


# LIFE-CENTERED DESIGN FOR CIRCULAR BUSINESS

How to shift the perception of value through circular business

**Alice Casiraghi** - UX, circularity, design research



“The world is made of circles.  
And we think in straight line.”

— Peter M. Senge



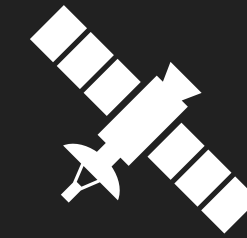
FUTURE  
URBAN  
LIVING

Photo credit: NASA

Peter M. Senge. Systems Thinking. Retrieved: <https://www.disruptdesign.co/blog/peter-senge-on-common-issues-with-engaging-with-systems-thinking>



+2 billion increase in population by 2050



Exponential growth & disruption of tech



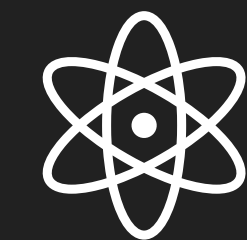
Resource scarcity & distribution inequality



Political, institutional and systems instability



11 years left from irreversible damage of climate change



Volatility, complexity, scale



FUTURE  
URBAN  
LIVING

## TOP GLOBAL RISKS

From economic to environmental. Climate now tops the risks agenda, while the economy has disappeared from the top five.



### Economic

Asset bubble  
Critical infrastructure failure  
Deflation  
Energy price shock  
Financial failure  
Fiscal crises  
Illicit trade  
Unemployment  
Unmanageable inflation

### Environmental

Biodiversity loss  
Climate action failure  
Extreme weather  
Human-made environmental disaster  
Natural disasters

### Geopolitical

Global governance failure  
Interstate conflict  
National governance failure  
State collapse  
Terrorist attacks  
Weapons of mass destruction

### Societal

Failure of urban planning  
Food crises  
Infectious diseases  
Involuntary migration  
Social instability  
Water crises

### Technological

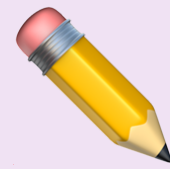
Adverse technological advances  
Cyberattacks  
Data fraud or theft  
Information infrastructure breakdown

Climate now tops the 5 biggest risks - leaving economic and technological risks behind.

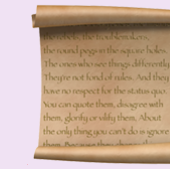


FUTURE  
URBAN  
LIVING

Source: World Economic Forum 2007-2020, *Global Risks Reports*.



**systemic  
design**



**circular  
policies**



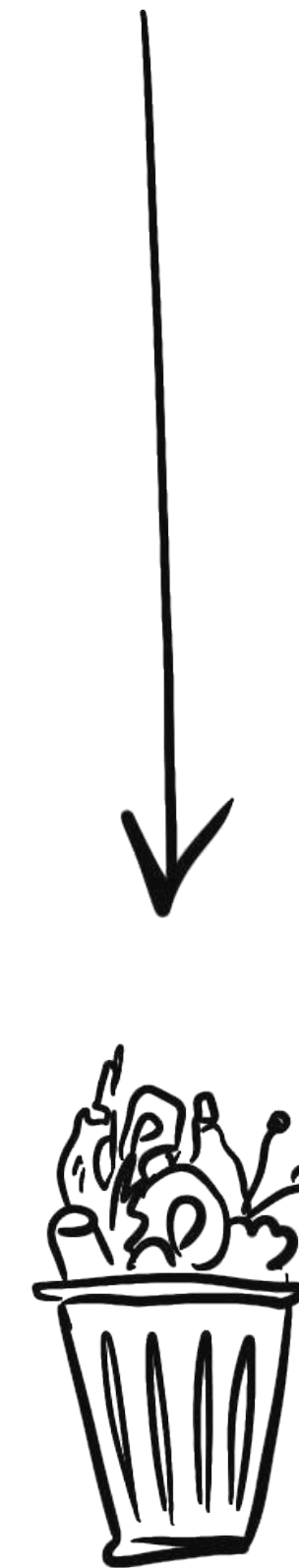
**regenerative  
business**

# 1. The **circular** economy

## OUR PRINCIPLES

A **circular economy** is an alternative to a traditional **linear economy** (make, use, dispose) in which we keep resources in use for as long as possible, *extract the maximum value* from them whilst in use, then *recover and regenerate* products and materials at the end of each service life.

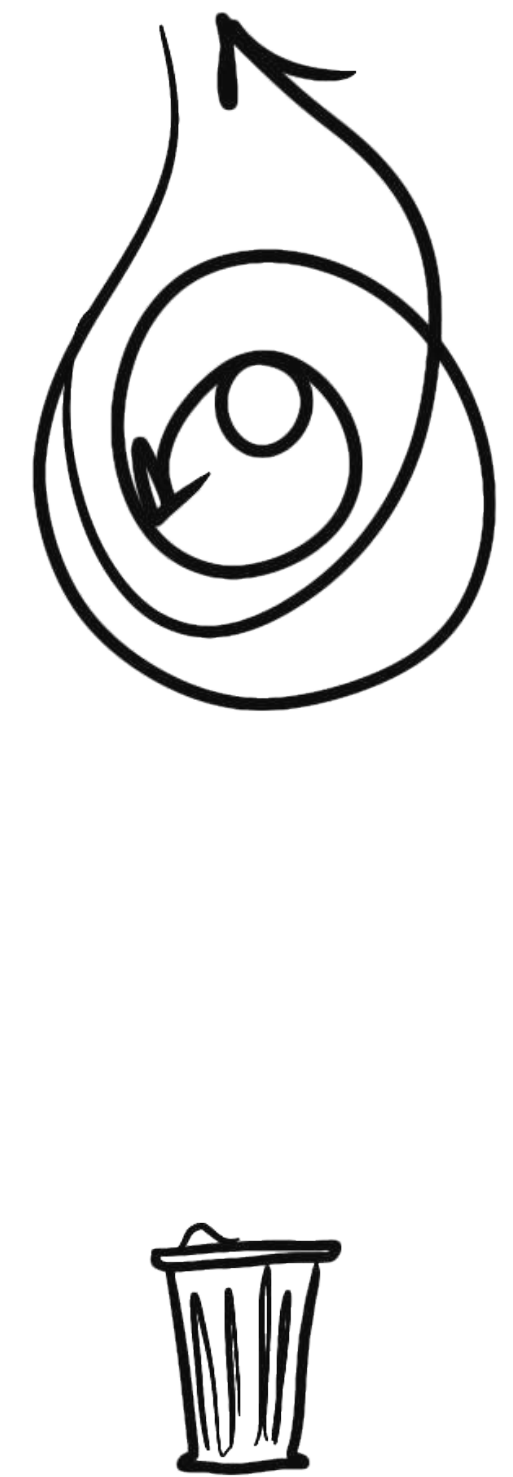
LINEAR  
ECONOMY



RECYCLING  
ECONOMY



CIRCULAR  
ECONOMY

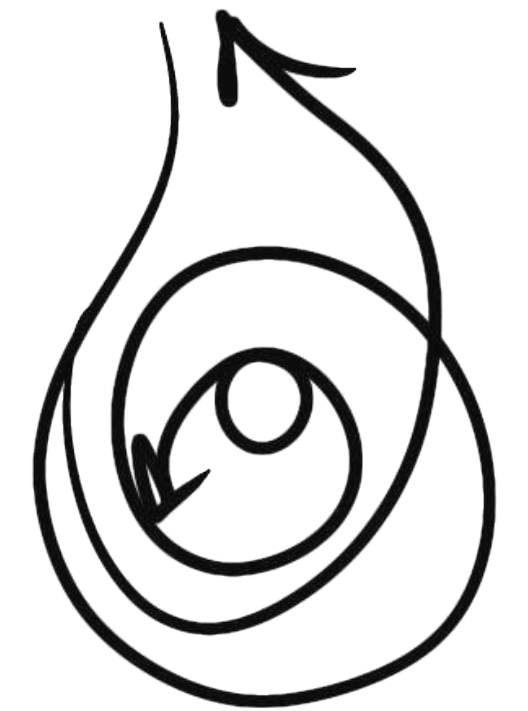


## OUR PRINCIPLES

It is based on **three principles**:

1. Design out waste and pollution
2. Keep products and materials in use
3. Regenerate natural systems

CIRCULAR  
ECONOMY



## **Designing within the planet's boundaries is cost effective and convenient:**

1. Healthier cities cost less in terms of citizens' health
2. Less economic competition for raw materials
3. Raise in employment for the maintenance sector
4. Drastic reduction in waste management costs
5. Long term investment and control of circular resources
6. Long term relation between customer, designer, developer and governance
7. Citizen and customer 'retention' and satisfaction
8. Thriving and more prosperous nature for all



40 million

jobs unlocked by switching  
from linear to circular



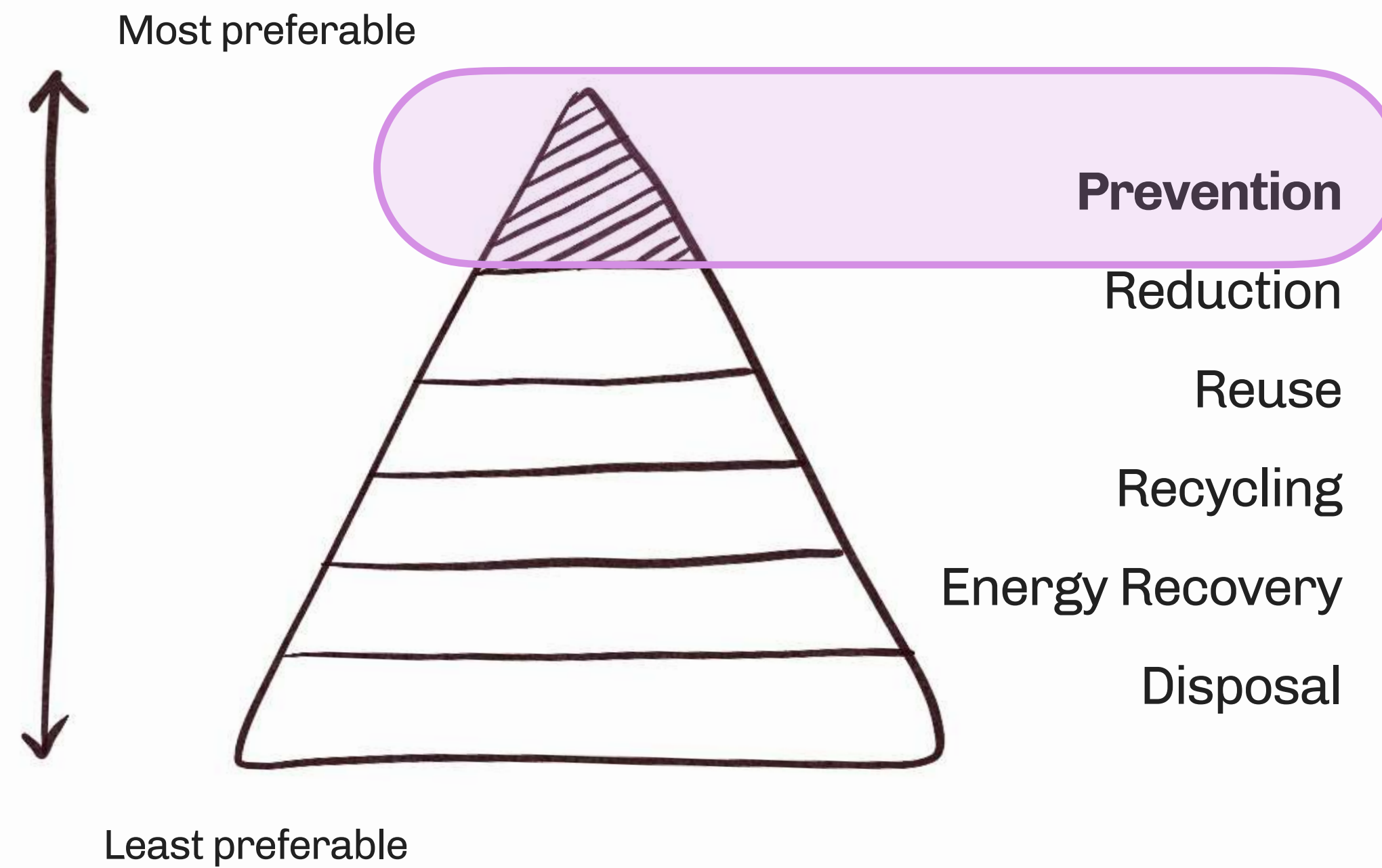
4.5 Trillion

dollars opportunity by  
switching to circular economy

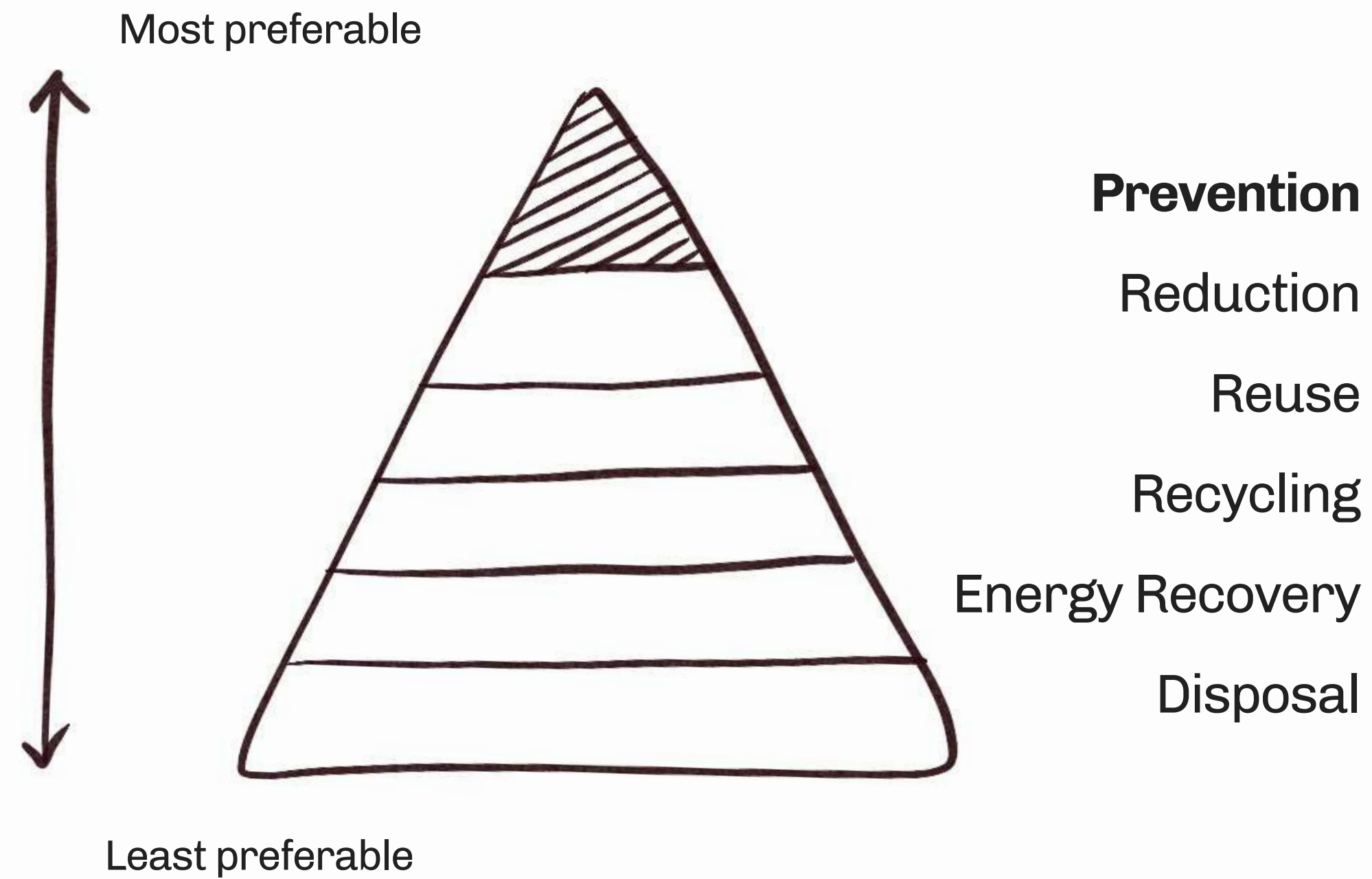
**Raw material** extraction and processing always **impact** on the **environment**, resulting as they **do** in soil degradation, water shortages, biodiversity loss, damage to ecosystem functions and global warming exacerbation.

To limit global temperature rise to 2° C as set out in the Paris Agreement, we need to achieve an estimated **77% reduction in total carbon dioxide (CO2) emissions in the building sector by 2050** compared to today's level.

# The **waste** hierarchy



## The **waste** hierarchy



BY DESIGN.

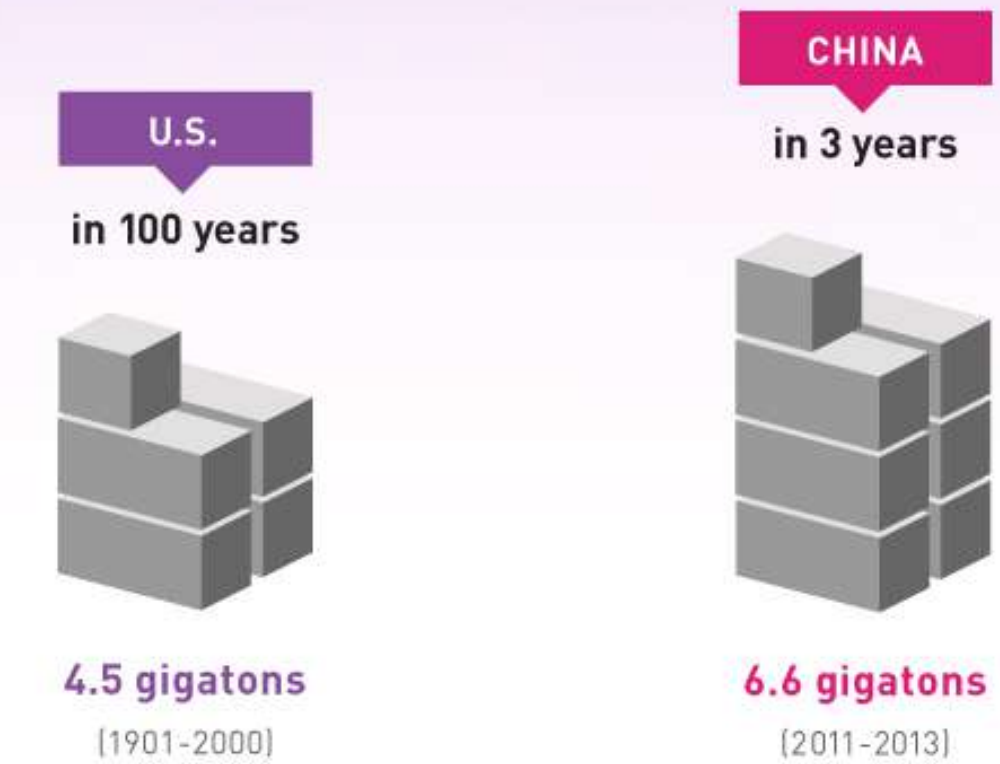
## where can we innovate?

1. BUILT ENVIRONMENT
2. NUTRITION
3. MOBILITY
4. TEXTILE & ELECTRONICS

# 1. BUILT ENVIRONMENT



China used more cement in the last three years than the U.S. used in the entire 20th century.



SOURCES: USGS, Cement Statistics 1900-2012; USGS, Mineral Industry of China 1990-2013



## Reviving the Silk Road

Announced by Chinese President Xi Jinping in 2013, the Silk Road initiative, also known as China's Belt and Road initiative, aims to invest in infrastructure projects including railways and power grids in central, west and southern Asia, as well as Africa and Europe.



Source: Mercator Institute for China Studies.

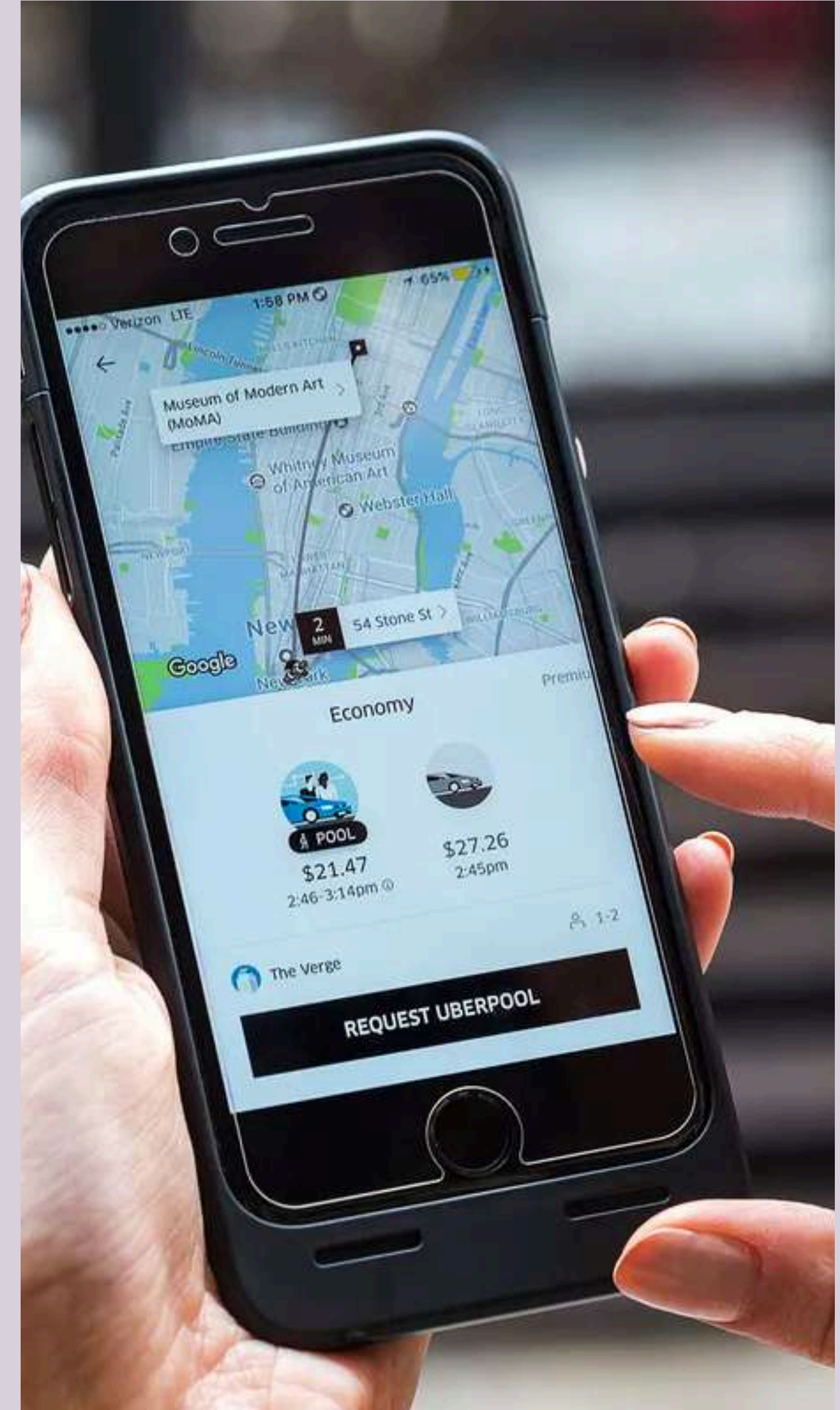
C. Inton, 24/03/2017

REUTERS

## 2. NUTRITION



### 3. MOBILITY



## 4. TEXTILE & ELECTRONICS



## 2. Where are we **today**?

# The world is now 8.6% circular.

Explore how countries can close the global circularity gap.

↓ scroll to start

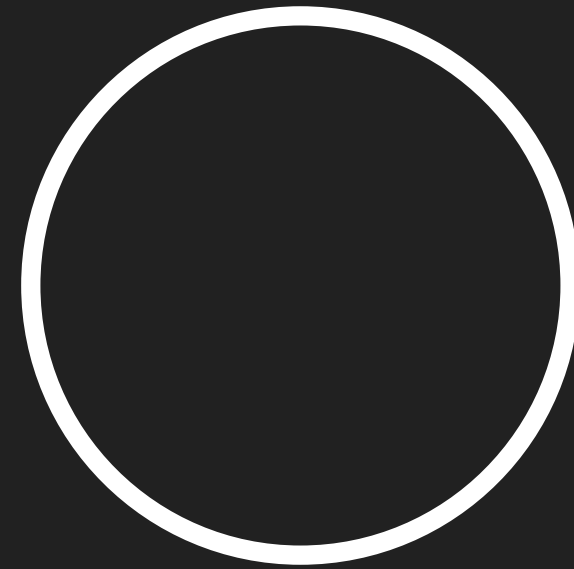
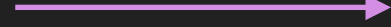
Skip

today

less than 9% of our operations are circular  
(and it's less than last year)



**from linear  
models**



**to circular  
collaborative  
systems**

The background is a dark, semi-transparent image of a protest. It features several signs: "WE ARE FUTURE VOTERS WE WANT CHANGE" with a globe icon, "It's Our Future!", "What more importa", "CLIMATE CHANGE", "STOP ADANI", and "MOVE AUSTRALIA BEYOND COAL". There are also images of people, including a child with a surprised expression.

# 73%

of Global Millennials Are Willing to Pay Extra for Sustainable Offerings—Up From 50% in 2014

66% of Global Consumers Say They're Willing to Pay More for Sustainable Brands—Up 55% From 2014.



# sustainability as a lens

“sustainability will become a central topic like **finance** did in Europe when we introduced the Euro currency, it will be essential for businesses to survive, like **digitalisation**”

Circular business isn't just a new product  
or service.


**It's a fundamentally different economic  
system that requires a new way of  
evaluating, measuring, growing and  
investing in companies.**

# 3. **Systemic** design

A NEW BUSINESS ENVIRONMENT



**construction**




**transportation**



**agriculture**



**tourism**



**energy**



**food & beverage**

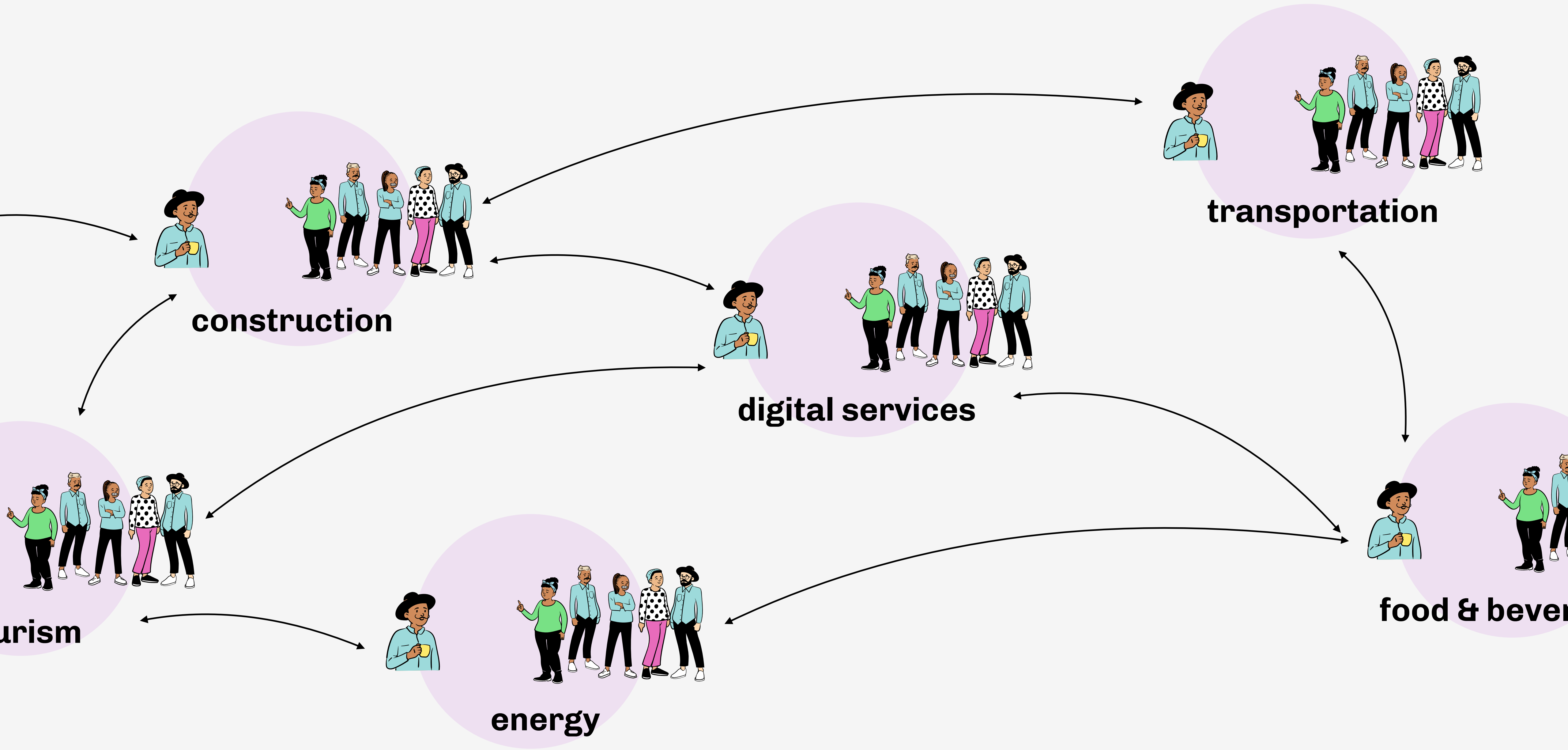
“SILOS”

## A NEW BUSINESS ENVIRONMENT

1. The era of industries, sector, 'silos' models, is over.
2. New leaders need cross-sector collaboration, constant learning, resilience, ecosystems of things.
3. Enablers over radical innovators, interpreters over tough leaders: **the agile resilient mindset.**

***Reshaping value instead of creating more products.***

A NEW BUSINESS ENVIRONMENT



A NEW BUSINESS ENVIRONMENT



**tourism**



**transportation**



**digital services**



**construction**



**food & beverage**



**energy**

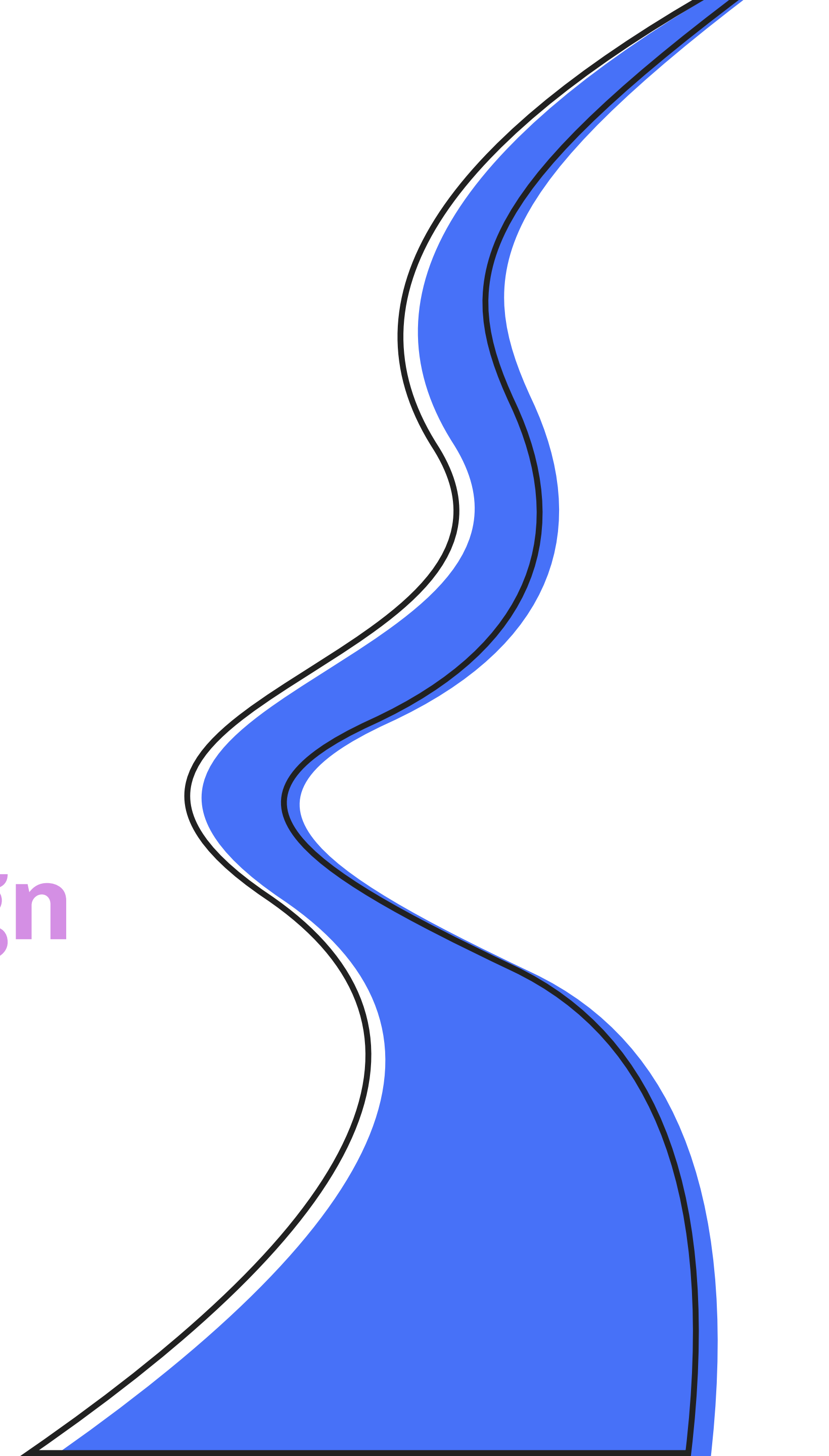


**agriculture**

POINTS OF VIEW



from  
**Human-Centered Design**  
to  
**Life-Centered Design**

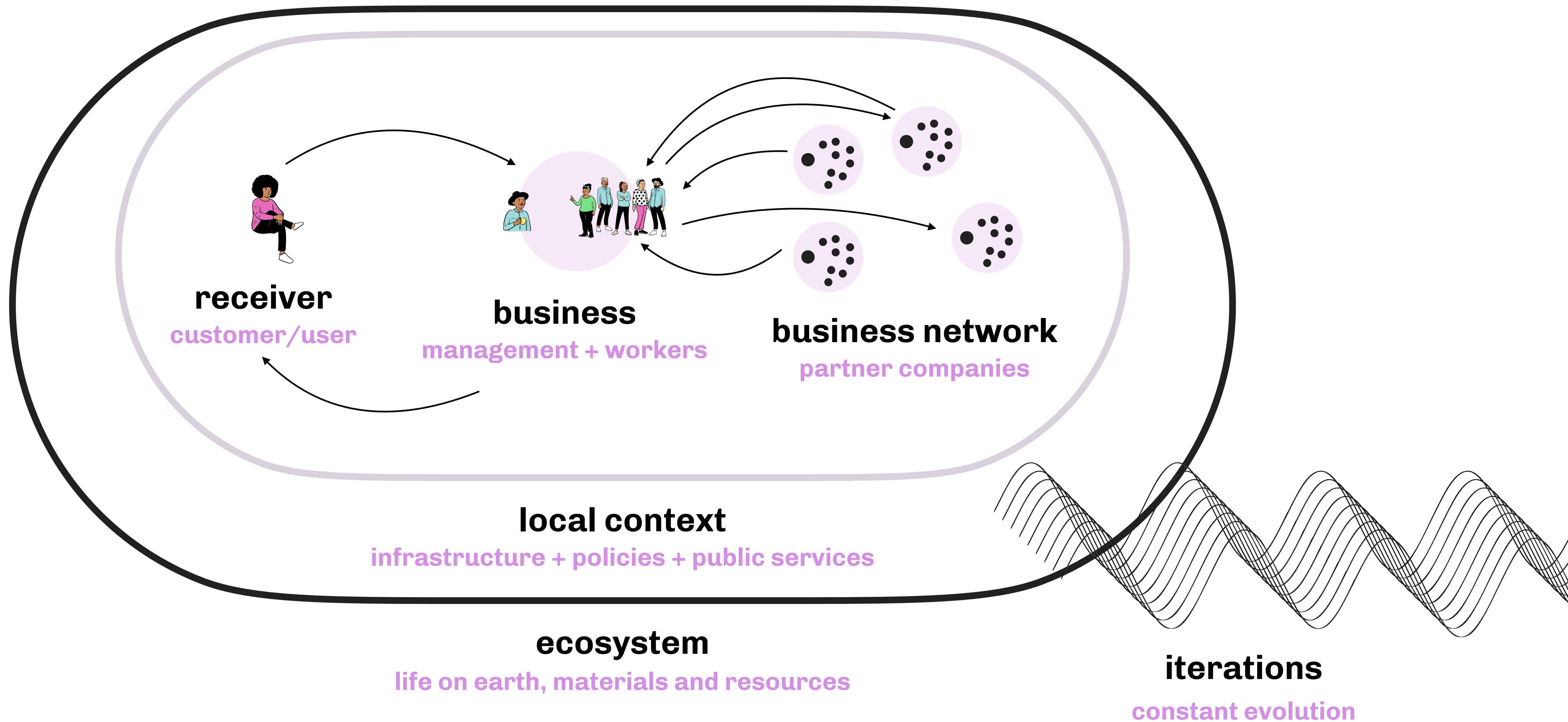


**individual** < **population** < **community** < **ecosystem** < **biome** < **biosphere**

“ As people’s focus of desirability, viability and feasibility moves from “me” to “we”, user-centered design will feel increasingly selfish. Design’s emphasis will need to switch toward design for all life.\* ”



SYSTEMS PERSPECTIVE



# 4. Design is **power**

if you know how to use it

**how to extend the design practice from  
products, to service systems, to  
businesses, cities and **ecosystems**?**

## SYSTEMS DESIGN & THE CIRCULAR ECONOMY: A FEW GUIDELINES

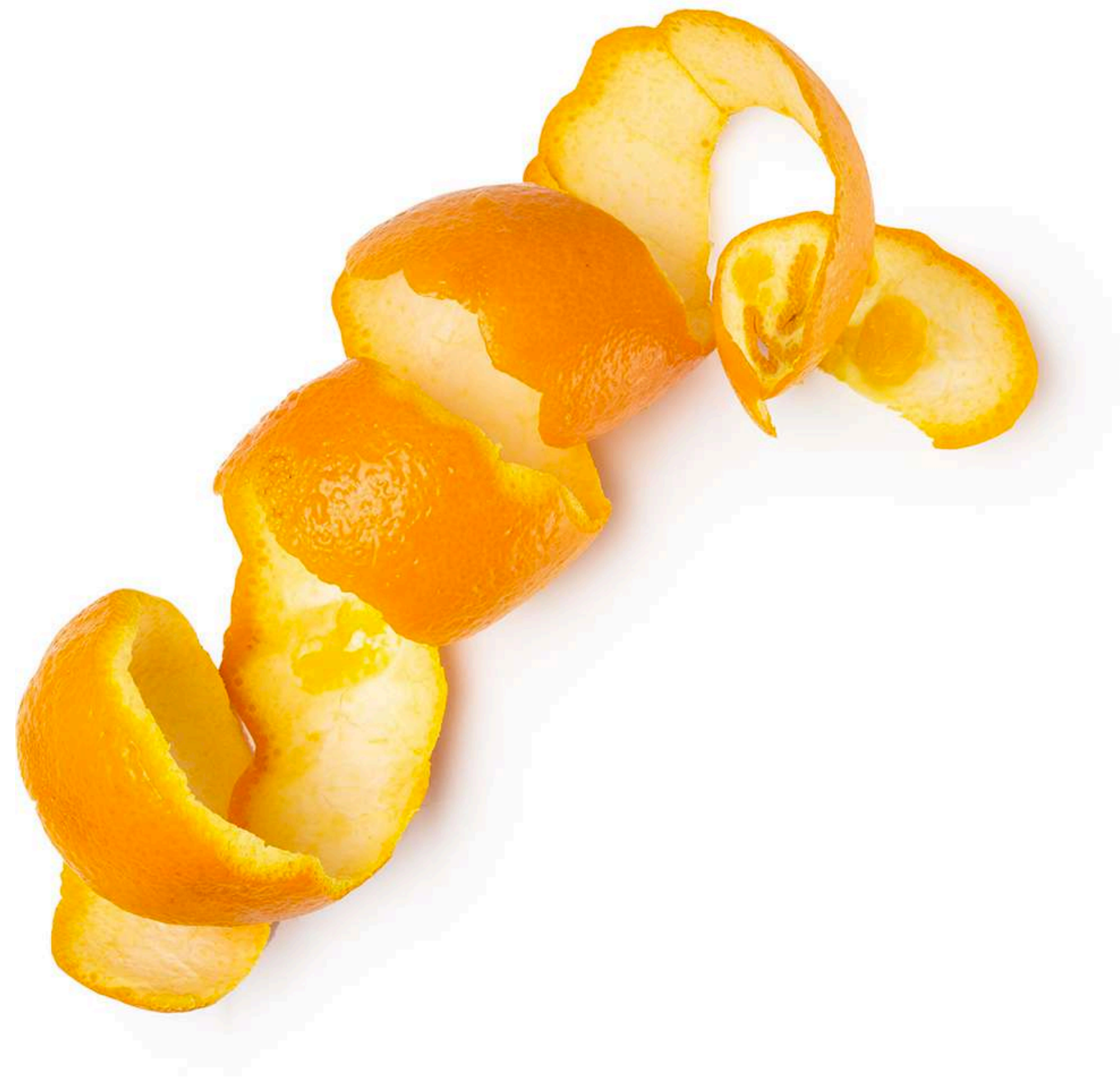
- I. think systemically**
- II. spot out inefficiencies**
- III. embrace complexity**
- IV. shift perception of value**
- V. narrative is essential**
- VI. make change light**
- VII. keep people in mind**
- VIII. context matters**
- IX. nature is a stakeholder**
- X. the world is connected**

I. think systemically



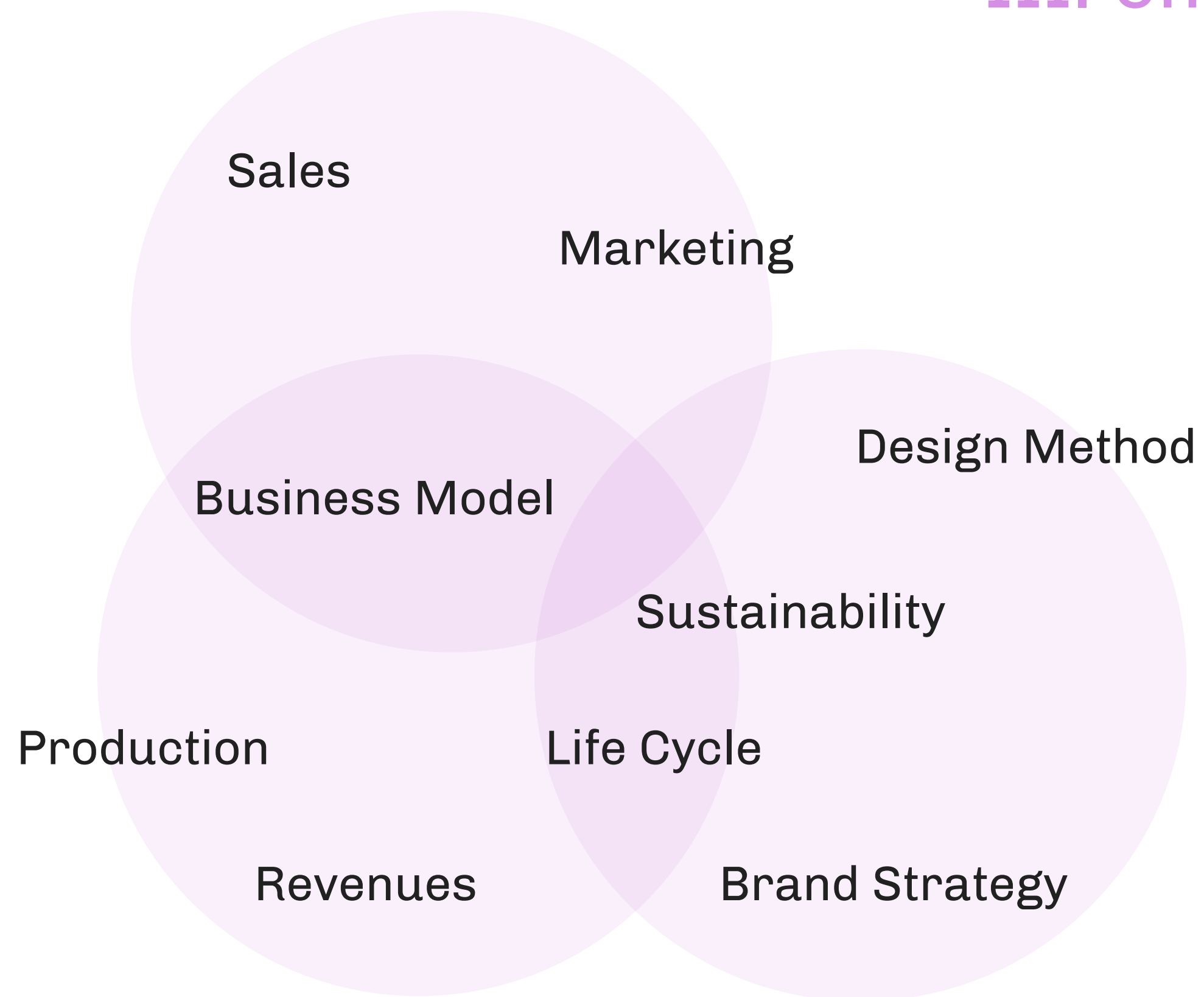
it takes at least **twice as much water** to produce a plastic water bottle as the amount of water contained in the bottle

## II. spot out inefficiencies



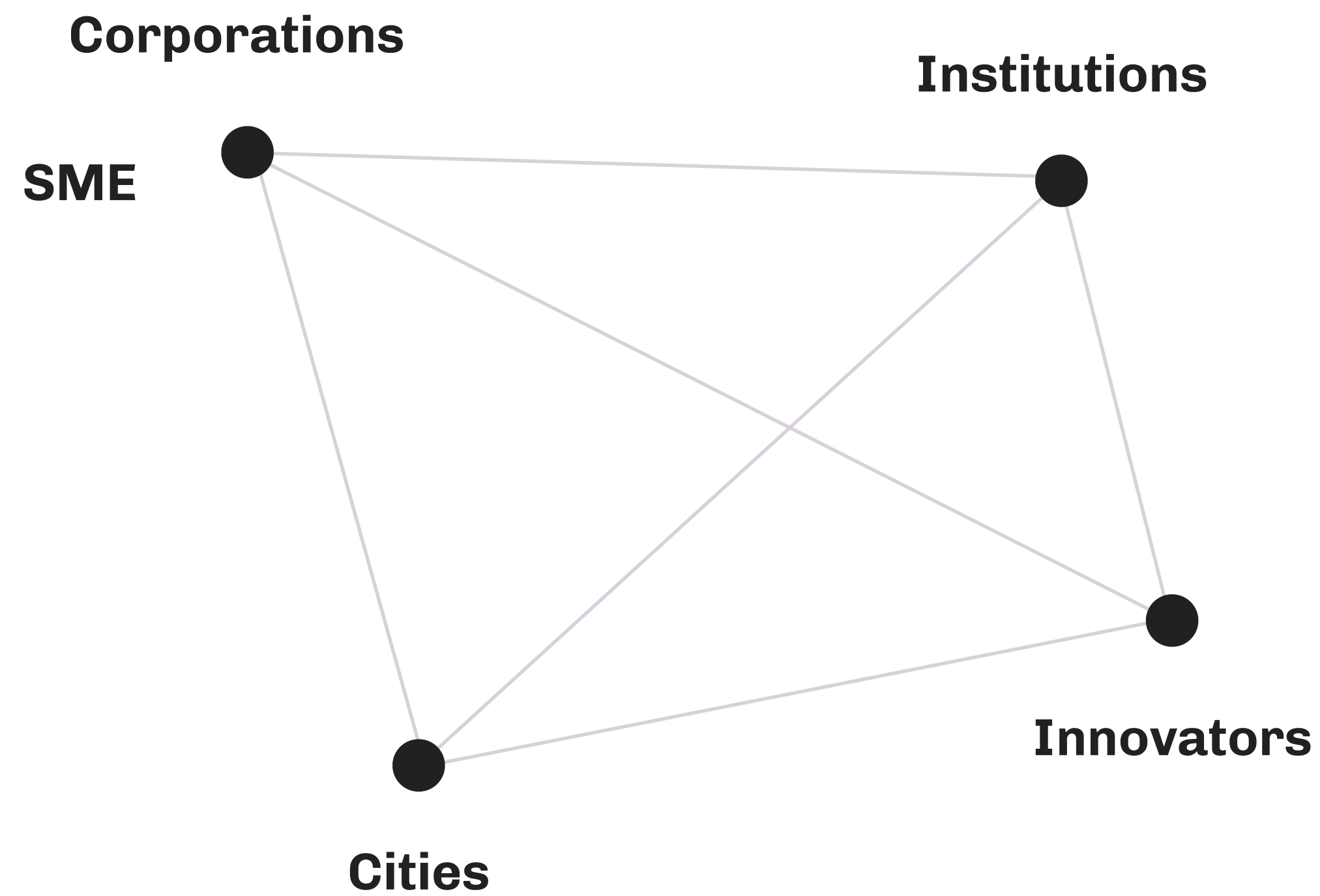
Waste it's not free, and it's a resource:  
circular business regenerates and  
reallocates resources

### III. embrace complexity



leverage **cross-sector** experience  
to get where you need: **joint  
ventures** unlock possibilities in  
ways we never experienced before,  
especially in **big corporations**

## IV. shift the perception of value



regenerate business value: new  
revenue streams, customer  
retention, resource optimisation

## V. narrative is essential



**people's affection** in the long term is a great asset for a brand: they need to care and **trust** what you offer, beyond advertising stunts

## VI. make change light



it doesn't just need to be light, it needs to be **enjoyable**, a unique experience, **convenient** and exciting

## VII. keep people in mind



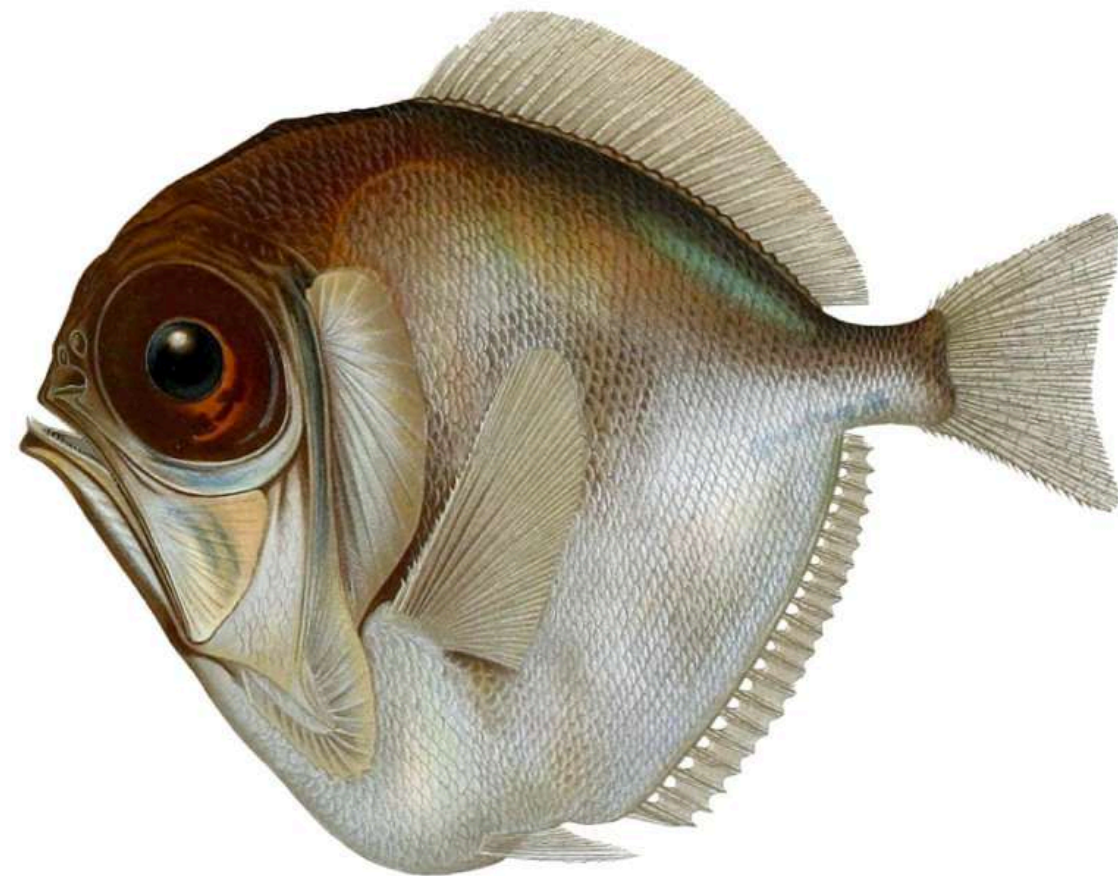
circular economy creates jobs and keeps **more actors involved in the system**: reusing makes customers **active participants** of a system, there is more interaction

## VIII. context matters



the **same rule** doesn't work for **different contexts**: when designing it's important to consider local practices before **imposing a ritual** that doesn't **belong to the culture** you are designing for

## IX. nature is a stakeholder



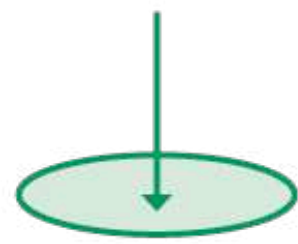
nature is too often considered as an **externality** in business, while it should be a fundamental part of the **business model**

## X. the world is connected

SMALL



LOCAL



OPEN



CONNECTED



there was **never a better time** than now to understand how deeply the world is connected. in order to be resilient, we should consider **small, local, open and connected systems**

**“If it can’t be reduced, reused, repaired,  
rebuilt, refurbished, refinished, resold,  
recycled or composted, then it should be  
restricted, redesigned or removed from  
production.”**

**Pete Seeger**

## OUR ARTICLES

### Why We Need Design for the Circular Economy

From Linear to Circular — it's time to call out designers to rethink our broken economic model



Future Urban Living Following  
Feb 20, 2019 · 5 min read



Design was born to combine functional and aesthetic meaning for everyday objects after the massification of production that came with the industrial revolution, which disrupted the ways of interaction between people and goods. Rapidly, over the past 20 years, industrial objects became services and systems of touch points, digital interfaces, and even further, with digitalisation came the Internet of Things and machine learning systems. Our cities grew bigger, our networks of production and trading more articulate and our societies more multicultural.

<https://medium.com/circularity/why-we-need-design-for-the-circular-economy-2dbc2a3a8bf2>



Aarni Heiskanen



October 4, 2019

FEATURES

### From Linear to Circular in Construction: An Interview with Lu Ying

October 4, 2019 11 Min Read

<https://aec-business.com/from-linear-to-circular-in-construction-an-interview-with-lu-ying/>

<https://www.futureurbanliving.com/>

**thank you**

[www.futureurbanliving.com](http://www.futureurbanliving.com)

<https://www.linkedin.com/in/alicecasiraghi/>