

ARK-C3020 What we talk about, when we talk about sustainability?

14.9.2022 Prof. Matti Kuittinen

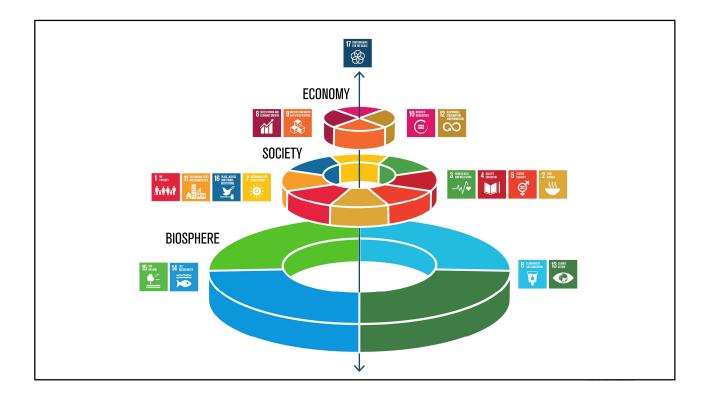


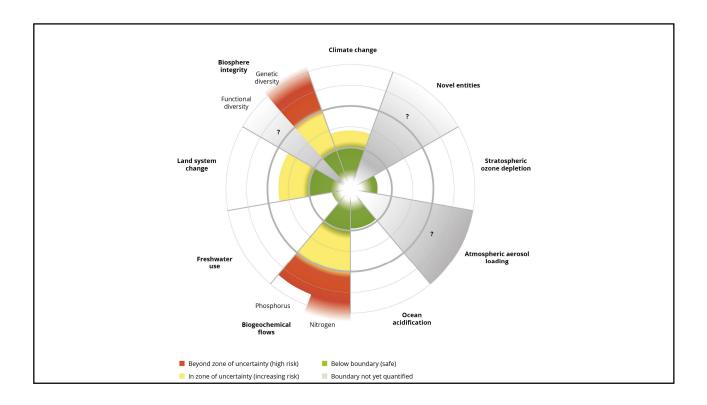


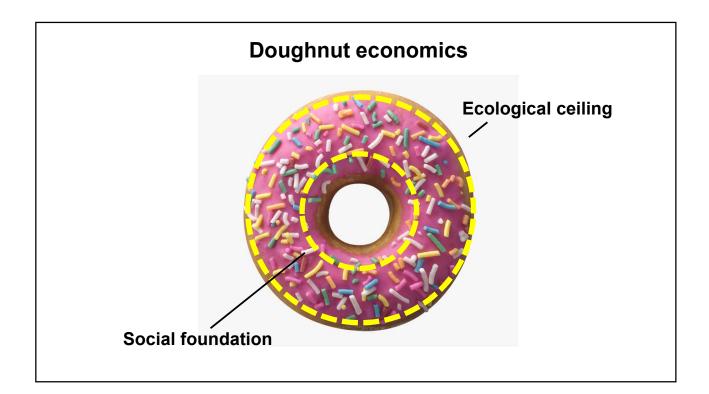


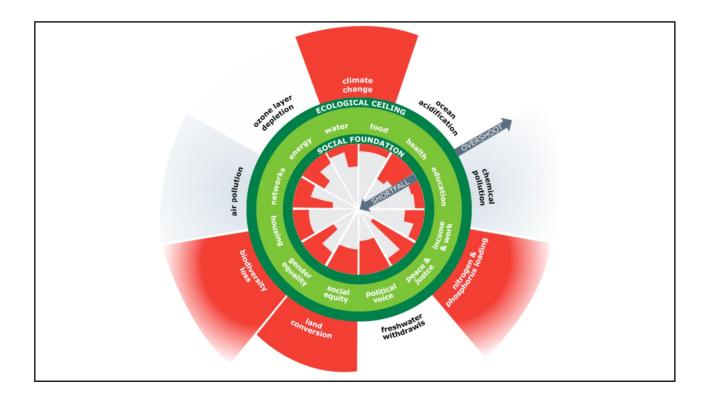
Silvicultura Oeconomica 1713



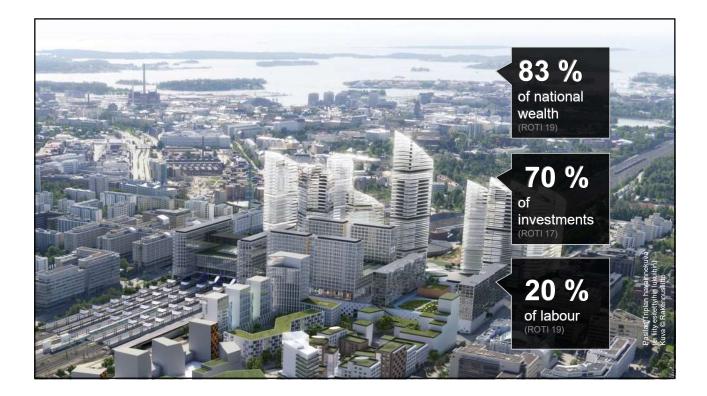










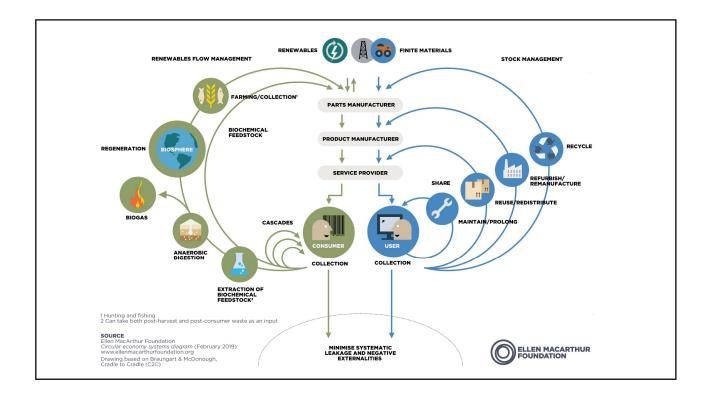


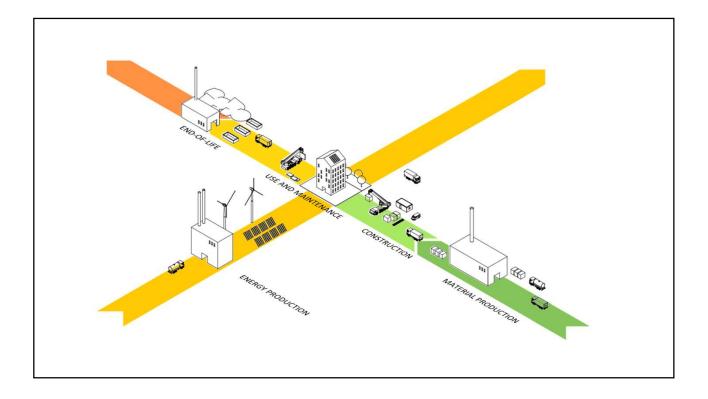
The value of products and materials is maintained for as long as possible

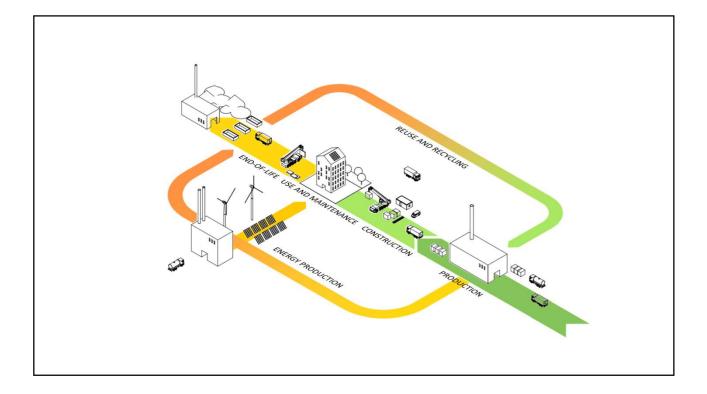
Circular economy

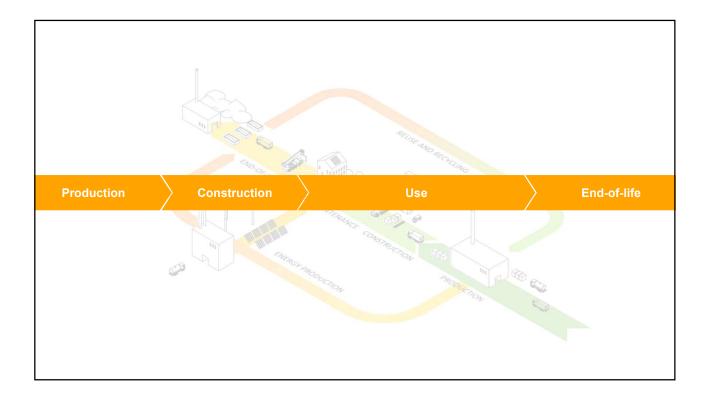
Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value

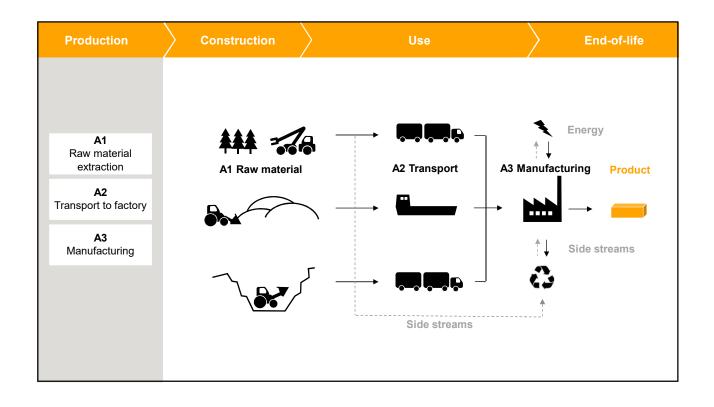
(European Commission)

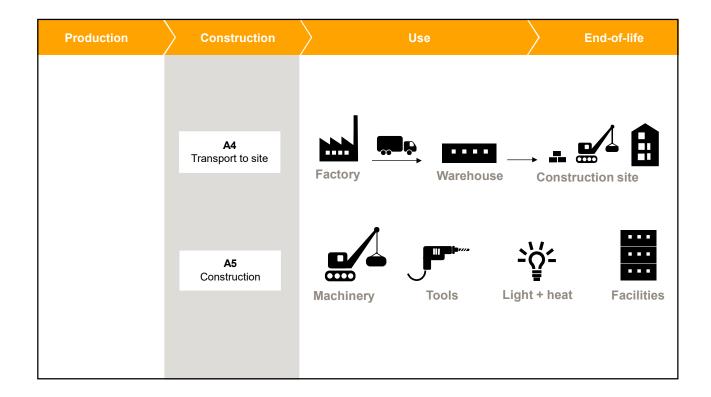


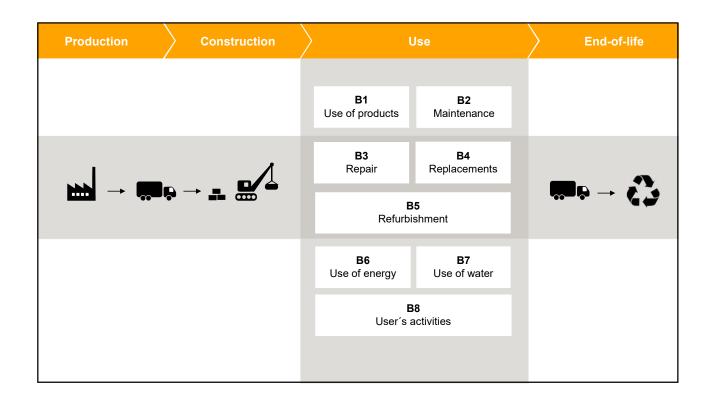


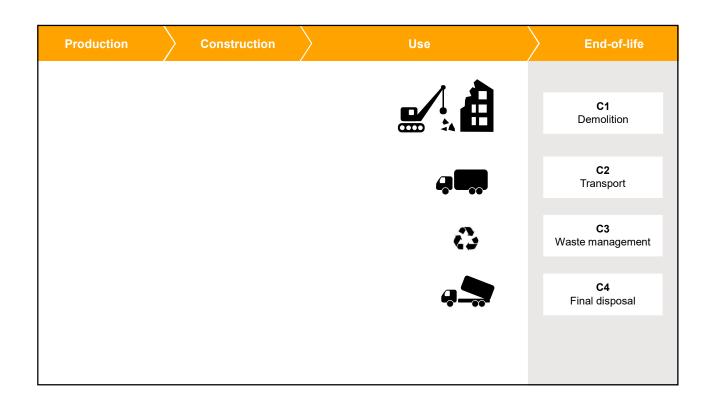


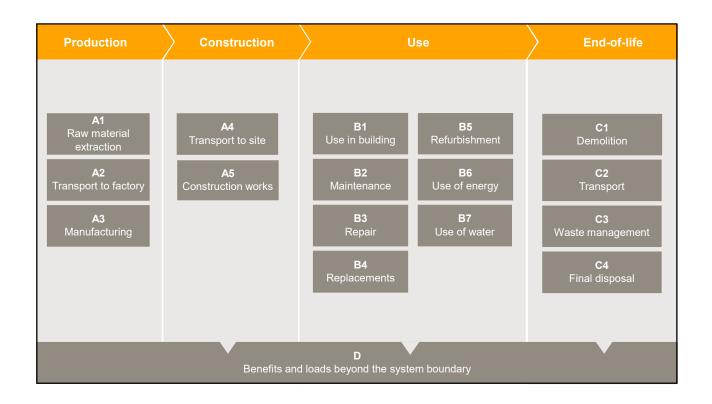




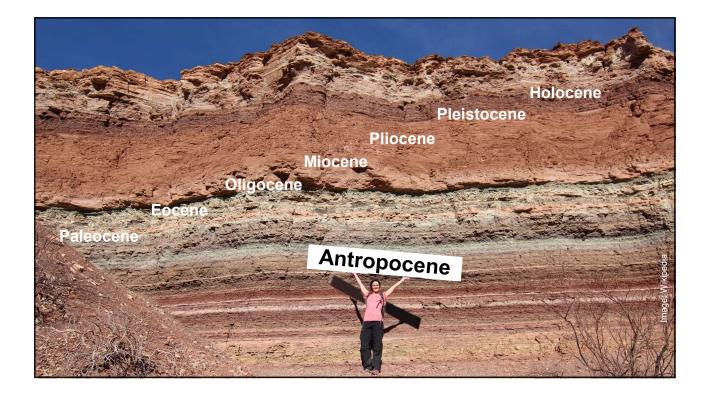


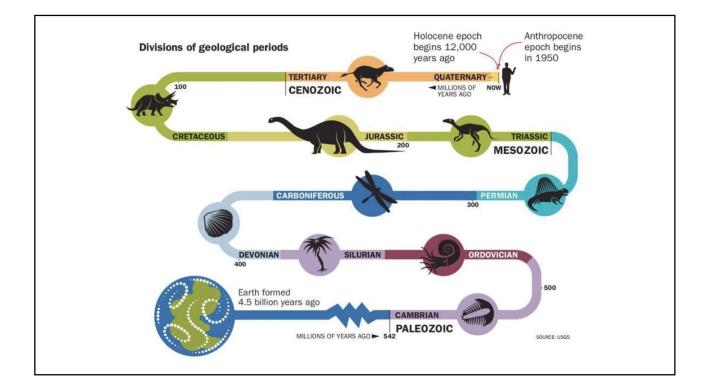




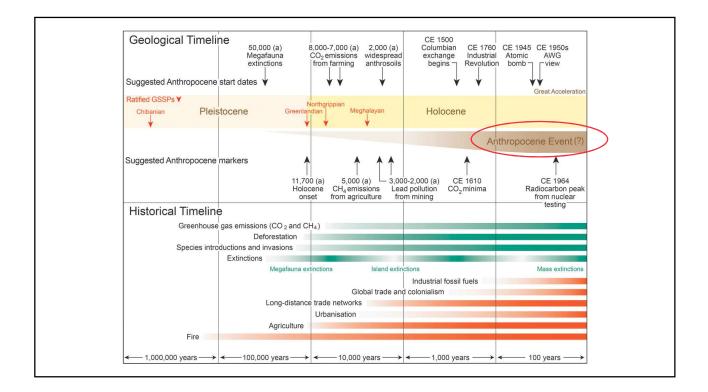


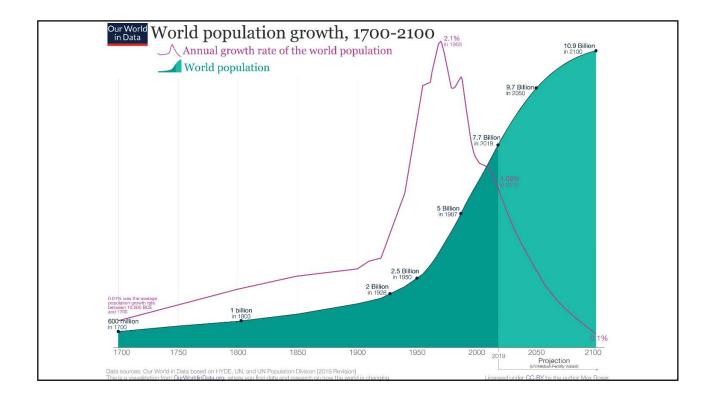
ISO 1 Environmental management – Life cycle		
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Sustainability of buildings	Environmental Product Declarations for building products ISO 21930 Sustainability in building construction – Environmental declarations of building products EN 15084 Environmental product declarations – Core rules for product category of building products	
ISO 21929 Sustainability in building construction – Sustainability indicators		
ISO 21931 Sustainability in building construction – Framework for methods of assessment for environmental performance of construction works		
EN 15643-1 Assessment of buildings - General framework		
EN 15978 Assessment of environmental performance of	Product Category Rules	
buildings - Calculation method	EN 16485 Environmental product declarations - Product category rules for wood and wood-based products for use in construction	
Carbon footprint		
ISO 14067 Carbon footprint of products	EN 16757 Sustainability of construction works. Environmental product declarations. Product Category Rules for concrete and concrete elements	
EN 16449 Calculation of sequestration of atmospheric carbon dioxide		

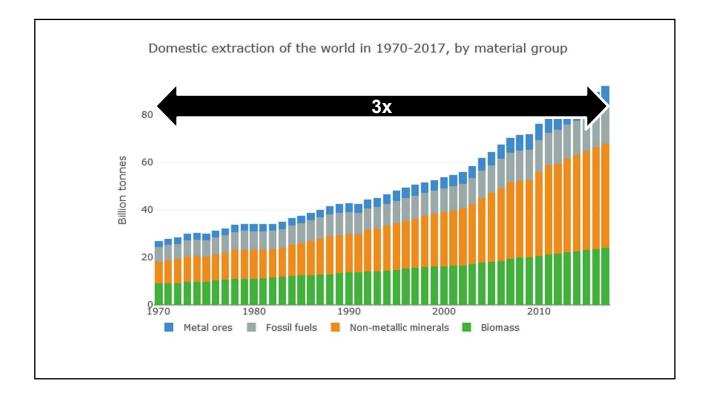




	-			251.9		Mass extinction	zonoma orogeny (vv)
			Permian (P)		sr		Supercontinent Pangaea intact
			Pennsylvanian (PN)	- 298.9 - 323.2	Age of Amphibians	Coal-forming swamps Sharks abundant First reptiles	Ouachita Orogeny (S) Alleghany (Appalachian) Orogeny (E)
		Paleozoic (PZ)	Mississippian (M)		Ar		Ancestral Rocky Mountains (W) Antler Orogeny (W)
			Devonian (D)	- 358.9 - 419.2	Fishes	Mass extinction First amphibians First forests (evergreens)	Acadian Orogeny (E-NE)
		Pa	Silurian (S)	TISIE	ш	First land plants	
			Ordovician (O)	443.8	ie rates	Mass extinction Primitive fish Trilobite maximum	Taconic Orogeny (E-NE)
			Cambrian (C)	- 485.4	Marine nvertebrates	Rise of corals Early shelled organisms	Extensive oceans cover most of proto-North America (Laurentia)
				541.0		Complex multicelled organisms	Supercontinent rifted apart
	Proterozoic						Formation of early supercontinent Grenville Orogeny (E)
rote					Simple multicelled organisms		First iron deposits
	<u>ц</u>	Precambrian (PC, W, X, Y, Z)		2500	500		Abundant carbonate rocks
	Archean			4000		Early bacteria and algae (stromatolites)	Oldest known Earth rocks
	Hadean					Origin of life	Formation of Earth's crust
				- 4600		Formation of the Earth	



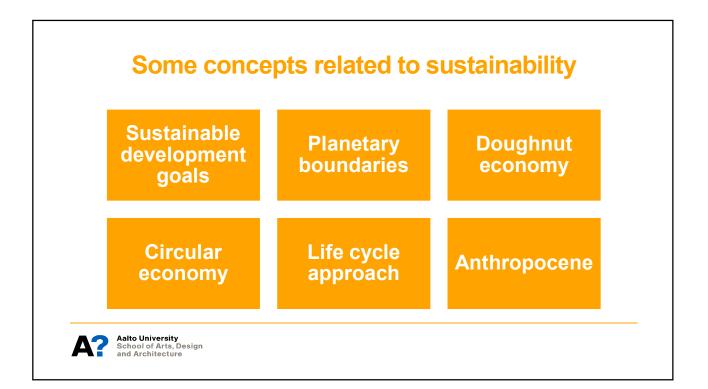












Reflect in groups: Which aspects of sustainability do you consider most important? Why?

