# EU Circular economy initiatives – insights into the circular economy by Sitra, the Finnish Innovation Fund

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# FINLAND

Source: Finland Toolbox

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# 5 key facts about Sitra

1. A gift from Parliament to the 50-year-old Finland.
2. An independent foresight agency: futurologist, researcher, visionary, developer, experimentalist, partner, trainer, networker.
3. Funded by returns on endowment capital and capital investments.
4. Envisages Finland as a successful pioneer in sustainable well-being.
5. Its vision is supported by three themes, six focus areas and dozens of projects.

# +1

Building our future together

# The World is full of waste, 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.

The average occupancy rate of cars is about **8 %**

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

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

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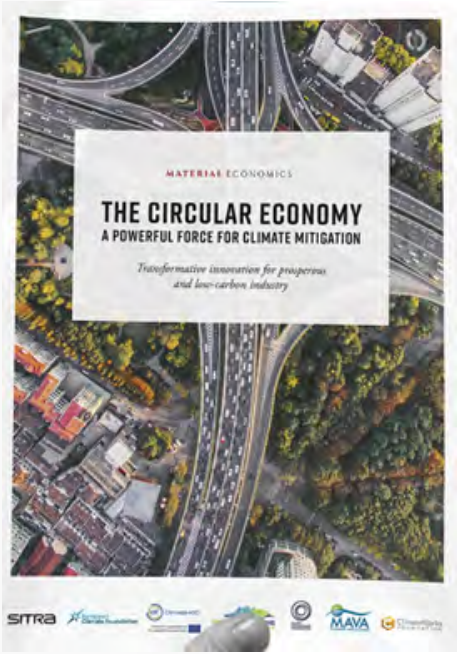
# HOW THE CIRCULAR ECONOMY REDUCES $CO_2$ EMISSIONS

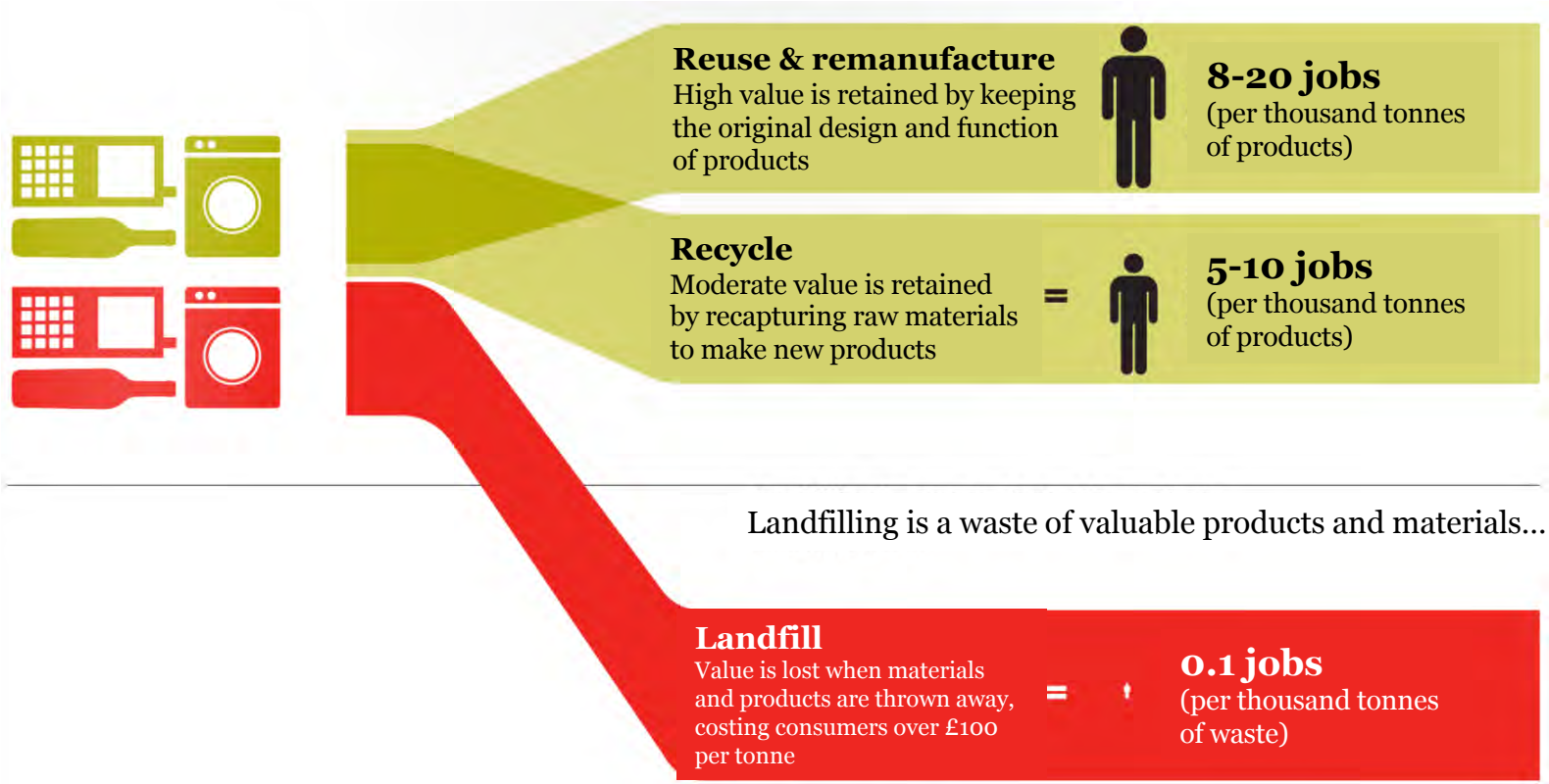
*Getting more from the materials we already have*

| 1 MATERIALS RECIRCULATION | 2 PRODUCT MATERIAL EFFICIENCY | 3 CIRCULAR BUSINESS MODELS |
|---|---|---|
| GHG / MATERIALS | MATERIALS / PRODUCT | PRODUCT / USEFUL SERVICE |
| *High-value recycling and less new material* | *Less material input for each car, building, etc.* | *Fewer products to achieve the same benefit* |
| ***High value recycling*** | ***Improved production*** | ***Higher utilisation*** |
| • *Increased collection rates* | • *Less production waste* | • *Sharing of products* |
| • *Design for disassembly and improved materials separation* | • *Avoid over-specification* | • *Product as service* |
| • *Less contamination and downgrading of materials* | ***Reuse of components*** | ***Longer lifetime*** |
| | ***Improved design*** | • *Design for durability and disassembly* |
| | • *High-strength materials* | • *Long lasting materials* |
| | • *New design principles* | • *Improved maintenance* |
| | • *Variation in size* | • *Remanufacturing* |




MATERIAL ECONOMICS

# The sale of products for reuse and remanufacture supports more jobs




Source: Green Alliance

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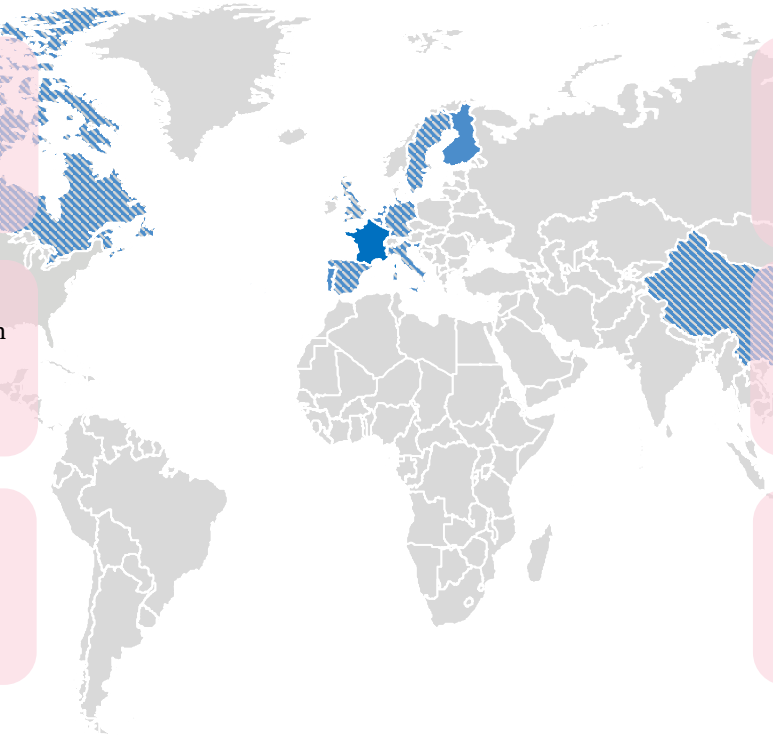
# Circular economy outlook 2018

**Circular economy as a concept** is widely known in EU but also in Canada and partly in Asia

**10 EU member states** have announced national roadmaps or action plans. For example Brussels and London have made city level strategic initiatives

**Circular economy metrics**
Germany, Japan and China have included also life cycle thinking and SDG goals in their metrics.



**Circular economy could be a powerful source for climate mitigation** - more circular economy can make deep cuts to emissions from heavy industry: in an ambitious scenario, as much as 296 million tons $CO_2$ per year in the EU by 2050, out of 530 Mt in total

**Policy level actions** include e.g. Sweden's VAT tax breaks on repairs and Austria's green public procurement

**EU circular economy package** including e.g plastic strategy and 10 indicators for CE

National or regional circular economy strategy or action plan

National circular economy roadmap

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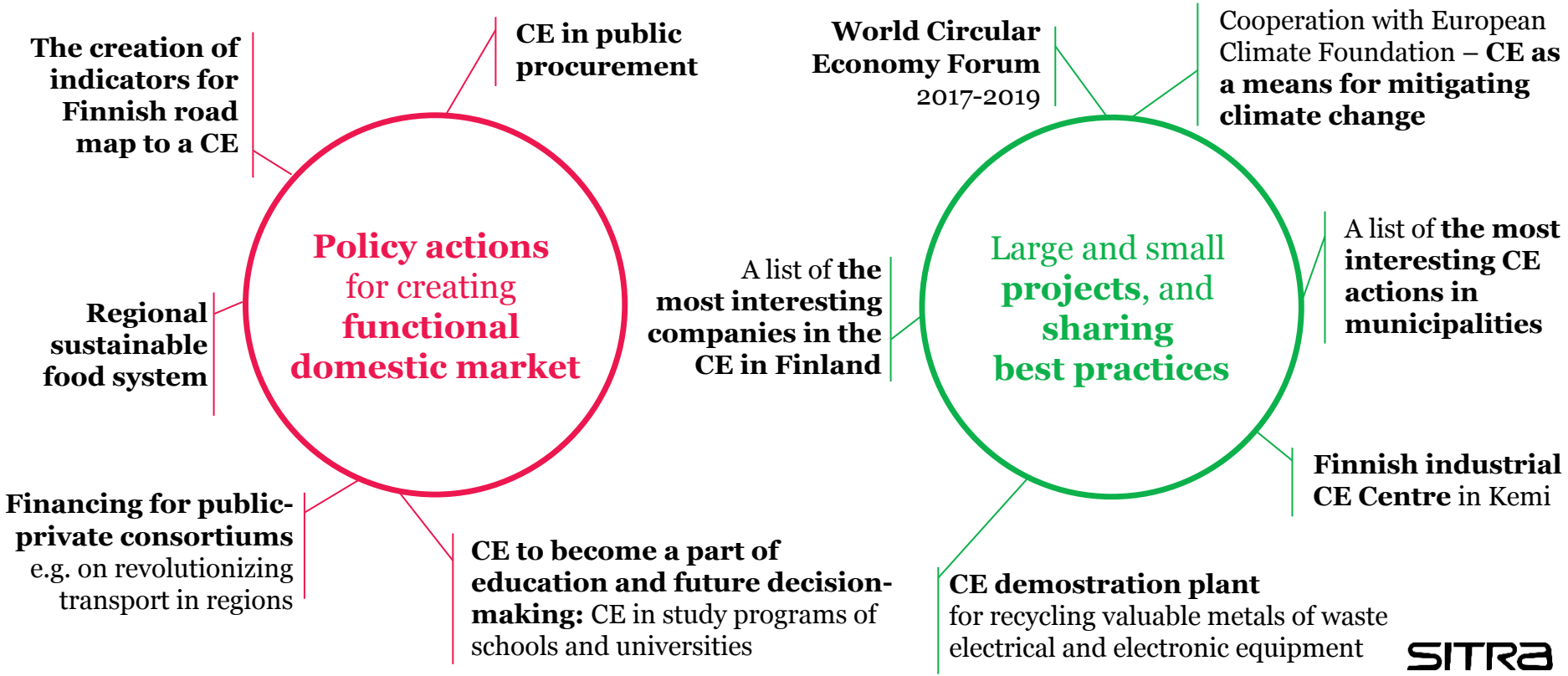
# Circular economy can be boosted through long-term systemic changes, quick experiments, scalable solutions, and stimulation of demand

*Examples of actions in Finland's roadmap to a circular economy*

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# 26 PROJECTS

# CIRCULAR ECONOMY TEACHING FOR ALL LEVELS OF EDUCATION

# Circular economy teaching for all levels of education -

## Creating experts and change agents of tomorrow

Advanced education system is one of Finland's strengths. We co-operate with all levels of education to ensure that circular economy thinking reaches as many Finns as possible – Providing future experts with the tools they can use to build a sustainable future and new business.

### Examples of what we're doing:

**Creating inspirational courses, study modules and material on circular economy**

Explaining circular economy in an inspirational and understandable form, making students, as well as teachers, understand circularity in a holistic manner. All material and courses are linked to current syllabus.

**Making inspirational school visits**

Students to actively participate in advancing circular economy by interesting classes f.e. what possibilities does sharing economy have in the class or how can a student minimize consuming in everyday life.

**Including circular economy businesses in miniature city concept**

Circular economy models are build into learning environment Me & MyCity, which is rewarded as world's best educational innovation with annually 75 000 students participating.

**5** **Common action**

**A total of 73 500 reached students and 1 800 reached teachers in all educational levels**

**Co-operating with 11 universities, 14 universities of applied sciences, 12 vocational colleges and many other organizations**

**Me &MyCity reached**
**76 % of all sixths graders and 26 % of ninth graders**

**More about our education projects here!**

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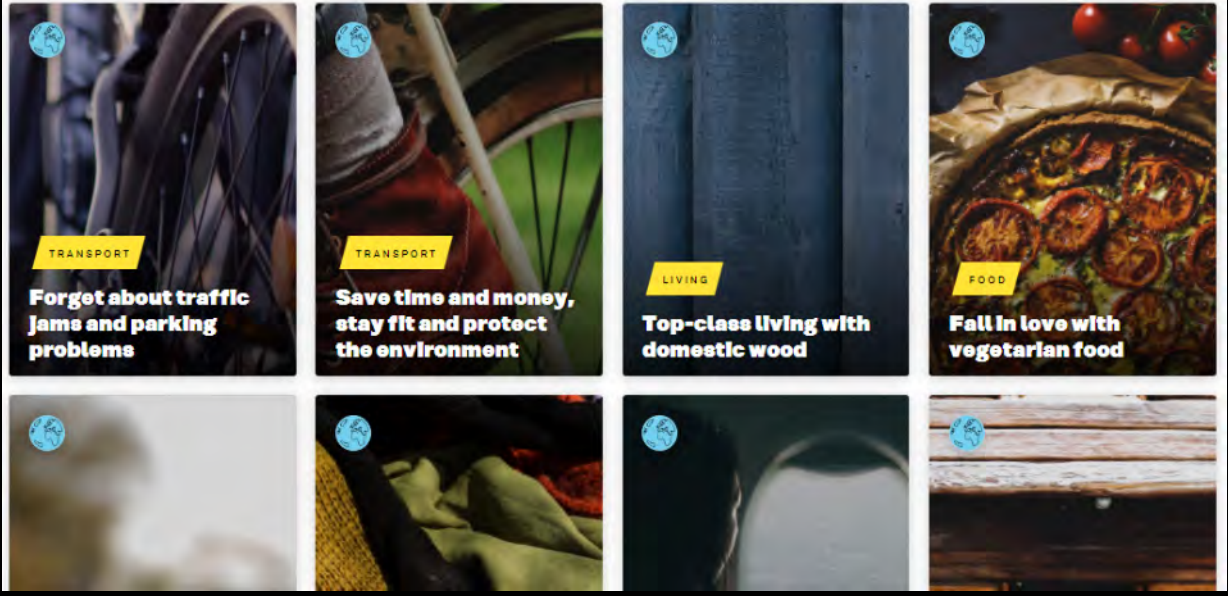
# TEST YOURSELF
## AND FIND OUT WHETHER YOU ARE A THREAT OR AN OPPORTUNITY.

Is your lifestyle good or bad for the environment?

100 SMART ACTIONS

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# The most interesting companies in the circular economy in Finland

A list of companies to inspire economic change.

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# Five business models for the circular economy

**Product-life extension**

Products are used according to their original purpose for as long as possible or repaired and refurbished for multiple re-uses, thus reducing the need for purchasing and manufacturing new products.

**Product as a service**

The customer pays for certain functions or performance and avoids the risks of ownership. The total costs of ownership remain with the service provider, with revenue being earned by means of, for example, a leasing or rental agreement.

**Sharing platforms**

Digital-based platforms are used to promote the increased use of goods and resources and the extension of their life cycle, such as by renting, selling, sharing and re-use.

**Renewability**

Renewable, recyclable and biodegradable materials, as well as the principles of eco-design, are preferred for products and their design. Fossil fuels are replaced by renewable energy.

**Resource efficiency and recycling**

Technological development enhances resource efficiency in value chains, processes and products, and allows for more effective recycling. Side-streams are valuable raw materials for recycled products and materials.

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# LOOP is an ecosystem for corporations and startups

## LOOP - The World Circular Economy Accelerator in short:

Avanto Ventures and Sitra are building a global circular economy accelerator together.

We will bring together dozens of large corporations with great impact and 1000+ fast moving startups with momentum within the circular economy themes: food & plastic. In our 6-month accelerator program the best will join together in concrete ventures.

Our goal is to create an ecosystem that generates new business and supports the global goals of circular economy.

## Main benefits

- Concrete new ventures
- A footing at the core of the CE ecosystem & business development with forerunner companies
- Visibility, branding and enhanced customer engagement

Avanto Ventures

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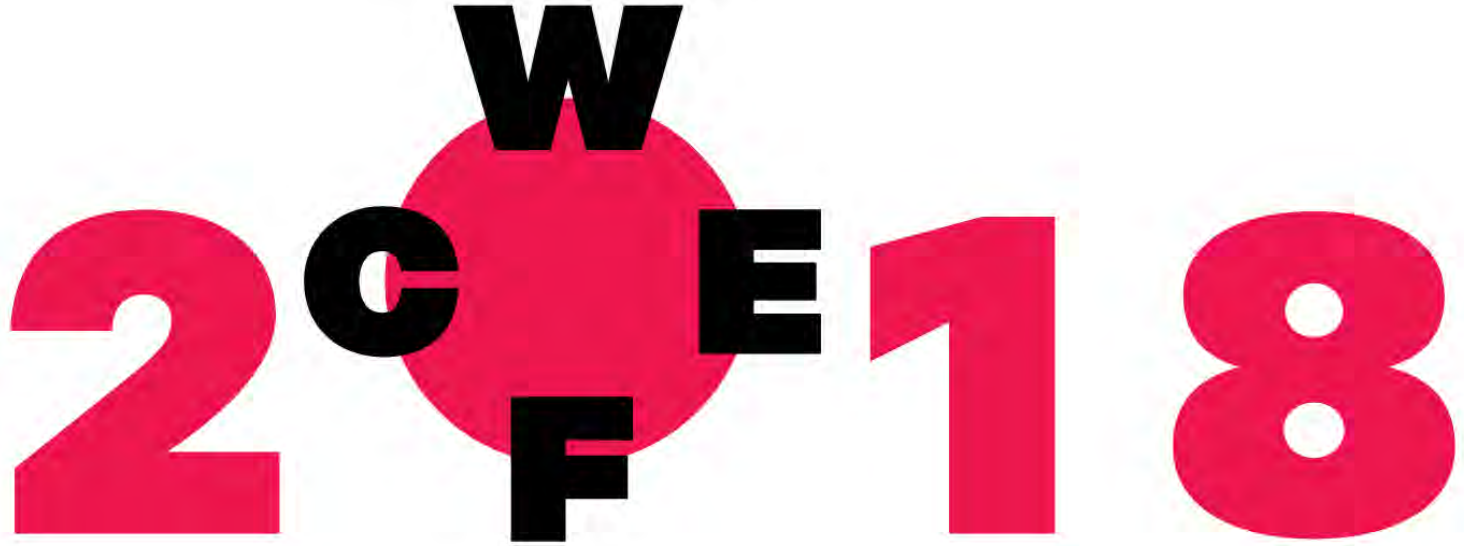
# WORLD CIRCULAR ECONOMY FORUM 2017

1600+ participants
90+ countries
130+ speakers




WORLD CIRCULAR ECONOMY FORUM **JAPAN**

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An initiative of The World Economic Forum and The Forum of Young Global Leaders
The Circulars 2018
WINNER
The World Economic Forum Award for Circular Economy Public Sector
thecirculars.org
In collaboration with Accenture Strategy
Sponsored by: Dell | Ecolab
Media Partners: CNBC | Fortune
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**Thank you!**

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