



Sustainability Scenario's: Priority Areas and Strategies for Decoupling

Lessons from SCORE, EIPRO and SusProNet

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Structure of the presentation

- 10 minutes -> Short!
- Focus -> question marks!
 - Forescene deals with sustainability visions, essential elements in scenario's, and key possible policy instruments
 - ...a quite formidable package calling for the 'solution of everything'....
 - Where EIPRO, my basis, is a priority setting study
- I will hence use EIPRO, SCORE and other work to deal with the following questions
 - Sustainability – what is it?
 - Priorities – where to start?
 - Decoupling strategies – which ones help most?



Sustainability – what is it (SCORE) ?

- A small reminder
 - A highly subjective notion, truly paradigmatic
 - Frames range from
 - ‘individualist’ sustainability through the market, just asking for basic social and environmental boundary conditions based on ‘sound science’
 - to ‘egalitarian’ democratisation of technologies and ‘small is beautiful’ societies formed by creative communities, based on a high level of equity in income and precautionary approaches
 - Three ‘common’ issues we focus on in SCORE!
- Issue 1: (Environmental) Factor X resource productivity improvement
 - Ehrlich and Holdren's $I = P \times A \times T$
 - With P from 6 to 9 billion and Affluence rising sharply in Asia, T must become a factor 4-10 lower
 - This is in fact a radical agenda

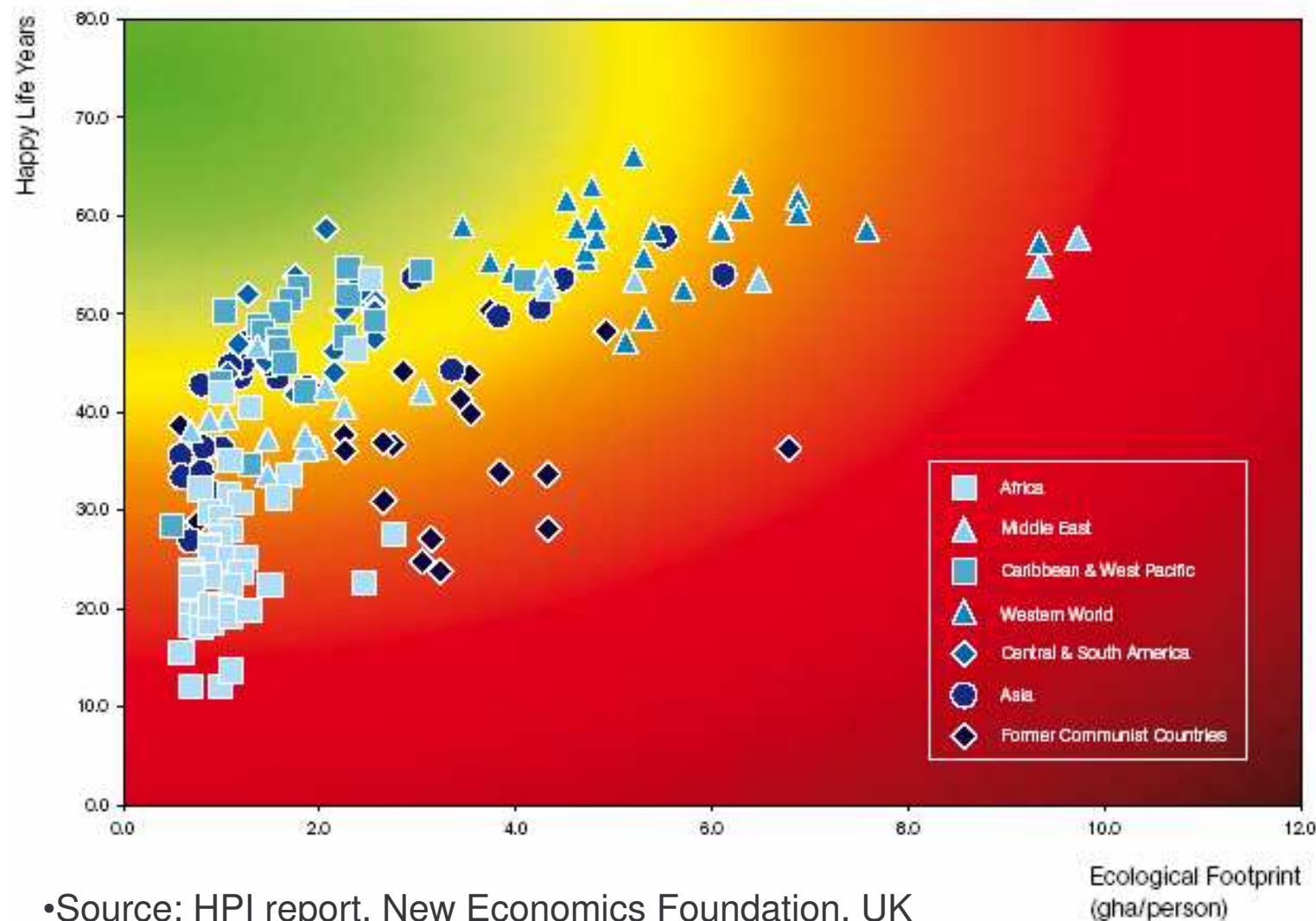


Sustainability – what is it

- Issue 2: (Social) Ending grinding poverty
 - Not acceptable to our standards of justice and ethics
 - SCP is, however, not the primary agenda driving this
 - It hence must be supportive
 - Ensuring that supply chains comply with basic social and environmental standards
 - Fair payment
- Issue 3: (Economic?) a fascination
 - Societies perform markedly different in providing long, happy lives with a given ecological footprint
 - Money hence does not seem to make happier – above a threshold
 - This may give clues how organisation of society may contribute to quality of life
 - (...and hence again may result in suggestions like the ‘slow’ paradigm...)



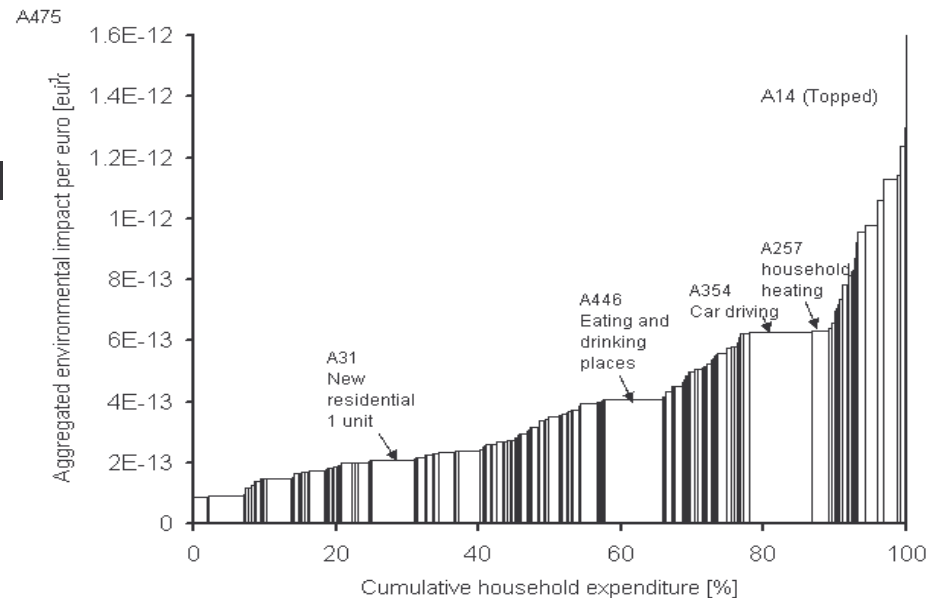
Issue 3: The 'happy planet index'



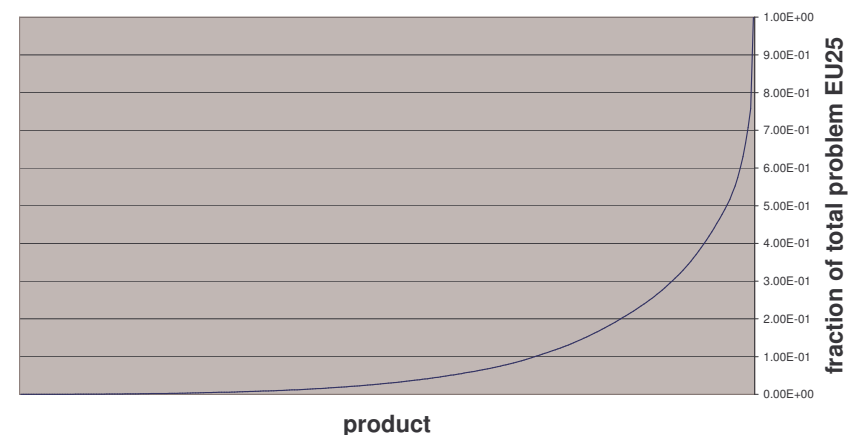


Priorities – where to start (EIPRO)?

- EU study ‘Environmental Impacts of Products’
 - Track 1: Review 7 existing (national studies)
 - Track 2: Use CML CEDA EE I-O model; adapt that to the EU -> 500x500 matrix and 280 final consumption items
 - Published by IPTS and in JIE 10:3
- Conclusions:
 - Hot spots: Food (meat and dairy), Mobility (car and air transport), Housing/Energy use >70% of life cycle impact at 50% expenditure
 - Difference in impact per Euro is limited (factor 4-5)
 - 80-20 rule applies: you can focus IPP on 20-30 categories



global warming





Decoupling strategies – where to start ?

- Approaches to decoupling
 - Production side
 - Improving emission factors / end of pipe
 - Improved technology / radical technical change
 - Consumption side
 - More intensive use of products and materials (sharing, pooling)
 - Shifting expenditure to immaterial value
 - Improving the ‘happiness per Euro/\$ spent’
- Improving emission factors
 - Successful for small mass flows
 - Factor 5-10 can be achieved
 - E.g. emission targets for SO_x in many EU countries
 - Reduction of CO, NO_x, and VOC emissions from cars with a factor of 5 between 1990-2020 despite 50% more kilometers
- Improved technology
 - Incremental: several dozen %
 - Radical: factor 5+, such as:
 - Hydrogen cars
 - Alternative energy sources
 - Etc.



Decoupling strategies (consumption side)

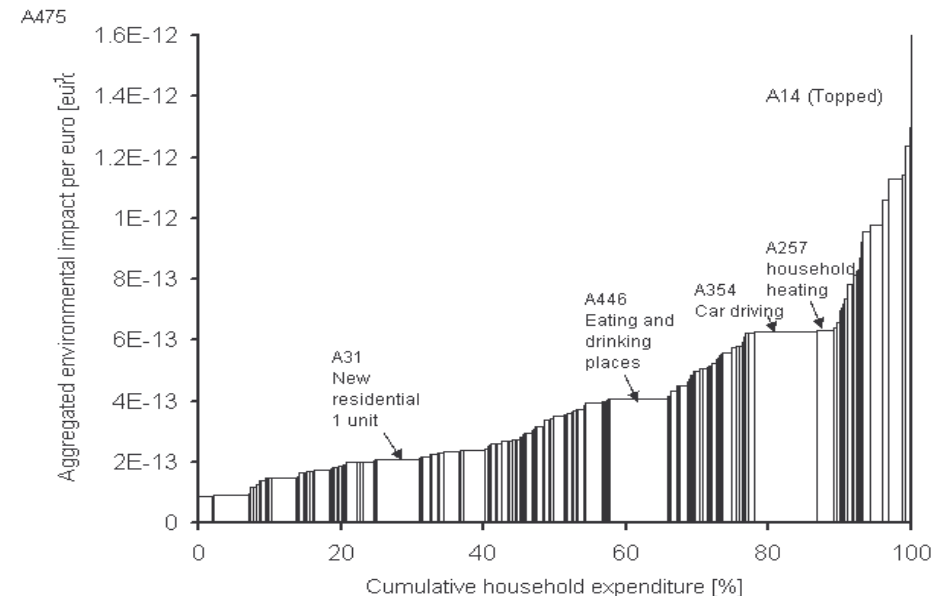
- More intensive use of products
 - Renting, sharing, pooling
 - Multi-functional use
 - Typical gains: factor 2
- Shifting to less material intensive consumption
 - Often mentioned ('services', 'quality', 'immaterial value')
 - But less potential than often thought
 - Impact per Euro/\$ between the worst and best product is a factor 4-6
 - Not all shifts are possible ('mankind cannot stop eating')
 - Factor 2-3 may be possible
- Improving 'happiness/quality of life per Euro/\$ spent'
 - New kid on the block, but relevant
 - Consumer economies do not improve QoL anymore



Decoupling strategies, consumption side (ctd).

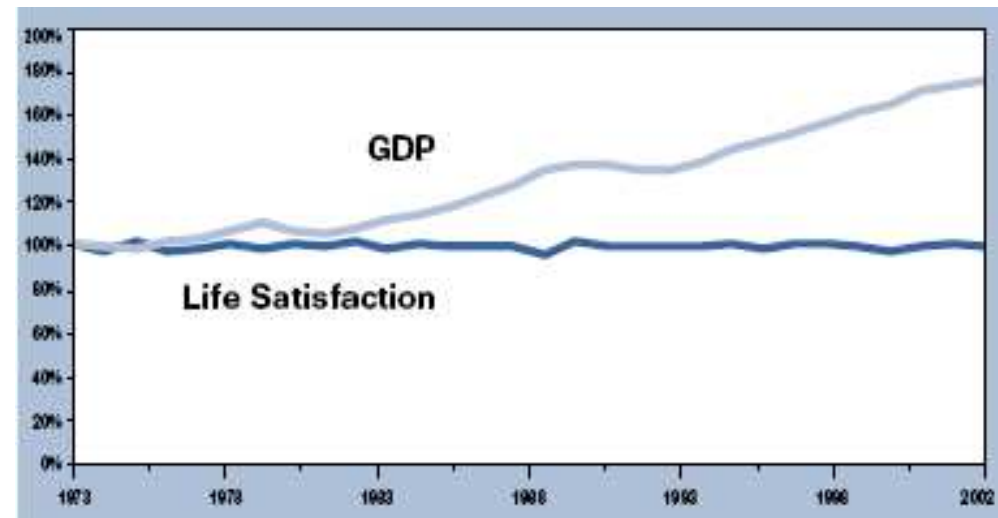
• ‘Immaterial consumption’

- Figure gives impact/Euro for total EU expenditure in 280 categories
- Difference high/low is factor 4-6
- Top categories are food products



• ‘Quality of life / Euro’

- UK: GDP rose factor 2 in 30 years
- Life satisfaction not
- Similar figures for Japan and other countries





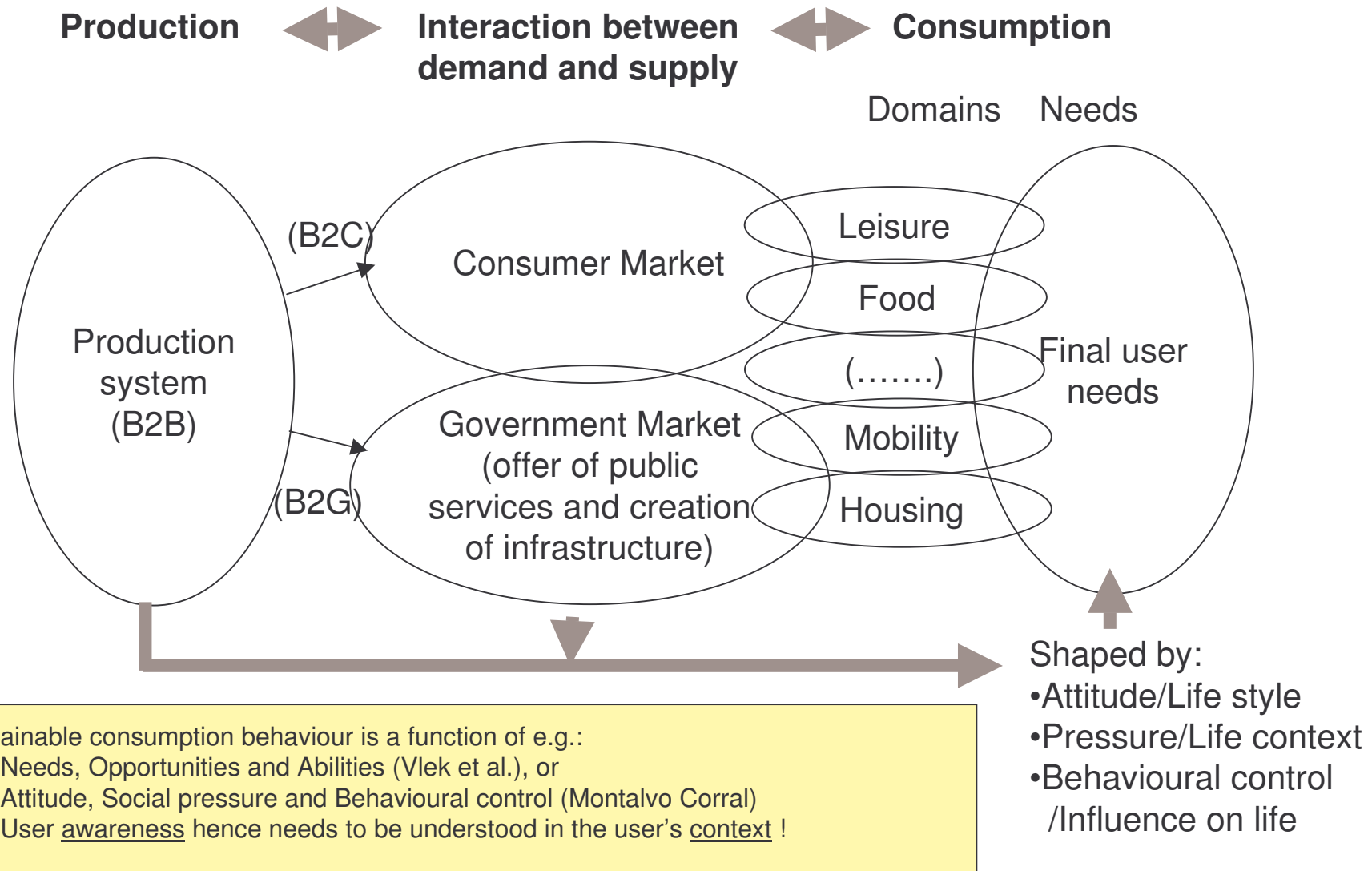
Conclusions

- Sustainability is a paradigmatic notion
- Focus on food, mobility and energy/housing
- Factor X potential is there.....if consumption is addressed as well (but do it smartly!)
 - No 'limits to growth' or 'restricting consumption', but
 - Organising patterns of consumption so that maximum quality of life is realised while using the same resources
 - ...which is a question of macro-economic efficiency

Intervention mechanism	Potential reductions of impact per unit Quality of Life
Reducing emission factors	- Small mass flows: several factors - Large mass flows: Limited
Improving production	- Usually limited to intermediate, - Factor X in case of system innovation
Enhancing use intensity	- Factor 2 or more, depending on the sharing, pooling or function combination system
Enhancing immaterial consumption	- Factor 2 (if limited to changes within existing product and service categories)
Enhancing the ratio Quality of life and consumer expenditure	- Several factors?



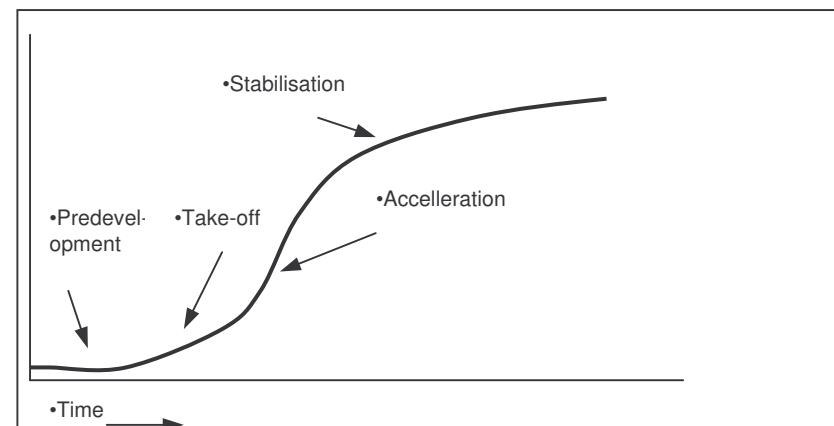
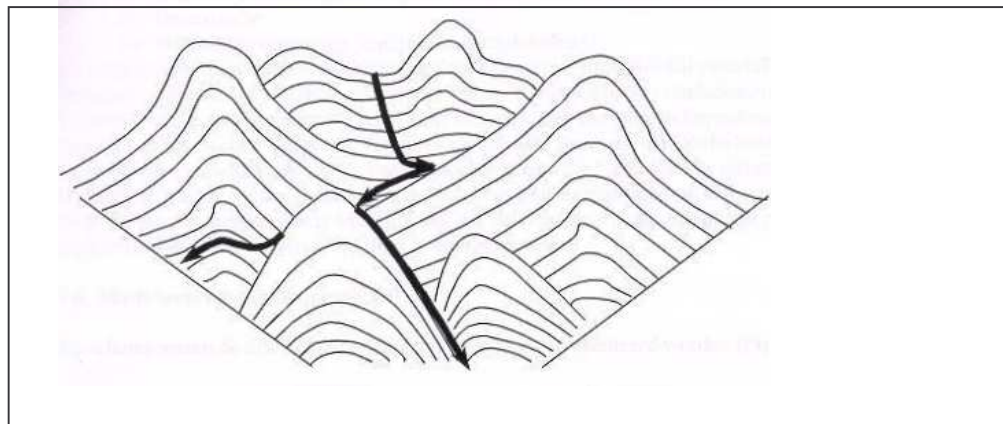
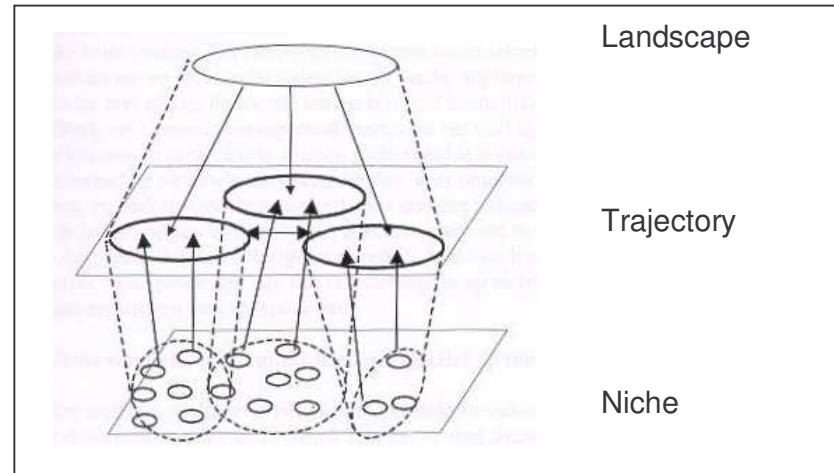
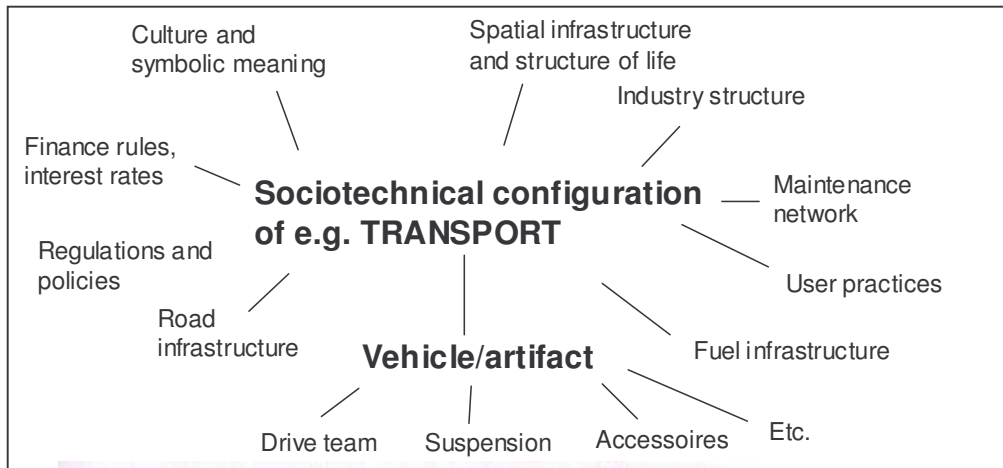
Sustainable Consumption Systems



Adapted from: project Life Cycle Approaches to Sustainable Consumption, AIST, Japan **WITH THANKS !**



Governance towards SCP



- Systems are more than actors, material flows, emissions or \$ flows
 - Landscape channels direction: infrastructure, geopolitical realities, dominant cultures
 - ‘System memory’ or regime as well: institutions, agreements, habits, interests
- The landscape channels the development trajectory of the system
- Radical things start in niches
- Transitions show an S-curve and need novel governance (no means-end approach)



Governance to SCP: levels and problems



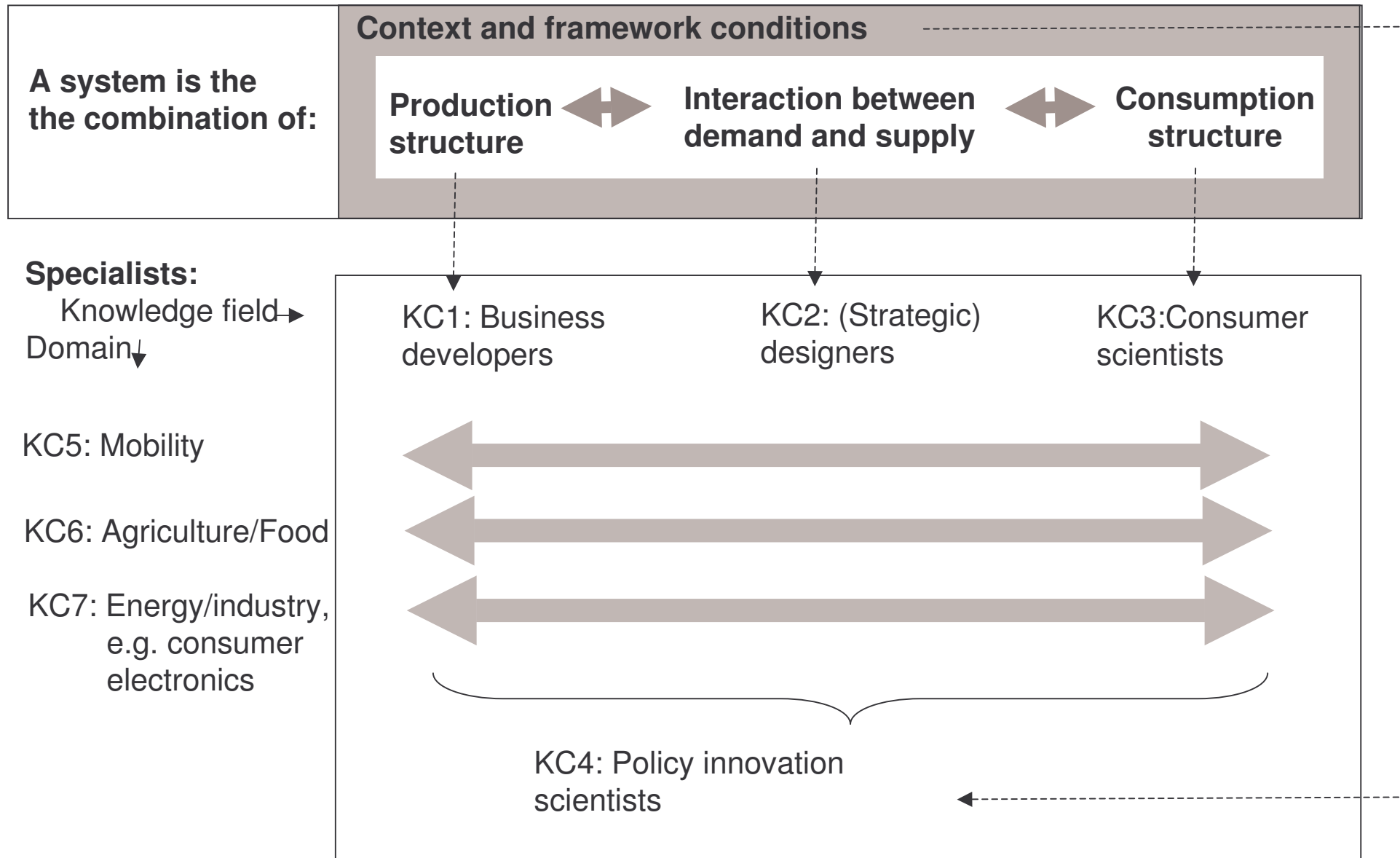
What	Approaches
1. Optimise systems	Awareness raising
2. Redesign systems	Awareness raising + offer of sustainable solutions
3. Innovate systems	Awareness raising + offer of sustainable solutions+ adapting context and framework

1. Car energy label
(marginal improvement)
2. Car sharing system
(Factor 2)
3. Low transport-need environment
(Floridosdorf, Vienna) *(Factor X)*



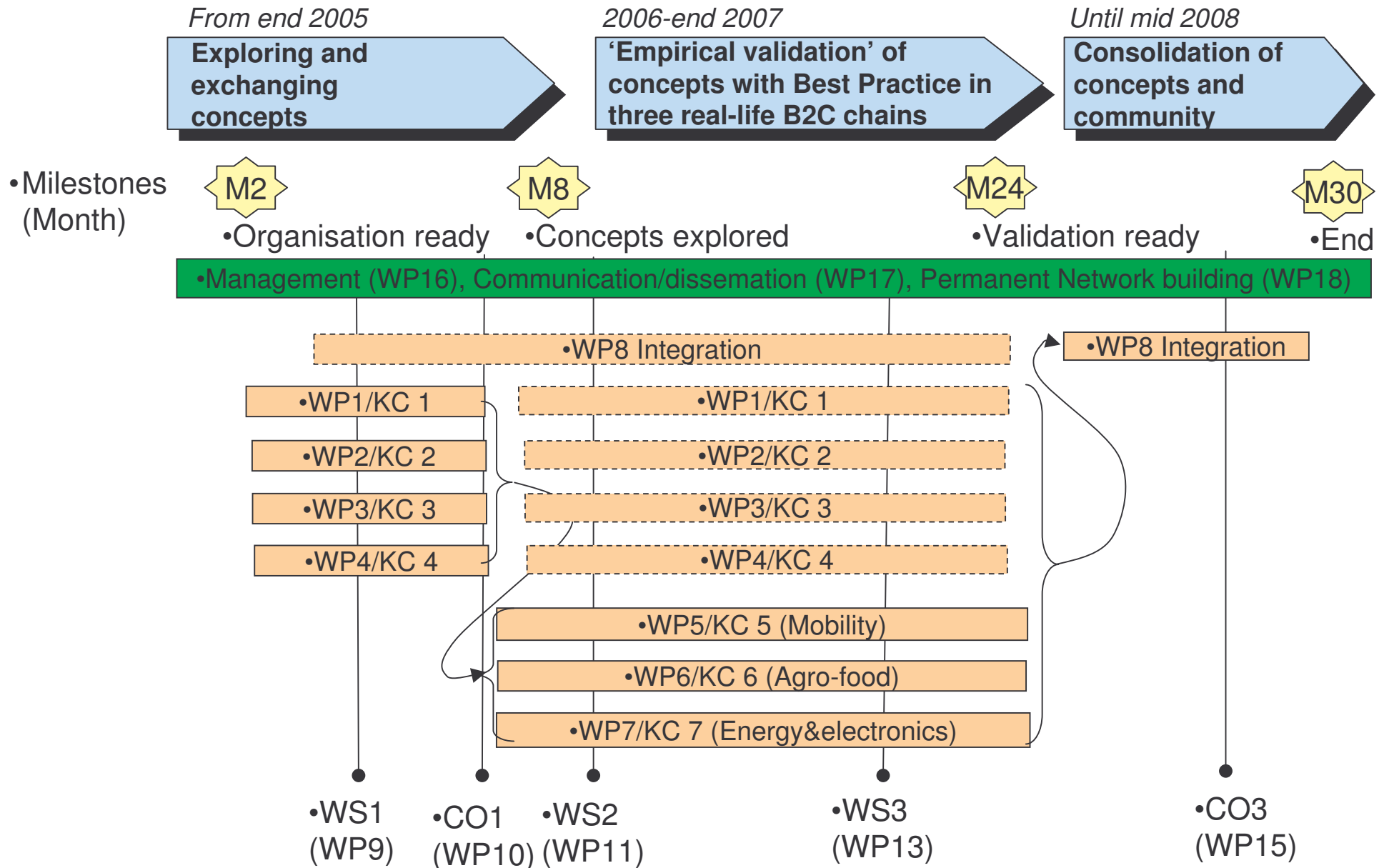


Knowledge communities to be involved





Structure of Activities





Focus per Event

Workshop 1	General platform for exchange of views how to realise sustainable consumption structures between the 33 Participants and Partners, from their own knowledge background.
Conference 1	Goals: <ul style="list-style-type: none"> •Launch the network in the EU arena •Provide a broad platform for conceptual exchange •Provide a broad platform for SC case presentation s
Workshop 2	WS2-3 are organised giving <u>consumption domains</u> centre stage. WS2 starts with discussing 5-10 SCP cases per domain from the 4 knowledge perspectives, analysing success- and failure factures, re-design potential, and danger of rebound effects
Workshop 3	WS3 abstracts the lessons of WS2 to a higher level, leading to concepts models and case typologies of successful implementation approaches for sustainable consumption in relation to user awareness
Conference 2	Conference 2 validates the results of the project and forms a first outreach to policy, industry, certification organisations and other bodies relevant for implementation