunities for knowledge sharing and collaboration on circular economy, and to integrate circular business thinking into investment decisions, engagement and voting.

1. Introduction

In the first half of 2016 the Netherlands holds the presidency of the European Union. One of the focus areas during this period is *circular economy*. A circular economy is an industrial system that is restorative and regenerative by design, and aims to keep products, components, and materials at their highest utility and value at all times.³ The concept is opposed to our current linear economy of ‘take-make-dispose’.

A circular economy provides a solution to the global challenges of resource scarcity and ecosystem degradation. The business case for a circular economy is also compelling.⁴ According to a recent report by the Ellen MacArthur Foundation, SUN and McKinsey, Europe can take advantage of circular economy principles and create a net benefit of €1.8 trillion by 2030: €0.9 trillion more than in the current linear development path.⁵

The Netherlands has significant potential to become an international hotspot for the circular economy.^{6,7} There is an active community of experts, and a number of companies that are aware of the concept and looking into how they can contribute to the transition towards a circular economy. Examples of such companies include:⁸

Unilever: “We want to move to a circular economy, enabling more packaging to either remain in loops or have the best possible opportunity to be recycled.”

DSM: “DSM supports and embraces the concept of the circular economy.”

Beter Bed: “We aim to progress from merely protecting the environment to actually improving it. We would prefer to source all our products from suppliers that produce their products on a cradle-to-cradle (C2C) basis, using raw materials and production processes that are not only non-damaging, but that can potentially even benefit the environment.”

Philips: “The transition from a linear to a circular economy is essential to create a sustainable world.”

ArcelorMittal: “A future of nine billion people enjoying high-quality lives will need products that use natural resources in ways that are ultra-efficient and help create what many now call the circular economy.”

³ <http://www.ellenmacarthurfoundation.org/circular-economy/overview/concept>.

⁴ Ellen MacArthur Foundation (2015). *Towards a Circular Economy: Business Rationale for an Accelerated Transition*.

⁵ <http://www.ellenmacarthurfoundation.org/news/circular-economy-would-increase-european-competitiveness-and-deliver-better-societal-outcomes-new-study-reveals>.

⁶ <http://www.circle-economy.com/projects/regional/netherlands-circular-hotspot/>.

⁷ TNO (2013). *Opportunities for a Circular Economy in the Netherlands*.

⁸ Sources: <https://www.unilever.com/sustainable-living/the-sustainable-living-plan/reducing-environmental-impact/waste-and-packaging/recycling-and-moving-to-a-circular-economy/index.html>, DSM Integrated Annual Report 2014, Beter Bed Code of Conduct, Philips Annual Report 2014, ArcelorMittal Sustainability Report 2014.

Investors also have an important role to play in this transition. They can support and facilitate circular innovation through their financing decisions and by actively promoting knowledge sharing among companies that have adopted circular economy thinking. Some financial institutions have already started to take up that role, including ABN AMRO⁹, Rabobank¹⁰, ING Group¹¹ and PGGM¹².

The Dutch Association of Investors for Sustainable Development (VBDO) has been promoting circular thinking at Dutch listed companies and investors since 2014. Every year the VBDO attends more than 60 Annual General Meetings (AGMs) in the Netherlands to raise sustainability issues. In the past two years, the VBDO asked companies whether they were willing to integrate the principles of circular economy into their business activities. Also in one-on-one engagement meetings with companies the VBDO discussed the concept of a circular economy.

Based on these discussions, this report examines the current circular performance of the largest Dutch listed companies. The study aims to increase awareness of the concept among companies and investors, highlight good practices and stimulate companies to step up their efforts, thus accelerating the transition towards a circular economy.

The report is structured as follows. Chapter 1 provides a brief introduction to the study and the concept of circular economy. Chapter 2 outlines the methodology of the Benchmark Circular Business Practices. Chapter 3 presents the results of the study. Finally, in Chapter 4 we provide recommendations to both companies and investors.

From a linear to a circular economy

A circular economy decouples economic growth from finite resource consumption. It is based on the reuse of products and raw materials, and the restorative capacity of natural resources.¹³ The concept is inspired by nature's living systems where nothing is wasted and every nutrient is reused. It therefore calls for systems thinking, as opposed to piece thinking. The latter is inherent to the current linear system, in which raw materials are extracted to be manufactured into products (pieces) that are thrown away when no longer wanted. The realisation that this 'take-make-dispose' system depletes natural resources, pollutes the environment and contributes to climate change, gave rise to the concept of circular economy.

⁹ <https://www.abnamro.com/en/newsroom/blogs/viable-business-models-with-the-circular-economy.html>.

¹⁰ <https://www.rabobank.com/en/about-rabobank/in-society/sustainability/for-business-clients/index.html>.

¹¹ <http://www.ing.com/About-us/Our-stories/Features/Circular-economy-challenges-financial-business-models.htm>.

¹² <http://www.ellenmacarthurfoundation.org/ce100/directory/pggm>.

¹³ TNO (2013). *Opportunities for a Circular Economy in the Netherlands*.

In a circular economy, the notion of waste is eliminated from the start by design. The focus is on closing resource loops such that the highest possible value is recovered. In this system, there are two cycles of materials; the biological and the technical one. The biological cycle concerns the safe return of biological waste/ nutrients to the biosphere. The technical cycle ensures that non-biological components do not end up in the biosphere and that products are designed to maximise reusability and quality retention.¹⁴

The transition towards a circular economy requires companies to develop and implement new business models. Examples of existing circular business models include:¹⁵

- o Short Cycles, in which products have a short but intensive life cycle, such as pay per use, repair, waste reduction, sharing platform, and progressive purchase.
Examples: BlaBlaCar, Snappcar, Repair Café, VandeBron, Peerby, Thuisafgehaald.
- o Long Cycles, in which products have a long and more complex life cycle, such as performance based contracting, take back management, next life sales, and refurbish & resell.
Examples: Recover-e, BMA Ergonomics, deposits, thrift stores, Pay-per-lux, Pay-per-wash.
- o Cascades, in which materials get an extended life cycle, such as up-cycling, recycling (waste handling & repurposing), and collaborative production.
Examples: WeCycle, InStock, MooiZooi, Dopper, Net-Works from Interface, Kalundborg Eco-Industrial Park, Re:Able.
- o Pure Circles, in which all products and materials stay in 100% separated (biological and technical) cycles such as Cradle-to-Cradle, and circular sourcing.
Examples: Stabilo Greenpoint, Rotterzwam.
- o Dematerialised Services, in which the use of products is central instead of purchasing and changing ownership, such as physical to virtual, and subscription based rental.
Examples: Mud Jeans, De Kledingbibliotheek.
- o Production on Demand, in which stocks of products do not exist, such as produce on order, 3D printing, and customer vote design.
Examples: Fairphone, 3D Hubs.

¹⁴ <http://mvonederland.nl/dossier/circular-economy>.

¹⁵ IMSA (2015). Circular Business Models-Part. *An Introduction to IMSA's Circular Business Model Scan*.

According to the Dutch Sustainable Growth Coalition, the ideal circular business model meets the following conditions:¹⁶

- Minimises the use of primary resources, maximises the use of secondary resources and manages the entire value chain accordingly;
- Designs products for easy repair or updating;
- Designs products for easy recycling (eco-design);
- Does not sell products but makes them available to customers under a lease agreement (performance as a service);
- Manufactures products that cause little or no environmental damage or waste during the production phase, or ensures that the generated waste can be used by other companies as a resource;
- Maximises the use of renewable energy in the production process;
- Encourages staff and management to adopt a 'circular' approach in their thinking and actions;
- Strives for an optimal balance between financial, social and ecological value.

¹⁶ Dutch Sustainable Growth Coalition (2015). *Circular Economy: DSGC Companies on their Journey of implementing Circular Business Models*.

2. Methodology

This chapter describes the methodology used to assess the companies in scope in terms of their contribution to the transition towards a circular economy.

Process

To provide comparative insights into the circular performance of companies, we developed an initial set of criteria linked to different aspects of circular business practice. These draft criteria were then discussed in a multi-stakeholder consultation meeting in November 2014. We received feedback from 14 organisations from the public, private and non-profit sectors. The set of criteria was subsequently reviewed and finalised.

Each company in scope was assessed against the criteria, using only publicly available information, e.g., annual reports, sustainability reports, company publications, and corporate websites. Based on the criteria met in total, each company received an overall score, which determined its performance in the benchmark.

Each company assessment sheet was prepared by the VBDO, and was subsequently sent to Accenture for review. After incorporating Accenture's comments, each assessment sheet was sent to the respective company for review. A total of 30 companies (58%) took this opportunity to provide feedback on their score. The VBDO carefully considered all comments received from these companies, and decided on their final scoring. The research period was from October 2015 to December 2015.

It should be noted that a strict interpretation of the criteria was applied in order to make the results as comparable as possible. For example, when the information disclosed by a company allowed for different interpretations and it remained unclear whether a certain criterion was met, the respective company did not receive any points for that particular criterion.

Criteria

In total, the methodology consists of 31 criteria worth 35 points. The criteria are divided into four categories: strategy and governance, implementation, innovation, and communication and engagement. Each of these categories consists of three to four thematic groups of criteria. Some criteria are divided into several sub-criteria.

Each (sub-)criterion is formulated as a yes/no question. If the answer is “yes”, then the company receives a point. The company's total score is calculated by adding the number of points per category and multiplying it with the respective weighting factor. For the full list of criteria, please refer to the Appendix.

Categories and groups: (weighting factors shown in brackets)

A. Strategy and governance (30%)

- Strategy
- Long-term strategy
- Targets
- Accountability

B. Implementation (30%)

- Revenue from circular products and services
- Product design
- Procurement

C. Innovation (20%)

- Circular business models
- Innovation budget
- Strategic partnerships

D. Communication and engagement (20%)

- Customers
- Stakeholders
- Raising awareness

Companies in scope

For the purpose of this benchmark, we assessed 52 Dutch listed companies from six different sectors: building and construction (6 companies); communication (5 companies); food, beverage and retail (13 companies); oil, gas, maritime, industrials and chemicals (16 companies), technology and electronics (9 companies), and other (3 companies). For the full list of companies included in the benchmark, please refer to Figure 1.

Quick facts

52 companies in scope

31 criteria worth 35 points in total

58% response rate

3. Results

The 52 companies in scope have an average score of 28%. Twelve companies achieve a score of 50% or higher, with three companies emerging as clear frontrunners with a score above 75%, see Figure 2. BAM Group leads the benchmark with a score of 84%. There is also a large group of 28 companies that are lagging behind and have a score of 25% or below.

The key results of the benchmark can be summarised as follows:

- 52% of the companies assessed have integrated circular thinking into their strategy;
- 48% have set SMART targets on aspects of their circular ambition;
- 23% have implemented a circular business model, but none specify what revenue is generated from that;
- 63% substitute unsustainable input materials for more sustainable alternatives;
- 65% reduce waste in production;
- 31% reduce waste in consumption;
- 31% increase the reusability of materials at products' end of life cycle;
- 19% extend product lifespan;
- 12% contribute to up-cycling of materials;
- 44% have formulated expectations regarding the circular performance of their suppliers;
- In the past year, 33% piloted a circular business model or product;
- 29% of the companies in scope have engaged with external stakeholders on circular economy.

Figure 2: Companies that have a score of 50% or higher in the benchmark.

Rank	Company	Score
1	BAM Group	84%
2	DSM	81%
3	Philips	76%
4	Unilever	65%
5	Air France-KLM	64%
6	RELX Group	63%
7	AkzoNobel	60%
8	Heijmans	57%
9	ArcelorMittal	55%
10	KPN	54%
11	Boskalis Westminster	52%
12	Ahold	51%

Dutch listed companies are increasingly involved in the transition towards a circular economy. This can be seen in the number of companies that have piloted or implemented a circular business model, or reuse or up-cycle (part of) their waste, which increased from 37% in 2014 to 48% in 2015, see Figure 3.^{17, 18}

However, there is still considerable room for improvement. Especially with regard to setting comprehensive targets on circularity, reducing waste in consumption, up-cycling of materials, circular procurement, rollout of circular pilots, and engaging employees on circular economy.

Figure 3: Percentage of Dutch listed companies that have a project in place for biological nutrients to re-enter the biosphere safely, or technical nutrients to circulate at high quality without entering the biosphere.^{17, 18}

Company involvement in the circular economy



Results per category

A. Strategy and governance

Top scorer: AkzoNobel

Description of the category: Circular economy and long-term thinking should be an integral part of a company's strategy. Ideally the board has set SMART targets on its circular ambition, and reports on its progress. The company has clearly allocated the responsibility for the implementation of the circular strategy to a senior manager.

AkzoNobel is the only company that meets all of the criteria under this category. Approximately half of the companies in scope have integrated circular thinking into their corporate or sustainability strategy, but only a quarter have based their strategy on a long-term vision for 2025 or beyond, see Figure 4.

¹⁷ VBDO (2014). *Sustainability Performance of Dutch Stock Listed Companies: AGM Report 2014*.

¹⁸ VBDO (2015). *Sustainability Performance of Dutch Stock Listed Companies: AGM Report 2015*.

The majority of companies that refer to the circular economy in their strategy have set SMART targets on aspects of their circular ambition. Most of these targets concern waste reduction in the production process.

Other targets include the proportion of sustainable input materials, renewable energy, or reused products at end of life cycle. Many companies, however, do not clearly report on their progress against these targets. Finally, from publicly available information it is not always clear who is responsible for the implementation of the sustainability strategy.

Figure 4: Percentage of companies in scope that communicates a clear tax strategy.



Good practice

Examples of targets related to the circular economy include:

- Ahold: “[Our ambition is to] eliminate landfill as a disposal method by 2020.”
- AkzoNobel: “We are on track to achieve our target of a relative eco-efficiency footprint improvement of 30 percent by 2015, and 40 percent by 2017, with 2009 as the baseline.”
- Heijmans: “In 2020 our buildings, engineering structures and roads will be 100% recyclable.”
- KLM: “By the year 2020, we strive to recycle or repair all our waste products.”
- RELX Group: “We aim by 2020 to achieve [...] zero waste to landfill at key locations under our control.”
- Unilever: “We will become ‘carbon positive’ in our operations by 2030. To do this, we will: Source 100% of our total energy across our operations from renewable sources by 2030; Source all our electricity purchased from the grid from renewable sources by 2020; Eliminate coal from our energy mix by 2020; And [...] we intend to directly support the generation of more renewable energy than we consume and make the surplus available to the markets and communities in which we operate.”

Sources: Ahold Responsible Retailing Report 2014, AkzoNobel Annual Report 2014, Heijmans Annual Report 2014, Air France-KLM Corporate Social Responsibility Report 2014, RELX Group Corporate Responsibility Report 2014, <https://www.unilever.com/news/news-and-features/2015/Unilever-to-become-carbon-positive-by-2030.html>

B. Implementation

Top scorers: Air France-KLM, BAM Group, DSM, RELX Group

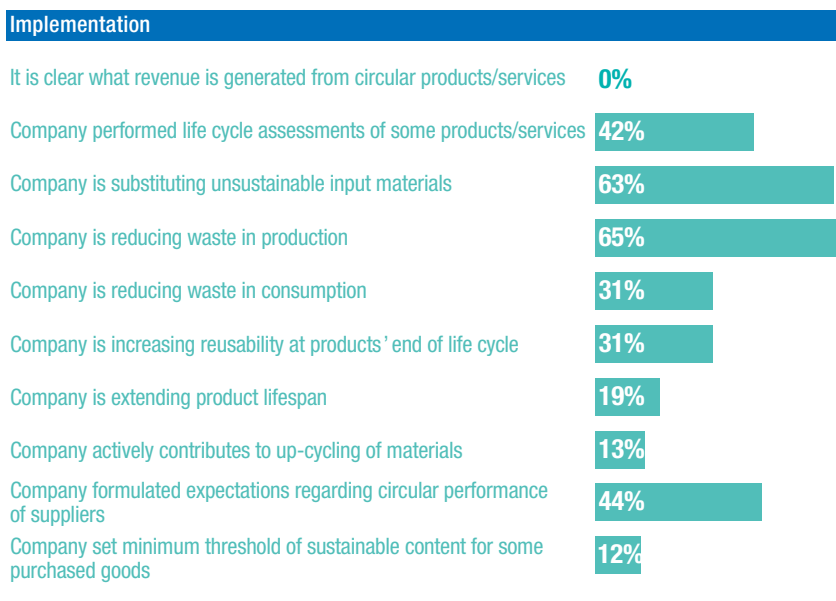
Description of the category: A company can apply the circular economy principles to various aspects of its business, e.g., business development, product design, manufacturing, and procurement. It is expected to integrate the circular principles into all relevant business processes, and to report on its progress.

None of the companies assessed satisfy all criteria under this category. Air France-KLM, BAM Group, DSM, and RELX Group are top scorers, with 7 out of 11 points. In the research scope, there are no companies that specify what revenue is generated from their circular products and services, often because it is small to zero. However, several companies have conducted life cycle assessments of some of their existing products or services, and many have adopted one or more

aspects of circular product design, see Figure 5. Regarding the latter, most companies have focused their efforts on substituting unsustainable input materials for more sustainable alternatives and reducing waste in production. Several companies are also looking at reducing waste in consumption and increasing the re-usability of materials at products' end of life cycle. Fewer companies seek to extend product lifespan, and very few try to keep product components pure and separate. Finally, several companies actively contribute to up-cycling of materials.

Almost half of the companies in scope have formulated expectations regarding the circular performance of their suppliers, ranging from resource efficiency to waste reduction and recycling to use of renewable raw materials. However, few companies translate such expectations into minimum environmental standards for certain goods in order to be eligible for purchase.

Figure 5: Selected results in the implementation category.



Good practice

ArcelorMittal is working on steel recycling and optimal reuse of by-products and other residues. The company is one of the biggest recyclers of steel in the world, recycling around 30 million tonnes every year. When developing new products, it ensures that the steel in it is recyclable. ArcelorMittal also develops new processes that will help recovering more steel from waste streams. Additionally, the company has life cycle analysis experts and a dedicated R&D team working on the reuse of residues from the steelmaking process.

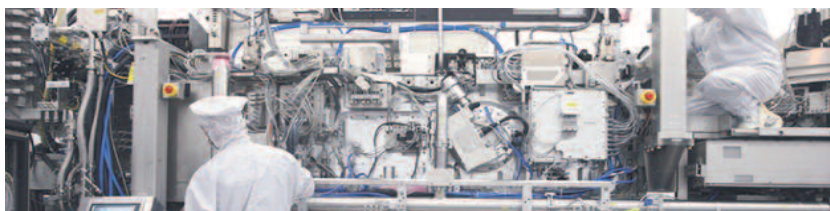
Source: ArcelorMittal Sustainability Report 2014, p.48.



Good practice

ASML reduces waste in consumption by offering customers the possibility to upgrade their existing systems to the performance level of new types of machines, instead of replacing them with the new-type machines. Additionally, the company aims to repurpose obsolete hardware, rather than waste it.

Source: ASML Corporate Responsibility Report 2014.



The assembly of an EUV system in Veldhoven, the Netherlands.

Good practice

Crown van Gelder procures only FSC certified pulp.

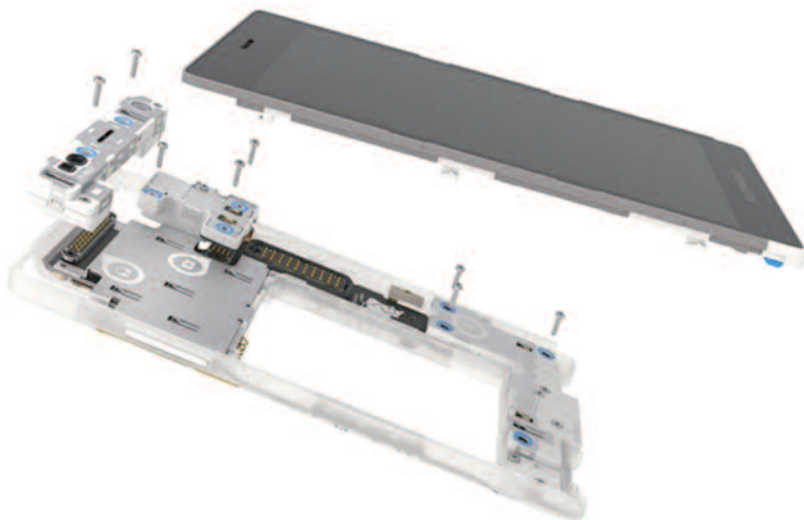
Source: Crown van Gelder Annual Report 2014.



Good practice

KPN asks suppliers to improve the recyclability of their products as part of its sustainable sourcing programme and was the first operator to sell the 'Fairphone'. This phone uses replaceable parts such as camera and battery, which reduces the impact on raw materials and extends product lifetime.

Source: KPN Integrated Annual Report 2014, <http://corporate.kpn.com/kpn-actueel/nieuwsberichten-1/kpn-omarmt-verbeterde-fairphone.htm>.



C. Innovation

Top scorer: BAM Group

Description of the category: The circular economy entails a different and holistic view on doing business. This requires companies to be innovative, pilot new business models, and collaborate with supply chain partners, peers and other actors.

BAM Group is the top scorer in this category, with 7 out of 8 points. One-third of the companies in scope performed a pilot of a circular business model¹⁹ or product in the past year, but only few communicate a rollout plan for their pilot(s). On the other hand, almost one-quarter rolled out a circular business pilot in the past, as shown in Figure 6.

Approximately half of the companies engage in supply chain partnerships aimed at realising a circular supply chain or improving the circular performance of their products. Additionally, a considerable number of companies also hold a membership of an organisation working towards a circular economy, such as Circle Economy, MVO Nederland (Initiative Circular Economy), De Groene Zaak, Dutch Sustainable Growth Coalition, and the Ellen MacArthur Foundation.

Figure 6: Selected results in the innovation category.



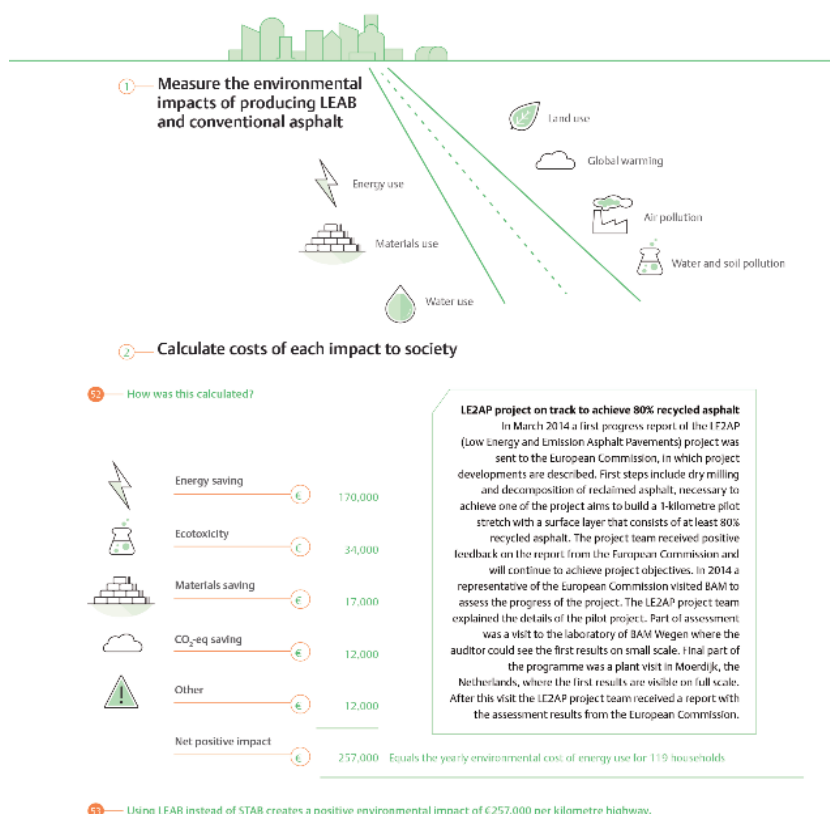
¹⁹ See Chapter 1 for more information on the various circular business models.

Good practice

BAM Group is the only major construction company that is a member of the Ellen MacArthur Foundation's CE100 programme. The Group actively works with clients to develop business models for 'circular buildings', such as the Brummen Town Hall project, which was completed in 2013.

In 1998, BAM started developing Low Energy Asphalt Beton (LEAB), an innovative type of asphalt that uses less energy, less scarce natural resources and has lower CO₂ emissions than conventional asphalt. A study by True Price indicated that placing LEAB instead of conventional asphalt creates an estimated €257,000 less negative impact on the environment per kilometre of highway.

Source: BAM Group Integrated Report 2014, p.87.



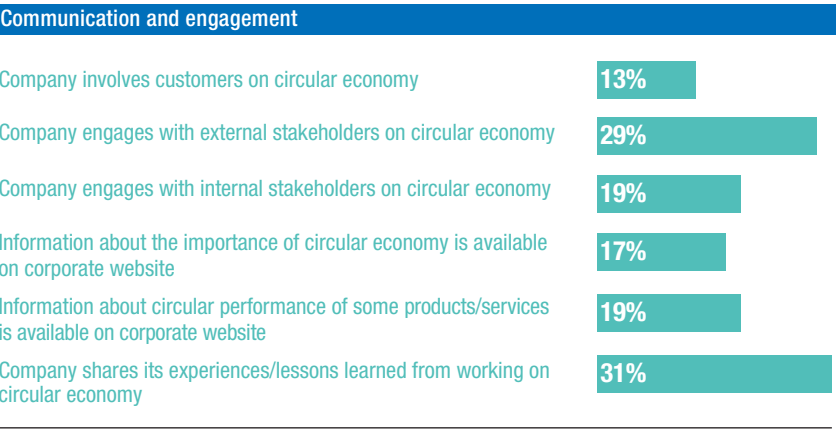
D. Communication and engagement

Top scorers: BAM Group, DSM, Philips

Description of the category: A company cannot build a circular economy on its own. A company should communicate its circular ambition to internal and external stakeholders, form and join alliances, and educate its customers and other stakeholders on the circular economy.

BAM Group, DSM and Philips meet all of the criteria under this category. In total, few companies involve their customers on the circular economy through interactive media or discussion platforms. Other stakeholders appear more engaged, especially external stakeholders such as suppliers, government bodies, and civil society organisations, see Figure 7. A small number of companies publish information on their website about the importance of the circular economy or about the circular performance of some of their products or services. Approximately one-third of the companies in scope share their experiences and lessons learned from working on the circular economy with other businesses.

Figure 7: Selected results in the communication and engagement category.



Good practice

Philips explains the key characteristics of a circular economy on its corporate website, and provides information about how it contributes to the transition. The company has also created a dedicated global hub on circular economy in partnership with the Guardian Sustainable Business.

Source: <http://www.philips.com/a-w/about/sustainability/sustainable-planet/circular-economy.html>.



PHILIPS
Sustainability

Production Our approach Healthy people Sustainable planet Clean improved Countdown Q

Sustainability Sustainable planet Circular economy

Rethinking the future

Our transition towards a circular economy

For a sustainable world, we see the transition from a linear to a circular economy as a necessary boundary condition.

A circular economy aims to decouple economic growth from the use of natural resources and ecosystems by using those resources more effectively. By definition it is a driver for innovation in the areas of material, component and product reuse, as well as new business models such as solutions and services. In a circular economy, the more effective use of materials enables to create more value, both by cost savings and by developing new markets or growing existing ones.

The global trends that make a circular economy a business necessity for now and the future

Challenges

Resource availability and pricing
We are at the end of the era of cheap oil and materials. A gap of both fuels and firm natural resources across the spectrum, coupled with an increased customer demand results in challenges to manage our commodities. Simply using less is no longer enough, and addressing increased resource price volatility dampens economic growth, discouraging businesses from taking resource-related risks.

Increase of middle class consumers
The world has experienced two great expansions of the middle class since 1980, and we are going through the third. In Asia alone, 325 million people can already count themselves as middle class, more than the total population of the European Union. Over the next two decades, it is estimated that the middle class will expand by another three billion people, coming almost exclusively from the emerging world, driving demand for consumables.

4. Recommendations

Dutch listed companies are increasingly involved in the transition towards a circular economy. Approximately half of the 52 companies in scope have integrated circular thinking into their strategy and have set targets on aspects of their circular ambition. They have also started to take measures to substitute unsustainable materials and reduce waste. And they are collaborating with supply chain partners to improve the circular performance of their products and services. On average, however, the 52 companies analysed scored only 28% of all points in the Benchmark Circular Business Practices 2015. Therefore, we can conclude that there is still considerable room for improvement.

The recommendations outlined below are based on the results of our research:

To companies:

- Formulate your circular economy ambition and develop a comprehensive KPI dashboard to track and trace all aspects of it;
- Design your products and packaging for disassembly, reuse and repurposing;
- Collaborate with your supply chain partners (up- and downstream) to capture circular economy opportunities;
- Promote innovation to develop circular business models²⁰ and roll out the viable pilots;
- Engage your employees on the circular economy.

To investors:

- Bring together companies in your portfolio to explore opportunities for knowledge sharing and collaboration on circular economy;
- Integrate circular business thinking into investment decisions, engagement and voting.

²⁰ See Chapter 1 for more information on the various circular business models.

KPI dashboard for circular economy

Approximately half of the 52 companies in scope have set KPIs on aspects of their circular ambition. Most of these targets concern waste reduction in the production process. Other targets include the proportion of sustainable input materials, renewable energy, or reused products at end of life cycle. See Chapter 3 for company examples.

Although these targets are related to important aspects of a circular economy, they do not capture the full concept of indefinite reuse of materials and resources at their highest value. Moreover, optimising one aspect of the circular economy may lead to a decrease of the overall circularity of the system. For example, substituting unsustainable input materials for more sustainable alternatives may reduce the lifespan of a product and create more waste as a result.

We observe that many companies struggle with setting the right KPIs to track and trace their circular ambition. That is why we submitted the following challenge to the IUCN Leaders for Nature Forum 2015: “How can we translate the principles of the circular economy into key performance indicators?”. The outcomes of this working session were then discussed in another multi-stakeholder consultation meeting in November 2015.

From these discussions one KPI skeleton emerged as most promising: the ‘Re-Rate’. This indicator compares the value of input materials at the beginning of the manufacturing process with their value at the end of their life cycle, taking into account the length of their life cycle. Here, the term ‘value’ could refer to economic value, or environmental or social value, or a combination of these. Thus, reusing product components will give a higher Re-Rate than recycling components, which in turn will give a higher Re-Rate than wasting components. Additionally, materials with a long life cycle will produce a higher Re-Rate than materials with a shorter life cycle and the same loss of value. Companies can tailor this indicator to their specific needs.

None of the companies in scope report on a Re-Rate KPI. The company that comes closest to reporting on such a KPI is AkzoNobel, which has set a target on reducing its environmental footprint (including energy, water, waste and air emissions).

As a first step, companies could perform life cycle assessments of their most important products and services, and report on the results. According to our research, almost half of the companies in scope have already conducted a life cycle assessment of at least one of their products or services.

Appendix: Methodology in detail

This appendix presents the list of criteria used to assess the circular performance of the companies in scope. The weighting factor attached to each category of criteria is shown in brackets. The maximum number of points per criterion is shown on the right.

<i>Category/ Group/ Criterion/ Sub-criterion</i>	<i>Max. points</i>
A. Strategy and governance (30%)	
1. Strategy	
1.1. The corporate or sustainability strategy makes explicit reference to the circular economy or related concepts, such as bio-based economy, cradle-to-cradle, cycling of materials, zero waste and CO ₂ / energy/ emissions neutrality	1
1.2. The company specifies why the circular economy is important for its business	1
2. Long-term strategy	
2.1. The company has a long-term vision for (at least) 2025	1
2.2. The company has a long-term vision for (at least) 2050	1
3. Targets	
3.1. The company has set SMART targets on its circular ambition	1
3.2. The company has set the following targets relating to the circular economy: ²¹	2
3.2.1. Percentage or amount of reduced waste in the production process	
3.2.2. Percentage or amount of input materials/ products that are reused, recycled, renewable, bio-based or sustainable	
3.2.3. Percentage or amount of products at the end of life cycle that are reused, recycled, retrieved, remanufactured, repaired or refurbished	
3.2.4. Percentage or amount of renewable energy	
3.3. Some of these circular targets reach beyond the direct sphere of influence of the company (e.g. they also require supplier cooperation)	1
3.4. Progress against these circular targets is clearly reported and includes a statement on whether or not targets were achieved	1
4. Accountability	
4.1. It is clear who is responsible for the implementation of the sustainability strategy	1

²¹ A company satisfying most or all of the sub-criteria 3.2.1 to 3.2.4 can score no more than two points. More specifically, if the company satisfies only one of these sub-criteria, it scores one point. If it satisfies two or more sub-criteria, it scores the maximum number of two points for this criterion.

B. Implementation (30%)

5. Revenue from circular products and services

- | | |
|--|----------|
| 5.1. It is clear what revenue is generated from circular products and services | 1 |
| 5.2. Circular products and services constitute more than 5% of the company's total revenue | 1 |
| 5.3. The percentage above increased over the past year | 1 |

6. Product design

- | | |
|---|----------|
| 6.1. The company performed circular/ life cycle assessments of some of its existing products or services | 1 |
| 6.2. The company developed a clear approach aimed at: ²² | 4 |
| 6.2.1. Substituting unsustainable input materials for reused/ recycled/ renewable/ bio-based/ sustainable materials | |
| 6.2.2. Reducing waste in production | |
| 6.2.3. Reducing waste in consumption (e.g. by leasing products) | |
| 6.2.4. Increasing reusability of materials at products' end of life cycle | |
| 6.2.5. Extending product lifespan (of durables) | |
| 6.2.6. Managing materials loops or securing commodities | |
| 6.2.7. Keeping product components pure by preventing blending with other substances | |
| 6.2.8. Separating the technical cycle (of assembled products) from the biological cycle (of materials) | |
| 6.3. The company actively contributes to up-cycling of materials | 1 |

7. Procurement

- | | |
|--|----------|
| 7.1. The company formulated expectations regarding the circular performance of its suppliers | 1 |
| 7.2. The company set a minimum threshold of reused/ renewable/ bio-based content for some goods in order to be eligible for purchase | 1 |

²² A company satisfying most or all of the sub-criteria 6.2.1 to 6.2.8 can score no more than four points. More specifically, if the company satisfies up to three of these sub-criteria, it scores one point for each one of them. If it satisfies four or more sub-criteria, it scores the maximum number of four points for this criterion.

C. Innovation (20%)

8. Circular business models (e.g., new ownership structures, closed products/ materials/services loops, zero-waste, up-cycling)	
8.1. The company piloted one or more circular business models or products in the past year and reports on the results	1
8.2. All circular pilots have a rollout plan	1
8.3. The company has rolled out one or more circular business models or products in past years	1

9. Innovation budget	
9.1. The company states the budget available for sustainable innovation	1

10. Strategic partnerships	
10.1. The company engages in one or more supply chain partnerships aimed at realising a circular supply chain or improving the circular performance of its products	1
10.2. The company is a member of organisations aimed at a circular transition, such as Circle Economy, MVO Nederland (Initiative Circular Economy), De Groene Zaak, Dutch Sustainable Growth Coalition, and the Ellen MacArthur Foundation	1
10.3. The company describes its level of participation in its most important circular economy partnerships in the past year	1
10.4. The company is exploring possibilities to use other companies' waste streams as input for its own production processes or to redirect its waste to other companies' production processes	1

D. Communication and engagement (20%)

11. Customers

- | | |
|--|----------|
| 11.1. Customers are actively involved in circular economy topics through interactive media (e.g. apps, online discussion platforms, or events) | 1 |
|--|----------|
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12. Stakeholders

- | | |
|--|----------|
| 12.1. The company engaged with external stakeholders on circular economy in the past year (in a stakeholder dialogue) | 1 |
| 12.2. The company engaged with internal stakeholders (employees) on circular economy in the past year (e.g. in a stakeholder dialogue or training) | 1 |
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13. Raising awareness

- | | |
|--|----------|
| 13.1. General information about the importance of the circular economy is available on the corporate website | 1 |
| 13.2. Company-specific information about the circular performance of some products or services is available on the corporate website | 1 |
| 13.3. The company shares its experiences/challenges/lessons learned from working on circular economy | 1 |
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