

# A digital strategy for decarbonisation

How to meet a zero carbon economy as cheaply as possible  
for the mining sector.

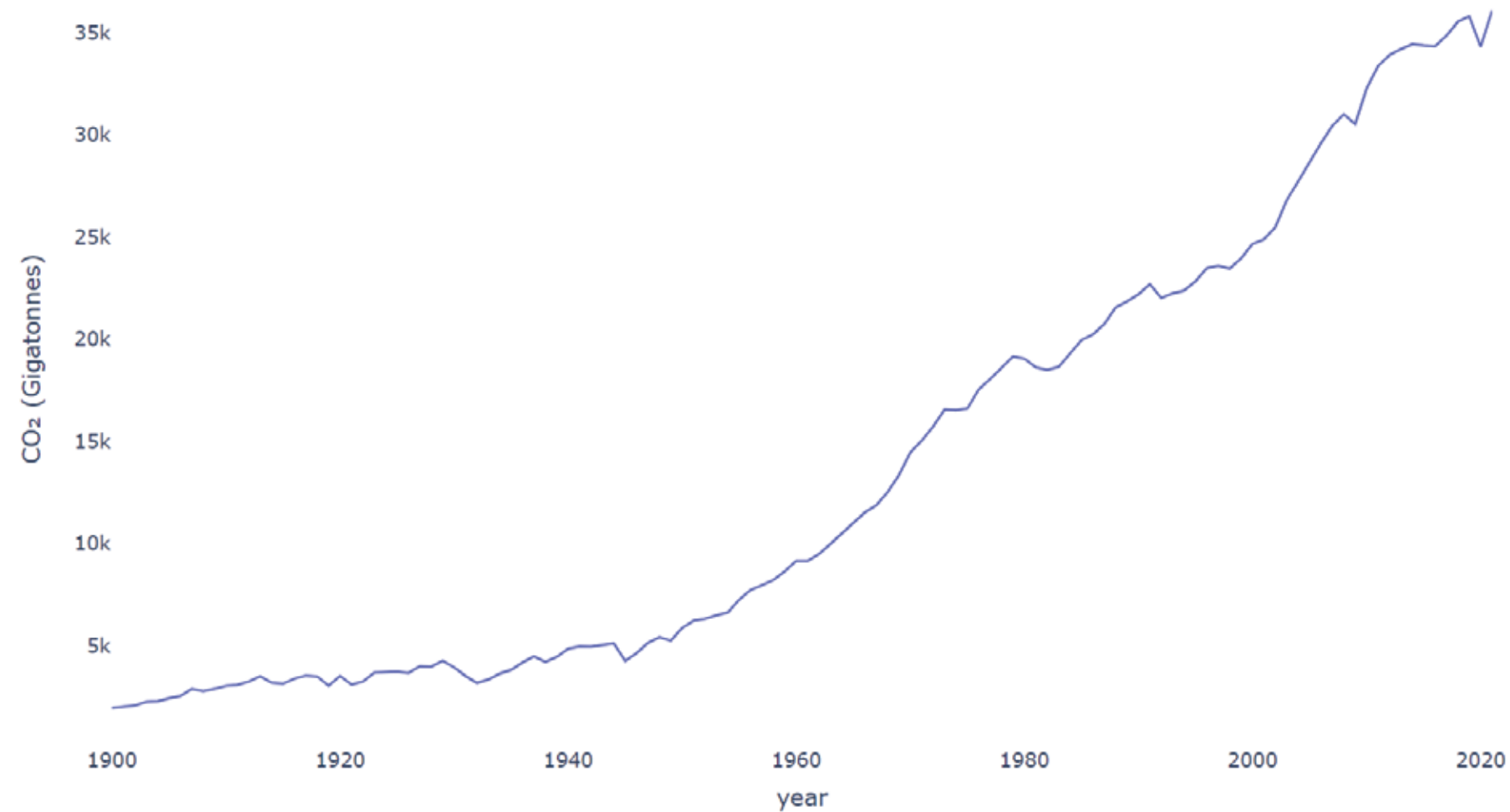
Presented by  
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jordan@datakey.ai  
04666 85 319

# Global CO<sub>2</sub> emissions by year

(From 1900 to 2020)

Emissions have risen steadily over the last 120 years, but have increased dramatically over the last 50 years.



Source

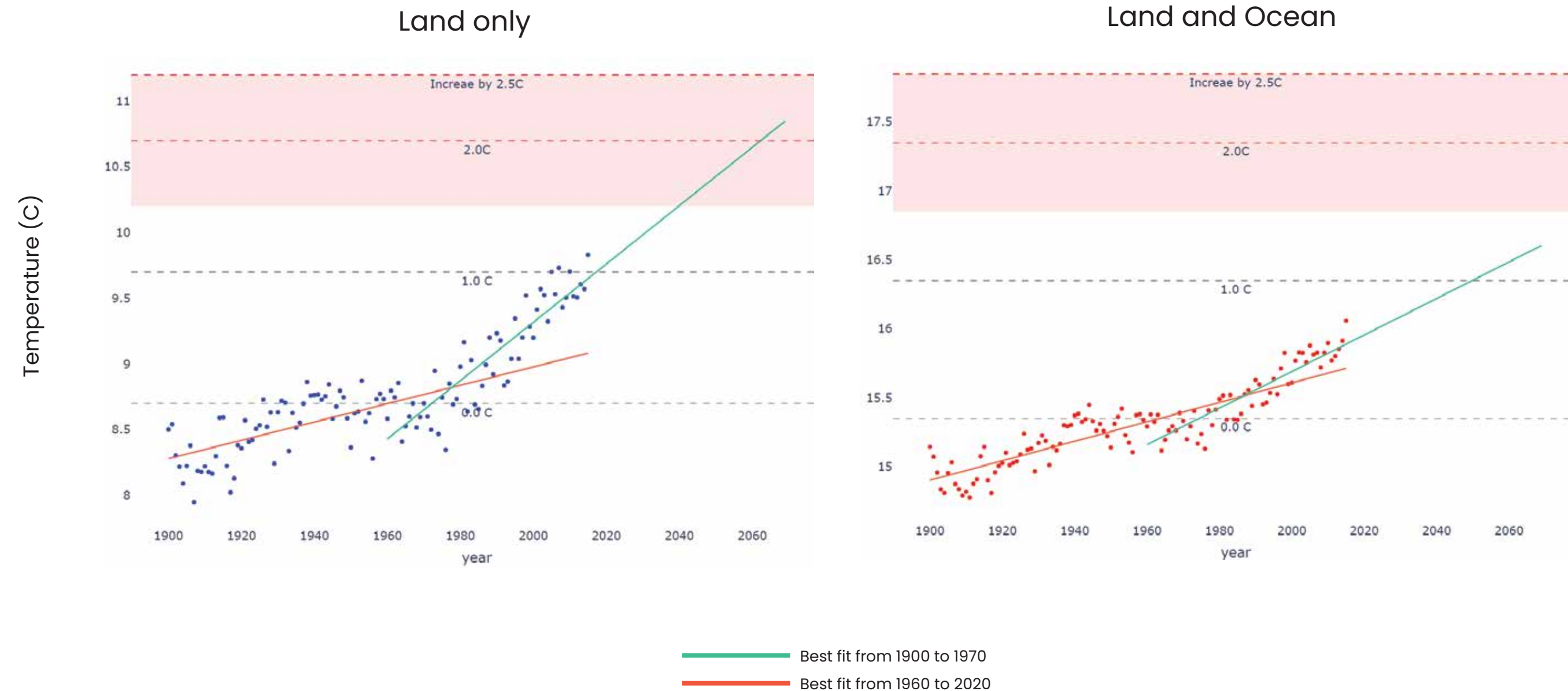
**Our World in Data.**

<https://ourworldindata.org/co2-dataset-sources>

# Temperature forecasts

(From 1900 to 2070)

Temperature measurements on both land and ocean have increased over the last 120 years, which correlates with carbon emissions. Below we see yearly averages, and best-fit trendlines for both the beginning and the close of this time period. This chart gives a good indication of our current trajectory in global warming.



Source

Earth Surface Temperature Data (Berkeley Earth)

<https://berkeleyearth.org/data/>

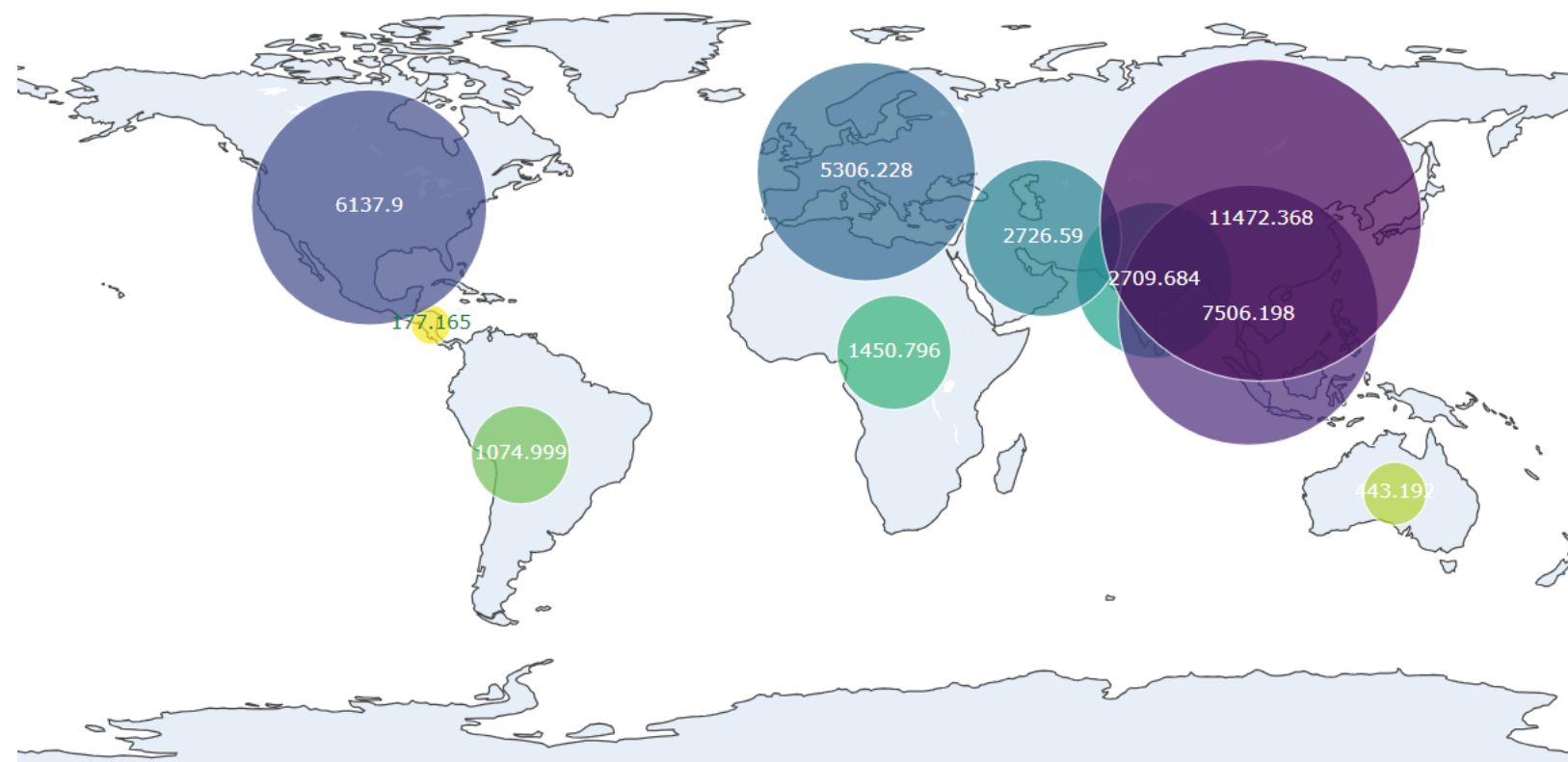
# **2022**

Here's what we know.

# CO<sub>2</sub> emissions 2022

(By region)

This visualisation shows our current CO<sub>2</sub> emissions by region (continent), with China and India as separate markers given that they both make up such a large percentage of the population.



Source

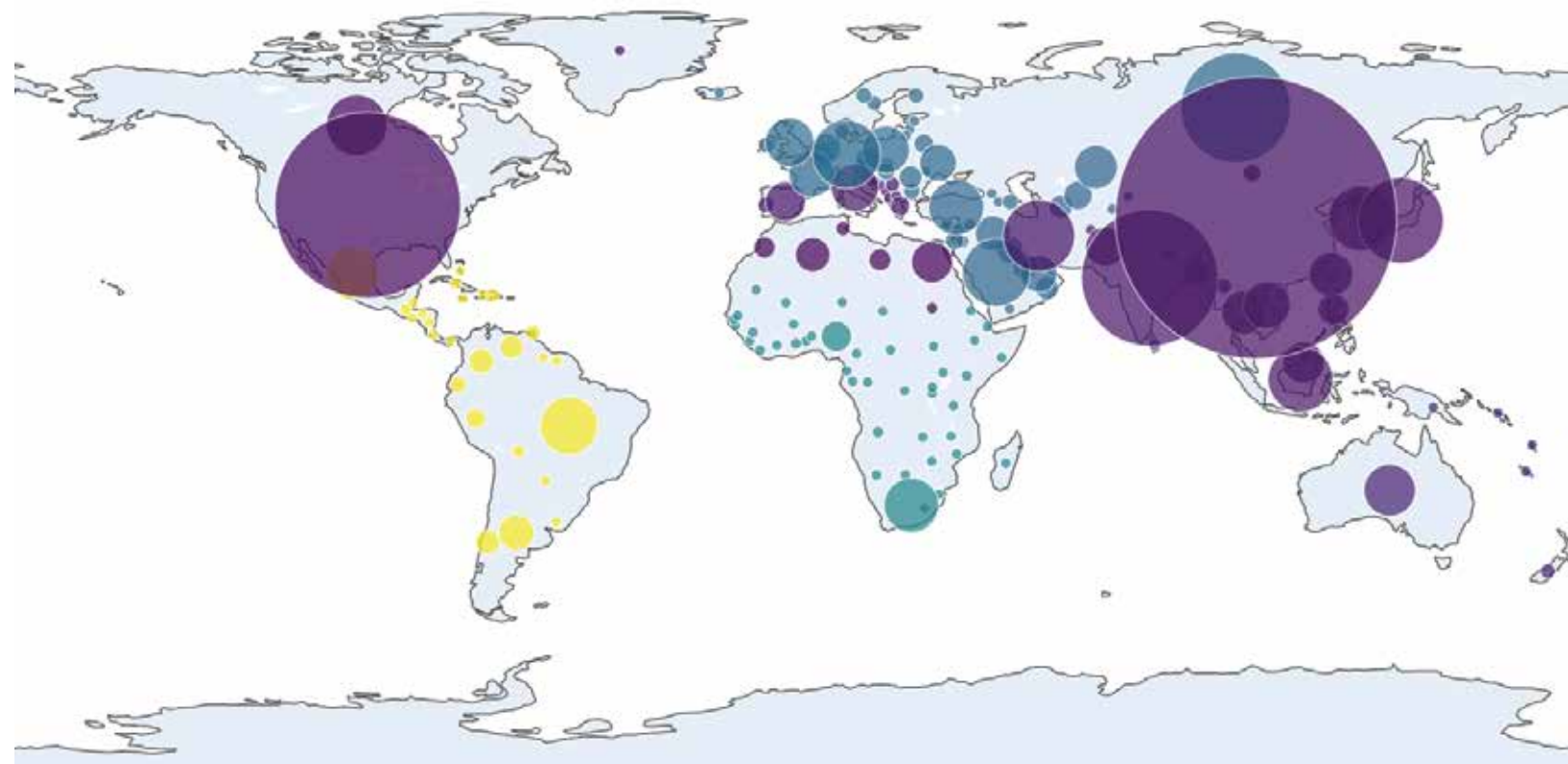
**Our World in Data.**

<https://ourworldindata.org/co2-dataset-sources>

# CO<sub>2</sub> emissions 2022

(By country)

This visualisation breaks our 2022 emissions by country, colour-coded to represent regions.



Source

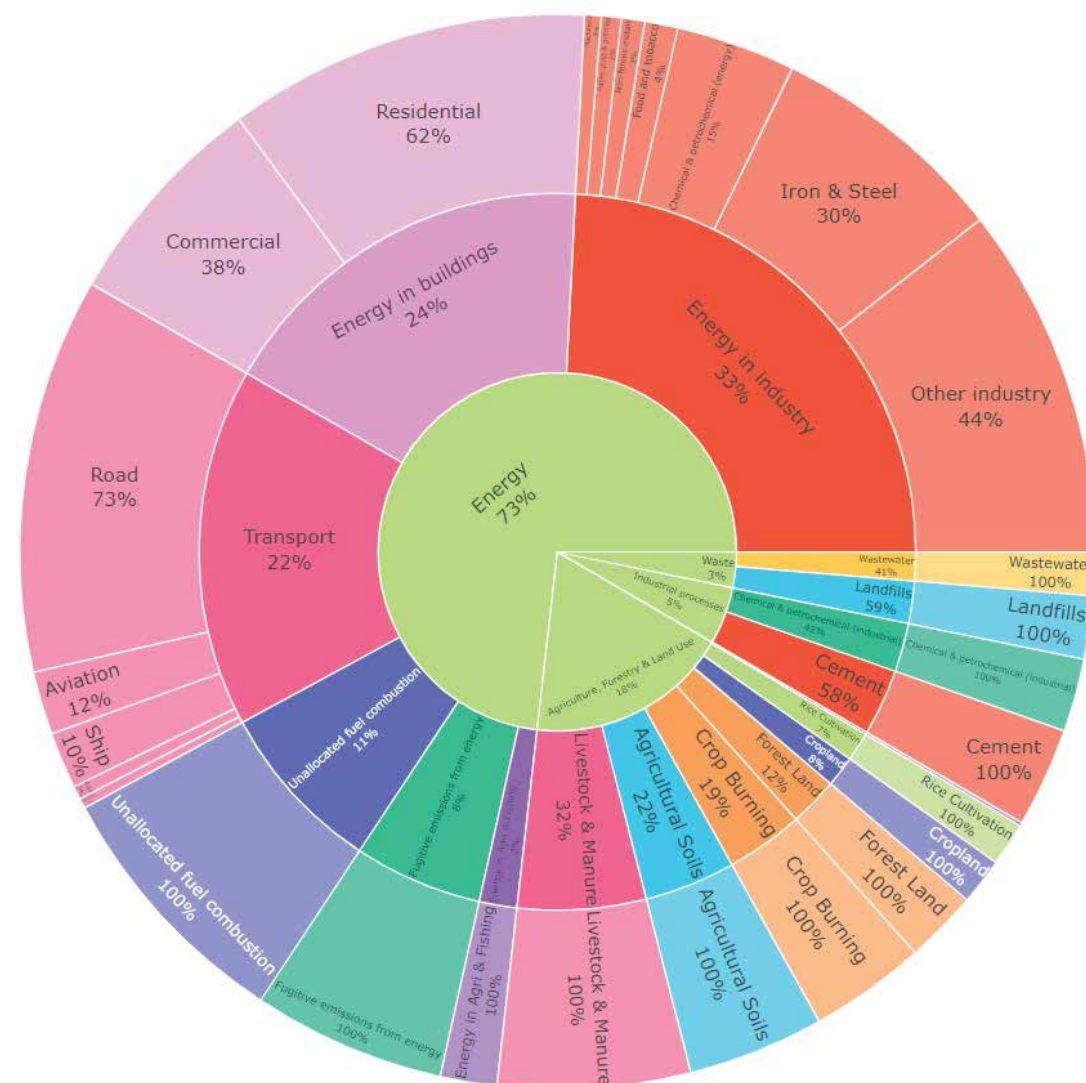
**Our World in Data.**

<https://ourworldindata.org/co2-dataset-sources>

# CO<sub>2</sub> emissions 2022

(By sector)

We can determine from this chart that 2022 emissions came from a wide variety of sectors and industries across the economy.



Source

Our World in Data.

<https://ourworldindata.org/emissions-by-sector>

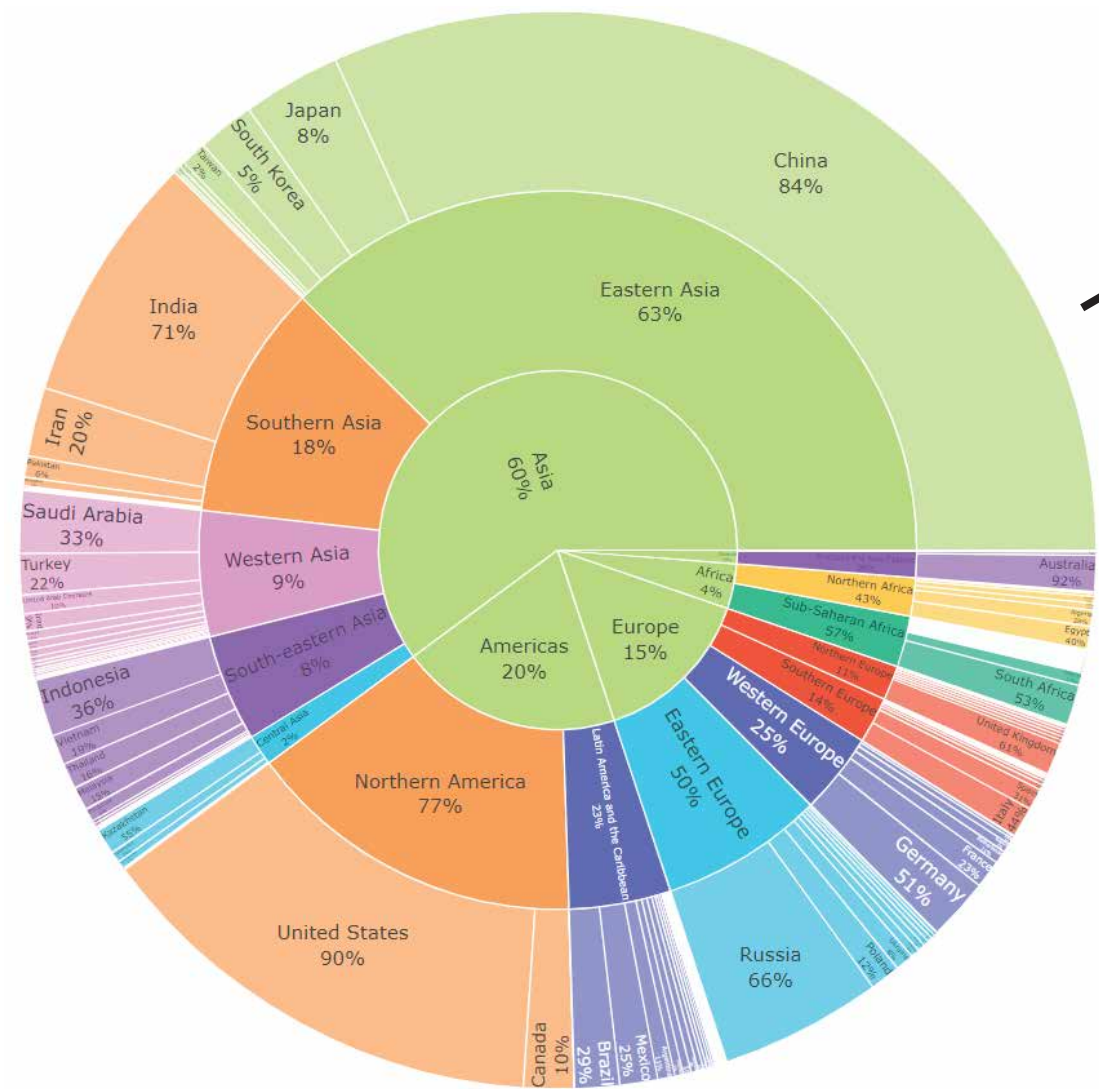
**Its...complicated.**



# CO<sub>2</sub> emissions 2022

(The world)

In 2022, we emitted a little over 27 billion tonnes of CO<sub>2</sub>e into the atmosphere. This visualisation presents the percentage of total emissions by country.



**37 Billion tonnes**  
across all sectors  
and the world

# C0<sub>2</sub> emissions 2022

(Mining & mining-adjascent)

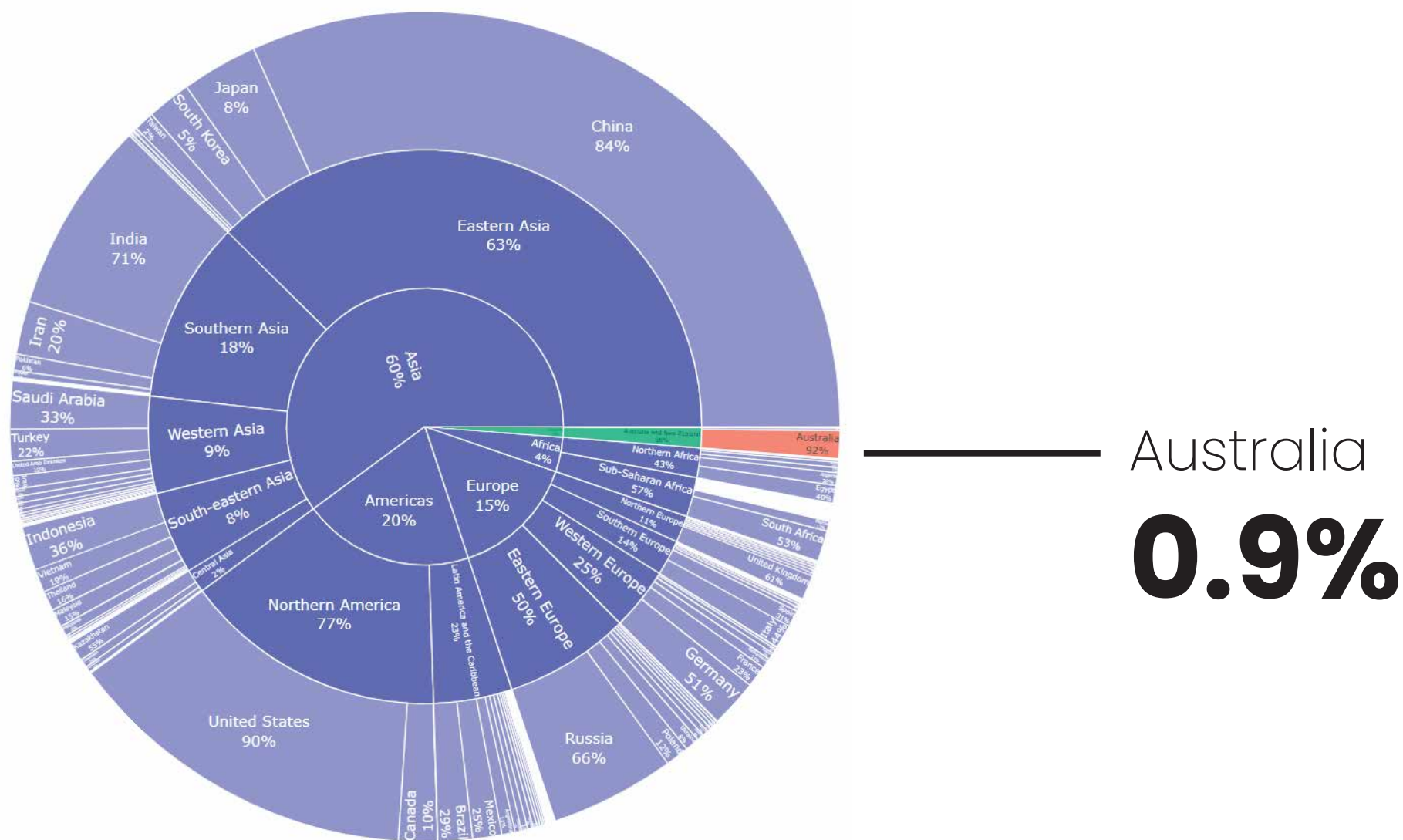
Mining accounted for a little over 9% of global emissions in 2022. Mining-adjascent industries accounted for approximately 20% in 2022.



# C0<sub>2</sub> emissions 2022

(The world – Australia focus)

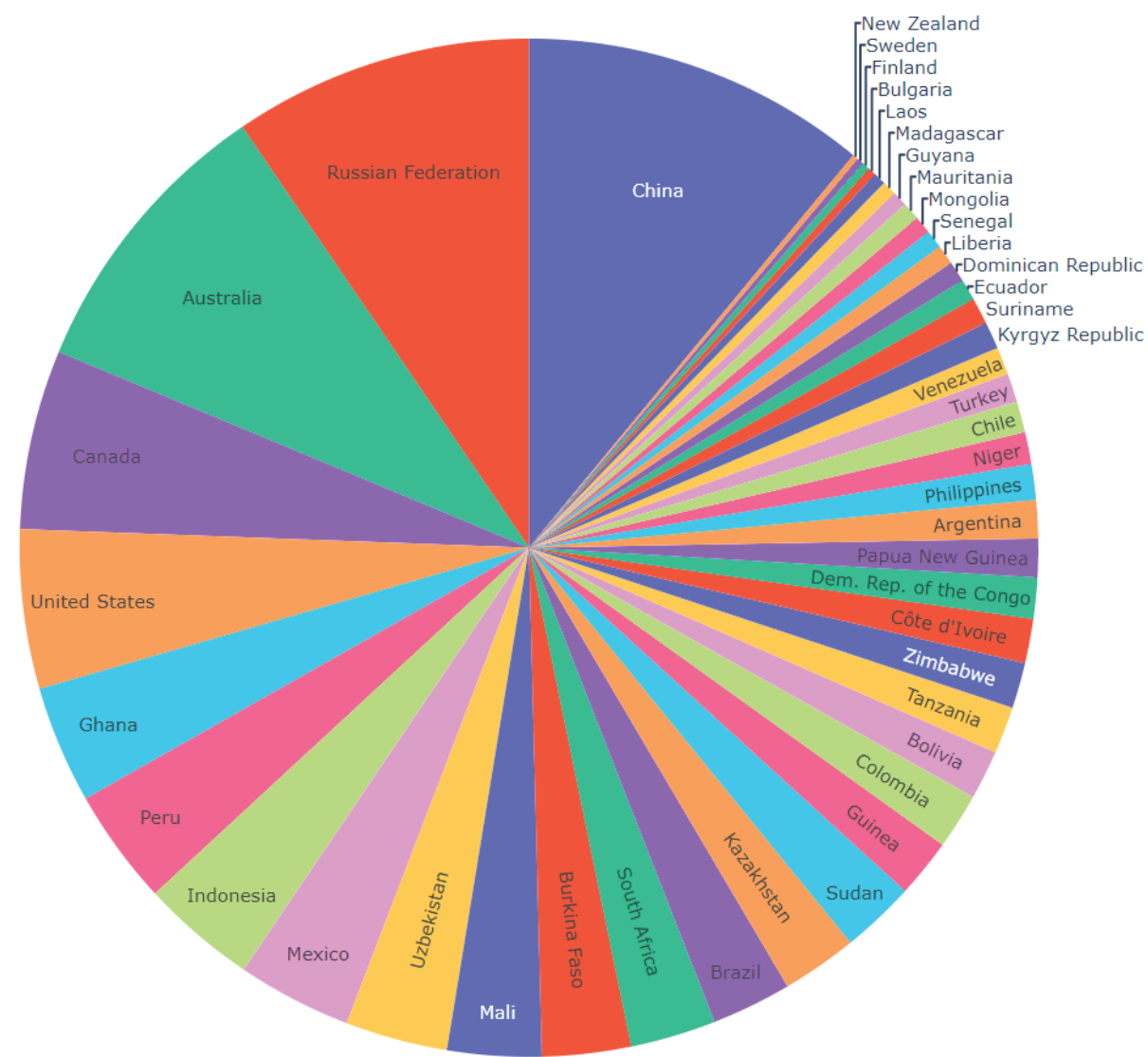
Australia was responsible for less than 1% of global emissions in 2022.



# C0<sub>2</sub> emissions 2022

(World mining)

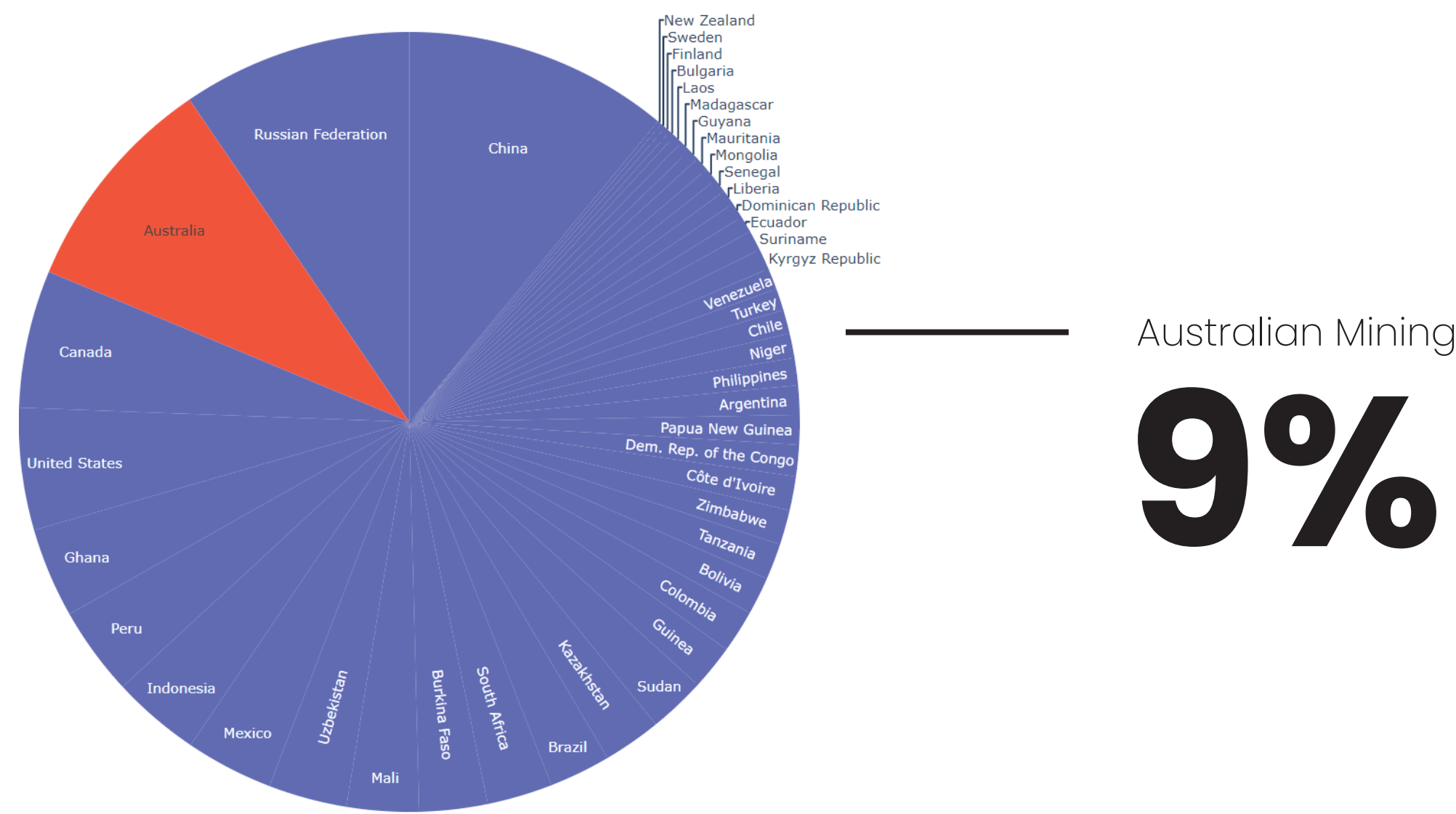
But, as a primary mining country, Australia makes up 9% of mining activities world-wide and 9% of all mining emissions.



# C0<sub>2</sub> emissions 2022

(World mining - Australia focus)

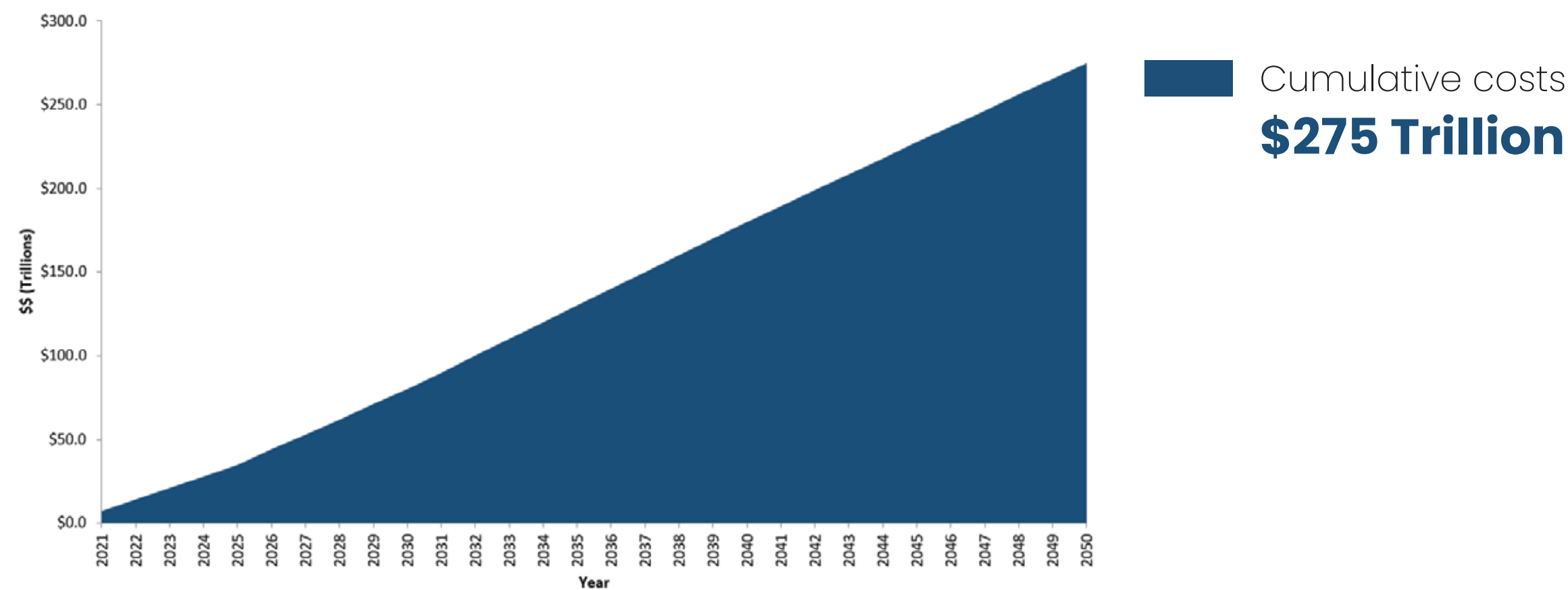
But, as a primary mining country, Australia makes up 9% of mining activities world-wide and 9% of all mining emissions.



# Decarbonisation costs

(World projections)

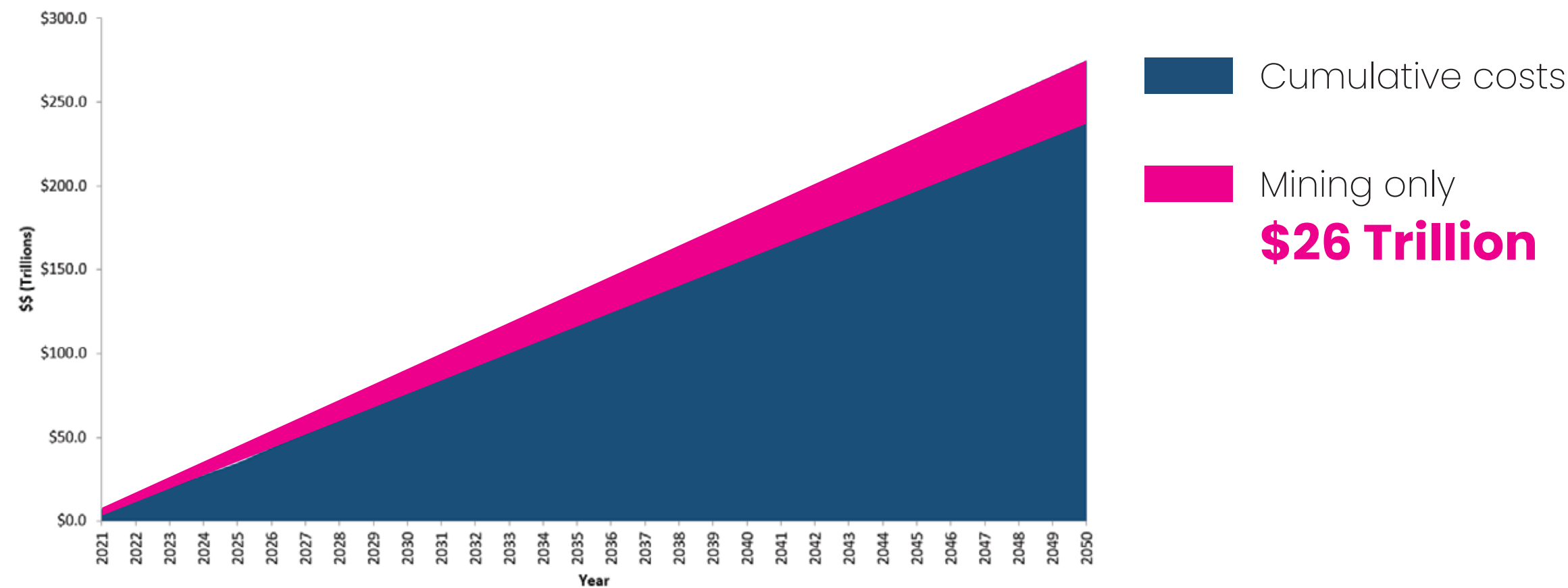
It has been estimated that we will need to invest upwards of \$275 trillion from now until 2050 if we are to reach our 2050 net zero goals.



# Decarbonisation costs

(World projections – Mining focus)

The mining sector will make up 9-10% of this total (\$26 trillion).

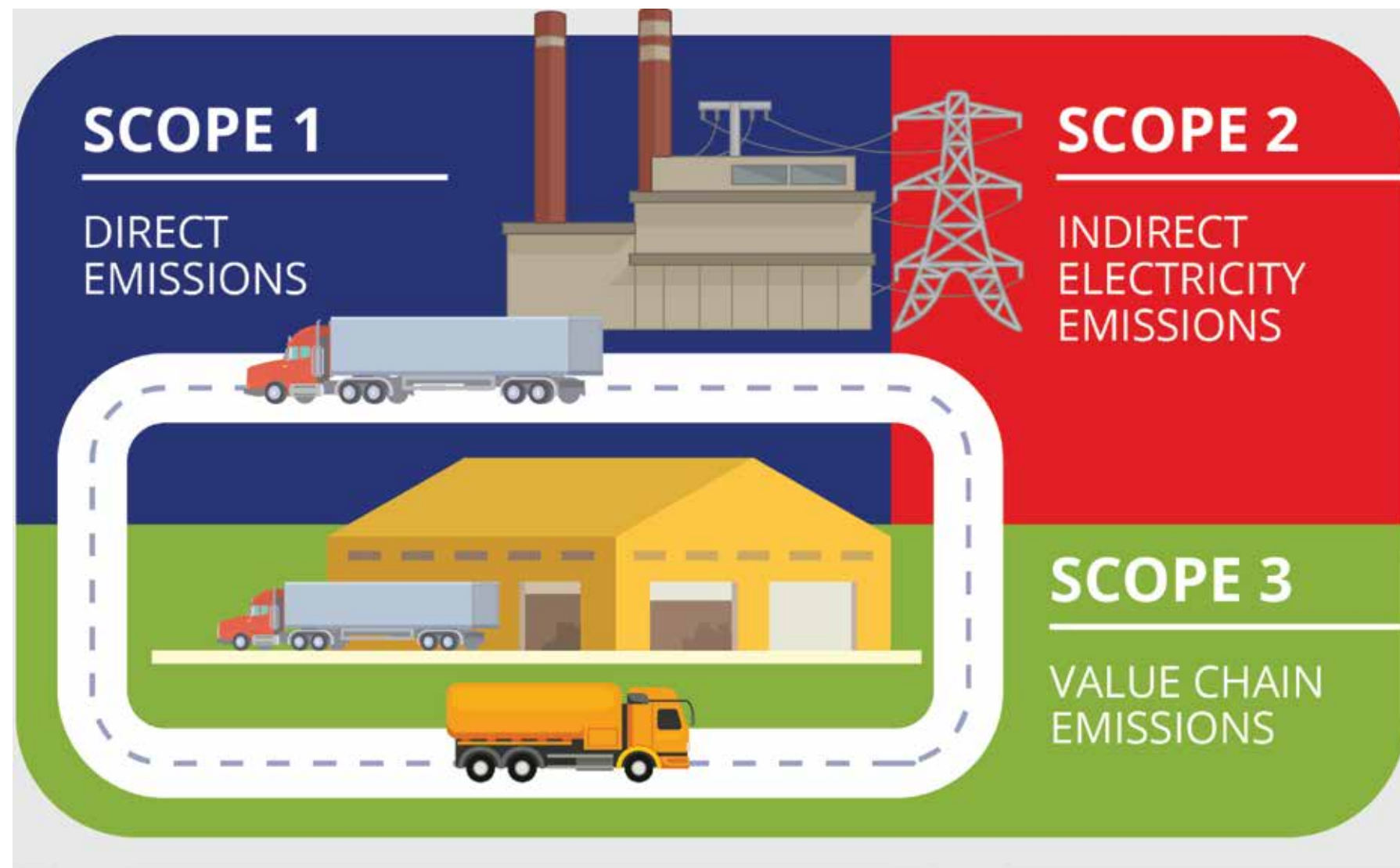




# 3 scopes of decarbonisation

(EIA roadmap)

The International Energy Agency, as a peak body for the state of the global energy, has defined three scopes to guide us on our path to net zero. These scopes loosely align with direct emissions (fuel consumption, etc), indirect emissions (through energy consumption), and emissions that arise through value chains and supply chains. Each scope is more complex than the previous.



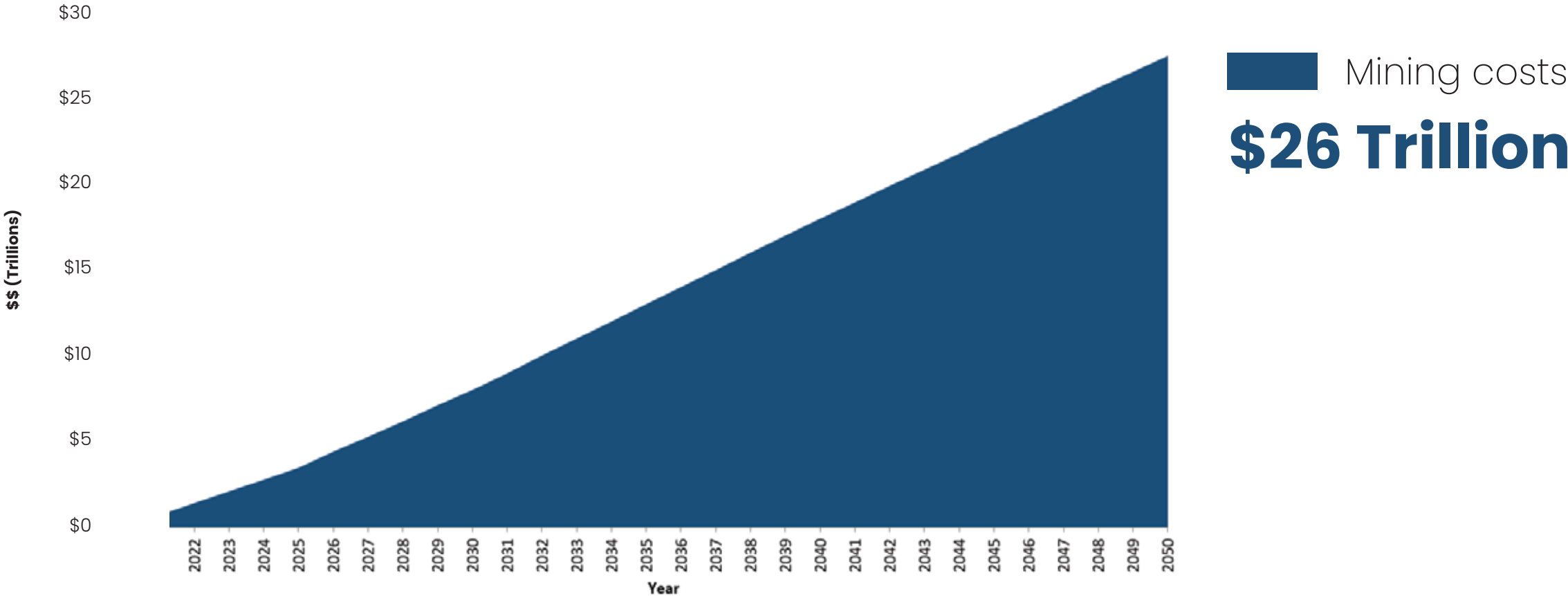


**The opportunity.**

# Decarbonisation savings

(Mining only)

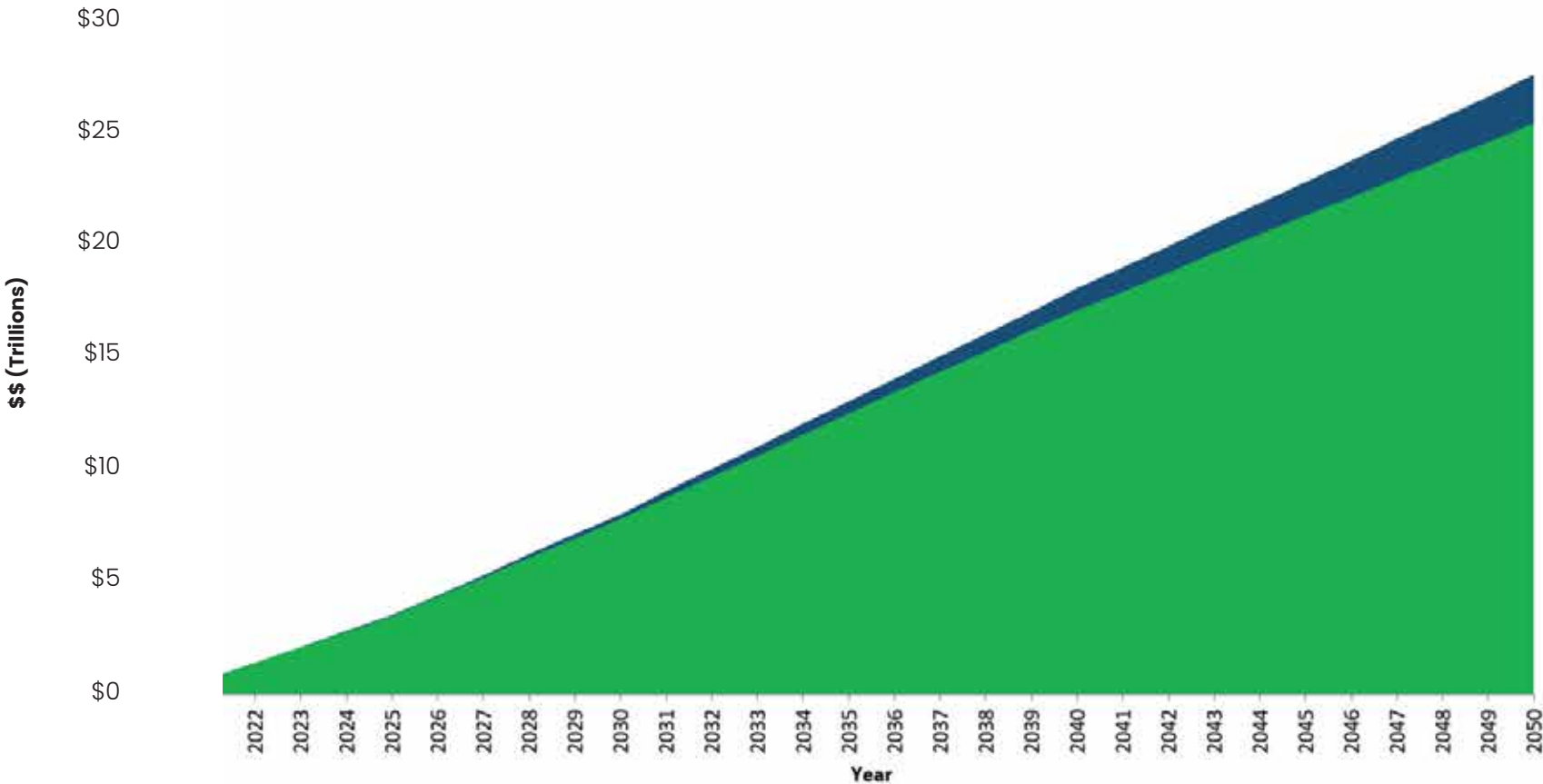
Given our current trajectory, decarbonisation by 2050 will cost the mining sector \$26 trillion.



# Decarbonisation savings

(Mining only)

If we can optimise this by a meer 1%, through deeper collaboration and coordination, then that would equate to \$1.9 trillion in savings for the sector.



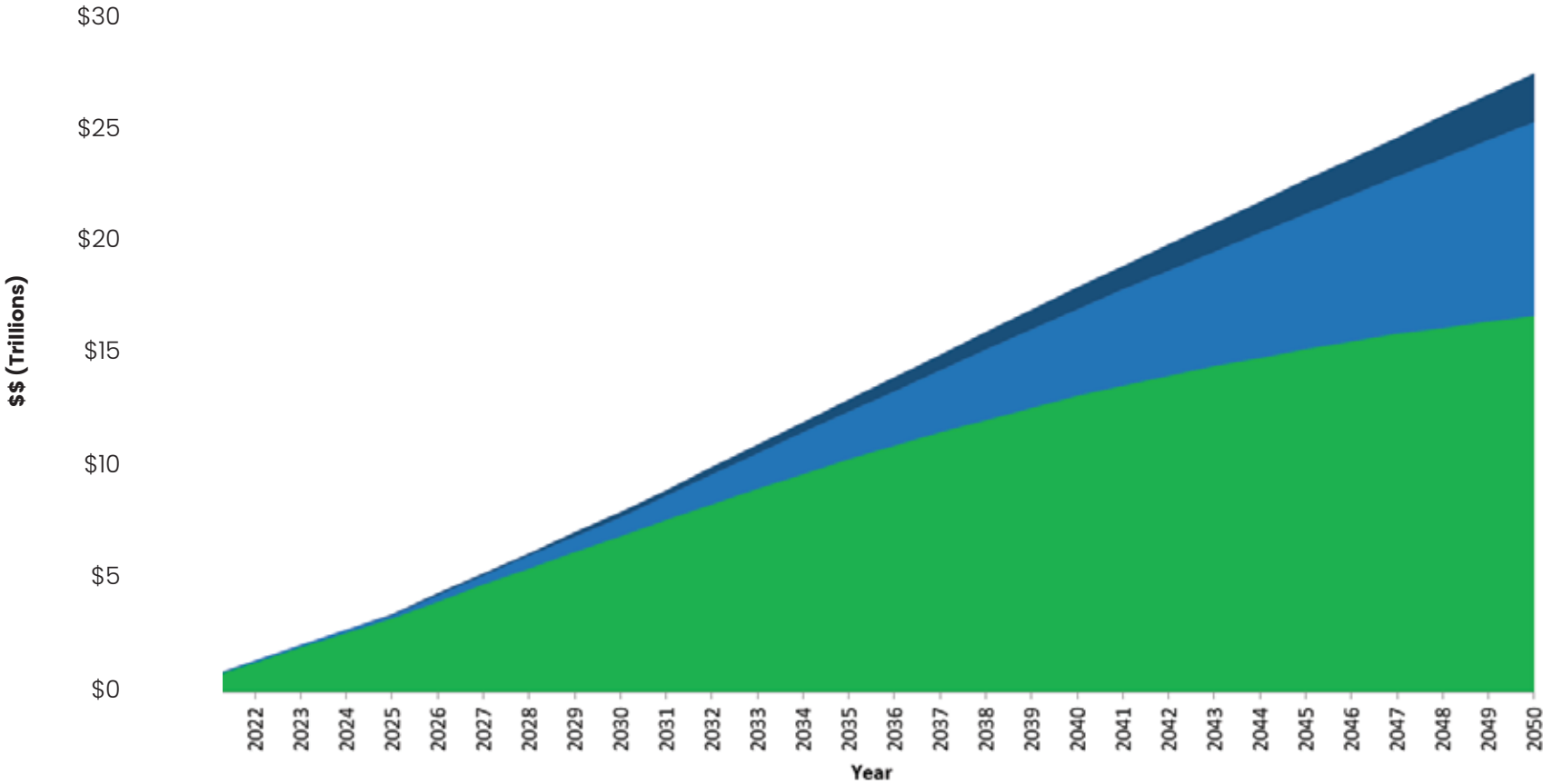
1% optimised saves

**\$1.9 Trillion**

# Decarbonisation savings

(Mining only)

A 5%, efficacy increase in decarbonisation equates to \$9.7 trillion in savings.



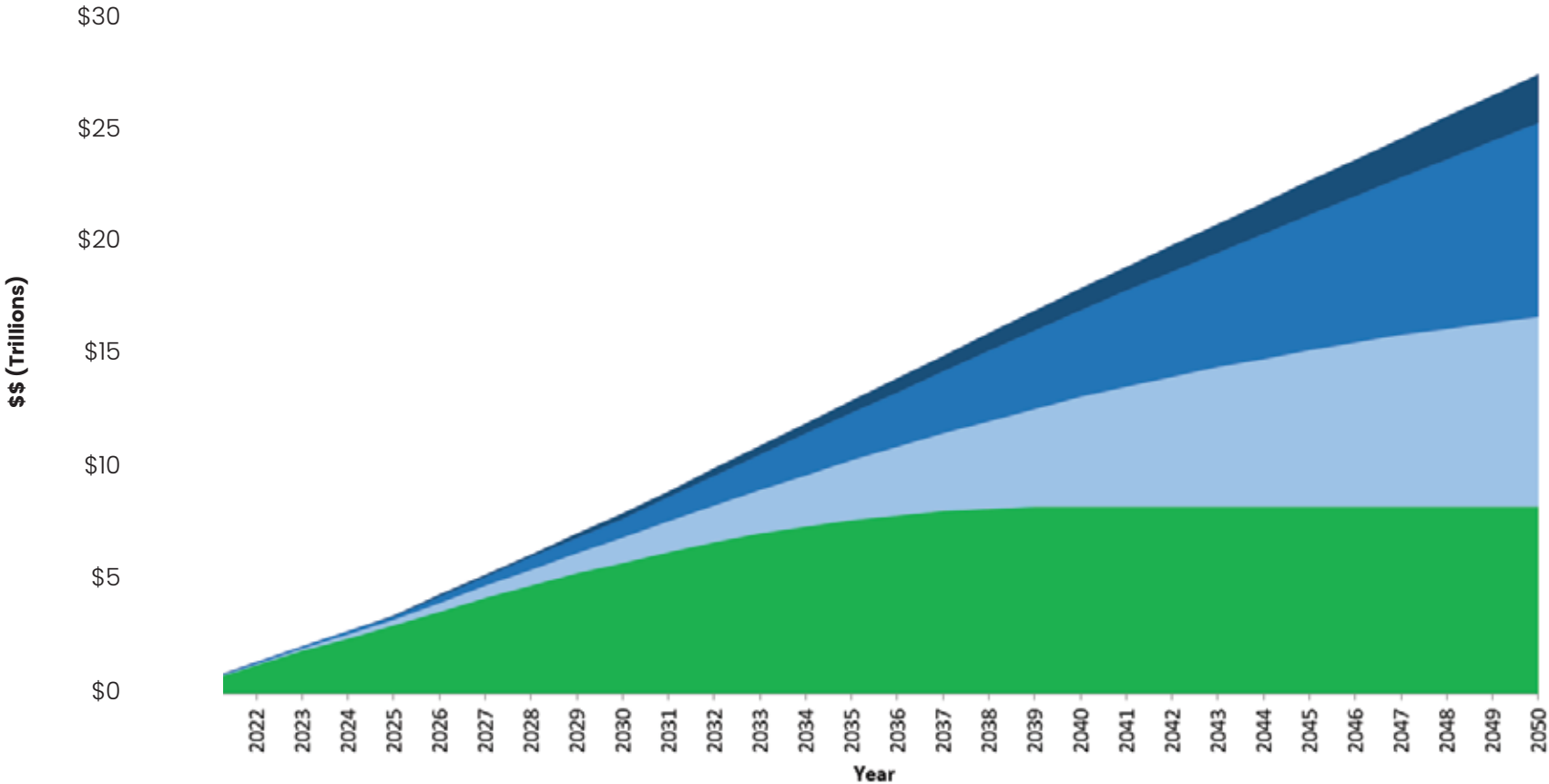
5% optimised saves

**\$9.7 Trillion**

# Decarbonisation savings

(Mining only)

A 10%, efficacy increase equates to \$17.3 trillion in savings.



10% optimised saves

**\$17.3 Trillion**

“SIMPLY PUT, DATA GAINS  
VALUE WHEN IT IS SHARED.”

**Deloitte.** Insights 2021.

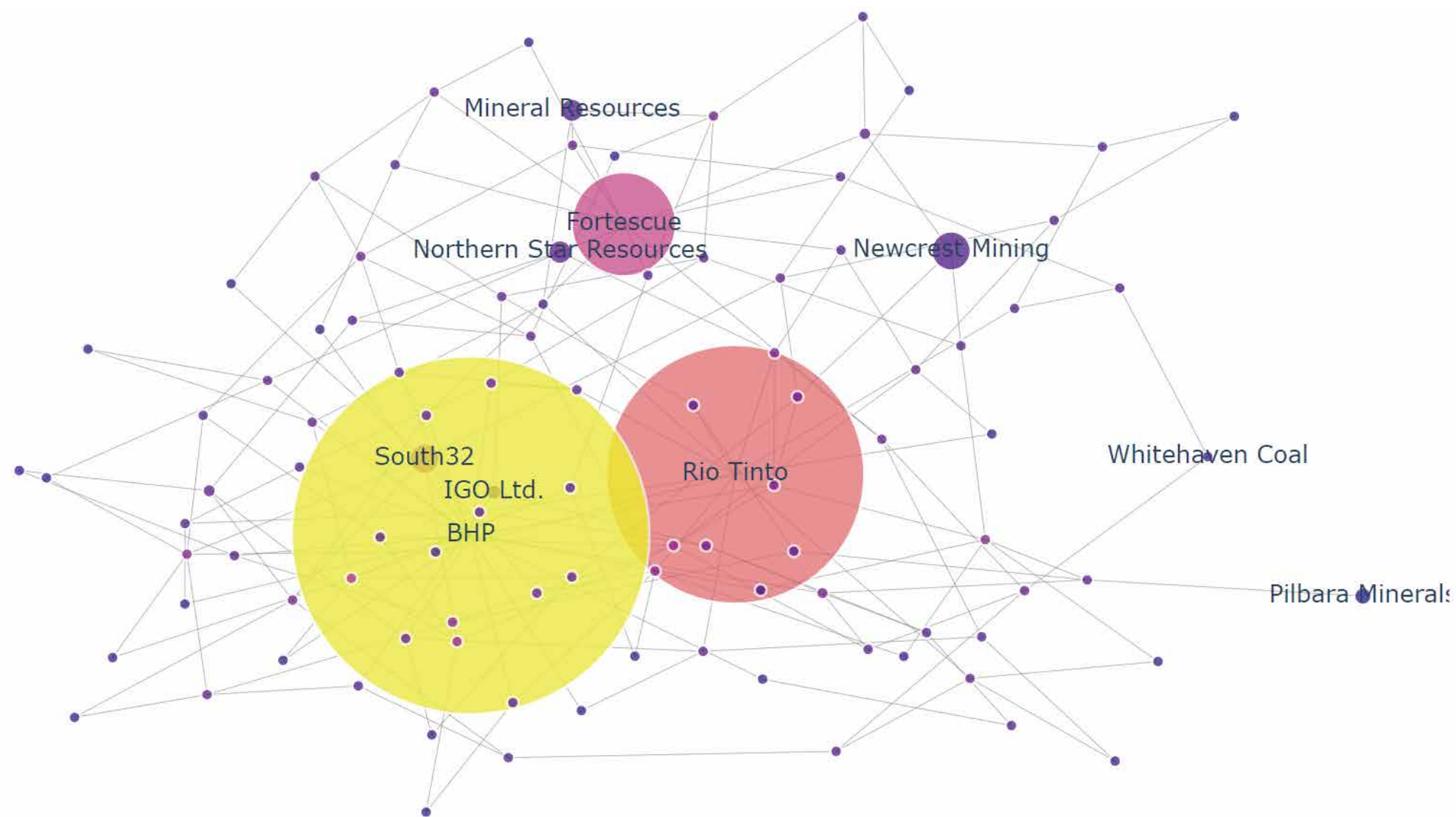
“ ORGANISATIONS THAT PROMOTE DATA  
SHARING WILL OUTPERFORM THEIR PEERS ON  
MOST BUSINESS METRICS. ”

**Gartner.** On Datasharing in 2023.

# Network of Mining Australia

(By capital value)

Australian mining as a network is uniquely consolidated.



Source

**Mining Companies by size (Mining Digital)**

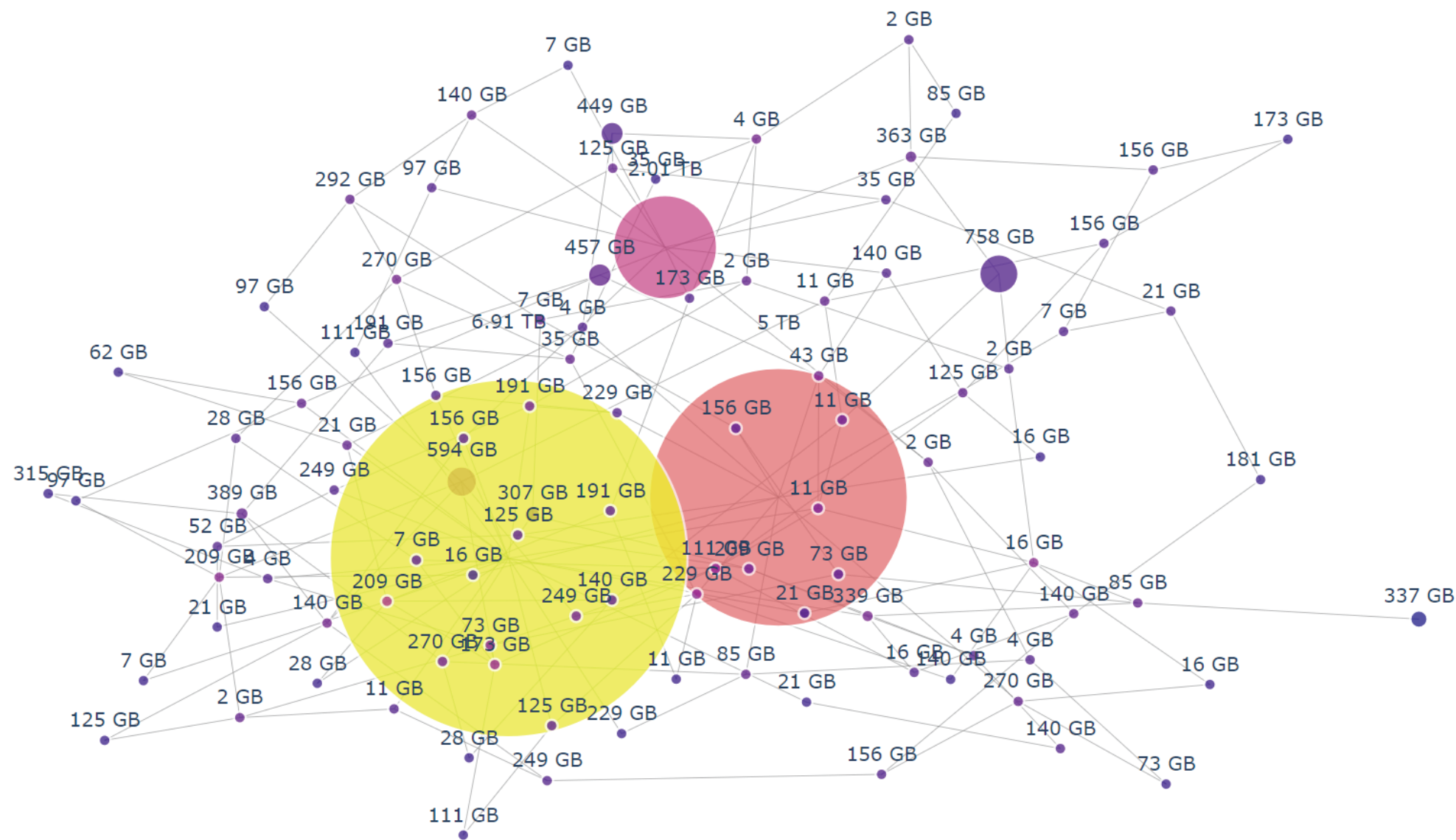
<https://miningdigital.com/>



# Network of Mining Australia

(By data)

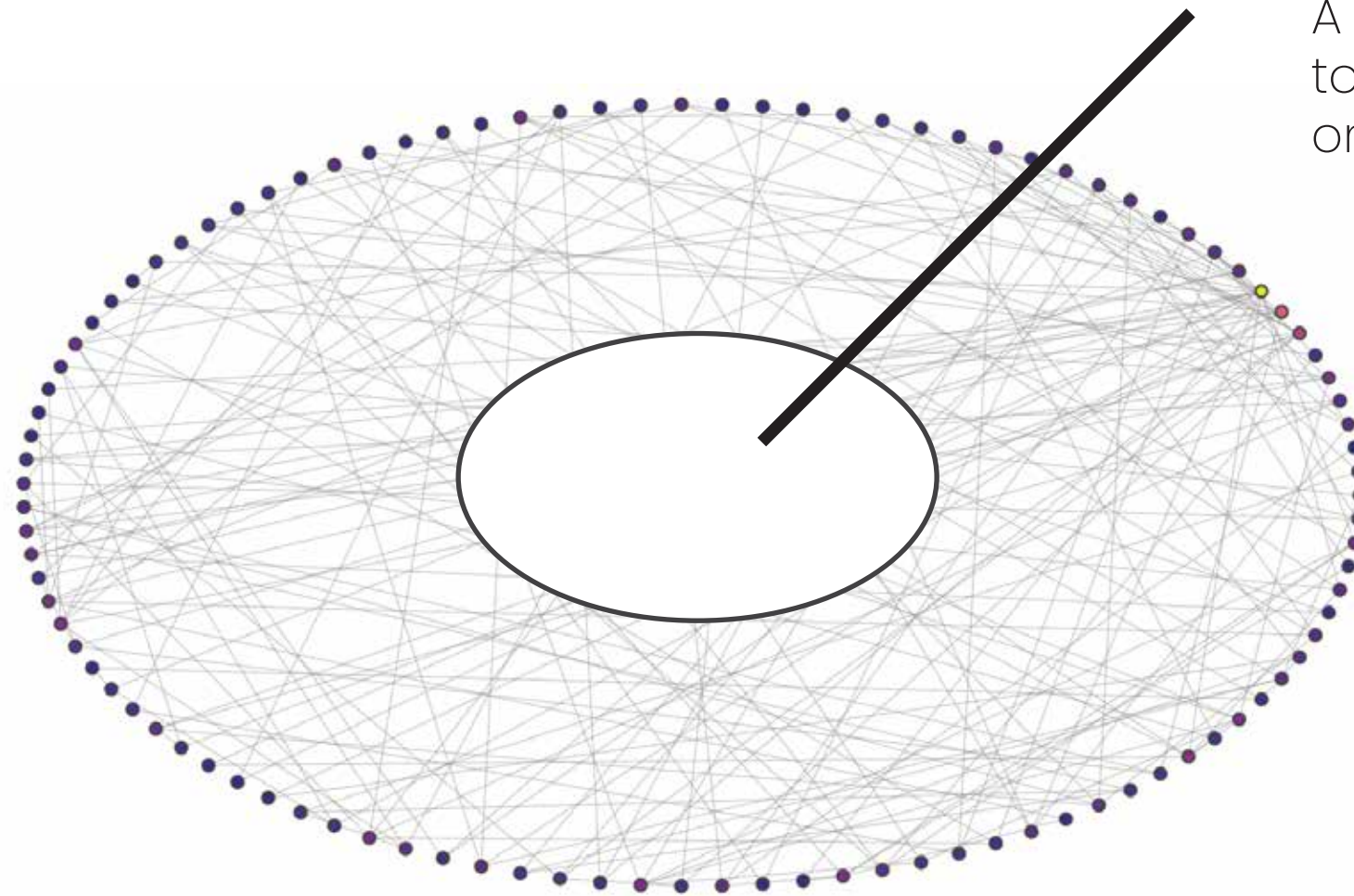
Australian mining as a network is uniquely consolidated.



# Mining & Data

## (Cooperative)

A data strategy that centralises the complexity around decarbonisation can not only facilitate cheaper measurements, more coordinated tracking and traceability, advanced intelligence sharing, and deeper collaboration and planning, but can actively drive these outcomes through data-driven technologies like AI & data mining.



A data sharing platform  
to optimise decarbonisation  
on every scope.

# Conclusion

A digital strategy  
for decarbonisation

How to meet a zero carbon economy as cheaply as possible  
for the mining sector.