Aalto University
School of Arts, Design
and Architecture

Design Approaches to Sustainable Consumption

Session 12: Summary session

Thursday 16.2.2023 (9:15–12:00)

Agenda

9:15–10:15	Discussion on case work results
10:30–11:15	Summary & discussion on course contents
11:15–11:30	Final tasks & completing course
11:30–	Fill in course feedback

Discussion on case work results

Case work outcomes

Thank you for great presentations on Tuesday!

- All groups provided well-thought concept ideas ranging from regulation to campaigning, and designs from digital to physical platforms
- All presentations were clearly structured and nicely conducted!
- Remember to consider feedback in your project report (e.g. in reflection)
- More feedback on case outcomes compiled later together with overall evaluation and individual learning diary feedback

Feedback from citizen workshops and ORSI project researchers

Aalto University
School of Arts, Design
and Architecture

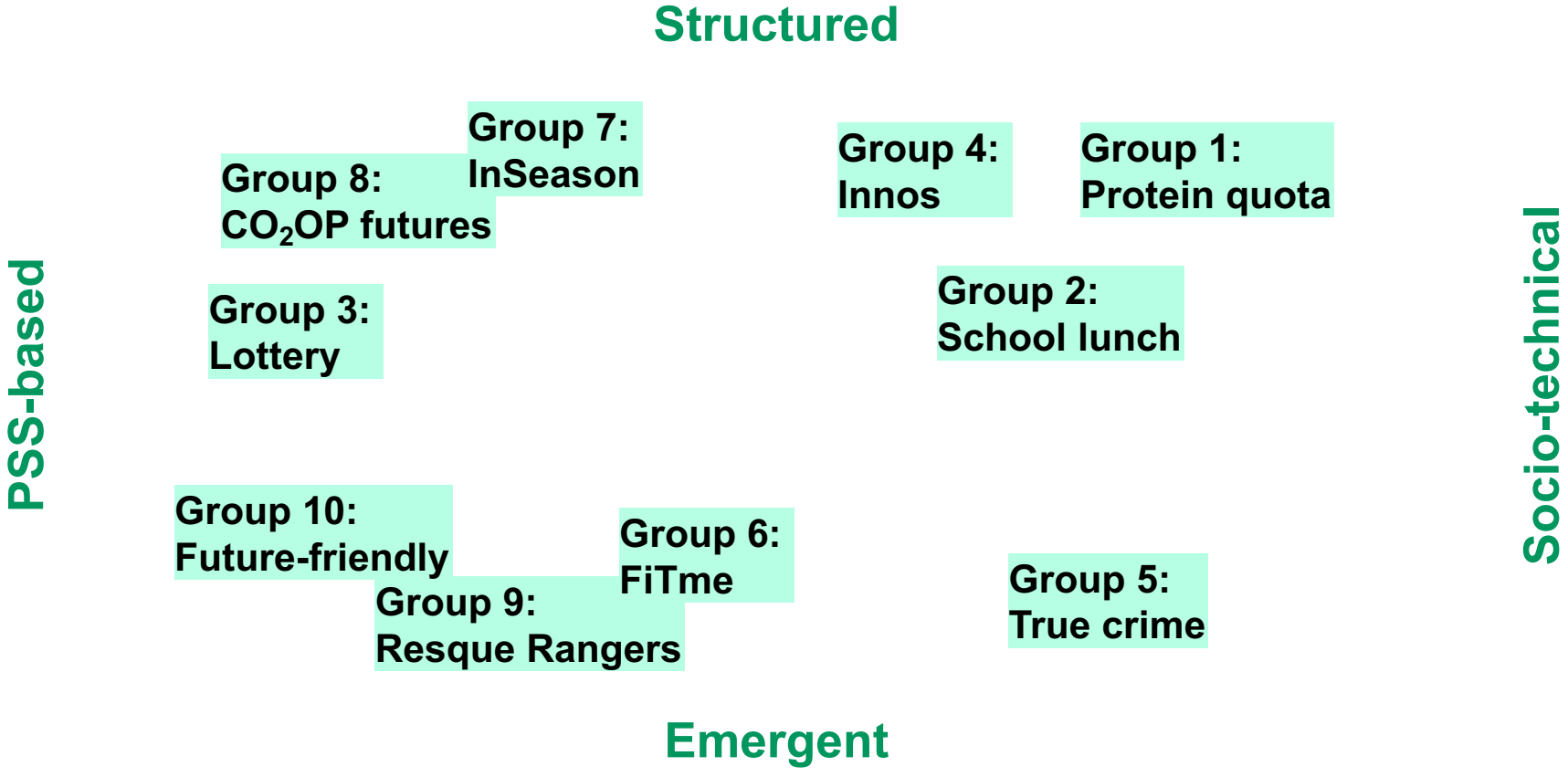
Discussion and feedback on case work

Case work process and outcomes – feedback

Please think of some feedback based on your case work progress and outcomes:

- What worked and what didn't work?
- What we as teachers could've done better
- General issues on team management (peer evaluation explained later)
- After session, please also fill in course feedback that includes a questions on case component

Reflection on case work outcomes – concepts as approaches to sustainability:



Recap of course topics

Course and case work schedule

Working days	Tuesdays (13-17)	Thursdays (9:15-12)
Week 1 (10. & 12.1.)	Introduction to course; DfS introduction (F101)	**Case introduction:** **Food system sustainability** (Q201)
Week 2 (17. & 19.1.)	Systemic (PSS) design and circular economy (Q201)	Design for sufficiency (Q201)
Week 3 (24. & 26.1.)	**Presenting case work ideas** (F101)	Assessing and communicating sustainability impacts (Q201)
Week 4 (31.1. & 2.2.)	Negotiating food systems experiments (Q201)	Scaling-up design ideas (Q201)
Week 5 (7. & 9.2.)	One planet game session (A Grid / Mordor)	**Case work tutoring** (Q101) ***Concept poster by Friday!***
Week 6 (14. & 16.2.)	**Final presentations** (F101)	Summary discussion (Q101)

Week 1:
Introduction to DfS

Aalto University
School of Arts, Design
and Architecture

Strategies for Design for Sustainability

DfS approaches can be divided in **four levels of focus** according their relation to systemic and socio-technical emphases (Ceschin & Gaziulusoy, 2020):

1. Product innovation level:

- Green design
- Ecodesign
- Emotionally durable design
- Design for sustainable behaviour
- Cradle-to- Cradle design
- Biomimicry design
- Design for the Base of the Pyramid

2. Product-Service System innovation level:

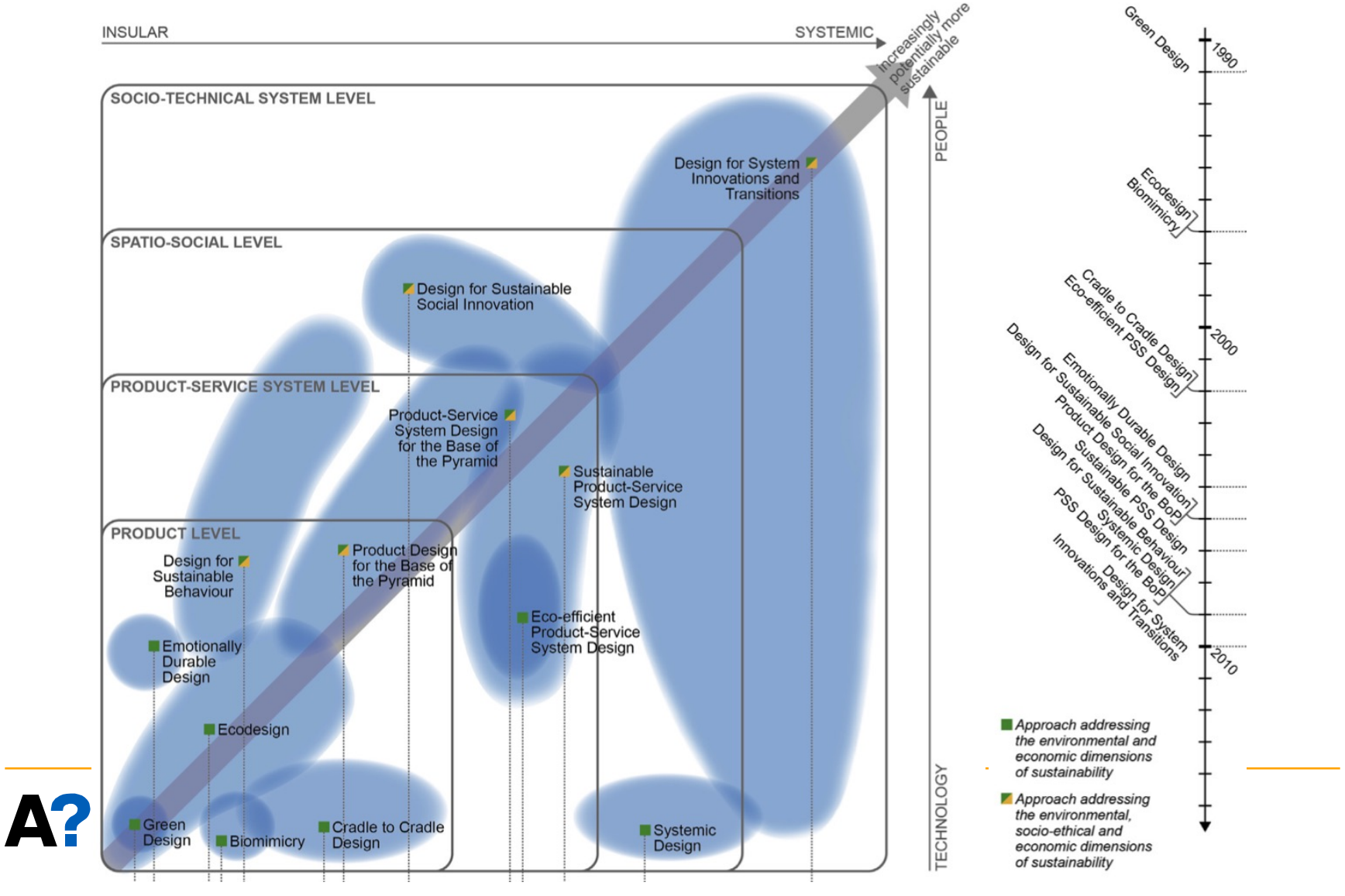
- Product-Service System design

3. Spatio-Social innovation level:

- Design for Social Innovation
- Systemic Design

4. Socio-Technical System Innovation level:

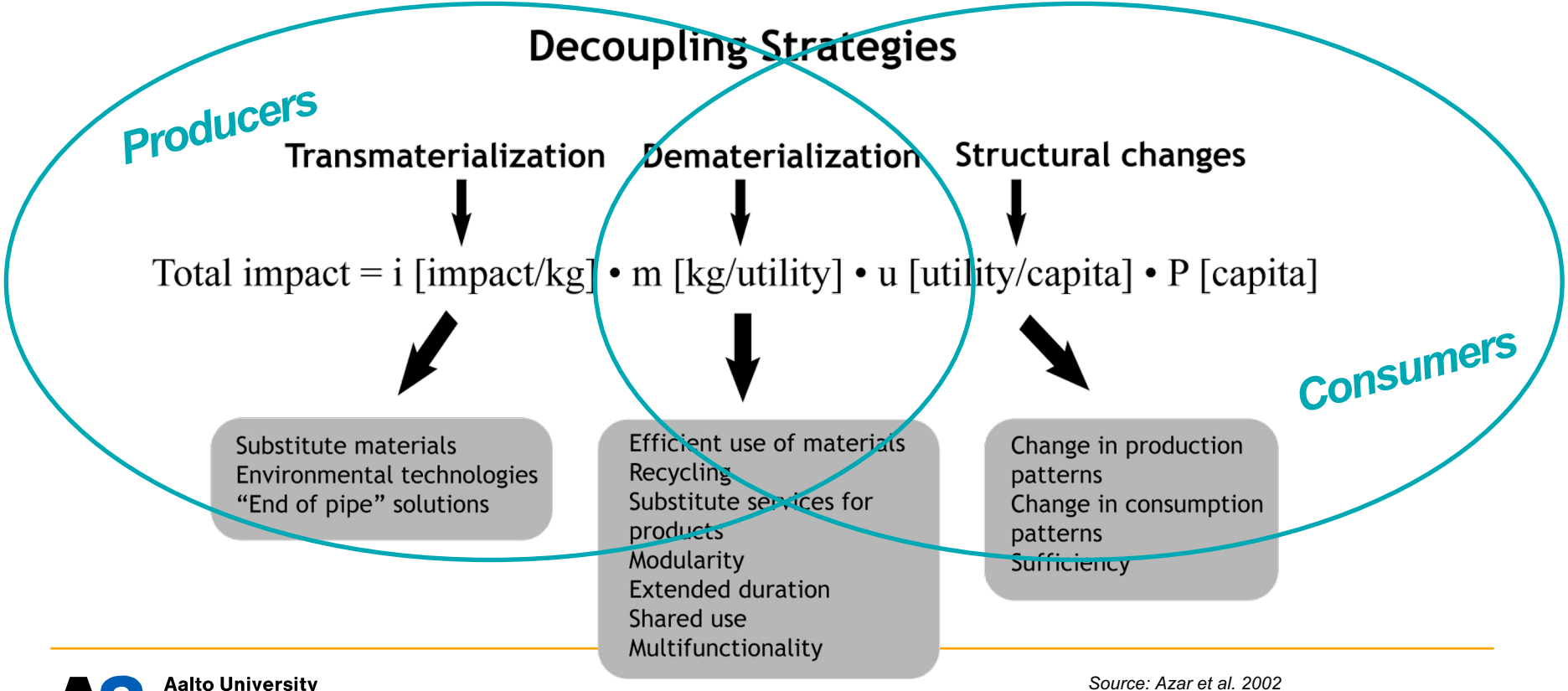
- Design for System Innovations and Transitions


INSULAR
SYSTEMIC
increasingly potentially more sustainable
PEOPLE
TECHNOLOGY
SOCIO-TECHNICAL SYSTEM LEVEL
SPATIO-SOCIAL LEVEL
PRODUCT-SERVICE SYSTEM LEVEL
PRODUCT LEVEL
Design for System Innovations and Transitions
Design for Sustainable Social Innovation
Product-Service System Design for the Base of the Pyramid
Sustainable Product-Service System Design
Design for Sustainable Behaviour
Product Design for the Base of the Pyramid
Eco-efficient Product-Service System Design
Emotionally Durable Design
Ecodesign
Green Design
Biomimicry
Cradle to Cradle Design
Systemic Design
Green Design
1990
Ecodesign
Biomimicry
Cradle to Cradle Design
Eco-efficient PSS Design
2000
Emotionally Durable Design
Design for Sustainable Social Innovation
Product Design for the BoP
Sustainable PSS Design
Design for Sustainable Behaviour
Systemic Design
PSS Design for the BoP
Design for System Innovations and Transitions
2010
Approach addressing the environmental and economic dimensions of sustainability
Approach addressing the environmental, socio-ethical and economic dimensions of sustainability

Week 2: PSS design & design for sufficiency

Aalto University
School of Arts, Design
and Architecture

Strategies for Sustainable Consumption and Production



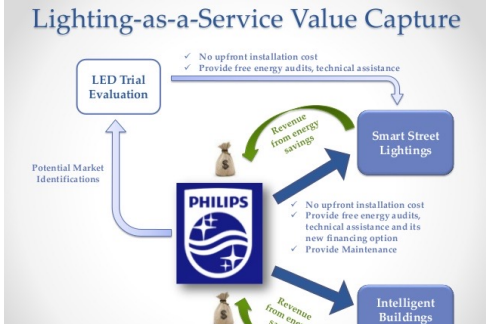
Source: Azar et al. 2002

Sustainable PSS: Examples

Product oriented:

Use oriented:

Result oriented:



couchsurfing

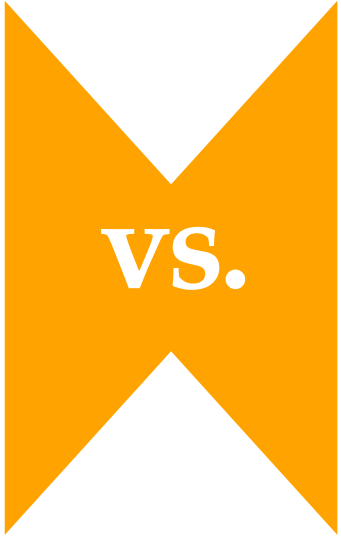
Some examples of sustainable PSS:
Services for mobility, food systems, and products

Car leasing service: no owner-ship or maintenance, guaranteed access with monthly fee

Food delivery service: online service with 3rd party delivery

Repair service by mail: ability to repair selected product via mail

B2B offerings: sustainability improvements (e.g., efficient energy, transport) as services



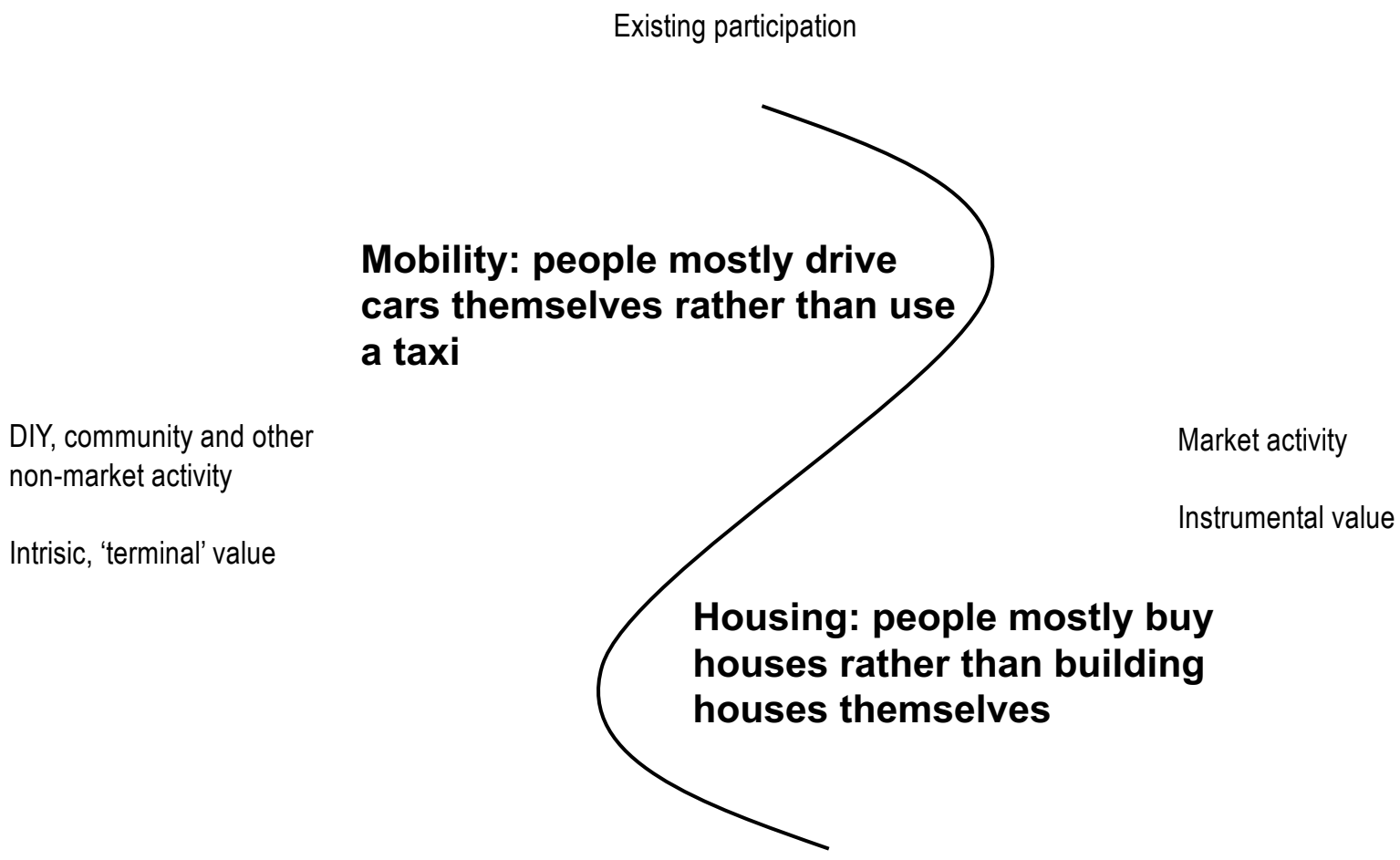
Car sharing and peer-repair service: platform for peer-sharing and repairing vehicles

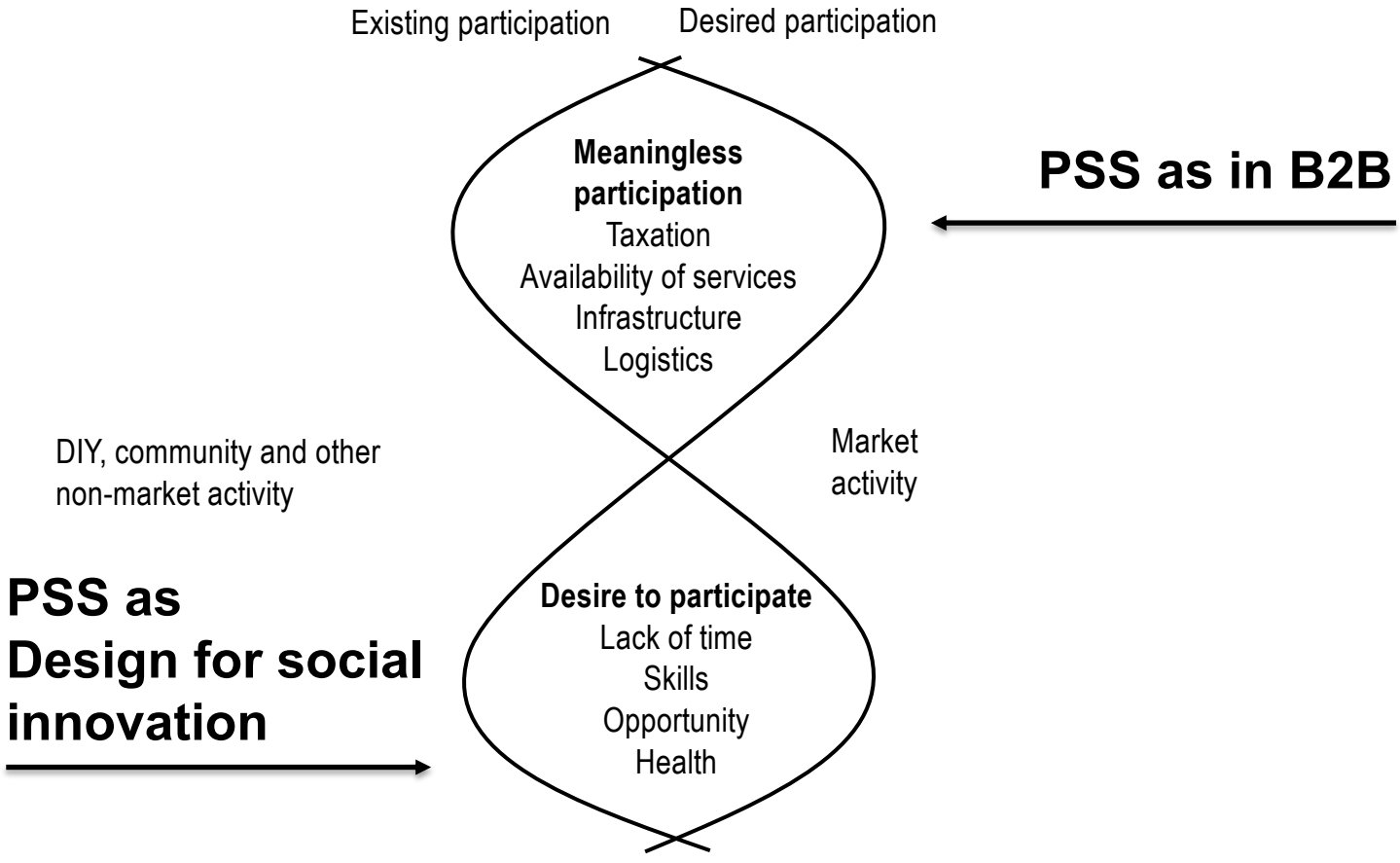
Community kitchen: a place for community to gather around food

Open repair workshop: a supported workshop for repair and tool rentals

B2B collaborations: gather into networks to create platforms for peer-service and development

...Remember a critical perspective in considering sustainability improvements!


Existing participation
Mobility: people mostly drive cars themselves rather than use a taxi
DIY, community and other non-market activity
Intrisic, ‘terminal’ value
Market activity
Instrumental value
Housing: people mostly buy houses rather than building houses themselves


Existing participation
Desired participation
Meaningless participation
Taxation
Availability of services
Infrastructure
Logistics
PSS as in B2B
DIY, community and other non-market activity
Market activity
PSS as Design for social innovation
Desire to participate
Lack of time
Skills
Opportunity
Health

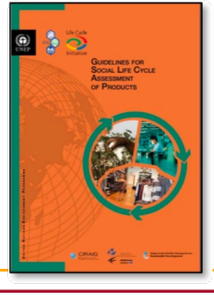
Week 3:
Assessing & communicating sustainability impacts

Aalto University
School of Arts, Design
and Architecture

Golden standards for sustainability assessment

Sustainability

	Natural	Manufactured and financial	Human and social
Capitals			
Tools	(E-) LCA Environmental life cycle assessment	LCC Life cycle costing	S-LCA Social life cycle assessment
Origins	SETAC (1991 on)	Multiple – EU, US, Other	UNEP/SETAC (2009) (2)
Methods	ISO 14000 series (1997 onwards)	Technical cost modeling (1)	
EduPack Tools	Eco-audit tool	Eco-audit with cost Part-cost estimator	



(1) http://ec.europa.eu/environment/gpp/pdf/WP-LifeCycleCosting.qx.pdf

(2) http://www.unep.fr/shared/publications/pdf/dtix1164xpa-guidelines_slca.pdf

Life-cycle assessment (LCA)

Design tools for life cycle design range from guidelines and checklists to qualitative tools, light-weight eco-auditing tools and finally to full-scale quantitative LCA research, often made by specialized industry-specific consultants.

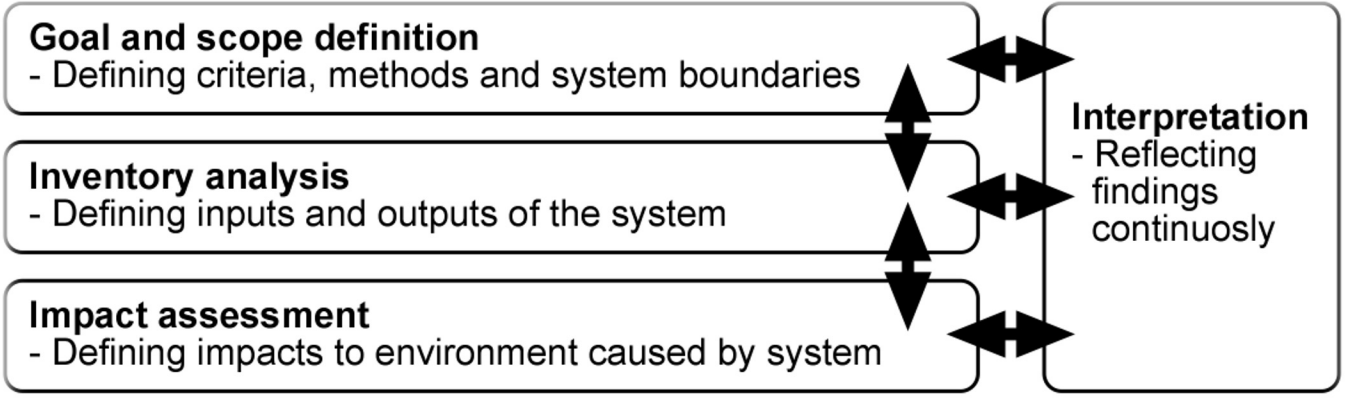
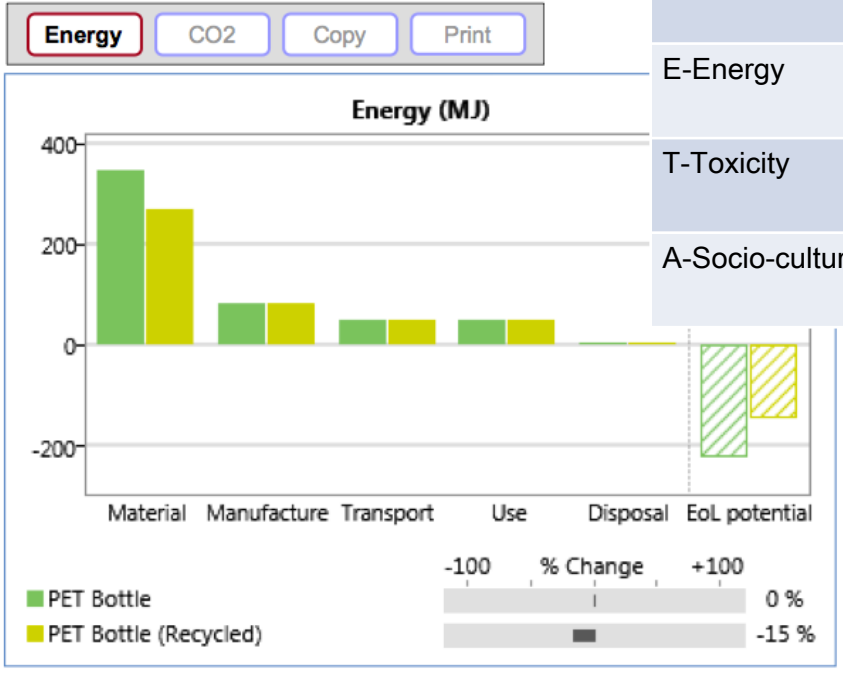


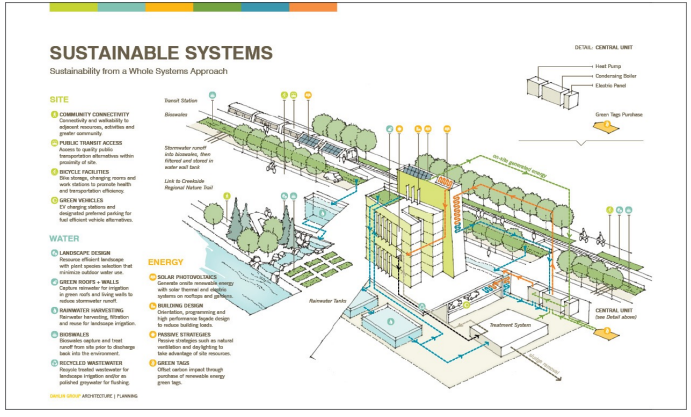
Figure 2. The process of LCA (according to ISO 14040 and ISO 14044).

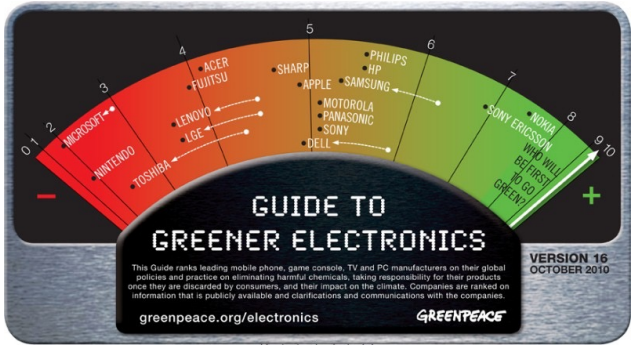
Studying and improving life-cycle impacts:

Impact category	Material production	Manufac-turing	Use-phase	End-life	Transport
M-Materials					
E-Energy					
T-Toxicity					
A-Socio-cultural					



Communicating sustainability by several ways, meanings, and touch points:

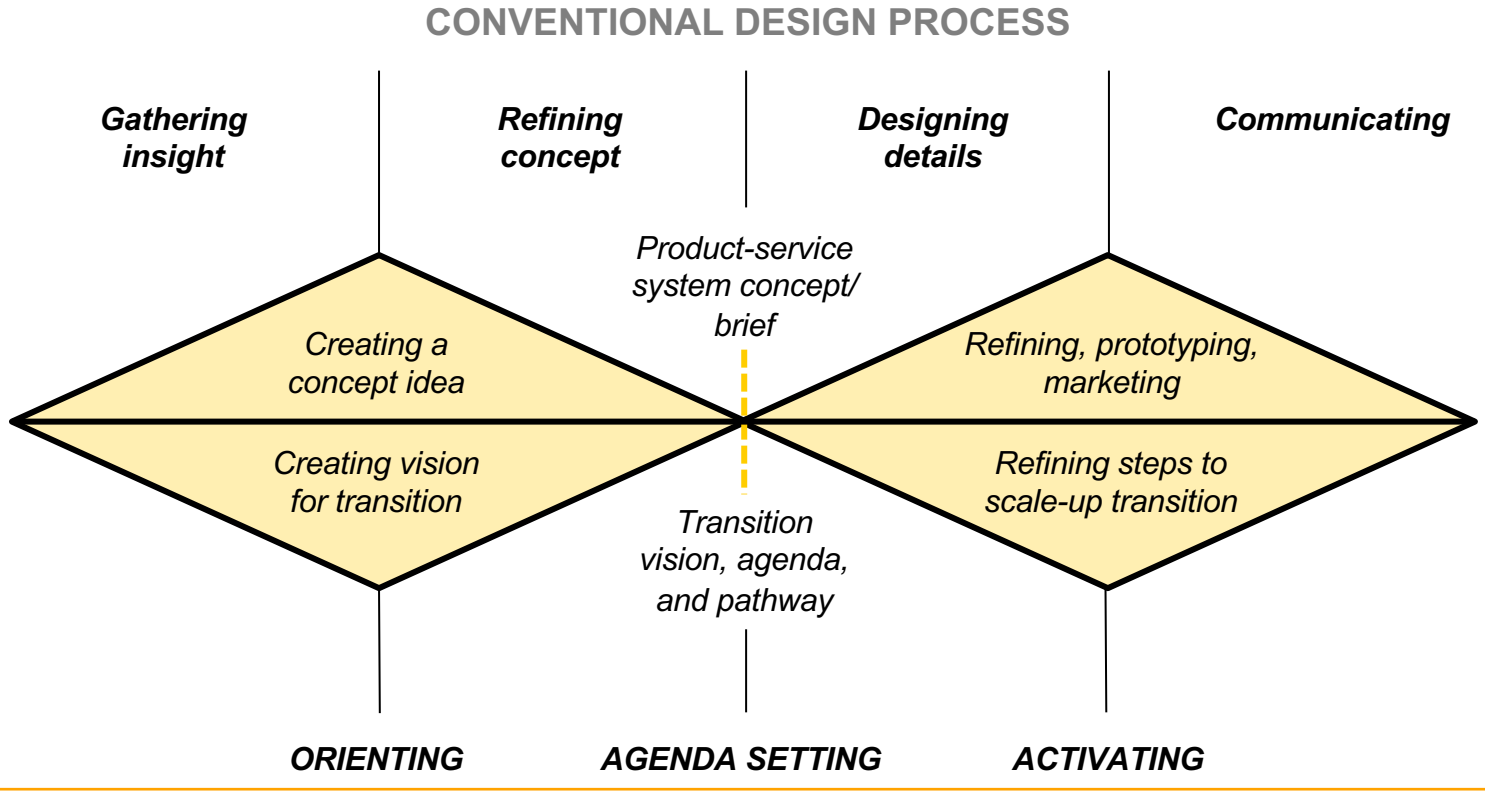




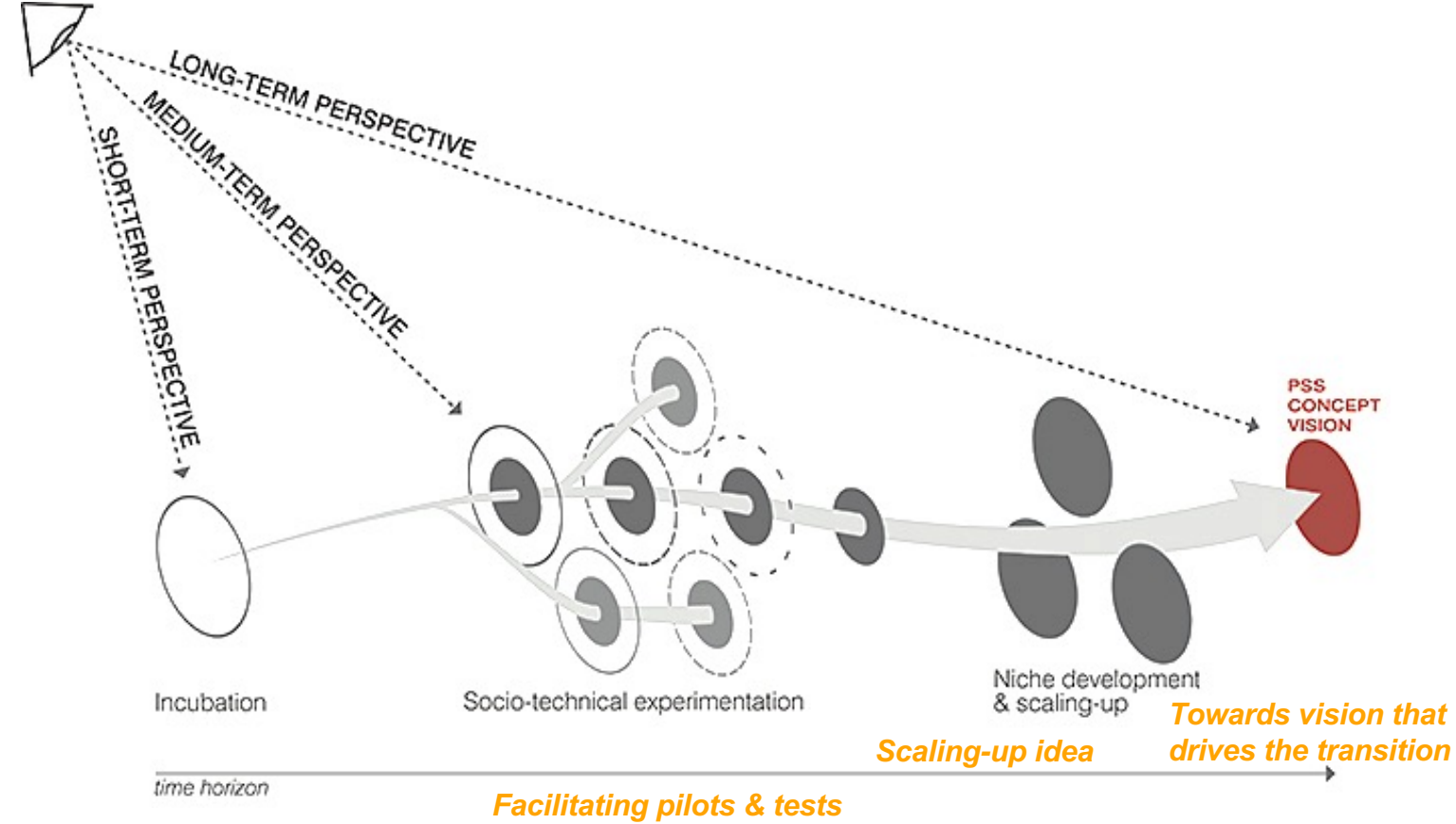
Week 4: Experimenting and scaling-up ideas

Aalto University
School of Arts, Design
and Architecture

Sustainability transitions and design process



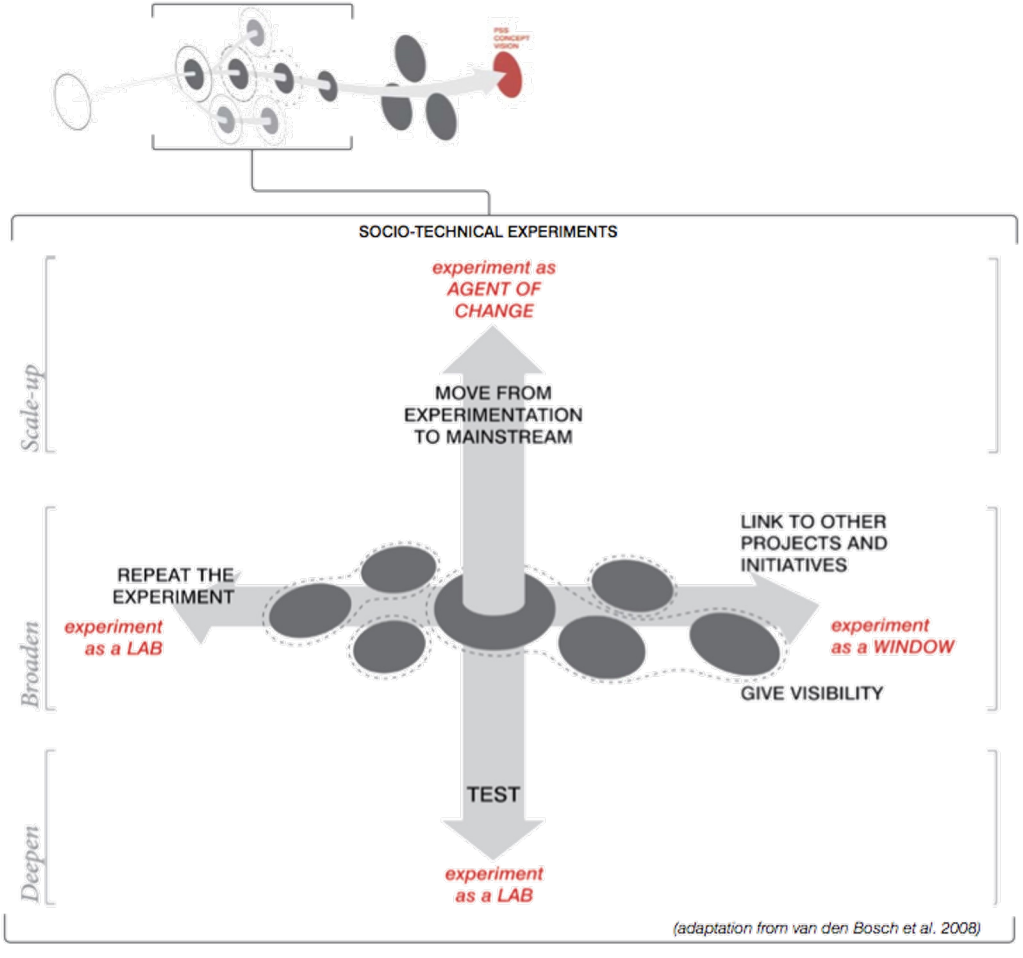
Multi-term design attitude, with focus on different time perspectives:



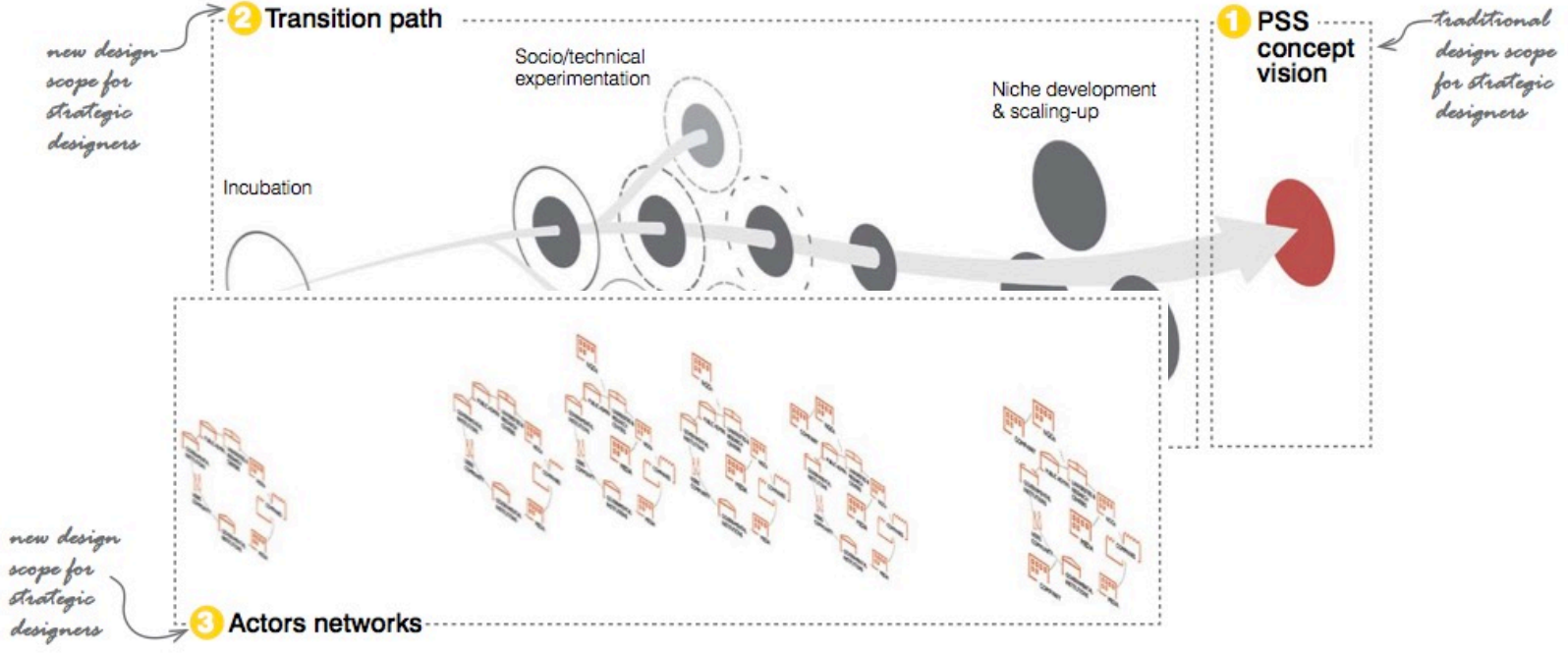
Source: Ceschin, 2014

Planning experiments to validate and communicate your design:

In the testing, piloting and scaling-up phase emphasis on creating **socio-technical experiments** that help to *test* and *link* the design idea and to *move it towards the mainstream.*



Designing the transition phases, experiments, and steps:



Transition management process:

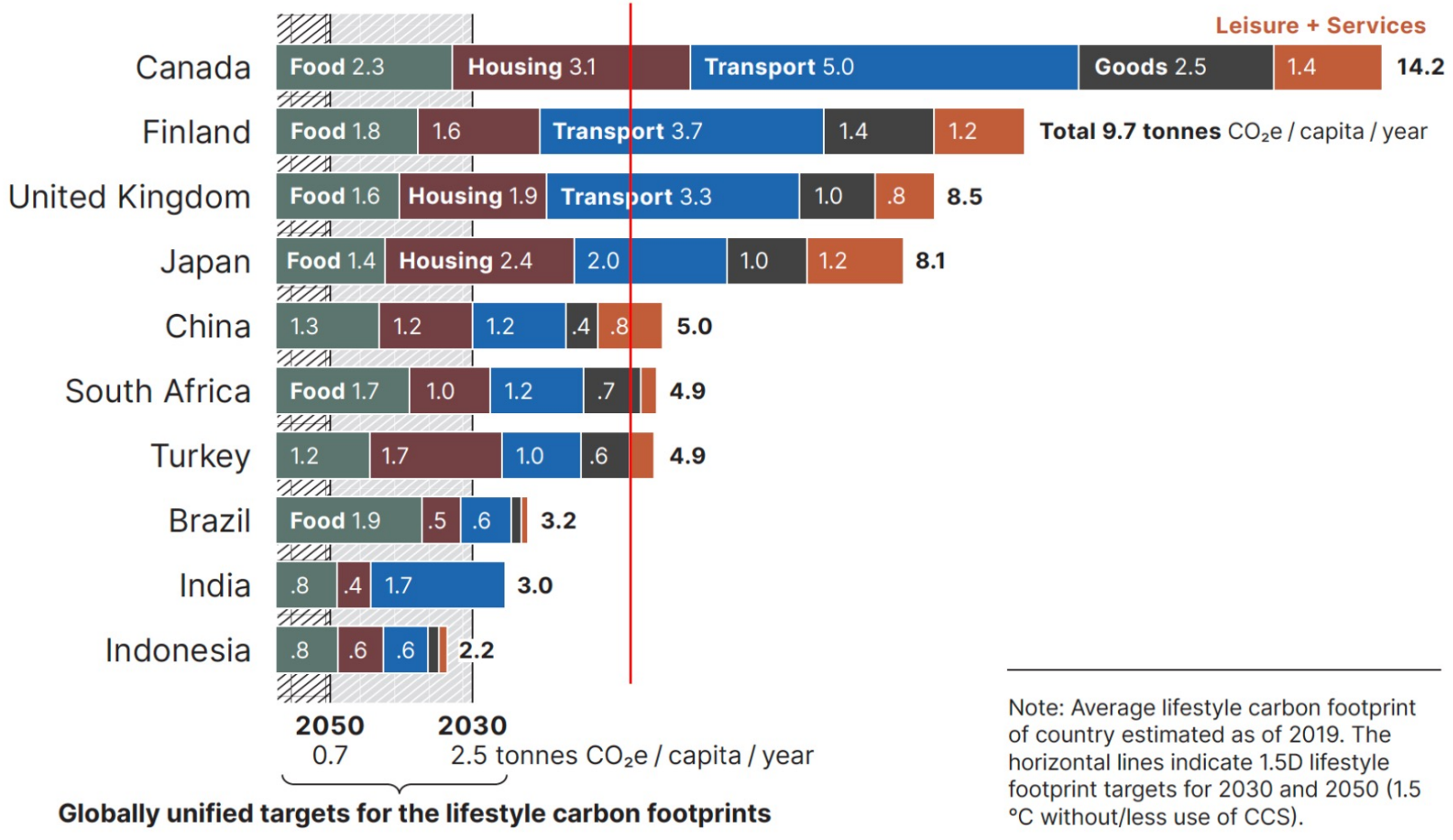
Initiate Transition arena	*Discuss starting points:* Current situation, drivers, and first steps	*Develop vision and its elements:* Transition targets and goals	*Design and prioritize different steps on the timeline:* Actor networks, interactions, connections to further action	*Getting into action*

Source: Ceschin, 2013

Week 5:
Design for one planet and ‘One planet puzzle’

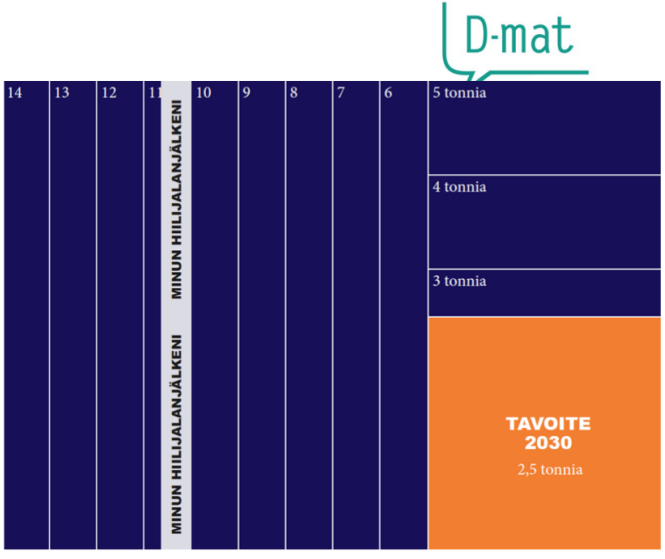
Aalto University
School of Arts, Design
and Architecture

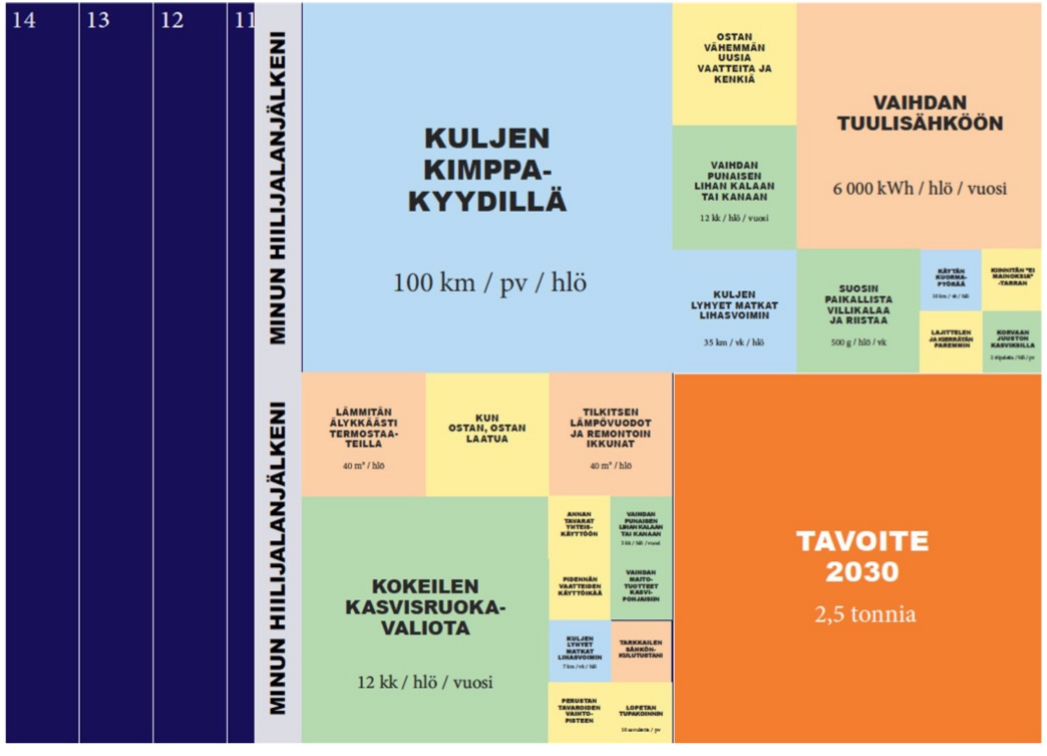
Current and target lifestyle carbon footprints:



Note: Average lifestyle carbon footprint of country estimated as of 2019. The horizontal lines indicate 1.5D lifestyle footprint targets for 2030 and 2050 (1.5 °C without/less use of CCS).

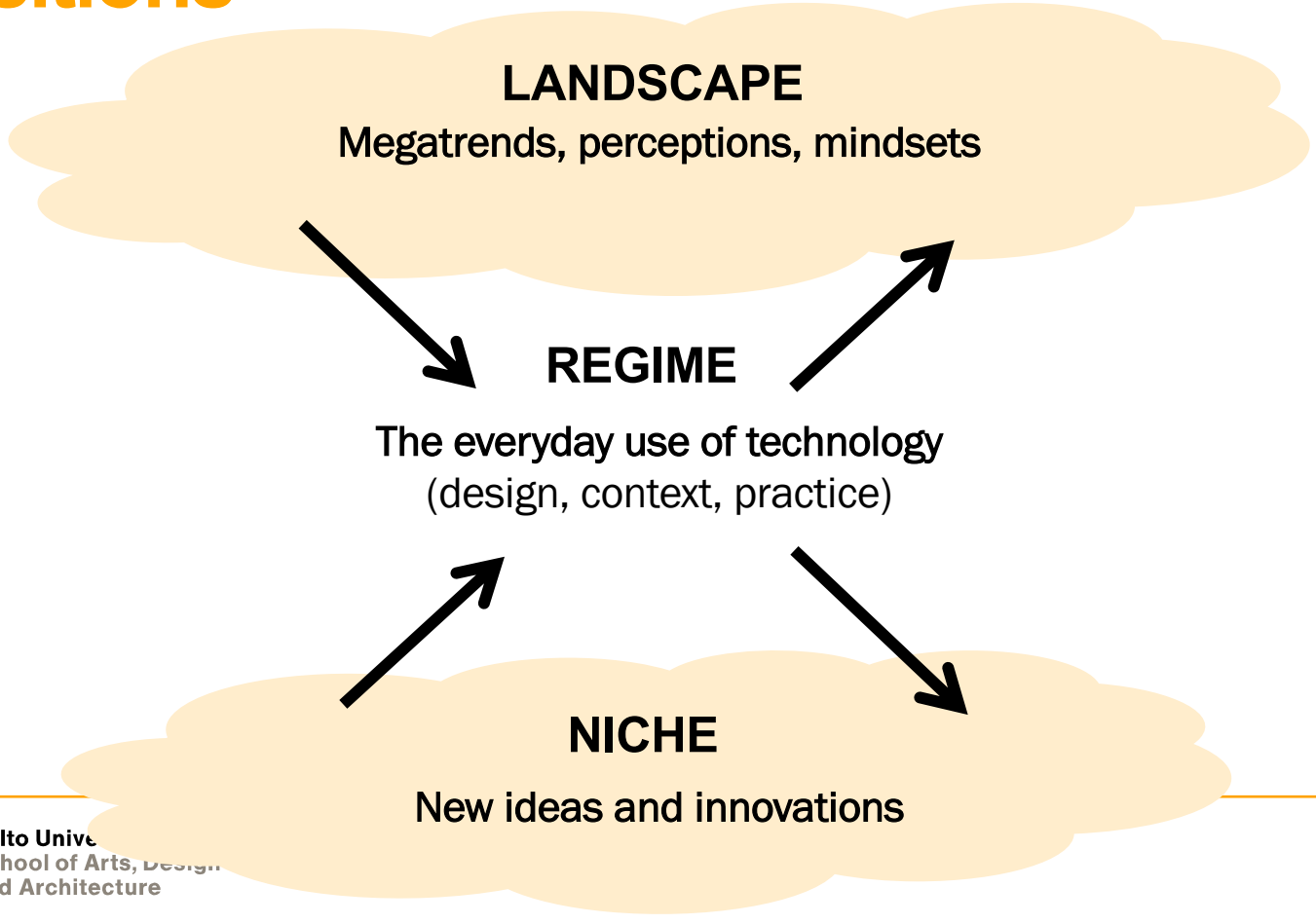
Studying different actions (and interactions) to mitigate life-style impacts:





Summary

Multilevel perspective to sustainability transitions

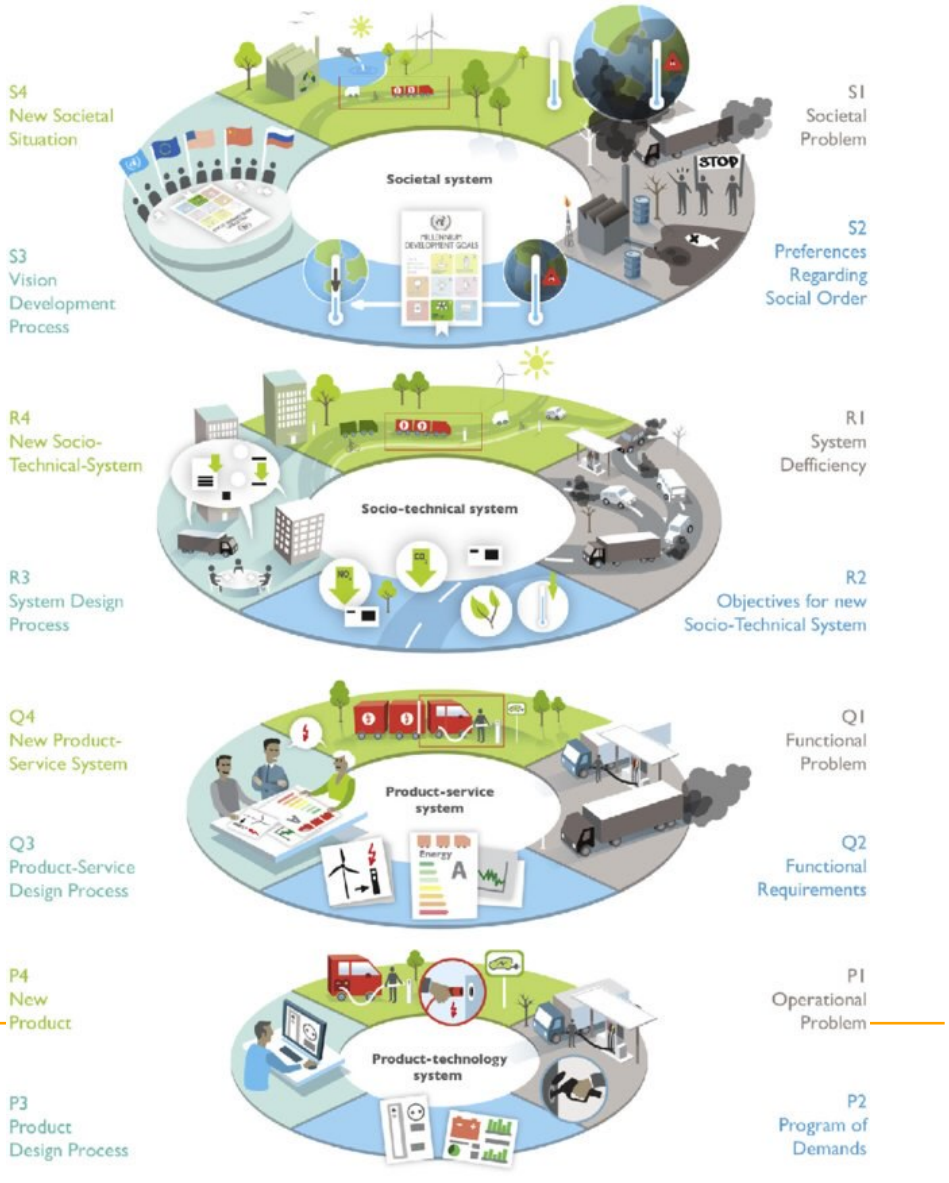


Multilevel focus for design

Multilevel perspective adapted to design:

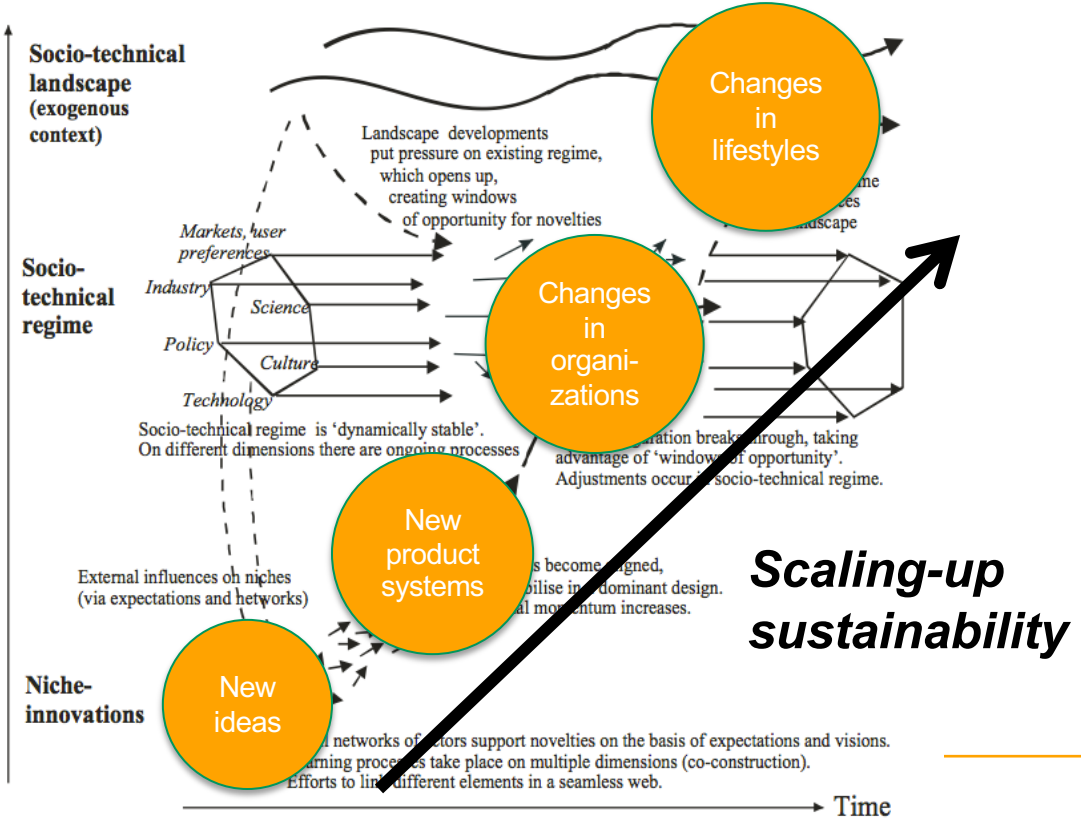
”The role of designers is broadening, from the creators of physical arte-facts to the potential role of facilitators of complex societal change processes. To support the widening role of the designer, there is a need for a design supportive model.”

Multilevel Design Model (MDM) by Joore & Brezet (2014)



Design connecting with potential for scaling-up

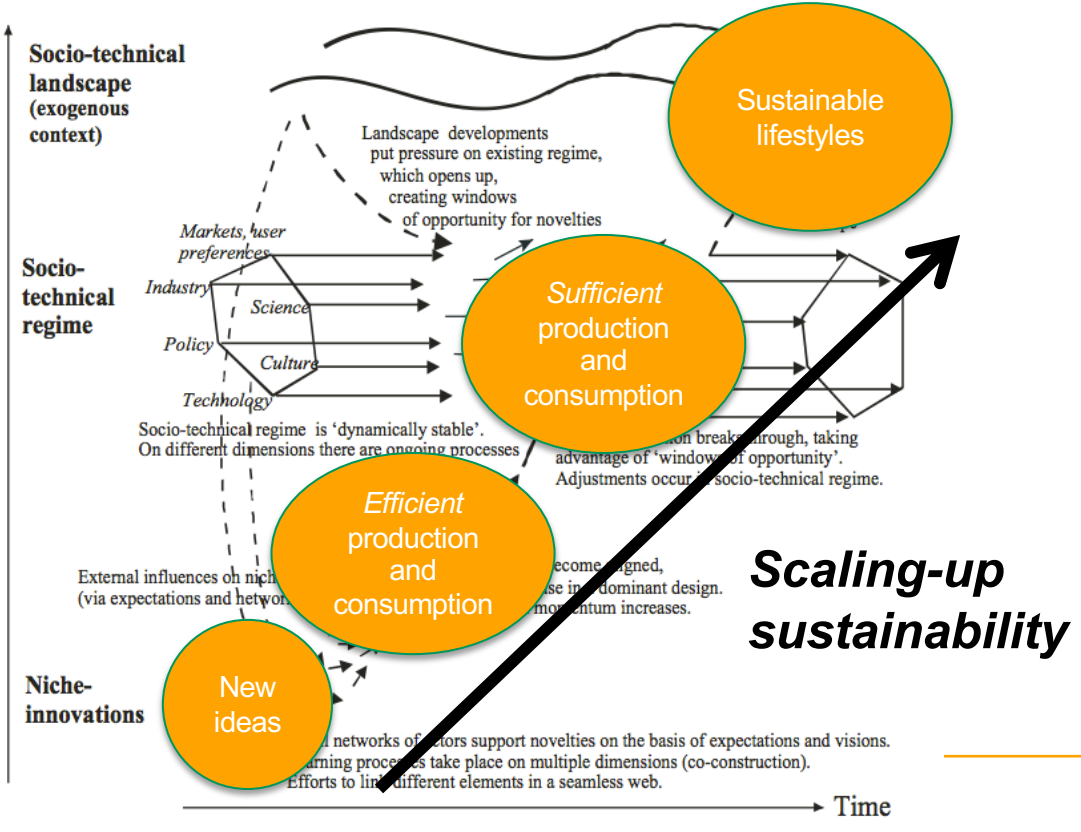
Scaling-up sustainability transitions within the socio-technical context:



Source: Geels, F. (2011) Multi-level perspective on sustainability transitions

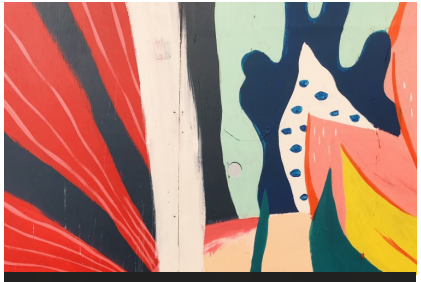
Design connecting with potential for scaling-up

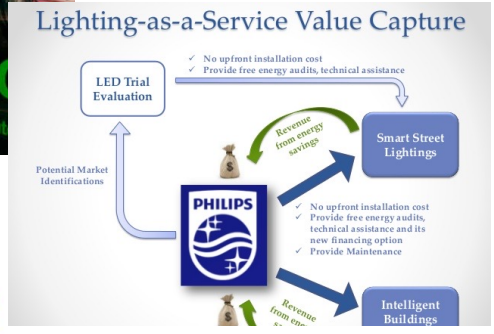
Scaling-up sustainability transitions within the socio-technical context:



Source: Geels, F. (2011) Multi-level perspective on sustainability transitions

Connecting (design) action on several levels:





Ruoka Osuuskunta
KAUPUNKILAISTEN OMA PELTO

couchsurfing

Product level:
Green design, ecodesign, etc.

Product-service-system level:
Servicization, functional approach to products

Societal level:
Transitions design & management

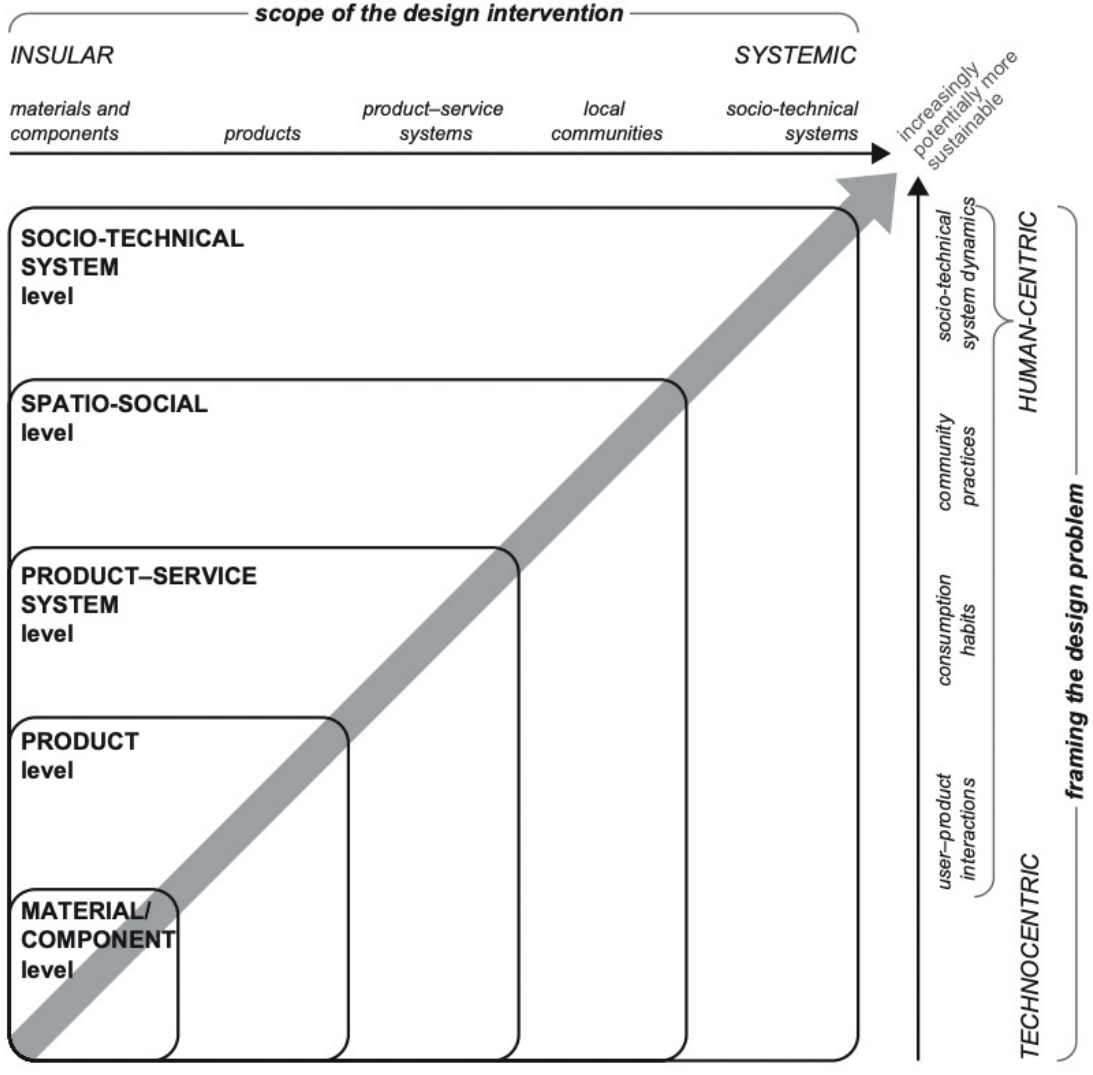


Figure 12.1 The DfS innovation framework

Completing the course

Completing the course

To complete the course, besides attendance the students are required to perform work in relation to weekly readings, reflective writing, and case work in groups.

Learning diary is one main component in grading. The learning diary consists of weekly reflection on readings, lecture contents, and also your case work progress. The outcome is a complete and finalized reflective essay.

Case work is done in groups and evaluated as a whole, however there is a peer evaluation component with some impact. **The deliverables are presentations, concept poster and project report.**

Attendance should be over 75% if no special excuses (3 sessions absence max.)

Evaluation and grading

To pass, the students are required to attend the lectures (~80%) and perform all the assigned exercises, readings and written tasks.

Assessment methods and criteria:

- Individual writing task: Learning diary = 30%
- Active presence at the course = 20% (max. 3 absences!)
- Case work, inc. presentations & final report = 40%
- Peer evaluation in groups = 10%

Evaluation and feedback:

- Grading (1-5) of learning diary and case work components, and total grade
- Short written feedback on learning diary
- Short shared feedback for group members on group work

Case work deliverables

Project reports: As a part of the case work, besides presentations you produce a project report as a team.

The project report is in a way an expanded version of the final presentation, and could even be based on the same layout, but should probably include more details as a text. See more info in MyCourses.

-> Submit to MyCourses by 21.2.! (one team member uploads…)

Peer feedback: As a part of case evaluation, we also consider peer feedback. Please review your team members with a (confidiential) survey **during next week!**

-> See instructions in MyCourses 'Announcements' tomorrow!

Project report contents

The project report should cover:

- The original brief and your focus theme; Also mention the citizen ideas that inspired your work
- Background research into the context of focus
- Initial ideation and its results; potential redirection of work after idea presentations
- Design process and its main phases
- Possible interactions with stakeholders
- Outcomes (could be a product concept, visualisation of space, draft of a materials package, service blueprint, PSS description, depending on the final orientation)
- Reflection on your process and outcomes
- Academic project report: Add references!

No strict structure, but aim in incorporating the above elements in your report!

Learning diary

Learning diary is one main component in grading. The learning diary consists of weekly reflection on readings (see e.g. slides in this presentation), lecture contents, and also your case work progress.

Learning diary (10-12 pages or 5000 words) – for each week, write:

- A brief summary of the readings and reflection on selected topics
- Reflect on the session(s): What was most interesting?
- Case work: How was it progressing? Challenges, reflection?
- No strict structure, but could follow weekly structure or then be divided in lecture and case work parts
- Add also a short introduction on your motivations and yourself as a sustainable designer, and reflections to the course as a whole to the end
- Academic output: Add references, also some external sources?

Will be submitted via MyCourses; Deadline after the end of course (28.2.)

Continuing case work after course ends...

Showcasing DASC results in ORSI-interactions in 2023:

- ORSI-project interactions continue with various stakeholders
- Some student ideas may raise interest in later interactions – groups are then contacted separately if needed (e.g. presenting and continuing work)!

…Also thesis topics can be found through case work contacts and focus area!

Please, note that you can discuss with Mikko Jalas of extra credits if you continue work…

Course feedback & well-being survey

For the purpose of continuous improvement of the course, please fill in the course feedback (I'll make reminder in MyCourses)!

Also, please also fill in student well-being survey (distributed in separate email):

- *This year the AllWell? questionnaire on study wellbeing is open from 15.2.–1.3. The questionnaire is sent by e-mail to all of Aalto's 2nd-year bachelor's students and 1st-year master's students.*
- *The AllWell? questionnaire is an important tool for measuring students' wellbeing here at Aalto, and the results are used to develop programmes, teaching, and wellbeing services.*

Thank you for the course!

Please, remember to fill in peer review and course feedback in WebOodi!