Non-Renewable Material: Designing for Durability, Remanufacturing, Refurbishment, and Longevity

USCCF Sustainability Forum 2015

ELLEN MACARTHUR FOUNDATION
TODAY’S ECONOMY IS CHANGING – ‘take, make and dispose’

New products = new raw materials

Waste is chronically high
AN ECONOMY THAT IS RESTORATIVE BY DESIGN

...keeping products, components and materials at their highest utility and value, at all times

...eliminating the concept of waste, with materials ultimately re-entering the economy at end of use as defined, valuable technical or biological nutrients
FOUR KEY PRINCIPLES OF VALUE CREATION

Power of the inner circle

Power of cascaded use

Power of circling longer

Power of pure, non-toxic or easier-to-separate inputs and designs
CIRCULAR ECONOMY SOURCES OF VALUE

1. Power of the inner circle
2. Power of circling longer
3. Power of cascaded use
4. Power of pure inputs and designs

CIRCULAR ECONOMY BUILDING BLOCKS

1. Product Systems Design
2. Innovative business models
3. Reverse cycle capabilities
4. System conditions
Remanufacturing Innovations
Tim Lindsey
Global Director of Sustainable Development

MAKING SUSTAINABLE PROGRESS POSSIBLE
Over 6,500 Total Parts

- Engines & components
- Turbines and generators
- Hydraulic components
- Transmissions
- Electronics
Remanufacturing Process Techniques

Products brought back to original “same-as-new” condition.

Making Sustainable Progress Possible
Cat Certified Rebuild...Before
Cat Certified Rebuild...After