



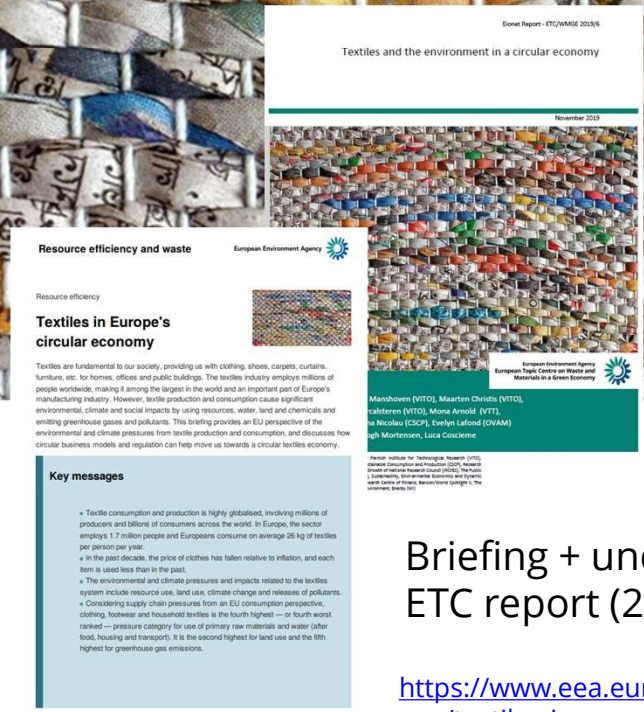
Environment and climate impacts from textiles

– an EU perspective, US NIST, 22 September 2021

Lars Fogh Mortensen, European Environment Agency (EEA)

My points

1. Textiles are on average the 4th biggest polluter from an EU consumption perspective
2. Natural and synthetic textiles have different environment and climate impacts
3. A menu of options to support circularity in textiles



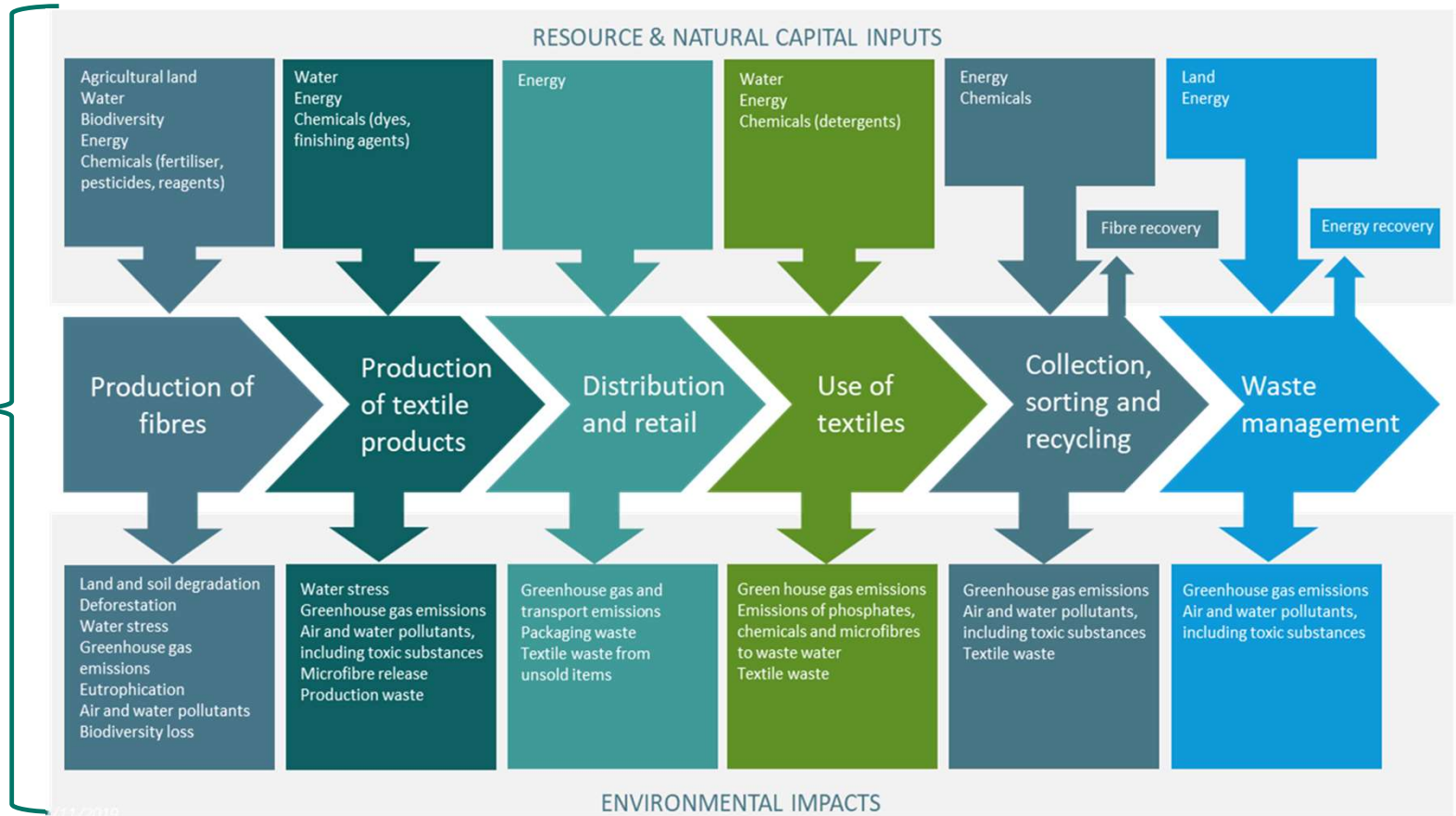
Point 1. Textiles are on average the 4th biggest polluter from an EU consumption perspective

Briefing + underpinning
ETC report (2019)

<https://www.eea.europa.eu/publications/textiles-in-europes-circular-economy>

Environment and climate impacts from textiles

- Impacts from all elements of the value chain
- Impacts highly embedded in trade
- Impacts from resource inputs and pressure outputs



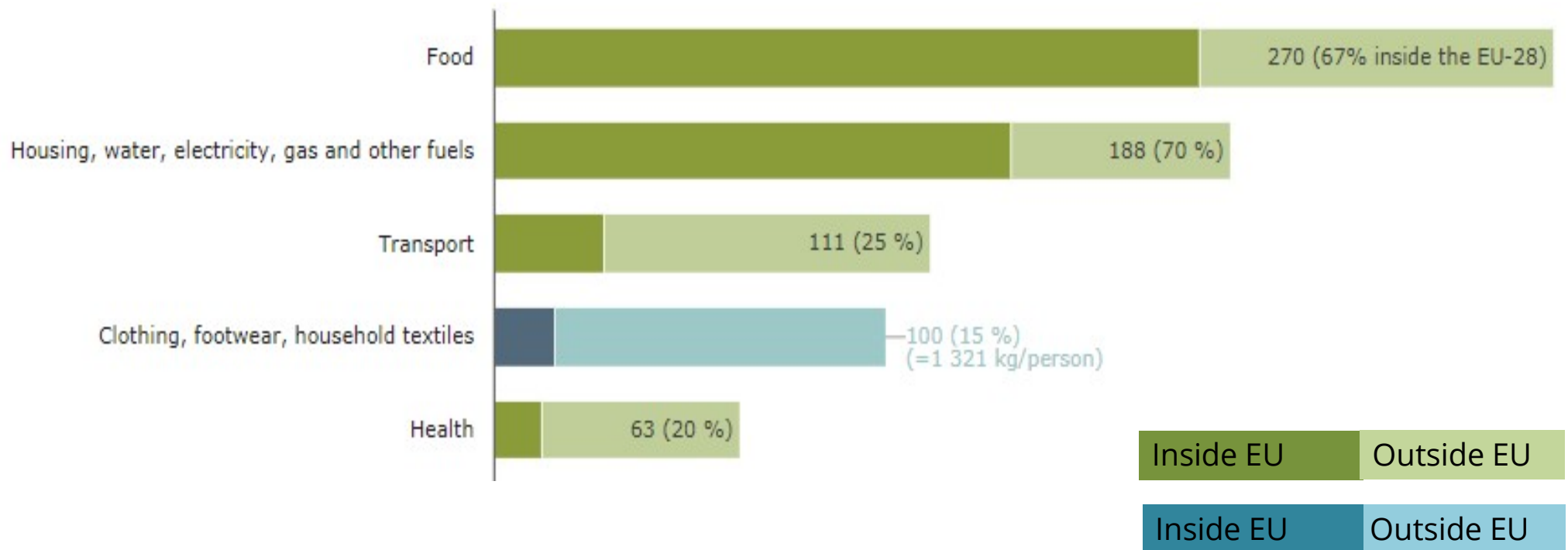
Impacts of EU textiles consumption



Source: illustration by VITO

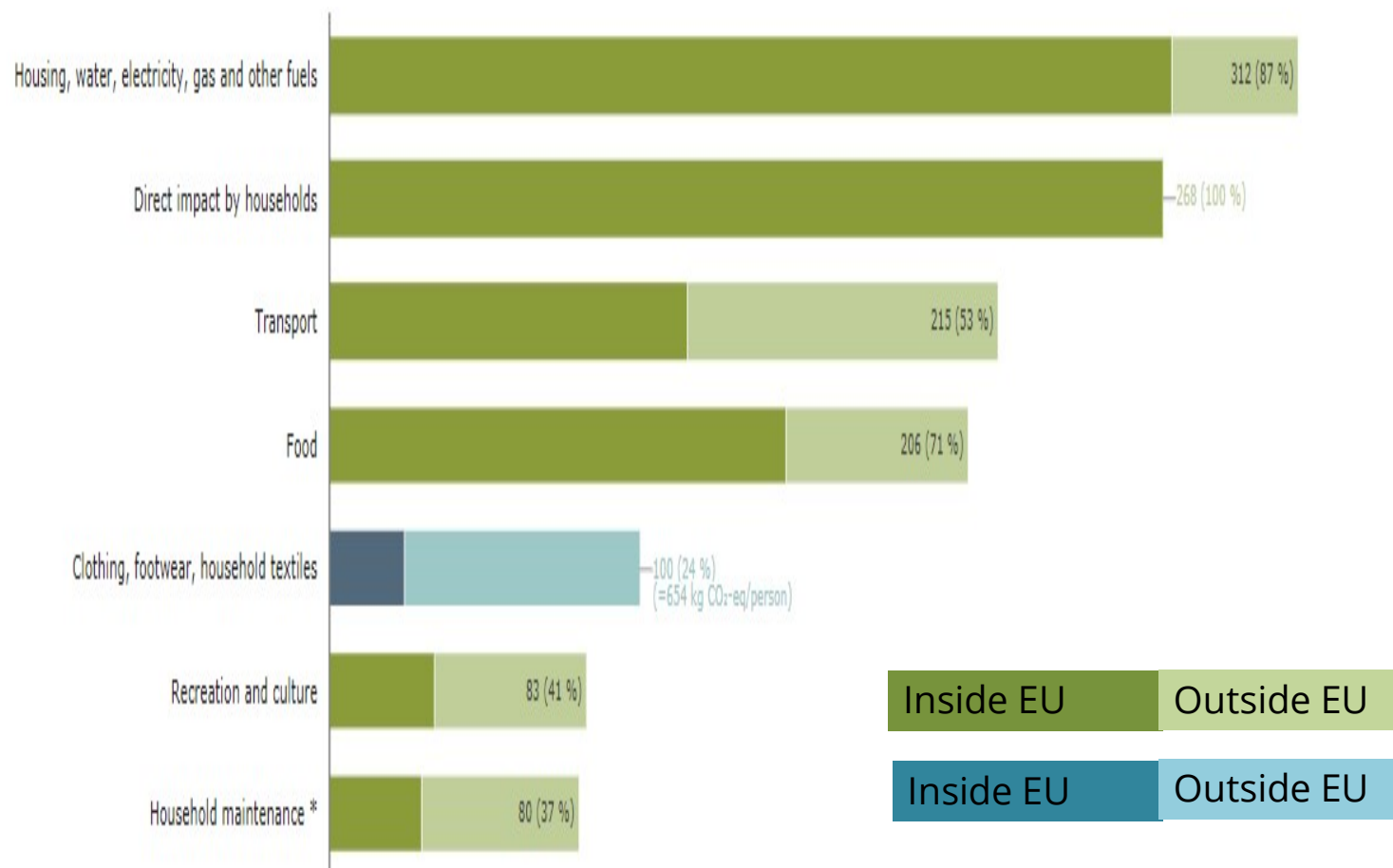
Raw material use for textiles

The **use of primary raw materials** in the upstream supply chain of EU-28 household consumption domains, 2017 indexed values with textile consumption = 100. (Source ETC/WMGE based on Exiobase v. 3.4)



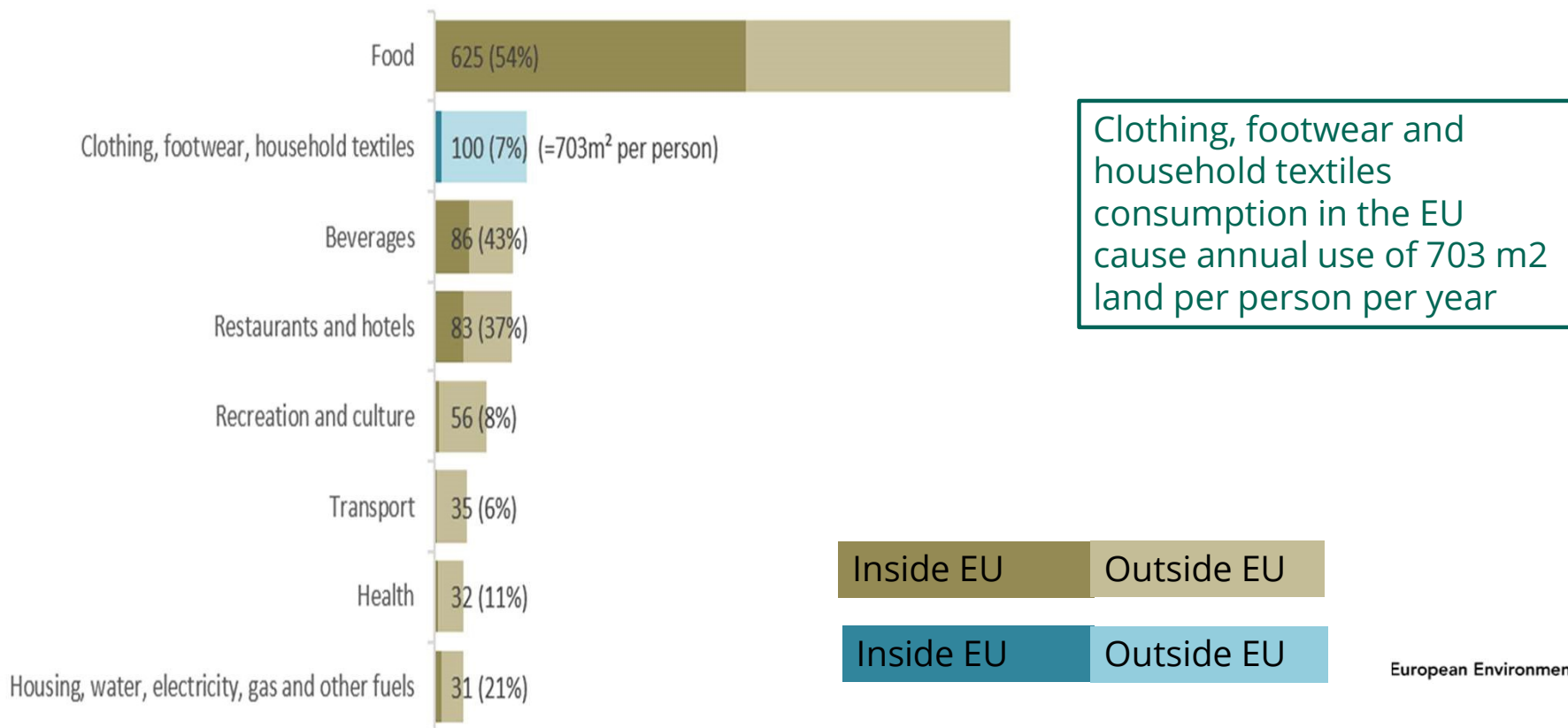
Greenhouse gas emissions from textiles

Estimated greenhouse gas emissions in the upstream supply chain of EU-28 household consumption domains, 2017 indexed values with textile consumption = 100 (Source ETC/WMGE based on Exiobase v. 3.4)



Land use for textiles

The land use in the upstream supply chain of EU-28 household consumption domains Indexed values with textile consumption equalling 100, EU-28, 2017. (Source ETC/WMGE based on Exiobase v. 3.4)



[illegible]

28/01/2021

European Environment Agency 

Plastic in textiles: towards a circular economy for synthetic textiles in Europe

Plastic-based – or ‘synthetic’ – textiles are woven into our daily lives in Europe. They are in the clothes we wear, the towels we use and the bed sheets we sleep in. They are in the carpets, curtains and cushions we decorate our homes and offices with. And they are in safety belts, and car tyres, workwear and sportswear. Synthetic textile fibres are produced from fossil fuel resources, such as oil and natural gas. Their production, consumption and related waste handling generate greenhouse gas emissions, use non-renewable resources and can release microplastics. This briefing provides an overview of the synthetic textile economy in Europe, analyses environmental and climate impacts, and highlights the potential for developing a circular economy value chain.

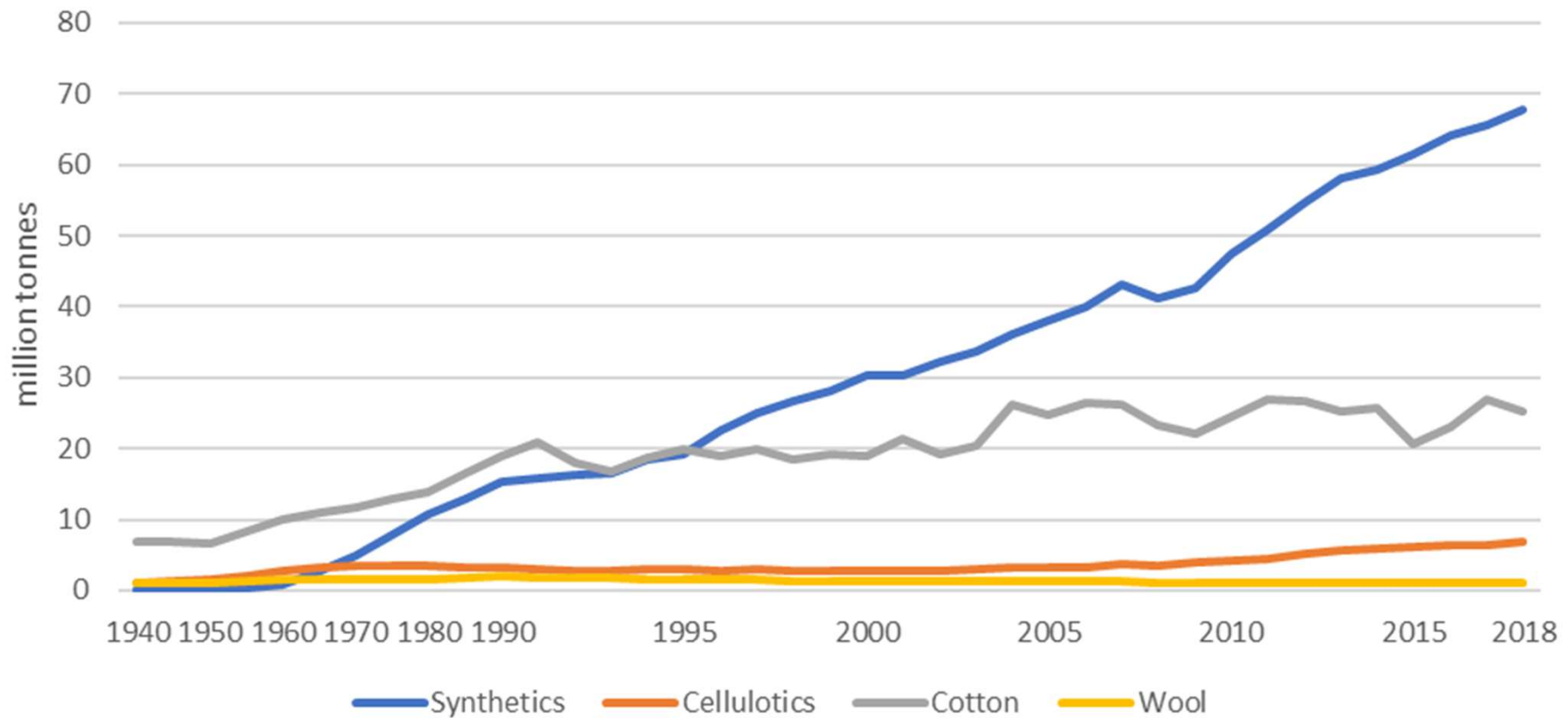
ts: Saskia Marshoven (VITO), Anse Smeets (VITO), Mona Arnold (VTT)
ts: Lars Fogh Mortensen

<https://www.eea.europa.eu/publications/plastic-in-textiles-towards-a>

European Environment Agency 

Global fibre demand

Global fibre demand, 1940–2018, million tonnes per year

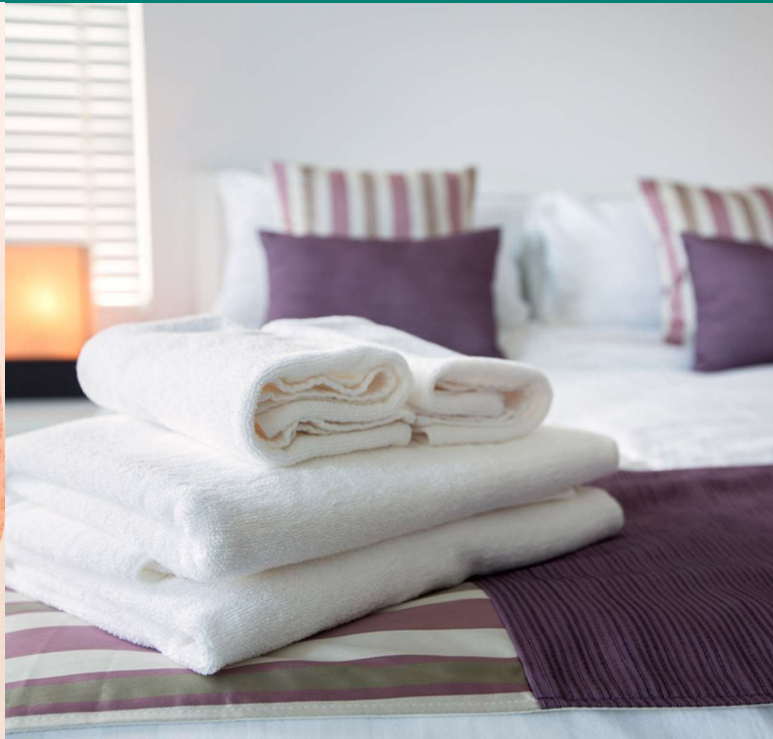


Source: CIRFS (2020)

Types of synthetic textiles



**Clothing – 60% synthetics
(mainly polyester/PET)**



**Household textiles – 70% synthetics
(mainly polyester/PET and nylon)**

Polyester

Cheap, strong, durable, resistant to shrinking, stretching and creasing

Nylon

strong, flexible, good resilience

Acrylic

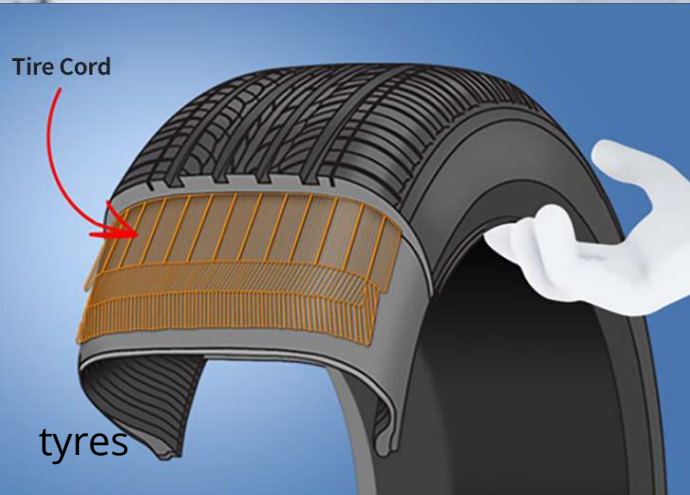
soft, flexible, thick and fluffy

Elastane

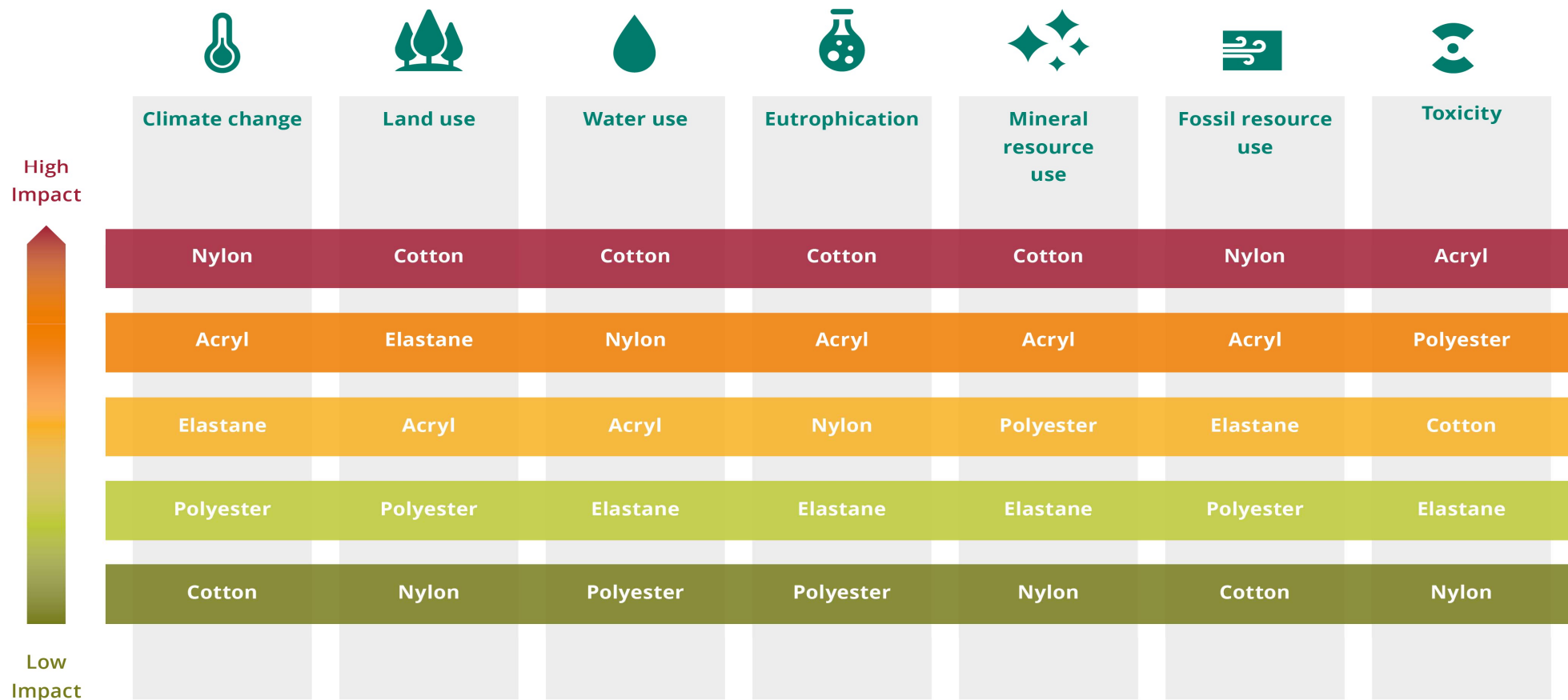
elasticity



Use of synthetic textiles

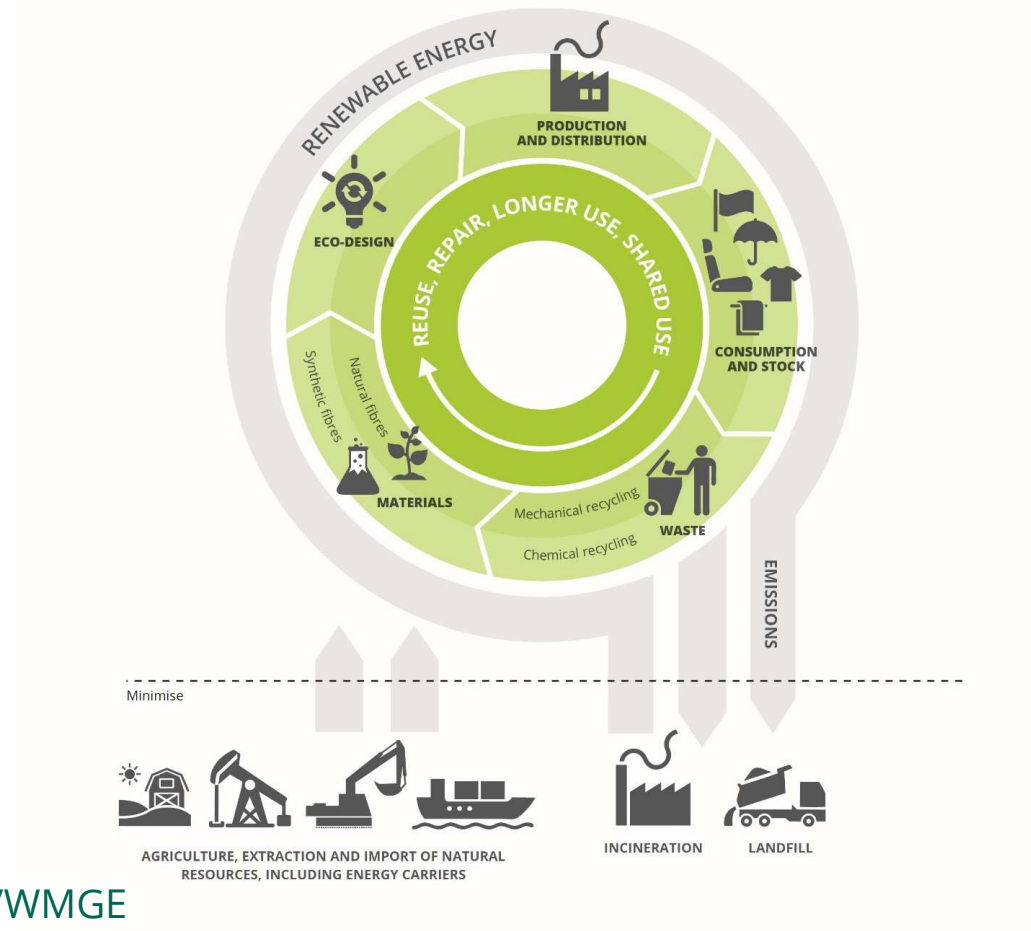


Impact of manufacturing of 1 kg dyed woven fabric



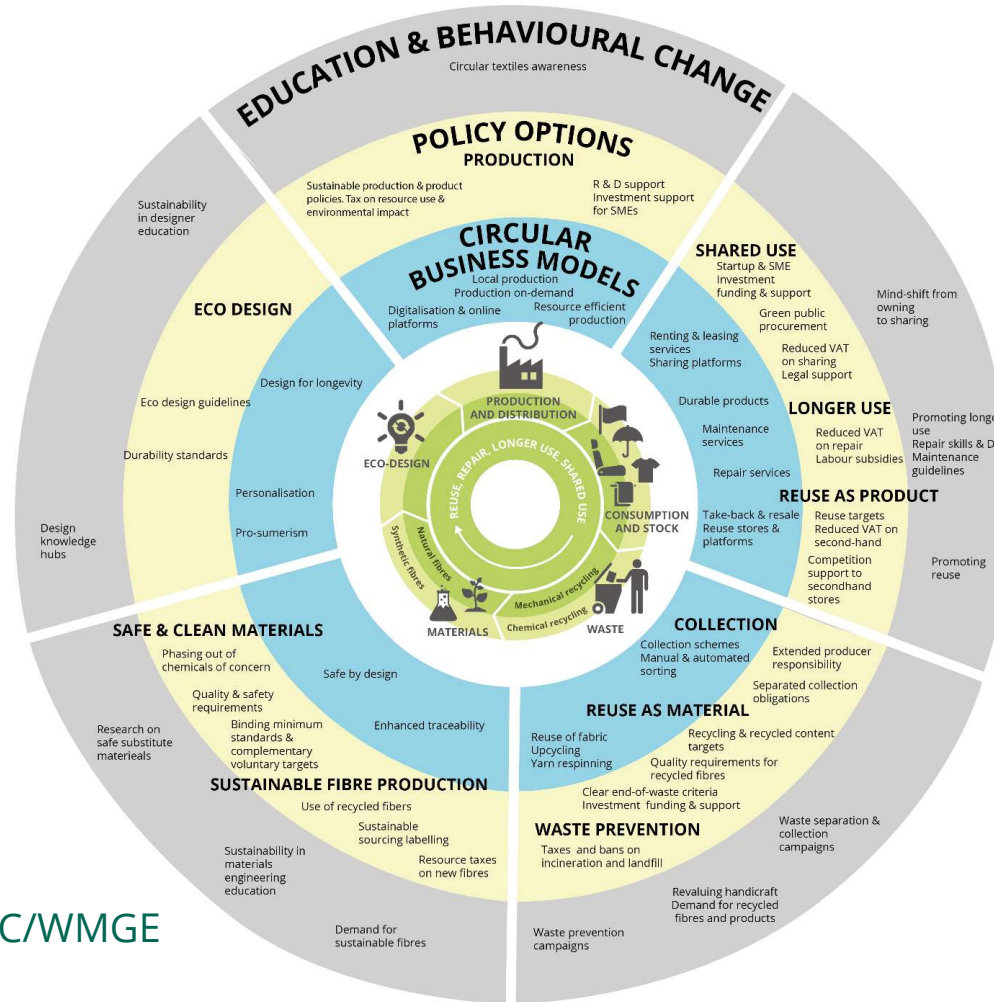
Source: EEA and ETC/WMGE, illustration by CSCP

Vision of a circular economy for textiles



Source: EEA and ETC/WMGE

"Menu" for a circular economy for textiles



Source: EEA and ETC/WMGE



Thank you

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European Environment Agency

