



# THE ROLE OF LIFE CYCLE THINKING IN SUSTAINABLE INNOVATION AND SUSTAINABLE LIFESTYLES

Emma Rex

November 2017

RISE Research Institutes of Sweden

**ENERGY AND CIRCULAR ECONOMY  
SUSTAINABLE SOCIETY**





RI.  
SE

43 %



RI.  
SE





# Swedish Life Cycle Center

---

Partners:

CHALMERS



SONY



SKF

VATTENFALL



VOLVO

In collaboration with:



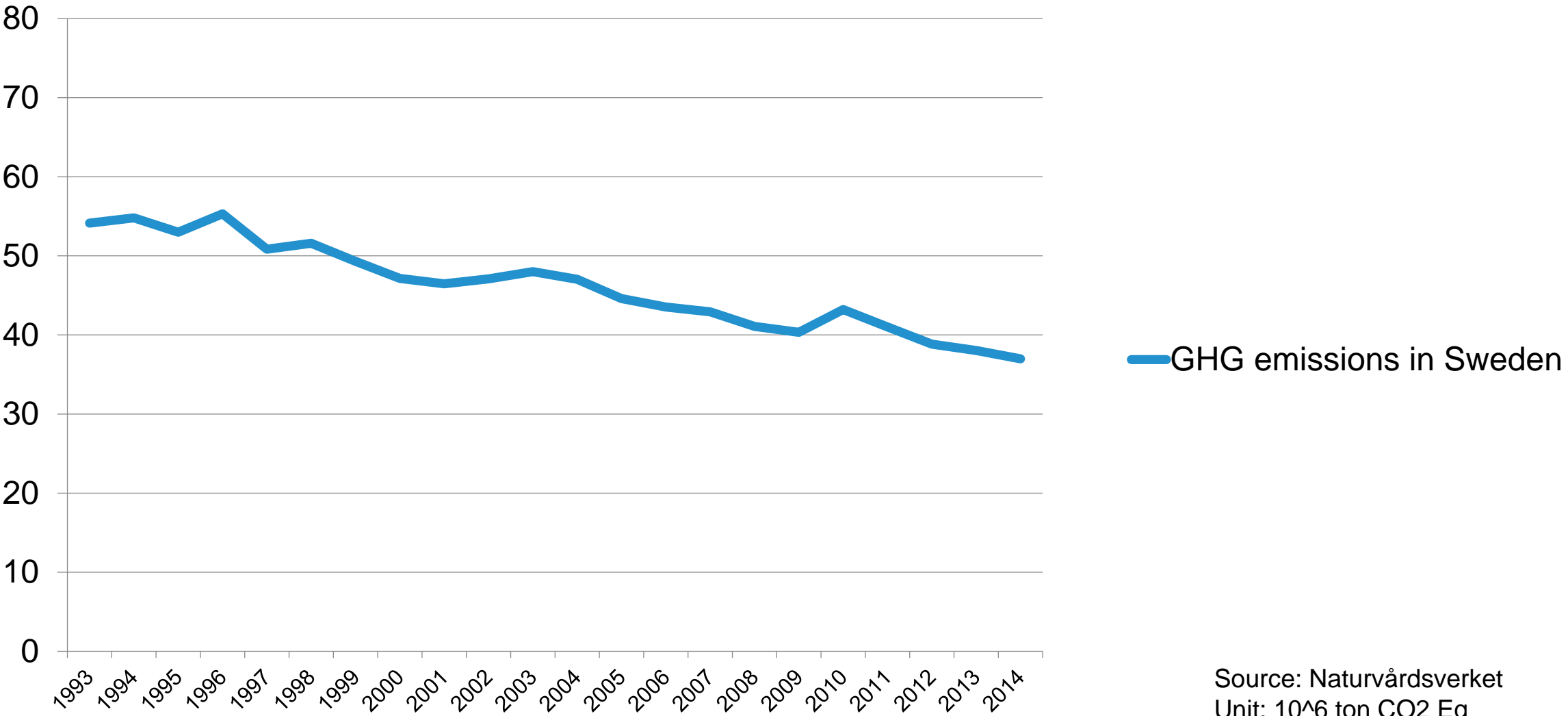
# The life cycle perspective



Follow all physical flows of a product or service along the life cycle

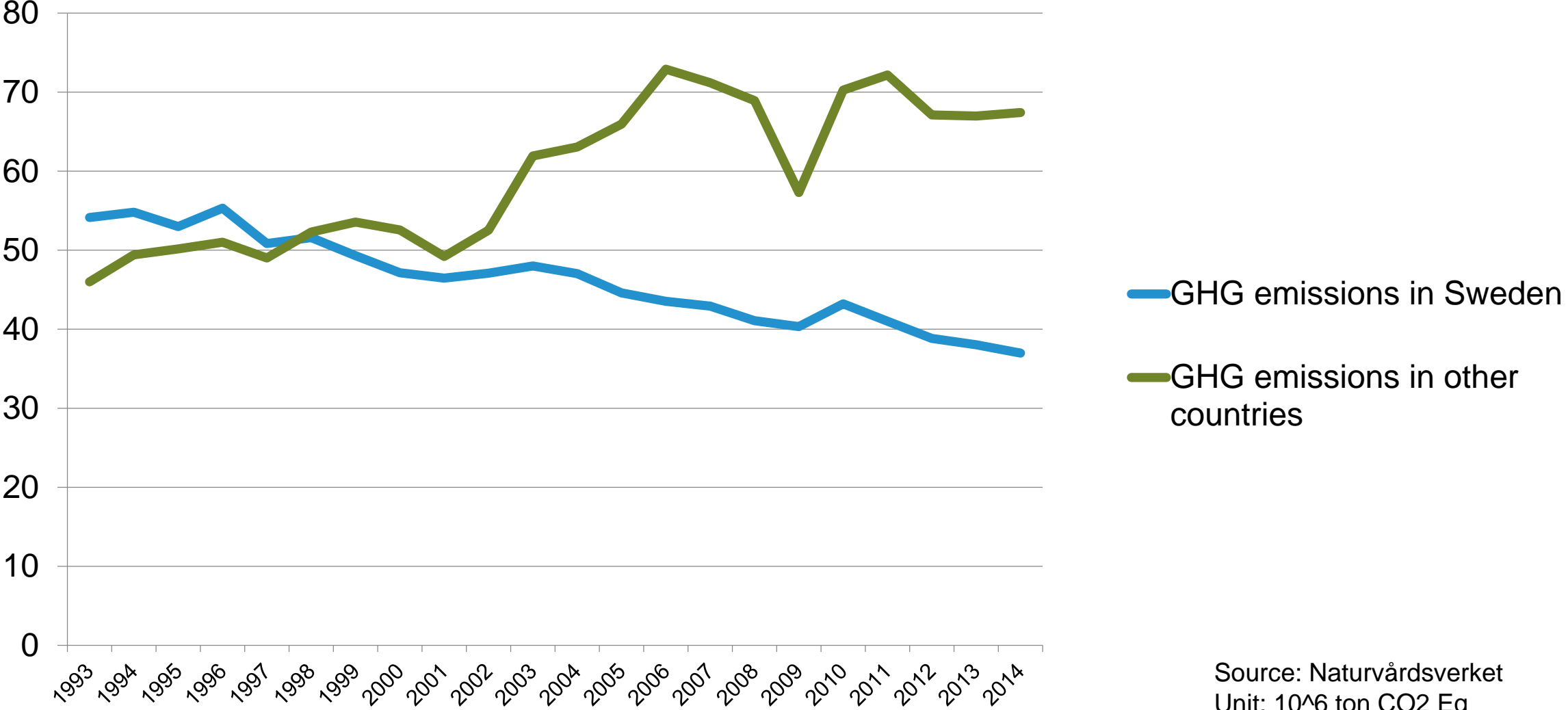
- Global warming potential
- Acidification
- Eutrophication
- Resource depletion
- Etc.

# GHG emission, Swedish consumption



Source: Naturvårdsverket  
Unit: 10<sup>6</sup> ton CO<sub>2</sub> Eq

# GHG emission, Swedish consumption



Source: Naturvårdsverket  
Unit: 10<sup>6</sup> ton CO<sub>2</sub> Eq

# Generational goal

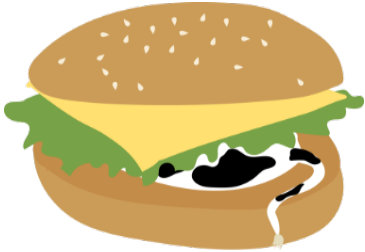
The overall goal of Swedish environmental policy is to hand over to the next generation a society in which the major environmental problems in Sweden have been solved, without increasing environmental and health problems outside Sweden's borders.





# Assessing lifestyle choices

# Climate impact



1

2

3

4

5

6

# Climate impact



1

2

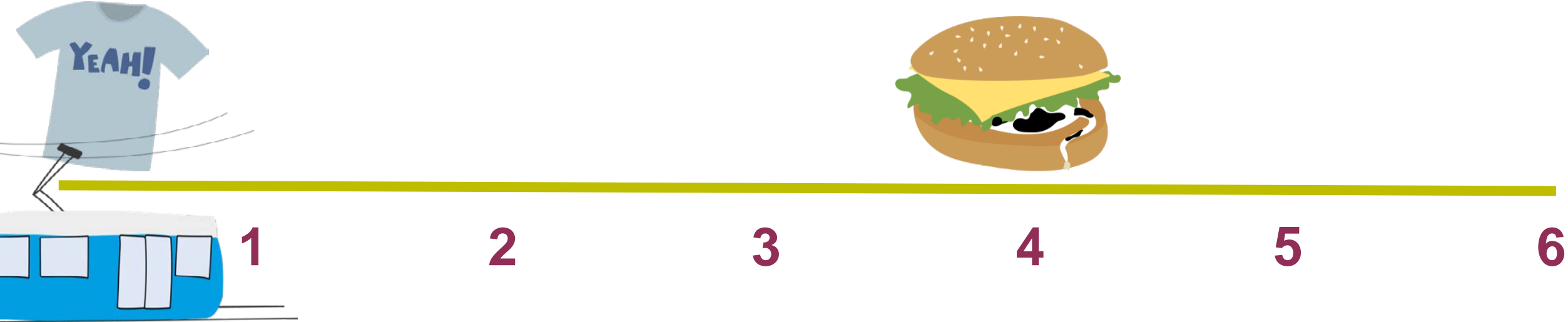
3

4

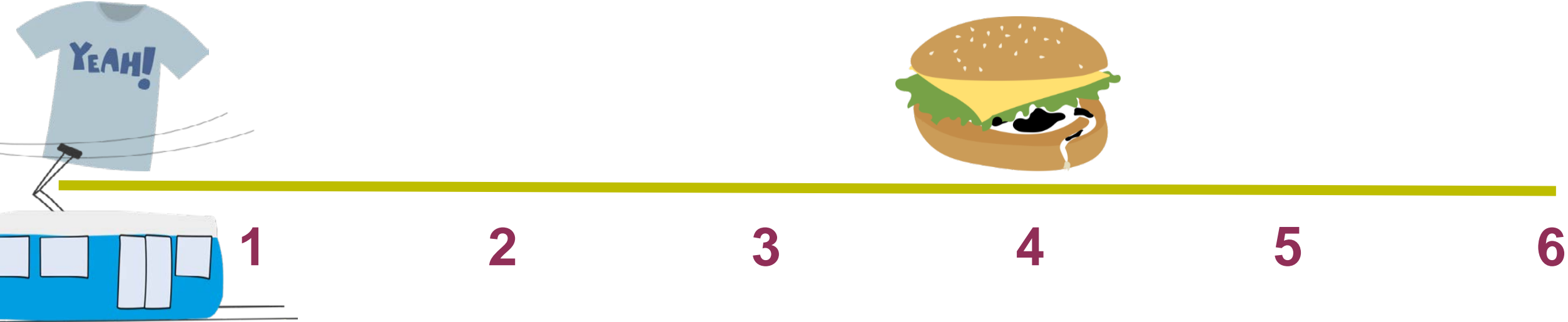
5

6

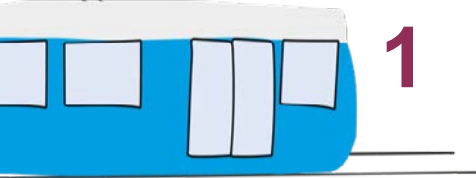
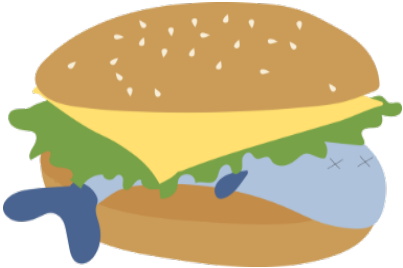
# Climate impact



# Climate impact



# Climate impact



1

2

3

4

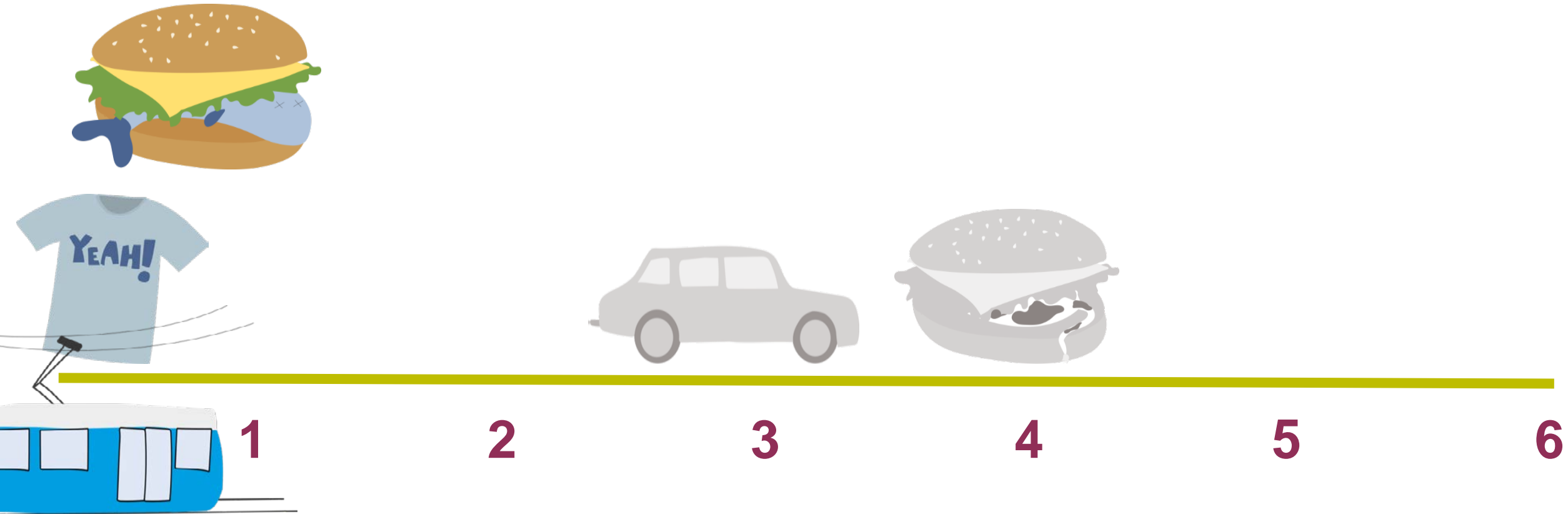
5

6

Kg CO2 eq



# Climate impact



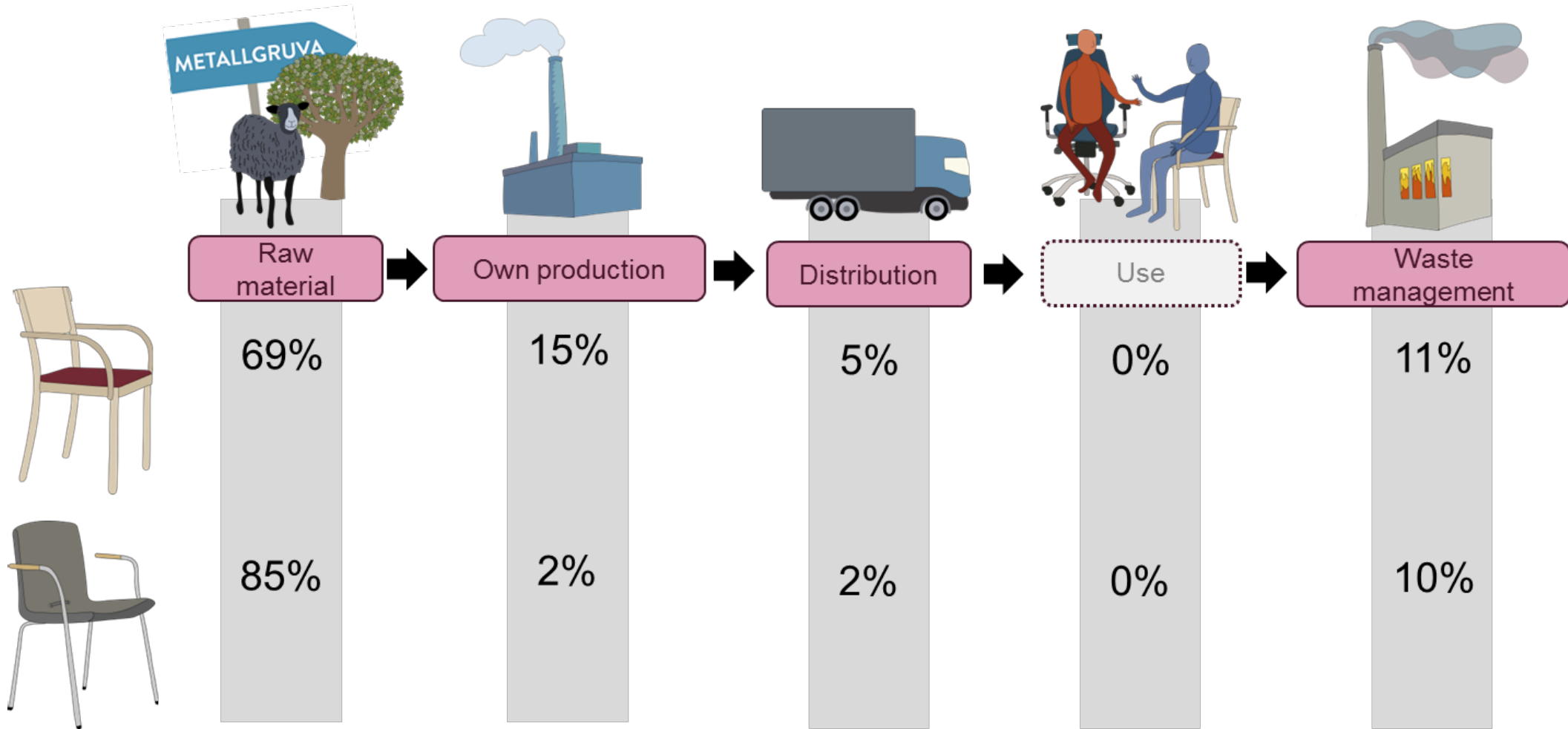
# Life cycle thinking as driver for innovation



# Life cycle thinking as driver for innovation



# Business model innovation



Share of GHG emissions  
Cirkulära möbelflöden, 2016



# Effects



---

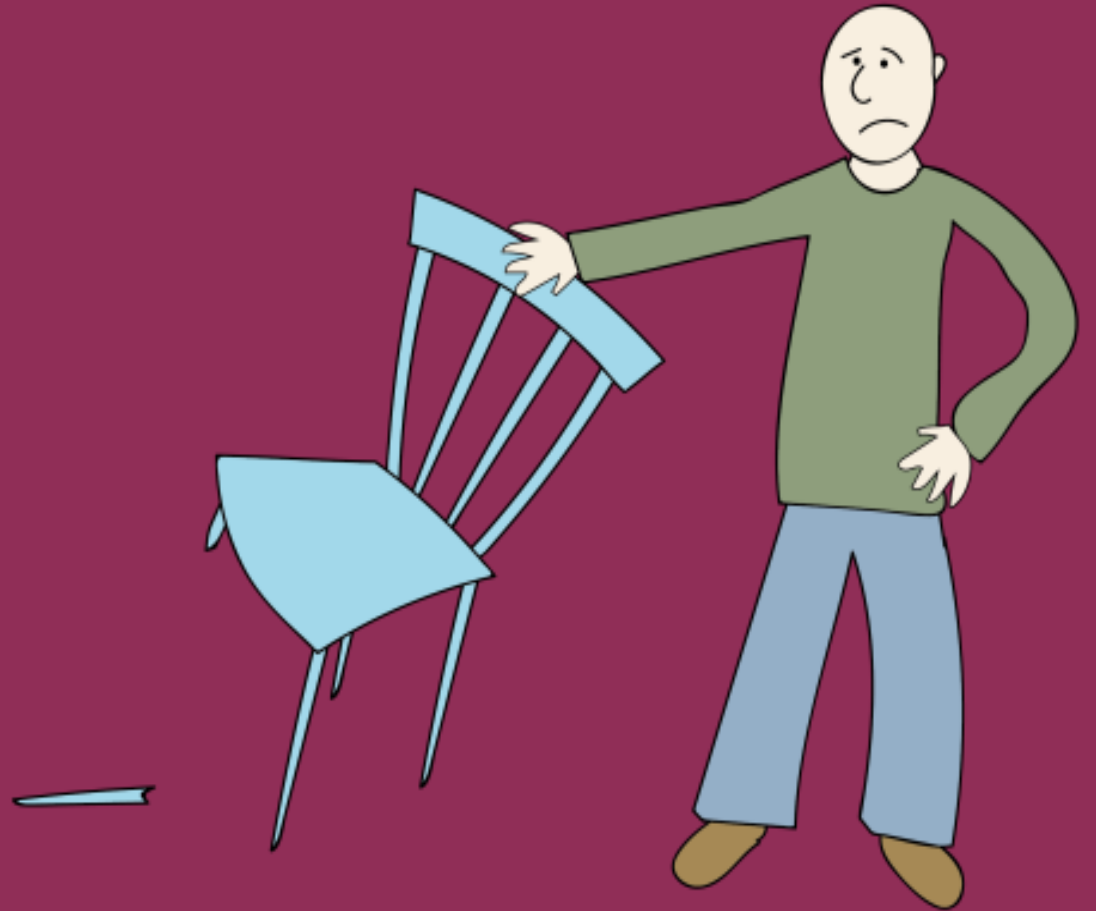
- 30%



- 50%

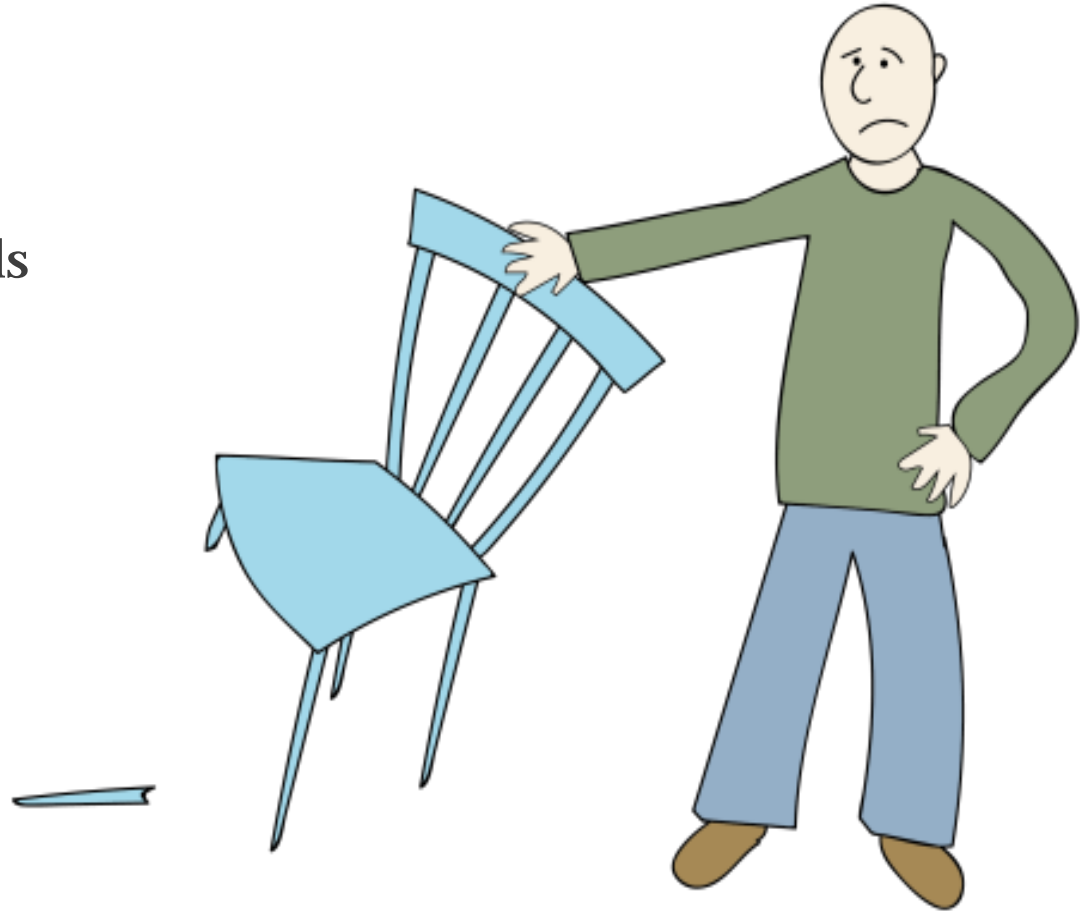


Whose responsibility  
is a sustainable  
lifestyle?



# Need for a systems perspective

- Assess impact
- Design products, services – and business models
- Communicate
- Create supporting infrastructures
- Challenge norms
- ...

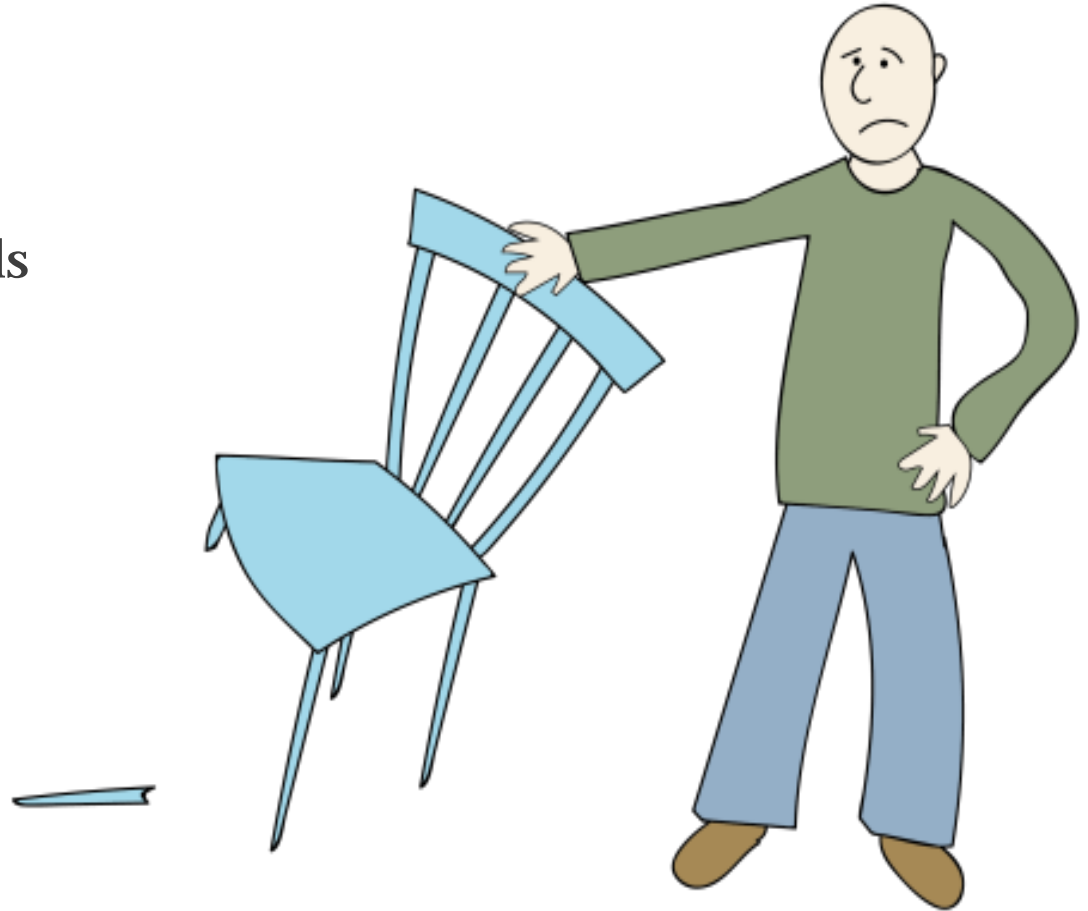


# TJAFS – Service development in waste management



# Need for a systems perspective

- Assess impact
- Design products, services – and business models
- Communicate
- Create supporting infrastructures
- Challenge norms
- ...





# Need for a systems perspective

- Assess impact
- Design products, services – and business models
- Communicate
- Create supporting infrastructures
- Challenge norms
- ...



**SUSTAINABLE  
LIFESTYLES  
INITIATIVE**

# More about the life cycle perspective

- Education for professionals in Applied life cycle thinking
- The role of life cycle thinking in a Circular Economy
- Swedish platform for the life cycle perspective
- ...

[www.lifecyclecenter.se](http://www.lifecyclecenter.se)



Swedish Life Cycle Center





## CONTACT

Emma Rex

[Emma.Rex@ri.se](mailto:Emma.Rex@ri.se)

RISE Research Institutes of Sweden

**ENERGY AND CIRCULAR ECONOMY  
SUSTAINABLE SOCIETY**

