



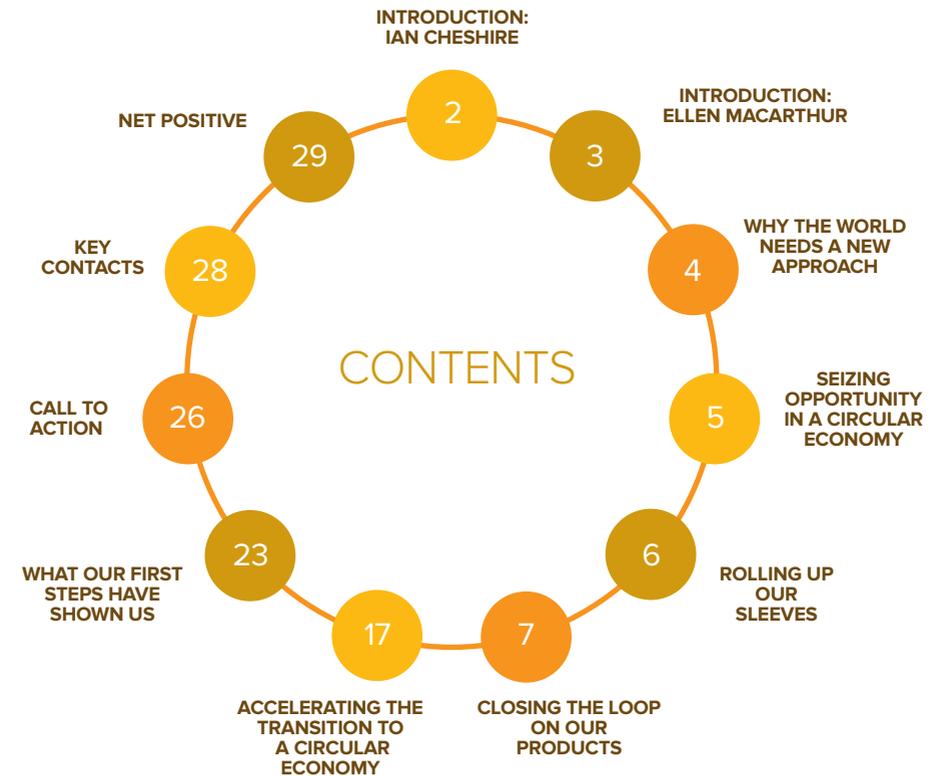
THE BUSINESS OPPORTUNITY OF CLOSED LOOP INNOVATION

Kingfisher's progress towards products that waste nothing

OUR VISION

We would like to see a world in which creating and using products wastes nothing

This is our vision for closed loop products and it drives the Innovation pillar of our Net Positive approach. In this booklet we are pleased to share some important first steps towards making closed loop a reality in our business, through our suppliers and in partnership with the Ellen MacArthur Foundation. We hope that these innovative products and projects start to show what can be done by us and by others embarking on the journey to a circular economy.



A NEW SPUR TO INNOVATION

Innovation is critical to what we want to do as a business: making it easier for people to have better homes and better lives.

In turn, it is through innovation that we will build our future as a business. We believe that closed loop thinking has the potential to be a game changer for our innovation. That's why it's a pleasure to be sharing with you here the first lessons from a revolution in innovation.

Closed loop thinking – also known as the circular economy – is an idea for a different way of doing business. It underpins our vision for Net Positive Innovation, a world where creating and using products wastes nothing. Over the last few years, we've been working with the Ellen MacArthur Foundation to pioneer this new thinking. It's already clear that this is an idea that engages people and inspires change.

For me, one of the most exciting things about closed loop innovation is that this is going to drive the next generation of business growth for Kingfisher. Why? Put simply, if done well, closed loop innovation can cushion our business from price volatility, provide us with competitive advantage, help us to enter new markets and enable us to build better relationships with customers and suppliers. If we can make closed loop a reality in our business – pushing ourselves to develop new closed loop products and services, showcasing what's possible and encouraging suppliers to innovate – I believe that in five or ten years' time, we can become famous as a market-leading closed loop business.

To close the loop, we must think differently – right from the initial design phase through the entire manufacturing process. It will require new business practices, such as 'take back' services. We can't perfectly close every single loop in one go. By taking the first steps, however, what we can do is radically cut the amount of resources, energy and costs involved and potentially create new forms of income.

Our target is to get to 1,000 products with closed loop credentials by 2020. I could argue that out of our 40,000 products, that level of ambition is not enough. This first phase is about developing pathfinder ideas for closing the loop at Kingfisher, getting our supply chain engaged in creative new ways of operating, and activating the collective brains of 80,000 people across the Kingfisher Group to work on this challenge. In this booklet, we highlight some of the key projects we've undertaken to close the loop in our innovation. Already there are some others in the pipeline, including some in early stage development supported by funding from the UK Government's Technology Strategy Board. These are the foundations for making a circular economy a practical reality.



IAN CHESHIRE
KINGFISHER'S
GROUP CHIEF EXECUTIVE

**CLOSED LOOP
INNOVATION
IS GOING TO
DRIVE THE NEXT
GENERATION
OF BUSINESS
GROWTH FOR
KINGFISHER**

A PARADIGM SHIFT IN RETAIL

In today's dominant economic model the consumer walks away with, and ultimately throws away, the product and all the valuable materials and resources within it.

The result is a linear flow of resources, materials and products – and, importantly for retail, it means once you've sold your product, you've lost those materials forever.

Resources are finite, but the demand for materials continues to grow, as does the volatility of prices. That's why it is my conviction that business can benefit by creating circular material flows – generating value again and again. Those financial benefits have been proven through our research with McKinsey. For business, the circular economy provides the opportunity to improve resilience and competitiveness, regain control of resources and ultimately drive growth.

The Ellen MacArthur Foundation focuses on the key pressure points and levers that will accelerate the transition to a circular economy, and working alongside our global partners to help create concrete business offerings is an integral part of our mission.

Kingfisher was instrumental in the creation of the Foundation three years ago and has supported its work ever since. What they saw early on was that a different, better model was possible and have enthusiastically taken up the challenge of rethinking their business practices.

Today, the projects and products that Kingfisher is developing are important because they indicate the start of a new wave of thinking – a change to the way business is done, and they demonstrate how we can make the shift. There is intent right across the business from the top down. They realise the extent of the challenge – that this is not just about one perfectly closed loop product or a small set of individuals in innovation teams – it's a change across the business and throughout the systems it operates in. What I find most encouraging is the amount of effort put into product development and business model research to turn Kingfisher's circular economy vision into a reality.

The innovation I'm seeing at Kingfisher, and in pioneering businesses elsewhere, makes me optimistic for the future. When we started working on the concept of a circular economy, it immediately appeared as a tangible solution to the challenges brought about by resource constraints. Having demonstrated its potential and now seeing pioneering companies actively engaged in the transition, I have never felt more convinced.



DAME ELLEN MACARTHUR
CHAIR OF TRUSTEES
ELLEN MACARTHUR
FOUNDATION

**IT IS MY
CONVICTION
THAT BUSINESS
CAN BENEFIT
BY CREATING
CIRCULAR
MATERIAL FLOWS
– GENERATING
VALUE AGAIN
AND AGAIN**

WHY THE WORLD NEEDS A NEW APPROACH

Finite resources, growing demand

Today, the system is broken: the use of resources worldwide is outstripping supply. It already requires three planet's worth of materials to maintain the pattern of consumption we're accustomed to in the Western world¹, and from metals to food and water, energy to timber, the demand on resources continues to grow. Three billion more middle-class consumers are expected by 2030², and commodity prices are likely to increase and become more volatile. Everyday things will become less affordable or even unavailable, and business as usual cannot be sustained.

TODAY, THE SYSTEM IS BROKEN: THE USE OF RESOURCES WORLDWIDE IS OUTSTRIPPING SUPPLY

As one of the world's largest home improvement retailers, we feel these pressures acutely – all of which have implications for our bottom line:

- For our supply of sustainable timber, we use a forest area roughly equivalent to the size of Switzerland each year. Of course continuing pressure on forests will increase the price we currently pay for our timber supply – and that increase could be anywhere between 30% and 75% by 2020³.

- It costs 50% more to buy one of B&Q's iconic orange buckets today than it did three years ago⁴ – a reflection of the volatility and increase in the input cost of plastic.
- Whilst our recycling rates continue to improve and we strive towards our zero-to-landfill targets, the overall amount of waste our business generates has continued to increase – as does the cost we pay to dispose of it.

The types of products which retailers make and sell are also part of that problem, sometimes being used inefficiently and creating unnecessary waste:

- Estimates vary, but most agree that the average power drill is used for less than 30 minutes in its whole lifetime.
- 35 million paint brushes are discarded each year across the UK alone⁵.
- 40 million tonnes of electronic waste are discarded around the world every year⁶.

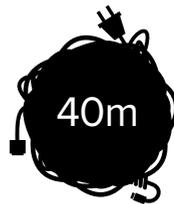
This is a challenge to each and every one of us on the planet. To succeed, businesses, including ours, must do more than minimise their negative impact – we must embrace these challenges as an opportunity to have a positive impact on the world.



At Kingfisher, we use a forest area roughly equivalent to the size of Switzerland each year.



Due to the rise in raw materials costs, an iconic B&Q plastic bucket now costs 50% more than three years ago.



40 million tonnes of electronic waste discarded around the world every year.

SEIZING OPPORTUNITY IN A CIRCULAR ECONOMY

New innovation: closed loop products

The resources to support a prosperous life for the world's population need to be used more sustainably. A new perspective on consumption and waste is needed, moving from a world in which we take resources from the ground, make products out of them and dispose of them, to a world in which we source, design, make and use products in a very different, closed loop way (see circle ●).

This new way of seeing resources looks to extract value from what might otherwise be waste, to imagine the next life of a product or material, and to design the systems needed to share, repair, reuse and harvest products and materials.

Closed loop products are at the heart of the opportunity. Around the world innovators are starting to embrace the exciting opportunities to redesign products using recycled or renewable materials instead of virgin materials. If this can be achieved, products will be more innovative, more affordable and more sustainable.

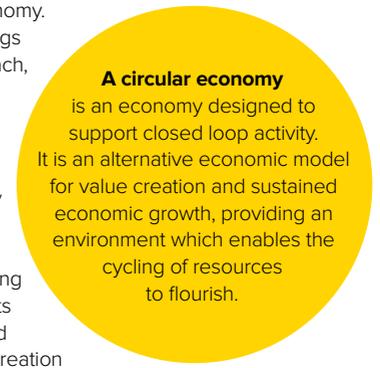
New environment: a circular economy

Seizing the opportunity means creating a circular economy (see circle ●), through a policy and business environment that drives and accelerates closed loop innovation at scale. As has been seen with paper and cardboard recycling, with the right environment and systems, closing

the loop can happen efficiently in large volumes. The opportunities are clear, but no single entity can make this happen on their own. The Ellen MacArthur Foundation, of which Kingfisher is a founding global partner, is leading the debate about how to get the right policies and systems in place to accelerate the transition to a circular economy.

New opportunity: the benefits to grasp

Working with McKinsey & Company, the Ellen MacArthur Foundation has identified tangible and compelling economic opportunities from creating a circular economy. The material cost savings of adopting this approach, for example, are estimated at over US\$1 trillion per annum towards 2025⁷. The opportunity goes beyond simply making savings. Reusing, remanufacturing and harvesting products and raw materials could lead to significant job creation including up to 322,000 direct jobs across the EU27 in recycling alone⁸. The circular economy is not about doing the same thing with less. It's the opportunity to create a whole new way of doing business, creating growth, increasing competitiveness and becoming more resilient.



Closed loop products

waste nothing when created and used. They are made from recycled or renewable materials and use only renewable energy in manufacture and use. If they break or are no longer needed their materials and component parts can be harvested to make new products.

A circular economy

is an economy designed to support closed loop activity. It is an alternative economic model for value creation and sustained economic growth, providing an environment which enables the cycling of resources to flourish.

ROLLING UP OUR SLEEVES

Kingfisher's role: Today the heat and excitement of innovation are in closing the loop on products and services. Ultimately, we want to see a world where creating and using products wastes nothing – and by 2020 we want to have 1,000 products on our shelves with closed loop credentials. We are playing two roles in helping close the loop:

We're closing the loop on our products

In practice, products are not simply 'closed loop' or 'not closed loop'. A 100% closed loop product can be reused infinitely or biodegrade perfectly back to nature, but in reality most products are somewhere along a spectrum. We will make the greatest contribution at this stage by making more of our products more closed loop.

We have initially identified 90 products on our shelves – largely from our existing eco-ranges – that we believe could be good closed loop candidates.

Across the Group, we have begun to develop new and improved products with good closed loop elements. We're using our partnership with the Ellen MacArthur Foundation to drive forward new closed loop ideas and measurement systems. We've already won three prestigious awards from the UK's innovation agency, the Technology Strategy Board, to support work in this area, that we hope we will be able to share soon.

We're accelerating the transition to a circular economy

In order to achieve our closed loop ambitions, we need to work in collaboration with businesses, politicians, academics, innovators and civil society. We have been instrumental in helping establish the business case for the circular economy through involvement in major reports and the creation of new tools to measure the value to business from closed loop innovation. We're founding members of the European Resource Efficiency Platform, helping to shape EU policy to create the right regulatory and business environment to support a circular economy. To share what we're learning, and find new collaborative ways to solve shared problems, we've helped create and activate the Circular Economy 100 – a network of companies, innovators and regions aiming to accelerate the transition to a circular economy.

Kingfisher and the Ellen MacArthur Foundation

Our partnership with the Foundation has been central to our work to close the loop. In 2010, B&Q first became a founding partner to support the establishment of the Foundation. In order to close the loops across our business, we've needed to go beyond B&Q and activate the entire Group. This year, Kingfisher has become a global partner of the Foundation and our partnership will continue to be at the heart of all our closed loop innovation work.

CLOSING THE LOOP ON OUR PRODUCTS

Included here are stories which demonstrate our progress and, we hope, show others across our business and beyond, how they can also help make progress towards closed loop innovation.



CLOSED LOOP CALCULATOR

We have identified 10 important credentials of closed loop products and found a simple way to measure them – our Closed Loop Calculator. The measurements taken underpin our ambition to close the loop, showing us where to focus and the progress we’re making.

The challenge

You can’t get more closed loop unless you know how closed loop you are in the first place. Up until now there have only been very complicated and time-consuming forms of measurement. The challenge is to identify the key credentials of closed loop products, find a way to measure them simply and identify where we are making improvement. With an ambition of creating 1,000 products with closed loop credentials by 2020, we need a tool that works at the scale of thousands – not tens – of products.

YOU CAN’T GET MORE CLOSED LOOP UNLESS YOU KNOW HOW CLOSED LOOP YOU ARE IN THE FIRST PLACE

The innovation

Our calculation uses 10 questions to measure how closed loop a product is. Criteria include what the product is made from, if it can be rented or repaired and whether it can be disassembled into component parts or materials. We have determined that a product with ‘excellent’ closed loop credentials will achieve a rating of above 75% and a ‘very good’ product will rate above 55%.

Our initial assessment suggests we already have 90 products across the Group with some closed

loop credentials. For example, in Castorama France we sell decking made from recycled wood. The decking scores well on the calculator but the calculator has also enabled us to see that the next step in closing the loop on that product is to capture the decking at the end of use and repurpose it for a new life.

We’ve realised that the power of the calculator is not just that we’ve identified and can measure the characteristics of a product but that it is quick and easy for lots of people to use. At a Group level, we can identify the progress we are making towards our initial goal of 1,000 products. That’s why the calculator now underpins all our innovation work to close the loop. We plan to share the calculator with suppliers and other businesses once it’s fully tested within Kingfisher. It allows anyone in a business to look at their products and how they can be improved.

WE’VE REALISED THAT THE POWER OF THE CALCULATOR IS NOT JUST THAT WE’VE IDENTIFIED AND CAN MEASURE THE CHARACTERISTICS OF A PRODUCT BUT THAT IT IS QUICK AND EASY FOR LOTS OF PEOPLE TO USE

“The Closed Loop Calculator will be a very important tool to help Kingfisher close the loop on their products. It provides the foundations for all of Kingfisher’s work around closed loop innovation, enabling the business to establish a baseline, identify where to take action, and to pin-point the progress they’re making to close the loop on their products.”

THE INNOVATOR CHRIS TUPPEN
ADVANCING SUSTAINABILITY



REMADE, THE PROCESS THAT MAKES INFINITE

Castorama France is launching Infinite: the first-ever worktop for kitchens and bathrooms made from 100% waste sourced from both our stores and ‘end of life’ DIY products.

The challenge

Europe faces major waste and recycling issues: 35% of waste wood is still sent to landfill⁹ and only 25% of waste plastic is recycled¹⁰.

There’s been some progress. For example, by-products from sawmills are already being recycled. However, a lot of post-consumer waste, such as pallets and packaging used in stores are harder to recycle.

The innovation

We have brought together production, manufacturing, retail and logistics expertise from across the Kingfisher Group – part of our ‘One Team’ approach. In part, this has enabled us to draw on our engineering expertise from across the Group to take the design and manufacturing lead with our external partners. We worked together with the independent chemistry research centre, Certech in Belgium, and in collaboration with the waste recycler Veolia and composite wood manufacturers Océwood, to create a new engineering process called ReMade. Through applying ReMade, we have developed an entirely new composite material from the waste wood from our stores and end of life DIY products. It’s used

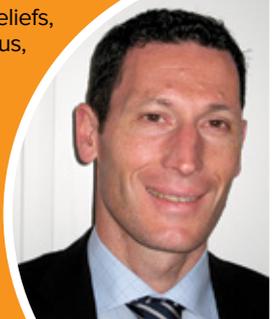


in the hollow panel that makes up the core of the new Infinite worktop.

We believe Infinite is a better product offer for our customers. It’s 30% lighter than similar products on the market today and so is easier to handle and install, thereby reducing breakages. Where traditional particle boards are often damaged by steam and surface water, Infinite has a wood composite structure that is more water resistant. By replacing the use of virgin source material and harmful chemicals, our new engineering process ReMade also reduces the product’s carbon footprint and preserves natural resources.

“It’s my responsibility to bring an industrial approach to the development of our products. To imagine, create, design and build this new product from scratch has taken a whole team of people from across the entire Kingfisher Group. It’s been a great opportunity to work as ‘One Team’, to share our ideas and beliefs, and combine our passion and expertise to make this a reality. For us, this is more than just a worktop and far more than just another recycling solution. It demonstrates how we can bring our engineering and retail expertise together from across the Group to take leadership and operate as ‘One Team’. It’s our first step to make more of our products closed loop and generate the confidence we need on our journey to become Net Positive.”

THE INNOVATOR ONE TEAM FACILITATED BY **CHRISTOPHE GUYADER**
KINGFISHER – COMPONENT AND MATERIAL DEVELOPMENT DIRECTOR



CARRIERPAC AND LONGSPAC

B&Q UK has created an award-winning reusable packaging system for large kitchen products that reduces product damage during delivery five-fold, saves £1 million for the business and reduces cardboard packaging by 2,500 tonnes every year.

The challenge

Significant levels of packaging are required to deliver high-value kitchen products to a customer's home without damage. The smallest dent, scrape or scratch is likely to mean customers reject the products. Rejects increase our costs, increase waste and decrease customer satisfaction, while the packaging itself is costly for the business and contributes hundreds of tonnes every year to household waste streams.

The innovation

A natural approach to this challenge would be to add more packaging to reduce damage. However at B&Q UK, we decided to step back and rethink the entire approach to the delivery of large, fragile, high-value kitchen items including worktops, pelmets, plinths and cornices. To do so, we have joined forces with WRAP, consultants Outpace and our suppliers Storsack Dorton Ltd (now Greif) and Kayserberg Plastics.

Inspired by the simplicity and reusability of pizza delivery bags, the team created large padded polypropylene sacks designed to safely transport large fragile items. These are known as Carrierpac and Longspac, depending on the product they are designed to carry. The packaging, itself made from at least 25% recycled plastic, is designed to be reused: the delivery teams take the products into the customer's property, slip them out of the protective, padded pack and then take these away for use in another delivery.



Having been used up to 80 times, the covers are retired, baled up and packed off to our recycling partners and given a second life as polypropylene wheels on supermarket trolleys or as bollards in car parks.

By rethinking the system in which these deliveries take place, we've been able to make a real impact. 250,000 large kitchen items are now transported in the packaging every year, with the number of products damaged during transit reduced from 6% to 0.75%, meaning happier customers, far fewer returns and less raw materials used. Since customers aren't left with waste to dispose of, the new packaging system improves their experience, whilst also saving 2,500 tonnes of cardboard every year. All in, closing these packaging loops results in a combined saving of over £1 million a year for the business.

"I'm responsible for improving the processes and procedures in all our multi-channel packaging systems. To come up with the solution, we needed to go back to the drawing board. Reimagining the delivery system led us to create an entirely new approach that could close the loop. We found that the only way to do this successfully was to collaborate at each stage with our suppliers and partners such as WRAP."

THE INNOVATOR KEVIN CORBY
B&Q BUSINESS IMPROVEMENT MANAGER



MÉTISSE INSULATION

Castorama France is working with its partner Le Relais to create value out of customers' waste textiles – by taking them back and remanufacturing them into thermal and acoustic insulation products that are being sold in 38 stores across France.

The challenge

The phenomenon of fast fashion is seeing people buy more clothes, more frequently and throw more of them away. In France, each person bins an average of 12kg of clothing every year¹. Many of those clothes are of low quality, making it harder to salvage, clean and resell them.

THE PARTNERSHIP WITH LE RELAIS ALLOWS US TO CLOSE THE LOOP IN WAYS THAT WE COULDN'T ACHIEVE WITHOUT ITS INFRASTRUCTURE



The innovation

Customers at Castorama can now dispose of old clothes, shoes, linens and small leather goods in containers outside some stores. They are part of a network of 16,000 containers run by our partners Le Relais. In 2012, they collected a total of 90,000 tonnes, 55% of the entire nation's textile recycling.

The partnership with Le Relais allows us to close the loop in ways that we couldn't achieve without its infrastructure. Le Relais has the innovative techniques to sort the textiles by their condition and quality. 55% are cleaned and resold, 10% turned into wiping cloths, 25% pulped and returned to simple fibres and the remaining 10% that cannot be recovered are used to generate energy for the factories. The newly created fibres are then processed to create panels, rolls and flakes of a new material or 'wool' that possesses excellent thermal and acoustic insulation properties from which we make the Métisse product range of insulation products.

Métisse is a better product than many current alternatives. It insulates from both cold and hot weather and is highly fire-resistant. In addition, Métisse overcomes some of the longer-term problems of deterioration suffered by alternatives such as mineral wool.



"Only through working in partnership with Le Relais have we been able to close the loop. As the first large retailer to stock Métisse, we are playing an important role by providing the market for these products. This is also a local way of closing the loop, which means the production supports the local economy and we can proudly carry the 'Made in France' insignia, enabling us to respond to one of the growing demand trends from our customers. One of the great hidden benefits is that Le Relais is also making a real difference in society. They're a social enterprise employing 2,200 people, most of whom might otherwise be excluded from employment."

THE INNOVATOR PIERRE ROYER
ECO-PRODUCT MANAGER CASTORAMA FRANCE

RE-MINING MATERIALS FROM POWER TOOLS

Screwfix UK has begun ‘harvesting’ materials from used and damaged power tools, extracting valuable parts, plastics and metals to create new revenues from traditional waste streams.

The challenge

Returned power tools that can't be repaired, cleaned and resold are currently sold for scrap. As scrap, it's difficult to know what happens to the component parts and materials, and how much is actually harvested and given a second life. The real value, both financially and environmentally, comes from breaking down the tools into separate streams of metals, plastics and component parts and finding a way for them individually to be cycled back into new products.

The innovation

We have formed a partnership with the fulfilment and reverse logistics company iFORCE to break up power tools collected in Screwfix stores. Recovery experts break down power tools at the rate of about six per hour, dividing component parts into ten different streams including three metal types, four plastic types and others such as cables, plugs and motors. Each stream is then sold to specific companies who repurpose the materials or parts. Some of the plastics come back into our stores for sale. For example, the rubble bags made by NDC Plastics are made up of at least 10% of feedstock from our old power tools.



Now we have the partnership and infrastructure in place, the next step is to scale up the operation by increasing the volume and types of tools we break up. Our customers will soon be offered vouchers to return old and faulty power tools, lawnmowers and strimmers – an incentive to customers and a way of increasing volumes.

Currently our ‘harvesting’ works efficiently and is cost neutral to the company. It will take two or three years to start turning a profit, so we're taking the long-term view that this is part of the entire business rather than isolated in just an individual product line or department.

“We've been looking at the costs to our business of getting rid of waste such as old, broken or returned tools. A lot of our waste is full of the same raw materials that we need to buy to produce our own products. It raises a bigger question we all need to ask: when is waste actually waste? As soon as someone doesn't want something we mentally label it 'waste' but actually it's a potential collection of new resources. From this perspective we can start to imagine how customers can become the source of our resources.”

THE INNOVATOR PETER HARRIES
QUALITY MANAGER SCREWFIX



RENTAL AND REPAIR SERVICES

For the last 16 years, Castorama Poland has been closing loops in its business by providing repair and rental services. Its experience can help other businesses across the Group who see the opportunity in implementing these services.

The challenge

Many people own DIY products but use them only infrequently and for a short amount of time. The use of the resources in these products is inefficient and when they do break or cease to be useful there often isn't the system in place to repair or recondition them.

This comes at a time when consumer models of sharing, lending, gifting, swapping and bartering are emerging. The challenge to business is to adapt to alternative models and ensure continued economic growth.

The innovation

Since Castorama opened in Poland 16 years ago, we have always had a repair centre in store. We introduced rental centres to the business about eight years ago. Today all of our stores in Poland have repair centres, and half offer rental services. The repair operations are equipped to test lawn mowers and other products with combustion engines and to test panels for lights, as well as tools such as drills and jigsaws.

Over the past 16 years, the scope of services we've offered has evolved in line with our customers' changing needs. Today we are no longer just an equipment drop off point, but are equipped to do a host of other things such as drill holes in sinks, sharpen chainsaws and cut replacement keys.



It's through creating partnerships with suppliers that we have been able to make these services possible. Suppliers now design products for rental that are tougher, work for longer and are more easily fixed by authorised professionals. We've been able to improve the quality of tools for our customers, reduce breakages and ultimately make our entire supply chain far more closed loop.

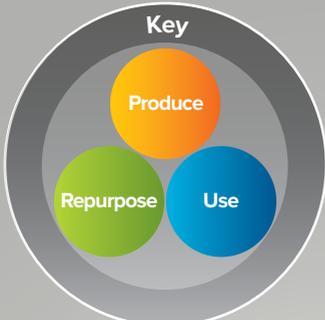
In 2012, we completed nearly 140,000 repairs and 4,000 equipment rentals. By offering these new services, we have increased footfall in our stores, built stronger customer relationships and found more opportunity to provide customers with other products. In the last few years, we have begun to extend our services to include classes in store for school children aged 6–12 who come in to have fun through learning practical DIY skills such as woodworking, gardening and decorating.

“Growing our rental and repair services organically has meant we've been able to adapt and respond relatively easily to bigger trends when they emerge. Today, for example, more people are hiring contractors to improve their homes – but to keep the costs down, we're seeing that they're coming to us to rent the tools to give to their contractors, creating major new demand for our rental equipment.”

REPRESENTING THE INNOVATORS MILENA HAGEMAJER
CORPORATE SOCIAL RESPONSIBILITY COORDINATOR
CASTORAMA POLAND



Powering Kingfisher towards a portfolio of closed loop retail products



How it works in practice:

Produce

- 1 **Designing for disassembly:** Kingfisher is working with partners on designs for easier dismantling and waste-reduction.
- 2 **Re-engineering materials:** Métisse insulation made from used textiles, Castorama France.
- 3 **Simpler source materials:** 20 types of plastic in an average power tool – a number we're looking to reduce.

Use

- 4 **Renting and repair:** Repair services in all Castorama Poland stores, rental in half.

Repurpose

- 5 **Harvesting:** Screwfix's partnership with iFORCE dismantling six power tools an hour.
- 6 **Customer mining:** Screwfix's customers incentivised to return used power tools.
- 7 **Re-birth:** B&Q's award-winning packaging for kitchen worktops recycled as polypropylene wheels or bollards.



ACCELERATING THE TRANSITION TO A CIRCULAR ECONOMY

Here are five stories which demonstrate our progress and, we hope, show other businesses how they can contribute to an environment which enables closed loop innovation.



“CLOSED LOOP INNOVATION CAN CUSHION BUSINESS FROM PRICE VOLATILITY, PROVIDE US WITH COMPETITIVE ADVANTAGE AND ENABLE US TO BUILD BETTER RELATIONSHIPS WITH CUSTOMERS AND SUPPLIERS.”

IAN CHESHIRE
KINGFISHER'S GROUP CHIEF EXECUTIVE

THE CIRCULAR ECONOMY 100

We are helping to establish the Circular Economy 100 – an Ellen MacArthur Foundation platform that connects the people and organisations that, collectively, are able to solve challenges, build and share knowledge and collaborate, to accelerate a transition towards a circular economy.

The challenge

A large number of people, across different parts of the supply chain, industry sectors and geographies, from designers to academics, CEOs to city mayors, are working to make the economy more circular. The circular economy – and Kingfisher's closed loop ambitions – cannot be achieved working in isolation. It requires complementary expertise and capabilities to work well together and we must find collaborative ways to overcome barriers to progress.

Our action

We took this challenge to our partners at the Ellen MacArthur Foundation, with an idea to bring the right people together to close the loop faster and at greater scale. With their support, guidance and leadership, we have co-created the Circular Economy 100, or CE100. It is a platform for companies, emerging innovators and regional leaders to share best practice, build networks and collectively solve the problems we face in moving to a circular economy.

The platform fosters the opportunity to network with other CE100 members to explore challenges and solutions and form research partnerships. One key CE100 component is the network of 'emerging innovators' – new technology businesses, many of which hold the key to unlocking innovation barriers to circular progress.

In addition, members of the CE100 have access to the body of knowledge and experience of the Ellen MacArthur Foundation and its founding partners. Acceleration workshops form part of the learning aspect of the CE100 platform. These two-day workshops aim to address common barriers and challenges of taking the circular economy to scale as well as updating the group on core circular economy topics, best practices and emerging trends to ensure that everyone in the CE100 has the latest ideas at their fingertips.

THE CIRCULAR ECONOMY – AND KINGFISHER'S CLOSED LOOP AMBITIONS – CANNOT BE ACHIEVED WORKING IN ISOLATION

The CE100 was launched at the World Economic Forum at Davos in February 2013. In the last six months it has already attracted 46 members. The aim is to measure the success of the CE100 over the next three years by the number of projects generated from the network, the material cost saving made, and the value created for the businesses and the wider economy. If you are interested in joining, you can sign up at www.ellenmacarthurfoundation.org/business/ce100

"We've found that there are surprising common challenges and barriers that people face when taking the circular economy to scale. More value can be gained from collective problem solving than can be achieved by working alone. Beyond being a founder and instigating agent for CE100, Kingfisher has helped lead the way... a bit like a mentor for the new companies, they have been able to share their best practice, ideas, and challenge new partners to think differently."

STUART WHITMAN
DIRECTOR OF THE CIRCULAR ECONOMY 100



EUROPEAN RESOURCE EFFICIENCY PLATFORM

Our active role in the European Resource Efficiency Platform has helped to shape a new policy direction: from a drive for resource efficiency to an ambition to create a more circular economy in Europe, and with it, a new route to competitiveness for European economies.

The challenge

In many cases the solutions for a circular economy already exist. Yet sometimes the systemic conditions, accounting principles and legal and regulatory processes stand in the way of making those solutions a reality. These barriers to a circular economy cut across multiple policy areas and different interest groups. Only by getting the enabling conditions right can the solutions be taken up at scale and more solutions imagined.

Our action

The European Resource Efficiency Platform is a group of about 30 members driving towards a new and more resource-efficient economy. Ian Cheshire, Kingfisher's Group Chief Executive, supported by Rosie Donachie, Kingfisher's European Affairs Manager, have been active participants on the platform, alongside members of the European Parliament, ministers, other business CEOs, academia and representatives of trades unions, NGOs and civil society – all key actors in making a shift towards a more circular economy.

An important success for the Platform has been to introduce the principles of a circular economy at the European policy level. This has meant challenging the European Commission, its member states and private sector audiences to think not simply about reduction strategies (in terms of

waste, energy consumption, emissions etc), but also about encouraging sustainable sourcing, new business models and the use of by-products as raw materials, in an effort to switch to a regenerative economy.

THE CIRCULAR ECONOMY HAS THE POTENTIAL TO CREATE GROWTH AND GENERATE BETWEEN 1.4 AND 2.8 MILLION JOBS ACROSS THE EU

The Platform members support the potential of the circular economy to create growth in the European Union, generate between 1.4 and 2.8 million jobs across Europe and deliver competitive advantage¹².

The Platform has launched two important policy orientation documents and all members have agreed to advocate for the policy framework recommendations within them. Specifically, it has given fresh impetus and endorsement for us to hunt down the business opportunities to create more and more closed loop products and services, thus contributing to the development of effective material flows.

"In a world with growing pressures on resources and the environment, the EU has no choice but to go for the transition to a resource-efficient and ultimately regenerative circular economy. Our future jobs and competitiveness as a major importer of resources are dependent on our ability to get more added value, and achieve overall decoupling, through a systemic change in the use and recovery of resources in the economy. According to the OECD, this could lead to steady economic growth with business opportunities across the whole economy."

MANIFESTO FOR A RESOURCE-EFFICIENT EUROPE
EUROPEAN RESOURCE EFFICIENCY PROGRAMME DECEMBER 2012

NET POSITIVE IMPACT MEASURE FOR INNOVATION

We are creating an approach to measure the financial and environmental value generated from closed loop innovation within our business, which will be reported through Net Positive and will show what can be achieved by making these principles a reality.

The challenge

Closed loop thinking is a compelling idea, and presents a significant opportunity: research from the Ellen MacArthur Foundation and McKinsey & Company has identified that the fast-moving consumer goods industry could save US\$700 billion per annum by transitioning to a more circular way of operating¹³. For businesses to sustain momentum, however, it is important to demonstrate tangible commercial and environmental benefits from closed loop activities.

Our action

We have joined forces with Advancing Sustainability, experts on metrics and measurement, and the Ellen MacArthur Foundation to start to measure the financial and environmental impact of closed loop activity in businesses.

Two models are at the heart of this approach – one financial and one environmental. These measure the effect of changes in the business resulting from closed loop principles on Kingfisher's environmental and financial performance. For example, the financial model looks at changes to supply chain costs, sales of goods, revenues from services and the benefits of harvesting material from waste, in order to

calculate the total financial value accruing to Kingfisher from a particular closed loop activity.

This approach is designed to create a quick, but technically robust and credible measure. We have found ways to minimise the number of inputs needed from our colleagues in the business and have been clear about the assumptions made in building and using the model. We plan to open-source the approach so that, after testing within Kingfisher, it can become a valuable tool across other businesses.

This approach is important because it will allow us to credibly communicate the benefits of closed loop activity within our business and engage colleagues from across various departments, partners and suppliers. It will allow us to measure progress towards our Net Positive ambition to have a positive impact on the world. Beyond Kingfisher, we believe that the application and communication of our findings will help to motivate other businesses to adopt more closed loop principles.



“The Ellen MacArthur Foundation has identified a huge macro-economic opportunity in a circular economy, but it's important for us as a business to be able to measure how much of that opportunity we're managing to grasp – that's what this impact measure is about. If we can identify positive financial and environmental impact from our own activities we'll really start growing momentum and will be able to put extra weight behind it in our business.”

BECKY COFFIN

HEAD OF STRATEGY AND PERFORMANCE
NET POSITIVE KINGFISHER

'TOWARDS THE CIRCULAR ECONOMY' REPORTS

As founding partners of the Ellen MacArthur Foundation we have been instrumental in helping establish the economic case for the circular economy. We continue to drive this thinking – with a contributing role in an upcoming third report from the Foundation.

The challenge

The circular economy is an idea about global economics – a major part of which is rethinking how to do business in the future. When the Ellen MacArthur Foundation started, the rationale, the facts and the arguments for the benefits of this approach weren't fully formed. To encourage faster adoption, a case needed to be made that quantified the economic benefits of circular business models and laid out pathways for action.

Our action

Part of the appeal of becoming a founding partner of the Ellen MacArthur Foundation was to create the intellectual underpinnings for the idea of the circular economy – why it is so important, how business should approach it and what the benefits would be of getting it right.

Central to this thinking are two reports published by the Ellen MacArthur Foundation with analysis by McKinsey & Company. They are the first reports to establish a clear framework and economic case for a transition to a circular economy and have rapidly gained the attention of business and government. These were launched by Ellen MacArthur and Ian Cheshire, Kingfisher's Group Chief Executive, at the World Economic Forum events in Davos in 2012 and 2013.

The first report sought to make the macro-economic case for closed loop thinking. It

highlighted an annual US\$2 trillion opportunity globally in net energy and material cost savings for companies by adopting circular economy principles. The second report analysed the fast-moving consumer goods (FMCG) industries that account for about 60% of total consumer spending, produce 75% of municipal waste and absorb more than 90% of our agricultural output. The findings were that the adoption of the circular economy could be worth as much as US\$700 billion in material savings to the FMCG industries alone.

THE REPORTS ESTABLISH A CLEAR FRAMEWORK AND ECONOMIC CASE FOR A TRANSITION TO A CIRCULAR ECONOMY

The World Economic Forum has been so enthused by the circular economy concept that it has been involved in shaping a third report, which will launch at Davos in 2014. This report, to which we've been active contributors, will set out some of the learnings and practical examples of progressive companies like ours and is specifically focused on supply chains.

The reports are available free to download on the Ellen MacArthur Foundation website.

“MacArthur has taken a number of ideas... and brought them together under one over-arching idea, the circular economy. The masterstroke, though, has been to bring the analytical skills of global management consultancy McKinsey to bear by putting real figures on what can be achieved, rather than relying on the idea on its own to be compelling.”

JO CONFINO

THE GUARDIAN PUBLISHED IN THE GUARDIAN, JANUARY 2013

B&Q YOUTH BOARD

In partnership with the Ellen MacArthur Foundation, B&Q UK appointed a group of 16-18 year olds – our ‘Youth Board’ – to be a source of fresh and challenging thinking on how B&Q could be more circular. It has led to award-winning ideas and a group of brilliant young people who see the world a little more circularly.

The challenge

Closed loop thinking is a challenge – on any given product, let alone for a whole economy, it involves imagining a new way that established systems could work. The problem we too often face is that our thinking can be constrained by the current state of affairs. If we’re not careful, we’re too conditioned by our previous experiences. Making closed loop a reality requires new eyes looking at old ideas, and fresh minds inspiring new solutions.

Our action

We asked students from across the UK to apply to join the Youth Board, with a written application based on the question: ‘In September 2009 the Harvard Business Review stated: “We find smart companies now treat sustainability as innovation’s new frontier.” Why might that be?’

Nine 16-18 year-olds were selected and tasked with exploring how B&Q, and the retail sector more broadly, needs to change in the face of rising material and energy prices and the increasing cost of waste disposal. In essence, they had to imagine B&Q’s business model of the future. The Youth Board chose to concentrate on exploring how B&Q could create a new take-back business model and thereby help to eradicate waste, both in the production and at the end of a product’s life.

The Youth Board was mentored by members of the B&Q Board, and final recommendations were presented to the entire B&Q Board, Kingfisher’s



Group Chief Executive Ian Cheshire and Dame Ellen MacArthur. The Youth Board identified a number of possible product ideas, one of which is in development with B&Q UK. The Youth Board will meet annually for the next ten years, to continue to challenge our progress. A few members have already been back to focus on specific work-streams, and we expect more great ideas to come.

The value of a youth board is being recognised by other major businesses including The Co-op, which is creating a youth board to help them rethink their own business. We have been keen to share some of our learning with them, and will soon be launching a Youth Board Toolkit to help other businesses adopt this approach.

“The great thing about the Youth Board is that you come at the business from a different angle. When you’re that age you see the possibilities, and have an invincible confidence in the future – but also ask some tough questions that maybe people in the business have stopped asking.”

DAMIAN MCGLOUGHLIN
RETAIL DIRECTOR B&Q UK AND IRELAND



WHAT OUR FIRST STEPS HAVE SHOWN US

We have a vision of a world where making and using products wastes nothing

Making headway towards this vision is critical for us as a business, and for the world at large. The stories here show that we have started to lay down some solid foundations and make some important first steps on that journey – both of which are defining our direction of travel. We are learning all the time, discovering new ways of operating. Some work and some don’t, but in success and failure, here are some of the things we have learned.

Making the vision a reality

● Take on iconic products

Focusing our energies on closing the loop on one of the most iconic products in our line of business – the power tool – has attracted the most interest and attention. We've found it sparks people's imagination and brings fresh excitement and influence to the table.

● Keep sight of the opportunity

Ellen, and the Ellen MacArthur Foundation, continually inspire us with their sense of optimism and opportunity. They have shown us that treating the circular economy as an opportunity, rather than a risk, motivates people to action.

● Look ahead for motivation

In seeking to bring others on the journey with us, we've found there are few more powerful ways than looking ahead to our future. It helps us recognise that if we want to give our children a chance to have better lives, we simply must find a way to adapt to welcome an additional three billion more middle-class consumers by 2030.

● Use nature for closed loop inspiration

Nature is a closed loop system and has been for billions of years. Mimicking the form, movements and systems of nature – called biomimicry – has been a founding thought, and a source of inspiration, on our closed loop journey.

● Demonstrate the value created

Our ideas and innovations have gained extra traction when we've been able to pin-point value to the business. You shouldn't be afraid to focus on this more hard-nosed angle of closed loop.

Laying the foundations

● Identify how you'll show progress

By defining a set of closed loop credentials, and models to measure the environmental and financial value we will create, we've been able to identify where to take action and to start demonstrating our closed loop progress and the business value.

● Mark success in steps, not perfection

We have found that we achieve more by trying to improve closed loop credentials across multiple product lines than aiming for one 100% closed loop product. We'll get there in time, but our impact today will be through learning how to close many different loops and taking that to scale across our business.

● Embrace the need to change

Closed loop is a fundamental change to our way of looking at the world. To make it a reality, people from across the business have had to recognise the need for a new approach and not simply tweak the current way of doing business.

● Identify your advocates

We have found a set of people in the business with passion and excitement for the idea of closed loop innovation. Getting these people involved has inspired others in the business and drawn them in to the approach.

● Find learning through failure

Like anyone venturing into the unknown, we've made our fair share of mistakes and not all of our ideas have made it to reality. We've found this to be part of the journey in the right direction, and our mistakes have often opened the door to discovering what actually works.

Developing closed loop products

● Reimagine products from first principles

Only by taking our products back to the drawing board have we been able to identify how to close some important loops, including selecting the right source materials and designing for repair and disassembly.

● Look for resources in your 'waste'

We are realising that 'waste' isn't always 'waste' – it's a resource from which we can harvest materials and parts to reuse, renew or repurpose. It enables us to source from our customers the resources we would otherwise need from a mine or forest on the other side of the world.

● Find the most important loops where you can have most impact

Not all loops are as easy or as important to close as others, so we've chosen the products and loops where we can have the most impact. For us, this has meant prioritising our own-brand products, where we have responsibility for disposal at the end of the life, as well as loops with higher-value materials and the right volumes to make it efficient to close them.

● See products within the wider business context

Thinking beyond just the product's composition, we've been able to look at how we sell products as a business and explore ways to create other business services, such as repair or rental options, to make the product more closed loop.

● Don't rule out new business practices

Through the lens of current business thinking, some new ideas and opportunities appear incompatible or not sufficiently profitable. By digging into new business models, we've found ways in which they can work, such as new rental services that can lead to more customer interactions and new opportunities for us to do business with them.

Creating the right environment

● Break down the internal silos

The greater the collaboration across different parts of the business, the more we've been able to look for closed loop opportunities across the entire value chain, avoid conflicts of interest and make our ideas a reality.

● Give space for innovation

New innovation has been enabled by giving people freedom. Perhaps best exemplified by Carrierpac, new approaches have come by thinking through problems in a new way – and outside the constraints of usual approaches.

● Design new models for supplier relationships

Closing the loop on some of our products has led us to thinking differently about how our supplier relationships might work in the future. For instance, we're exploring a rental payment to suppliers, to align incentives around new rental models.

● Hunt down expertise beyond your walls

We often have to look outside our own business to other businesses, suppliers, inventors, scientists and customers to identify the skills, techniques, systems and advice we need to go closed loop. This is how our approach is driving collaboration.

● Look at the different loops out there

There are many types of loops within the circular economy – those you own, those that you can share with others, those which return the same material and those where an upcycled or degraded material is the output. We've tried to explore which type of loops works best in each case, and how to make that a reality.

COLLEAGUES

We hope that in reading these stories you're inspired to get involved in making our business more closed loop. Wherever you are in the business, we hope you will find practical ways to join in – because to achieve our targets we will need ideas and action across the entire business. Here are a few suggestions of how you might get involved:

Closed loop educational courses

Kingfisher employees have the opportunity to sign up to these courses, each delivered by our partner, the Ellen MacArthur Foundation:

- **Executive Education introductory course:** run three times a year, places are available on a six-week distance-learning course about the circular economy and its practical business application.
- **Postgraduate Certificate:** a programme to explore the implications for business, community and education of moving from a linear, take-make-dispose, economy to a circular economy.
- **MBA:** delivered with Bradford University School of Management, this new course combines classic areas of strategy, finance and marketing within a circular economy framework.

Net Positive One Team Leaders

Academy module

As part of the Kingfisher One Team Leaders Academy, we'll be running a series of sessions designed to support awareness, understanding and action around Net Positive within Kingfisher. Closed loop will be one of the themes explored. Each participant will be tasked with committing to practical ways in which they can help the business have a positive impact. The programme will start in 2014.

Kingfisher's Game of Risk

A board game has been created specifically for commercial teams interested in learning about the economic potential of a circular economy. Through a game, players are immersed in the risks presented by resource scarcity and current linear business models, and are challenged to identify and make the right decisions that lead to closed loop opportunities. The game, invented by James Walker, Kingfisher's Head of Innovation, will be available from early 2014 and can be used at team away-days.

Colleagues

SUPPLIERS & PARTNERS

As the stories in this booklet show, closing the loop on our products and building a circular economy cannot happen without collaboration. We invite all our suppliers to work with us to create and implement new innovations that will close the loop.

In particular, we encourage you to sign up to the Ellen MacArthur Foundation's Circular Economy 100 – a source of ideas and practical expertise which gives you access to a network of leaders in this area.

Suppliers & partners

CALL TO ACTION

The transition to the circular economy, and the creation of more closed loop products, will not occur without widespread change. We require action and collaboration to make this happen at the scale that is needed.

Policy makers

POLICY MAKERS

Higher resource price volatility can dampen economic growth by increasing uncertainty, discouraging business from investing and increasing the cost of hedging against resource-related risks.

We would encourage policy makers to: consider the opportunity presented by the circular economy; understand what the EU's Resource Efficiency Platform recommendations mean for the UK; and to be open to engaging with businesses as they transition towards more circular ways of working and begin to understand some of the policy barriers hindering more circular business.

"I've completed Bradford University's postgraduate certificate in the circular economy and have signed up to do the MBA starting this year. Closing the loop really matters, and can make a huge difference to the business but let's face it – it's not an easy concept to grasp or communicate. The learning opportunities have proved invaluable, helping me to develop and deliver closed loop strategies."



GIN TIDRIDGE
SUSTAINABILITY SPECIALIST B&Q

KEY CONTACTS

As well as those responsible for overseeing each of these closed loop projects, three people have been working behind the scenes and creating the right environment for Kingfisher to move towards achieving its closed loop innovation goals.



Alex Duff has managed the partnership between Kingfisher and the Ellen MacArthur Foundation since its onset in 2010. During this time Alex has established and runs Kingfisher's closed loop working group; designed and project manages B&Q's Youth Board; provides editorial advice and case studies for the Foundation's macro-economic reports; is responsible for communicating Kingfisher's closed loop progress and Net Positive aspirations; and, most recently, has been working to understand the policy barriers hindering more circular business and how we might engage the UK Government to overcome these hurdles.

alex.duff@kingfisher.com



James Walker is the driving force behind Kingfisher's closed loop innovation and has played a central role in the creation of many of the projects currently taking place. He is working extensively throughout the Group to engage commercial and innovation teams with the closed loop agenda, as well as identifying new external partners to make these projects a reality. His ongoing work with these internal teams saw him mastermind 'Kingfisher's Game of Risk'. James has already secured three Technology Strategy Board awards and funding, which has provided the springboard for a number of innovative projects that are now in early stage development.

james.walker@kingfisher.com



Matt Sexton has been central to the creation of Kingfisher's Net Positive approach to business which is intrinsically linked to core business strategy. Innovation is one of four pillars on which Net Positive proudly stands. Matt has challenged the business to stretch itself with ambitious targets and aspirations, including those focused on creating closed loop products and systems. Matt has an instrumental role in overseeing all the work helping the business deliver against its Net Positive targets and, from the outset of the partnership with the Ellen MacArthur Foundation, has been active in championing the business value of closed loop innovation from the top down.

matthew.sexton@b-and-q.co.uk

NET POSITIVE

Net Positive is a new approach to doing business. To succeed, business must do more than minimise its negative impact – it must be designed to have a positive impact on the world.

At Kingfisher, we help millions of people each week to improve their homes. As a leading international retailer we have the scale and capability to create not just better homes and better lives, but also a better planet.

In practice, Net Positive means not just preventing deforestation, but working towards net reforestation. It means helping create homes that go beyond zero carbon to become generators of their own energy. It means innovating new business models, products and services that are net positive by design. It means working in communities to equip people with the fundamental practical skills of making and mending. In each of these four priority areas, and across the business, we will transform the way we operate to become Net Positive by 2050.

It is a big ambition. For many years we have worked to become more sustainable and with Net Positive we are setting our sights even higher. We have established clear milestones and will report regularly. We know that it's a constant journey and aim to make progress every day through the actions of colleagues and customers.

Net Positive will be good for our business. It will enable us to secure the resources that we use, unlock new opportunities and to drive growth. We believe this big goal will inspire people in our business – and has the power to be the catalyst for collaboration in the wider world of our partners and the industry at large.

Today, the system is broken: the use of resources worldwide is outstripping supply. Leadership for the future means having the resolve to envisage new approaches and take people with you. For us, that means going Net Positive.

Footnotes

- 1 World Wildlife Fund for Nature: <http://www.oneplanetliving.org/index.html>
- 2 The Organisation for Economic Co-operation and Development: *The Emerging Middle Class*, OECD Publishing, 2009
- 3 Boston Consulting Group report, commissioned by Kingfisher, 2011
- 4 Based on B&Q material sourcing and sales data 2009-2012
- 5 Harris Brushes
- 6 StEP: Solving the E-waste problem http://www.step-initiative.org/index.php/Initiative_WhatsEwaste.html
- 7 'Towards the Circular Economy', a report by the Ellen MacArthur Foundation with analysis by McKinsey & Company.
- 8 'More jobs, Less Waste', Friends of the Earth Report, 2010
- 9 'Le bois de recyclage': Reboul, Louis; Federec Palettes a bois presentation, Pollutec Exhibition 2012
- 10 EU Report, Facts & Figures, ValorPlast: http://www.valorplast.com/Front/recyclage-plastiques-europe_428.php
- 11 Le Relais, www.lerelais.org
- 12 'Macroeconomic modelling of sustainable development and the links between the economy and the environment' (2011), GWS for the EU Commission, cited by the European Resource Efficiency Platform
- 13 'Towards the Circular Economy' Report by the Ellen MacArthur Foundation with analysis by McKinsey & Company.

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