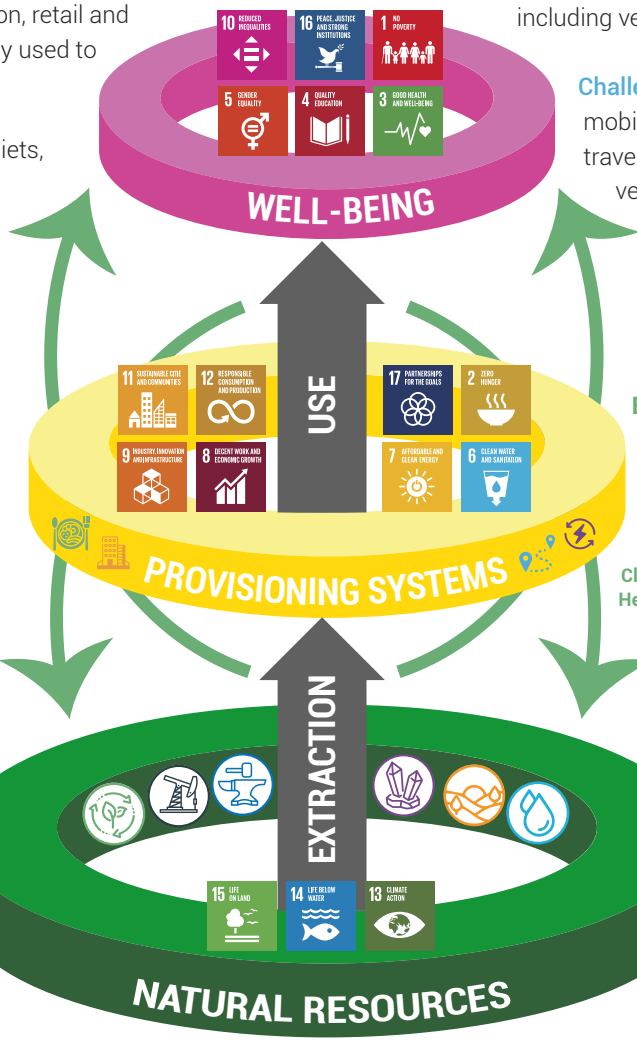
Provisioning systems

FOOD AND NUTRITION:
Resource use and corresponding supply chains that contribute to human nutrition, including each step in the food supply chain, from production to distribution, retail and consumption. Also the energy used to produce food.

Challenges: Unsustainable diets, food loss and waste, impact on ecosystems, carbon-intensive supply chains and competition with other potential applications of biomass.

MOBILITY
Land, sea and air mobility, and associated infrastructure for transporting people and goods, and the energy for their manufacture and running, including vehicle fuel.

Challenges: New lock-ins in motorized mobility, long-distance travel and high travel frequency and carbon-intensive vehicles.



ENVIRONMENTAL IMPACTS:
Ecotoxicity
Terrestrial biodiversity loss
Aquatic biodiversity loss
Water stress
Climate change
Health impact

BUILT ENVIRONMENT
Constructed spaces for human activity, where people live and work, and the energy embodied in their construction. Built infrastructure used by other systems would not fall into this system.

Challenges: Lock-ins in buildings with high energy demand, high floor area and energy demand per capita, high emissions embodied in construction and competition with other uses of biomass.

ENERGY
Production, conversion and supply of energy for end-consumer and its associated infrastructure. Most energy use is allocated to other provisioning systems.

Challenges: Carbon lock-ins in industries and infrastructure, high energy demand from other provisioning systems, limited supply of decarbonized electricity supply and low-carbon fuels, high demand of materials for the low-carbon transition and competition for the use of biomass.

Biomass · Fossil fuels · Metals · Non-metallic minerals · Land · Water