

Learning about resource efficiency

- The Role of the Higher Education in Finland

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In Finland the Resource Efficiency is under:

“CARBON NEUTRAL CIRCULAR ECONOMY”

2035 CARBON NEUTRAL FINLAND

- Climate law under preparation



CARBON-NEUTRAL
LAHTI 2025

Lahti: Cut down greenhouse gas emissions by 70% compared to the level of 1990.



TOWARDS WASTE-
FREE CIRCULAR
ECONOMY



RESOURCE EFFICIENCY DEVELOPMENT IN FINLAND

More recycling

- mainstream

0-waste production + industrial symbiosis

0-waste consumption

- e.g. food waste

More renewables

- e.g. plastics → wood fibres

Use less resources, get more benefit

- durability, services, sharing etc.

LESS PRODUCTION & CONSUMPTION?

- Forest debate in Finland: m³ / CO₂ sinks / nature loss



Ministry of Education and Culture

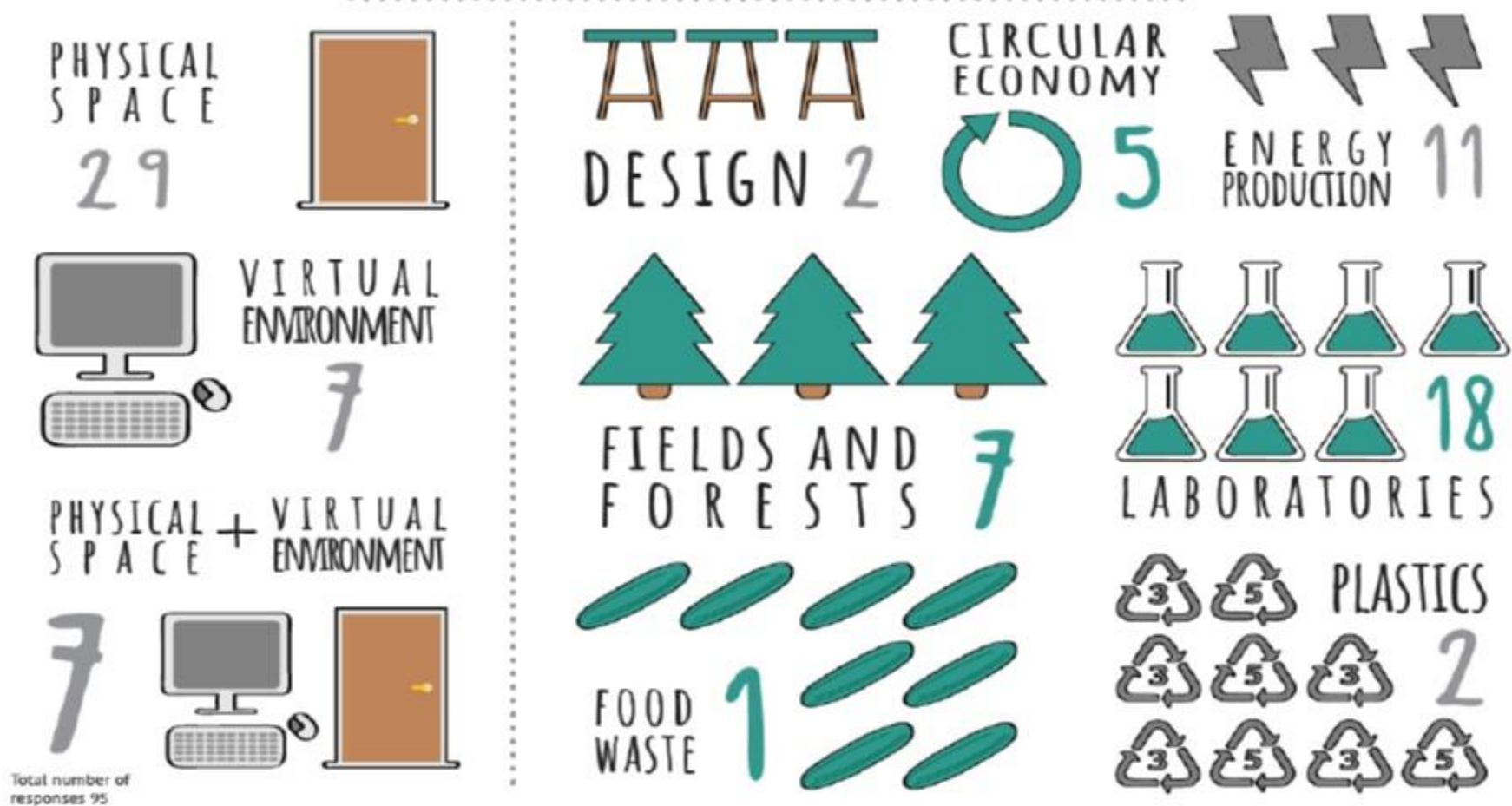
Higher education in Finland

- 15 universities
- 24 universities of Applied Sciences

“Circular Economy Capacity Building”

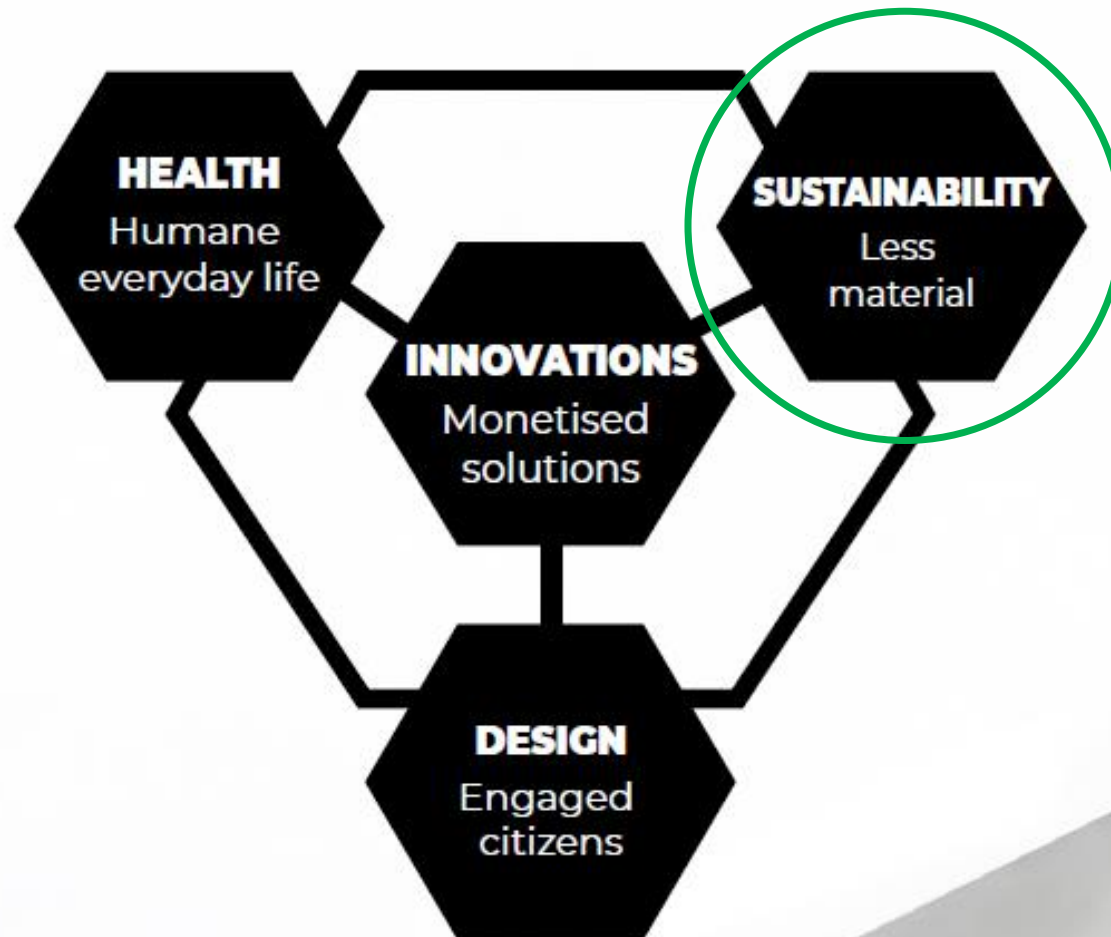
- Finnish Ministry of Education and Culture: Sustainable Development Policy 2020
- 19 Finnish Universities of Applied Sciences got funding (app. 2.5 M€) to develop circular economy education and collaboration in the Finnish UAS's

THE VARIETY OF CIRCULAR ECONOMY LEARNING ENVIRONMENTS IN FINNISH UAS



Circular economy learning environments in Universities of Applied Sciences (Virta, 2018).

BETTER WORLD OF WORK



**LAB STRATEGY FOR
8500 STUDENTS &
360 STAFF**



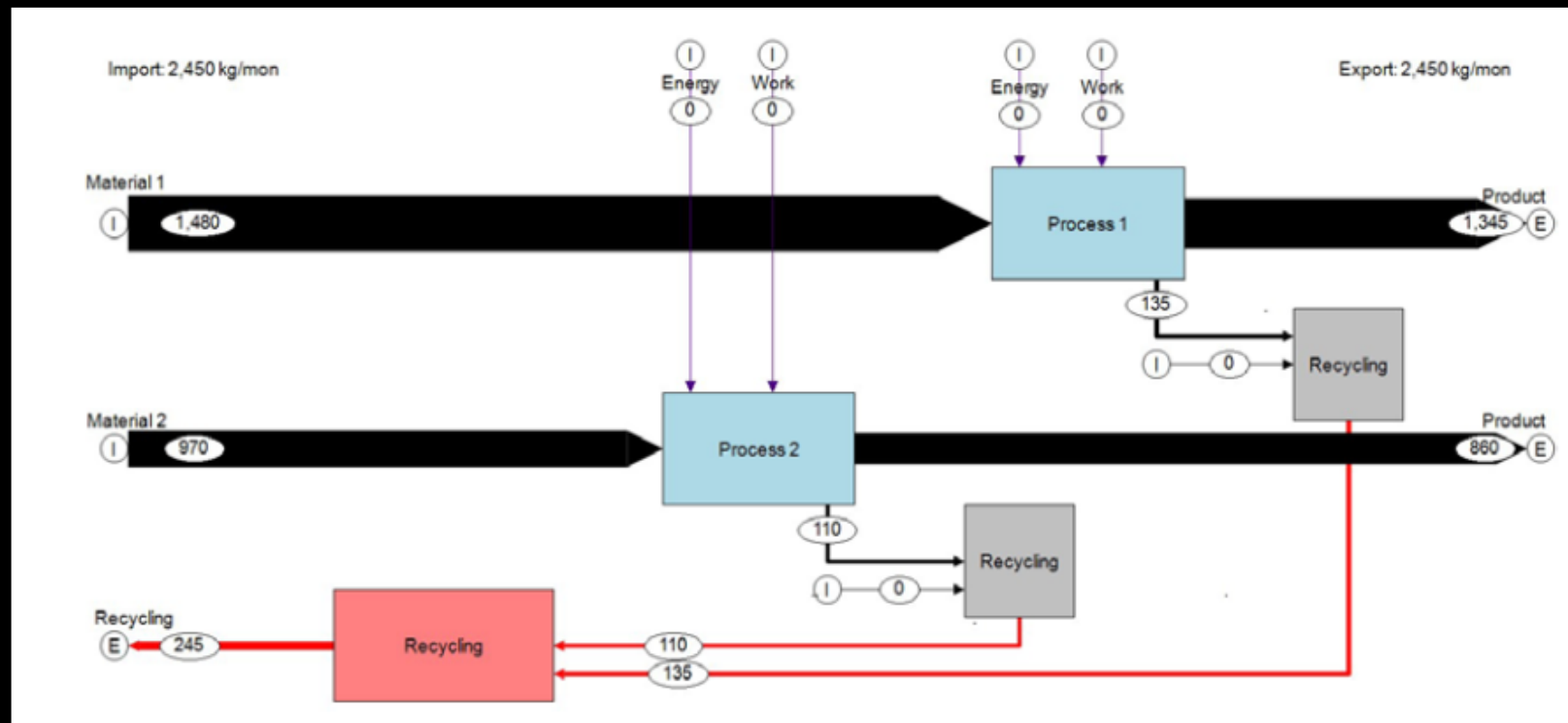


LAB with Companies in Smartta – project (MFCA)

“Search for 0-waste Production and Industrial Symbiosis”



SMARTTA



Vipuvoimaa
EU:lta
2014–2020



RE AND GLOBAL VALUE CHAINS?
Mining waste, South Africa

Photo: Autio



**RE AND GLOBAL VALUE CHAINS?
Clearcutting, Finland**

Photo: Pajukallio

More understanding about global value chains: **Master in Urban Climate and Sustainability**



Role of the education

- **Driver** promoting resource efficiency
 - **Education** → Future oriented employees for working life
 - **RDI** → Cooperation with companies and public organizations
 - **Global cooperation** → Understanding about the Global Value Chains
- **Leaning:** students, company people, university staff, stakeholders



Sources and additional information

- Heponiemi, K. 2019. Material Flow Cost Accounting – a Tool for Better Material Efficiency. Lahti Circular Economy Annual Review 2019. 50-54. [Cited 15 October]. Available at: https://www.theseus.fi/bitstream/handle/10024/264017/LAMK_2019_56.pdf?sequence=2&isAllowed=y
- Laasasenaho, K. Haapea, P. Tyni, S & Rosendahl, A. 2020. Development of Circular Economy Education in Collaboration of Finnish Universities of Applied Sciences. [Cited 15 October 2020] Available at:
- European Commission. 2020. Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions. A new Circular Economy Action Plan. For a cleaner and more competitive Europe. [Cited 15 October 2020] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>
- Ministry of Education and Culture of Finland. 2020. Sustainable development policy of the Ministry of Education and Culture and its administrative branch. [Cited 15 October 2020] Available at: http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162185/OKM_2020_11.pdf?sequence=1&isAllowed=y
- Ministry of Environment. 2020. Strategic programme to promote a circular economy. [Cited 15 October 2020]. Available at: <https://ym.fi/en/strategic-programme-to-promote-a-circular-economy>
- Lahti Circular Economy Annual Review 2019. [Cited 15 October] Available at: https://www.theseus.fi/bitstream/handle/10024/264017/LAMK_2019_56.pdf?sequence=2&isAllowed=y
- Sitra. 2019. The Critical Move. Finland ´s Roadmap to Circular Economy 2.0. [Cited 15 October 2020] Available at: <https://media.sitra.fi/2019/03/20110330/kiertotalouden-tiekartta-tiivistelma-en2.pdf>
- UN Agenda 2030. 2015. Transforming our world: the 2030 Agenda for Sustainable Development. United Nations, A/RES/70/1, 21st Oct. 2015. [Cited 15 October 2020] Available at: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E



Thank you!

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