2015 DISRUPTIVE INNOVATION FESTIVAL

OPEN MIC

How to get circular economy. Let's escape 50 years of linear lockins!

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Streetlight effect

We tend to look for solutions where the light shines

Streetlight effect

...not from over here where we're not looking!

We look for solutions from our viewpoint


Credit: Simon Tong si.smugmug.com/
Steps taken?
Problems solved?

50 years of the circular economy vision

Kenneth Boulding, 1966. Cowboy economy vs **spaceship economy**

United Nations ZERI, 1994. **Zero emissions**, "All waste is to be converted into value-added ingredients".

Japan, 2000. "Fundamental Law for Establishing a **Sound Material-Cycle Society"**

Bill McDonough and Michael Braungart, 2002. **Cradle to Cradle**: Remaking the Way We Make Things

China National Plan, 2006. "It is an urgent strategic task for China to vigorously develop the **circular economy**."

European Commission, 2014. Circular economy as theme of annual Green Week conference.

50 years later, any actual circular economies?

Should we check that what we're thinking and doing will lead to a genuine circular economy?

We know what to do
We just need to get on with it

Why Circular Economy?

Solve the linear economy problem

Solve the climate problem
Solve the rubbish problem
Solve the pollution problem
Solve the marine debris problem
Solve the ecosystem problem
Solve the toxics problem
…

How to get circular economy?

Change how the whole system works
Call **this** a systems approach

Focus on subsystems, eg product design requirements for electronic displays.
Gradual change via targets, taxes, rules, collaboration.
Call this a systems approach.

What is waste?

‘Ecological waste’ is used resources accumulating in land, air or water ecosystems. CO_2 emissions, ocean plastics and landfilled rubbish are different types of ecological waste.

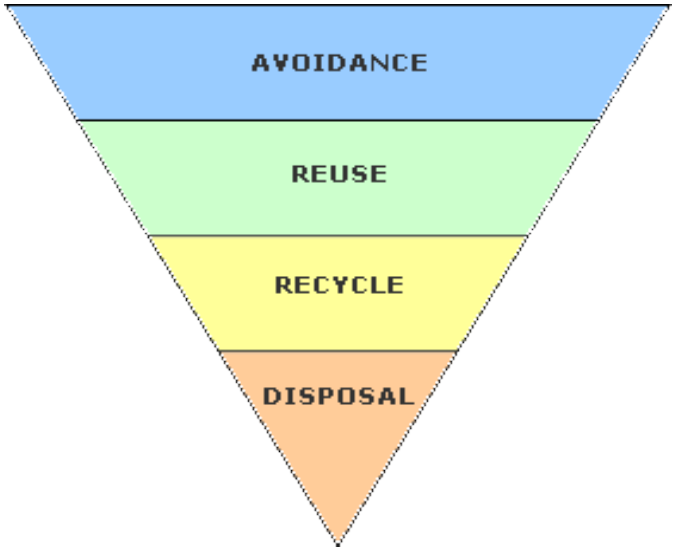
Waste is stuff I want to get rid of

It’s solid

CO_2 is an energy issue not a waste issue

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

Waste management vs precycling

Precycling: stopping waste by taking action before the point of disposal

Waste management: 'managing' waste after disposal.

Most attention and cash funds dumping to land and air.

The air is a free dumping ground; "we will adopt a waste to energy initiative"

Action lever: precycling

"What can we do now to stop resources ending up dumped into ecosystems?"

Precycling is:

- Action taken now to ensure that resources remain as resources, for the economy or for nature
- A new word to enable systemic change
- Circular economy translated into practice
- Implementing all the non-disposal options of the waste hierarchy
- A fresh perspective to support dialogue, collaboration and innovation

Meaningful change is binary, not incremental

Shoes (and fuels and everything else) are either precycled or prewasted

Resources end up as either new resources or ecological wastes

The incentives to determine this are either in place or not

We have either circular economy or junk economy

How to get everyone to precycle everything?

Harness the power of markets, to make stopping waste as normal as making waste is today.

Harness the power of the circular economy and climate movements. We want more projects to cut more emissions and wastes. Try to intervene in everyone's decisions.

Design choices for circular economy

Design the economics
Producer responsibility
Step change
Act across economy
Fix capitalism

Design the resource logistics
Government responsibility
Targets for % change
Act within sectors/issues
Limit capitalism

How to design waste out of economics?

- Financial incentives guide linear vs circular decisions
- The externalities of linear economy support linear decisions
- Conventional approaches to externalities (such as taxes and prescriptive regualtion) are self-limiting
- Instead we can extend existing practices of producer responsibility and insurance

Price lever: circular economics

Circular economics can price the risk of products becoming wastes in ecosystems, providing vital incentives and financing for change throughout the economy.

1. Waste-risk: the risk of a product ending up as waste in ecosystems
2. Make producers responsible for the waste-risk of their products
3. Producers 'insure' against their products' waste-risk
4. Premiums are spent to cut waste-risk everywhere

Case study: kettles (or any product)

government regulates

producers pay premium

insurers distribute premiums

society precycles

circular resource flows

Advantages

The standard approach:

- Uses widely accepted language and habits of thinking
- Preferred by politicians seeking to defer change to the future
- Preferred by businesses with high waste-risk, eg fossil fuels

Precycling premiums are:

Simpler; Just one economic tool for waste and climate.

Better for government; achieve more with less rule-making, compatible with other tools

Better for business; minimal admin, full freedom of choice

Green or growth?

Growth is a terrible indicator of progress, which is why politicians cannot abandon it (yet).
Green growth may be possible by fixing the systemic error of linear economics.

Growth is a terrible indicator of progress, so politicians should abandon it.

More growth means more linear-economy destruction.

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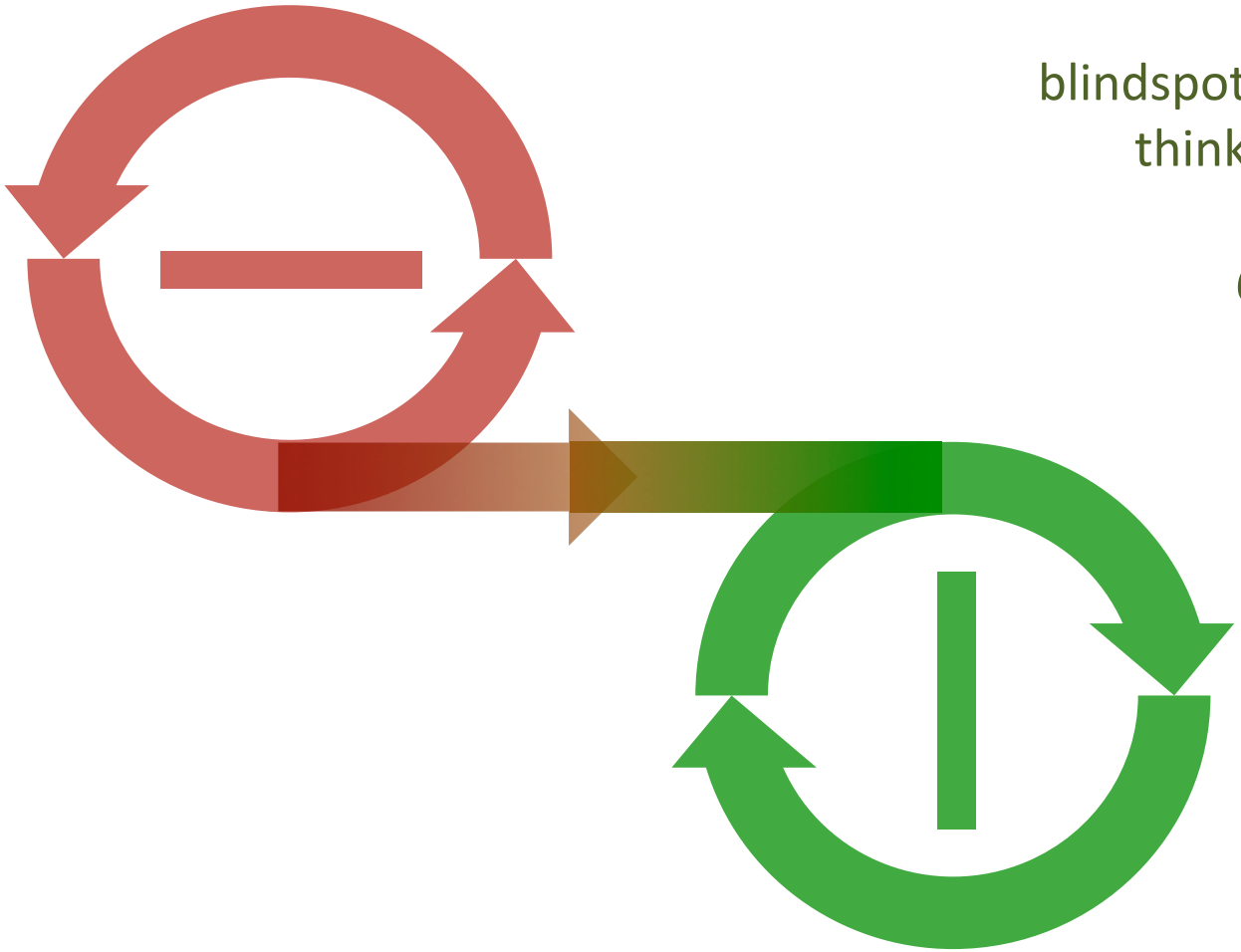
Political lever: new growth strategy

Circular economics can switch political mindsets away from destruct-mode linear economic growth

- Growth is a non-negotiable policy goal
- Choice of 2 growth pathways; linear or circular
- Economics either neglects or fixes externalities (partial fixes are market distortions)
- Get the highest possible GDP and lowest possible prices by preventing (rather than paying or suffering) externalities
- Gain in circular activity > loss of linear activity

Thanks! Questions? Comments?



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