

# CIRCULAR ECONOMY SNAPSHOT: PHILIPS LIGHT AS A SERVICE

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## GENERAL INFORMATION

- Founded in 1891 in Eindhoven, Netherlands.
- Consumer products sector
- 70% of revenue from business-to-business sales
- Over €21 billion in annual sales globally
- [www.philips.com](http://www.philips.com)



## PHILIPS LIGHT AS A SERVICE

Philips, the Dutch lighting, healthcare and consumer lifestyle company and the world's largest lighting supplier, began its sustainability journey in the early 1990s when it set its first sustainability standards. It began by focusing on technology innovations to reduce packaging and increase energy efficiency of its products. This focus shifted over time to consider end-to-end solutions and how the company could influence consumer choices and behaviour. This resulted in a growing portfolio of green product innovations.

By the 2000s the company began setting goals to grow its green product portfolio. In 2007 it set a target that 30% of its turnover would be from green product revenues by 2012. In 2012 it set a new goal of 55% of total sales to be 'green' (as of 2013 the proportion stood at 51%), and embedded the target in the corporate scorecard. About one third of its over \$2B annual R&D budget is now directed towards green innovation.

Today the company's mission is to make the world healthier and more sustainable through innovation and its goal is to improve the lives of 3 billion people a year by 2025. It committed to this mission in 2012 both as a competitive necessity and with the conviction that companies solving the problem of resource constraints will have an advantage. It believes that customers will increasingly consider natural resources in their buying decisions and will give preference to companies that show responsible behavior.

While the company has operated refurbishment and recycling programs for over 25 years, it is now fast-tracking the move to a circular economy and closing the materials loop. Over the past five years the company has embraced a circular economy mindset. It believes to achieve a sustainable

world the transition from a linear to a circular economy is a necessary boundary condition. It was spurred to pursue a circular economy business model by a pioneering company in its home market.

In 2009 Rau Architects, an architectural agency specializing in sustainable building design, approached the company to address a need to upgrade its lighting at its Amsterdam office. It told Philips it only wanted to buy light, but not the expensive lighting infrastructure (lamps, luminaires, cables and controls) it would eventually need to replace and dispose. Rau Architects wanted the exact amount of light for workspaces and rooms that employees needed but nothing more. Rau Architects, Philips and an installation partner, CasSombroek, began a co-creation process to design a bespoke, intelligent lighting system maximizing natural sunlight, adapting LED light fittings to the building and installing a motion/daylight sensor and controller system. (It proved to be an extremely interesting experiment in – and proof-point of – how little artificial light an office actually needs.) Since 2010 Rau Architects only pays for the actual amount consumed light (lux), not the equipment or the raw materials used in the products.

### Product as a Service: Product as a Service:

An alternative to “buy and own” this model promotes access over ownership, which is retained by the company. This internalizes benefits of circular resource activity by shifting incentives for product durability and upgradeability from volume to performance based.<sup>1</sup>

<sup>1</sup> Accenture. (2014) Circular Advantage: Innovative Business Models and Technologies to Create value in a World without Limits to Growth.

By moving from a one-time sale to a 'pay per lux' model Philips maintains ownership of the materials while Rau pays for maintenance and servicing with the option to adapt or upgrade the setup. From the start, the installation of this LED lamp system saved 35% energy. In the next phase Philips implemented smart energy meters which gave further insight into the energy consumption per space. This monitoring and optimization process saved another 20%, amounting to a 55% saving in total. At the end of the contract period, Philips lighting products can be taken back into its production process and the raw materials reused.

As a result of this innovation, Philips further studied its lighting proposition, from the social benefits of light and the implications for health and wellbeing, to how materials are recycled and reused, the opportunities for leasing as opposed to selling materials, using renewables and incentivizing business partners to increase their efficiency. The company developed a commercially successful business model with significant environmental and financial benefits for customers.

Managed lighting services extend the lifetime and performance of the lighting products. This allows the customer to take full advantage of the newest lighting solutions, increase energy efficiency and reduce operational costs. Philips pays the upfront costs of installation and is compensated through a performance contract – the energy savings the retrofit produces. Exploring possibilities from a second hand market enables Philips to capture new value from used parts and luminaires and further co-creation with like-minded companies creates a platform for innovation. And, at the end of the service period, lighting products can be returned to the production process again and get a new life in the refurbish, parts harvesting or recycle loop.

This lighting as a service innovation was well-timed in the marketplace. Business and municipal customers were becoming reluctant to make big investments, because they felt uncertain due to rapidly changing lighting technology and the economic crisis. With lighting as a service Philips takes care of the technology risk and investment. Savvy building owners interested in upgrading lighting or other energy retrofits now have an option that avoids a capital cost.

Inspired by a conversation with Ellen MacArthur, founder of the Ellen MacArthur Foundation (a non-profit dedicated to promoting progress towards a more circular economy), at the 2013 World Economic Forum annual meeting, the CEO became convinced that adopting a circular economy business model was the next logistical step for Philips. The company studied its place and role in the supply chain, what kind of change would be required and what types of

products and services could be redesigned with circular economy principles. Realizing it needed new skillsets and new relationships with recyclers, retailers, consumers, resource providers and regulators, Philips initiated a partnership with the Ellen MacArthur Foundation. The Foundation provides the company support in the design of collaboration models, training materials for employees and access to a peer network including BT, Cisco and others.

In its "Design for Excellence" innovation process the company has added circular economy criteria to its existing criteria of recyclability, upgradability and serviceability. For example, in its Consumer Lifestyle group, where it makes domestic appliances, it is asking for 10% recycled materials in its total portfolio by 2015, compared with a 2% target in 2012. In a typical innovation process the company holds multi-week workshops in which designers tear down the entire value proposition of a product to see what it might change and how. Suppliers are frequently involved in the co-creation process.



To help accelerate the transformation to circular principles the company created a center of expertise—a permanent internal group that helps with methodologies and programs. The center is networked through the entire organization, and involves every business unit. Philips management believes the circular economy needs to be intrinsic in the company's end-to-end value chain and embedded in all its strategies, processes, metrics, and structures.

The company has adapted product as a service innovation in its healthcare business. It's currently experimenting with a range of leasing contracts, for instance, by offering a pay-for-use MRI service to hospitals rather than selling the equipment up front. Similarly, Philips refurbishes complex medical equipment through its Diamond Select programme. It sees the future in robust maintenance contracts, whereby replacement electronic components can be easily fitted to customers' machines, avoiding the need for complete disassembly or new machines.

With 70% of Philips' revenue derived from business-to-business sales, the company perceives a real opportunity to help buyers understand the business benefits of moving to a service-based arrangement. By shifting from 'transactions' to 'relationships' via service and solution models; designing products for disassembly and serviceability; and replacing conventional customer ownership of the product to customer access to the product, Philips is introducing disruptive innovation to established markets and its existing customer base.

Believing it is important to disrupt its business model before someone else does, the company has started the process of fundamentally redesigning its business and value chains. Instead of selling products, it envisions a future where it retains ownership, selling use as a service so it can optimize the use of resources. Once it can sell the benefits instead of the products themselves, it can design for multiple re-use and eventual recycling. It is defining new business models, and refining concepts of legal ownership and use, adaptive logistics and financing strategies. Philips is using the circular economy to differentiate itself from its competitors. With new propositions such as Light as a Service, it can create additional value for customers with a unique sustainability message.

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