Energy efficiency along the value chain

SLC Webinar 2016-02-23

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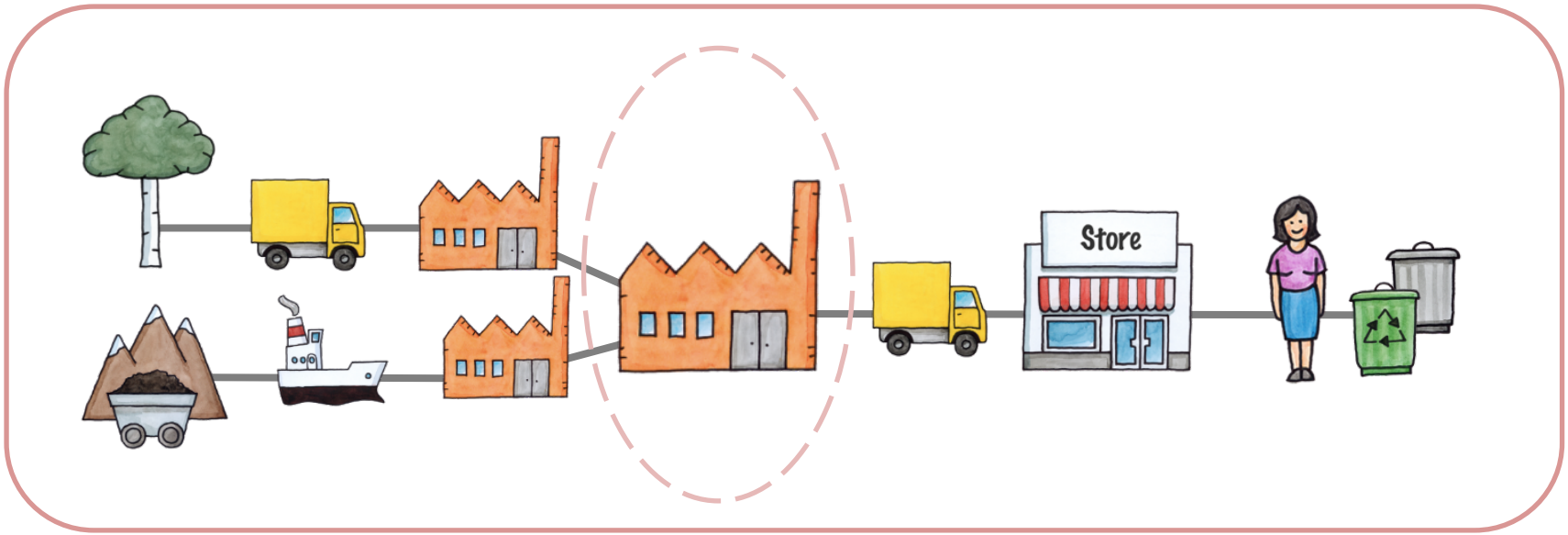


Organizational challenges when expanding the scope

Agenda for today

About the project ”Energy efficiency along the value chain”

Discussion material on challenges and ways forward

Questions and discussions

Project organization

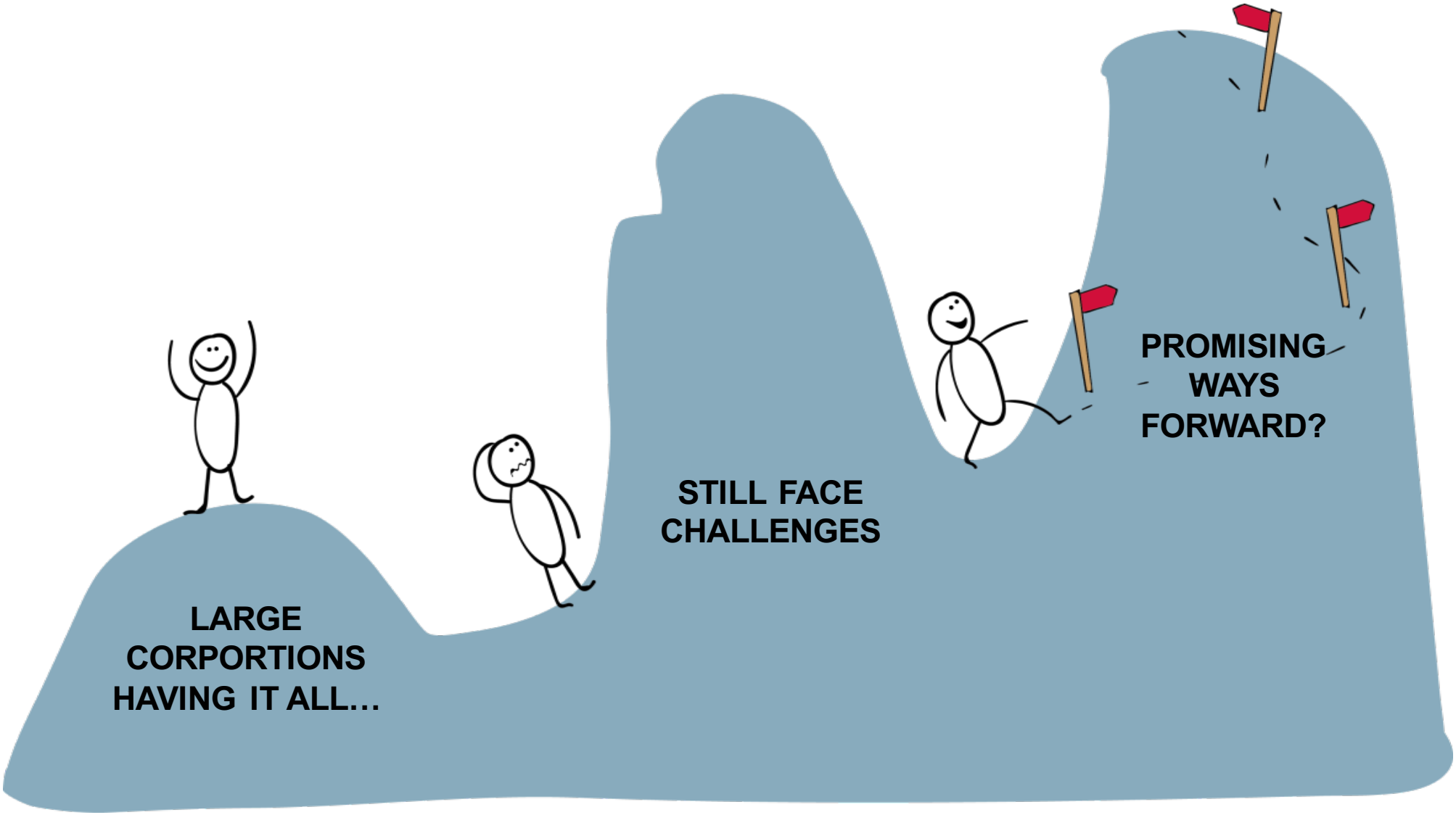
PROJECT GROUP

- Emma Rex and Katarina Lorentzon, SP
- Birgit Brunklaus, Chalmers
- Anna Wikström, SLC
- Lennart Swanström, ABB
- Klas Hallberg, Akzo Nobel
- Cecilia Bengtsson, Volvo Real Estate

REFERENCE GROUP

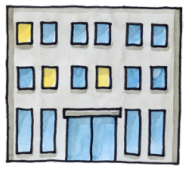
Fredric Norefjell (SP), Tomas Rydberg (IVL), Amir Rashid (KTH)

Funded by Energimyndigheten


LARGE CORPORTIONS HAVING IT ALL…
STILL FACE CHALLENGES
PROMISING WAYS FORWARD?

Six case studies

- Idle electricity reduction per plant (AB Volvo)
- Group objective on energy efficiency in production (ABB)
- Demand on energy reduction on new buildings (AB Volvo)
- Intersleek eco-premium solution in marine coatings (Akzo Nobel)
- From selling energy efficient motors to selling energy services (ABB)
- Target on reduced carbon footprint across the value chain (Akzo Nobel)


Approach

Focus on **ORGANIZATIONAL** challenges

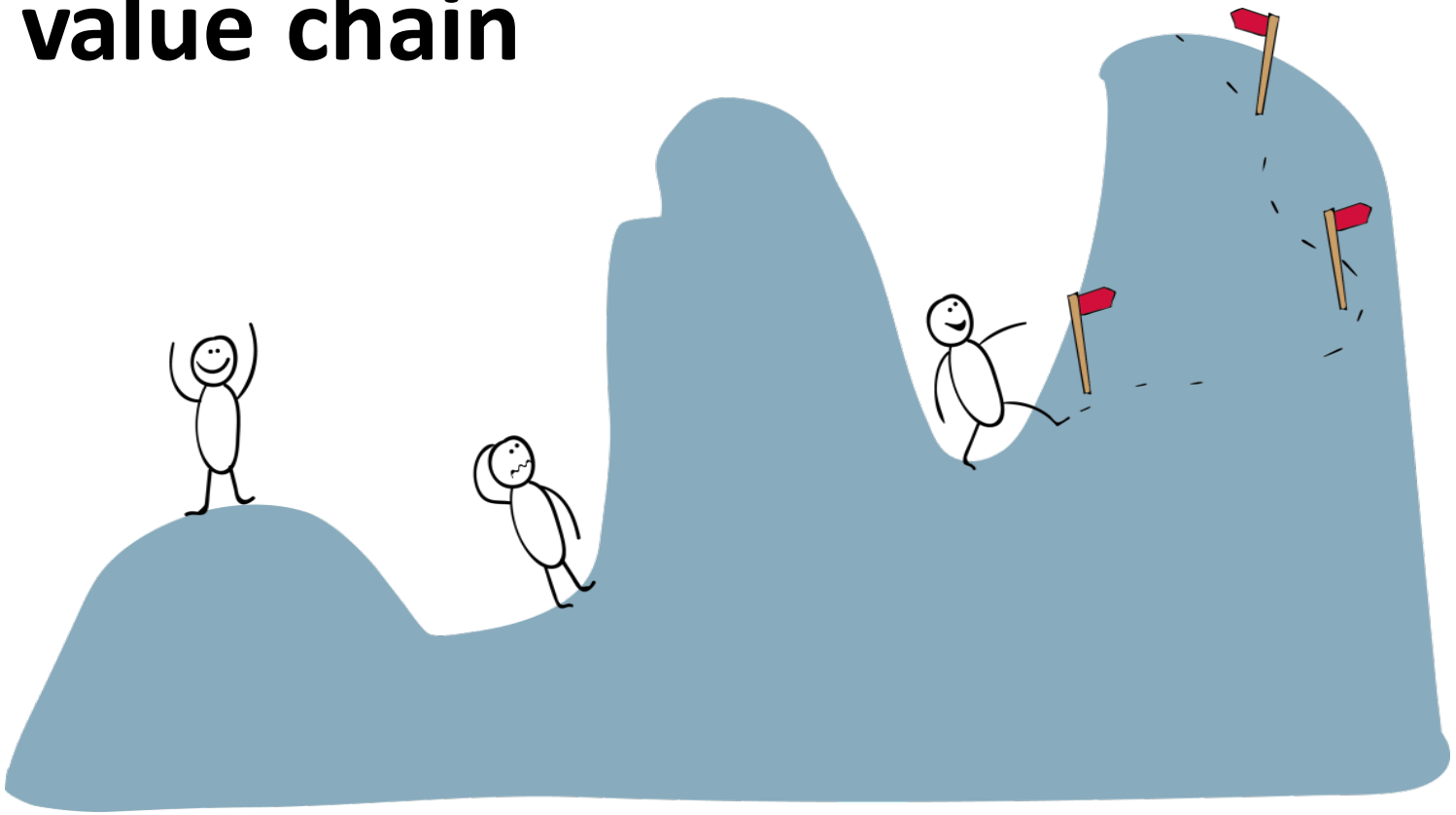
- Perspective from within the organization
- Estimation of physical effects
- Identify organizational challenges and promising ways of working

”PEDAGOGICAL” aim

- Results presented to be understood by non-life-cycle specialists
- Food for thought: as basis for discussion
- Ppt for internal discussions within industry

The ”ppt”

Energy efficiency along the value chain



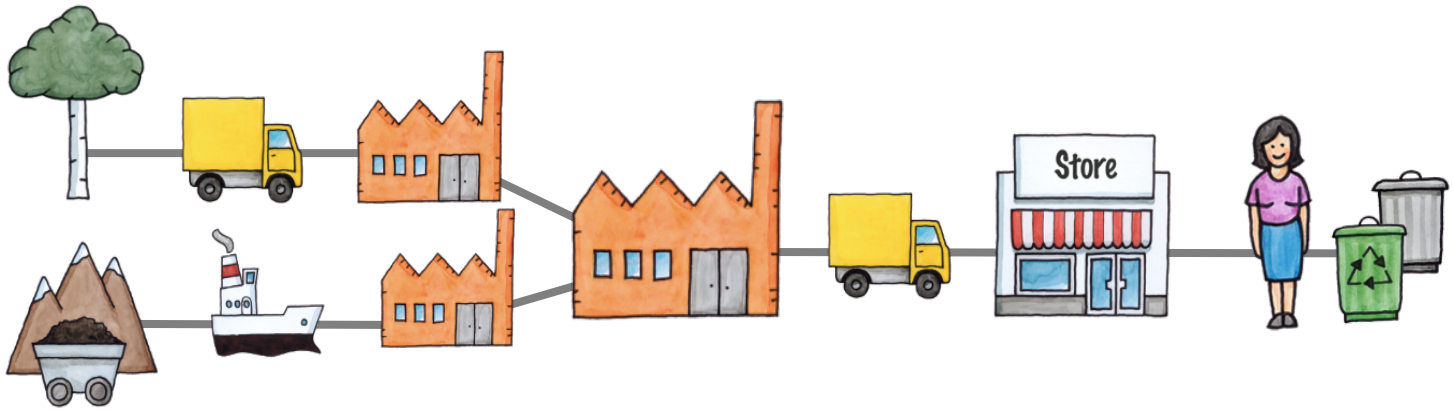
Energy efficiency along the value chain

Results from a study on organizational barriers and enablers for life cycle action in multinational producing companies. Based on six case studies during 2015, with the aim to illustrate:

- Ways of working for increased competitiveness

THE LIFE CYCLE PERSPECTIVE

Life cycle thinking

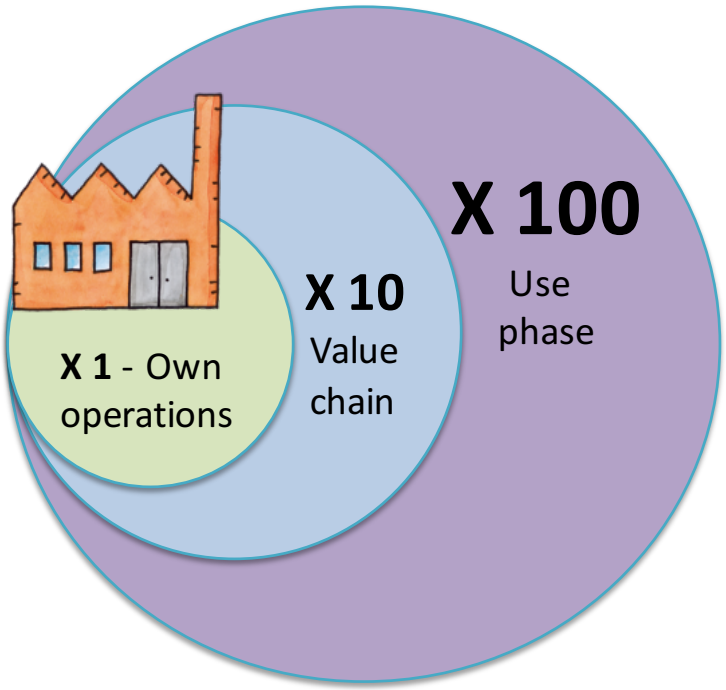


Life cycle thinking means to consider energy and material flows, including their environmental impacts, related to all processes of a value chain, ”from cradle to grave”. That is, from raw material extraction, to transportation, production, retail and use, all the way to end of life.

Energy efficiency along the value chain

With life cycle thinking related to energy efficiency, the scope of optimization of energy use extends from a single operation to the full value chain.

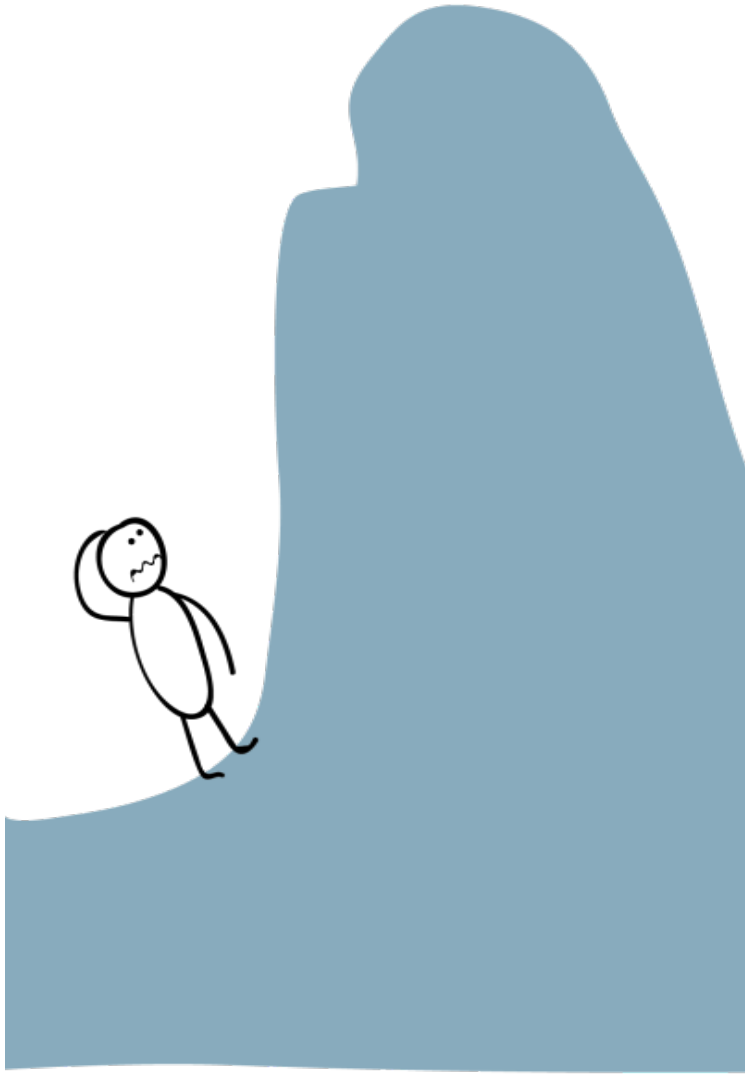
Energy efficiency effects



Effects vary greatly with value chain, context and type of measure, but the potential for energy efficiency is big. As an example, energy savings may tenfold with measures in value chains compared to in-house ones, while measures having an impact on energy in the use phase can lead to savings of a factor 100 or more.

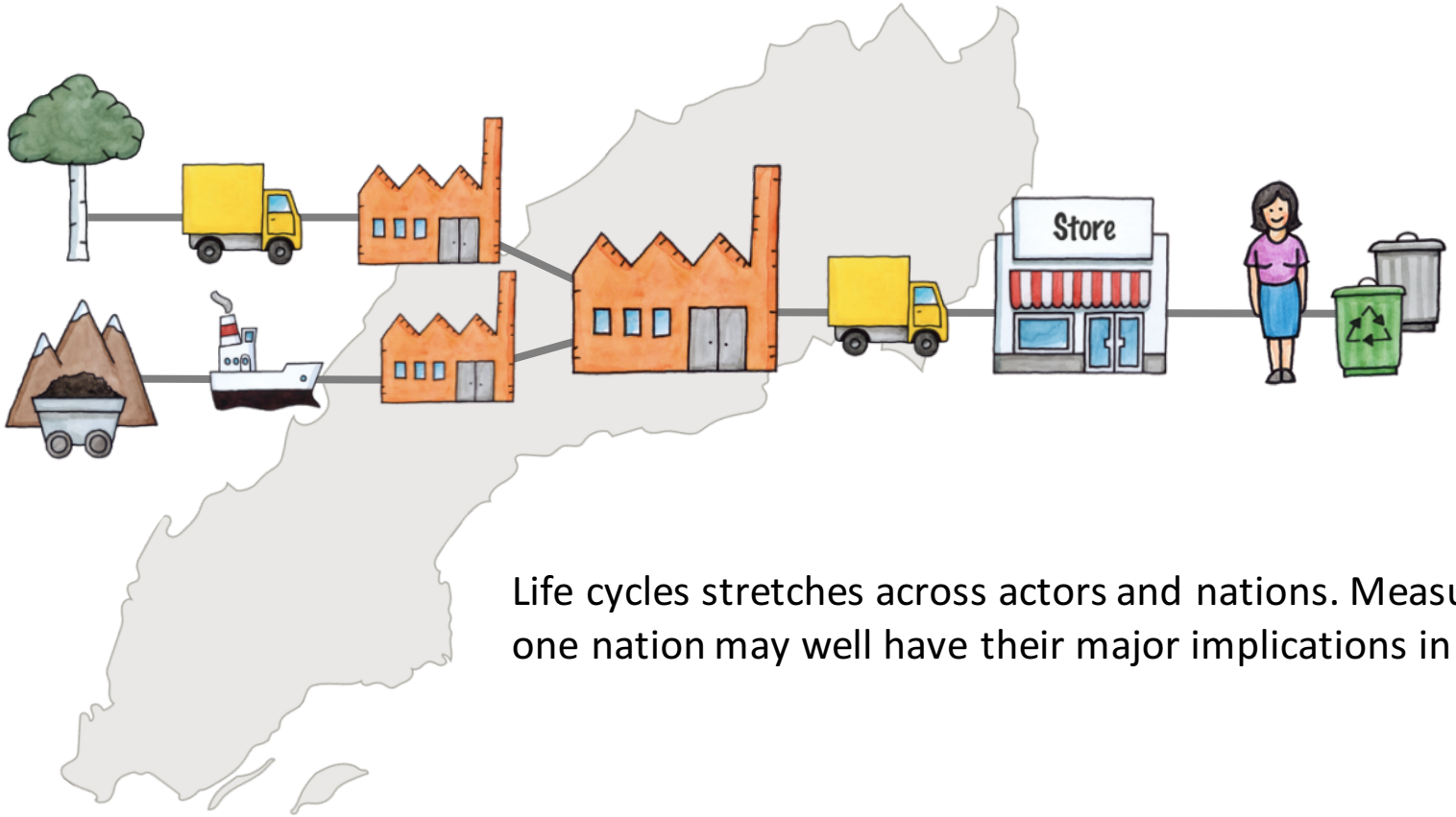
Impact on competitiveness

- Enhanced image
- Price premiums
- Cost savings
- Major contracts
- More loyal customers
- Product and business innovation
- Employee attractiveness
- Increased energy efficiency
- Improved stakeholder relations
- Higher investment rankings



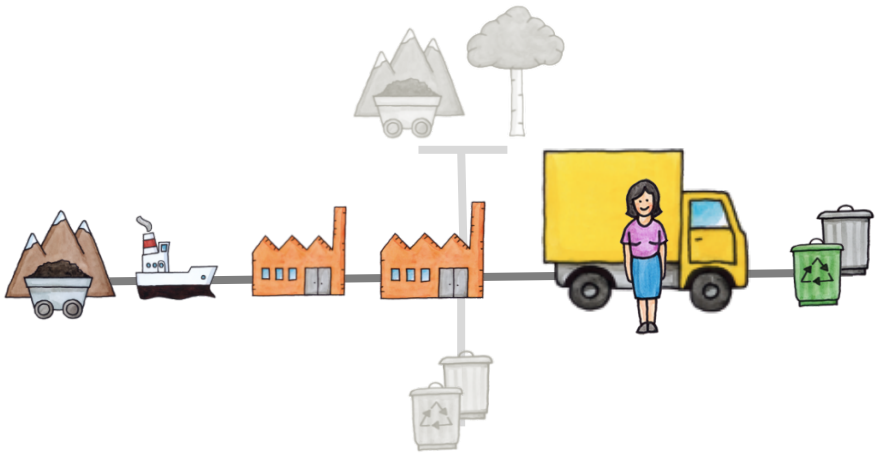
CHALLENGES

Life cycles are global

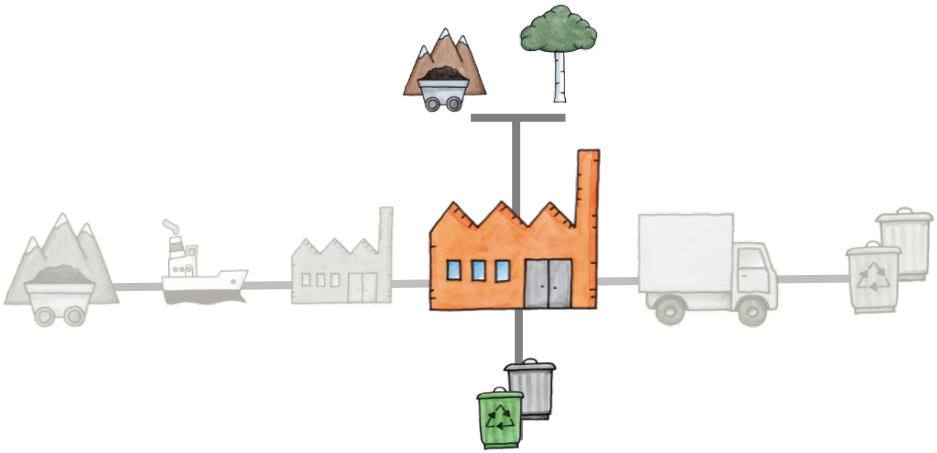


Life cycles stretches across actors and nations. Measures made in one nation may well have their major implications in another.

A process can be part of different life cycles



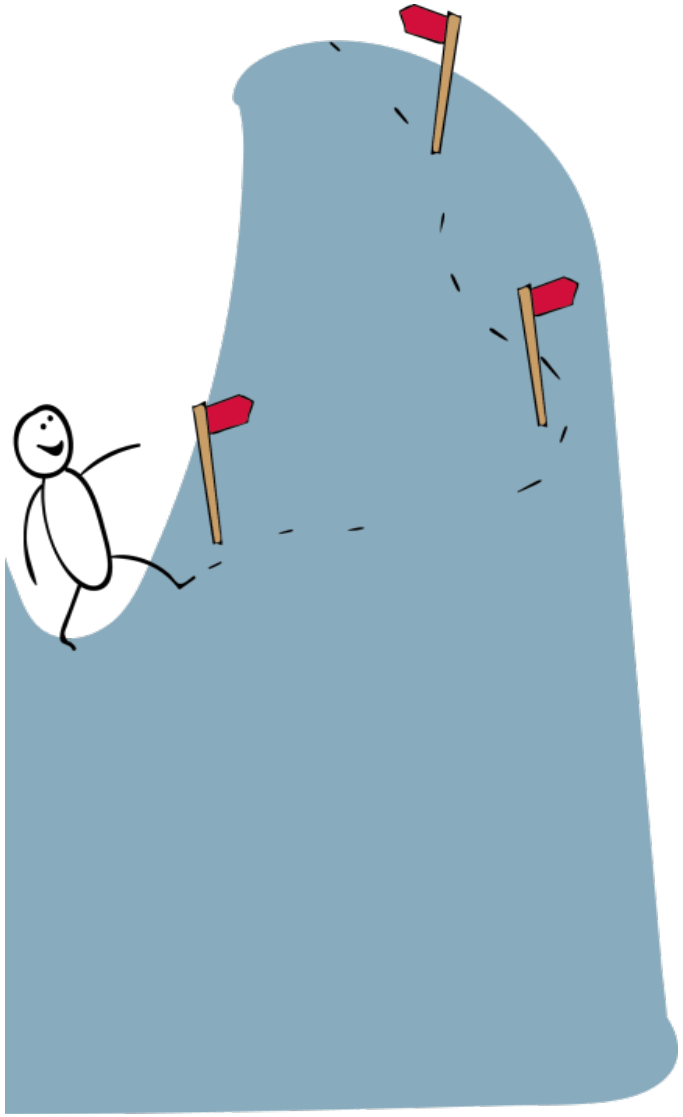
In the life cycle of a truck, for example, more than 90% of the impact lay in the use phase. Production is a minor share.



Yet, in the life cycle of a production site, energy use in operation can be an important share of the total impact.

Life cycles challenges practices and mindsets

- What system to optimize
- What targets to aim for
- How to share information and profit
- Who should be involved
- Scope of action for functions and companies

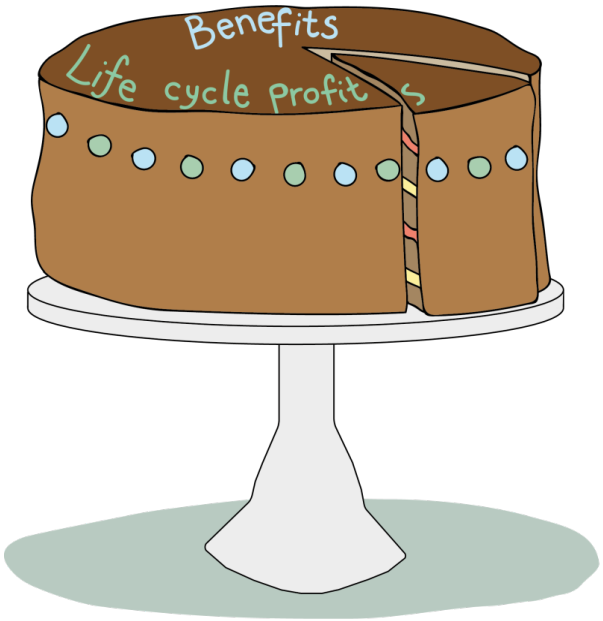


WAYS OF WORKING

4 strategies for progress

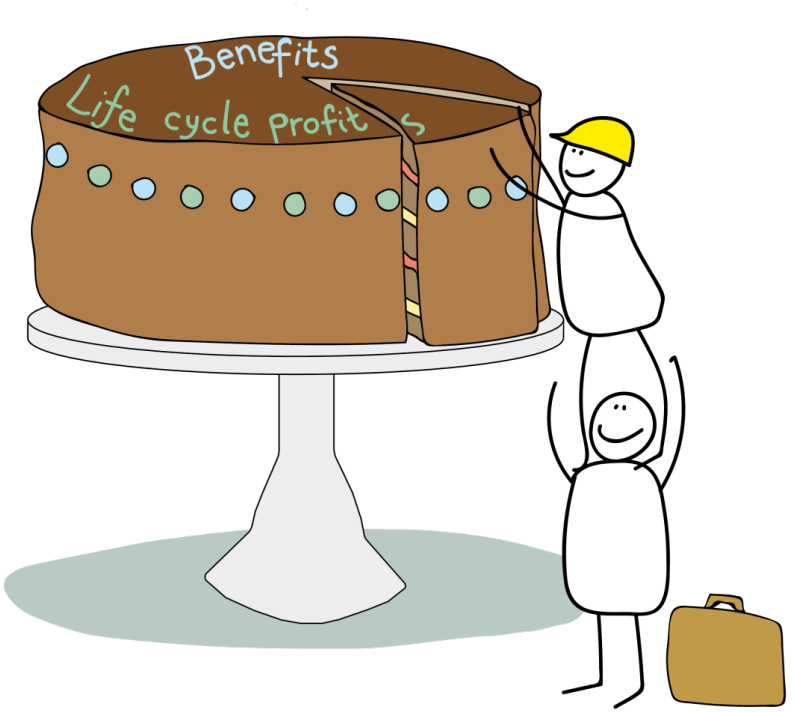
1. Find and share the life cycle profit
2. Get priorities and focus in line
3. Enable and encourage understanding and action
4. Seek or create a way forward

1. Find and share the life cycle profit



What is the business case for extending the scope from a single company to entire value chains? And how can it be reached?

1. Find and share the life cycle profit



Optimize a broader system

Challenge yourself to think wider, e.g. through setting energy efficiency targets on the entire value chain.

Challenge existing business models and practices

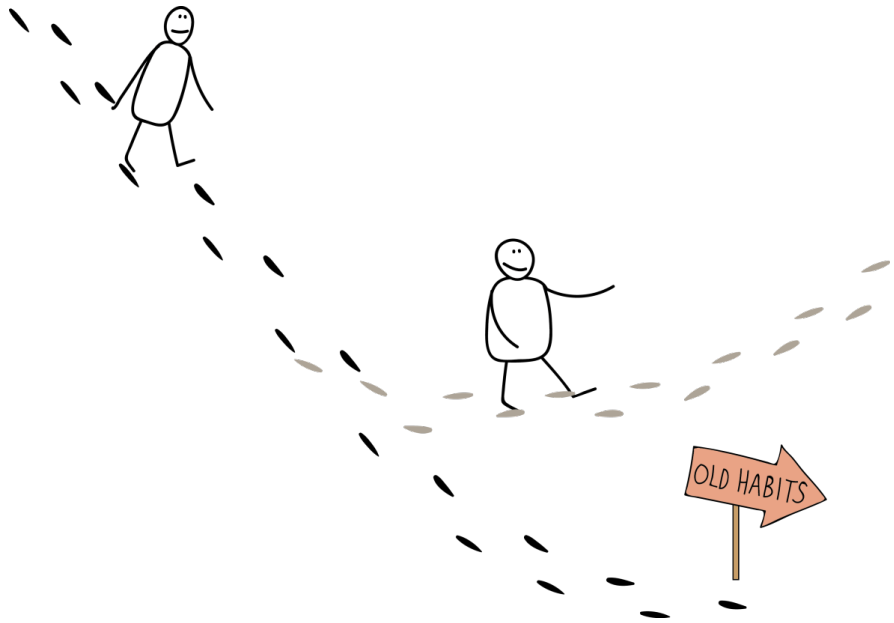
Rethink current practices on outsourcing, product portfolio strategies, and business models. Can you provide sales of services instead of products?

Deal with changed cost-benefit distribution

How to distribute costs and income with the new solution? Is there a need for new models for the sharing of risk and profit in the value chain?

2. Get priorities and focus in line

A company has a multitude of focuses and priorities, sometimes acting as barriers to life cycle work. How can life cycle thinking influence strategic decisions, prioritization, targets and KPIs?



2. Get priorities and focus in line

Formulate KPIs and ensure follow up

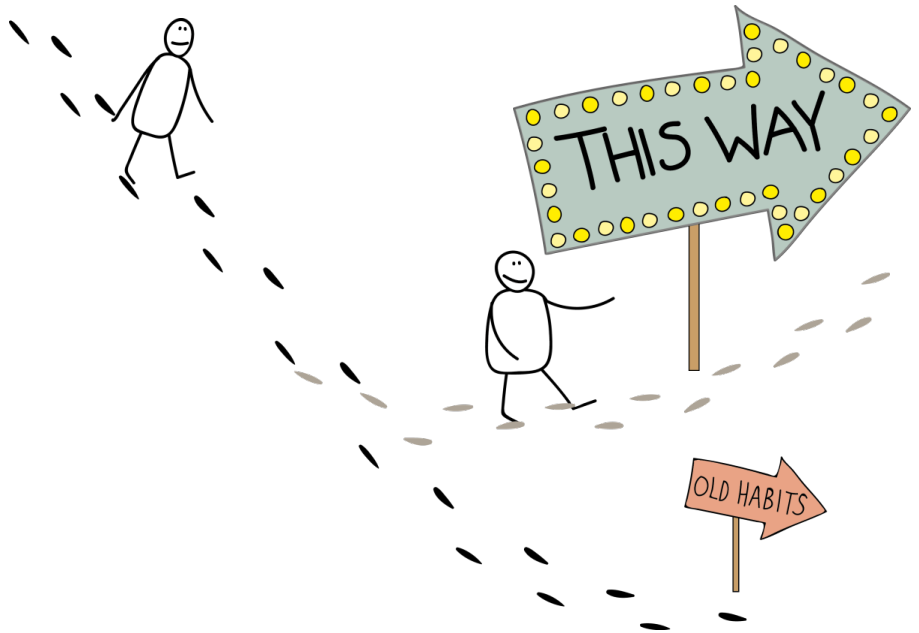
Careful design of KPIs is a challenging task surprisingly often neglected but powerful if performed well.

Manage potentially conflicting goals

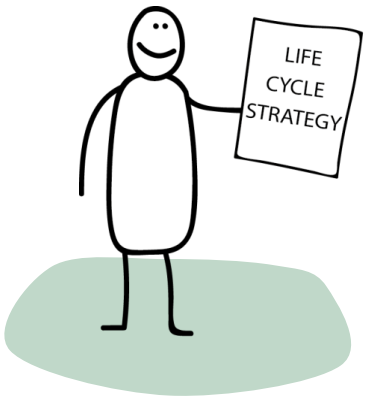
Explore possible tradeoffs e.g. between financial and environmental targets, or among potentially competing environmental goals.

Dare be strategic!

Life cycle thinking will not permeate company action in a systematic way unless strategic targets also show in strategic decisions and internal incentives.

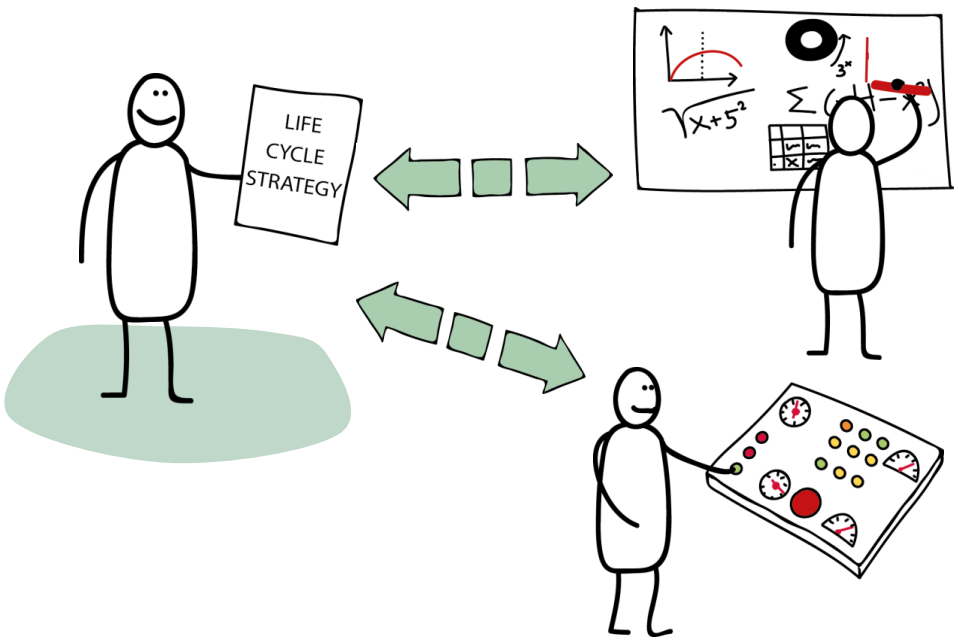


3. Enable and encourage understanding and action



A life cycle strategy does not work in isolation. It needs to be understood and explored in many functions. How do you ensure understanding, commitment and operational work?

3. Enable and encourage understanding and action



Support in-house understanding

Discuss rationales for engagement, invest in education and knowledge sharing and provide data for follow-up and learning.

Assist in the transition from strategic to tactic

Recognize the need for appointed translators working with, and adapting language and support to each function involved.

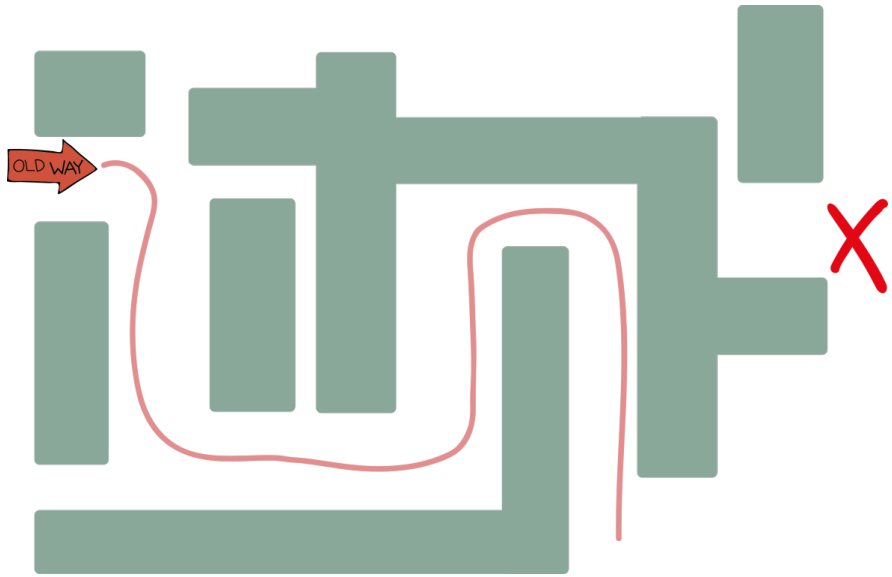
Boost motivation and commitment

Encourage progress through frequent follow up and appreciative attention to achievements made.

4. Seek or create a way forward

How do you proceed in existing organizational settings until priorities, incentives and structures are supportive enough?

- Can you create your own bit of luck?



4. Seek or create a way forward

Seek beneficial conditions

Is it possible to arrange a “fast lane” to interested managers, e.g. through resources to a specific project, or co-development with other goals?

Anticipate and meet reluctance and insecurity

Can you proactively assist with rationales and arguments for different functions? If not alone, perhaps with the use of third party actors?

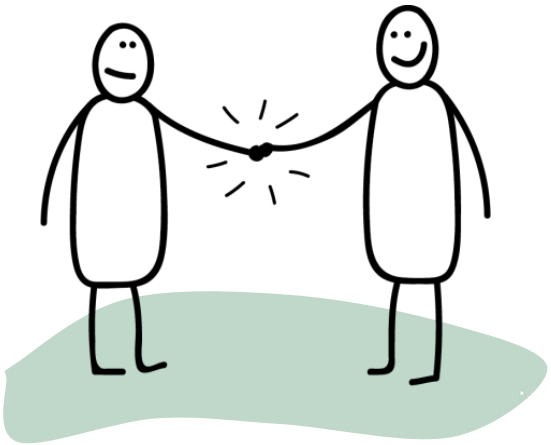
Start where it is possible

Who is already interested? Team up with partners showing interest, internally as well as in the value chain.

Recommendations for policy

Make it strategic

- Set targets on life cycle energy efficiency
- Make economic incentives and environmental impact coincide
- Use innovation procurement based on life cycle energy performance



Act as catalysts for system innovation

- Support global initiatives such as standardization, incentives and regulations.
- Create or support forums to discuss governance in supply chains
- Invest in research as well as in education and implementation

Further interest?

Contact: Emma Rex, emma.rex@sp.se

Full report: Rex, Brunklaus and Lorentzon (2015) *Energy efficiency along the value chain - Ways of working for increased competitiveness* SLC Report 2015:6 http://lifecyclecenter.se/publications/

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Comments, questions and reflections