



# Green investments – How to access capital from the international markets?

On a path towards bio and circular economy

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[materiaalikiertoon.fi](http://materiaalikiertoon.fi)



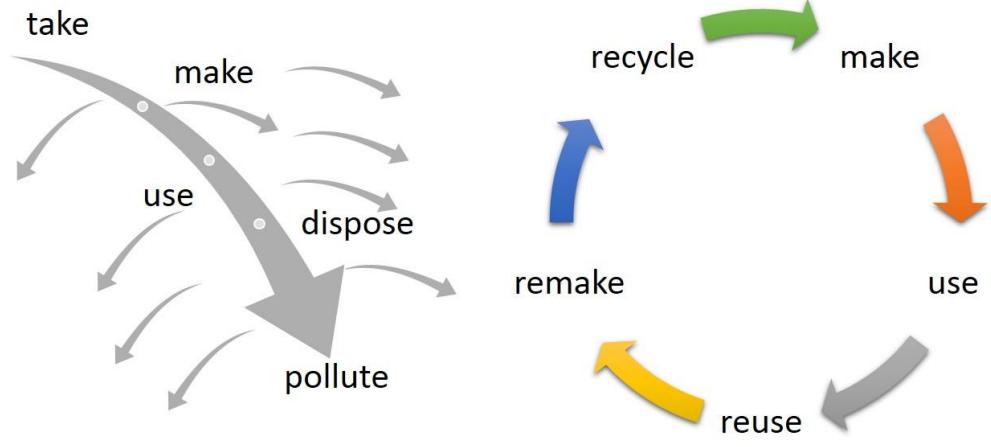
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# Circular economy

Global economy use 92,8 billion tons of minerals, fossil fuels, metals and biomass annually.

Global economy is only 9 % circular, thus 91 % of the materials flow through linear economy.



CC 3.0 Catherine Weetman 2016

Linear versus circular economy

<https://www.vttresearch.com/fi/uutiset-ja-tarinat/kiertotalous-sakkaa-materiaalit-pitaa-saada-kiertoon>,

<https://circularconomy.europa.eu/platform/en/news-and-events/all-news/2019-circularity-gap-report-reveals-world-only-9-circular-and-trend-negative>

[https://commons.wikimedia.org/wiki/File:Linear\\_versus\\_circular.jpg#/media/File:Linear\\_versus\\_circular.jpg](https://commons.wikimedia.org/wiki/File:Linear_versus_circular.jpg#/media/File:Linear_versus_circular.jpg)

# The World is full of inefficiencies, yet the demand for raw materials is increasing globally

Why do we throw away about 80 % of consumer products and their materials?

On average, materials in Europe are used only once.

**10-15 %**  
of building materials goes to waste during construction.

31 % of produced food goes to waste in value chain. In Finland it makes 300-400 million kilos per year.

The average occupancy rate of cars is about 8 %

Offices' occupancy rate is about 40 %

The global demand for raw materials will increase during the next 20 years

Farmland, over + 200 %

Water + 137 %

Steel + 57 %

Energy + 32 %

Sources: EEA, GSA, UN FAO, EU, McKinsey, Luke

**SITRA**



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# Circwaste 2016-2023

CIRCWASTE is a LIFE IP project that promotes efficient use of material flows, waste prevention and new waste and resource management concepts.

All actions contribute to implementing the national waste management plan and directing Finland towards a circular economy.

20 partners and 10 funding organisations. Total funding almost 19 million euros.

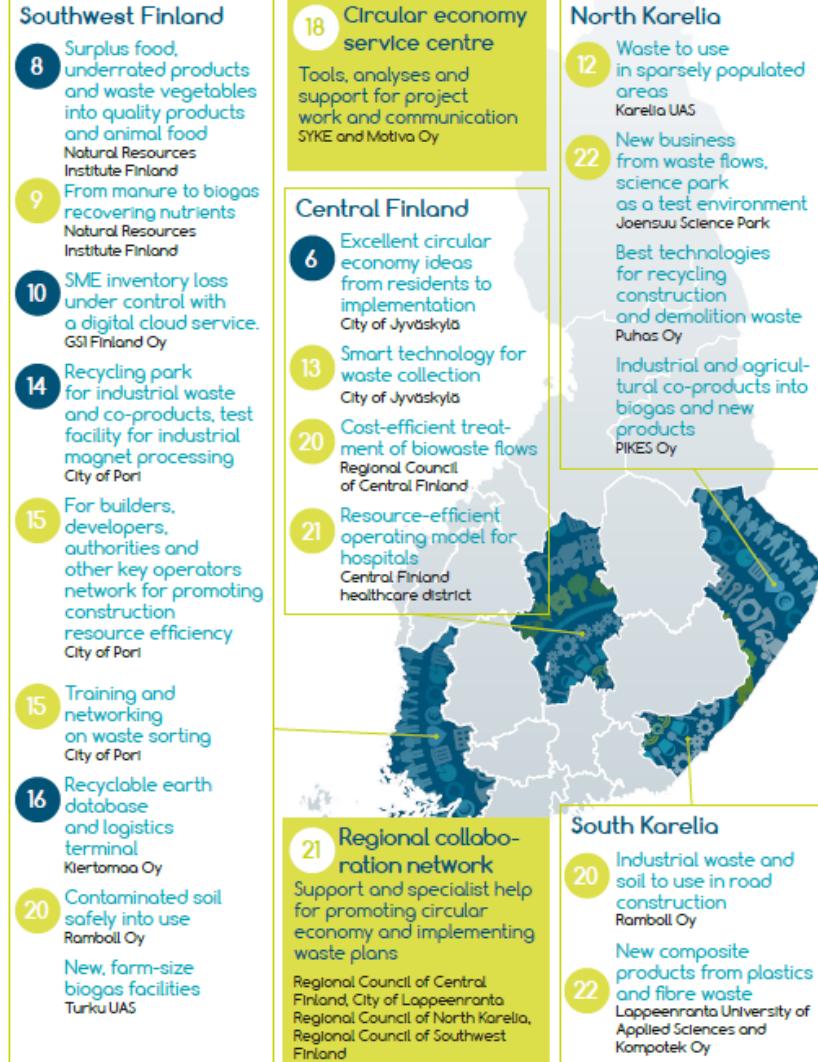
The project is coordinated by the Finnish Environment Institute.



LIFE15 IPE/FI/004



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# Electric and biogas buses roll into Finnish cities

Finnish cities are gradually moving towards fossil-fuel-free transport solutions with new investment.

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Image: Jarkko Rikonen / Yle

Buses running on biogas and electricity are slowly becoming a more common sight in Finland, as transport companies and municipalities invest in greener options.

The central city of Jyväskylä took its first biogas bus into use this week and three more coaches will join it on the roads there in the autumn.

The transport company Mennään Bussilla won a tender competition to supply the biogas buses for eight years to the city after local decision-makers prioritized fossil-fuel-free alternatives. The buses draw on the city's own Mustankorkea biogas production plant.

[https://yle.fi/uutiset/osasto/news/electric\\_and\\_biogas\\_buses\\_roll\\_into\\_finnish\\_cities/10871654](https://yle.fi/uutiset/osasto/news/electric_and_biogas_buses_roll_into_finnish_cities/10871654)

# The future of recycling: Critical raw materials from waste

A research group from the Department of Chemistry at the University of Jyväskylä, Finland, has focused on the circular economy and developed innovative process technologies applicable for various industrial uses. Adjunct Professor Ari Väistänen and his Metal Analysis and Recovery Research Group have found new methods to analyze and separate harmful and critical metals from environmental samples and electronic equipment in order to promote the circular economy.

The European Union has become increasingly dependent on the import of critical raw materials (CRMs) used by industry, making the EU more vulnerable to changes in the market economy.

The demand for CRMs, especially platinum group metals (PGMs), rare earth metals (REMs), silver and gallium in strategic energy technologies sector alone is estimated to grow very rapidly until 2030. At the same time, the level of recycling of all the mentioned CRMs is lower than 11% in comparison to their usage. As the demand for CRMs grows, it poses risks to the development of market prices and availability.

Sukkahousuilla nappaa kullan paremmin kuin urheilusukilla – kemistit kehittivät yksinkertaisen tavan ottaa talteen arvometalleja

Jätteestä voidaan ottaa 3D-tulostetulla siepparilla talteen muun muassa kulta, palladium ja uraani.

Kemia 25.3.2019 klo 09.01

Kuva: Jaana Polamo / Yle



Ion-ex

<https://www.jyu.fi/en/news/archive/2018/03/tiedote-2018-03-25-07-47-46-847989>

<https://yle.fi/uutiset/3-10699716>

<https://www.jyu.fi/science/en/chemistry/research/chemistry-in-circular-economy/metal-analysis-and-recovery-research-group/research>

Home > News and ideas

# VTT and 52 companies to cooperate to reduce need for plastics by using natural fibres

News, Press release

🕒 15.04.2020 - 10:00



<https://www.vttresearch.com/en/news-and-ideas/vtt-and-52-companies-cooperate-reduce-need-plastics-using-natural-fibres>

# More information



Circwaste project:

<https://materiaalitkiertoon.fi/en-US>

<https://materiaalitkiertoon.fi/fi-FI>

Circwaste project in Central Finland (in finnish):

[https://www.keskisuomi.fi/maakunnan\\_kehittaminen/keski-suomen\\_liiton\\_hankkeet/circwaste - kohti kiertotaloutta](https://www.keskisuomi.fi/maakunnan_kehittaminen/keski-suomen_liiton_hankkeet/circwaste_-_kohti_kiertotaloutta)

Network for companies interested in environmental responsibility in Central Finland (YMPYRÄKS, in finnish):

[https://www.keskisuomi.fi/maakunnan\\_kehittaminen/biotalous/ympyraks\\_-\\_keski-suomen\\_yritysten\\_ymparistovastuullisuusverkosto](https://www.keskisuomi.fi/maakunnan_kehittaminen/biotalous/ympyraks_-_keski-suomen_yritysten_ymparistovastuullisuusverkosto)