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# Circular Economies

## Chicago Conservation Corps

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Sarah  
Ku



Born and raised in Atlanta



BBA in Marketing, minor in Art  
University of West Georgia



Started and managed a medical device company  
(pneumonia / tuberculosis)



Aquaponics farm in China  
WWOOF program



PhD in Marketing / International Business  
Georgia State University  
Dissertation: Organizational Food Waste



Courses: Introduction to the Circular Economy,  
Sustainable Business Management, Biomimicry  
Loyola University Chicago


**JUST BECAUSE  
YOU'RE TRASH  
DOESN'T MEAN  
YOU CAN'T DO  
GREAT THINGS.**

**IT IS CALLED  
GARBAGE CAN,  
NOT GARBAGE  
CANNOT.**





# What is Circular Economy?



Gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system

Source: [Ellen MacArthur Foundation](#)

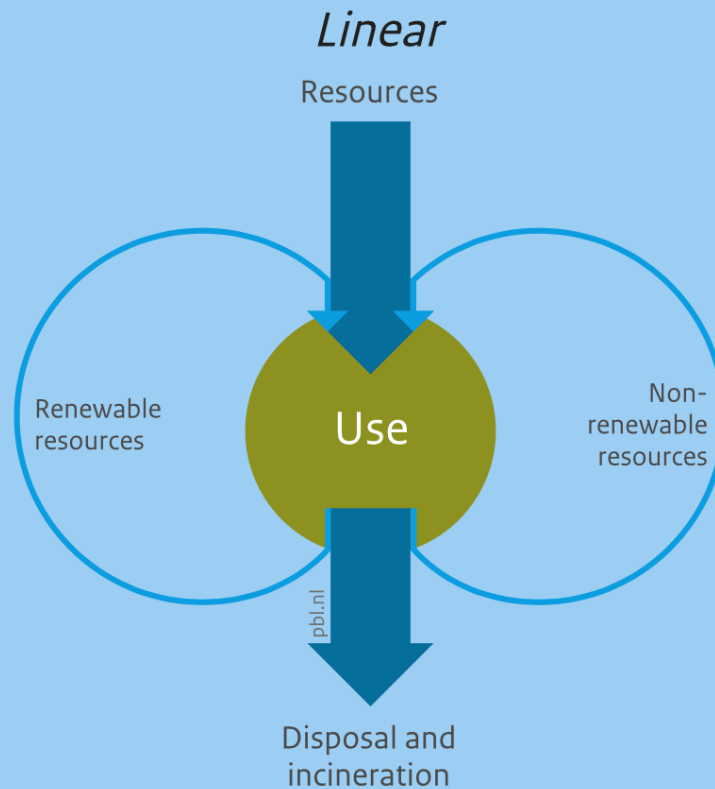
# Circular Economy Principles

Design out  
waste and  
pollution

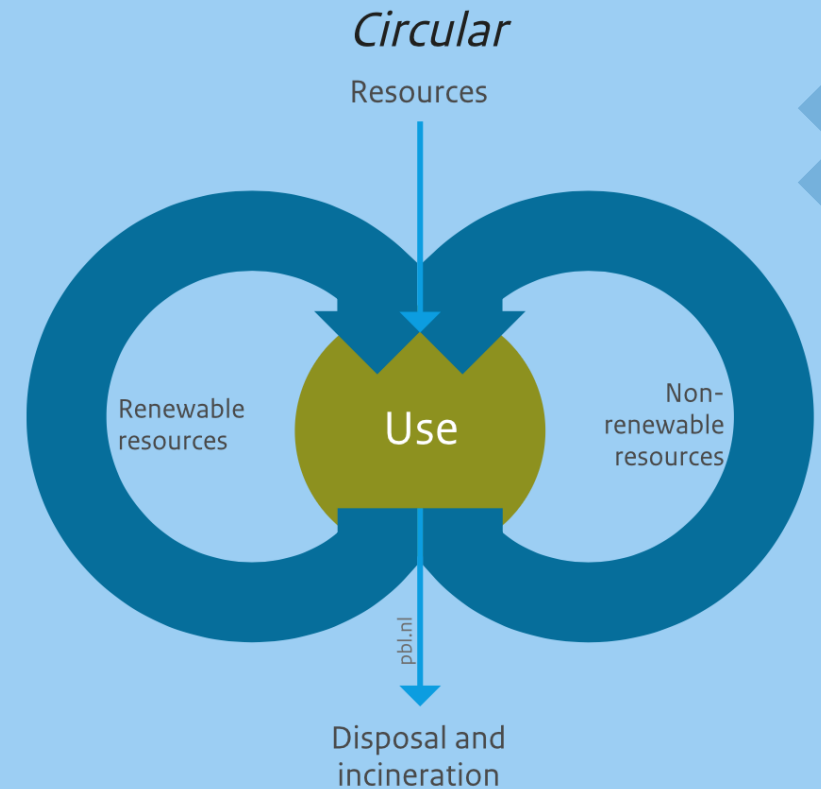
Keep products  
and materials  
in use

Regenerate  
natural  
systems

# Linear vs Circular

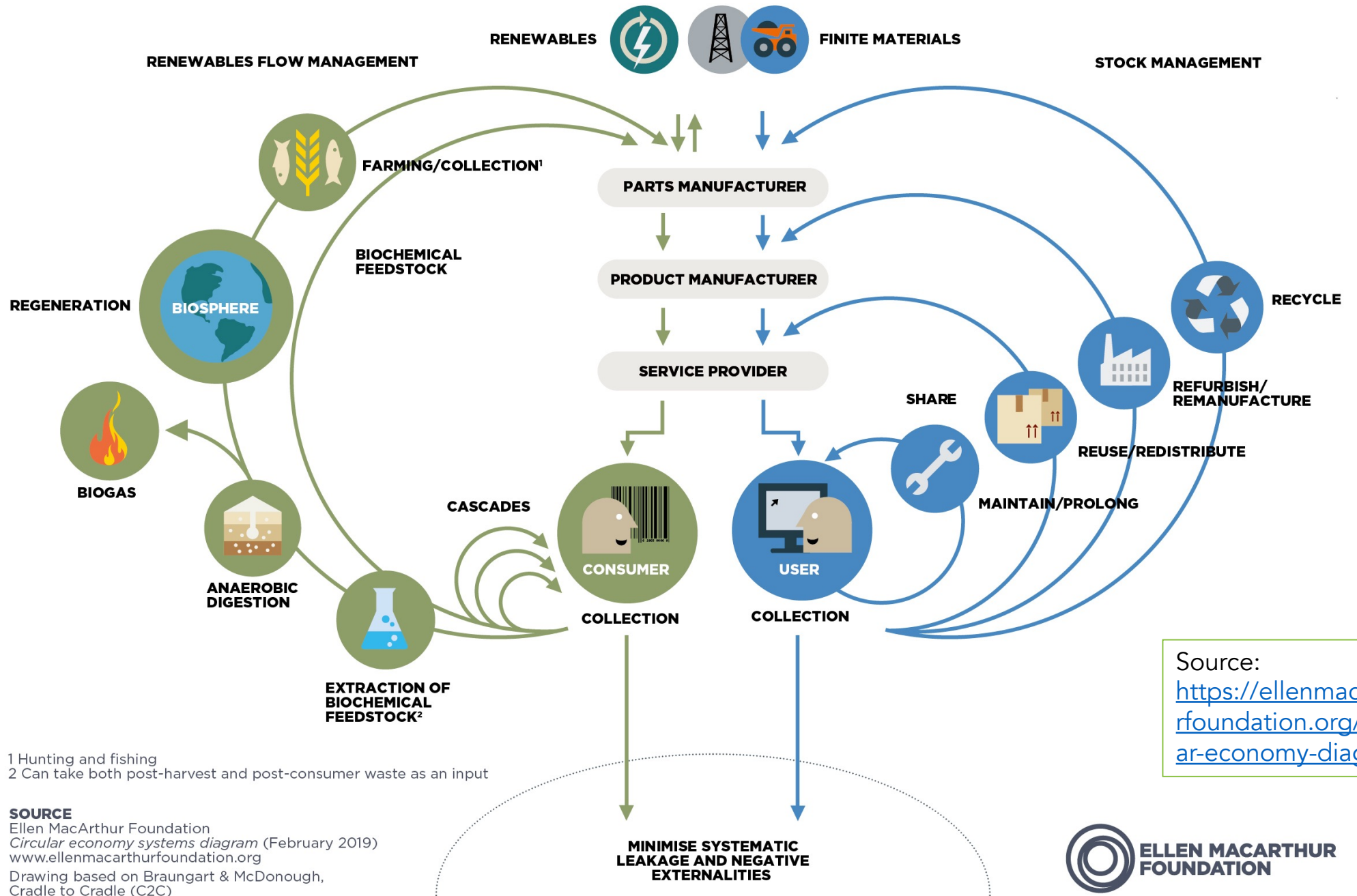


A linear economy operates on a 'take-make-dispose' model, making unbounded use of resources to produce products that will be discarded after use.



A circular economy, in contrast, centres around the reuse of products and raw materials, and the prevention of waste and harmful emissions to soils, water and air, wherever possible ('closing the loop').

Source: <https://themasites.pbl.nl/o/circular-economy/>

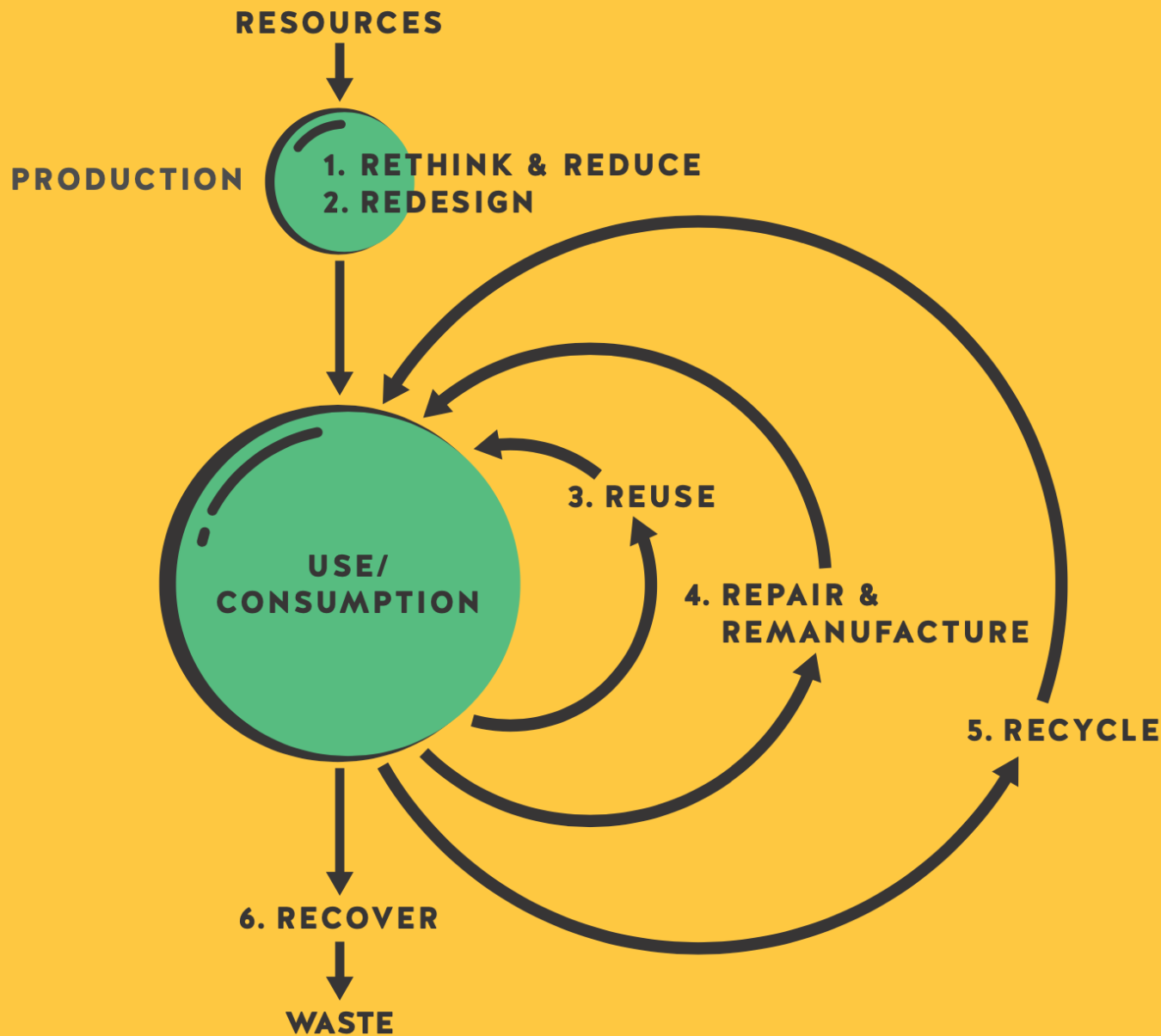


1 Hunting and fishing  
 2 Can take both post-harvest and post-consumer waste as an input

**SOURCE**  
 Ellen MacArthur Foundation  
*Circular economy systems diagram* (February 2019)  
 www.ellenmacarthurfoundation.org  
 Drawing based on Braungart & McDonough,  
 Cradle to Cradle (C2C)

Source:  
<https://ellenmacarthurfoundation.org/circular-economy-diagram>





## HIERARCHY OF ACTIONS

### 1. Rethink & Reduce

As a producer, ask yourself: Is this product the best way to meet the demand? Could we use fewer or different resources in its production?

### 2. Redesign

Consider reuse, repair and recycling options in advance of production.

### 3. Reuse

Use products multiple times.

### 4. Repair & Remanufacture

After initial use, maintain and repair products, or use them to create new products.

### 5. Recycle

Process and reuse materials.

### 6. Recover

Create energy from materials. Disposal should be avoided.

Adapted from PBL Netherlands Environmental Assessment Agency. [themasites.pbl.nl/circular-economy/](https://themasites.pbl.nl/circular-economy/)



# Look at the labels on your clothing...

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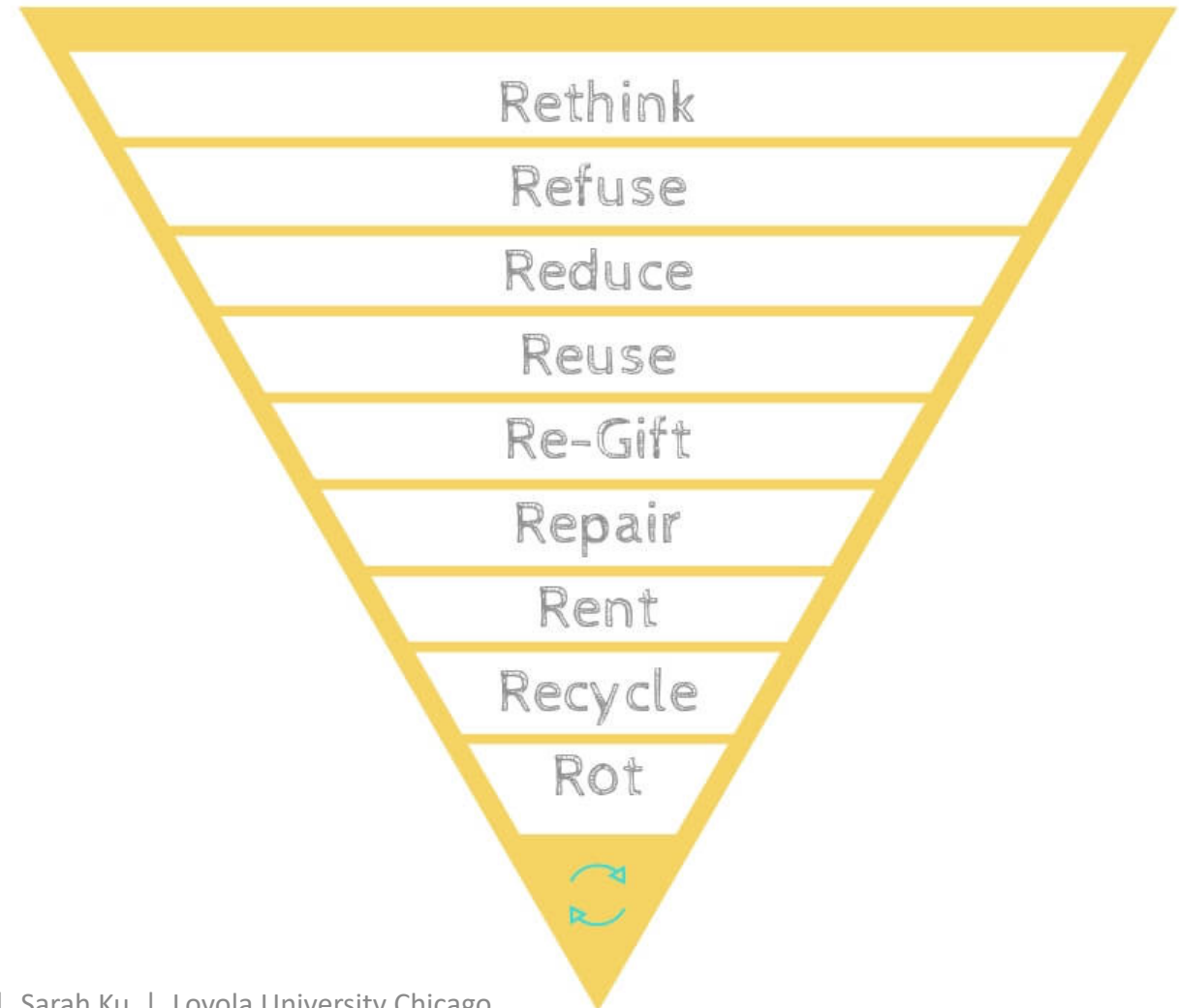
Probably a mix/blend

- Natural (e.g., cotton, wool)
- Synthetic (e.g., polyester, nylon)

How do you discard it?

# Different destinations depend on...

- Quality
- Composition
- Capabilities
- Equipment
- Infrastructure
- Style
- Etc.



# Circular products

“This sneaker is made from grape leather and the sole is made from recycled rubber. It is circular in production and design.”

*Is this circular?*

*Production + design are not the only stages!*

THIS SNEAKER IS MADE FROM GRAPE LEATHER  
AND THE SOLE IS MADE FROM RECYCLED RUBBER.  
IT IS CIRCULAR IN PRODUCTION AND DESIGN.

# Intentional planning in ALL stages

- Resources
- Design
- Production
- Retail
- Consumption
- End of life



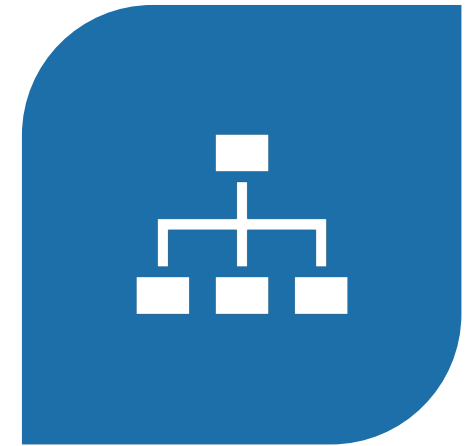
# Circular design



NOT JUST ABOUT USING  
WASTE MATERIALS



DESIGN FOR RESILIENCE  
(SELF-REPAIRING)



DESIGN FOR SELF-ORGANIZATION  
(ABILITY TO STRUCTURE ITSELF)

# Implementing circular economies



- Substitution
- Dematerialization



## Consider terminologies...

- Reusable
- Recyclable
- Disposable
- Biodegradable
- Compostable
- Edible



# Local examples



## Plant Chicago

Local incubator space for circular businesses

Lots of resources and local companies / opportunities



## Searle Biodiesel Lab

Collects used cooking oil (local)

Converts into renewable biodiesel fuel

Fuels campus shuttle buses

Byproducts → soap



## Loop

Loyola student startup

“Shop and sell gently loved clothing and accessories exclusively within your college campus”

For students, by students



# Additional resources

- [Sarah Ku YouTube channel](#)  
Playlists of videos
- [Close The Loop](#)  
Website / Guide / Tool for circular fashion industry
- [Thinking in Systems](#)  
Book by Donella Meadows

# How to get more involved

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- Can't control others, but you can control yourself and your own communities
- Build communities and work together!

If you think  
you are too small to  
**MAKE A DIFFERENCE,**  
try sleeping with  
a mosquito.

DALAI LAMA

