Circular Economy
The Business Perspective

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Circular Economy

Coming full Circle…

1970's:
Reduce Waste
(e.g. EU Waste Management Framework Directive 1975)

1980's:
Waste Management Hierarchy
(Reduce, Re-use, Recycle, Recover)

1990's:
Circular Economy Directive
('Kreislaufwirtschaftsgesetz 1996')
and DSD in Germany

2000's:
Life Cycle Thinking

2010's:
The Circular Economy
Circular Economy
One piece of the sustainability puzzle

- Systemic thinking
- Holistic approach
- Can be applied at both the product and corporate level
- Economic impacts

→ CE is about retaining value
Circular Economy
Putting Substance into the Game...

How to put facts and figures into CE considerations, both:

▌ In an environmental/sustainability context; and
▌ In a business context
Circular Economy
Environment and Business Value

- Product innovation
  - Revenue Resilience
  - Revenue Growth
  - Sustainability Driven Innovation

- Operational excellence
  - Operational Efficiency
  - Employee Productivity
  - Value Chain Efficiency

- Brand value
  - Reputation Management
  - Employee Attraction & Retention

- Regulatory compliance
  - Operational Risks
  - Value Chain Risks
  - Societal Risks
  - Regulatory Management

Circular Economy
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These values are averages across different industries based on best available data and estimates from over 5,000 thinkstep projects.
Circular Economy
Life Cycle based approaches

Circularity Index
(Circular Economy)

LCA (Life Cycle Assessment)
- multiple potential impacts including carbon & water footprint
Circular Economy
LCA & Circular Economy

Circular Economy (CE)
- Philosophy
  - Aims to integrate business value in sustainability
- Proposes several measures to close loops
- Principle driven
  - e.g., optimize resource use

Life Cycle Assessment (LCA)
- Assessment tool
  - Quantifies environmental performance through a standardized methodology
- Simulates the complex reality
- Data driven
  - e.g., optimize resource use from an environmental perspective
Circular Economy
The Material Circularity Indicator

Product utility (lifetime and functionality) is also considered

A 100% linear product with shorter lifetime and/or less functionality than the industry average may have MCI < 0.1

Source: GRANTA and Ellen MacArthur Foundation - Circularity Indicator project overview, 2015
Circular Economy

Data requirements strongly overlap with LCA

- Quantities of raw materials
- Quantities of manufacturing wastes and their fates
- Mass of product
- Quantities of waste at end of life and its fate
- Utility (lifetime and functionality vs. industry average)
- Recycling efficiencies
- Recycled content of materials

Mix of ‘primary data’ and LCA data
Circular Economy

LCA Data

- aggregated data

- 25 years of environmental impact data
The generated report tables show the calculations used to derive the Material Circularity Indicator (MCI) results for each scenario - as specified in the report 'Circularity Indicators: An Approach to Measuring Circularity'.
Increased sustainability performance of portfolio translates into tangible business benefits:

1. Reduced risks
2. Stronger focus on customer needs and better market communication
3. Faster growth with more sustainable solutions
4. Clearer strategy, better decisions
5. Improved corporate image and stakeholder relationship
6. Improved transparency towards investors

WBCSD framework for Portfolio Sustainability Assessment (2017)
Portfolio Sustainability Assessment
The BASF method and experience

- Substantial sustainability contribution in the value chain
- Meets basic sustainability standards in the market
- Specific sustainability issues which is actively addressed
- Significant sustainability concern identified and action plan in development

23.0% Accelerator
74.1% Performer
2.6% Transitioner
0.3% Challenged

BASF and thinkstep are in a strategic partnership on Sustainable Solution Steering™ since 2015
Risk Mitigation

- Decoupling from volatile raw material prices
- Resource scarcity
- Material supply dependencies
- Legislation

**Commodity price indexes, annual**

Note: Shaded area denotes price forecast (2016-20).
Critical Raw Materials – the Challenge

How and where to start

1. Process innovation
2. Product innovation
3. Business model innovation

Good data foundation
Holistic assessment
Collaboration

Source: WBCSD and BCG (2018); The New Big Circle
Future-proof your business.

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