

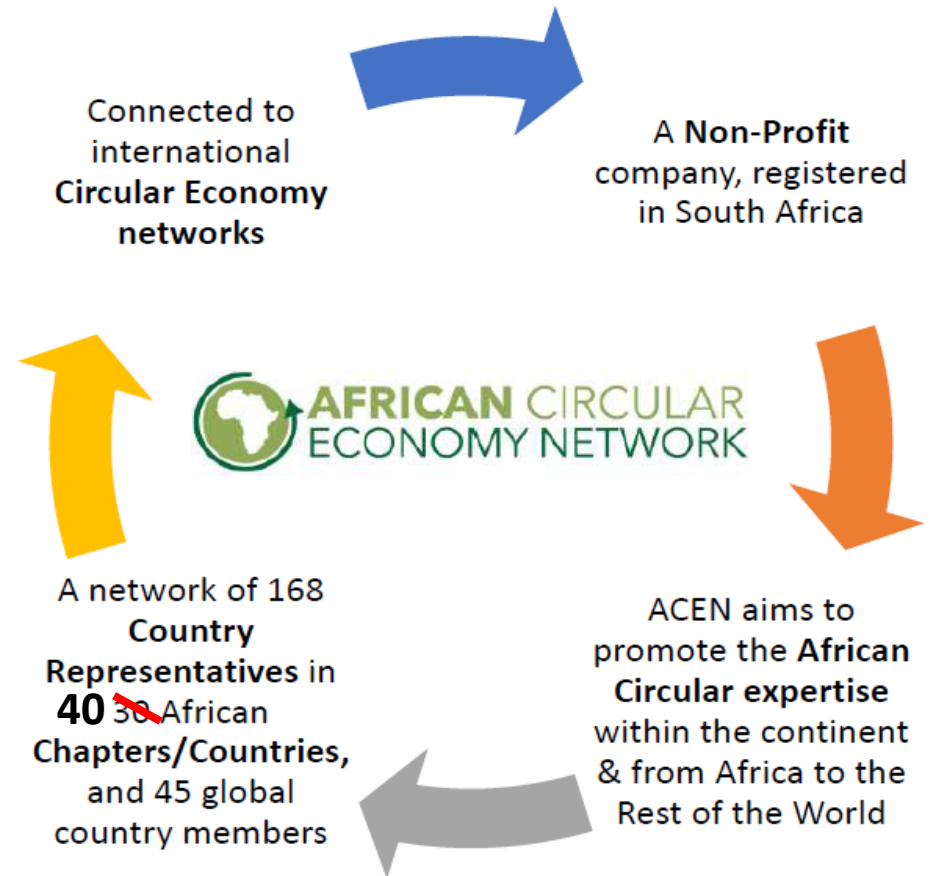


06 November 2023

WHY THE CIRCULAR ECONOMY?

Environmental, Social and
Economic issues / The limits of
the world system

ACEN - a Network of Networks



ACEN Vision Statement

- “Build restorative African economies that **generate well-being** and prosperity **inclusive of all its people** through **new forms of economic production** and consumption which maintain and **regenerate its environmental resources**”

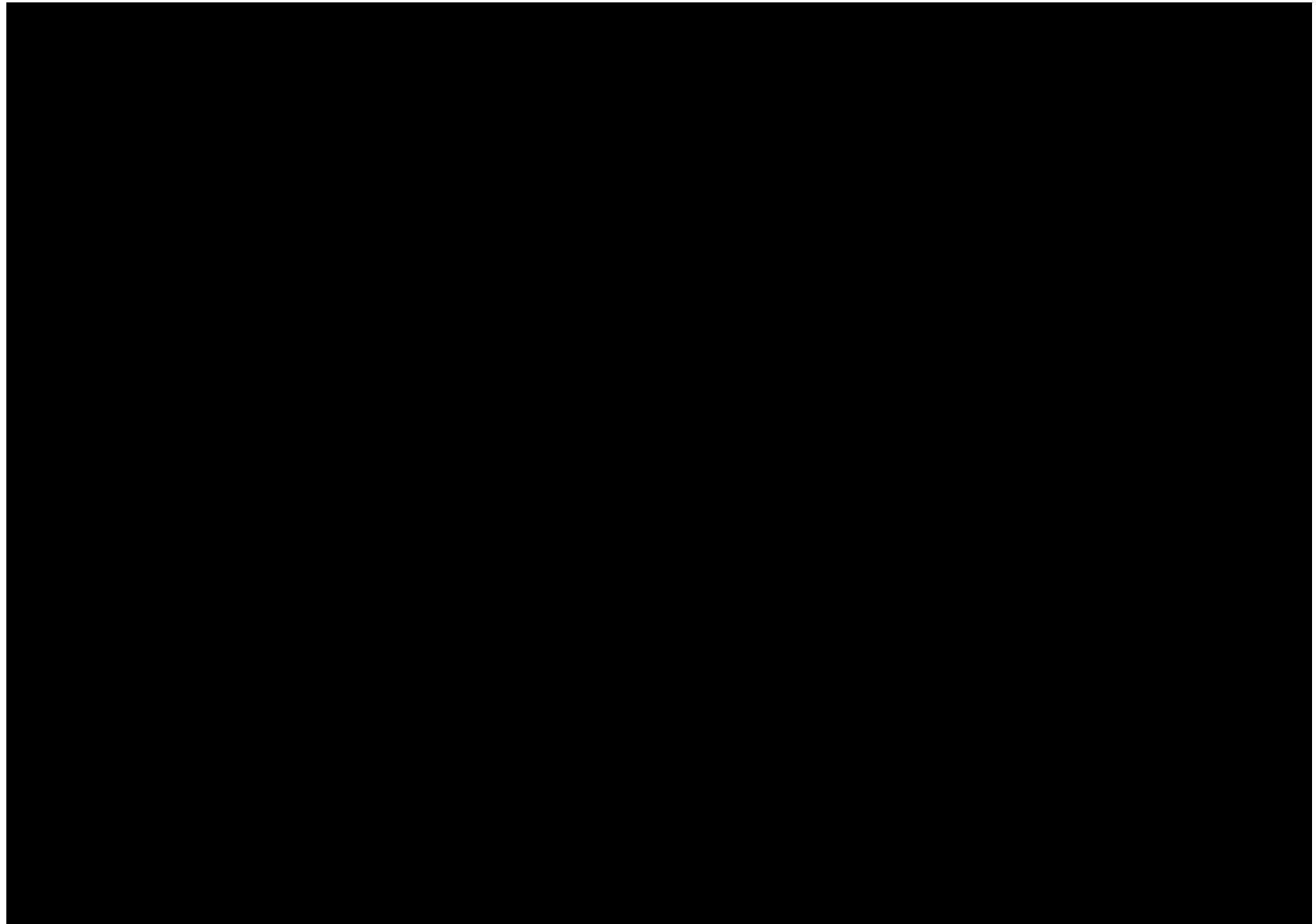


Welcome to the bigger picture

Why are we here?



The Human Way Of Life.....



EGO



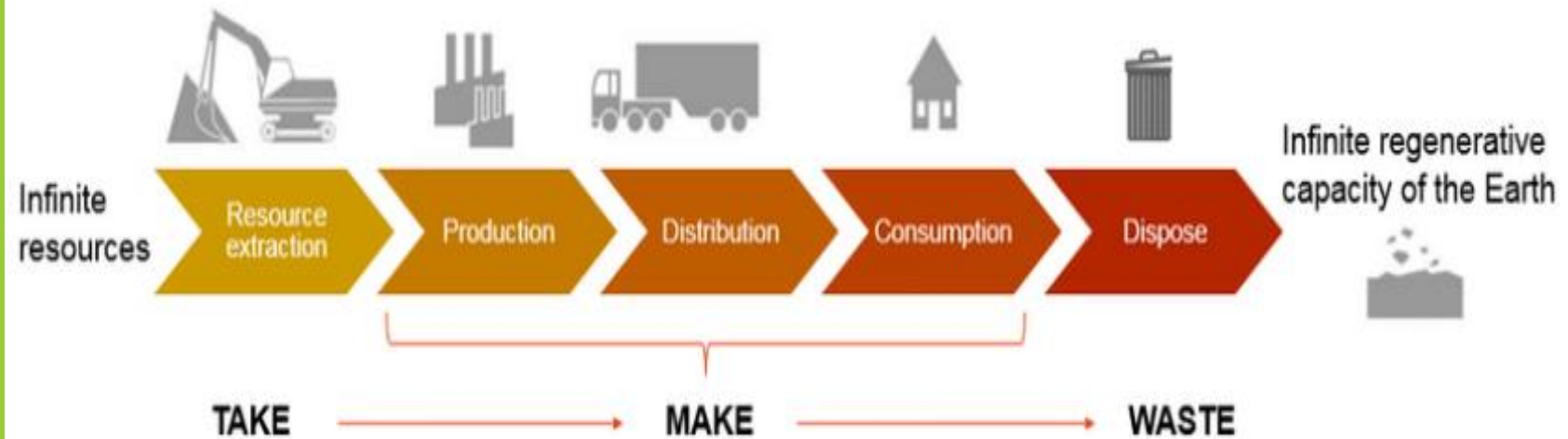
ECO



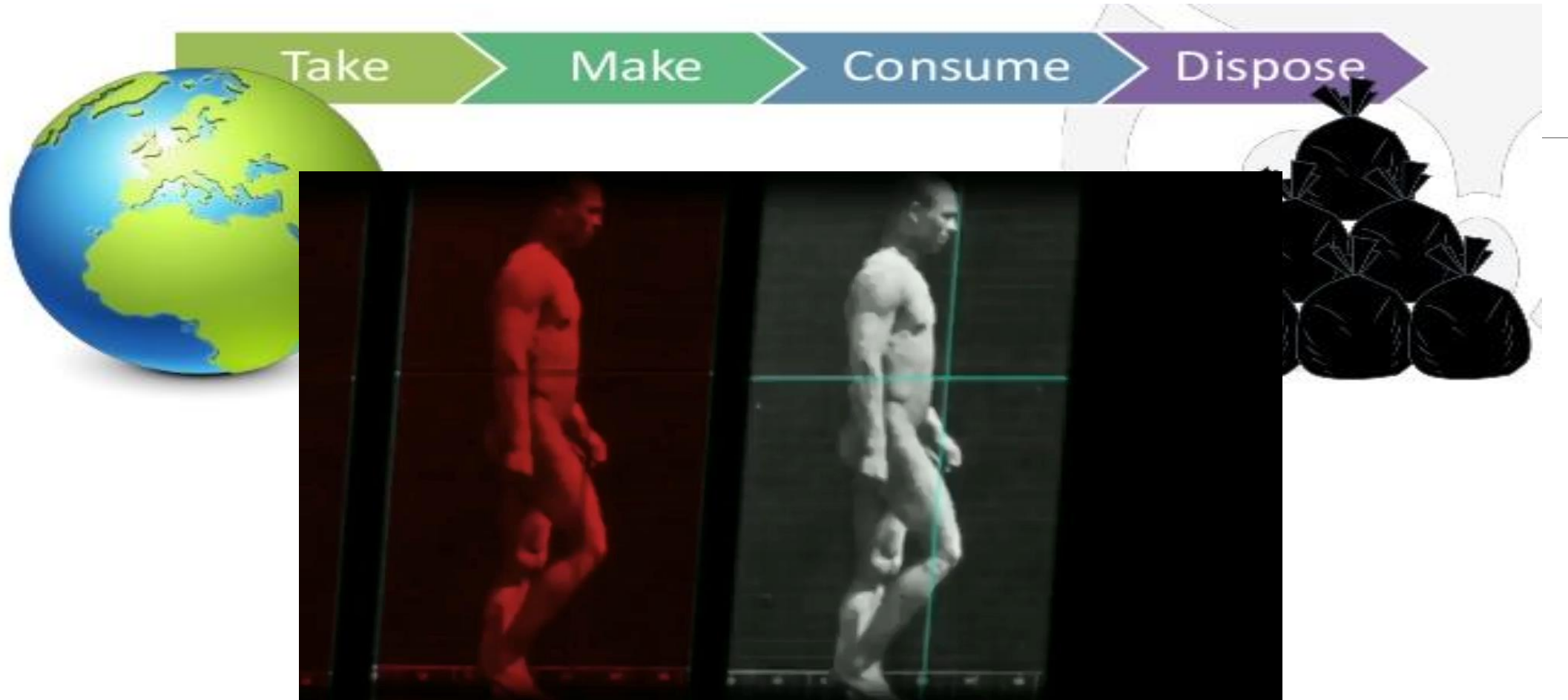
STATE OF THE ENVIRONMENT

EGO VS ECO

Infinite resources assumption



Linear Resource Extraction= POLLUTION (Waste)

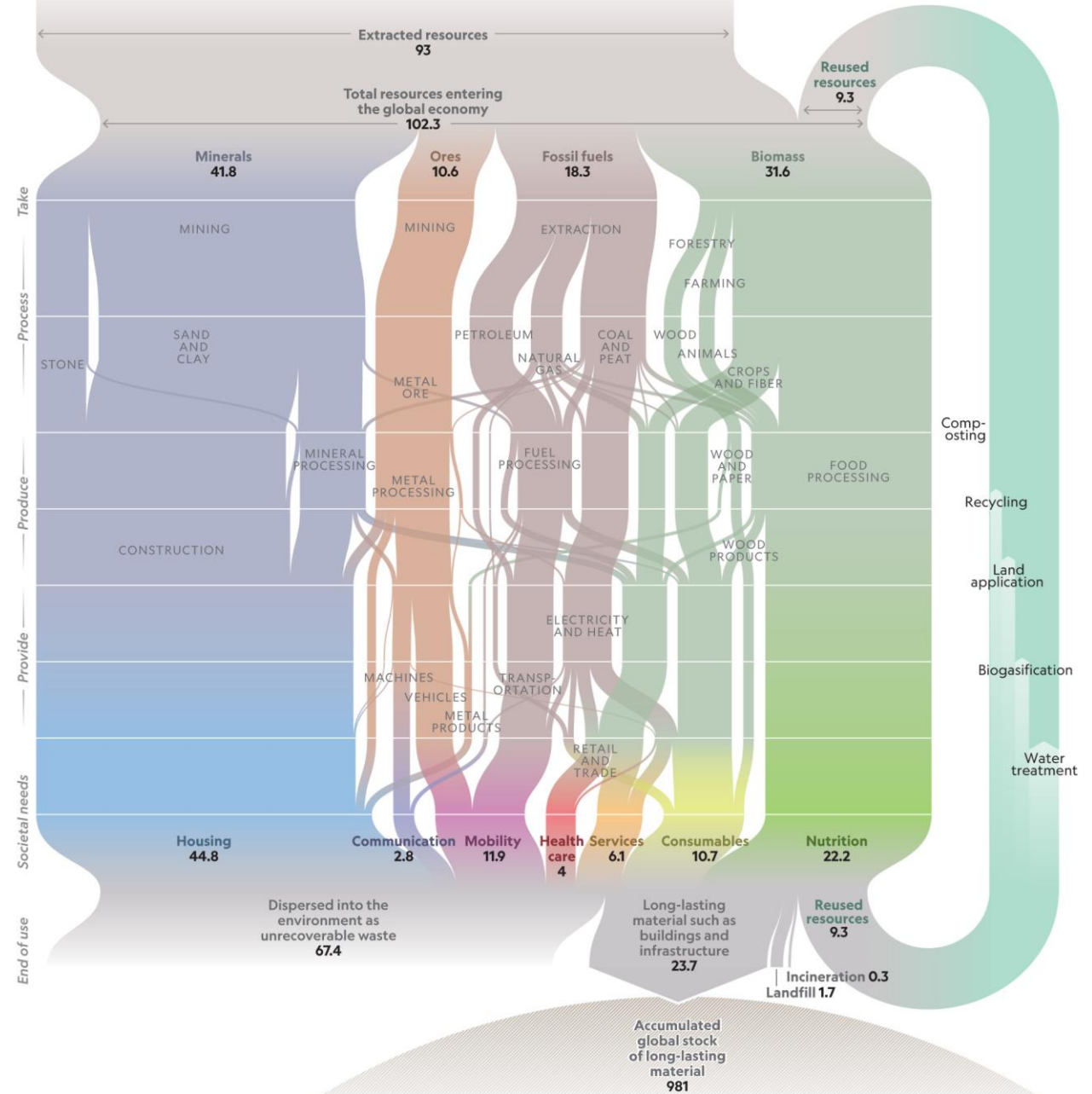


“Guess what percentage of *total material flow through this system is still in product or use -6 months after their sale ???*” (Source: *Story of Stuff*)

Global resources, 2015 in billions of tons

To the dump

Two-thirds of the material flowing through the economy, 67.4 billion tons in 2015, gets emitted as pollution—the carbon from fossil fuels, for example—or otherwise scattered or disposed of as waste.



Paying the price for LINEARITY..

Globally 1/3 food is wasted- \$ 1 Trillion per year

Clothing becoming “waste”- \$ 450 billion per year

Marine plastic pollution -up to \$2.5 Trillion per year*

Annual economic value of pollinators at \$235-577 billion**

Ecosystem services delivered by biodiversity, such as crop pollination, water purification, flood protection and carbon sequestration, are globally worth an estimated \$ 125-140 trillion per year, i.e., more than one and a half times the size of global GDP- OECD

* <https://www.theguardian.com/global-development/2019/apr/04/marine-plastic-pollution-costs-the-world>

** <https://www.weforum.org/agenda/2016/02/to-bee-or-not-to-bee-11-reasons-pollinators-matter/>
<https://www.nationalgeographic.com/magazine/2020/03/how-a-circular-economy-could-save-the-world-feature/>

Earth Overshoot Day



Earth Overshoot Day (EOD)

is the date on which humanity's resource consumption for the year exceeds **Earth's** capacity to regenerate those resources that year. In 2020 it fell globally **on August 22** and **in South Africa on 8 July.**

Earth Overshoot Day



Source: National Footprint and Biocapacity Accounts, 2021 Edition
data.footprintnetwork.org



Earth Overshoot Day



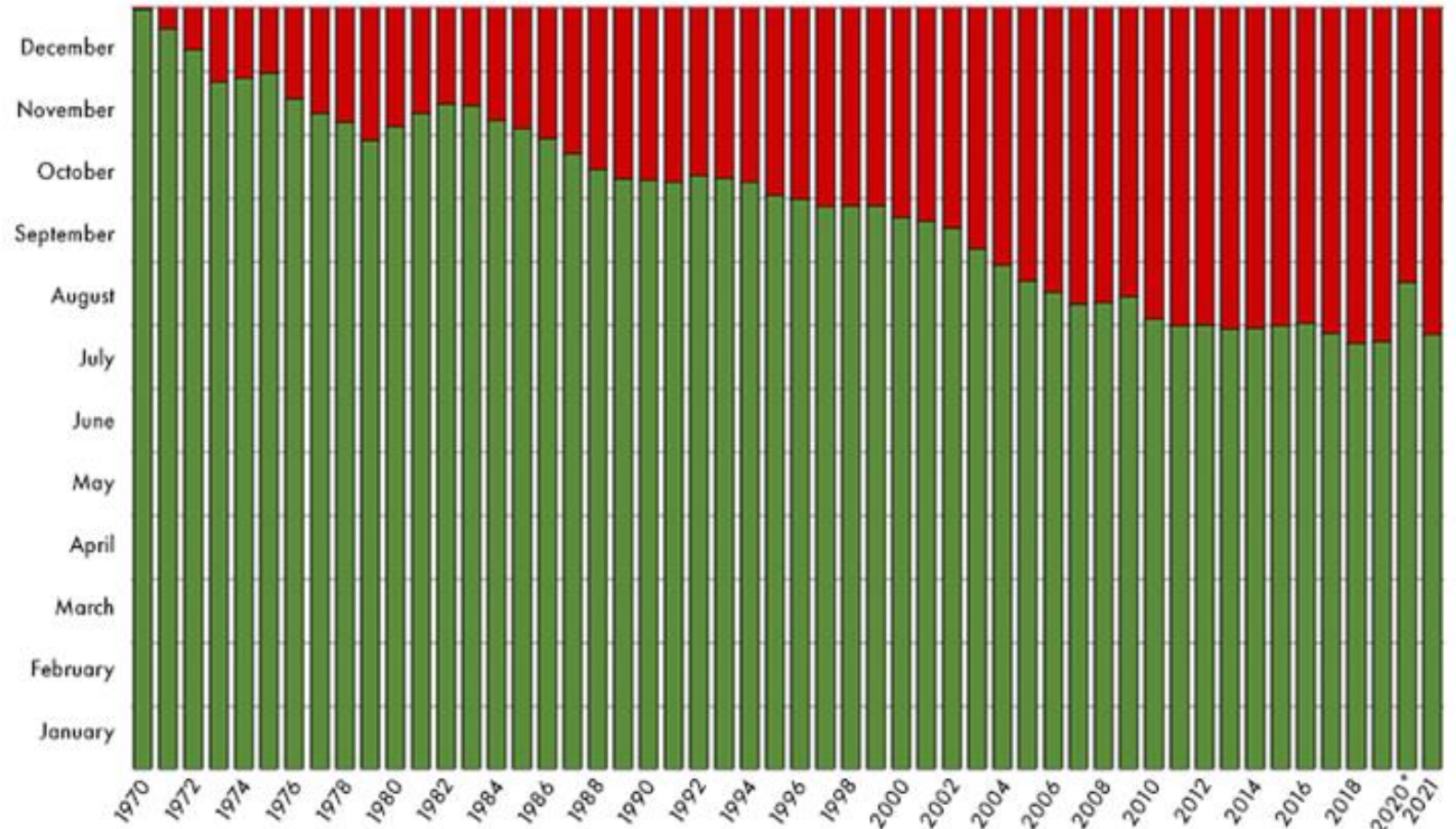
1 Earth

Earth Overshoot Day

1970 - 2021



1.7 Earths



Global Footprint Network
Advancing the Science of Sustainability



EARTH
OVERSHOOT
DAY

Source: National Footprint and Biocapacity Accounts 2021 Edition
data.footprintnetwork.org

*The calculation of Earth Overshoot Day 2020 reflects the initial drop in resource use in the first half of the year due to pandemic-induced lockdowns. All other years assume a constant rate of resource use throughout the year.

CIRCULAR ECONOMY



Definition

A Circular Economy is an alternative to a **traditional linear economy** (make, use, and dispose of) in which **resources are kept in use for as long as possible**. The maximum value is extracted from them whilst in use. Materials are **recovered**, and products are **regenerated** at the end of the product life

Waste Management Hierarchy: Recycle ONLY Economy



Recycling- Not the Saving Grace

- Recycling is good but not enough
- Recycling is a pill to dull the pain of a global overconsumption hangover
- Recycling is an end of pipe (mitigation solution)
- Recycling is in most cases at cost
- Recyclable does not mean it is RECYCLED
- Recycling prevents required disruptions of failing economic “take make break dispose” systems
- Recycling does not promote any more progressive R-solution

R-Ladder: Circular Economy

But what
about :
Regenerate ?
Replenish ?
Return to
source ?

RESPONSIBLE USE AND MANUFACTURING OF PRODUCTS*

Refuse

prevent the use of products and raw materials used in products

Redesign

design products and materials in line with circularity and ecological boundaries

Rethink

reconsider ownership and use of products (for instance sharing)

Reduce

decrease the use of products and raw materials used in products

PRESERVE AND EXTEND LIFE OF PRODUCTS

Reuse

use of products by a second owner for the same purpose as designed

Repair

maintaining and repairing existing products

Refurbish

restoring and improving products to satisfactory state

Remanufacture

using parts of discarded products to make products with the same purpose

USE WASTE AS A RESOURCE

Repurpose

use discarded products or parts to make new products with a different purpose

Recycle

processing waste into materials that can be used for new products

Recover

incineration of materials to recover energy

*including food and non-tangible products (services or systems)

FUNCTIONALITY AS
THE “VALUE OF
RESOURCES
RECOVERED”

MATERIALS AS THE
“VALUE OF
RESOURCES
RECOVERED”

From Linear to Circular

LINEAR ECONOMY



RECYCLING ECONOMY



CIRCULAR ECONOMY



Circular Economy Objectives



Is restorative and regenerative by design



Aims to keep products, components, and materials at their highest utility and value always

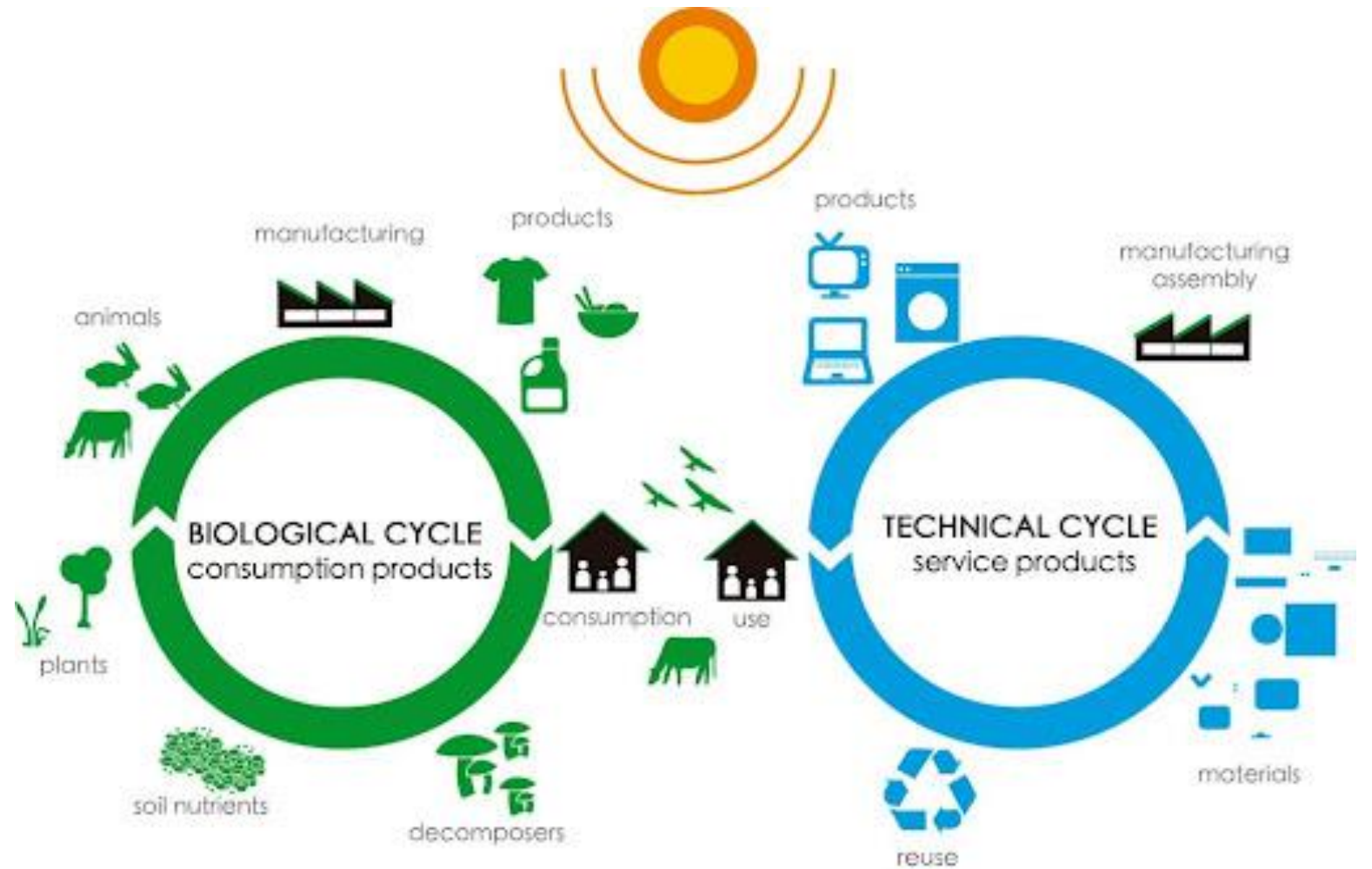


Distinguishes between technical and biological cycles

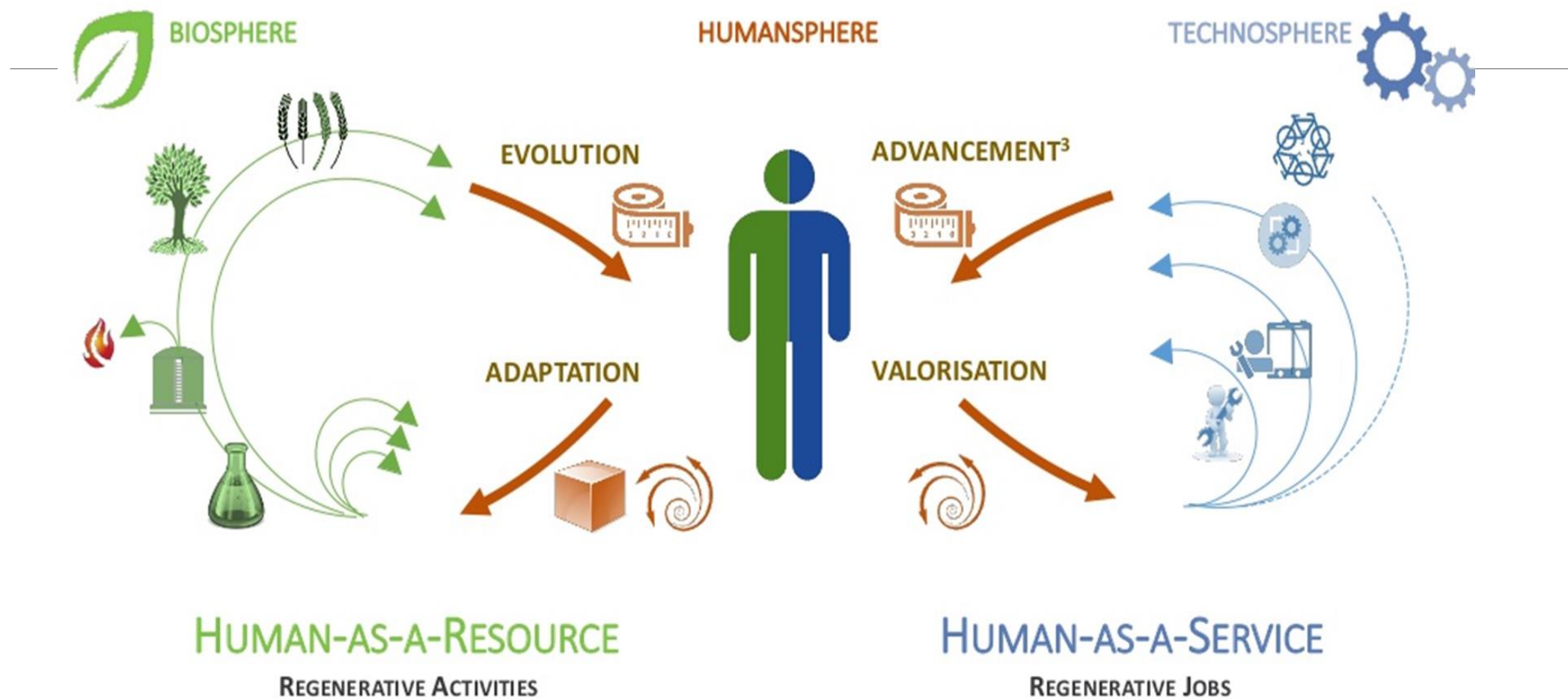


A continuous, positive development cycle.

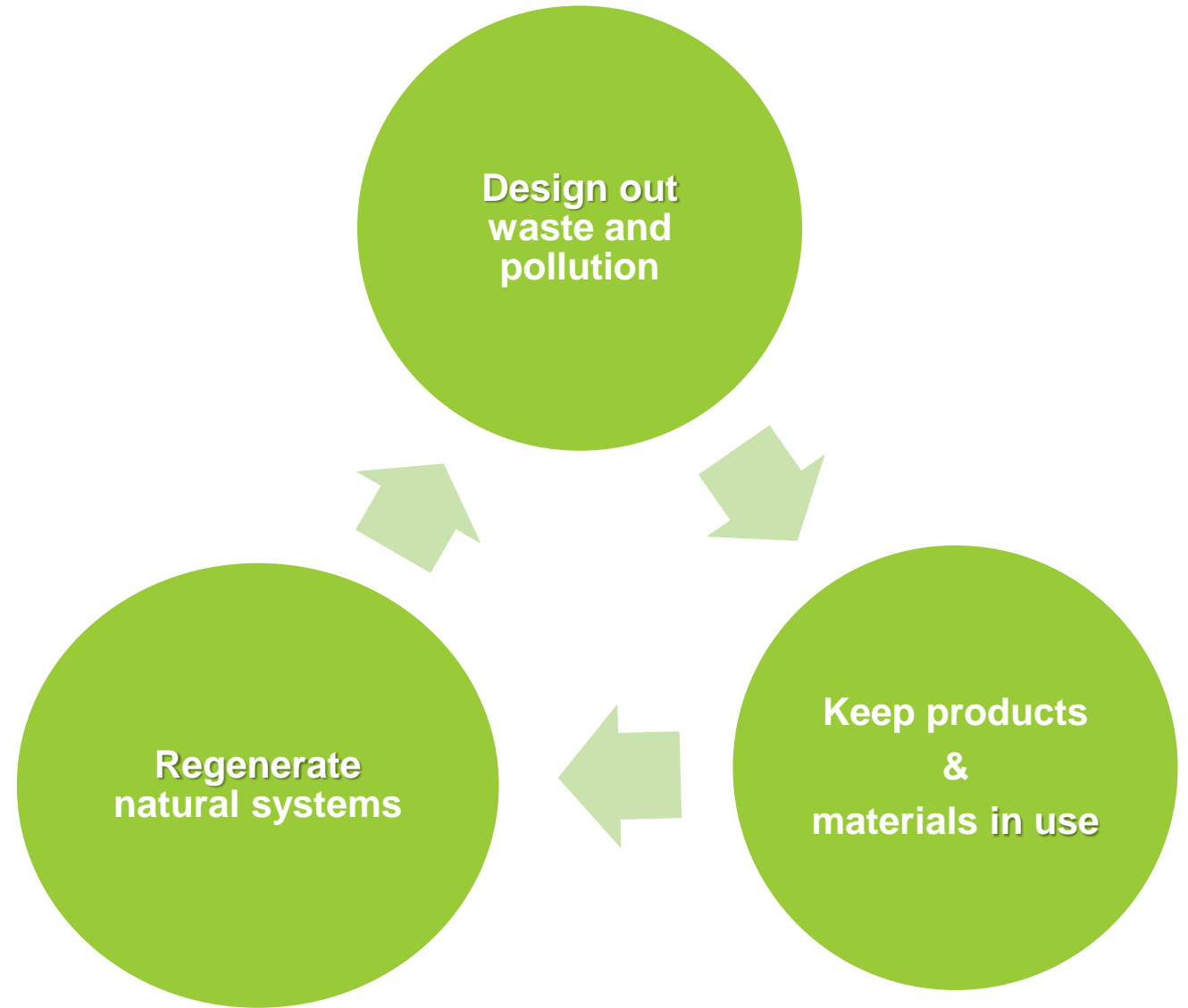
Learning from Nature



Inserting a Humansphere



Circular Economy Principles



ENVIRONMENTAL BENEFITS



SOCIAL BENEFITS



ECONOMIC BENEFITS



Economic growth
(GDP)

Material cost
savings



Job
creation/sustaining
of jobs potential

Innovation



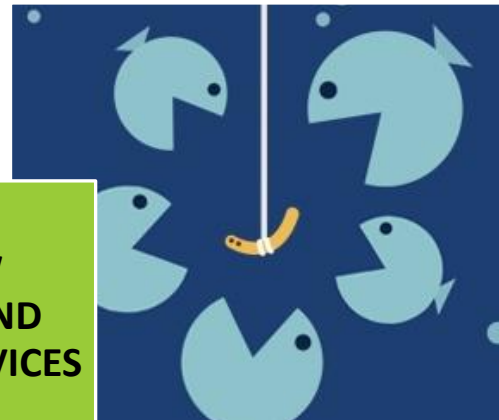
**INCREASE
D PROFIT**



**REDUCED
VOLATILITY &
GREATER
SECURITY OF
SUPPLY**



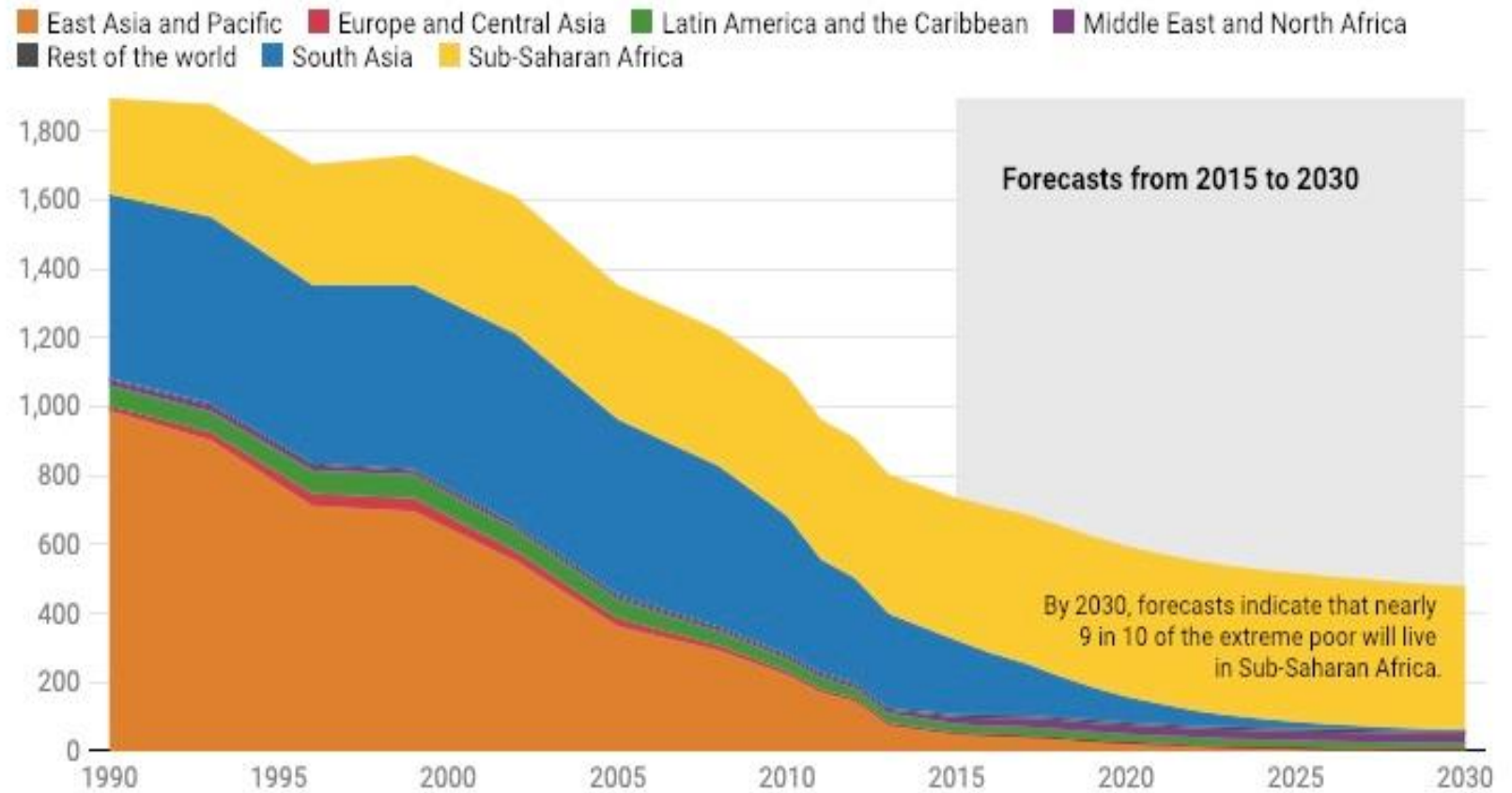
**NEW
DEMAND
FOR SERVICES**



**IMPROVED
CUSTOMER
INTERACTION
AND LOYALTY**

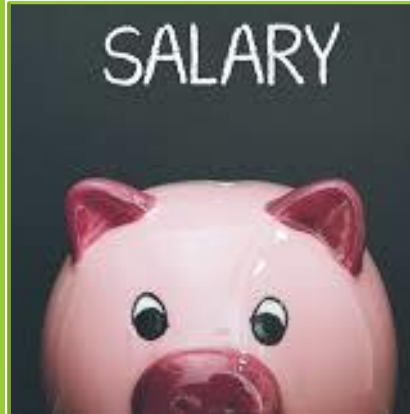


Poverty Rise



Source: [World Bank PovcalNet](#) and [Poverty & Equity Data Portal](#)

OPPORTUNITIES FOR INDIVIDUALS



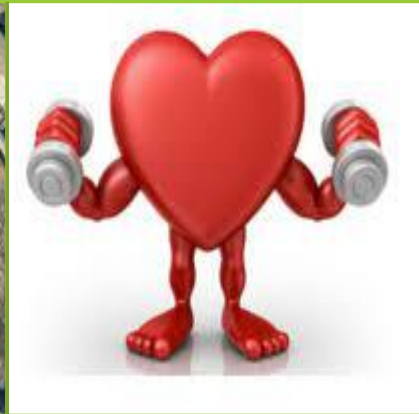
Increased
disposable
income



Greater utility



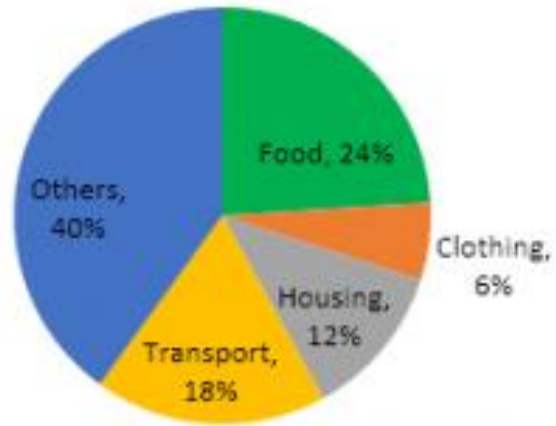
Reduced
obsolescence



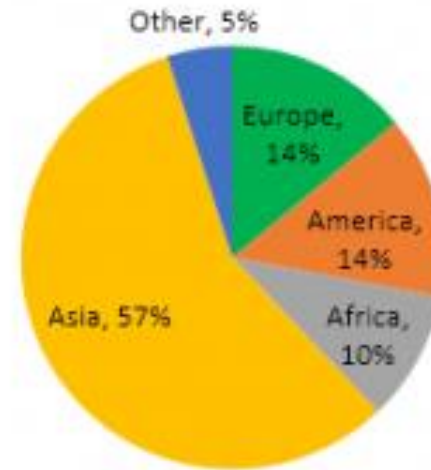
Improved
health

RESOURCE CONSUMPTION RATES

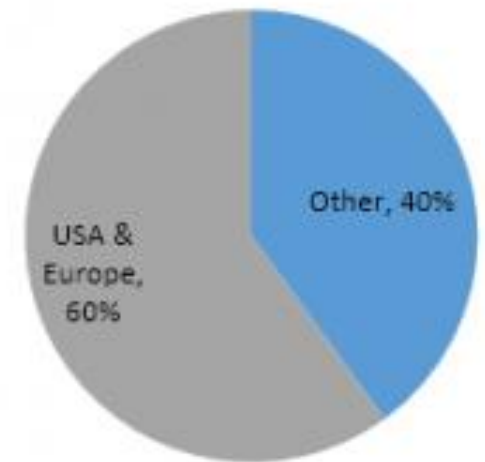
World Spending



World population

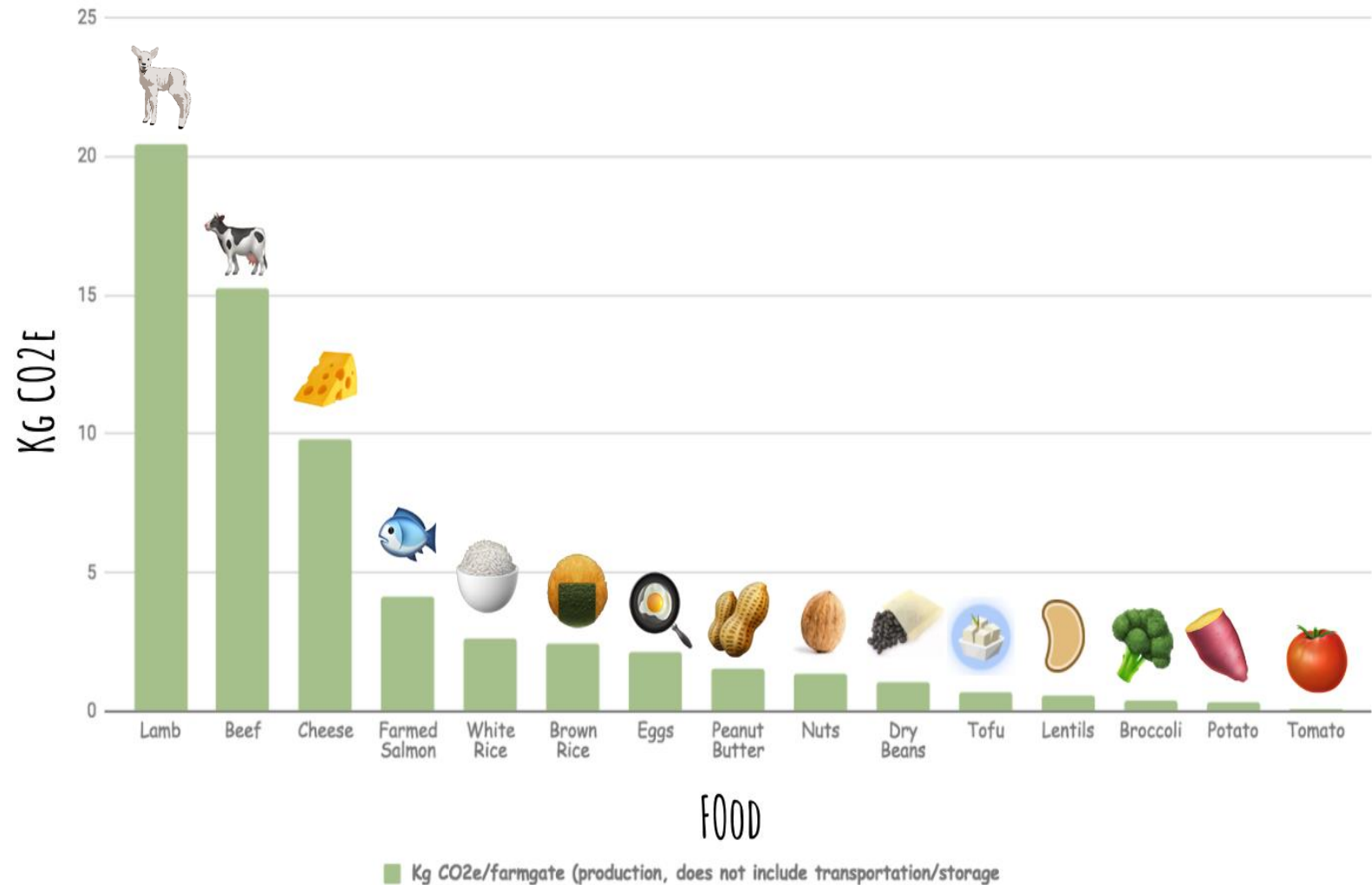


Consumption of Resources



Greenhouse Gas Emissions Impact

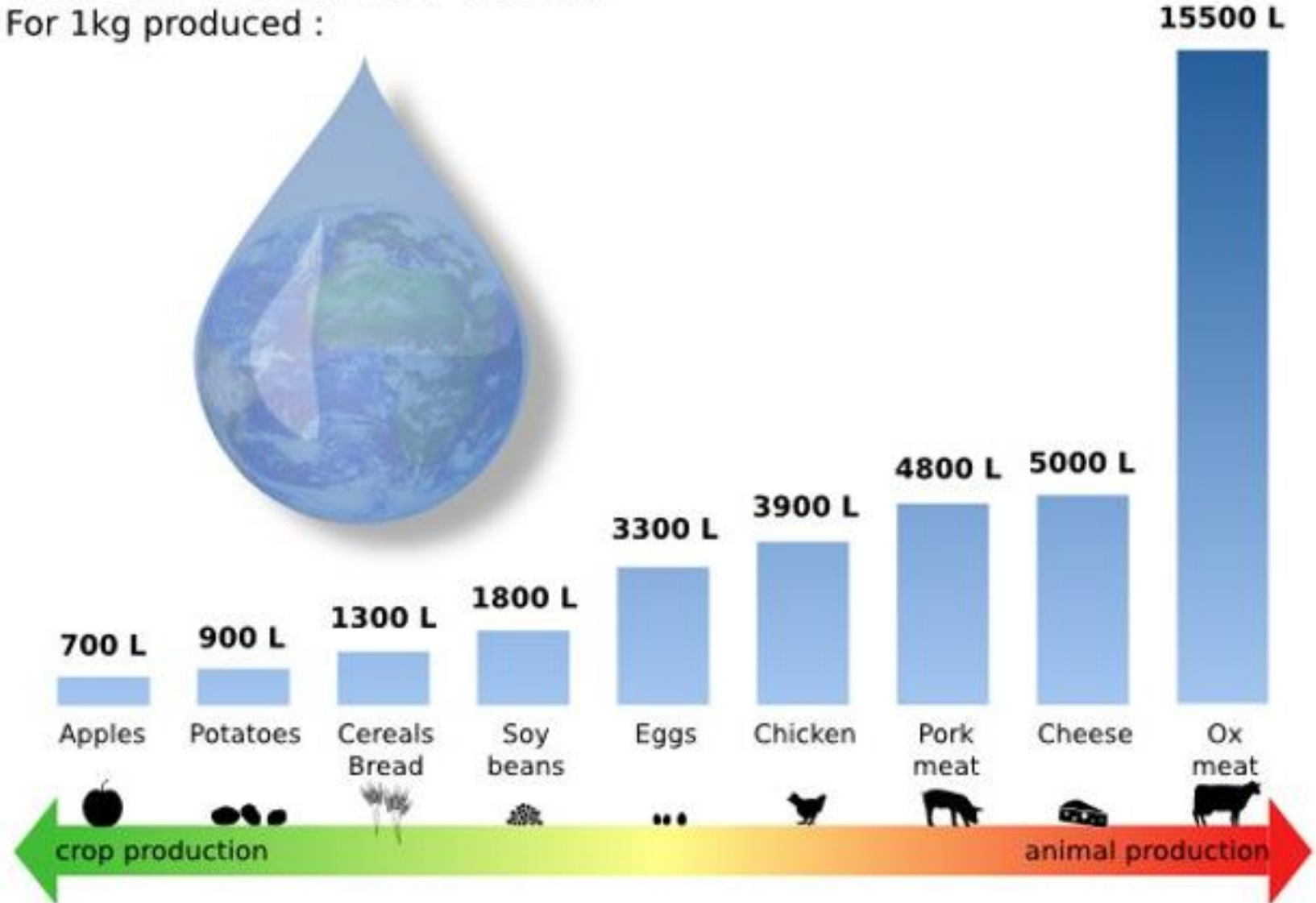
GREENHOUSE GAS EMISSIONS PRODUCED BY FOODS DURING PRODUCTION



Water Impact

Water need for food

For 1kg produced :



Source : Water Foot Print <http://www.waterfootprint.org/?page=files/productgallery>

THANK YOU

