

90814R



Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Level 2 Education for Sustainability 2024

### 90814 Demonstrate understanding of aspects of sustainability in different contexts

Credits: Four

#### RESOURCE BOOKLET

Refer to this booklet to answer the questions for Education for Sustainability 90814.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

**YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.**

**CONTEXT 1: Cobalt mining**

Cobalt is a crucial part of rechargeable batteries that can be found in most electronic devices,



**Figure 1:** Cobalt ore





**Figure 2:** An artisanal miner carries a sack of ore at the Shabara artisanal mine near Kolwezi, DRC



demand for mined metals such as cobalt.

## CONTEXT 2: Outdoor air pollution

Outdoor air pollution remains one of the most significant environmental and social problems



**Figure 3:** Comparison between 2005 and 2021 WHO air quality guidelines and recommendations of limit values for specific air pollutants, developed to help countries achieve air quality that protects public health

### Particulate matter





### **New Zealand**



hectares of bush, destroyed houses and property, and resulted in the loss of one life.



**Figure 4:** Port Hills wildfire, 2017

### CONTEXT 3: The tipping points of climate change – deforestation

The Intergovernmental Panel on Climate Change (IPCC) defines tipping points as “critical



**Figure 5:** Tipping points and relative connectivity

#### The Amazon Rainforest



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Rainforest is referred to by some as 'the lungs of the planet'.

## Acknowledgements

Material from the following sources has been adapted for use in this booklet:

### Context 1

<https://www.leighday.co.uk/news/blog/2023-blogs/cobalt-mining-in-the-democratic-republic-of-congo-where-next/>

<https://earth.org/cobalt-mining-in-congo/>

<https://earth.org/cobalt-mining/>

<https://www.pbs.org/newshour/science/mining-is-necessary-for-the-green-transition-heres-why-experts-say-we-need-to-do-it-better>

<https://www.sciencedaily.com/releases/2021/12/211217113232.htm>

<https://news.mongabay.com/2023/10/its-a-real-mess-mining-and-deforestation-threaten-unparalleled-drc-wildlife-haven/>

<https://earth.org/norway-deep-sea-mining-exploration-environmental-cost>

### Images

Figure 1: <https://www.npr.org/sections/goatsandsoda/2023/02/01/1152893248/red-cobalt-congo-drc-mining-siddharth-kara>

Figure 2: <https://www.npr.org/sections/goatsandsoda/2023/02/01/1152893248/red-cobalt-congo-drc-mining-siddharth-kara>

### Context 2

<https://www.lawa.org.nz/explore-data/air-quality/#/tb-region>

<https://www.iqair.com/th-en/newsroom/2021-who-air-quality-guidelines>

<https://www.yalemedicine.org/news/how-bad-is-wildfire-smoke-for-your-health>

<https://www.tewhatauora.govt.nz/assets/Publications/Environmental-health/Response-to-Wildfires-Guidelines-for-Public-Health-Officers.pdf>

<https://www.theguardian.com/us-news/2023/oct/02/new-york-city-air-quality-smoke-canada-wildfires>

<https://ourworldindata.org/london-air-pollution>

<https://www.fireandemergency.nz/incidents-and-news/news-and-media/joint-new-zealand-fire-service-and-national-rural-fire-authority-national-co-ordination-centre-for-port-hills-fire-response/>

<https://www.isglobal.org/documents/10179/8750489/directrices+calidad+aire+OMS+eng.jpg/30c8f4c9-b50d-4079-83fb-2a85abc73bbd?t=1632320861565>

<https://environment.govt.nz/news/new-report-shows-significant-changes-to-new-zealands-climate>

### Context 3

<https://earth.org/tipping-points-of-climate-change/>

[https://www.esa.int/Applications/Observing\\_the\\_Earth/Space\\_for\\_our\\_climate/Understanding\\_climate\\_tipping\\_points](https://www.esa.int/Applications/Observing_the_Earth/Space_for_our_climate/Understanding_climate_tipping_points)

<https://www.worldwildlife.org/photos/devastated-amazon-forest>

<https://education.nationalgeographic.org/resource/resource-library-biomes/>

<https://research.noaa.gov/2021/07/14/deforestation-warming-flip-part-of-amazon-forest-from-carbon-sink-to-source>

<https://ourworldindata.org/drivers-of-deforestation>

<https://weforum.org/agenda/2024/07/positive-tipping-points-climate-tim-lenton>