

Victoria versus Australia: Opportunities, Endowment & Performance

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ALG Victorian Minerals Round-up 2024

Ballarat, 27th June 2024

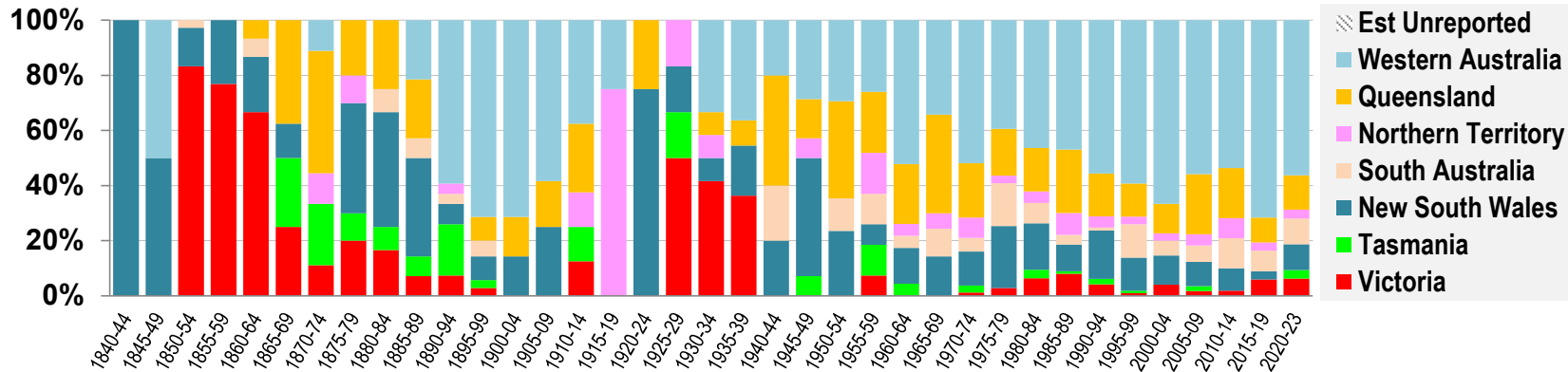
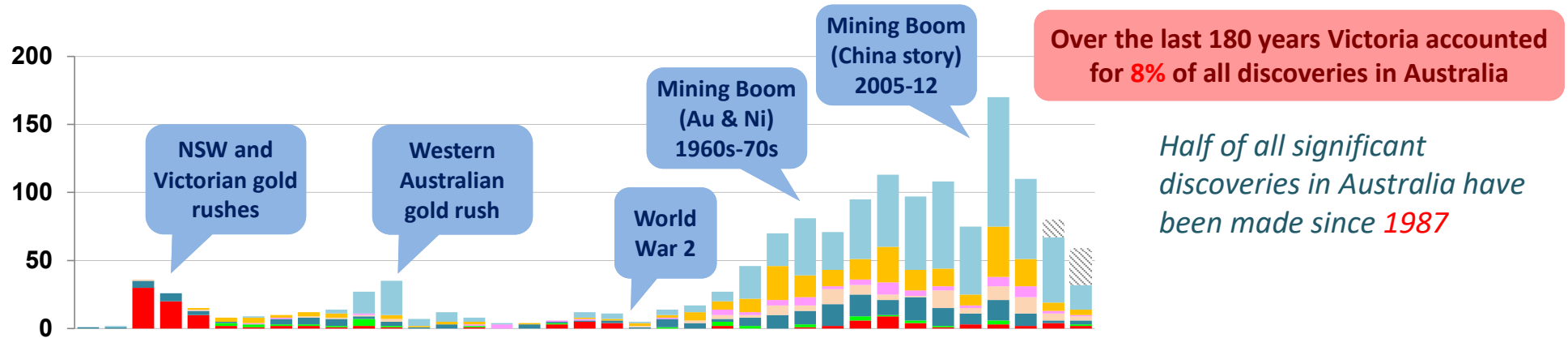
Overview

1. The long wave of history - discoveries since the Victorian gold rush era
2. Trend in exploration expenditures - 1990 to 2023
3. Trend in the number of discoveries
4. Value proposition for exploration – “Bang per Buck”
5. Victoria’s perceived business risk – results from the Fraser Institute’s Annual Survey
6. Outlook for exploration in Australia
7. Summary / Conclusions

Over the last 180 years Australia has gone through several waves of discovery

1. THE LONG WAVE OF HISTORY

Number of significant mineral discoveries in Australia by State : 1840-2023

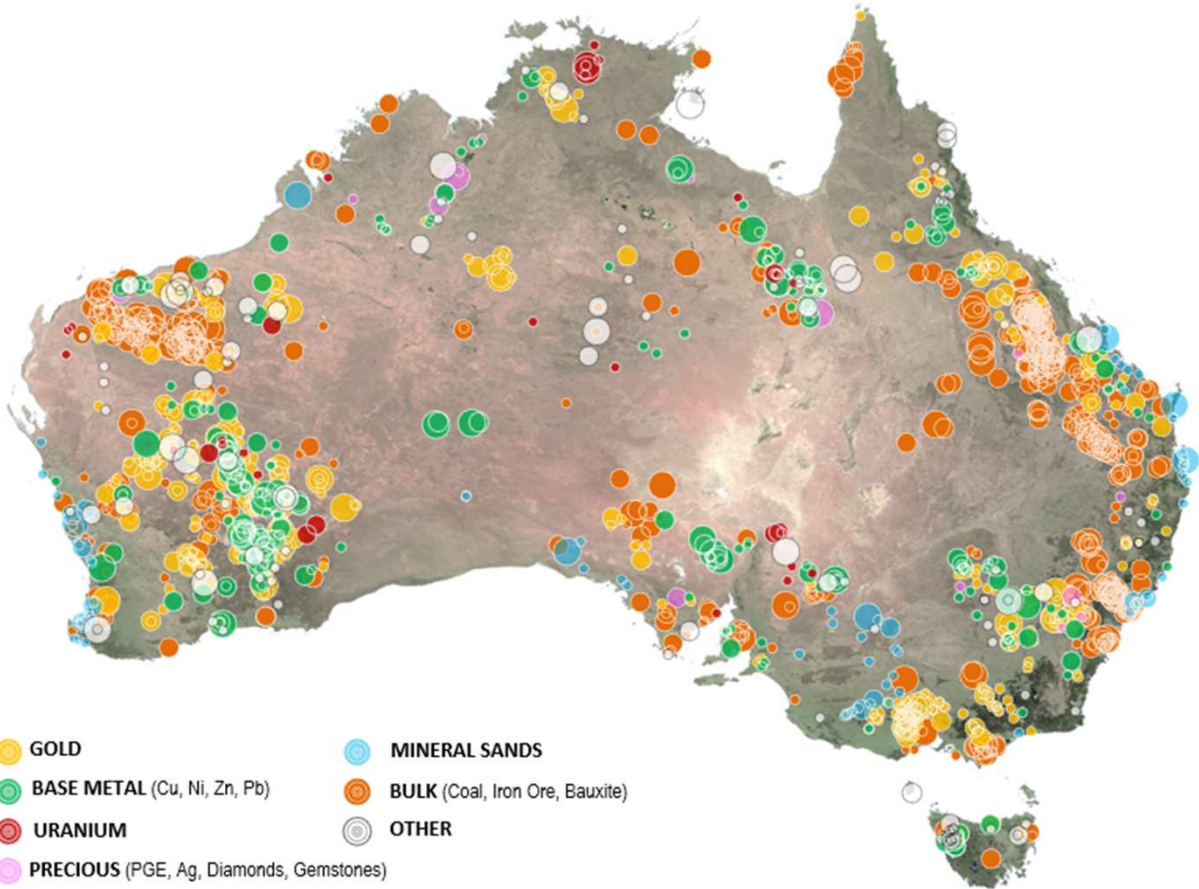


Note: Based on discoveries \geq "Moderate" in size, i.e. >100 koz Au, >5 kt U_3O_8 , >10 kt Ni, >300 kt Zn+Pb, >100 kt Cu-equiv
 >20 Mt Thermal Coal, >20 Mt Fe, >10 Mt Al_2O_3 . Excludes satellite deposits within existing camps

Source: MinEx Consulting © June 2024

Location of significant mineral deposits in Australia

Australia is well-endowed with a wide range of minerals



N = 1753

- GOLD
- BASE METAL (Cu, Ni, Zn, Pb)
- URANIUM
- PRECIOUS (PGE, Ag, Diamonds, Gemstones)
- MINERAL SANDS
- BULK (Coal, Iron Ore, Bauxite)
- OTHER

Note: Based on deposits >= "Moderate" in size, i.e. >100 koz Au, >5 kt U₃O₈, >10 kt Ni, >300 kt Zn+Pb, >100 kt Cu-equiv >20 Mt Thermal Coal, >20 Mt Fe, >10 Mt Al₂O₃. Excludes satellite deposits within existing camps

Source: MinEx Consulting © June 2024

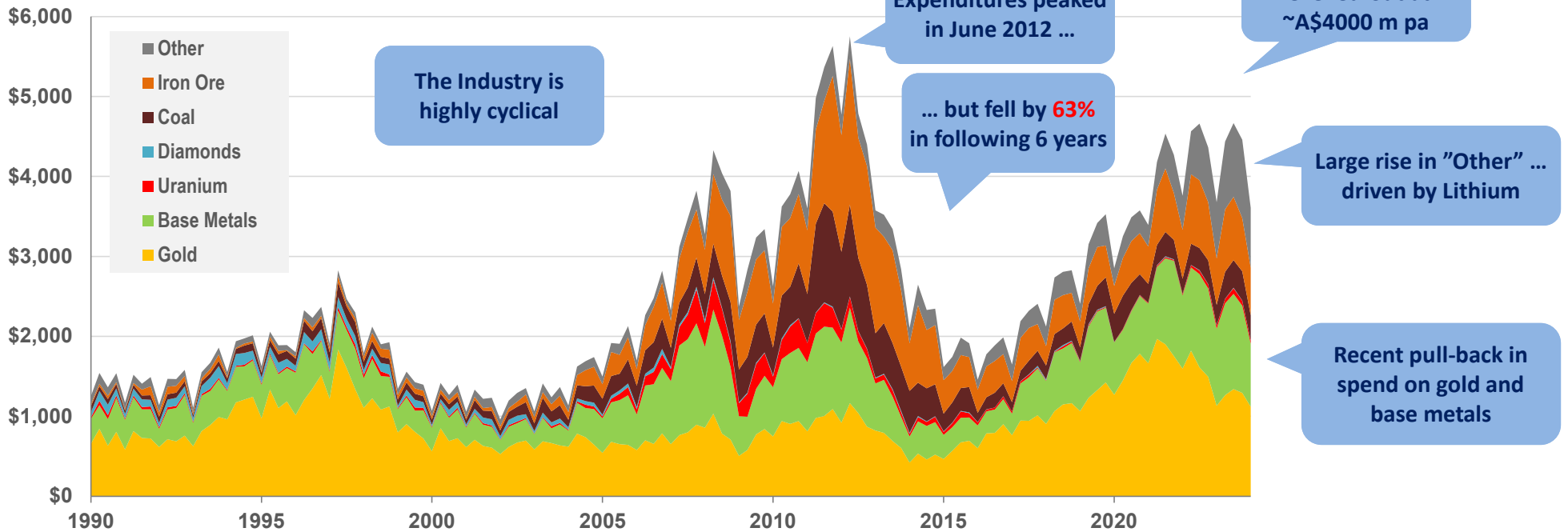
Over the last four decades the exploration business has gone through several cycles of boom-and-bust

2. TREND IN EXPLORATION EXPENDITURES

Exploration expenditures in Australia: by commodity

Australia : March 1990 to March 2024

Dec 2023 A\$m



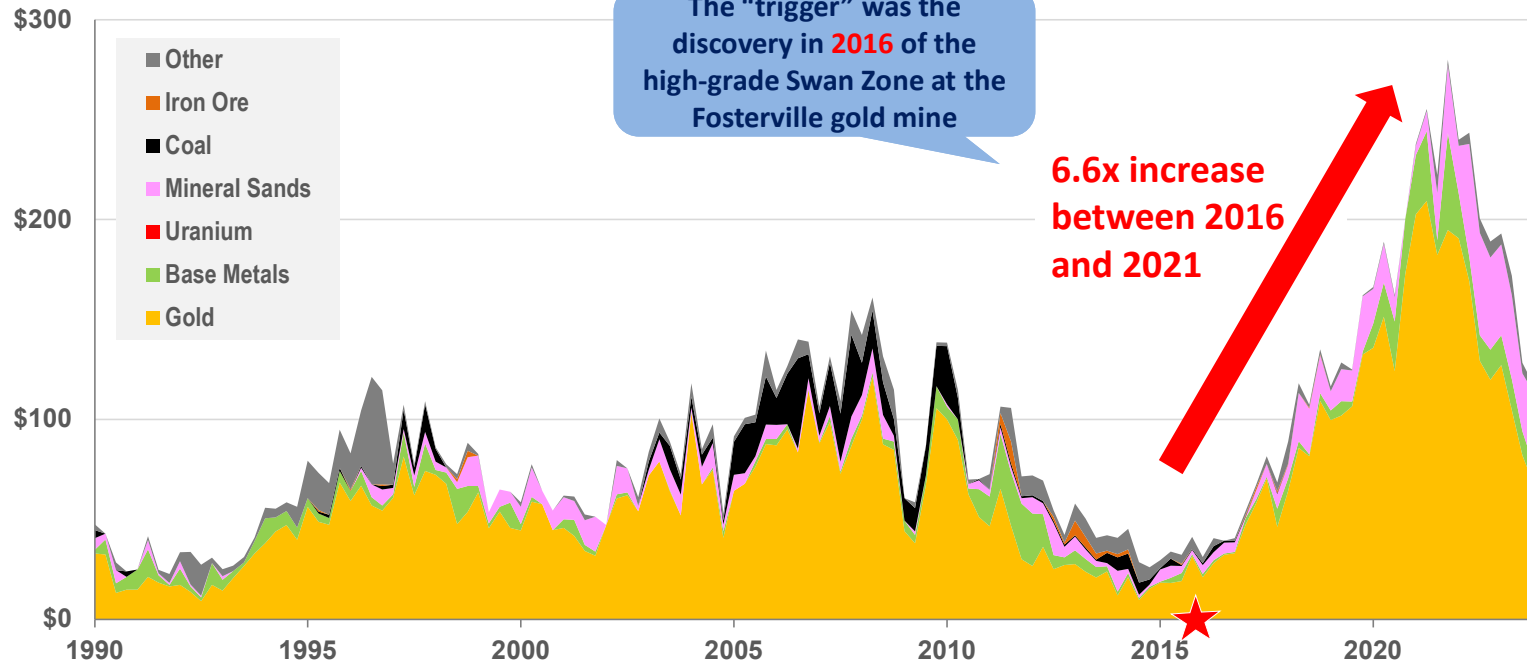
Note: Quarterly spend data has been multiplied by 4x to produce an annualised spend rate.

Source: ABS 8412.0

Exploration expenditures in Victoria : by Commodity

March 1990 to March 2024

Dec 2023 A\$m



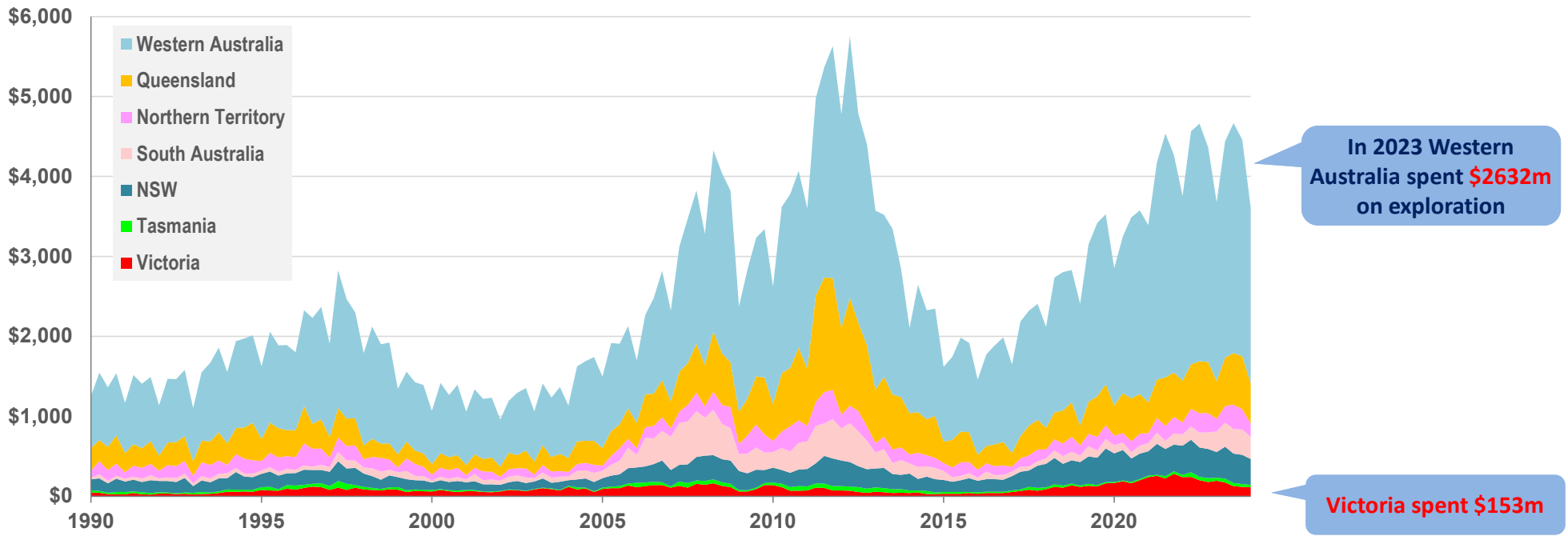
Note: Quarterly spend data has been multiplied by 4x to produce an annualised spend rate.

Source: ABS 8412.0

Exploration expenditures by Australian State

March 1990 to March 2024

Dec 2023 A\$m

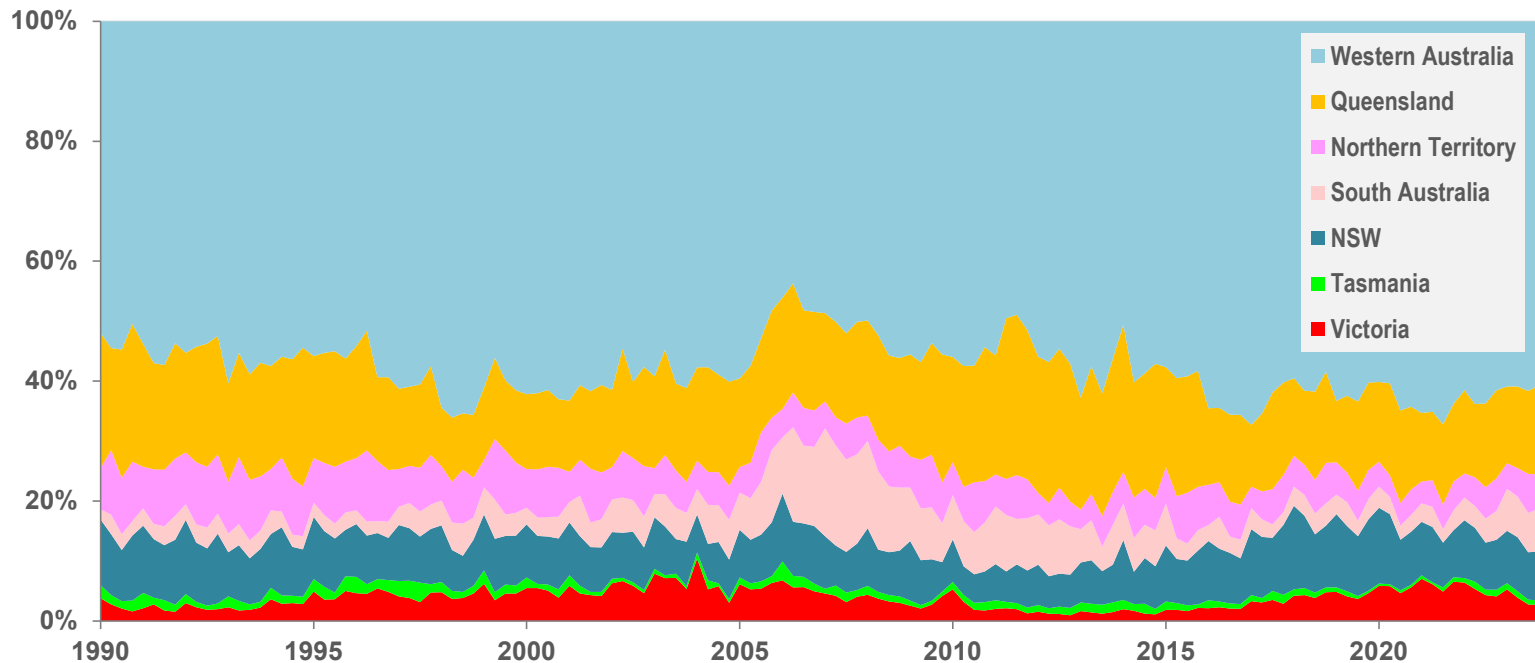


Note: Quarterly spend data has been multiplied by 4x to produce an annualised spend rate.

Source: ABS 8412.0

Percentage share of exploration expenditures by Australian State

March 1990 to March 2024



Over the last decade
Victoria accounted
for only **4%** of the
total spend

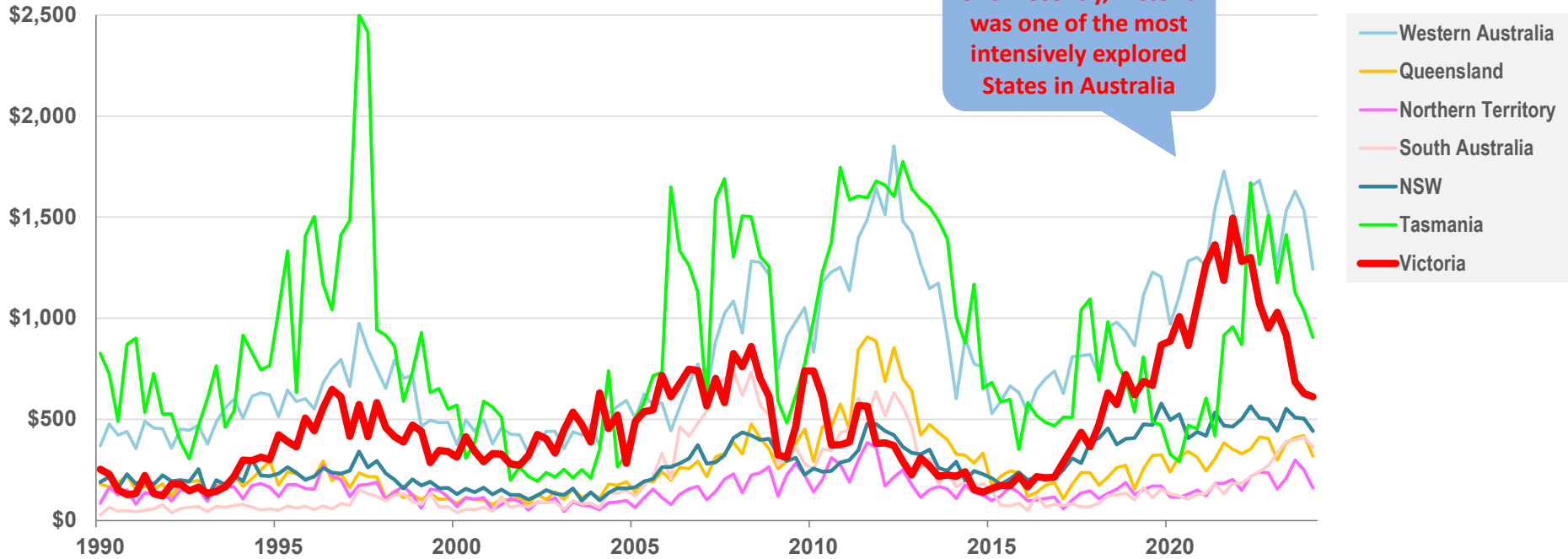
Source: ABS 8412.0

Exploration expenditures per km² by Australian State

March 1990 to March 2024

Victoria accounts for **3.1%** of Australia's available land area

Annualised Spend per Unit Area
[Dec 2023 A\$/km²]



Note: Quarterly spend data has been multiplied by 4x to produce an annualised spend rate.
Land area is net of "Protected Areas" (i.e. National Parks, Nature Reserves and Exclusion Zones)

Source: MinEx and ABS 8412.0

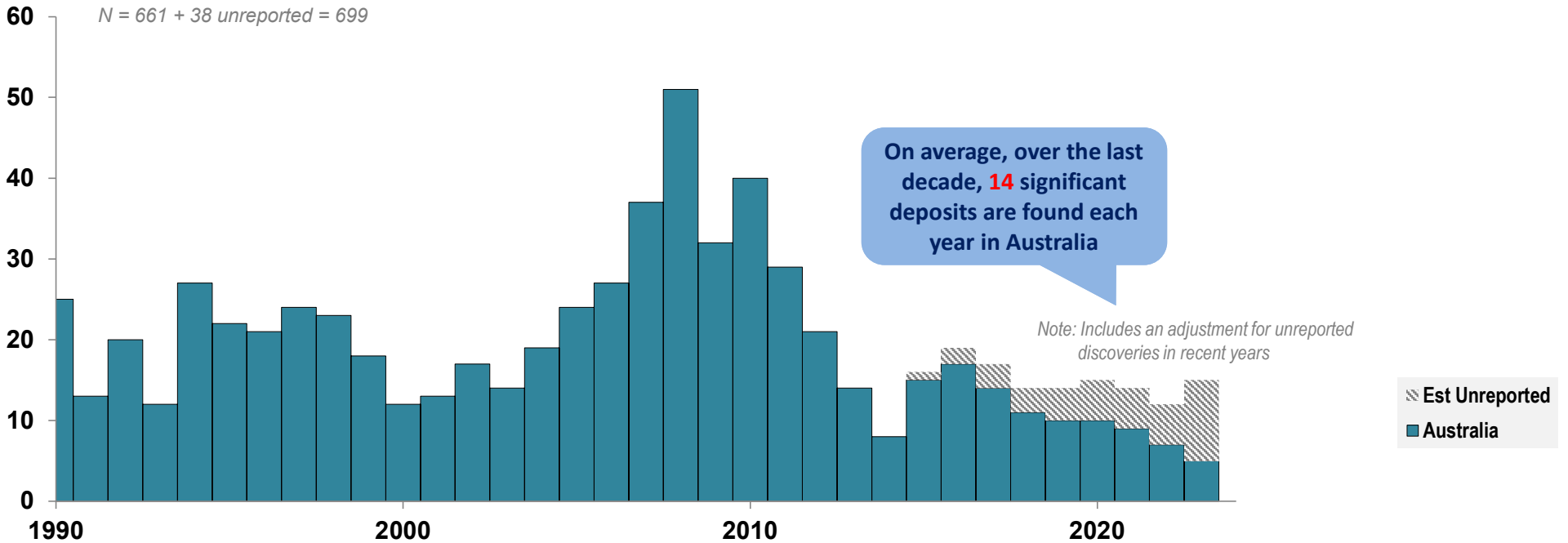
In recent years, Australia's discovery rate has flat-lined at ~14 pa

3. TREND IN NUMBER OF DISCOVERIES

Australia's discovery rate has flat-lined in recent years

Number of significant discoveries : 1990-2023

Number of Discoveries



Note: Based on >="Moderate-sized" deposits, (i.e. >100koz Au, > 100 kt Cu, >10 kt Ni, >5 kt U₃O₈, >20kt Li, > 5 Mt HMS, > 20 Mt Fe, > 20 Mt Thermal Coal).
Excludes satellite deposits within existing Camps.

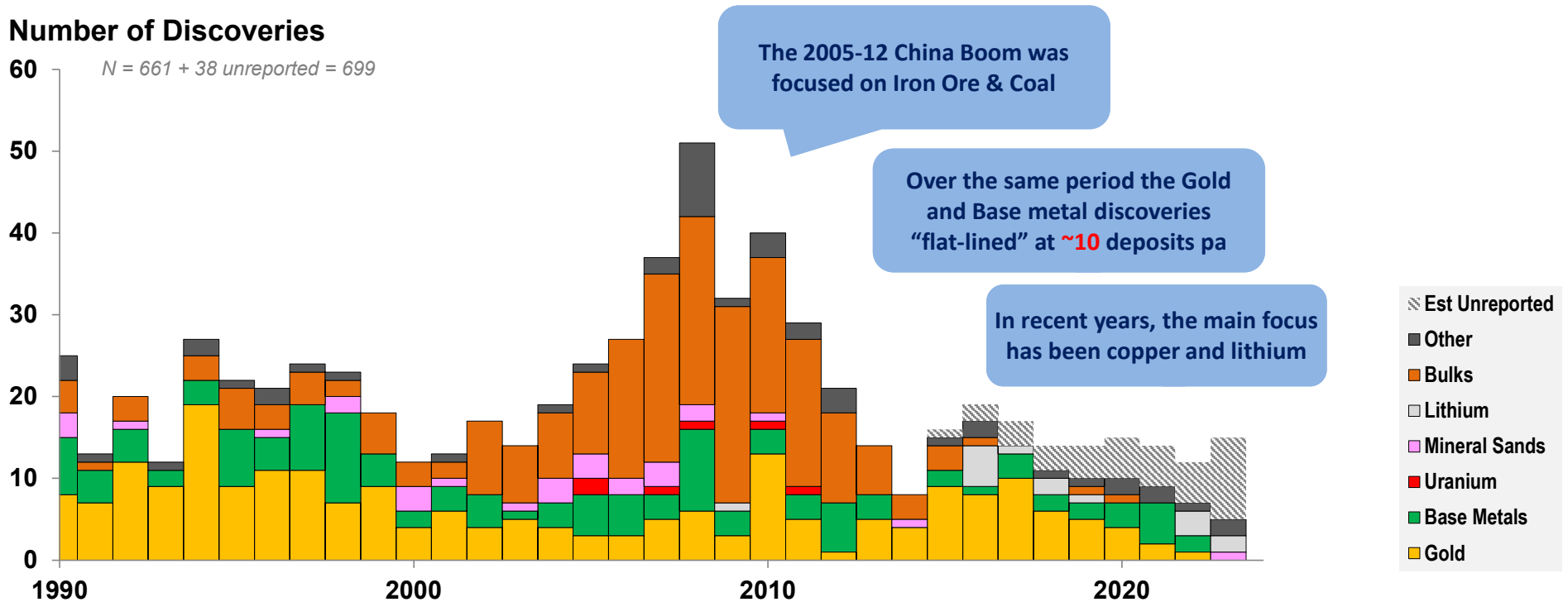
Source: MinEx Consulting © June 2024

Australia's discovery rate has flat-lined in recent years

Number of significant discoveries by commodity type in Australia : 1990-2023

Number of Discoveries

$N = 661 + 38 \text{ unreported} = 699$

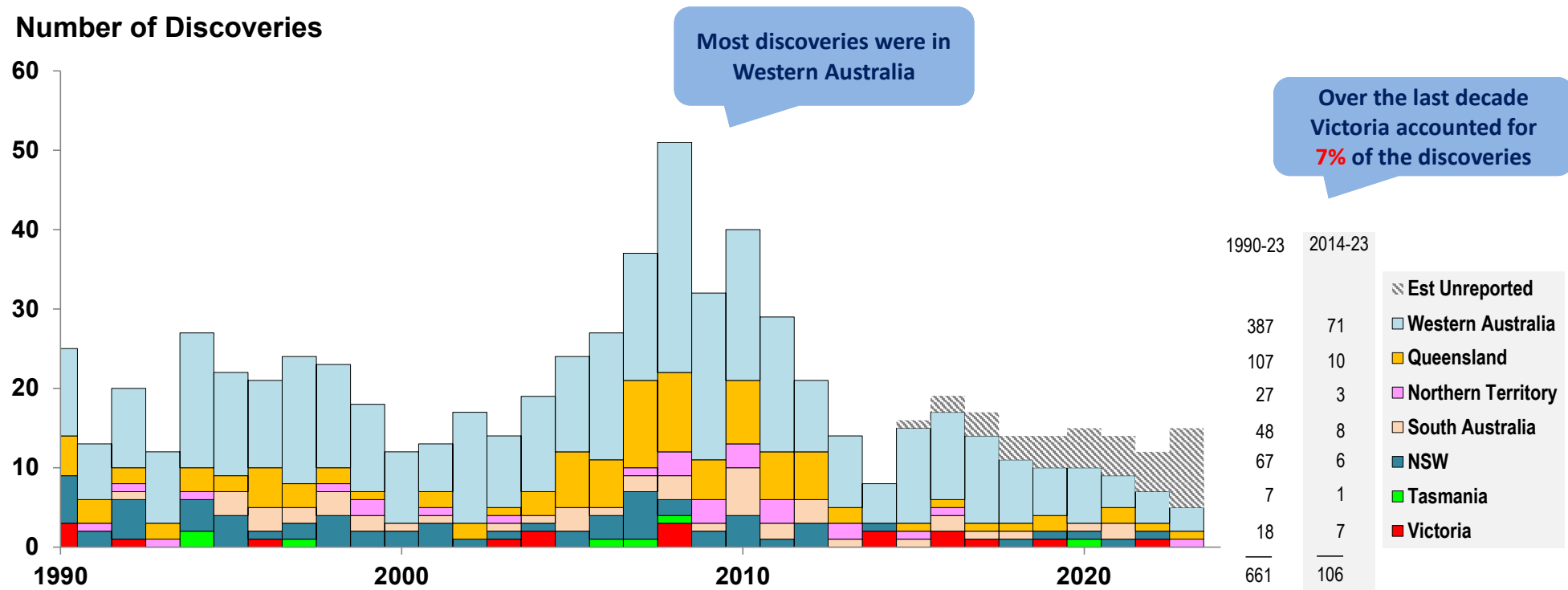


Note: Based on >="Moderate-sized" deposits, (i.e. >100koz Au, > 100 kt Cu, >10 kt Ni, >5 kt U₃O₈, >20kt Li, >5 Mt HMS, > 20 Mt Fe, > 20 Mt Thermal Coal).
Excludes satellite deposits within existing Camps.

Source: MinEx Consulting © June 2024

Number of significant discoveries by State : 1990-2023

Number of Discoveries

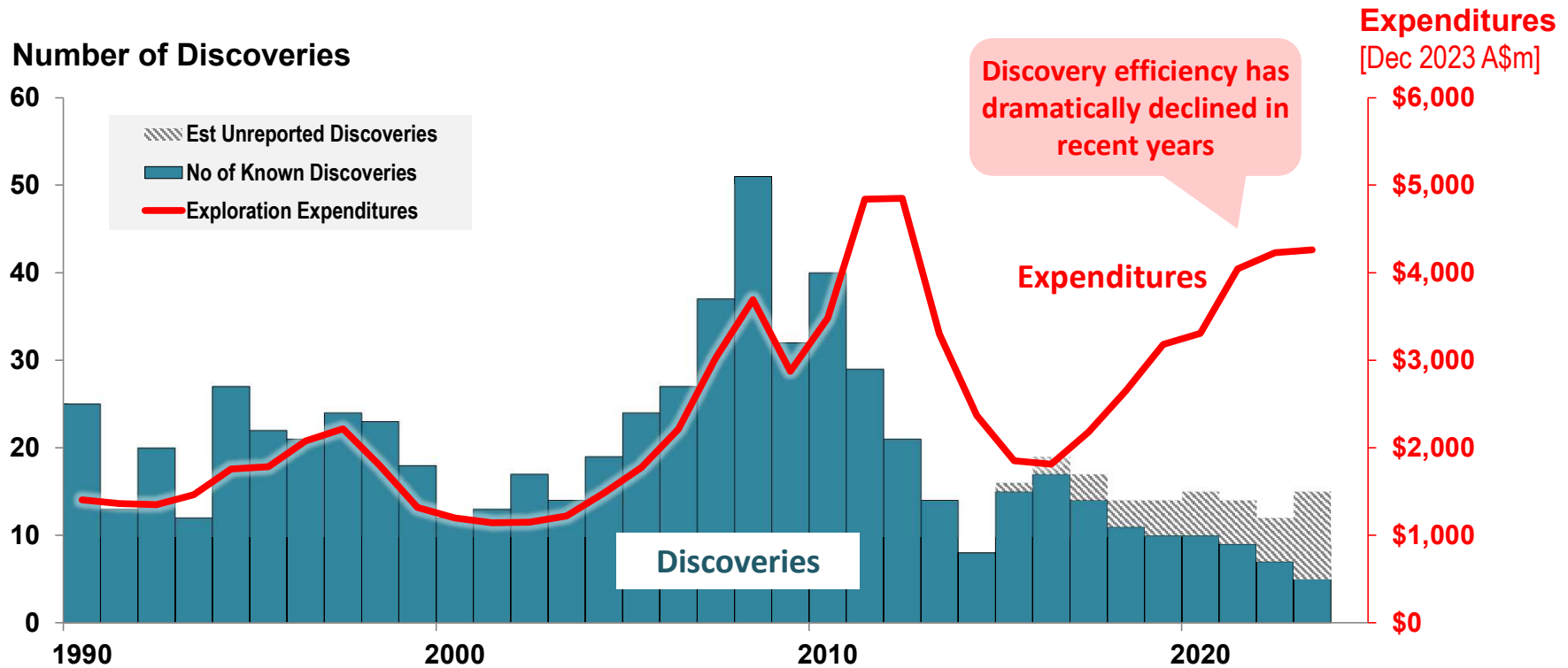


Note: Based on >="Moderate-sized" deposits, (i.e. >100koz Au, > 100 kt Cu, >10 kt Ni, >5 kt U₃O₈, >20kt Li, >5 Mt HMS, > 20 Mt Fe, > 20 Mt Thermal Coal).
Excludes satellite deposits within existing Camps.

Source: MinEx Consulting © June 2024

Exploration expenditures versus discovery rate

Australia : 1990-2023



Note: Based on >="Moderate-sized" deposits, (i.e. >100koz Au, > 100 kt Cu, >10 kt Ni, >5 kt U₃O₈, >20kt Li, >5 Mt HMS, > 20 Mt Fe, > 20 Mt Thermal Coal).
Excludes satellite deposits within existing Camps.

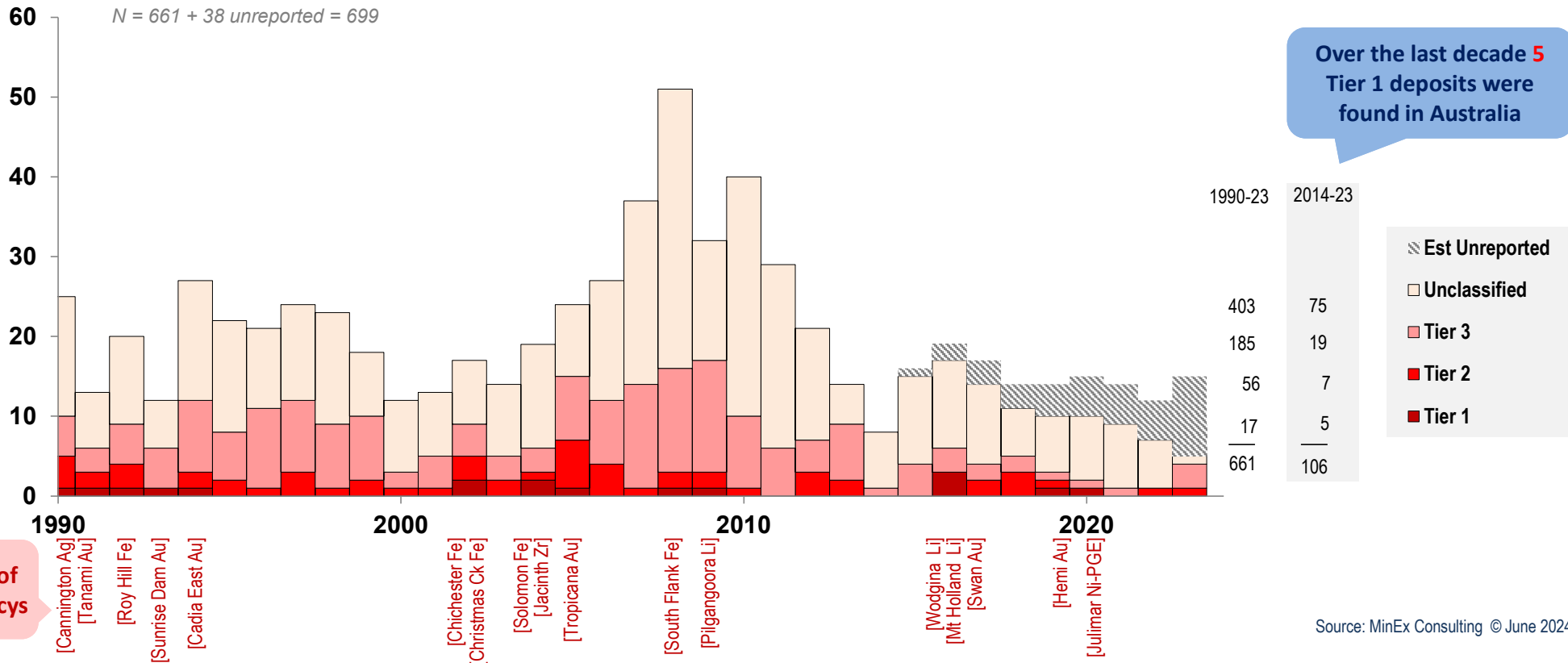
Source: MinEx Consulting © June 2024

To be sustainable the mining industry needs to generate value to offset the high cost of exploration. Much of this value comes from Tier1& 2 discoveries

4. VALUE PROPOSITION FOR EXPLORATION

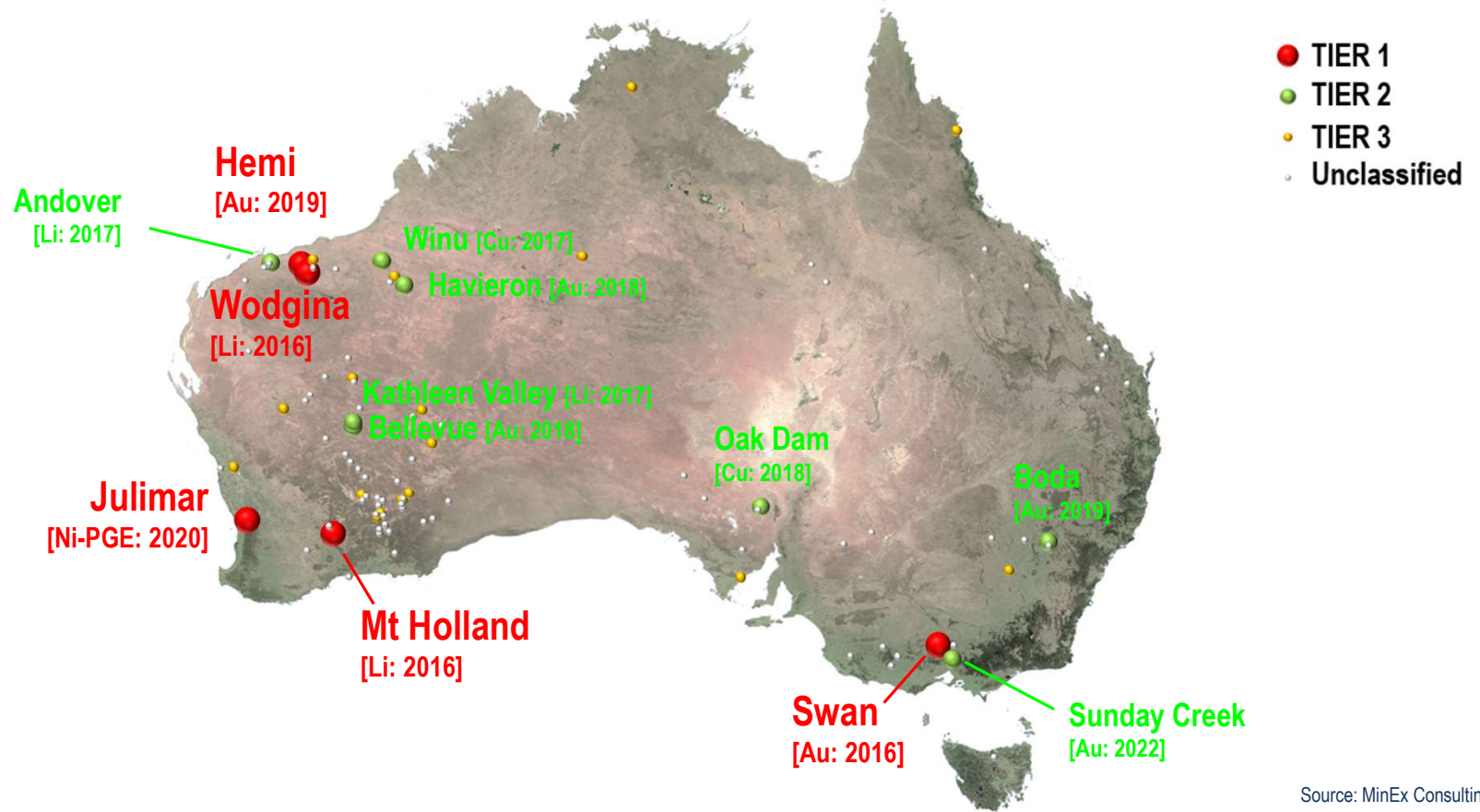
Number of Discoveries in Australia by Tier : 1990-2023

Number of Discoveries



Source: MinEx Consulting © June 2024

Discoveries in Australia by Tier : 2014-2023



Source: MinEx Consulting © June 2024

Estimated value of discoveries

Based on past modelling work, MinEx Consulting estimates the likely value of Tier 1,2 &3 deposits as

WARNING:
INDICATIVE NUMBERS ONLY

	Range (2013 US\$m)	Expected Value (2013 US\$m)	Expected Value (Dec 2023 US\$m)
Tier 1	>\$1000m	~\$2000m	~\$2663m
Tier 2	\$200-1000m	~\$500m	~\$666m
Tier 3	\$0-200m	~\$80m	~\$107m
<i>Unclassified</i>	<i>small</i>	<i>~\$10m</i>	<i>~\$13m</i>

Note: Value is set at the "Decision to Build" date

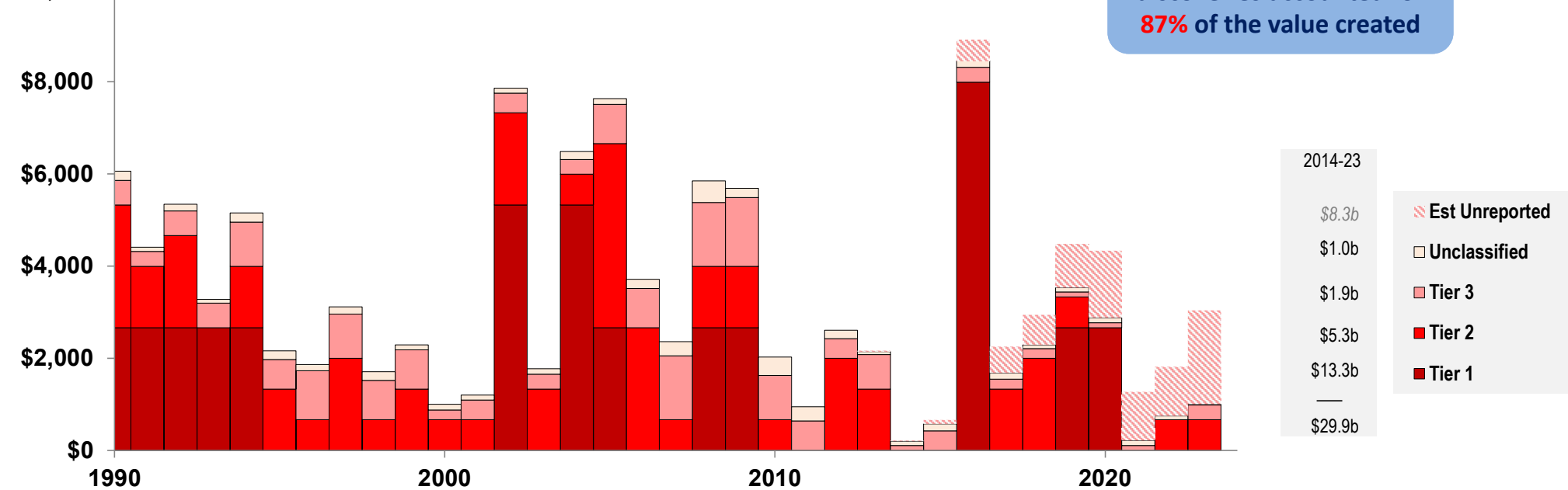
Note: See MinEx's website for a detailed definition of the various Tier categories

Source: MinEx Consulting © June 2024

Estimated value of Australia's discoveries: 1990-2023

Dec 2023 US\$ Million

\$10,000 $N = \$108.2b + \$8.4b \text{ unreported} = \$116.6b$



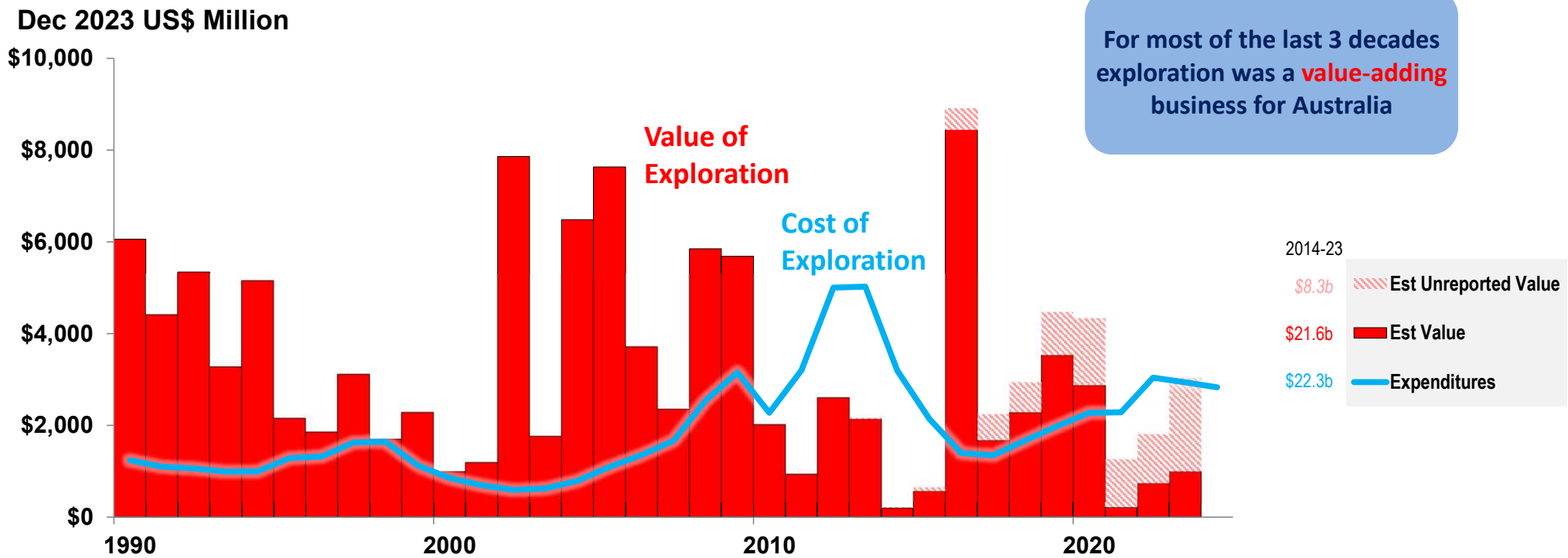
CAUTION: Values are indicative/approximate only

Note: Includes an estimate for the value of 38 unreported discoveries. This was based on the 5 year rolling average value of known discoveries

Source: MinEx Consulting © June 2024

Exploration expenditures versus estimated value of discoveries

Australia : 1990-2023



CAUTION: Values are indicative/approximate only

Source: MinEx Consulting © June 2024

Discovery Performance by State : 2014-2023

“Bang per Buck”

State	Expenditures [Dec 2023 US\$m]	Number of Discoveries					Est Value of Discys [Dec 2023 US\$m]	Value/Cost Ratio	Avg Cost per Discy [Dec 2023 US\$m]
		Known	Est Unreported	Total	Tier1	Tier2			
Victoria	\$876	7	2	9	1	1	\$3,740	4.27	\$97
NSW	\$2,021	6	2	8	0	1	\$1,399	0.69	\$253
Queensland	\$3,215	10	5	15	0	0	\$1,336	0.42	\$214
South Aust	\$884	8	3	11	0	1	\$1,402	1.59	\$80
West Aust	\$13,562	71	24	95	4	5	\$21,220	1.56	\$143
Tasmania	\$189	1	0	1	0	0	\$165	0.87	\$189
N Territory	\$1,137	3	2	5	0	0	\$660	0.58	\$227
Australia	\$21,895	106	38	144	5	8	\$29,899	1.37	\$152

Victoria's performance was boosted by discovery of the Tier 1 Swan Zone

Australia performed well

CAUTION: Values are indicative/approximate only

Source: MinEx Consulting © June 2024

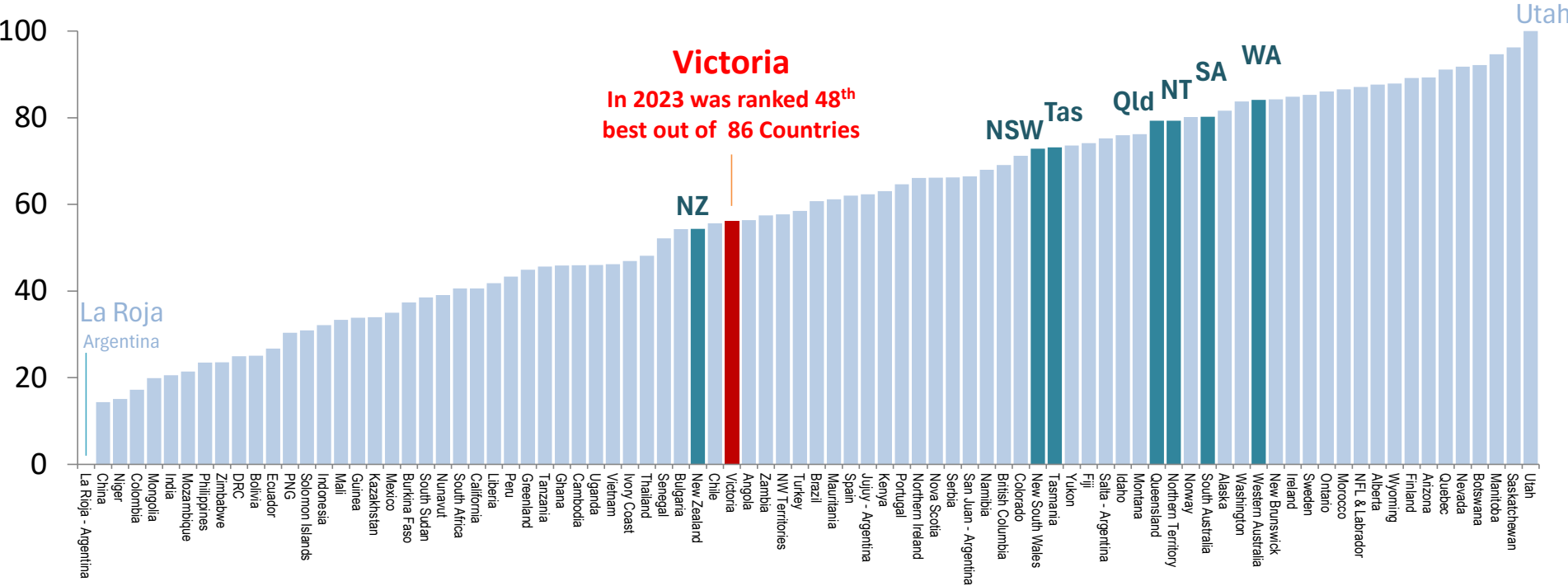
What do mining companies think of Victoria's policies for supporting the exploration industry ?

5. VICTORIA'S PERCEIVED BUSINESS RISK

Policy Potential Index in 2023

(Measures the “ability to do business” there)

PPI Score Note: Higher the Score, the better



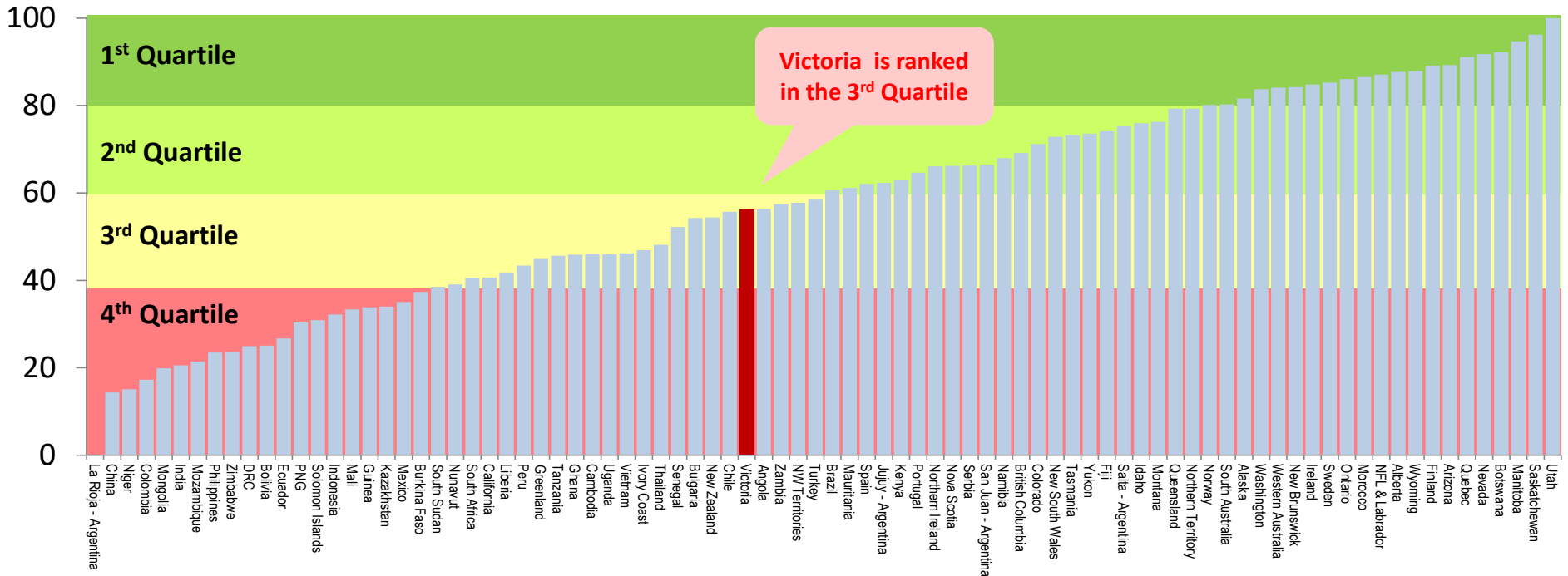
Source: Fraser Institute March 2024

Policy Potential Index in 2023

(Measures the “ability to do business” there)

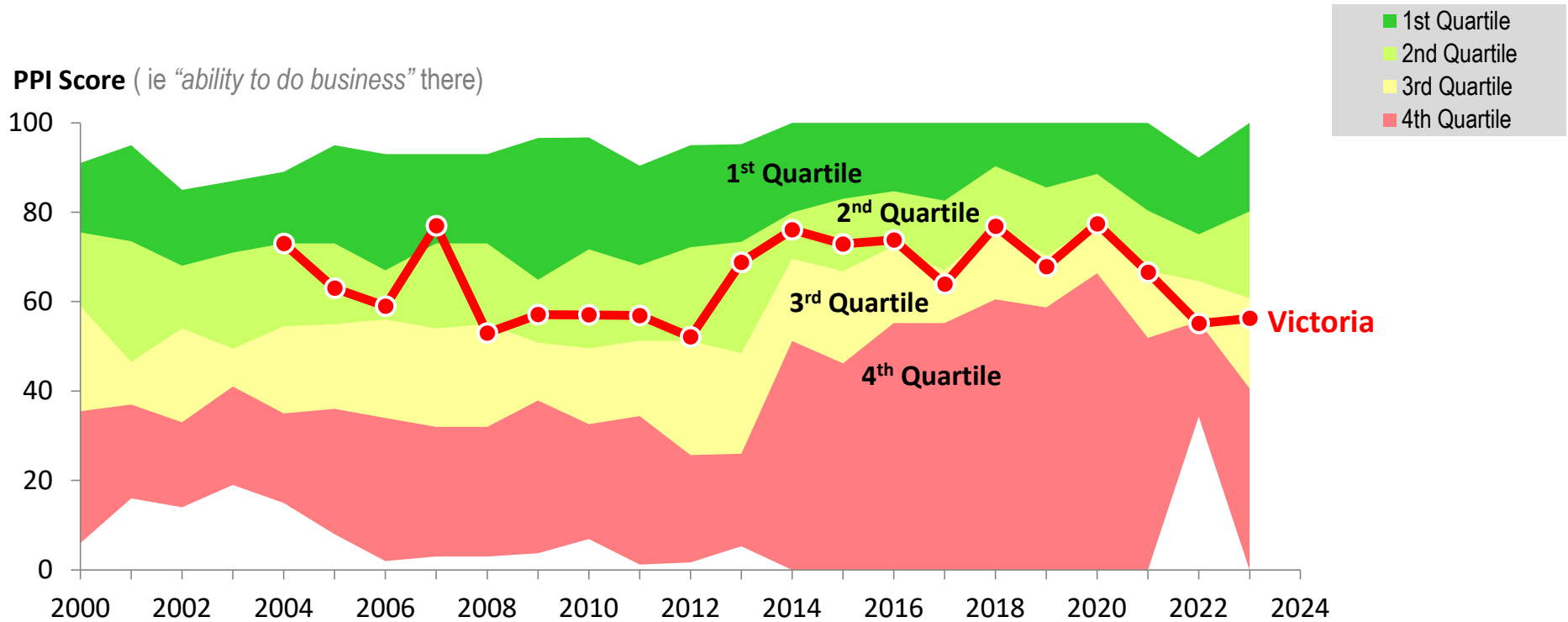
Rank by Quartile

PPI Score Note: Higher the Score, the better



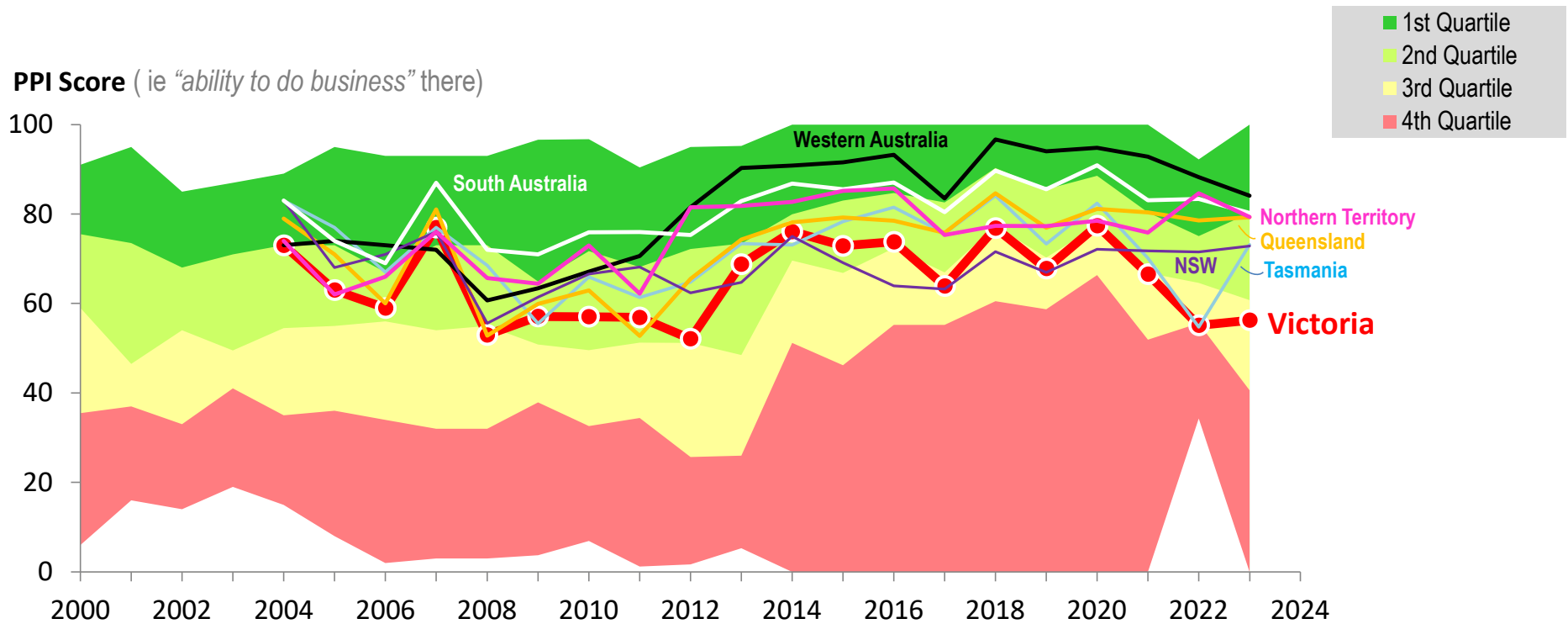
Source: MinEx analysis of Fraser Institute March 2024

Victoria's business risk ranking has declined in recent years



Source: MinEx Consulting analysis of Fraser Institute annual surveys

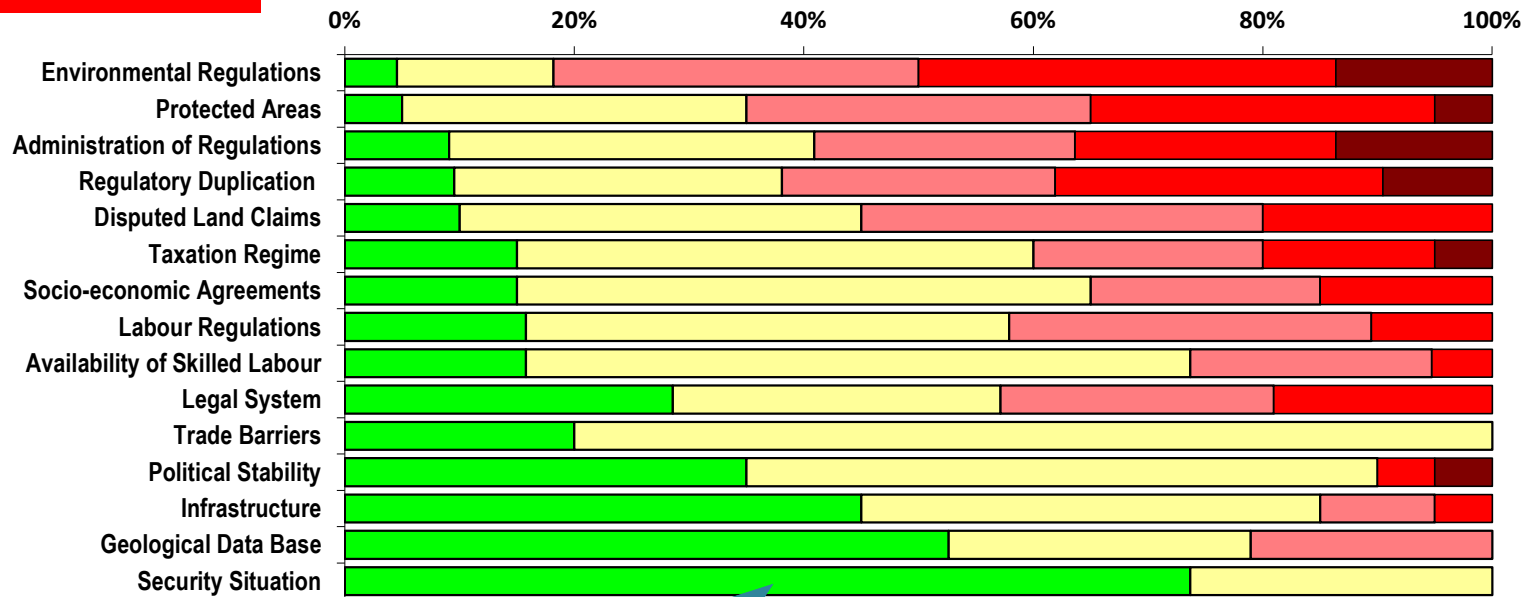
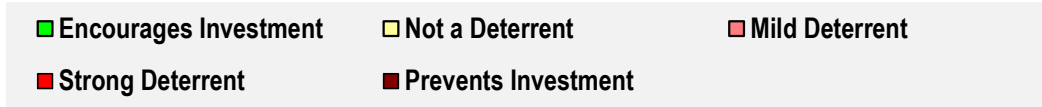
... and is now worse than all of the other Australian States



Source: MinEx Consulting analysis of Fraser Institute annual surveys

The Policy Potential Index is based on 15 factors

**March 2024
Survey Results for
Victoria**



These factors need to be fixed

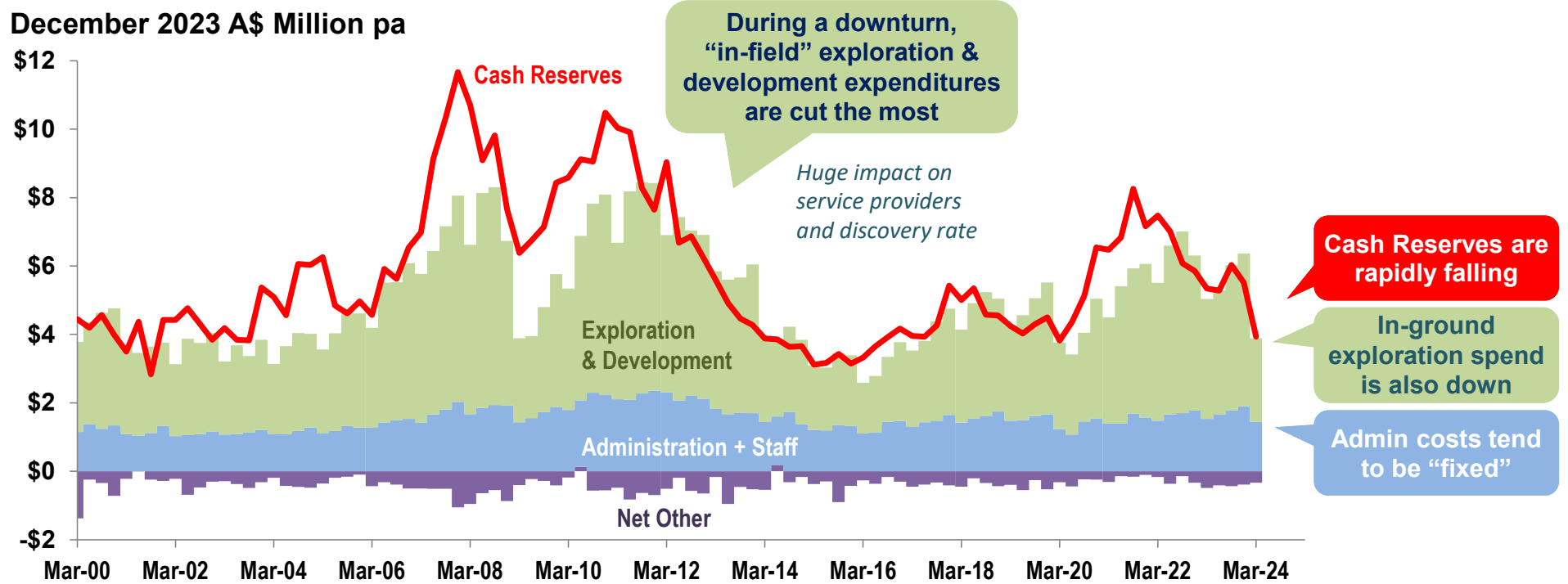
Victoria performs well in some categories ... but not others !

Source: MinEx Consulting analysis of Fraser Institute annual surveys

The Junior sector accounts 70-80% of all activities in Australia.
Of concern is their continued ability to raise fresh capital

6. OUTLOOK FOR EXPLORATION IN AUSTRALIA

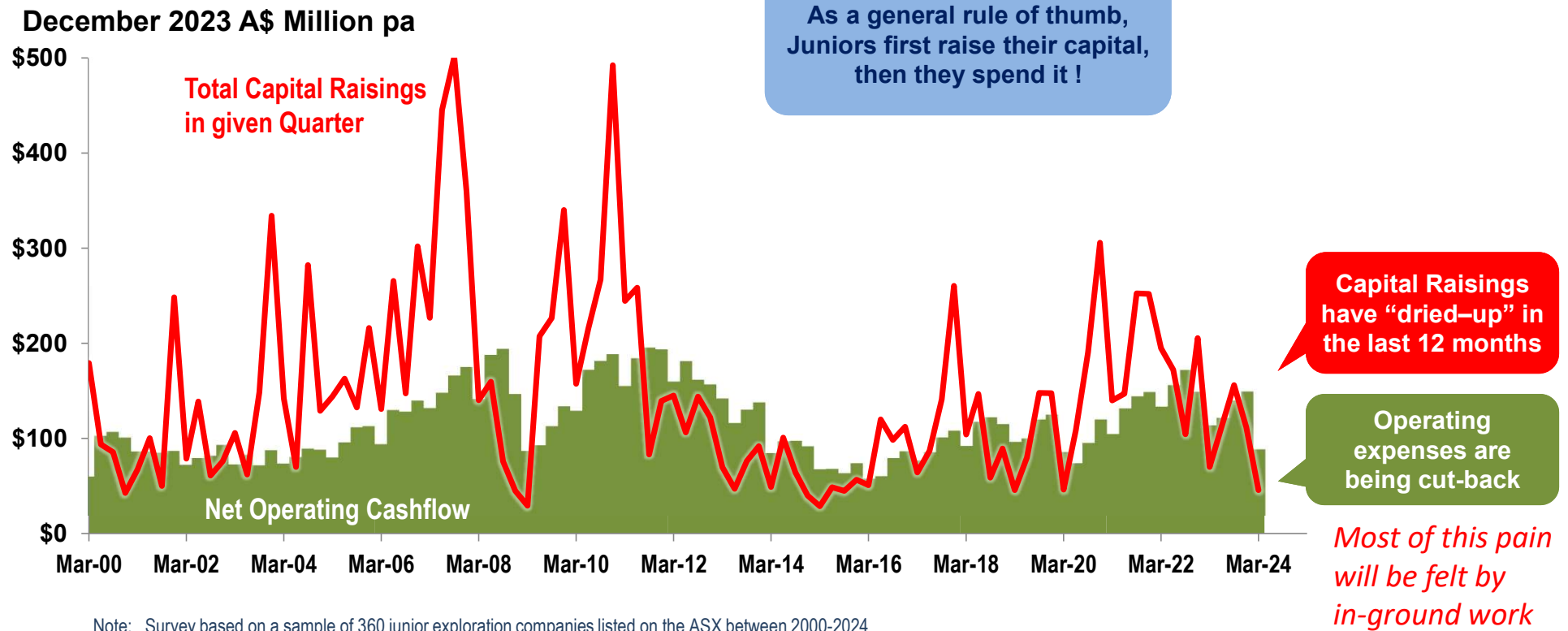
Cash Reserves and Expenditures for the AVERAGE Australian Junior Exploration Company : March 2000 – March 2024



Note: Survey based on a sample of 360 junior exploration companies listed on the ASX between 2000-2024
 "Net Other" includes production and other costs less interest income, mine revenue, Government Assistance and R&D tax credits
 Quarterly spend data has been multiplied by 4x to produce an annualised spend rate

Source: MinEx Consulting © June 2024
 based on Quarterly Reports to the ASX

Capital Raisings versus Net Operating Cashflow Total Amount per 100 Junior Explorers



Note: Survey based on a sample of 360 junior exploration companies listed on the ASX between 2000-2024
 Net Operating Cashflow = Operating Costs + Interest Income + Govt taxes & Incentives, excludes Financing & Capex

Source: MinEx Consulting © June 2024
 based on Quarterly Reports to the ASX

7. SUMMARY / CONCLUSIONS

Summary / Conclusions [1/2]

- Australia has a long and bountiful history for exploration
 - Half of all discoveries in have been found since 1987
 - Victoria’s “day in the sun” was in the 1860s and 1930s
- Australia currently spends ~\$4.0 billion pa on exploration Over the last decade Victoria’s share was only 4%. The main focus is gold
- Victoria accounts for just 3% of Australia’s available land area. On a \$/km² basis Victoria is one of the most intensively explored States – but this has dropped off in the last year
- On average ~14 significant discoveries are made each year in Australia. Over the last decade Victoria accounted for 7 (+2) discoveries – 7% of the country’s total

Summary / Conclusions [2/2]

- Over the last decade, five Tier1 and 7 Tier2 discoveries were made in Australia. **In Victoria, the Swan deposit [T1] was found in 2016 and Sunday Creek [T2] in 2022.**
- Over the last decade \$21.9 billion [in Dec 2023 US\$] was spent on exploration.
- Over the same period \$29.9 billion [in Dec 2023 US\$] of value was created. 87% of this came from the Tier1 & 2 discoveries. **In short, exploration was a value-creating endeavour.**
- The Value/Cost (or “Bang-per-Buck”) for Australia was 1.37. **Victoria was (by far) the best performing State with 4.27**
- The Fraser Institute shows that Victoria’s business risk is not attractive – is the lowest of all Australian States and getting worse.
- The 1-3 year outlook for exploration in Australia suggests we are heading into a (major) down-cycle. This is driven by difficulties by Junior Companies to raise fresh capital.

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