Education for a circular economy

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Philips Sustainability
Nov 2015
CE team within Philips:

Driving circular thinking through...

- Generating proof points & metrics
- Thought leadership and collaborations
- Driving internal engagement
- Embedding in Philips processes
Est. 1891
Headquarters in Amsterdam, Netherlands

106,000+
Employees worldwide in 100+ countries

€ 21.4 billion
Sales in 2014

70%
Of portfolio is business-to-business

25%
Of revenues are recurring revenues

Make the world healthier and more sustainable through innovation
A healthier and more sustainable world

UN Human Development Index = life expectancy + education level + purchasing power

Source: Ecological Footprint Atlas 2009

https://docs.google.com/spreadsheets/d/1R610SHqETPt4CNLNnOZfMbZAiO9LS71pCOhNEwpqrlk/edit#gid=2
Circular economy promises decoupling of development and footprint
• Preserve embedded labor, capital costs and materials of hardware
• Monetize them as long as possible at highest value, ideally as service
• Resource consumption is reduced
• IT & Big Data make it possible at scale
Towards economic and ecological value creation

Circular models have cost saving potential of EUR 250-500 Billion annually for European economy.

Source: Ellen MacArthur Foundation, 2013, Towards the Circular Economy
Light as a Service / Performance-based healthcare

Modular designs deliver parts

Product refurbishment

Recycled content
Skills to make the Circular Economy work:
Systems thinking is central

**Design**
Design products for modularity, upgradability, reparability, disassembly

**Business Models**
Managed service
After service & repair
Buy back and re-use
Pay-per-use
Software

**Collaboration**
Cross-chain and cross-sector collaboration, IT tools

**Reverse Logistics**
Reverse supply chain for Remanufacturing
Upgrade
Parts harvesting
Materials recovery
Our global partnerships develop educational resources you can use

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<th>Higher education resources</th>
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<td>Circulate news</td>
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<td>Disruptive Innovation Festival</td>
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| Circular Economy Hub online |

| Reports on the economics of CE |

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<th>Project Mainstream: Reports on</th>
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<td>- Plastic packaging</td>
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<td>- Paper recycling obstacles</td>
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<td>- Intelligent Assets</td>
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Circular Economy: educational resources

This map contains links to all of our educational resources, which include videos, lesson plans, presentations, graphics and articles.

Click here to return to the Ellen MacArthur Foundation website.

Navigation

You can click and drag the map to move it around, and use your scroll wheel to zoom in and out. You can also use the controls on the right of the map to zoom in and out, and to zoom fit. Click on any one of the circles to display read information and access the conceptual downloads.

Searching

Use the search box at the top of the map to look for keywords, or use the keyword search found at the foot of this text to help you find what you are looking for.

You may wish to start here

Search by subject:

http://www.ellenmacarthurfoundation.org/programmes/education

http://www.ellenmacarthurfoundation.org/programmes/education/schools-colleges
We are making strong progress in our sustainability performance

<table>
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<tr>
<th>Green Innovation</th>
<th>52% Green Products in 2014 (% as part of total sales)¹</th>
<th>80% of our industrial waste is recycled waste in 2014¹</th>
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<tr>
<td>R&amp;D in 2014</td>
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<td>€463 Million¹</td>
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<td>1.9 billion</td>
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<td>Lives improved in 2014¹</td>
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<td>13,000 tonnes</td>
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<td>recycled materials used in products¹</td>
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<td>14th position in Interbrand Global Green Brands 2014</td>
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¹ Based on sustainability performance in Annual Report 2014
**Light as a Service:** Operation and performance guaranteed - from plan to end-of-life management

- **No CapEx**
  due to unique business model with financing solutions and upgrade options

- **Hassle-free**
  performance based managed lighting solution and service

- **Savings**
  on energy, maintenance and depreciation costs

- **Responsibility**
  to minimize CO2 emissions and waste of materials
Schiphol in focus

Schiphol, Cofely and Philips have entered into a collaboration for Light-as-a-Service in the terminal buildings at Amsterdam Airport Schiphol.

- 3700 LED fixtures
- Schiphol pays for the light it uses
- Philips remains owner of the installation
- 50% reduction in electricity consumption
- Fixtures optimized for Circular Economy
- Philips and Cofely responsible for the performance and re-use and recycling
- Real-time performance management

Jos Nijhuis, CEO Schiphol: "It is Schiphol's ambition to become one of the most sustainable airports in the world. With this innovative, out-of-the-box solution, we set a new standard that matches the ambition level of the airport."
Performance-based healthcare services: shared accountability in long-term partnerships

Understanding the entire experience  Give stakeholders a voice  Leverage the power of data  Co-create the solutions  Implement and transform

Together with our customers and partners we co-create solutions that enable integrated people-centric healthcare delivery that improve care and lower costs.
Georgia Regents Medical Center in focus

Customer’s need
• Improve patient care
• More effective and cost-efficient care
• To six million people
• Across a network of three medical centers and many outpatient clinics

Solution
• Strategic Managed Services Alliance
• First of its kind in the USA
• Philips provides medical technologies, consulting services, operational performance, planning, maintenance
• Predetermined monthly costs
• Over a 15-year term

$7M in market savings vs. “business as usual” procurement in the first 18 months
Imaging volumes by up to 39%
Refurbishing solutions for MRI systems

- Systems rebuilt and tested according to manufacturers specifications
- New vacuum components
- Customized configuration
- Latest software upgrades
- Latest hardware upgrades
- Original parts
- 60-85% of new price
- Same guarantee as new
Philips Healthcare Parts Harvesting

• Avoid value leakage throughout the value chain

• Ensure maximum usage of parts

• Parts and installation accessories collected after any installation, de-installation, repair or maintenance service

• Parts harvested cleaned and tested to ensure quality as new parts

• Strong infrastructure for trade-in equipment, planning and logistics in place

• Collaboration across functional organizations and businesses
SENSEO Up built from recycled plastics

Baseplate 90% recycled ABS from Post Consumer E-waste

Total: 13% recycled plastics / 20% cost savings

Inner frame (not visible)
40% Post Industrial Recycled glass fiber reinforced polypropylene