



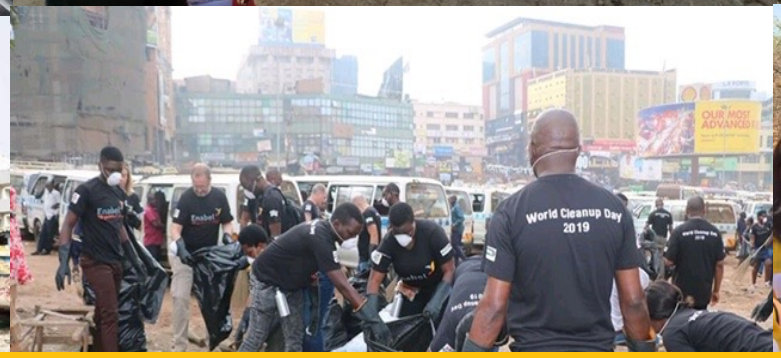

Green growth and waste management

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GREEN GROWTH

- Green growth is a term to describe a hypothetical path of **economic growth that is environmentally sustainable.**
- *As long as economic growth remains a predominant goal.*
- The core is **decoupling of economic growth from resource use and minimize environmental impacts.**
- There is no "one-size-fits-all" approach

MINDSET

WASTE MANAGEMENT

Something we want **to get rid of**.

RESOURCE MANAGEMENT

Something that might **be valuable**.

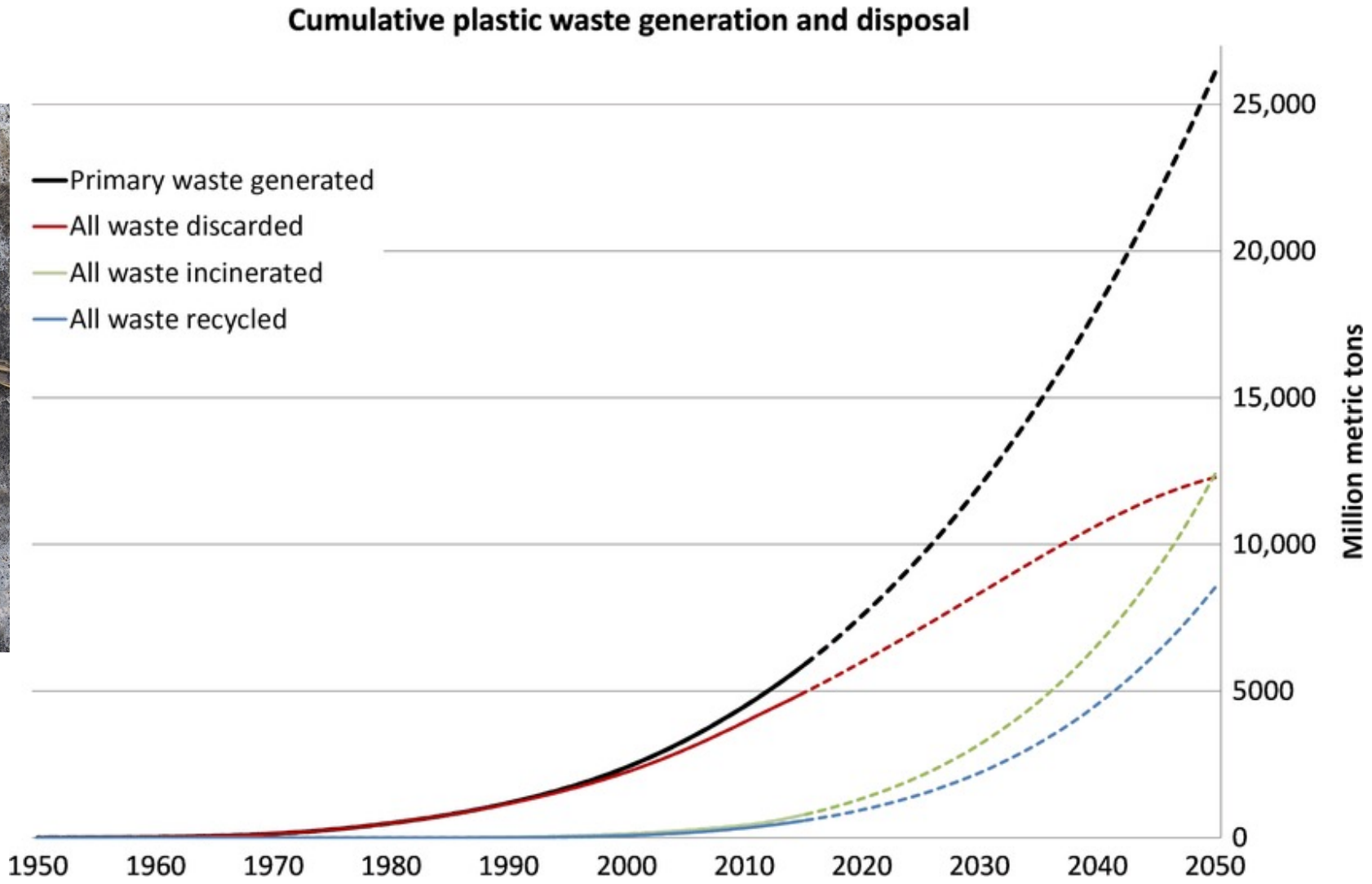
WASTE FACTS

- **2 billion tons** of residual waste annually (*World Bank*)
- **3,5 billion people** don't have an access to waste management systems
- **12 millions of tons plastic** leak to the oceans. By 2050, there is more plastic in the ocean than fish (*UN*).
- **1.6 billion tons** of CO2-equivalent greenhouse gas emissions were generated from solid waste management in 2016
- **4,5 trillion cigarette butts** end up in nature.
- **Up to 100 000 species** distinct every year, 1 from 6 is under threat
- **90% of salt** contains microplastics (*South Korea's Incheon National University and Greenpeace East Asia*)
- **We eat one credit card per week** (*University of Newcastle*)

PLASTIC

- Since 1950, **8.3 billion tonnes** of plastic have been produced worldwide:
- 79% or 6.4 billion tonnes of plastic are waste today, 12% incinerated, **9% recycled**
- About **12 million** tons of plastic reach the seas each year, killing millions of fish, birds and animals.
- Disintegration of one PET bottle can take about **500 years**
- Plastic can only be recycled **about 2-3 times** before its quality decreases to the point where it can no longer be used.
- **Any plastic material with food residues on (or in) it CANNOT be recycled**

91% of all plastic waste is still unrecycled, ending up in landfills or the ocean (Parker, 2018).



Plastic bag

- Human population **uses 5 trillion plastic bags** in a year. (*The World Counts, 2020*)
- Plastic bag regulations and bans **in 127 countries** (*Nielsen etc. 2019; UNEP 2018*)
- **All country members of EU should reduce the consumption of plastic bags to 40 bags per person for 2025.**

GLASS

- **Glass is 100% recyclable** and can be recycled endlessly without loss in quality or purity.
- Over a ton of natural resources are saved for every ton of glass recycled.
- Glass is heavy and expensive to transport – that's why plastic and aluminum are widely used instead of glass.

PAPER

- We consume **over 400 million** tons of paper and cardboard annually.
- **17% of a global waste amount**
- The paper industry is the **5th largest consumer of energy**, accounting for **4% of all the world's energy use**
- Releases **over 100 million** kilograms of toxic pollution every year.
- In 2006, approximately **6.5 million** trees were cut down to make **16 billion** coffee cups.
- On average Americans use **7 trees per person** a year in paper, wood, and other products made from trees.

PAPER

- Recycled paper production results in **40% fewer greenhouse gases** and **26% less energy to produce**.
- Every tonne of recycled paper usually saves enough energy **to power a house for a whole year**
- Each ton of recycled paper can save 17 trees
- Production of recycled paper creates **43% less wastewater**.
- Paper can be recycled **5 to 7 times.**

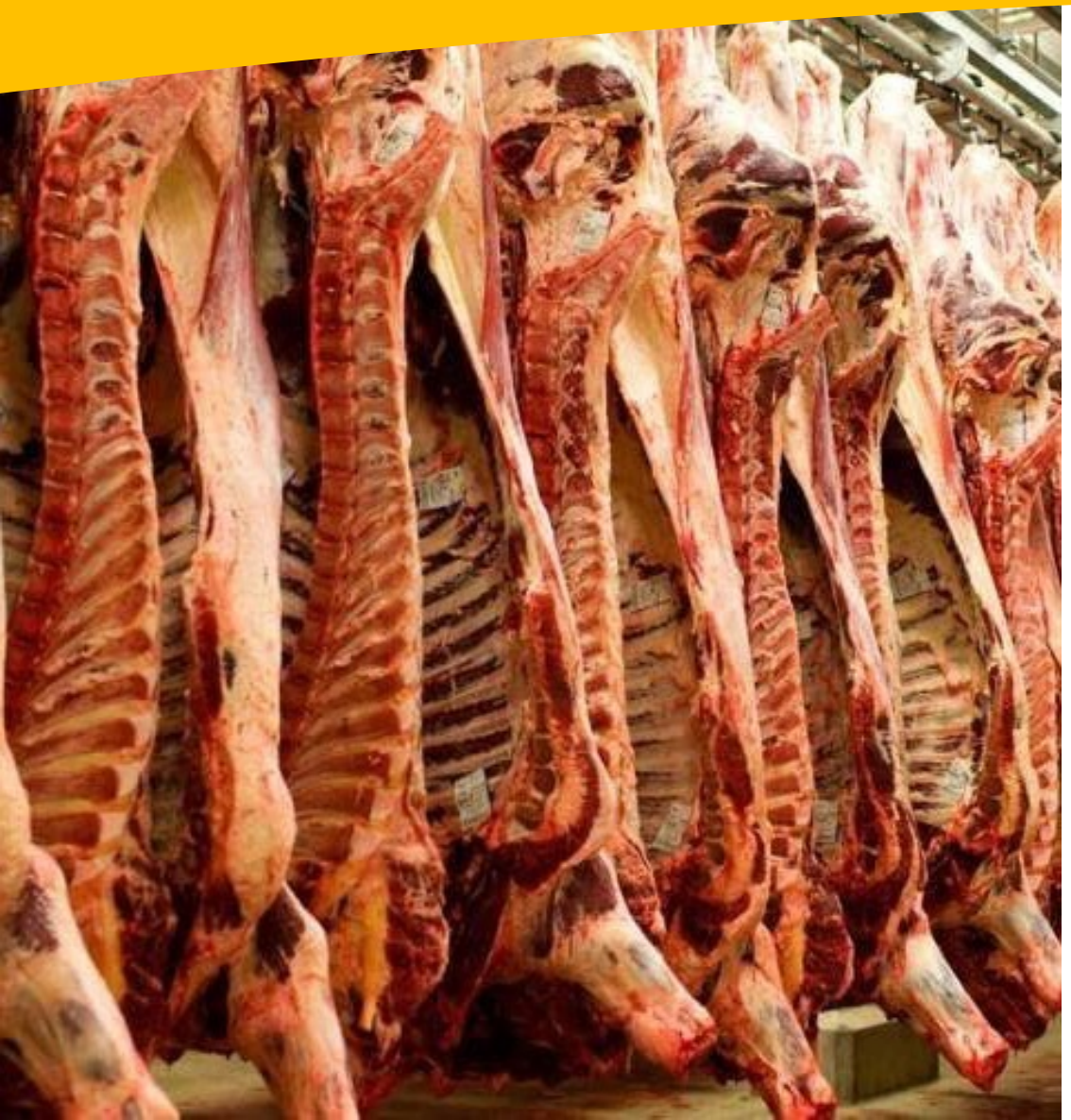
BIOWASTE

- Bio-waste consists mainly of organic materials.
- Includes green waste, food waste as well as paper waste.
- Recycling and decomposing such waste can naturally benefit the environment, without releasing any harmful chemicals into the atmosphere.
- **Source for**
- **1) the production of biofuels or**
- **2) compost**

COMPOSTING

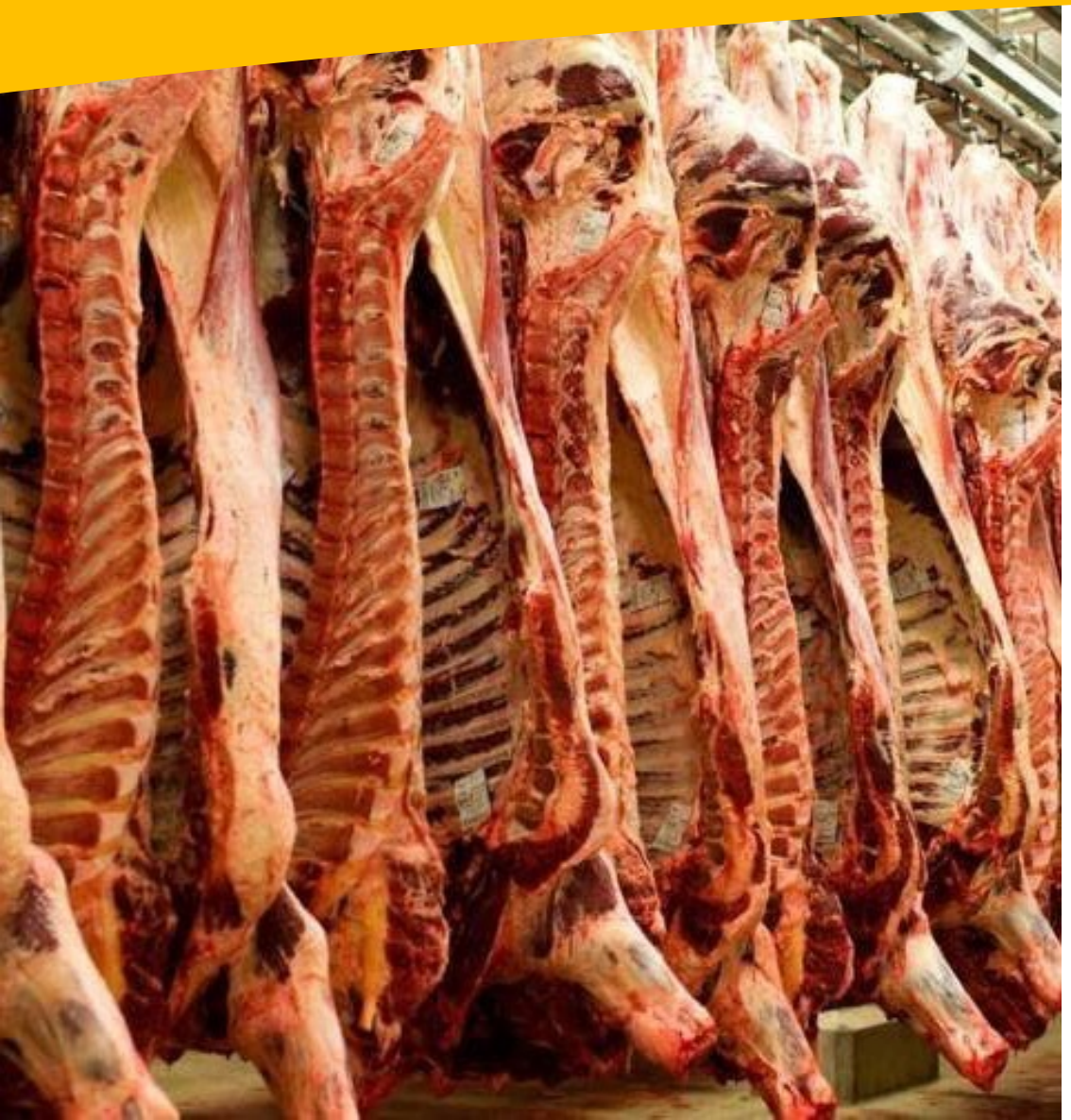
- Recycling biodegradable waste into nutrient-rich and reusable materials that can later be added to the soil, as a form of fertilizer.
- The most environmentally friendly way to manage bio-waste
- Composting on-site minimizes the transport requirements and the fertile soil stays where it is.
- You can compost garden leftovers, grass, leaves, kitchen waste, etc
- open composting, worms composting, Bokashi, electrical composting

FOOD PRODUCTION



- **We consume 346 millions of tons of meat annually.**
- **1/5 of food is wasted**
- Food production is responsible **for 26% of greenhouse gases.** CO2 production equal to all the **transportation sector**
- Total food system emissions are expected to increase from 8.4 billion tonnes CO2e to 11.4 billion tonnes CO2e in 2050.

MEAT PRODUCTION



- The biggest positive impact an individual can have on climate change is **by eating less meat.**
- In Estonia, people consume more **50% more meat than its healthy.**

Obstacles:

- Beliefs "You have to eat meat to grow strong!", "A man must eat meat, otherwise he is not a man!"
- Meat-centered cuisine
- Flesh is associated with positive emotions - celebration
- Default settings - restaurants, parties
- Vegans?
- Bugs are yucky

ELECTRONICS

- **50 million tonnes of e-waste** are generated every year, equalling the weight of nearly 4,500 Eiffel towers.
- Only **around 20 percent of electronic waste was recycled** globally.
- E-waste is the **world's fastest-growing waste stream**
- REUSE, REPAIR, BUILT TO LAST
- Electronic products contain many toxic substances hazardous to human health.
- Toxic residues can leak and contaminate the soil, air, and water, affecting surrounding ecosystems where the local communities grow their food, hunt, and fish.
- The hazardous substances are also spread to other continents through the air and the sea.
- e-waste is not inevitable.

TEXTILE

- **No2 polluter in the world**
- 73% produced textile ends up in landfills or incineration
- A truckload full of textile is incinirated or landfilled **every second**!!!!
- **2700 litre of water** is needed to produce one t-shirt
- Average consumer dispose **31 kg textile annually**
- Textile production contributes **more to climate change than international aviation and shipping combined**
- The textile sector still represents 10 to 20 percent of pesticide use
- Fashion accounts for **20 to 35 percent of microplastic flows into the ocean**

Transformations in fashion

- Reuse as mainstream
- Gneder neutral fashion
- Slow fashion
- Take-back models
- Renting instead of bying
- Repairing on the way
- Upcycling on the way

METAL

- The most consumed metal worldwide is **aluminum**, followed by **copper, zinc, lead, and nickel**.
- Some precious materials like gold are used for our computers and other electronic devices.
- **Metals are limited to non-renewable resources**. If we continue to produce large amounts of metal waste, we are likely to deplete our metals quite soon in the future.
- **The consumption of metals also contributes to deforestation.**
- Metal waste is often just disposed into rivers or lakes where harmful compounds are likely to contaminate the water.

DIGITAL WASTE

- The carbon footprint of the internet is about **7% of global greenhouse emissions**.

  20% C02 emission in 2030
- Internet produce 900 million tons of CO2 yearly
- Internet = aviation industry
- **90% of all content and data created is a WASTE**
- Internet needs 3x more energy than all the solar panels in the world can produce.

Lets aim for waste-free world!

Let's aim for circularity and the smallest possible footprint on the planet in everything we do!