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sense and simplicity

Bio-based polymers:
Challenges and opportunities within Philips CL

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Outline

- Philips sustainability program
- Bio-based polymers applied in Philips products
- Future of bio-based polymers within Philips CL

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Sustainability powered by global trends

Climate change with dramatic consequences to our planet's balance

Rising healthcare costs

The increase in chronic diseases in both developed and developing economies

The rapid population and consumer demands in growing economies

Scarcity of materials and the lack of collection and recycling

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Sustainability is an integral part of the Philips DNA

First environmental report in 1999

Sustainability report with detail social, economic and environmental performance in 2003

In 2010 the second integrated financial, social and environmental report, reflecting the progress on sustainability has been published

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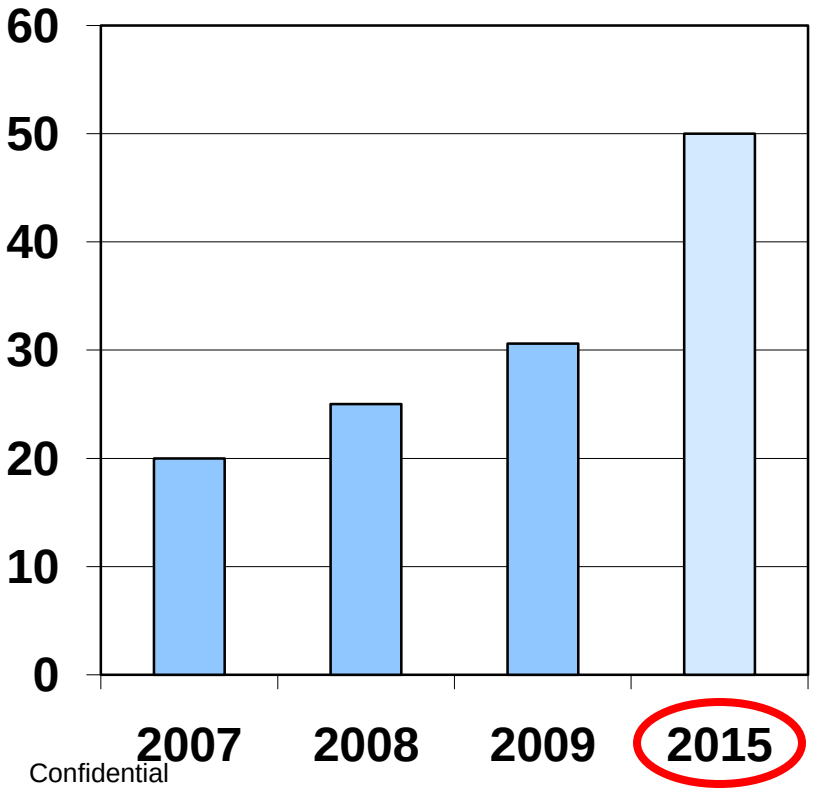
EcoVision4:
Progress made to date

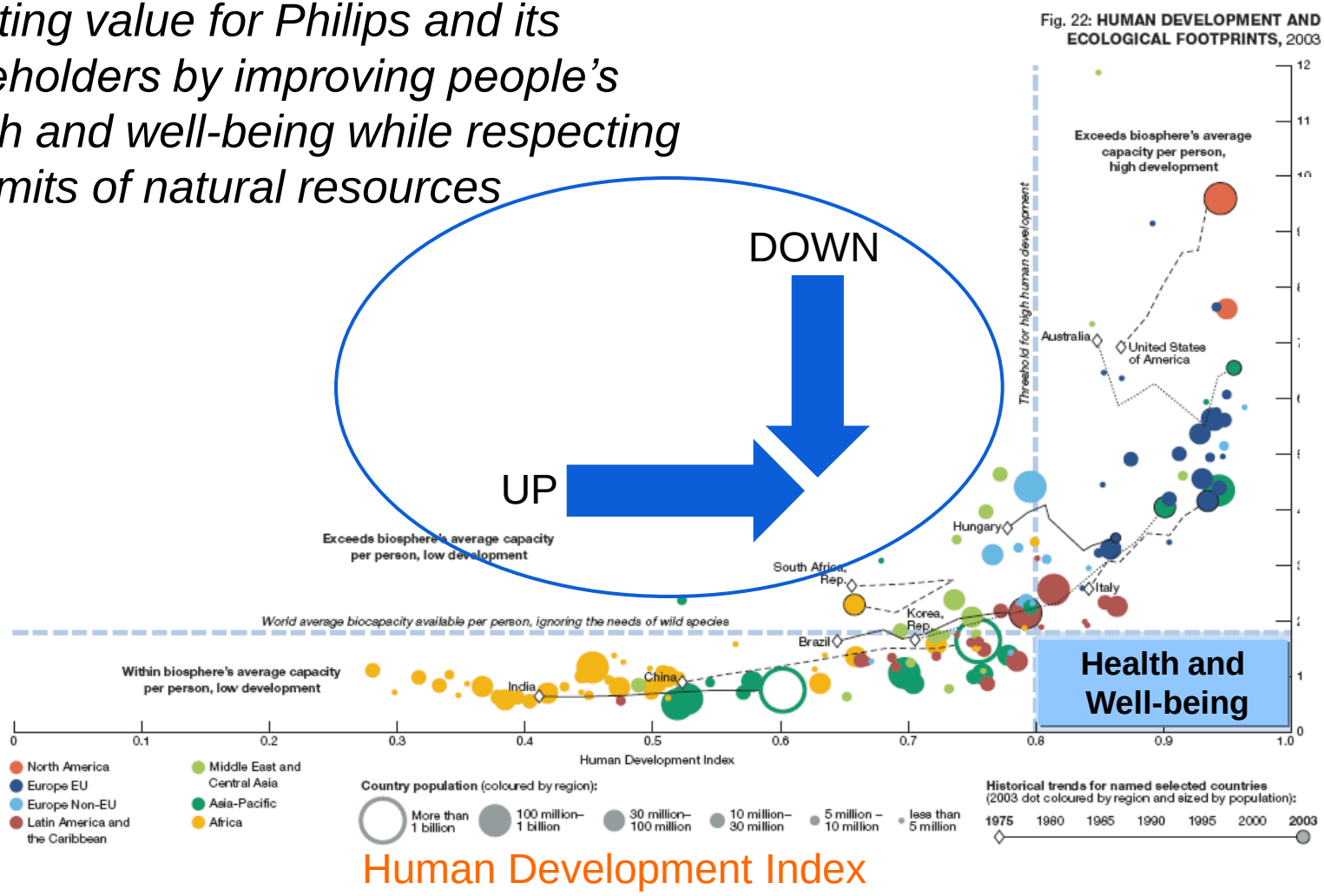
By the end of 2012, we promised to:
Generate 30% of total revenues from Green Products (from 15% in 2006) – MET in 2009



Green sales as percentage of group sales

Sustainability at the heart of health and Well-being

Creating value for Philips and its stakeholders by improving people's health and well-being while respecting the limits of natural resources



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Philips Strategic Leadership KPIs Eco-Vision V program to seed mid-long term value creation

1 Bringing care to the lives of people
(Driven by Healthcare)
Target: **500** million lives touched in 2015

2 Improving Energy efficiency of Philips products
(Driven by Lighting)
Target: **50%** improvement in 2015 (average of total portfolio)

3 **Closing the material loop**
(Driven by Consumer Lifestyle)
CL in the lead
Target: **Double** global collection & recycling amounts and recycled materials in products in 2015

Ecological footprint

2 3 **DOWN**

1 **UP**

Strategic focus

Health and Wellbeing

1 Lead by S. Rusckowski 2 Lead by R. Provoost 3 Lead by P. Nota

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Launching EcoVision5: Bringing Care

Our commitment

By 2015, Philips will bring care to 500 million people

Because

We understand that sustainability also includes quality of life and wellness

To achieve this

We will track all of our products and solutions that address care, such as our light therapy and home healthcare solutions, to make our Health and Well-being strategy more tangible

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Launching EcoVision5:
Improving Energy Efficiency

Our commitment

By 2015, Philips will improve the energy efficiency of its overall portfolio by 50%

Because

We understand that the need for more energy efficient solutions is driving demand

To achieve this

We will continue to focus on innovation and leverage EcoDesign best practices to ensure the development of more solutions such as our EU EcoLabel TV range and LED applications

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Launching EcoVision5:
Closing the Material Loop

Our commitment

By 2015, we will double the global collection and recycling amounts of our products, as well as double the amount of recycled materials in our products

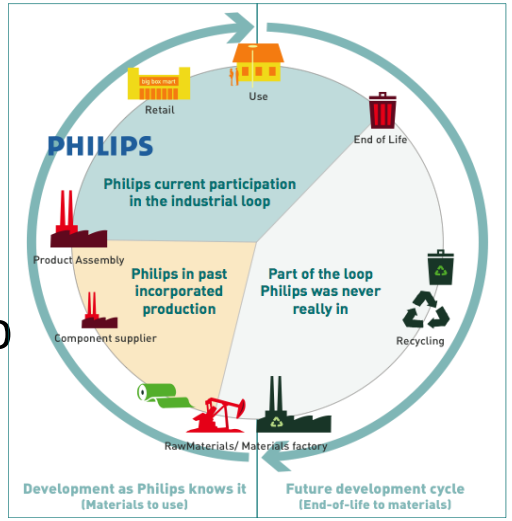
Because

It responds to global scarcity of materials and builds on our global partnerships to help strengthen take-back and recycling legislation in many parts of the world

To achieve this

We will continue expanding on our pilot projects and on Cradle to Cradle inspired projects

EcoVision 5 goals for CL



- Energy:
  - Potentially 30 % energy reduction across portfolio
- Materials:
  - Improving the collection (65% by 2015) and recycling, setting up an end-of-life program for our products
  - Use of 20-30% recycled plastics in products
  - Strengthening legal frameworks for recycling and minimizing e-waste
  - PVC/BFR free products
  - Use of trustful and recoverable materials
    - Full material declaration (100 ppm)

Green Performer vacuum cleaner

- PLA in MABS matrix has been used.
- The polymer mixture remain stable even at high humidity.
- Limited process changes were necessary.
- The LCA of the polymer is positive.

Breast pads

- PLA film has been used for packing the absorber.
- Comparable performance as PE films has been achieved.
- Main differentiator is the compost ability of PLA.

Current recycling system

- Effective recycling systems exist only in few countries.
- Currently only few standard polymers are recycled (PE, PP, PS, ABS, PET, PVC, …).
- Performance polymers are barely recycled due to their low volume in the market.
- Many consumables include different polymers at low volumes in one product.

Vision of bio-based polymers within Philips CL

- Bio-based polymers might replace performance polymers in Philips products.
- Due to the short lifecycle of consumables the current resin might be replaced by bio-based ones.

- Important hurdles:
  - Competitive pricing
  - Controlled source of feedstock
  - No competition with food chain
  - No density overlap with commodity polymers

Thank you very much for your attention!