

CITIZEN PARTICIPATION TO THE CIRCULAR ECONOMY

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ABOUT ME

- Research fellow and teacher at the Department of Forest Sciences and Helsinki Institute of Sustainability Science
- Passionate about making sustainability science accessible and relevant to wider audiences: companies, policymakers, youth, the wider public
- Founder of Helsus Youth initiative
- Project Lead of Circular Citizens / funded by Kone Foundation





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https://www.circular-citizens.com/



THE CIRCULAR CITIZENS PROJECT

https://www.circular-citizens.com/

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2021

Rich interview data

on motivations, behaviour and challenges of pioneering citizens who are implementing zero waste lifestyles

2022

Large scale survey

mapping motivations, opportunities and abilities of regular citizens to participate in the circular economy, especially with precyling behaviours

2023

Participative research

doing repurpose experiments in high schools to support lifestyle changes through experiential learning

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INTERSECTION OF SUSTAINABLE CONSUMPTION AND CIRCULAR ECONOMY

Waste hierarchy



Circular economy focuses on value retention: prolonging the life of goods & materials, enhancing reuse opportunities, and developing efficient recycling systems

should be the last resort.

The waste hierarchy of the EU Waste Framework Directive emphasizing waste prevention

from 3R, 4R, 5R....10R

No matter how efficient are recycling processes, nothing is 100% recyclable.

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re-assembly, recapture, reconditioning, recollect, recover, recreate, rectify, recycle, redesign, redistribute, reduce, re-envision, refit, refurbish, refuse, remarket, remanufacture, renovate, repair, replacement, reprocess, reproduce, repurpose, resale, resell, re-service, restoration, resynthesize, rethink, retrieve, retrofit, retrograde, return, reuse, reutilise, revenue, reverse and revitalize... (Reike et al., 2018)



Study: How does circular economy relate to everyday life?

- Perspective of young aduts in Finland
- Five high schools
- Altogether 249 responses



Korsunova et al., 2021

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BARRIERS OF CE IMPLEMENTATION



- Consumer lack of interest and awareness of CE among top-rated barriers as reported by businesses and policy-makers (Kirchherr et al., 2018).
- General inertia, existing consumer habits and lack of awareness towards all possible CE choices among reasons for slow diffusion of CE models (De Jesus and Mendonca, 2018)

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WHY BOTHER? CIRCULAR BEHAVIOUS REQUIRE ADDITIONAL BENEFITS



MONETARY GAINS CONVENIENCE MORALITY

TRENDINESS

Tunn et al. 2019

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EXAMPLE: FINNISH BOTTLE RETURN SYSTEM

- Price of the bottled drink includes a "deposit" that can be regained after returning the bottle
- Return points are located in shops where deposits can be cashed in
- Return points are easy-to-use and accept all bottle types (no need to take certain bottles to certain locations)
- Returning bottles is a societally accepted activity, encouraged from childhood

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The return rate of bottles & cans in Finland is over 90%



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CHALLENGE #1 THE PUZZLE OF GOING PLASTIC-FREE

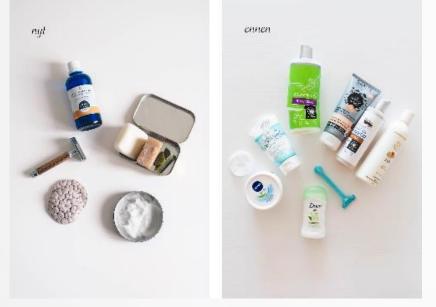


photo by @iisaraita

- Conventional supermarkets sell liquid household goods in plastic bottles
- Finding alternative products packaged in cardboard requires going to "eco-shops" or making timely orders online
- Almost no options available for doing "re-fills"
- Many influencers prefer making their own products, like deodorants or washing detergents



This data should be cited as: Korsunova, A. 2022. The Circular Citizens Project. < https://www.circular-citizens.com/outcomes>

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CONSUMER PERCEPTIONS, BIAS & ACCEPTANCE OF CIRCULARITY



Certain categories of goods are perceived as less "personal" and are easier to re-sell (e.g. sport equipment)

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Typical cognitive bias as barriers to circularity

Worse performance (of product /services) Hygiene issues Suspicions of pests Risk aversion Lack of awareness Lack of trust Inertia



Lutikkakoirilla kova kysyntä – lahjomaton nenä paljastaa lutikat hetkessä

Koulutettuja koiria tilataan erityisesti taloyhtiöihin, joista epäillään löytyneen lutikoita. Kierrätyskeskus yrittää säännöllisillä tarkastuksilla varmistaa, ettei lutikoita päätyisi kierrätyksen kautta ihmisten koteihin.



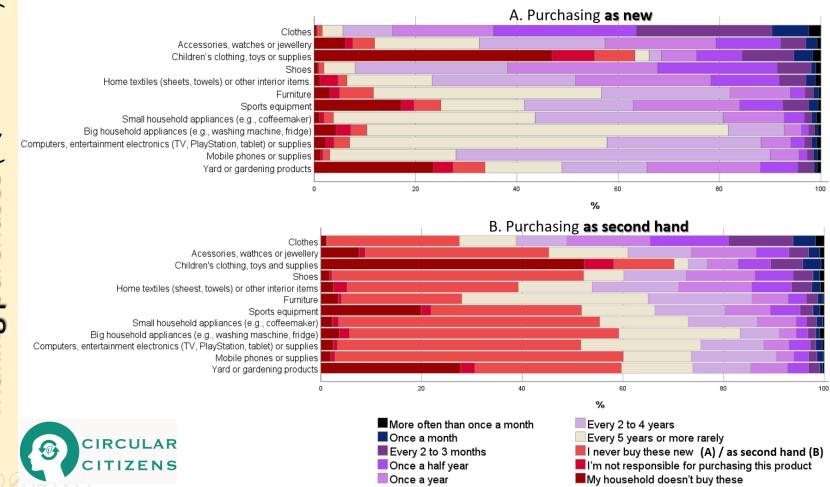
Lutikkakoira Ruu haistaa mahdolliset lutikat hyvin suurella varmuudella. Lutikkakoiraohjaaja Karita Häkkinen taustalla. Kuva: Tero Ylioja / Yle

The Re-Use Centers in Finland accept furniture, clothing, sports equipment, toys and other donations from citizens

Kierrätyskeskus

Due to concerns that there might be bed bugs their facilities have been checked by dogs trained to find domestic pests

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Sorting by size

Ironing Displaying for a good photo

Selling in season

Adjusting Fo the pricing soo me Communication with potential buyers Sale & pick-up arrangements

Posting on social media

Emage: lähiömutsi

Earn some money

Feeling good from doing good

Ecological deed

Freeing up space

HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET UNIVERSITY OF HELSINKI arrangements Dealing with complaints

> -Angelina Korsunova

SELLING

BABY CLOTHING

ONLINE

¥.

CHALLENGE#2 TIME FOR UPDATING THE SKILLS



- Photography and display skills
- Skills for repair
- Maintenance skills
- Knowledge of different materials
- Creativity in cooking: using left overs and reducing food waste



photo by @iisaraita

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Own CE-skills and abilities (Q5.2)

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I have manual skills to repair and reuse items and materials I have resourcefulness and creativity to use materials and items for new purposes I have openness to do things differently (trying renting instead of buying) I can question consumption norms I can evaluate the longevity of goods I have communication skills to utilize when trading second hand goods

- I have negotiating skills to utilize when trading second hand goods
- I have the IT skills to trade second hand goods on the internet
- I can prioritize my own consumption choices based on their environmental impact.
- I have foresight skills (e.g., I can start looking early enough for goods at second hand marketplaces)
- I have skills for maintenance of goods to prolong their life (e.g., maintenance of shoes or bicycle)
 - I have planning skills, that I can use to reduce food waste.
 - I can recycle (e.g., separate different fractions)
 - I am familiar with second-hand stores and can easily find the goods I need
 - I can recognise good quality in materials when making purchases

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,890	,890	15

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CHALLENGE#3 WHAT IS REALLY SUSTAINABLE?



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CHALLENGE#4 INVISIBLE RENTING SERVICES

4						
	All listing types 💌			🔡 Grid	i≣ List	🛿 Мар
	ALL CATEGORIES	€45		€20 / night		€60 / week
	CAMPING & HIKING BEAR	CH3	and a standards	-	-	
	WINTER HIKING GEAR TENTS AND SHELTERS	A NO	The state of the s	-		
	BACKPACKS	Helsport Sarek 2+ tunneliteltta	Retkeilyvarus	tesetti yhdelle	Retkeilyvaruste	setti yhdelle
	SLEEPING PADS SLEEPING BAGS	Juno-Tuomas	Toula		Trails	
	STOVES	Juno-Tuomas				
	OTHER OUTDOOR CLOTHING	€5	week	€6 / day		€10 / nigm
	FISHING					
egory=reticeil ere to sear	yvanuteet&price_max=413&price_min=5&view=p		ا) 😰 💼 🌜		6	

- Libraries offer only a small fraction of goods for borrowing
- Different platforms exist but not very well known
- May need to visit several pick up locations if renting from different users



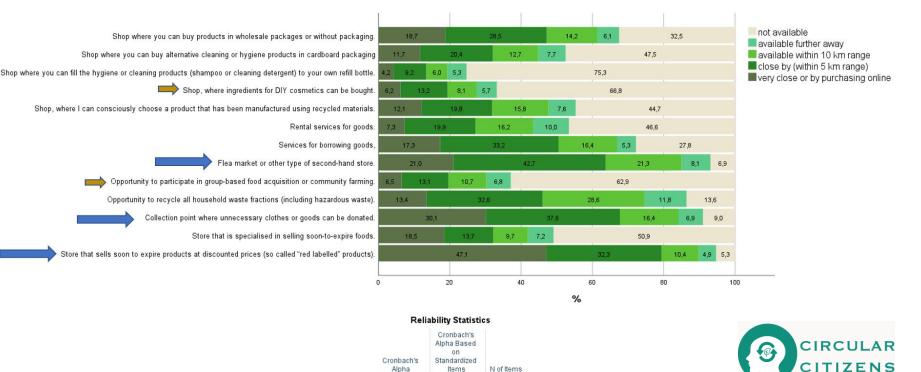
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Availability of CE-related services (Q2.6)



,825

,824

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WASTE AMOUNT ON THE RISE

- Total amount of waste per person has been growing in Finland: from 500 to 550 kg/person/year (2018)
- Also the share of mixed waste has grown by 20% compared to previous years: the sorting of waste decreasing



National Statistics, Finland

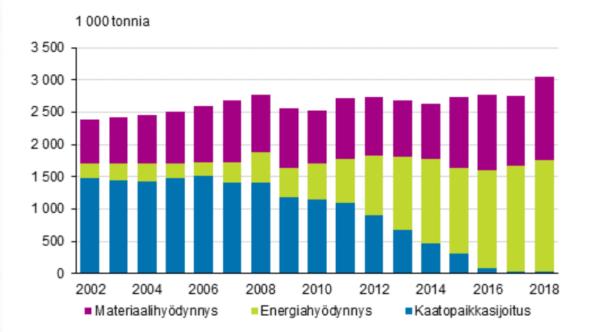
HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET UNIVERSITY OF HELSINKI Suomalaiset tuottivat ennätysmäärän jätettä, paljastavat Tilastokeskuksen uusimmat luvut – "Vastaavaa kasvua ei ole aiemmin nähty"

Jätteen määrä kertoo muun muassa kasvavasta kulutuksesta.



WASTE AMOUNTS ARE INCREASING, BUT ALSO INCREASINGLY RECYCLED INTO ENERGY

HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET UNIVERSITY OF HELSINKI Yhdyskuntajätteet käsittelytavoittain vuosina 2002–2018



Jätteiden materiaalihyödyntämisen osuus kasvoi, ollen 42 prosenttia. Yhdyskuntajätteiden kaatopaikkasijoitus on loppunut lähes kokonaan: sen osuus vuonna 2018 oli enää noin 0,7 prosenttia. Tämä on osaltaan vuonna 2016 voimaantulleen orgaanisen jätteen kaatopaikkakiellon ansiota, joka on ohjannut jätteitä energiahyödyntämiseen.



Image: Ville Paso / Yle

Struggling to keep up, Finland exports plastic waste

Experts criticise Finland for urging residents to recycle plastic the country was not prepared to handle.



Yle Uutiset 🤣 @yleuutiset · 21. syysk. 2020

Moni meistä ajattelee kuin Jari Matikainen: Biojätteen lajittelu on liian hankalaa – siksi valtava määrä ruokaa poltetaan sekajätteen mukana



Moni meistä ajattelee kuin Jari Matikainen: Biojätteen lajittelu on liian ... Biojätettä lajitellaan edelleen laiskasti, mutta uusi laki voi pian velvoittaa siihen. & yle.fi

But today state-owned energy company Fortum, which runs Finland's only plastics recycling facility in Riihimäki, says it doesn't have the capacity to process the waves of plastic waste arriving on-site. This means excess plastic gets shipped abroad.

HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET UNIVERSITY OF HELSINKI "Many of us think like Jari: sorting biowaste is too challenging"

CHALLENGE#5 THE "STAGES" OF SORTING







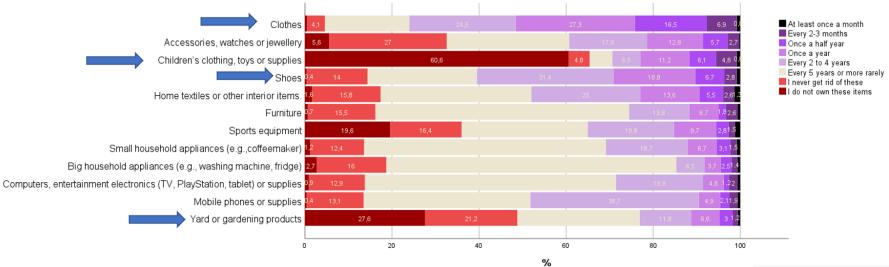
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Getting rid of goods (Q3.1)

How often do you get rid of (recycle, donate, throw away) the following products?





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CAN WE LEARN FROM EMERGING MARKETS?

CE as business strategies, technological solutions and planned policy

> CE as necessity-driven practices with Circular mindset Tolerance towards imperfect solutions Focus on affordability and functionality Engagement in time-intensive practices Informal hubs for CE

> > Circular economy

Source: Korsunova et al., 2022









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= CE as conceptualized in

academic discourse

= The phenomenon of endogenous necessitydriven CE practices in low-

policy-making as CE.

income emerging markets

which has not made its way

into academic discourse and

MOVING BEYOND THE "CONSUMER"



What might be needed to support these transformations to new roles?

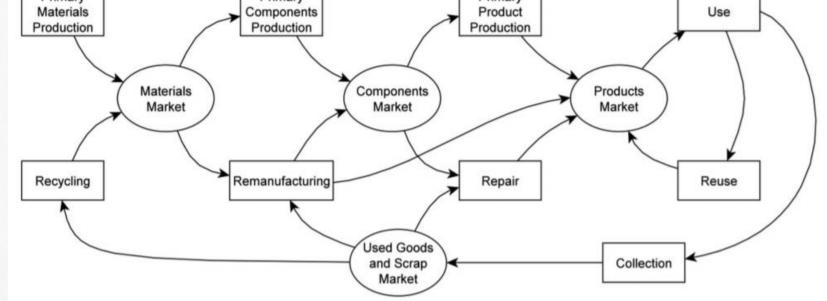
- Education •
- Skills •
- Access to tools •
- Working spaces
- (research is ongoing)

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Primary Primary Materials Production



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Zink & Geyer 2017

WHAT BEHAVIOURAL ASPECTS ARE RELEVANT FOR YOUR BUSINESS MODEL?

To fully capture the business potential of circular economy, design and business model strategies need to be implemented "in conjunction"

Visionary statements and goals

E.g. realise circular designs; challenge planned obsolescence or challenge unsustainability

Circular product design strategies

Circular business model strategies

Slowing

- Designing long-life products
- Designing for product-life extension

Closing

- Design for a technological cycle
- Design for a biological cycle
- Design for dis- and reassembly

Slowing

- Access and performance model
- Extending product value
- Classic long life
- Encourage sufficiency

Closing

- Extending resource value
- Industrial Symbiosis

Bocken et al., 2016

MORE RESOURCES ON CIRCULAR ECONOMY

- Bocken, N., de Pauw, I., Bakker, C., van der Grinter, B. (2016). Product design and business model strategies for a circular economy. Journal of Industrial and Production Engineering 33(5), 308-320. <u>https://doi.org/10.1080/21681015.2016.1172124</u>
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- Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). Barriers to the circular economy: Evidence from the European Union (EU). Ecological economics, 150, 264-272.
- Korsunova, A., Horn, S., Vainio, A. (2021). Understanding circular economy in everyday life: Perceptions of young adults in the Finnish context. Sustainable Production & Consumption 26, 759-769.
- Korsunova, A., Halme, M., Kourula, A., Levänen, J., & Lima-Toivanen, M. (2022). Necessity-driven circular economy in lowincome contexts: How informal sector practices retain value for circularity. Global Environmental Change, 76, 102573.
- Murray, A., Skene, K., Haynes, K., (2017). The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. J Bus Ethics 140(3), 369-380. <u>https://doi.org/10.1007/s10551-015-2693-2</u>
- Reike, D., Vermeulen W.J.V., Witjes, S., (2018). The circular economy: New or Refurbished as CE 3.0? Exploring Controversies in the Conceptualization of the Circular Economy through a Focus on History and Resource Value Retention Options. Resour Conserv Recycl 135, 246-264.
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