



PACKALL

PackAlliance:
European alliance for innovation training
& collaboration towards future packaging

Linking **Academy** to **Industry**.

Training program: modules

- New materials and biomaterials
- Eco-design & novel manufacturing processing
 - Residue management and valorisation
 - **Citizen and Consumer Engagement**



Co-funded by the
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Circular Economy and Society

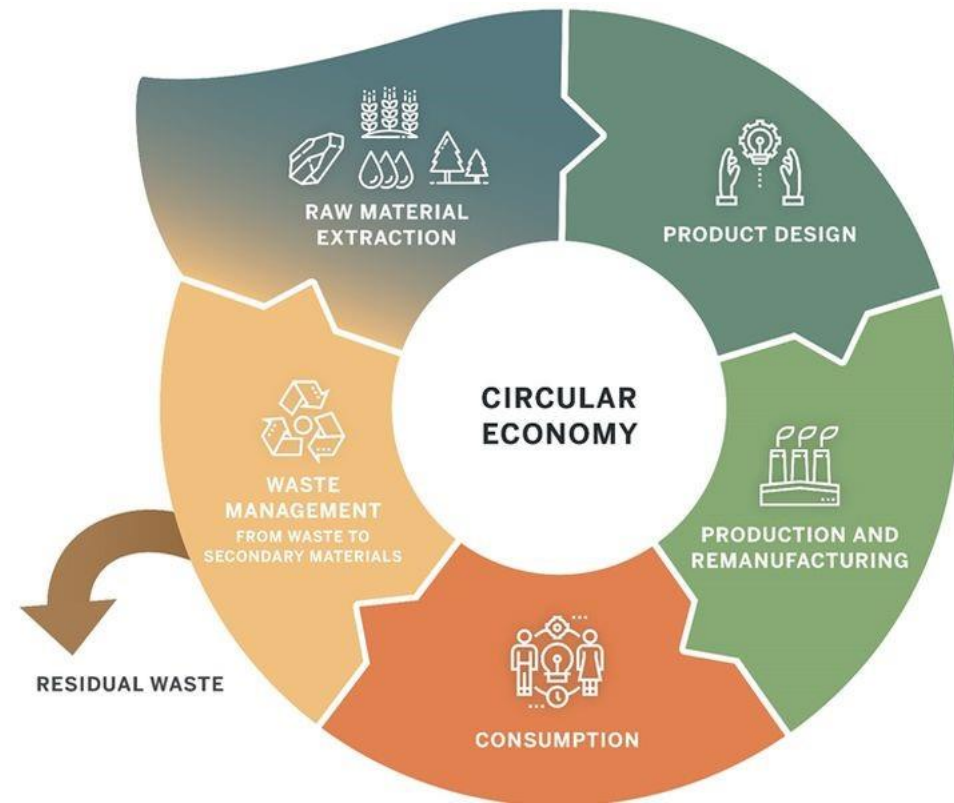
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The main idea of Circular Economy is to waste as little raw materials as possible, and to create value from maintenance, repair, reuse, and recycling



Source: EU



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Steps towards Circular Economy

- 1970s' energy crisis - limits of growth
- 1990s' -> Successful small-scale applications in eco-industrial parks (Kalundborg, Denmark) and companies selling rather services than products (copiers, printing, accommodation, public transport)
- Research programmes on boosting remanufacturing and reuse (South Korea, China, US, Sweden)
- 2010s' Forerunning financiers Ellen MacArthur Foundation
- 2015 -> EU and National strategies (Sweden and Finland as forerunners)

The logics of Linear and Circular Economies

Linear economy

Ownership – clear division of risk

Jobs related to Production and Waste management

Costs of using natural capital are often undervalued

Costs of unemployment are often undervalued

Risks and problems produced by Linear economy lead to threat to welfare and wellbeing, competitiveness, profits and business continuity

Circular economy

Right to use – more complicated share of risks

Jobs related to Reuse and Maintenance – higher employability

Attention towards resource productivity

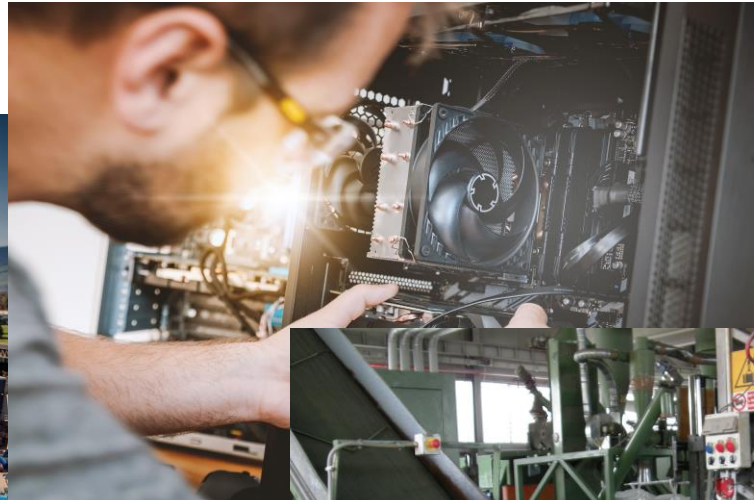
Challenge: how to ensure decoupling of production and wellbeing



**The aim of CE is to
maximise resource
productivity and to provide
new jobs**



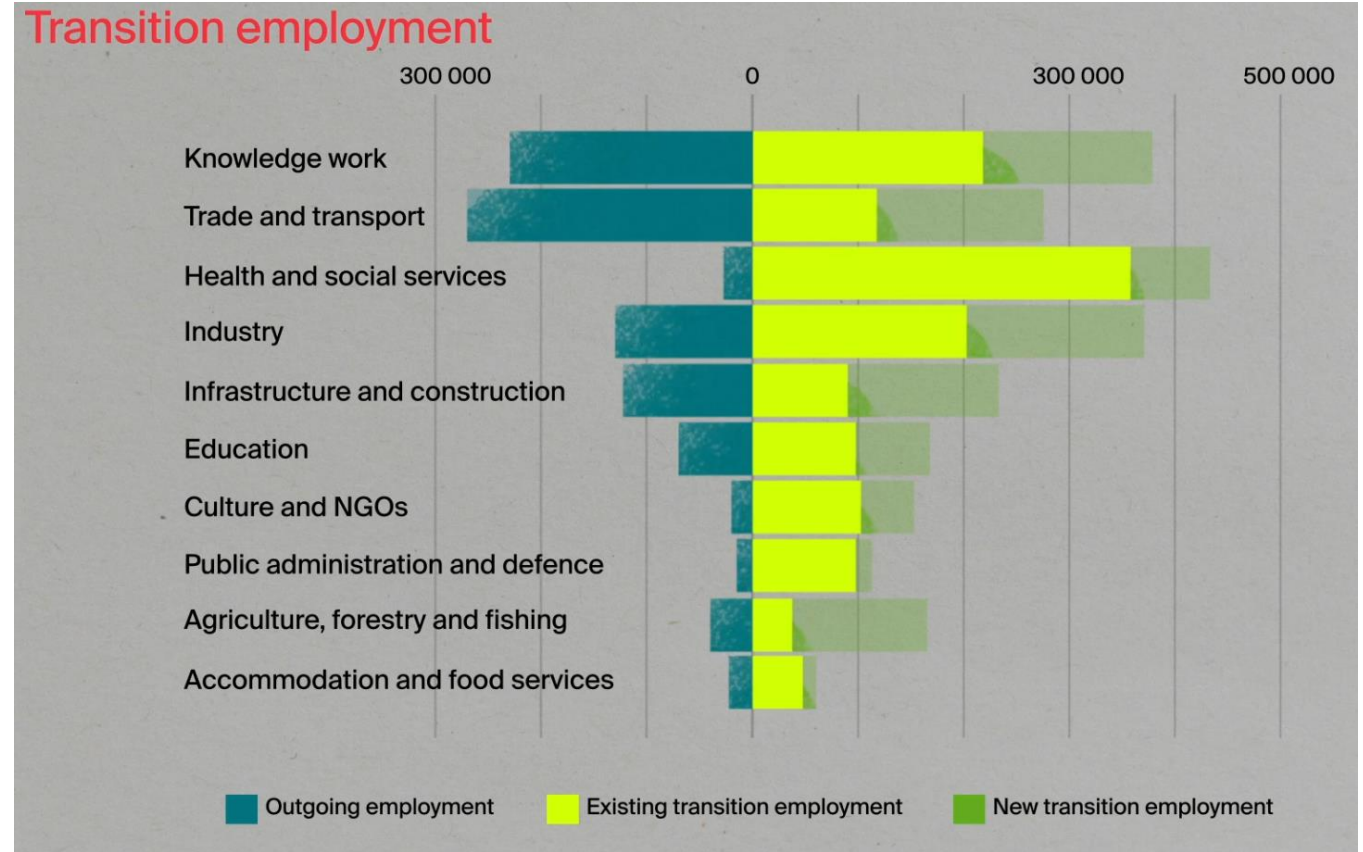
CE creates 700,000 jobs in the EU alone by 2030



The overall **quantity of jobs increases**, but **some sectors vanish**, and **others grow**.

Still, in some other sectors the **work is going to be transformed** substantially

This also causes **costs in the form of unemployment and the need for re-education**



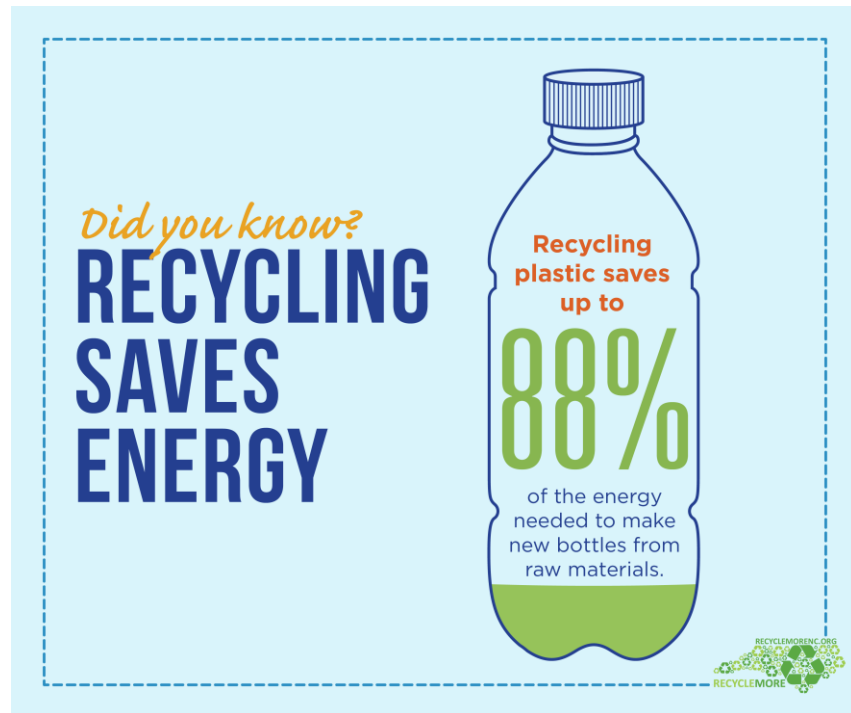
The picture describes an estimate of transition employment for Finland. More information

<https://dashboard.bios.fi/transition-employment/>



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Lowering the use of resources lowers the carbon and other emissions



The climate benefits of using products longer, enhancing rates of recycling, and reuse of materials.

Usually, productivity of other resources is also enhanced.

This and more social media materials on resource efficiency at <https://deq.nc.gov/conservation/recycling/general-recycling-information/recycle-right-nc-social-media-toolkit-1>



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What is needed from the governments?



- **Governmental Steering Measures**

- Legislation
- Taxation
- Standards
- Information steering
- Conditions for funding

- **Mitigating the transformation**

- Specified fundings (coal, peat...)

- **Partnerships and engagement**

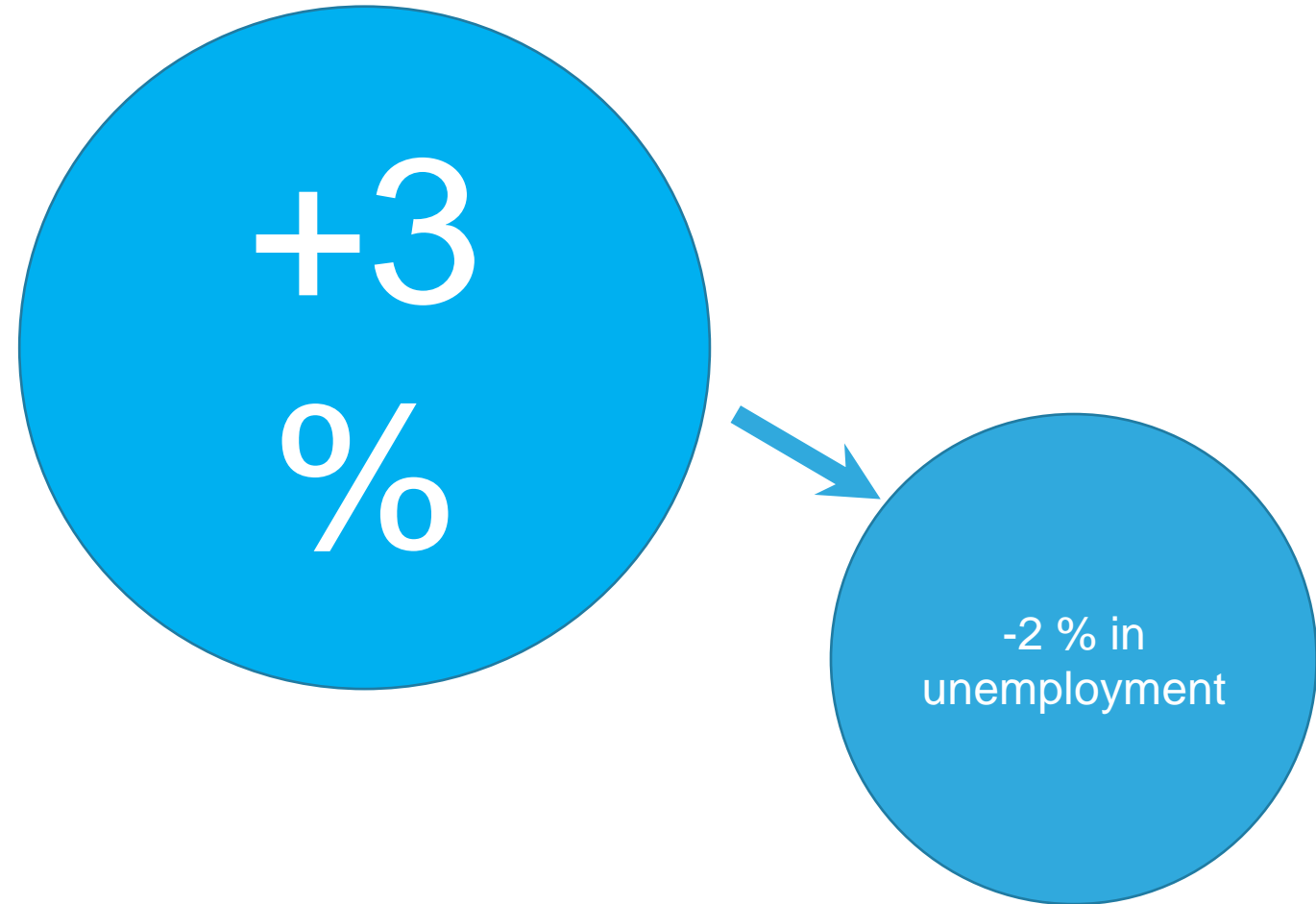
- Corporations
- Startups
- Communities
- Citizens



Investments in CE

Mostly into

- Bioeconomy
- Installation services
- Infrastructure
- Promoting material efficiency, maintenance and repair
- Engineering services
- Education for new competencies



How to make CE policies accepted by the public?

Based on Repo et al., see references



National policies focus on waste and national interests

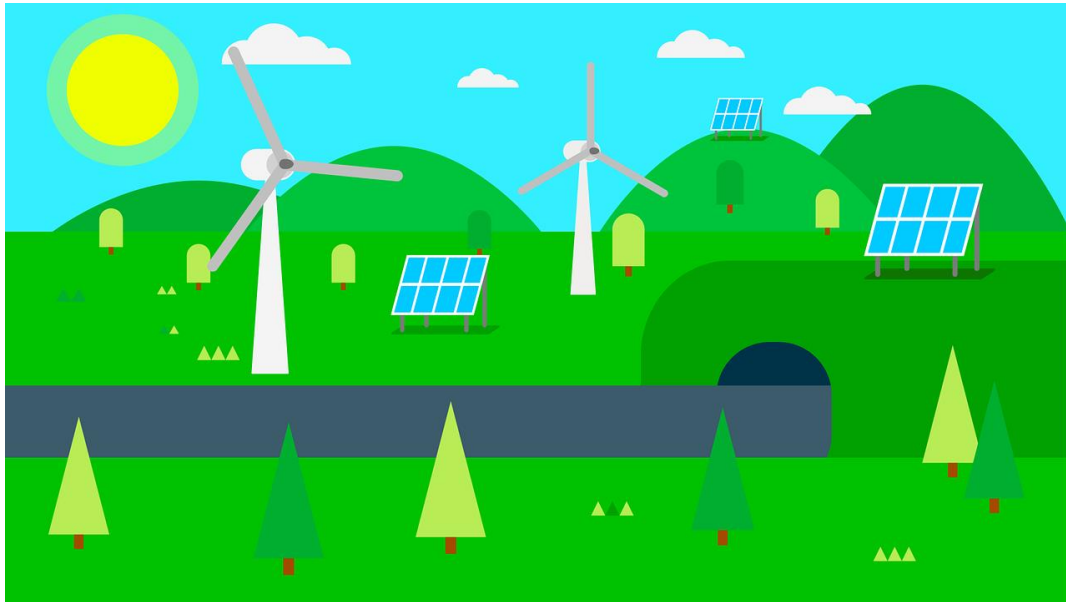
- Two of the policy priorities focus on waste
 - Waste as a resource
 - New waste management
- National policies attempt to sustain or enhance fields considered to be of the national interest
- Bio-economy is present both at the European and the national levels
- Resource efficient eco-design and manufacturing
- Systemic thinking is perhaps most evident in financial instruments

https://ec.europa.eu/environment/topics/waste-and-recycling/waste-framework-directive_en

Waste hierarchy



Citizens are interested in energy and social topics related to CE



Policies should take into consideration that

- energy issues as an integral part of contemporary society is a key topic for citizens
- consumer choice binds together the productive aspects of circular economy from the consumer perspective



Summarising

- The main objective of CE policies should be to reduce the energy and material throughput in society
- CE is an integral part of jobs and competitiveness strategies
- Citizens are more interested in energy related and consumer choice issues than politicians are
- Transforming citizens' role into more anticipatory from separation and recycling.



References

- Repo, P., Anttonen, M., Mykkänen, J. & Lammi, M. (2018). Lack of Congruence between European Citizen Perspectives and Policies on Circular Economy. *European Journal of Sustainable Development* 7: (1) 249-264. Doi: 10.14207/ejsd.2018.v7n1p249
- Stahel, W. (2016). Circular Economy – Comment. *Nature* 531: 435-438.
- Wikman, K. & Skånberg, K. (2018). The Circular Economy and Benefits for Society. The Club of Rome. Available at www.clubofrome.org





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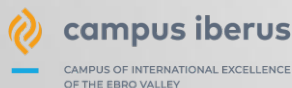
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