The Challenge:

Current Situation of Waste from a Global Perspective

Urban Pathways

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WASTE WISE CITIES

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Global Municipal Solid Waste Generation

- We dump enough waste every year to fill a line of trucks going around the world **24 times**...
- In 30 years (by 2050), we will be creating **70%** more waste than we do now, if we do not change our habits

Global Waste Generation per Capita I

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Current Status

1.2 kg per day

Outlook 2025

1.42 kg per day

Waste Generation per Capita II

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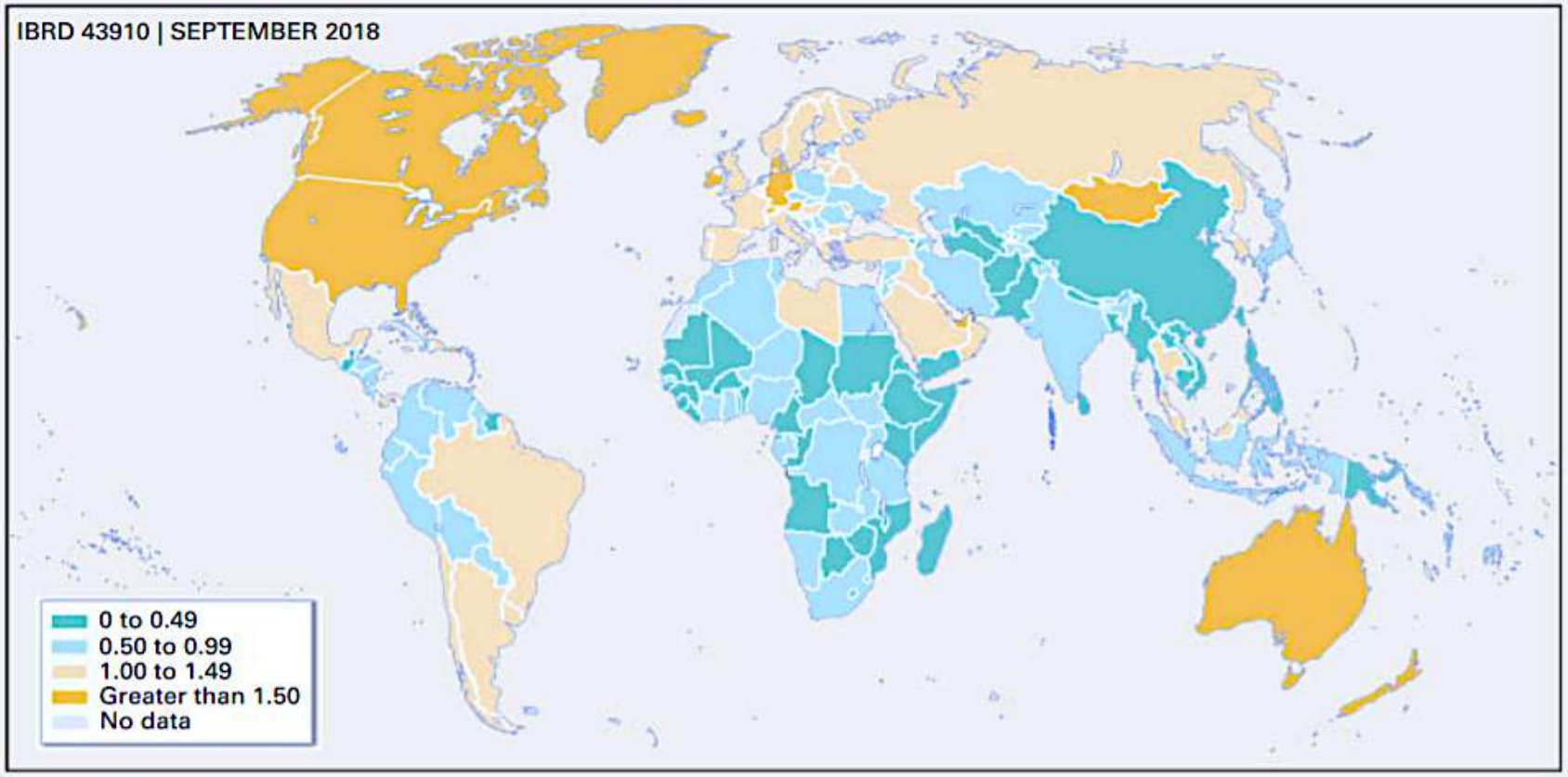
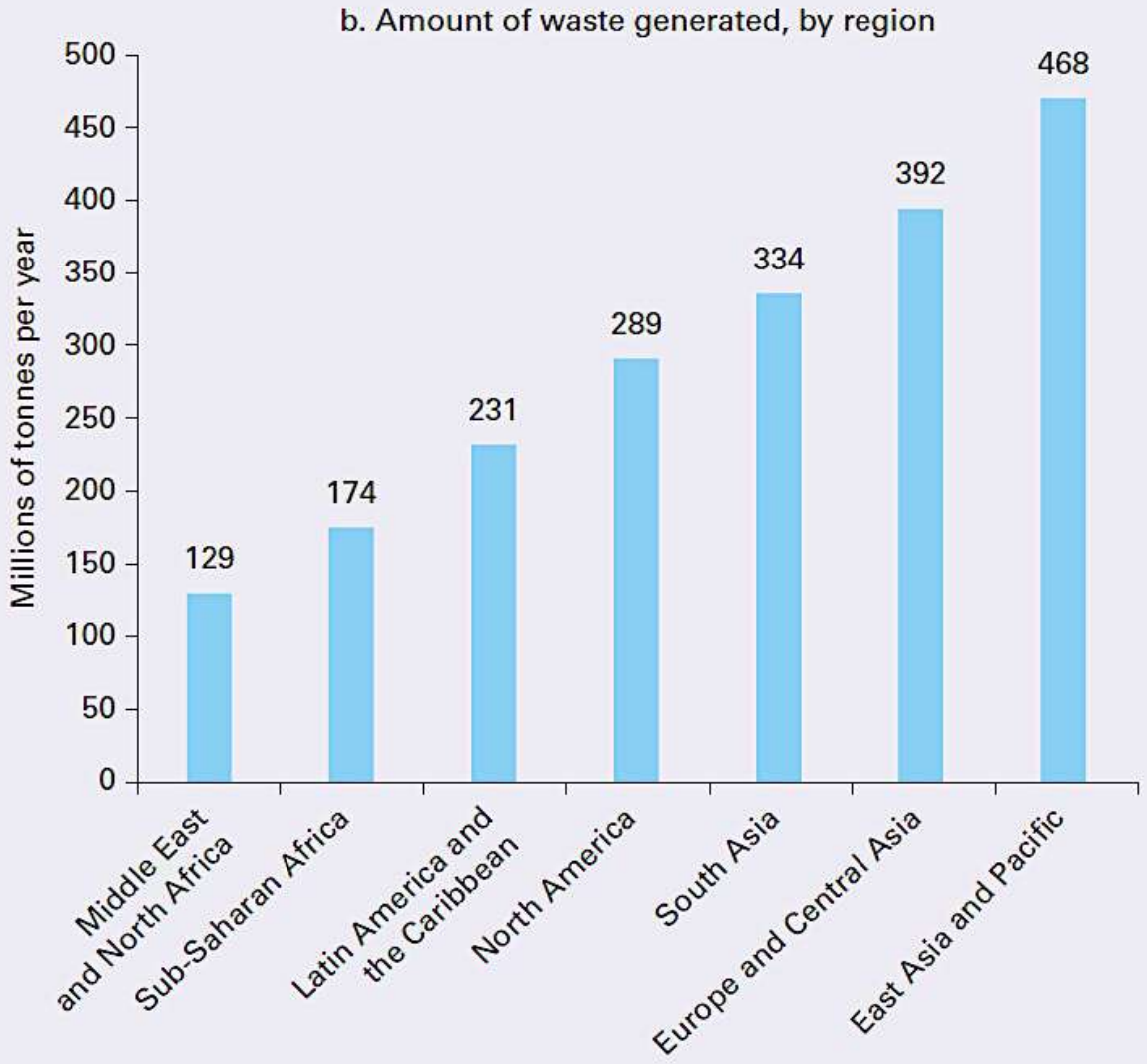
Map 2.1 Waste Generation Per Capita



Note: kg = kilogram.

Waste Generation by Region

Figure 2.1 **Waste Generation by Region** *(continued)*



PACKAGING MANIA

Daily Supermarket Visit

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Packaging Madness

Packaging Madness

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POLL 1:
Rank your worst packaging

Global Waste Composition

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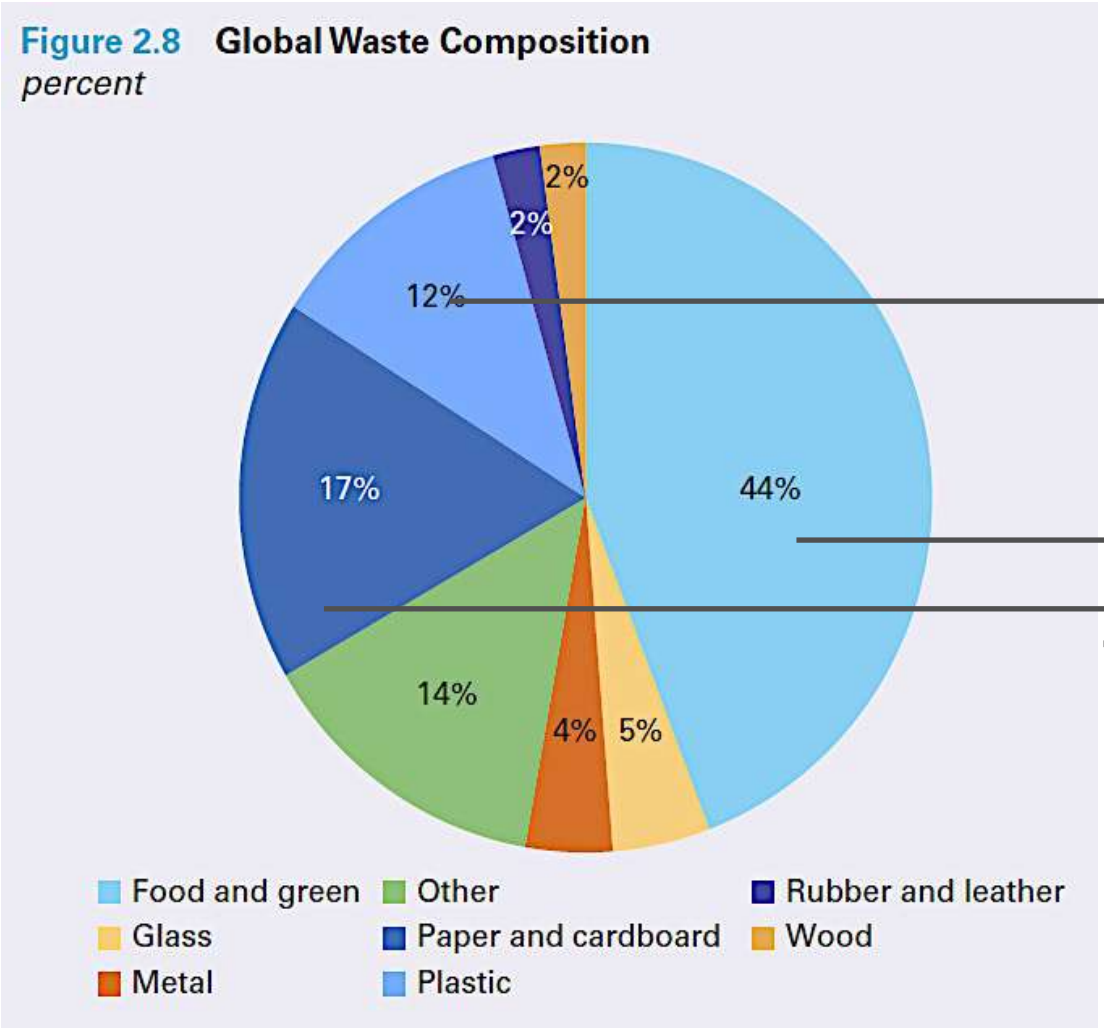
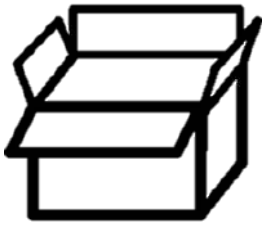


12% Plastic

44% Organics

17% Paper & cardboard



Global Waste Treatment and Disposal

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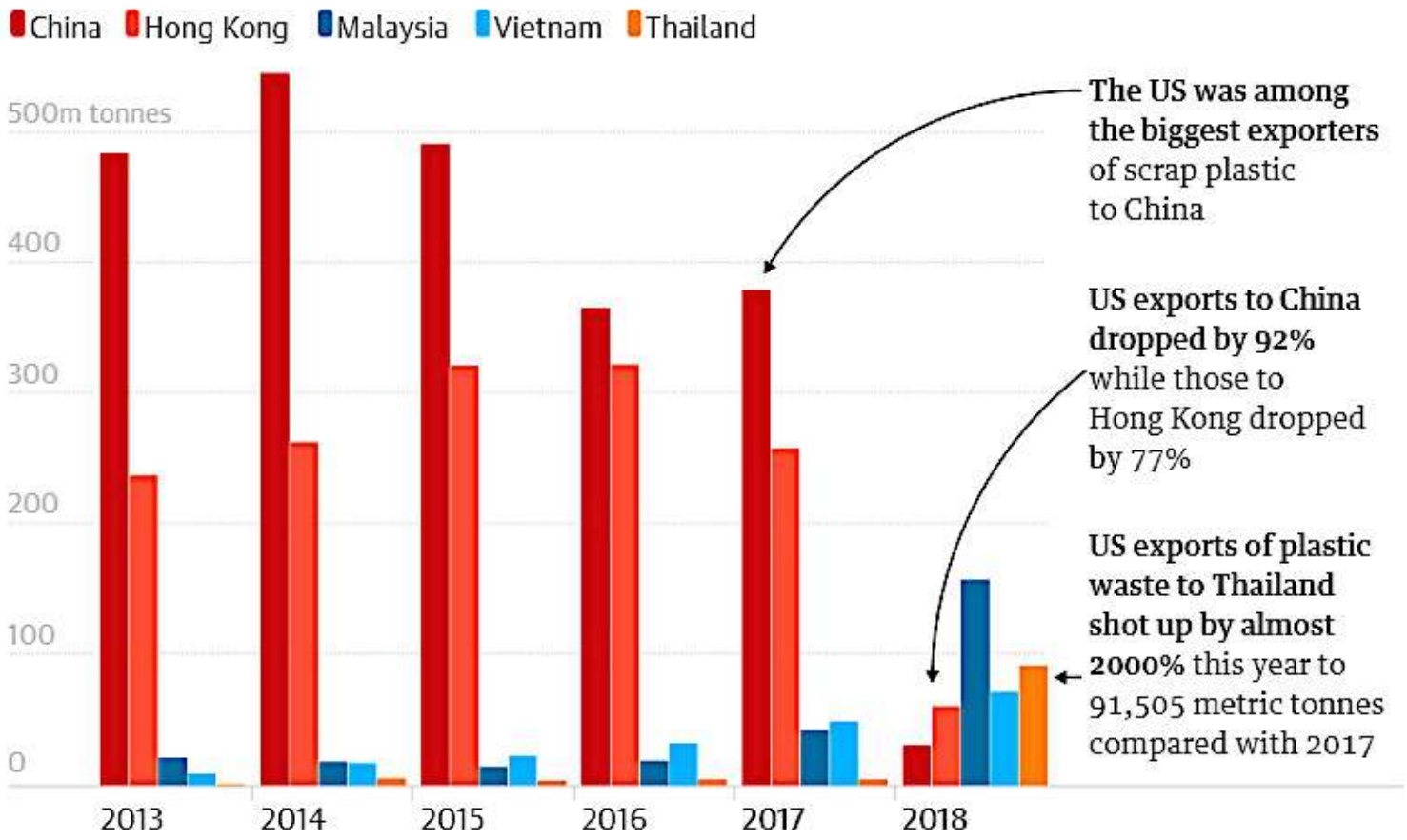
Nearly half of plastic waste exported from the US for recycling was shipped to Thailand, Malaysia and Vietnam in the first six months of 2018 after China banned foreign waste imports



Threads of Open Dumpsites

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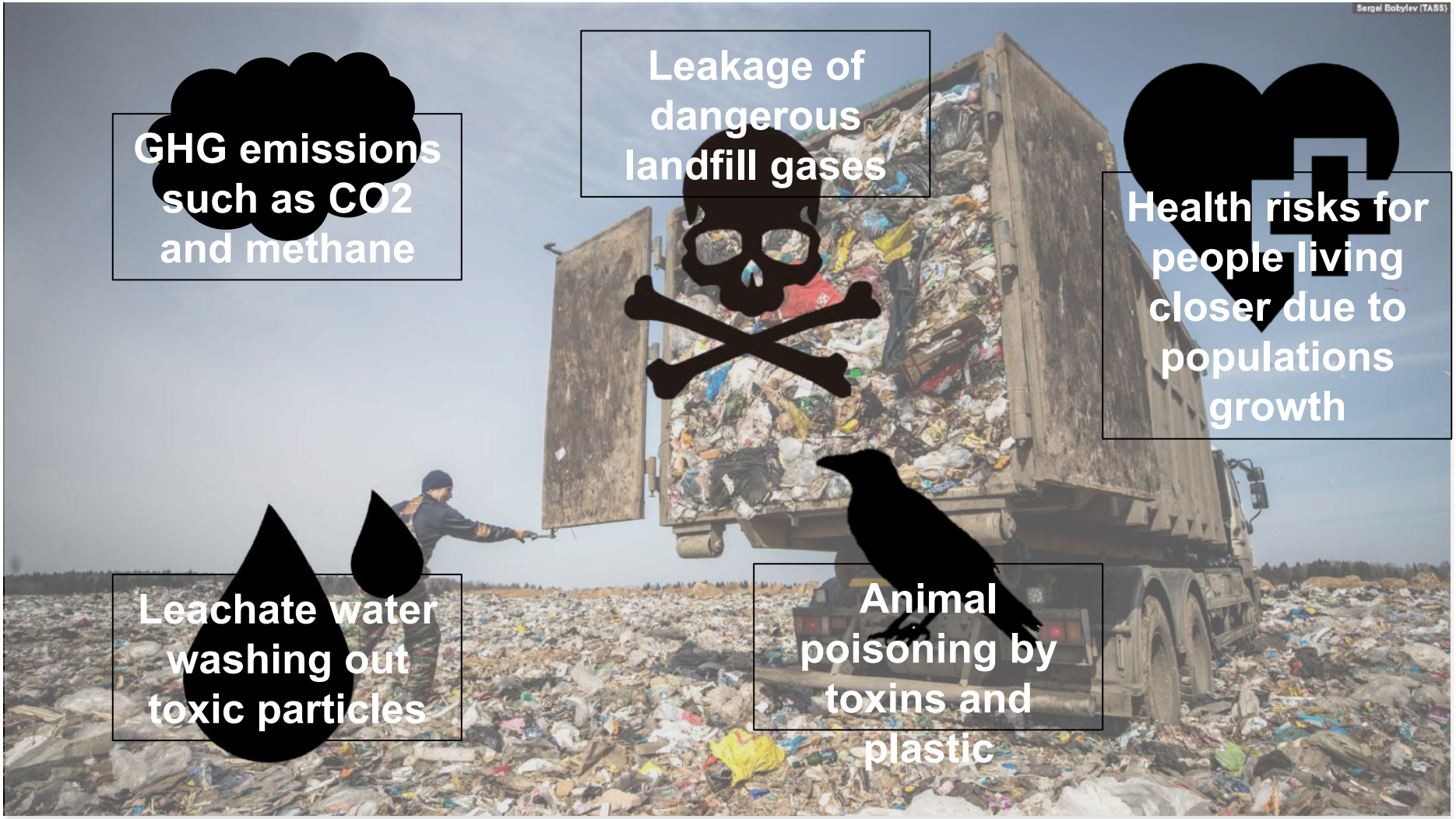

FOOD WASTE

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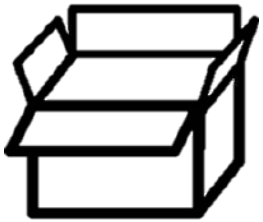
More than 30% of our food is going to waste

8%
during collection

8%
during transport and storage

1.5%
Processing and packaging



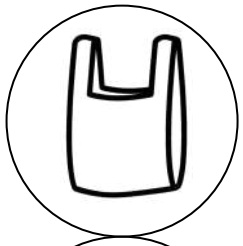
4%
transport to supermarket

11.5%
uneaten food

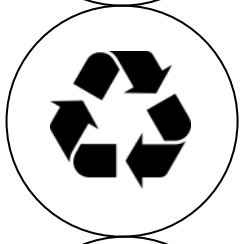
PLASTICS

Facts about Plastic Waste

Around **20.000 plastic bottles** are bought per second. Less than half of these are collected for recycling. 60 Mio. disposable water bottles are thrown away every day.



Plastic bags are used for an average of **12 minutes**.



Only **9%** of plastic is recycled.

79% of plastic is buried in landfill or dumped on land or at sea.

Consequences of Plastic Waste Mismanagement

ELECTRONIC WASTE

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- **50 million tonnes** of e-waste are produced each year most of it left untreated

Equivalent in weight to all aircraft we have ever build

Equivalent in weight to 4,500 Eiffel Towers

- By 2050 this amount is supposed to more than double to 120 million tonnes

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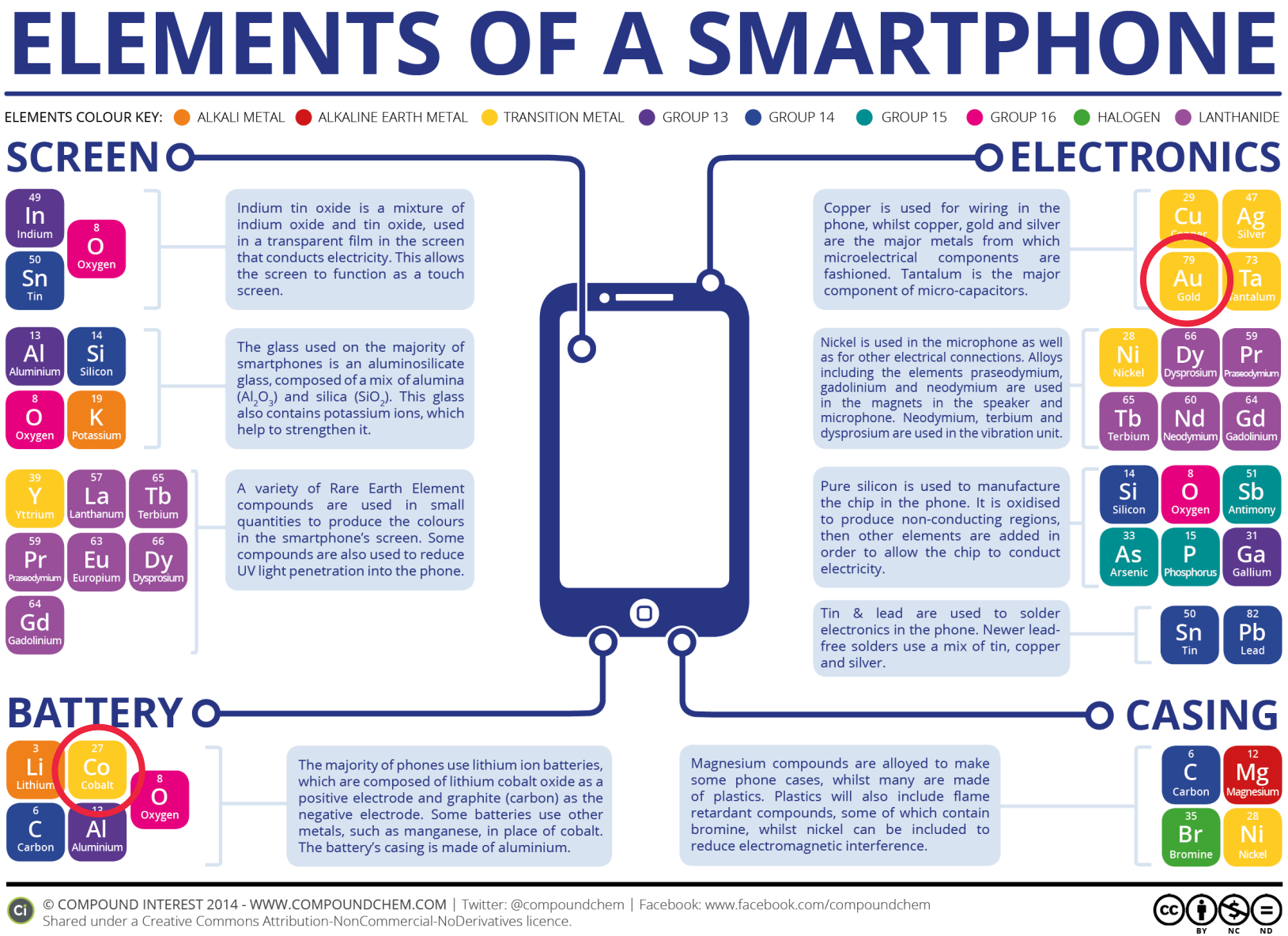
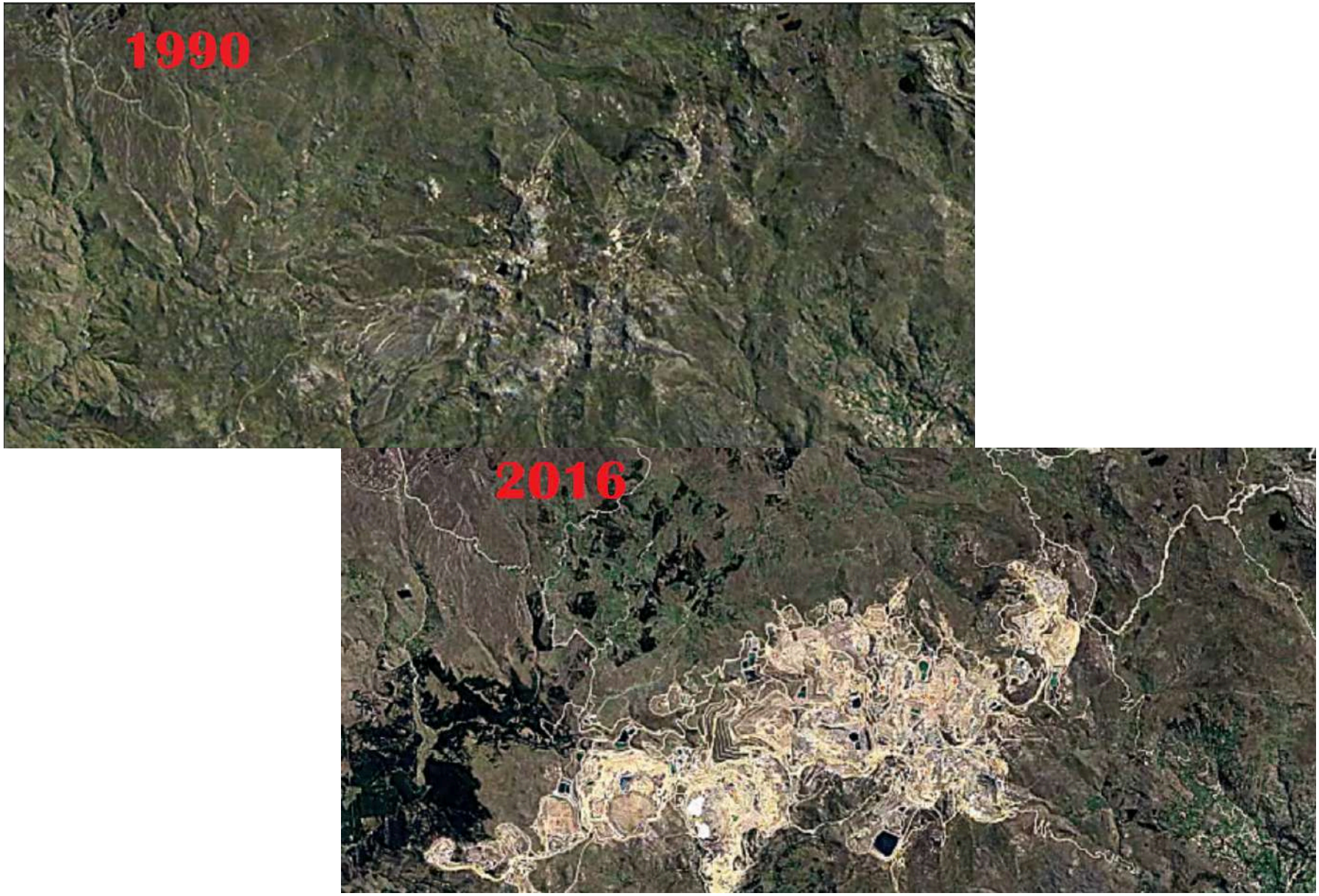


Mineral Mining – Yanacocha Gold Mine, Peru



POLL 2:
Do you know how much gold is found in 1 ton of rock to economically justify industrial mining?

End-of-Life Electronic Goods
Agbogbloshie E-waste Landfill, Ghana

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Prevention Measures and Best Practices to Reduce & Recycle the Amount of Waste

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Importance of Proper Waste Management

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- **Combine protection of the environment with the preservation of economic power and to guarantee a sustainable development this way**
- **Decouple economic growth from resource consumption**
- **Secure an adequate living quality for our society**
- **Utilize resources from waste to the extent possible to save primary resources**
- **Prevent new waste emergence and thus reducing the needs for waste treatment**

The 6 R´s

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1 **Refuse**	Refuse what you do not need and change the way you consume
2 **Rethink**	Rethink resource consumption and integrate all related aspects into our decision-making to minimize environmental impact.
3 **Reduce**	Minimise the quantity, toxicity and ecological footprint of consumption. Use products and alternatives that are not waste for the same purpose for which they where conceived.
4 **Reuse**	Go for reusable alternatives when you have the product choice or repurpose products for another use, that does not reduce their value.
5 **Repair**	Check, clean or repair products that would become waste so they can be reused.
6 **Recycle**	High quality material recovery from seperately collected waste streams

Overview of Different Solutions / Approaches / Policy Instruments

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- **Regulation:**
  substance restriction, source separation, producers take-back, collection / recycling targets, bans (e.g. plastic), treatment standards

- **Economic incentives:**
  landfill tax, waste disposal tax, subsidies for secondary products, deposit-refund-system

- **Green Public Procurement**

- **Informative instruments:**
  eco-labelling, green shopping guides, information campaigns, environmental education, awareness raising

- **Voluntary agreements**

REGULATIONS

Extended Producer Responsibility (EPR)

The Polluter Pays Principle implies that those who cause environmental damage should bear the costs of avoiding it or compensating for it.

Example:

- **Take back schemes:**
  Producers may be obliged to take back their products after use and take care for their recycling or safe disposal.

Examples: Take Back Schemes

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1

Take back schemes for clothes and shoes

2

Take back system for plastic bottles

3

Take back scheme for carpets, UK

1. Call Milliken Customer Service
+44 (0)1942 612777

2. Provide basic carpet information
(product, construction, quantity, location)

3. Remove and palletise used carpet

4. Carpet is collected for recovery and reprocessing

5. Disposal documentation and certification provided

Carpet is
Reused
Renewed
Recycled

Ban on Plastic Bags

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Already three African countries banned the use of plastic bags

- **Rwanda more than 10 years ago**
- **Kenya, 2017**
- **Tanzania, 2019**

ECONOMIC INCENTIVES

Resource tax:
Tax practices which contribute to higher resources consumption or environmentally damaging products through special schemes

→ Directly impacting the product design

GREEN PUBLIC PROCUREMENT

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Strengthening the aspect of waste prevention in purchase recommendations

Examples of Green Contracts:

- Energy efficient computers
- Office furniture from sustainable timber
- Recycled paper
- Cleaning services using ecologically sound products
- Catering firms that combat food waste

INFORMATIVE INSTRUMENTS

Need for Waste Separation

Environmental Education in Schools

Raise Your Voice and Join Movements

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THANK YOU FOR LISTENING.

TIME FOR QUESTIONS AND REMARKS.

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Waste per Capita Map:

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Global Waste Treatment and Disposal Chart:

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