



**VICTORIA JUNIOR COLLEGE**

**JC2 PRELIMINARY EXAMINATION 2025**

**H2 GEOGRAPHY**

Paper 1

**9173/01**

**INSERT**

**3 hours**

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**READ THESE INSTRUCTIONS**

The Insert contains all the Resources referred to in the questions.

### Resource 1 for Question 1

#### Global distribution of rare earth reserves and rare earth metals (REM) extracted in 2020

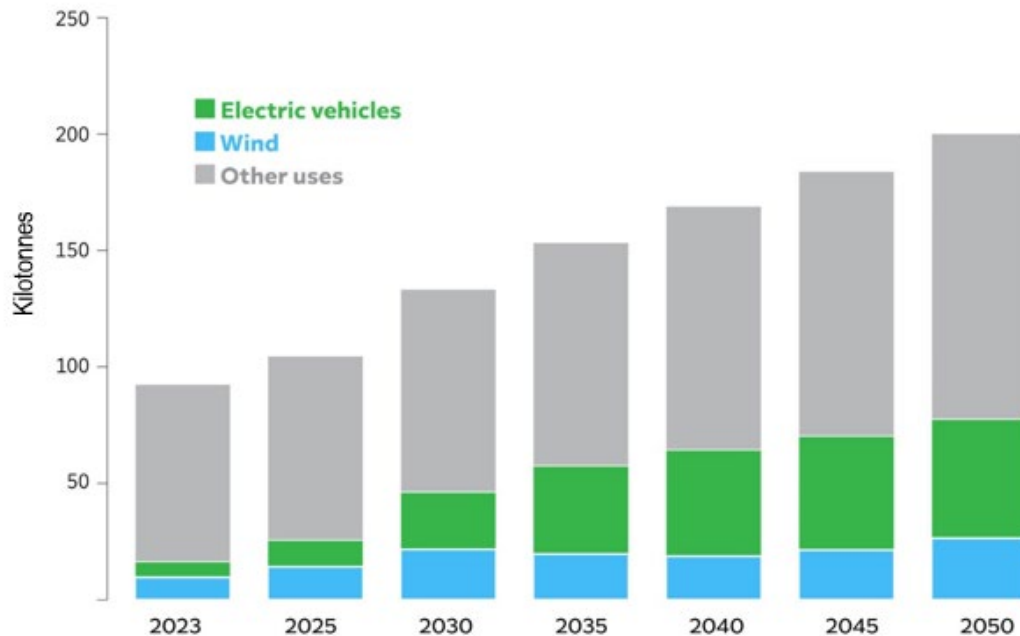
| Country         | REM extracted (tonnes) | Reserves (tonnes) | % of total reserves |
|-----------------|------------------------|-------------------|---------------------|
| China           | 140,000                | 44,000,000        | 38.0%               |
| Vietnam         | 1,000                  | 22,000,000        | 19.0%               |
| Brazil          | 1,000                  | 21,000,000        | 18.1%               |
| Russia          | 2,700                  | 12,000,000        | 10.4%               |
| India           | 3,000                  | 6,900,000         | 6.0%                |
| Australia       | 17,000                 | 4,100,000         | 3.5%                |
| United States   | 38,000                 | 1,500,000         | 1.3%                |
| Greenland       | -                      | 1,500,000         | 1.3%                |
| Tanzania        | -                      | 890,000           | 0.8%                |
| Canada          | -                      | 830,000           | 0.7%                |
| South Africa    | -                      | 790,000           | 0.7%                |
| Other countries | 100                    | 310,000           | 0.3%                |
| Burma           | 30,000                 | N/A               | N/A                 |
| Madagascar      | 8,000                  | N/A               | N/A                 |
| Thailand        | 2,000                  | N/A               | N/A                 |
| Burundi         | 500                    | N/A               | N/A                 |
| World Total     | 243,300                | 115,820,000       | 100%                |

REM: Rare earth metals

N/A: Data that is unavailable or undocumented

### Resource 2 for Question 1

#### Trends in global demand for rare earth metals



Rare earth metals are used in the production of electric vehicles (EVs) and wind turbines.

### Resource 3 for Question 1

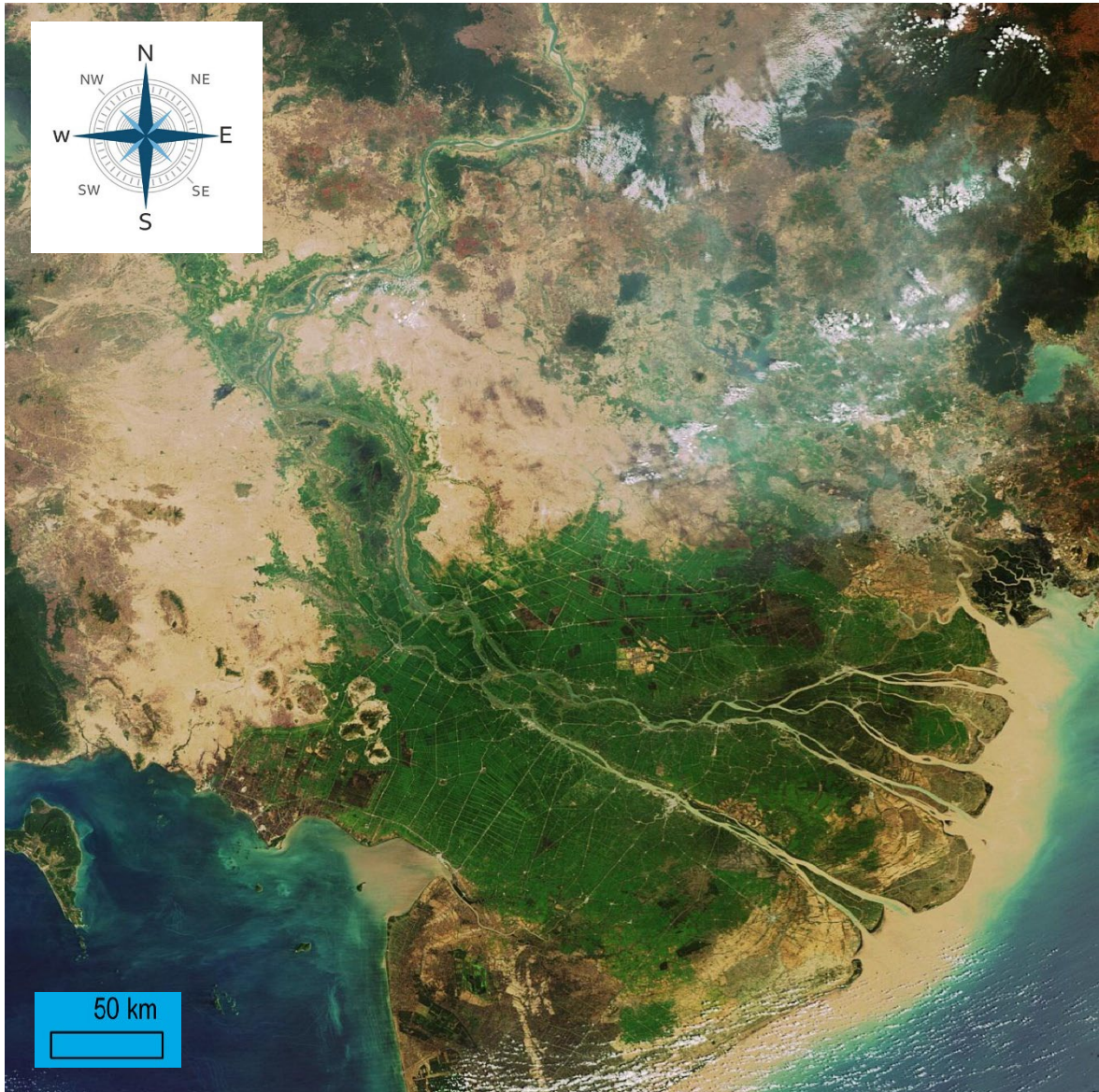
#### News article highlighting the global rare earth metals shortage

##### **Controlled shortage of rare earth elements send chaos into global car industry**

Global concern over China's control of critical mineral exports has intensified as carmakers and governments warn of supply disruptions. Beijing's April 4 curbs on seven rare earth elements (REEs) and related magnets - vital for vehicles, defense, and clean energy - require special export licenses, citing national security and non-proliferation. China produces 60% of the world's REEs and controls 90% of refining capacity (IEA, USGS 2025).

The restrictions are prompting urgent diplomatic and industry interventions. Japan, India, and European officials are seeking meetings to expedite licenses, while the U.S. - which sources over 61% of its rare earths from China - faces potential shortages. Carmakers including Tesla, GM, Toyota, and Volkswagen warn of production risks for components from sensors to power steering. The U.S. mine at Mountain Pass remains reliant on Chinese processing, and the new Texas facility will produce just 1,000 tonnes annually by 2027 versus China's 300,000 tonnes.

The issue has reached the highest diplomatic levels, with a planned call between Presidents Trump and Xi, amid U.S. accusations that China is violating the Geneva trade agreement by delaying export relief.

**Resource 4 for Question 2****Satellite image of the Mekong Delta, Vietnam**

## Resource 5 for Question 2

## Location of the Mekong Delta, Vietnam





## Resource 6 for Question 2

## Distribution of mangrove forests on the Mekong Delta



The dotted line shows the coastline of the Mekong Delta 4500 years before present day.

## Resource 7 for Question 2

### Can Gio mangrove forest



The Can Gio mangrove forest contains a high diversity of animal species including the king cobra, saltwater crocodile and spot-billed pelican. It functions as the 'green lungs' of the neighboring Ho Chi Minh City by absorbing carbon dioxide. The forest also limits damage caused by storms and floods, reducing up to 50% of the impact from waves and sea level rise.

#### Sources

|                   |                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Resource 1</b> | <a href="https://www.visualcapitalist.com/rare-earth-elements-where-in-the-world-are-they/">https://www.visualcapitalist.com/rare-earth-elements-where-in-the-world-are-they/</a>                                                                                                                                                                                                        |
| <b>Resource 2</b> | <a href="https://www.americasquarterly.org/article/rare-earth-elements-are-trending-will-they-drive-latin-americas-next-mining-boom/">https://www.americasquarterly.org/article/rare-earth-elements-are-trending-will-they-drive-latin-americas-next-mining-boom/</a>                                                                                                                    |
| <b>Resource 3</b> | Adapted from <a href="https://economictimes.indiatimes.com/industry/auto/china-rare-earth-minerals-export-xi-jinping-global-supply-chain-electric-vehicles-impact/articleshow/121614452.cms?from=mdr">https://economictimes.indiatimes.com/industry/auto/china-rare-earth-minerals-export-xi-jinping-global-supply-chain-electric-vehicles-impact/articleshow/121614452.cms?from=mdr</a> |
| <b>Resource 4</b> | <a href="https://www.esa.int/Applications/Observing_the_Earth/Earth_from_Space/Vietnam's_nine-tailed_dragon">https://www.esa.int/Applications/Observing_the_Earth/Earth_from_Space/Vietnam's_nine-tailed_dragon</a>                                                                                                                                                                      |
| <b>Resource 5</b> | <a href="https://cdn.britannica.com/90/183790-050-7FC21C89/World-Data-Locator-Map-Vietnam.jpg">https://cdn.britannica.com/90/183790-050-7FC21C89/World-Data-Locator-Map-Vietnam.jpg</a>                                                                                                                                                                                                  |
| <b>Resource 6</b> | <a href="https://www.researchgate.net/figure/The-Mekong-River-Delta-showing-schematically-the-present-distribution-of-mangroves-and_fig1_300333171">https://www.researchgate.net/figure/The-Mekong-River-Delta-showing-schematically-the-present-distribution-of-mangroves-and_fig1_300333171</a>                                                                                        |
| <b>Resource 7</b> | <a href="https://i.pinimg.com/736x/9a/be/d7/9abed7056272085f7c3ad25308dbd58b.jpg">https://i.pinimg.com/736x/9a/be/d7/9abed7056272085f7c3ad25308dbd58b.jpg</a><br><a href="https://www.unesco.org/en/mab/can-gio-mangrove">https://www.unesco.org/en/mab/can-gio-mangrove</a>                                                                                                             |