State of the art of LCA in business

Diana Aragón, Eric Mieras
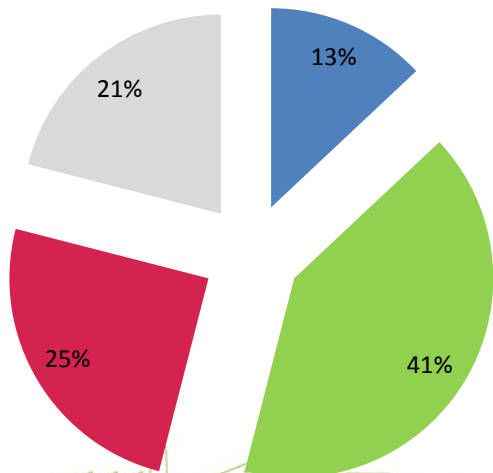November 17th, 2014

Agenda

- What is the state of the art of LCA in business
- The challenges LCA practitioners face
- Approach to seize the full potential of LCA
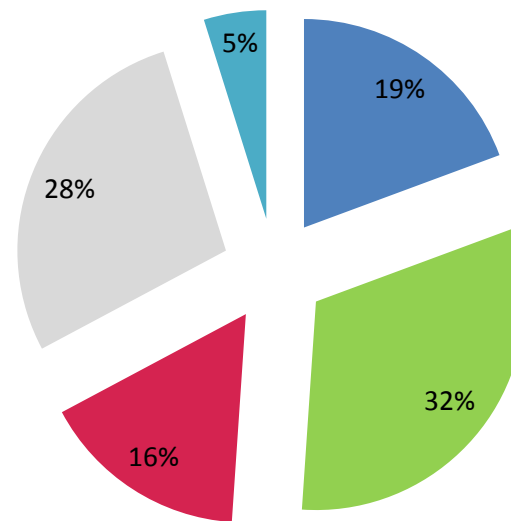
Experience with LCA is growing

Most companies have over 5 years of experience

- Less than a year
- Between 1 and 5 years
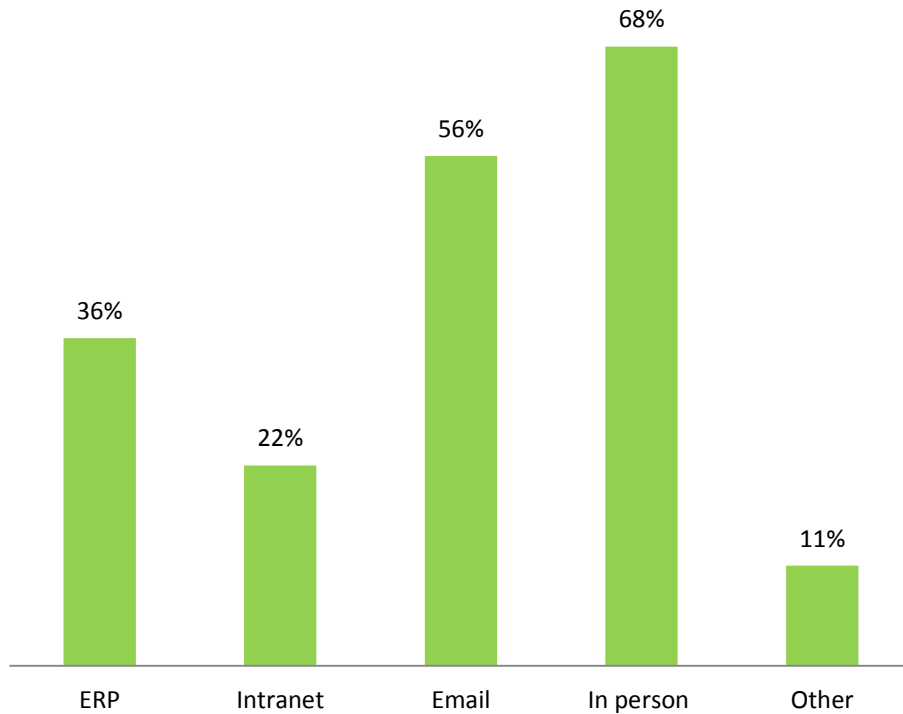- Between 5 a 10 years
- More than 10 years

Support from a wide range of service firms

- Tool developers
- Environmental consultants
- General management consultants (e.g. Deloitte, E&Y, KPMG)
- Universities
- Other (Please specify)

Data collection is time consuming

Data collection tools

- ERP 36%
- Intranet 22%
- Email 56%
- In person 68%
- Other 11%

Most used databases

- Ecoinvent 70%
- ELCD 29%
- Other 23%
- GaBi 19%
- I-O data 18%
- USLCI 15%
- LCA Food 14%
- Agrifootprint 11%
- GREET model 4%
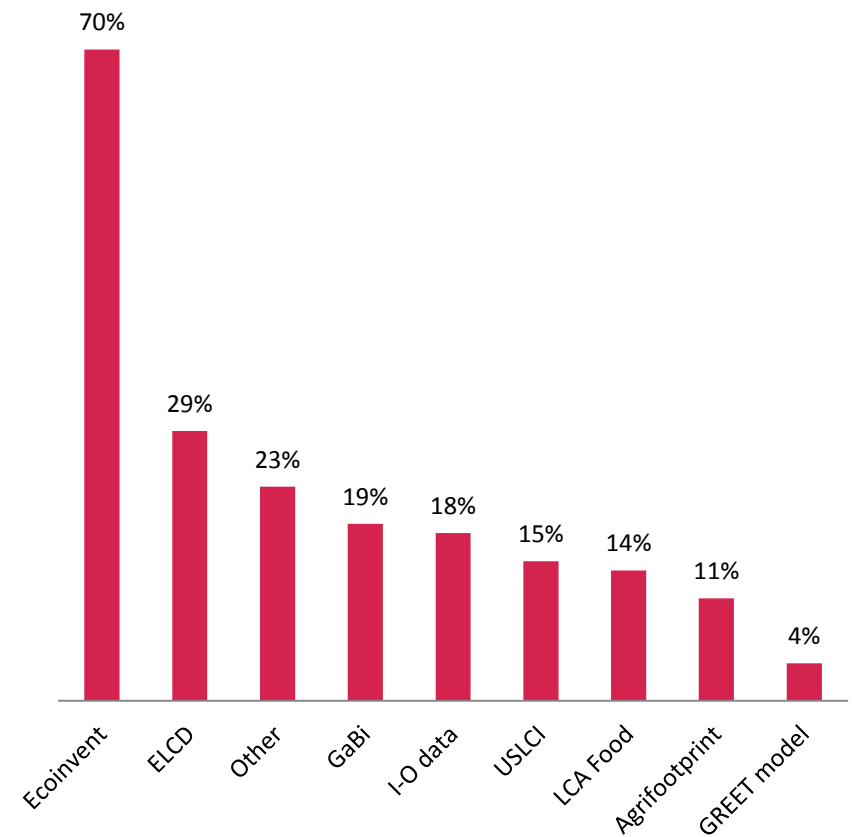
60 hours is the average time that companies spend on a LCA study

Variety of ways to use LCA

Type of LCA

- Screening LCA: 59%
- Full product LCA: 51%
- Detailed LCA: 45%
- Other: 10%
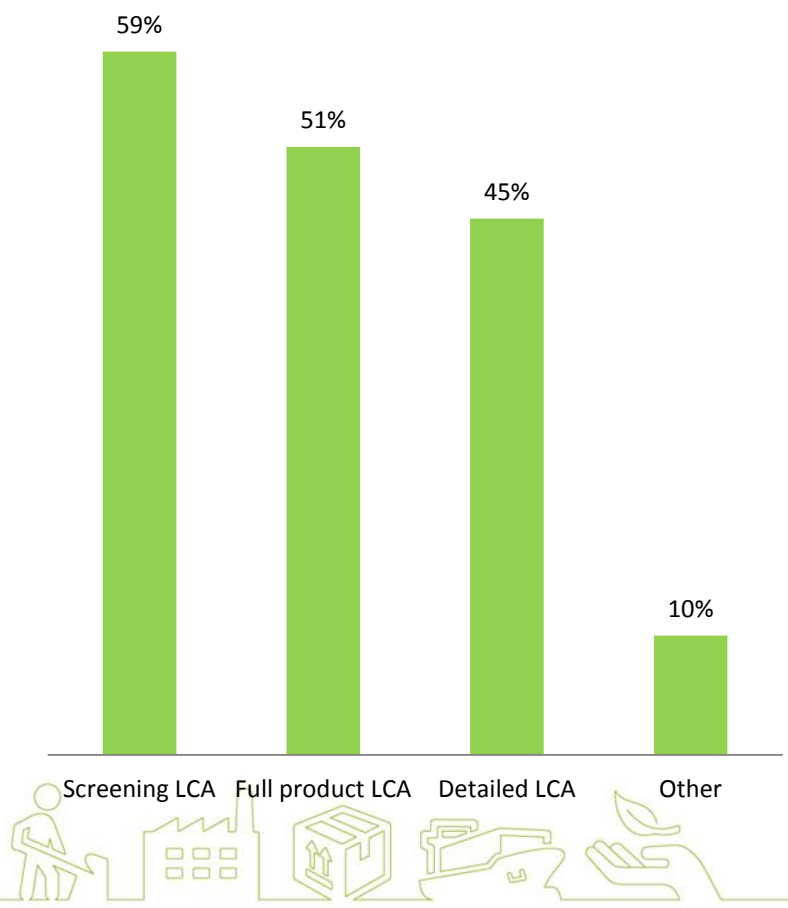
Communication of LCA results

- Presentation: 77%
- Report: 49%
- Intranet: 25%
- Website: 18%
- Other: 12%
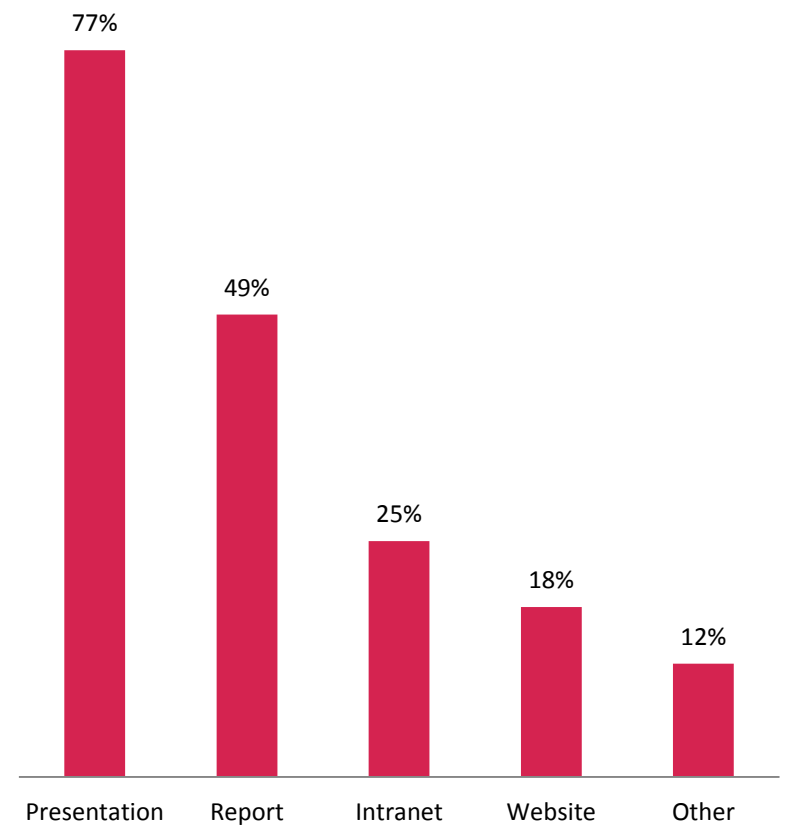
Position of LCA in companies

Top Management awareness

44%

57%

- YES
- NO

LCA team reports to…

35%	Sustainability department
34%	Research & development
11%	Product development
7%	Marketing
6%	Other
4%	Supply Chain
2%	Operations
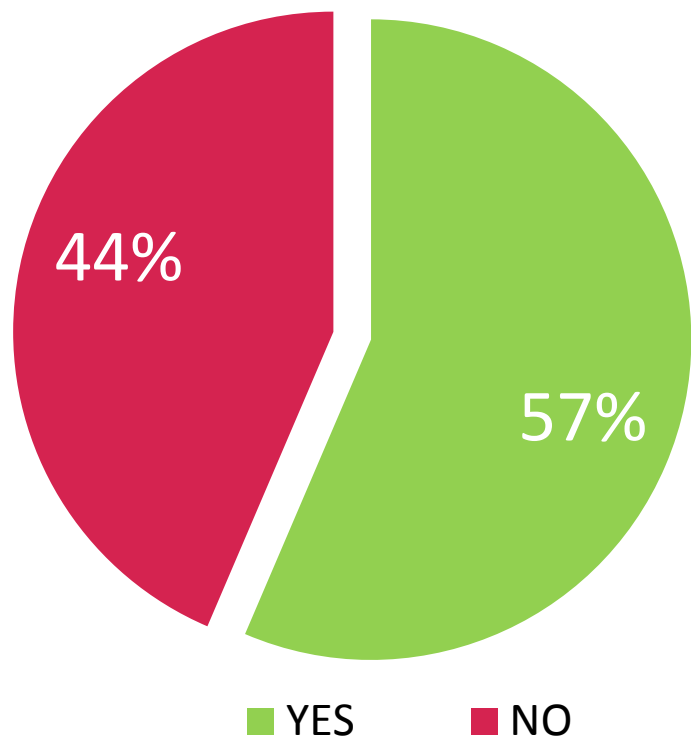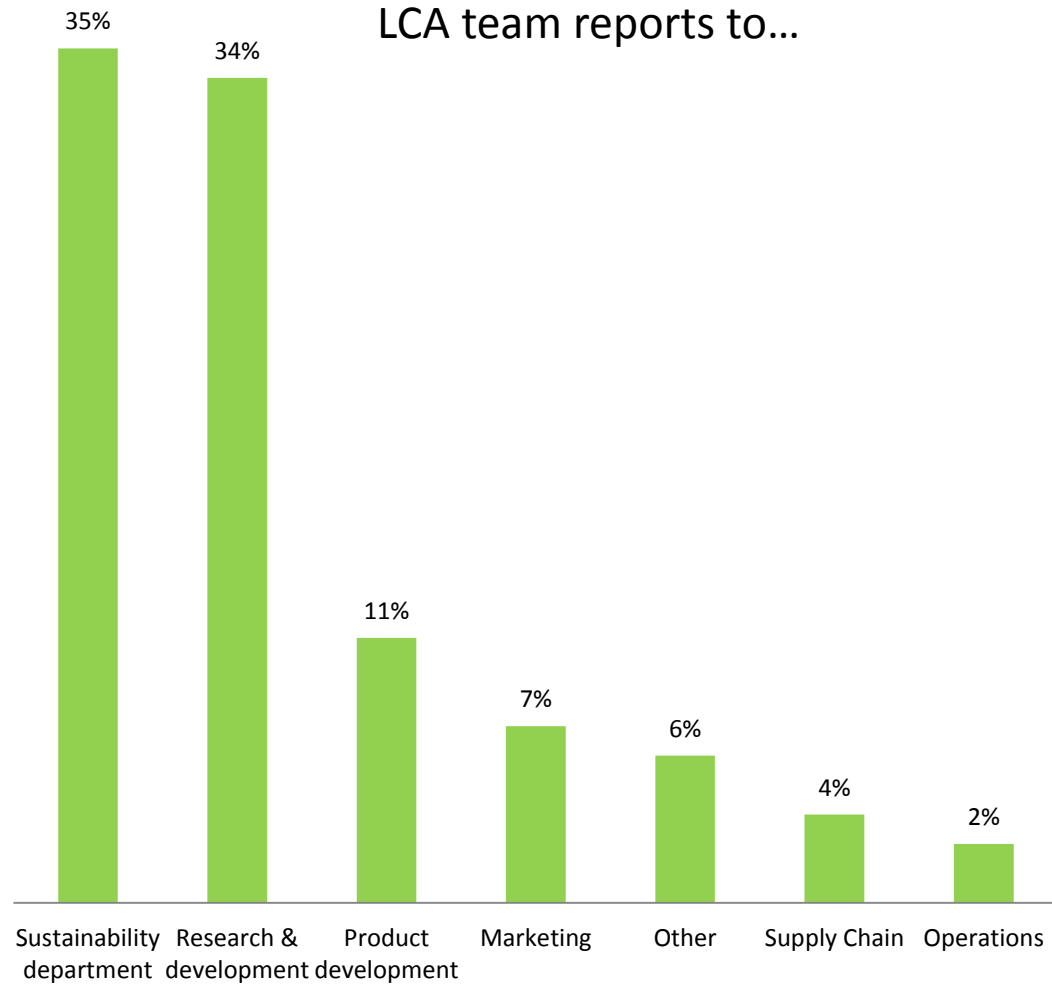
Average 3 people in the team

Success factors for LCA departments

Intrapreneur who pushes LCA activities

Committed Top Management
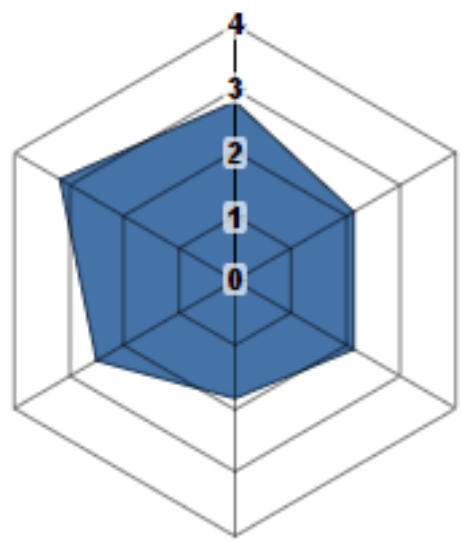
A long-term environmental commitment

Other technical departments are involved

The development of internal know-how

The establishment of internal communication channels

Frankl and Rubik, 1999 and Frankl, 2000

Innovation and performance are important drivers for LCA

Strategic objectives

- Research & development: 55%
- Social / Environmental Performance: 52%
- Product Innovation: 33%
- Marketing: 30%
- Product Development: 28%
- Process Innovation: 25%
- Planning: 23%
- Production: 23%
- Service Innovation: 15%
- Other: 13%
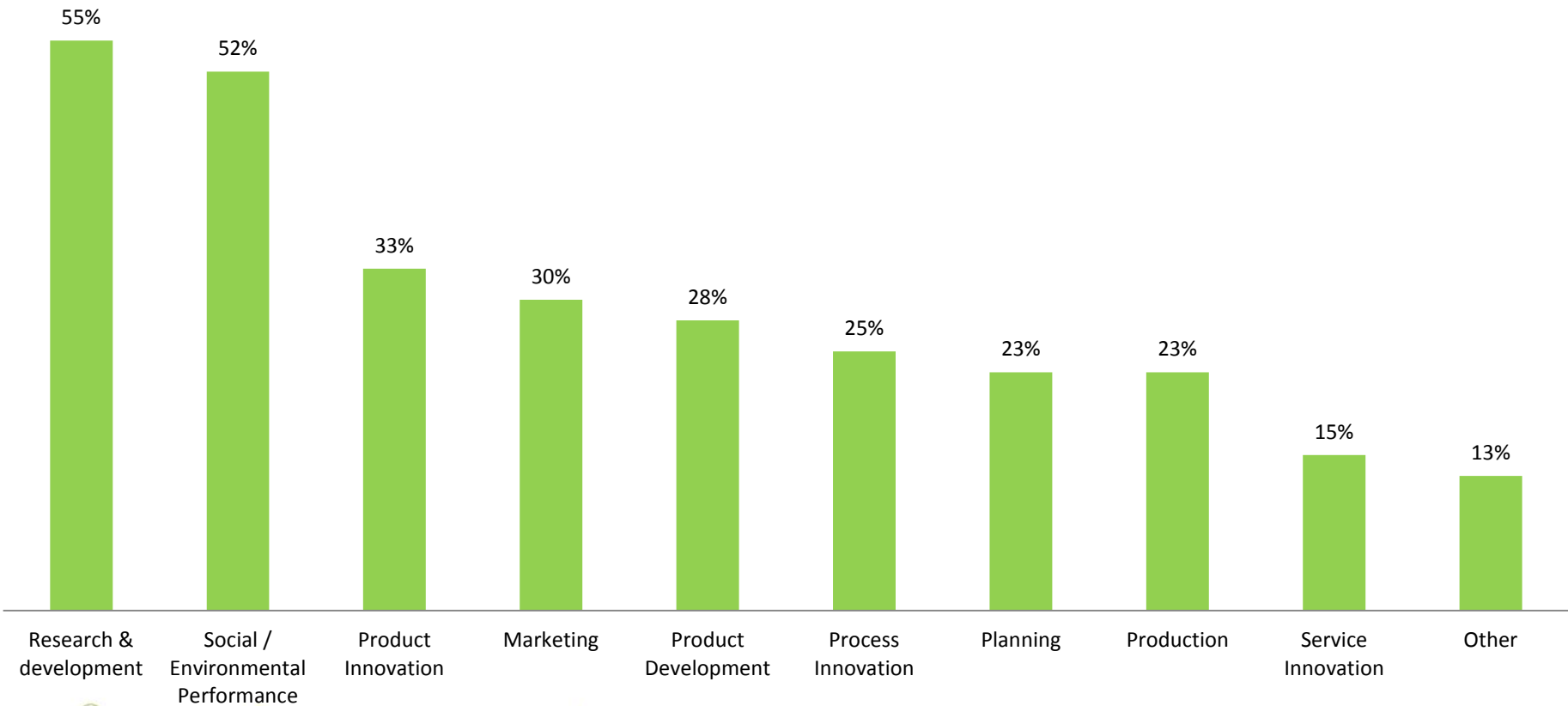
LCA substantiates sustainability

Benefits

Scientific footing: 57%
Informed decision-making: 55%
Respond to customers: 52%
Enhances your brand: 36%
Risk management: 24%
Higher efficiency: 23%
Lower costs: 20%
Increase revenues: 11%
Little or no benefit: 0%
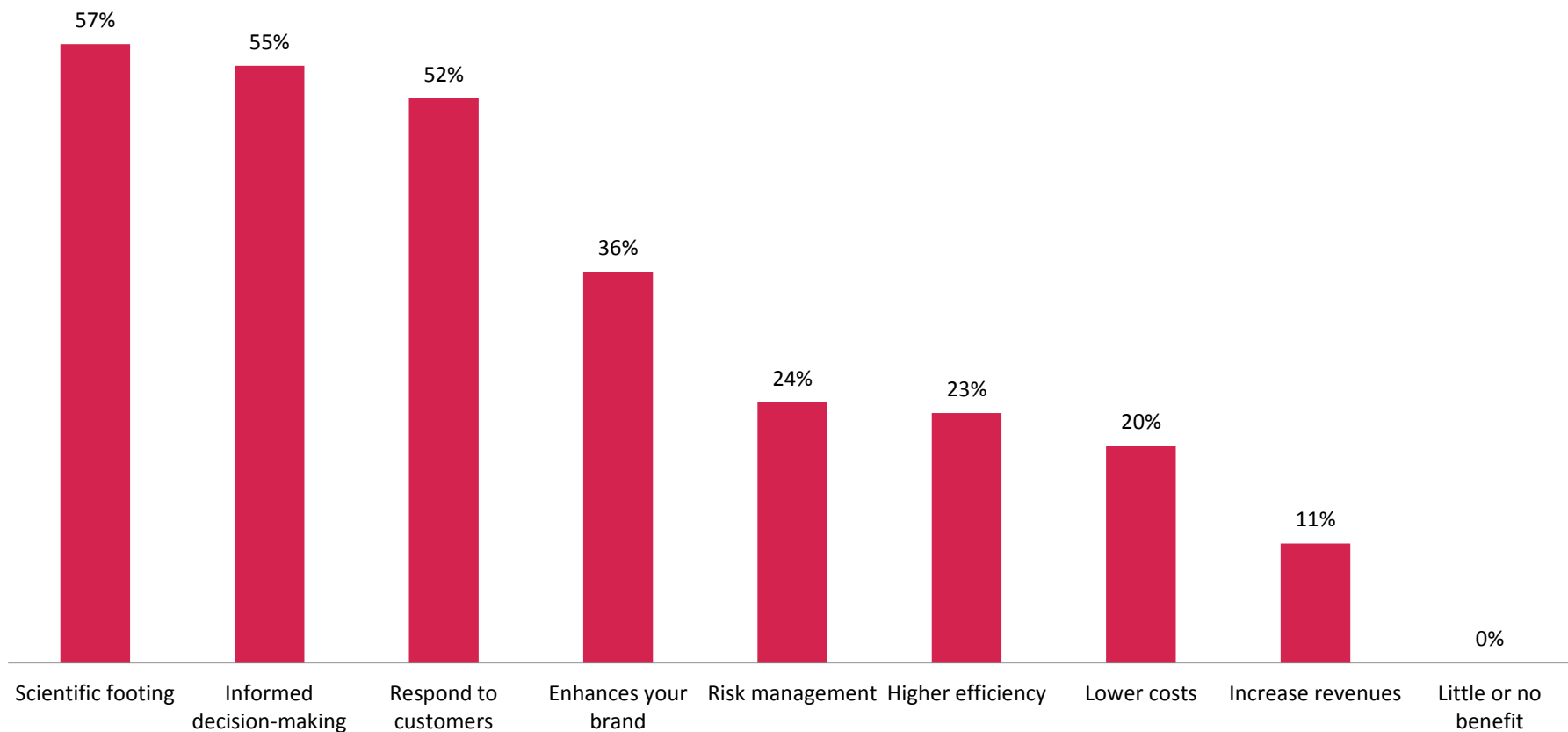
LCA will be used more and more

Future plans for using LCA

- ■ Increase the use of LCA
- ■ Decrease the use of LCA
- ■ Continue using it with the current frequency

43%

55%

2%
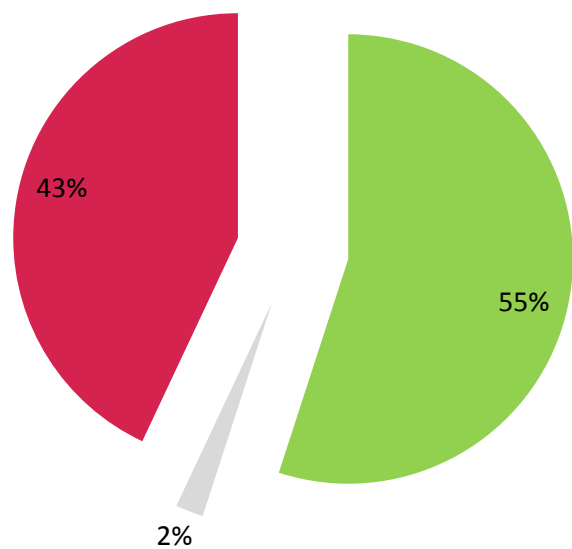
Future plans for LCA applications

- ■ Explore new applications
- ■ Reduce current applications
- ■ Continue with the current applications
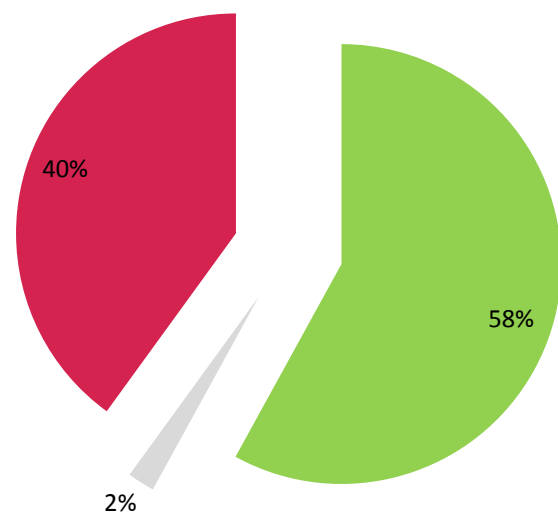
40%

58%

2%

Agenda

- What is the state of the art of LCA in business
- The challenges LCA practitioners face
- Approach to seize the full potential of LCA

Challenges for integration of LCA in business

1 Intrapreneur for LCA

2 Long-term management commitment to sustainability

3 Link LCA with business objectives

4 Shared language and communication channels

5 Jointly explore new applications

Main findings from Round Tables 2013 & 2014

2013

2014
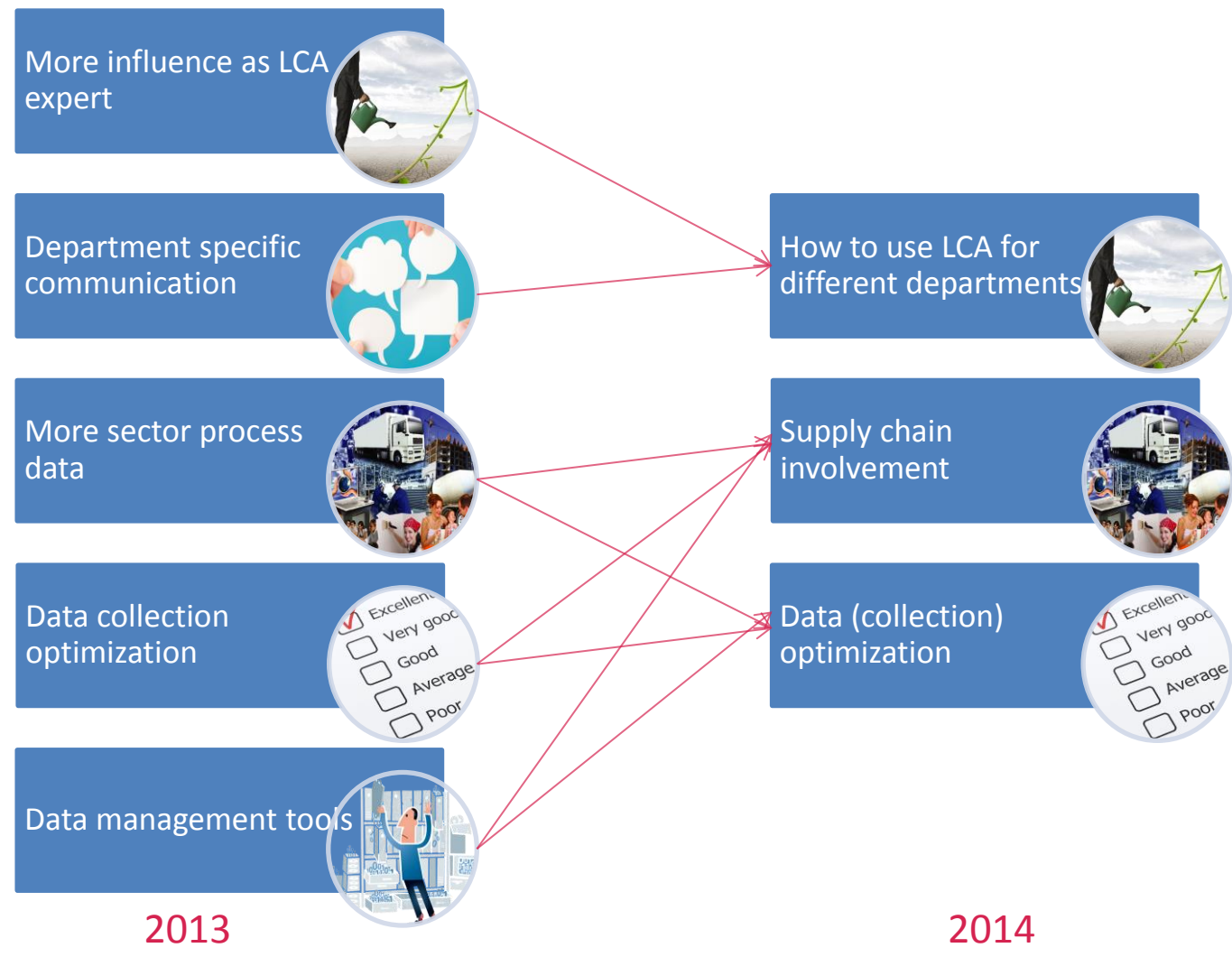
All departments could benefit from LCA

value creation   integrated

Innovation

Products
- Sustainable products (impact driven)
- New products
- Brand leadership

Processes
- Sustainable processes
- New processes and partnerships
- Industry leader

Services
- Sustainable services
- Alternative services
- Product-service systems

LCA

Performance

R&D
- More sustainable products
- Supports decision-making

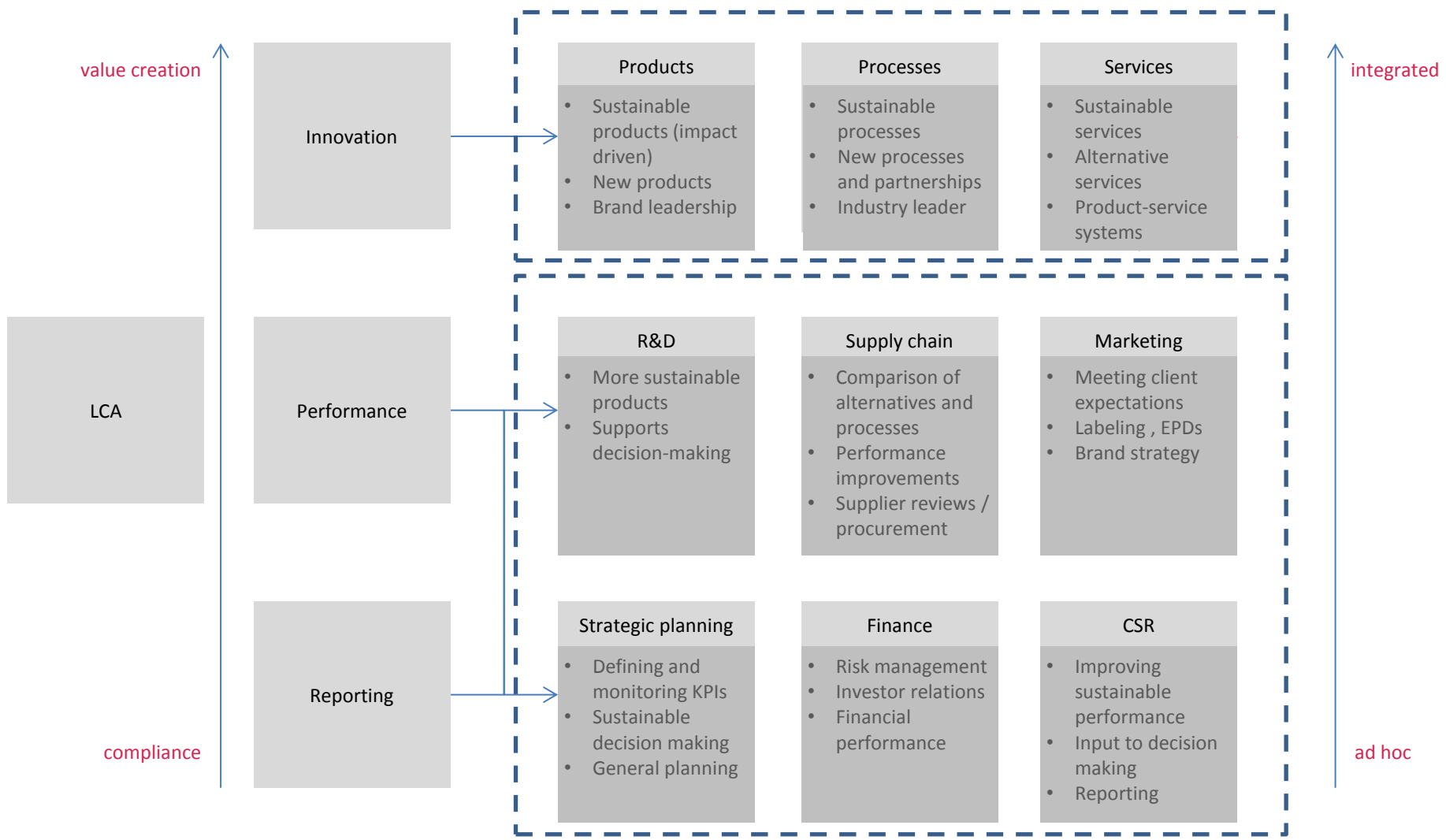**Supply chain**
- Comparison of alternatives and processes
- Performance improvements
- Supplier reviews / procurement

Marketing
- Meeting client expectations
- Labeling , EPDs
- Brand strategy

Reporting

Strategic planning
- Defining and monitoring KPIs
- Sustainable decision making
- General planning

Finance
- Risk management
- Investor relations
- Financial performance

CSR
- Improving sustainable performance
- Input to decision making
- Reporting

compliance   ad hoc

Inspired by: (Moro Piekarski et al, 2013)

...they all have their own specific needs

Carola
Sustainability Director

Demonstrate to the company that sustainability is a value creator

- Show business value of sustainability/LCA
- Create focus to meet goals
- Communicate sustainability efforts and report on results
- Set KPIs and monitor progress
- Understand hotspots and support decisions

Louisa
LCA and Sustainability Experts

Support business with relevant data & advice

- Increase efficiency in delivering LCA
- Measure impacts of products and processes
- Generate insights in hotspots and link to business objectives
- Sound and robust methodology and software
- Collection of data to get recent and specific data

Pedro
Production and Purchasing Managers

Find best facilities, production technologies and suppliers

- Improvement opportunities for operational performance
- Supply chain engagement on sustainability, including supplier reviews
- Data collection from suppliers

Veronique
Sales and Marketing

Promote the sustainability of the company & value proposition

- Meet customer needs and behavior
- Enhance brand reputation
- Substantiation of marketing claims
- Labeling of products
- Input for product innovation

Hank
Product developer

Create new and better products

- Understand hotspots and support product design
- Compare scenario's and products on impact
- Quick insight in impact of (material) changes
- Deliver value to customers and business through (more) sustainable products and services
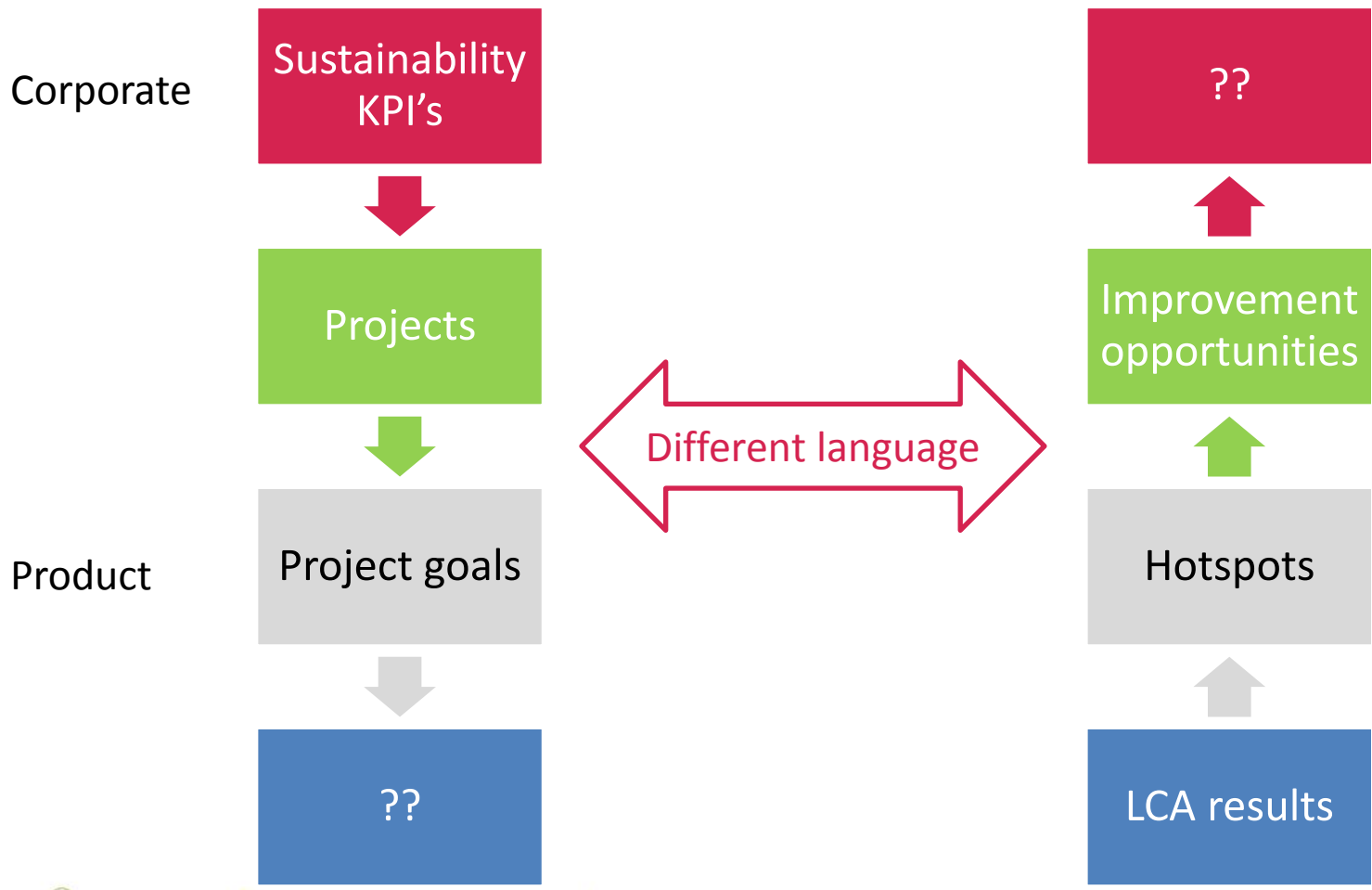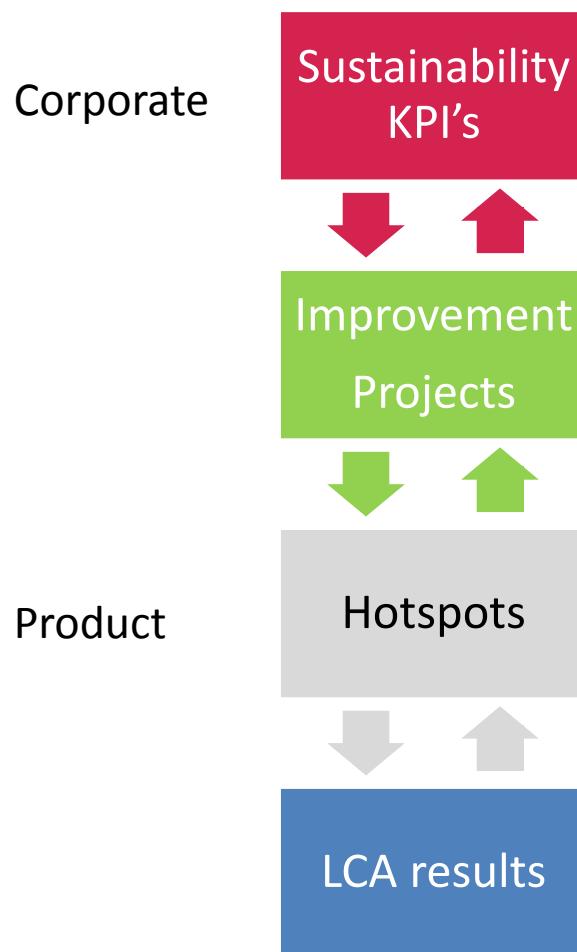
Agenda

- What is the state of the art of LCA in business

- The challenges LCA practitioners face

- Approach to seize the full potential of LCA

Top-down and bottom-up are not aligned

Corporate

Sustainability KPI's

??

Projects

Improvement opportunities

Different language

Product

Project goals

Hotspots

??

LCA results

Combine top-down and bottom-up approaches

Corporate

Sustainability KPI's

Improvement Projects

Product

Hotspots

LCA results

KPI's

- Sustainability KPI's on corporate, business unit and department level:
  - Energy, water, CO_2
- Overall KPI's for the business:
  - Revenue, innovation, costs, reputation
- Strategic ambitions:
  - E.g. Industry leader in sustainability
  - Driven by mission and vision

Projects / improvement opportunities

- Determine potential solutions and prioritize actions around most significant issues or benefits:
  - Product or process specific:
    - Product A, Product group B, etc.
    - Process X, Process Y, etc
  - Topic specific:
    - Biodiversity, Climate change, Energy efficiency, Deforestation, Toxic materials, Greenhouse gases, Fossil resources, Land use, Material efficiency, Resource efficiency, Packaging, Waste, Water
  - Location specific:
    - Production plant, stores, warehouses, etc.

Hotspots

- Identify issues of concerns on a product (group) level
- Pinpoint where the biggest impact is:
  - Life cycle stages:
    - Resource extraction, transport, production, use, end of life
  - Impact categories:
    - Environmental and/or social
  - Specific processes, materials, locations or suppliers

Take the lead in connecting the dots

- Create overview of business and project KPI's plus hotspots
- Link product level with business level:
  - Bring together insights on sustainability on organizational and product level;
  - Identify hot spots overlap, blind spots and sweet spots.
- Bring together different departments and identify intrapreneur/champion(s):
  - Verbalize ambitions;
  - Set targets and steer as group.
- Select right tools:
  - LCA where possible, or other approaches if needed;
  - Map ecosystem of software/tools in use.
- Explore new opportunities to create value

Eric Mieras, Diana Aragón

Managing Director

mieras@pre-sustainability.com

Intern & Urban Environmental Management Master student

dianamariaaragon@qmclatinoamerica.com