FUTURE CIRCULAR MATERIALS CONFERENCE
STOCKHOLM SWEDEN

The Precycling approach to the Circular Economy

full systemic change, full speed

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The (wrong) circular economy loop

everything we think and do

still a linear economy

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Years since publication of Kenneth Boulding's 'Spaceship Earth': 48

Y

How to stay stuck in the wrong/default loop?

1. Circular economy is happening
2. We need action not more talk
3. We know what policy we need
4. There's no silver bullet
5. Let's just get on with it

This is the same loop as sustainable development, just with updated language?

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EU Circular Economy Communication July 2014

ır. This implies full systemic change, ar

organisation, society, finance methods ar

This implies a choice about how to change
(how to manage change and complexity, not how to manage stuff).

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Option 1: manage change in parts of the system

- Focus on subsystems (of stuff, issues, geographies, organisations…)
- Mostly ignore other subsystems.
- Set targets
- Seek improvement (by new products, process, behaviours, business models…

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Option 2: manage change of the system

- Focus on the whole system
- Spot the systemic errors
- Make tools to fix the errors
- The tools change the system, then the new system changes everything else

Full systemic change = option 2
3 tools to do it are proposed…

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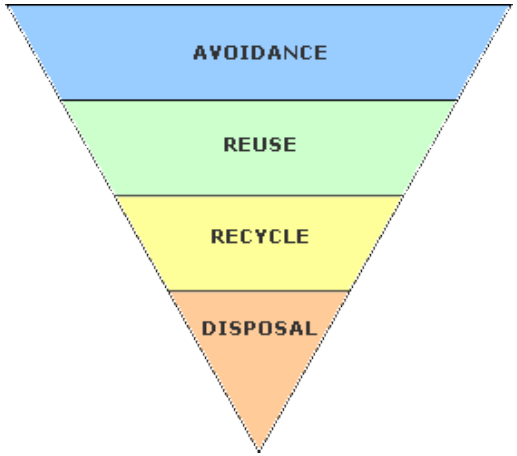
#1: what guides our thinking on waste?

How the waste hierarchy was envisaged in the 1975 EU Waste Framework Directive

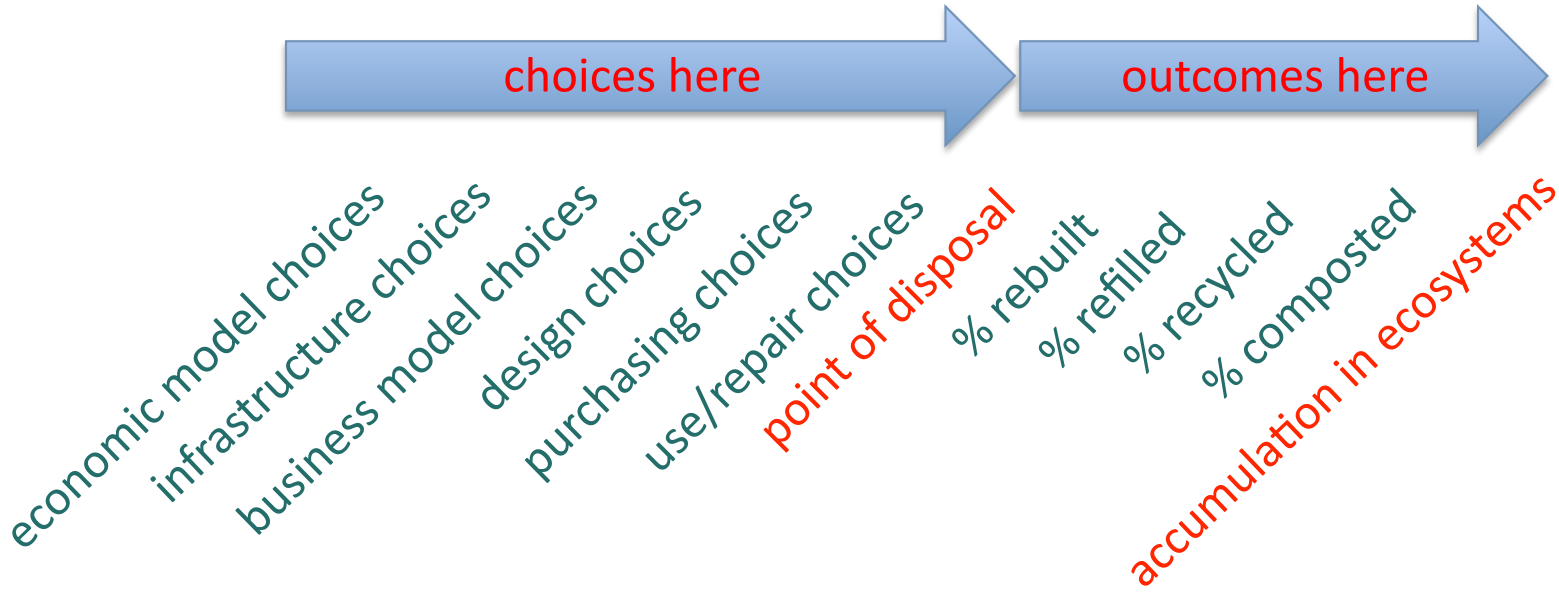


How the waste hierarchy ended up being used

#1

waste = discarded stuff

ecological waste = stuff accumulating in ecosystems



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#1: precycling – to rethink waste

Precycling is:

- Action taken now to ensure that resources remain as resources, for the economy or for nature, rather than adding to wastes in ecosystems
- Circular economy translated into practice
- Attention to the non-disposal options of the waste hierarchy
- A fresh perspective to support dialogue, collaboration and innovation
- A new word for an essential systemic concept – that has no suitable existing language

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#2: insurance can help prevent risks

Third party car insurance
- Obligatory
- Cheaper with lower risk

Recycling Insurance
- In EU WEEE Directive
- Premiums fund a financial guarantee of future recycling
- Works for recyclable items
- Can be extended…

#2: planet insurance

- government oversees
- producers pay premium
- insurers spend premiums
- society precycles
- circular outcomes

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#2: to design waste out of economics

- Linear economics neglects resource-related externalities
- Can fix externalities with a market-based tool for precycling
- Waste-risk = risk of a product becoming waste in ecosystems
- Producers are responsible for the waste-risk of their products
- Require producers to ‘insure’ against their waste-risk
- Low waste-risk means zero/low ‘precycling premium’
- High waste-risk means a higher premium
- Premiums spent to cut waste-risk everywhere

#2: precycling insurance example

Kettle A

- Low effort by producer
- High waste-risk
- Pays premium (eg €5)
- Insurer spends premium on precycling
- Producer may rethink

Kettle B

- High effort by producer
- Low waste-risk
- Pays no premium
- Public sees circular plan
- Producer continues to rethink; “how could we do more with less?”

In both cases

- Producers choose what to do
- Public sees open process
- Government oversees

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#2: advantages

1. Simpler: works for all products, all resources, all sectors and many issues (eg climate, ecosystems, toxics)
2. Better for government: small volume of legislation with huge impact; role is oversight but not handling the money
3. Better for business: clear financial responsibility for future of their products; full freedom of choice in how/whether to design solutions
4. Works with other economic and regulatory tools: helps meet resource/climate targets faster
5. Offers a future for GDP growth with absolute decoupling of impacts

#3: default strategies are self-limiting

- Default growth pathway: get growth by destroying what's needed for future growth
- Default alternative: look 'beyond GDP' = political hard-sell
- Default green economy: target green sectors = political hard-sell
- Default regulation: more progress = more rules = political hard-sell

#3: to unlock circular mindsets in politics

- Growth is a non-negotiable policy goal
- Choice of 2 growth pathways; linear or circular
- Path is set by economics not plans/targets
- Economics either neglects or fixes externalities
- Can get the highest possible GDP and lowest possible prices by preventing (rather than paying or suffering) externalities
- On the circular path the gain in new activity > loss of old activity

‘‘Most environmental problems are based on the same systemic error - linear processing of material. Until resources are processed in cycles - either by society or by biogeochemical processes - the global economy and public health will continue to deteriorate. Consequently we will never be in a better position than we are now to make the necessary changes; every minute we delay increases the final cost.’’

Karl-Henrik Robert, Stockholm, 1991

Thanks – questions welcome!

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Will our product add to levels of wastes in ecosystems?

Waste-risk reflects impacts.

- Measurement and prediction of all impacts for all products is impossible
- All products have a waste-risk (including raw materials, chemicals, components, fuels and infrastructure)
- Sustainable development = economic, societal and ecological actions to cut waste-risk.

Waste-risk is quantifiable.

- What proportion is recyclable or biodegradable?
- What proportion is handled by producer's addition to processing capacity of nature or industry?

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Precycling = building capacity for circular economy

1. Stop substances from the Earth's crust accumulating as ecosystem waste
2. Give products a future as a resource for nature or people
3. Expand the diversity and extent of ecological habitats
4. Meet more people's material and non-material needs

Swedish TNS 'system conditions' for sustainable development

Ref: Greyson 2007, Systemic economic instruments for energy, climate and global security. NATO Science Programme. Link

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