

Towards increased impact of life cycle information

Project summary: Adapted decision support for increased energy efficiency in value chains

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The decision making process:
“the set of activities that begins with the identification of an issue and ends with an action” (Nutt 1984)

Project set-up

Research project: Adapted decision support for increased energy efficiency in value chains

Aim: Facilitating for the various functions of a company to contribute to increased energy efficiency in a life cycle perspective

Duration: 2016-2018

Project manager: Emma Rex, RISE Research Institutes of Sweden

Project partners:



SWEDISH
LIFE CYCLE
CENTER

AkzoNobel
SPECIALTY CHEMICALS

VOLVO



VATTENFALL



Funding from:

Project design

How to increase use and impact of life cycle information in large industry organizations?

Design: Analyze cross-departmental understanding and use of life cycle information:

- a) follow and illustrate flows of life cycle information,
- b) scrutinize “cognitive logics” on the role of life cycle information in different situations and departments.

Focus on internal processes/actors.

Data collection and analysis:

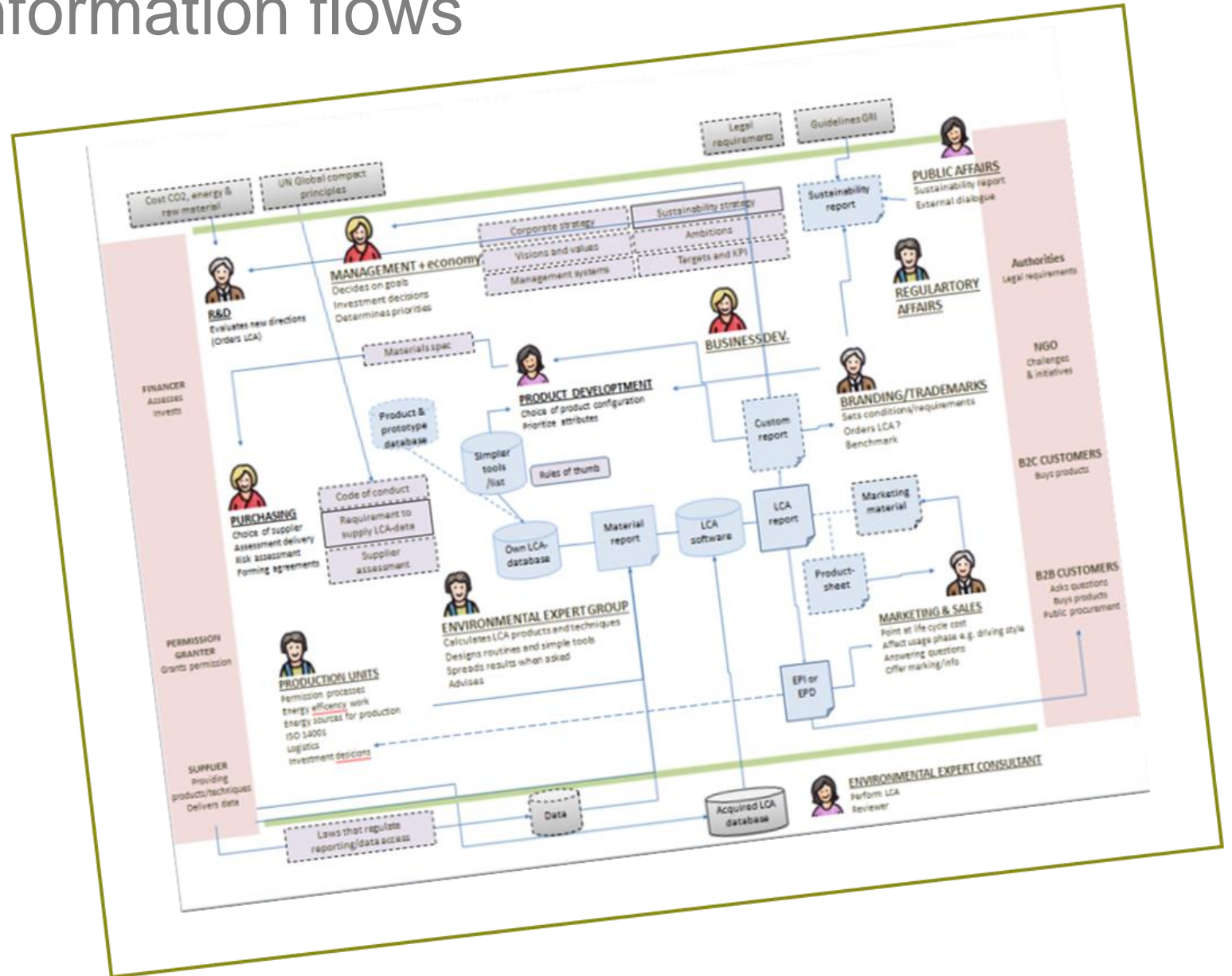
- Initial mapping together with company representatives
- 4 case studies
 - 19 interviews
 - 26 respondents
 - Public and internal documents, position papers, websites, reports etc.

Project-internal and external workshops with industrial and academic representatives

Analysis in relation to theories in psychology/behavioral science.

Mapping Life Cycle information flows

- Follow and illustrate flows of life cycle information throughout the company
- Map involved functions, documents, databases, software, routines...
- Useful for internal understanding and change processes



Barriers to life cycle information influencing action

Information barriers

- Not having life cycle information
- Not understanding the life cycle information provided



Contextual barriers

- Not understanding the need/role to act
- Not knowing what to do
- Increased uncertainties
- Conflict with other goals and values
- Related data lacking

A structure to support life cycle action

Suggested iterative and collaborative process to shape context and increase success

Life cycle goal: Reduce carbon footprint with 25% along the life cycle

Target group	Action wished for	Decision making situations	Existing motives and rationales	Life cycle information	Other information and support

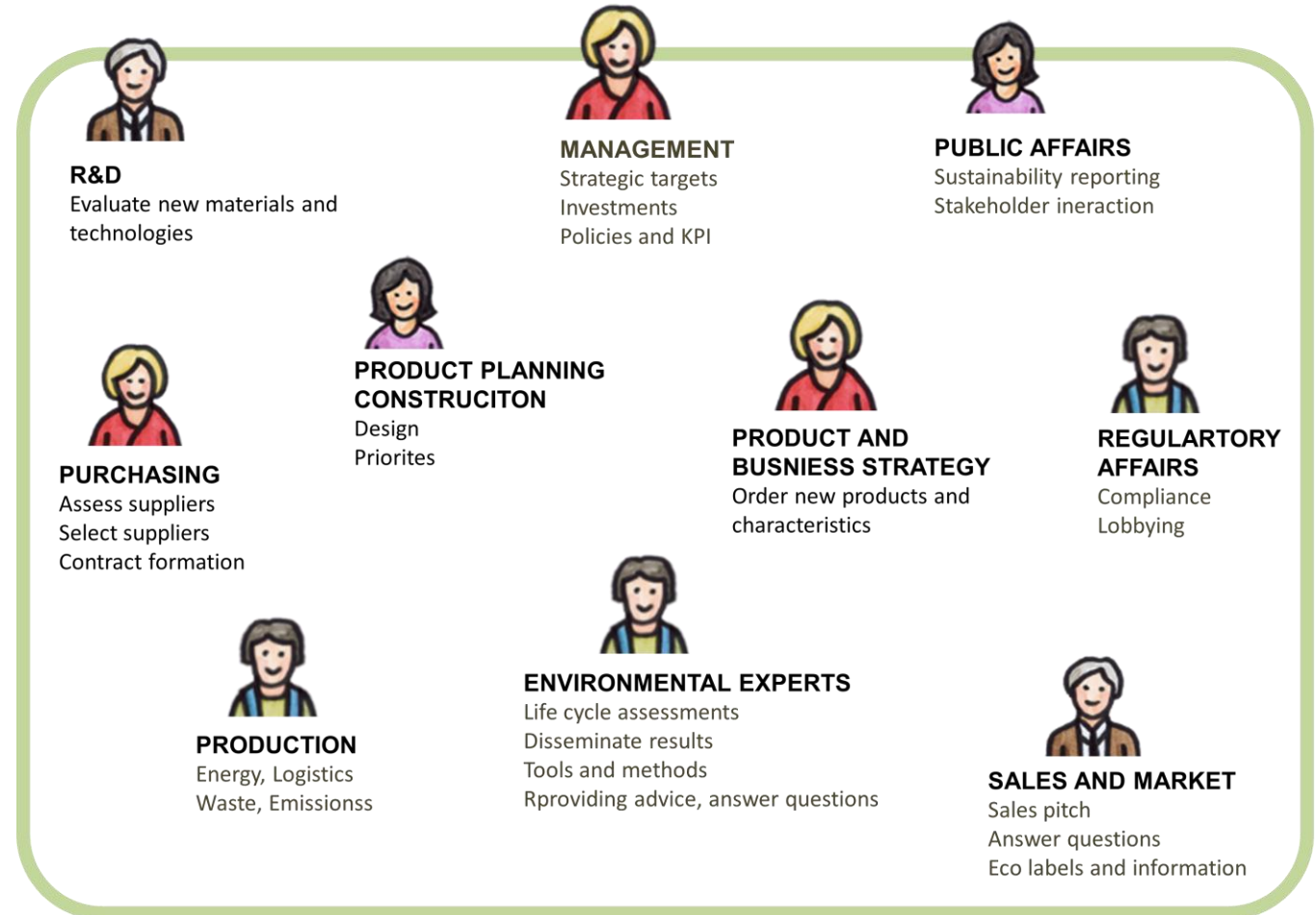
1. Target group

Whom are needed to be involved to achieve your goal?

- Many functions in a company are (potential) users and providers of life cycle information
- Create your own "map" as basis for discussion.

Life cycle goal: _____

Target group	Action wished for	Decision making situations	Existing motives and rationales	Life cycle information	Other information and support



2. Action wished for

What, specifically, do each target group need to do differently?

Life cycle goal: _____

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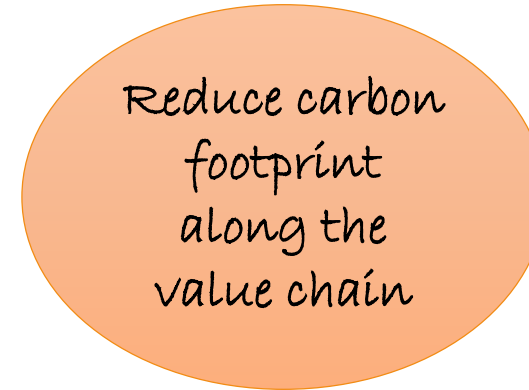
Social marketing:

1. *Identify the specific target behaviour*
2. Identify the barriers and benefits to the target behaviour
3. Program development, testing, implementation and evaluation



Purchasing

Include carbon footprint criteria in the selection of suppliers



R&D

Substitute material X



Sales and market

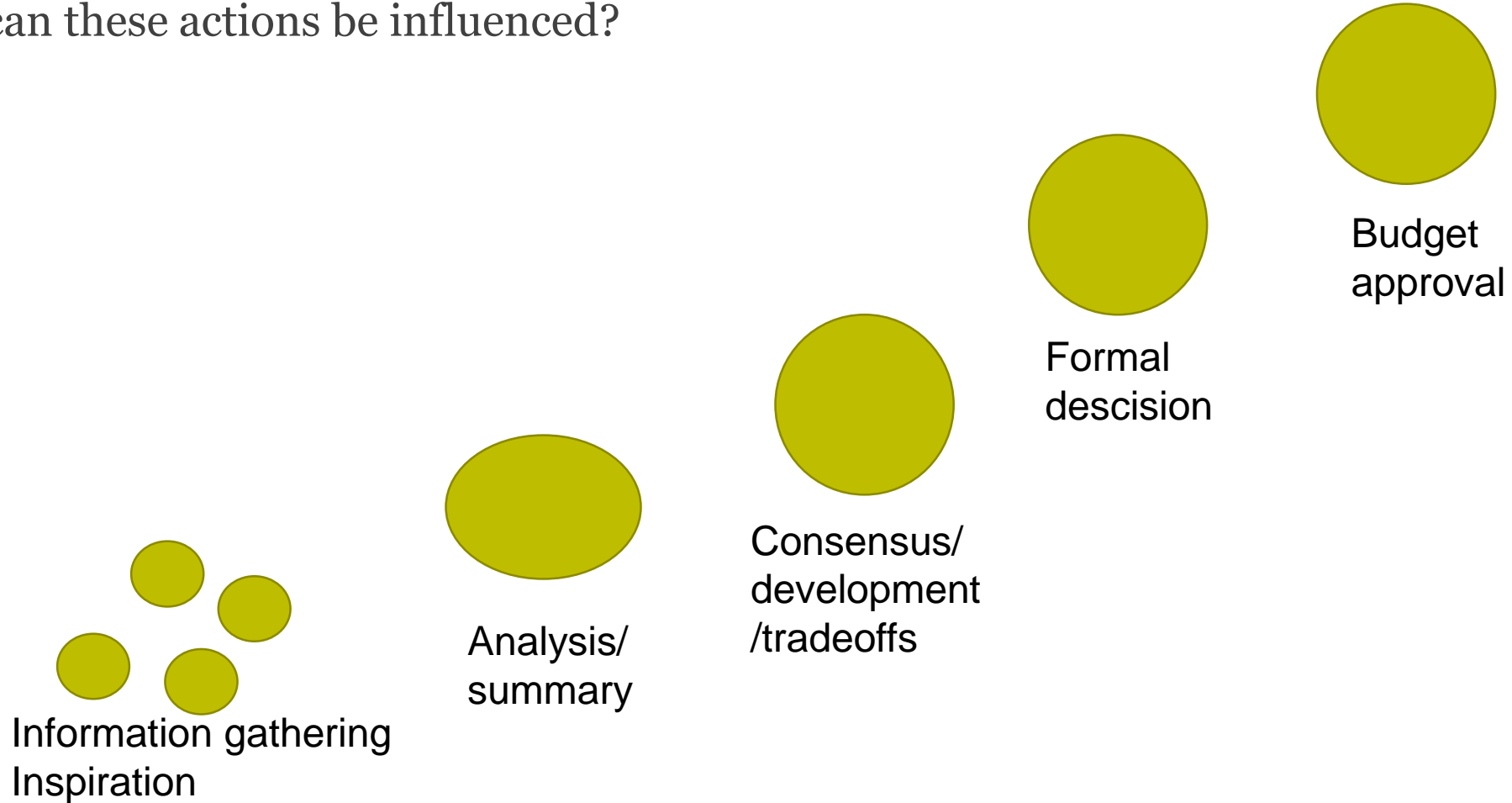
Advice customers based on what product is best in a life cycle perspective.

3. Decision making situation

- What decisions and practices are to be changed?
- When can these actions be influenced?

Life cycle goal: _____

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4. Motives and rationales

Life cycle goal: _____

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What is important for the decision-maker in the situation where a change is needed?

The Goal-framing theory

The hedonic goal – To feel better right now

The gain goal – To guard and improve one’s resources

The normative goal – To act appropriately

Which goal will be dominant depend on framing in the specific situation.

Gain:
Will this change my chance for bonus?
Can we employ a new member in the team now?

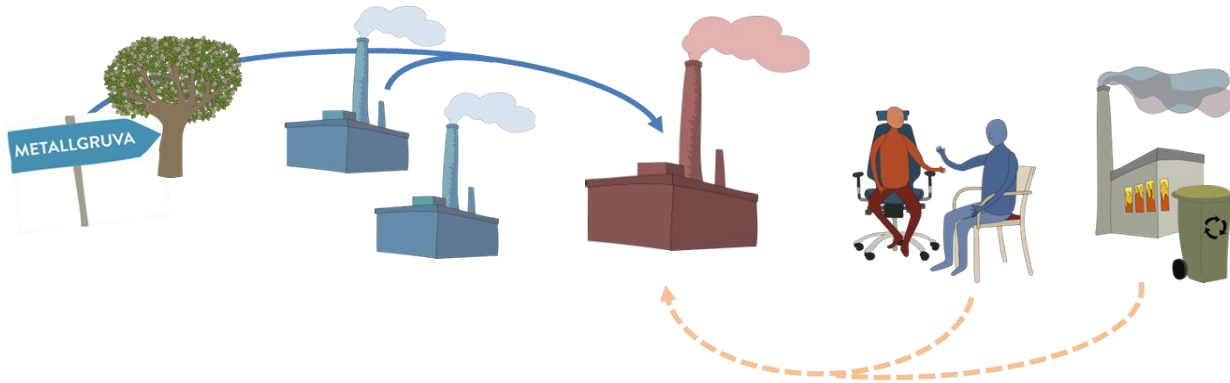
Hedonic:
Will I manage in time?
Does it differ from what I normally do?



Normative:
Is this in line with the strategy?
What would my friends and family say?

5. Life cycle information

What life cycle data is needed in the situation, and how should it be presented?

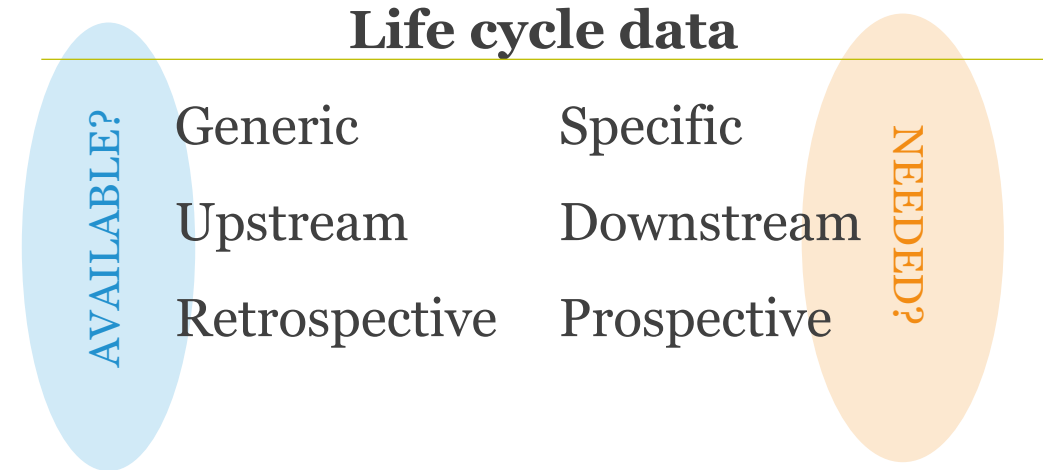


Presentation of life cycle information

- Tailor to target group and aim
- Start aggregated, be prepared for detailed
- Possible to re-tell by your audience?

Life cycle goal: _____

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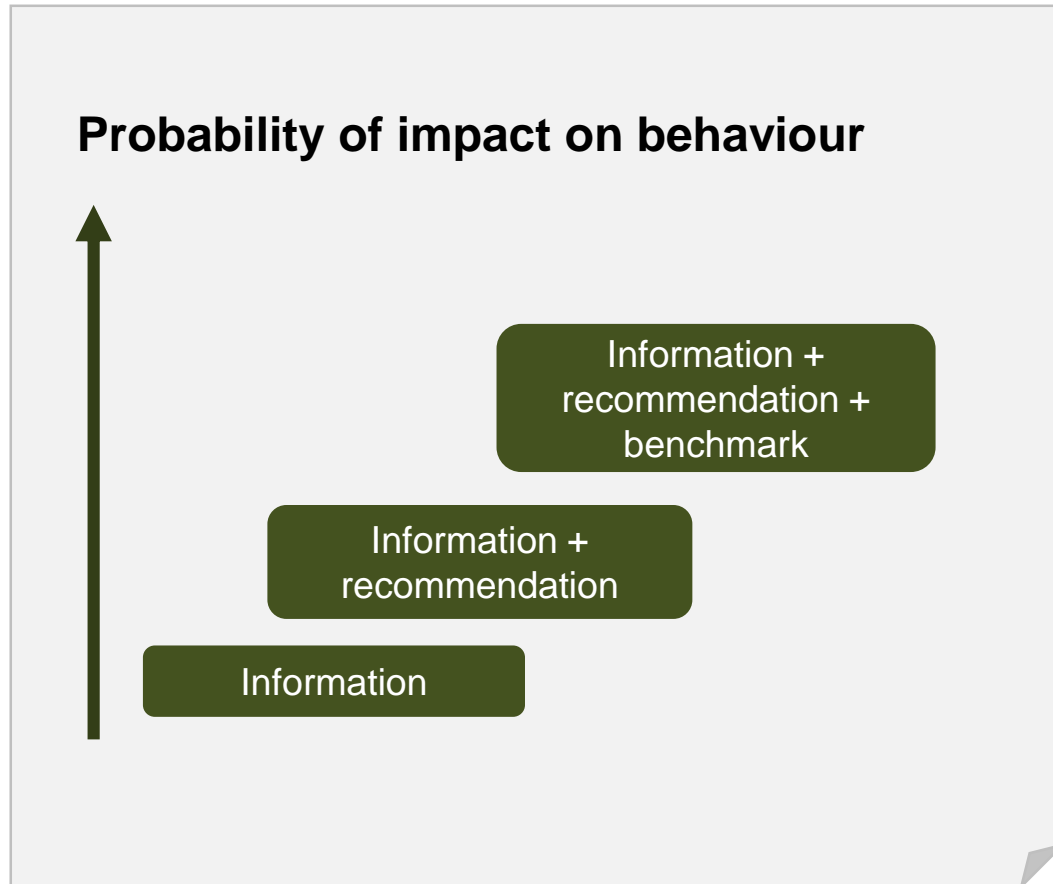


6. Increase your success rate!

Life cycle goal: _____

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Can you lower barriers to favour life cycle thinking?



- Provide a recommendation on how to act, possibly with a benchmark
- Relate to what is important in the situation (dominant framing)
- Assist with complementary information when such is needed
- Ensure support in internal systems (software, routines, incentive programs...)

Conclusion: Shifting focus from information to context

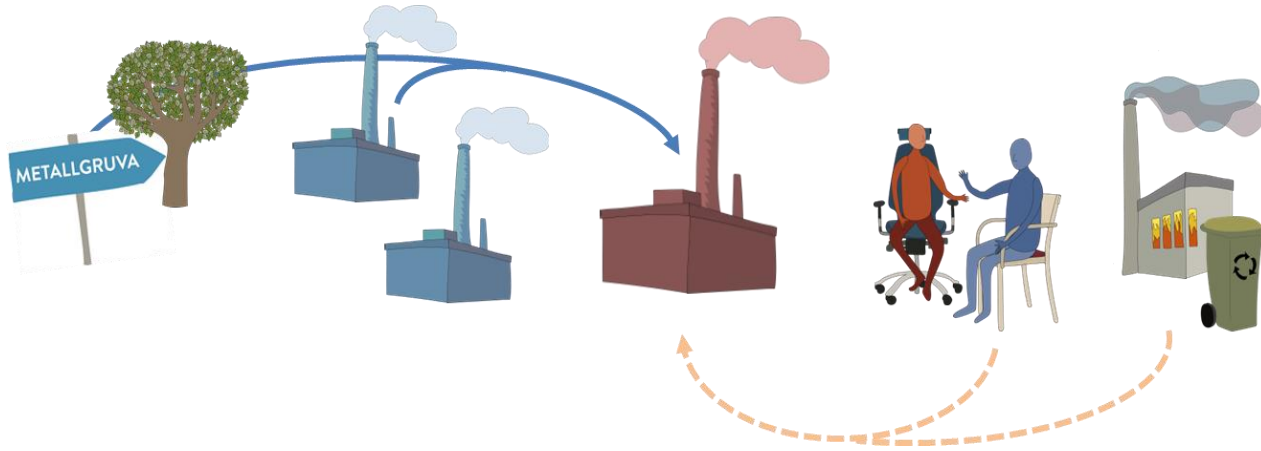
Life cycle goal: _____

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Normally not enough alone
(Although never so
pedagogically presented!)

New roles, tools and focus needed?



Greater need for downstream and prospective data?
Possible with existing systems and competences?

Life cycle goal: _____

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New tasks compared to traditional role of LCA experts.
New professional needed?



CHALMERS



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Thank you

Project within Swedish Life Cycle Center.