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**Geography**  
**Higher level and standard level**  
**Paper 2 – resource booklet**

Monday 16 May 2022 (morning)

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**Instructions to candidates**

- Do not open this booklet until instructed to do so.
- This booklet accompanies paper 2.





**Key:**

**Population density (persons per km<sup>2</sup>)**

-  < 1
-  1-9.9
-  10-29.9
-  30-49.9
-  50-99.9
-  100-299.9
-  300+
-  City
-  Capital



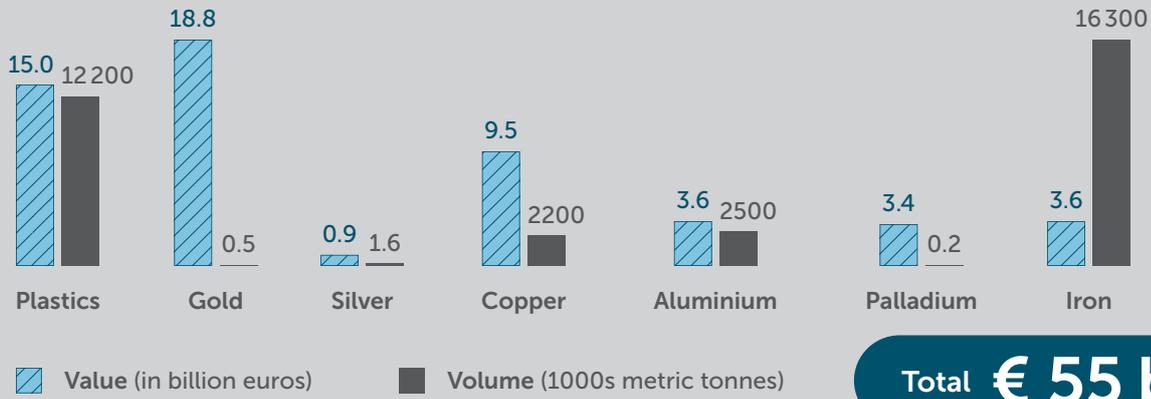
**Scale:**



4. The infographic shows aspects of global e-waste.

### RAW MATERIALS OBTAINED BY RECYCLING OF E-WASTE

Potential value and volume of raw materials in e-waste worldwide



### MAPPING OUT E-WASTE



### E-WASTE GENERATED BY COUNTRIES

E-waste generated (kg/person), 2016





E-WASTE IS ONLY  
**2% OF SOLID WASTE**  
 BUT BRINGS IN 70%  
 OF HAZARDOUS  
 WASTE IN LANDFILLS

**E-WASTE GENERATION AND COLLECTION PER CONTINENT**

| Indicator                                     | Africa | America | Asia | Europe | Oceania |
|---|--------|---------|------|--------|---------|
| Countries in region                           | 53     | 35      | 49   | 40     | 13      |
| Population in region (millions)               | 1174   | 977     | 4364 | 738    | 39      |
| E-waste generated per person (million tonnes) | 1.9    | 11.6    | 4.2  | 16.6   | 17.3    |
| Collection Rate (in region)                   | 0%     | 17%     | 15%  | 35%    | 6%      |

**AVERAGE GROWTH RATE OF ELECTRIC AND ELECTRONIC EQUIPMENT (EEE) CONSUMPTION BY INCOME GROUP**

| Gross national income (GNI) per person |               | Average growth rate per year |
|--|---------------|------------------------------|
| Highest                                | > 34 000      | 1.6%                         |
| High                                   | 34 000-15 280 | 5.2%                         |
| Mid                                    | 15 280-6 740  | 13%                          |
| Low                                    | 6 740-1 700   | 23%                          |
| Lowest                                 | < 1 700       | 15%                          |

#### References:

1. Geo-Ref.net, 2020. Country map – Administrative structure – Population density of Venezuela. [online] Available at: <http://www.geo-ref.net/en/ven.htm> [Accessed 12 May 2020]. Source adapted.
4. Baldé, C.P., Forti V., Gray, V., Kuehr, R., Stegmann, P. : *The Global E-waste Monitor – 2017*, United Nations University (UNU), International Telecommunication Union (ITU) & International Solid Waste Association (ISWA), Bonn/Geneva/Vienna.

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