



11th National Parliament Members Induction

August 25, 2022



Economic Contributions of the Mining Sector

Papua New Guinea Mining Sector Overview



- Mining dependant economy (34% total export receipts 2021).
 - Average annual production - 60 tonnes Au, 70 tonnes Ag, 65,000 tonnes Cu.
- Contribution from 4x large mines, 3x medium mines, 3x MLs granted but currently not being developed, 100,000 artisanal miners.
- Government owned and operated mines Ok Tedi
- Wafi Golpu & Frieda Copper projects set for development in the next 10 years



Resources Industry – Major Contributor to GDP



PGK36.6b in oil and gas and mineral exports in 2021

84% contribution to total exports in 2021

(Real and Nominal Gross Domestic Product)

39% contribution to GDP in 2021

(Real and Nominal Gross Domestic Product)

18% Employment average growth in 2019

(Material reporting entities reported employment 14,919 PNG Nationals in 2019)

PGK444m Social Expenditures in 2019

(Refer to Chapter 6: Social and Subnational payments)

28% Contribution to Government Revenue in 2019

(Other sectors contribution does not include other revenues collected from respective government agency, regulator or authority)

- PNG is in the “Top Ten” of most Resource Industry dependent economies in the world (World Bank)
- We cannot underestimate the importance of the resource sector to the PNG economy
- Continued Investment in Resources plus diversification of the economy need to occur in parallel
- A strong resource sector is needed to help fund the diversification

The Resource Industry accounted for 84% of PNG Exports and 39% of GDP in 2021

Source: 2021 data based on QEB Dec 2021.
2019 data based on EITI – Draft 2019 Report.
World Bank.

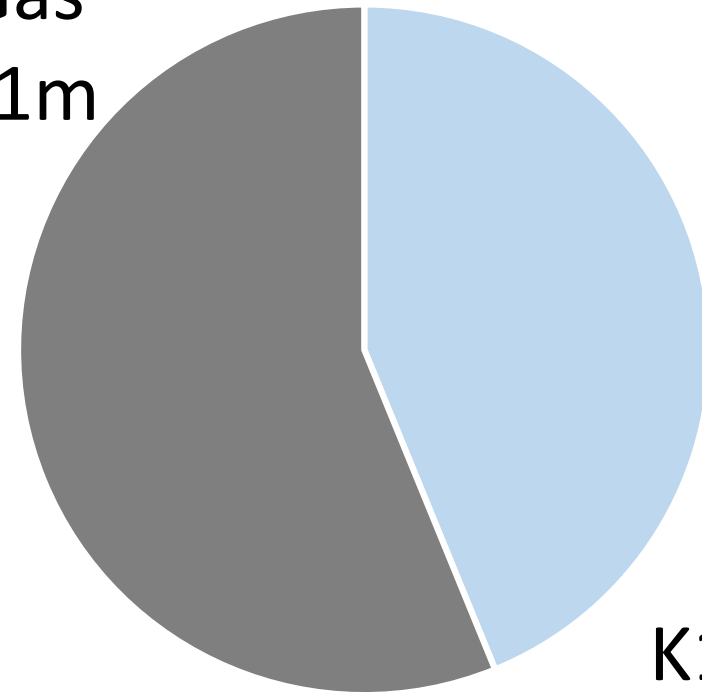


Mining Sector is the Largest Resource Sector Contributor to GDP



Production Value

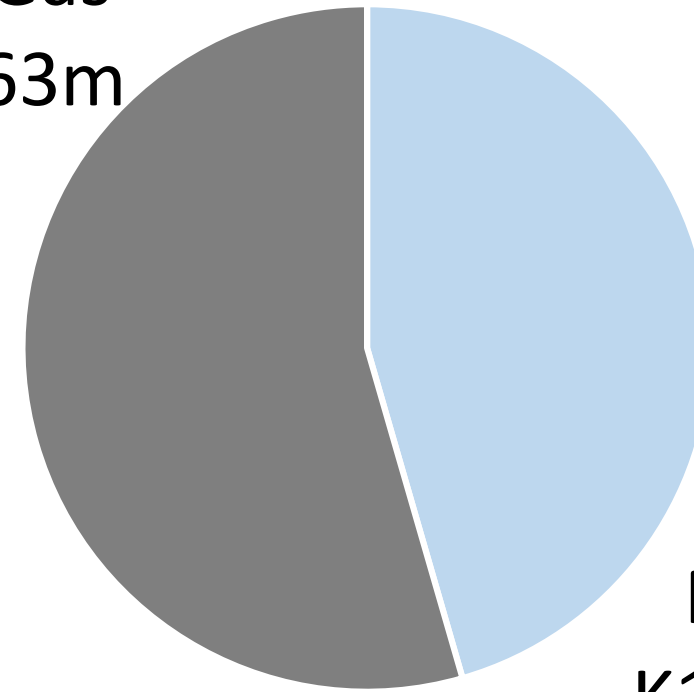
Oil & Gas
K18,251m



Mining
K14,243m

Export Value

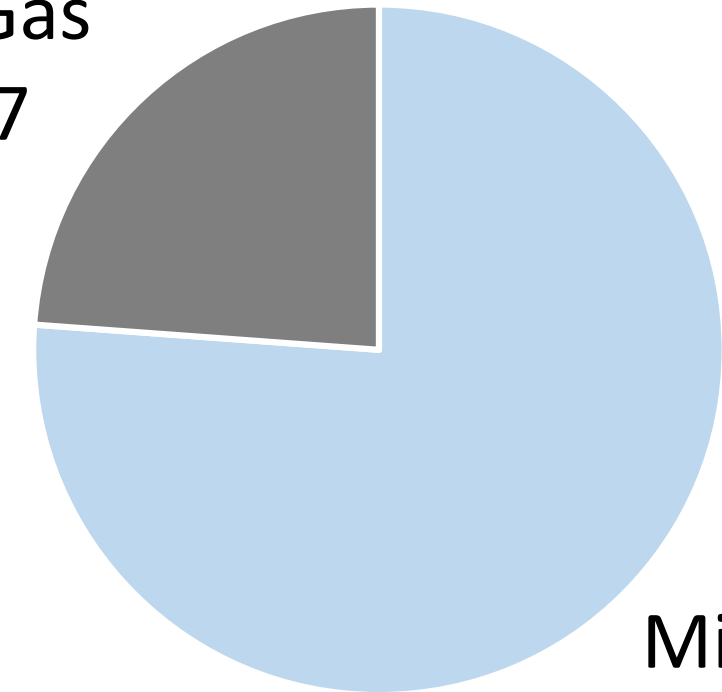
Oil & Gas
K18,263m



Mining
K15,267m

Employment

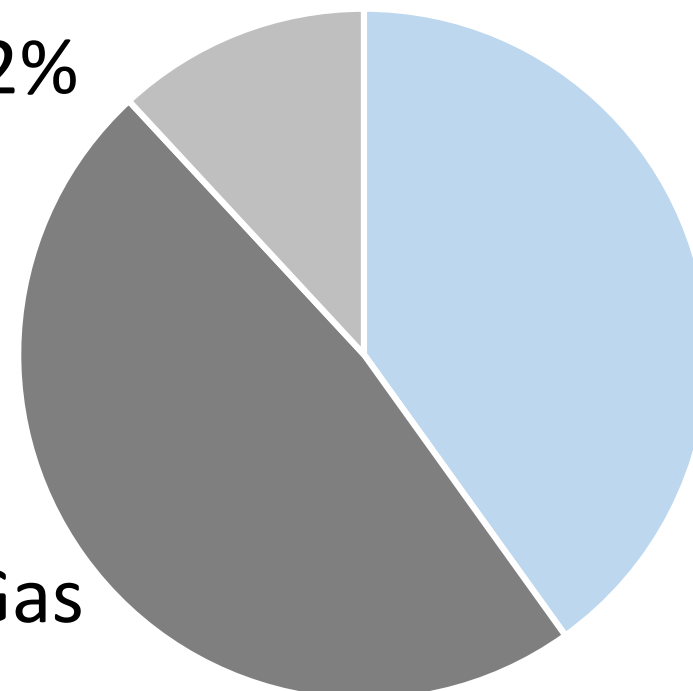
Oil & Gas
4,167



Mining
13,314

Share of Total Exports

Other
12%

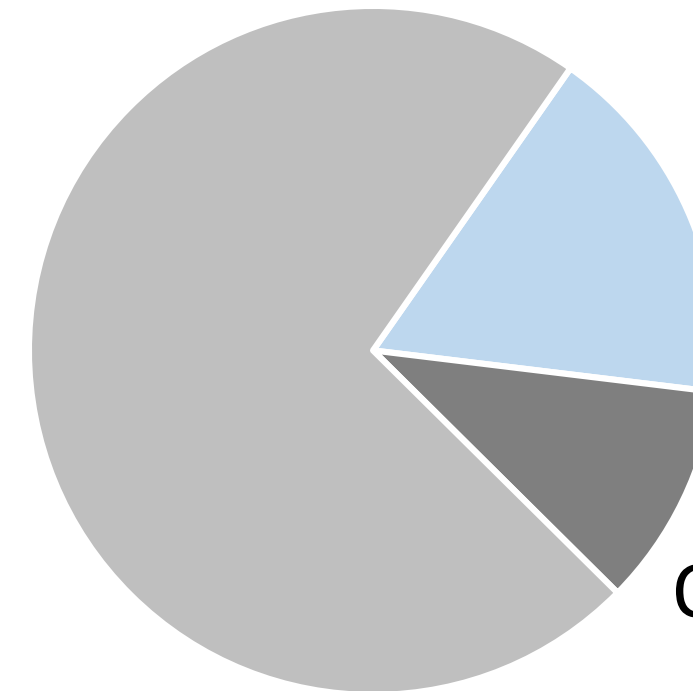


Mining
40%

Oil & Gas
48%

Contribution to GDP

Other
72%



Mining
17%

Oil & Gas
11%



ANZ Report Dec 2020 – Major Multiplier Effect in the PNG's Economy



- ANZ estimate that the resource sector's total contribution to GDP is 1.3 times its direct addition to GDP.
- In addition, every PGK1m of resource exports has a multiplier impact:
 - boosts output (sales) across the economy by a factor of 3.5, and
 - supports 2.1 formal sector jobs (majority through multiplier effect).
- When there is a major construction project occurring, the multiplier impact would be greater during construction. Potential projects which could drive this over the next five years include:
 - Wafi Golpu
 - Kainantu Expansion
 - Papua LNG

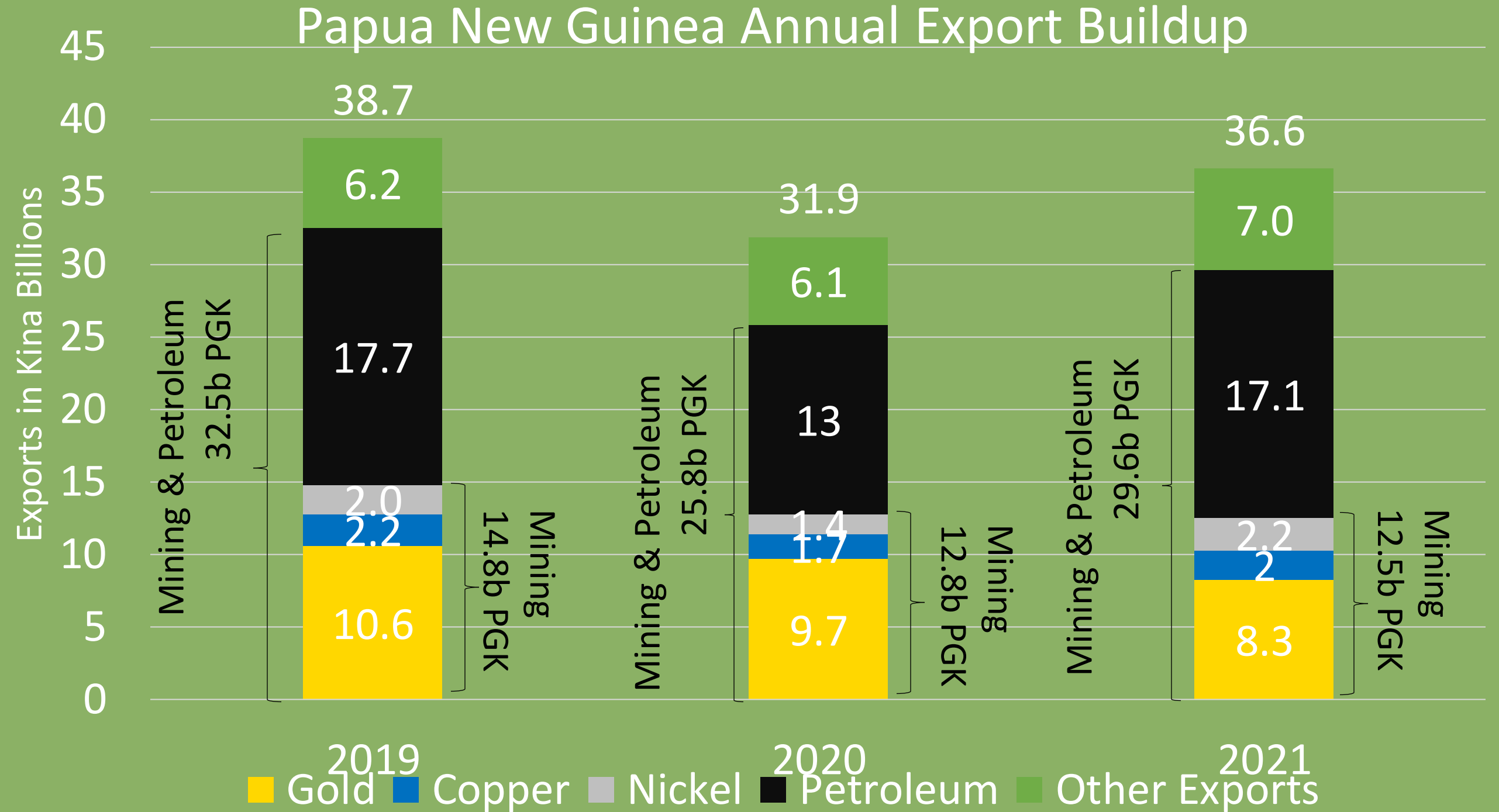
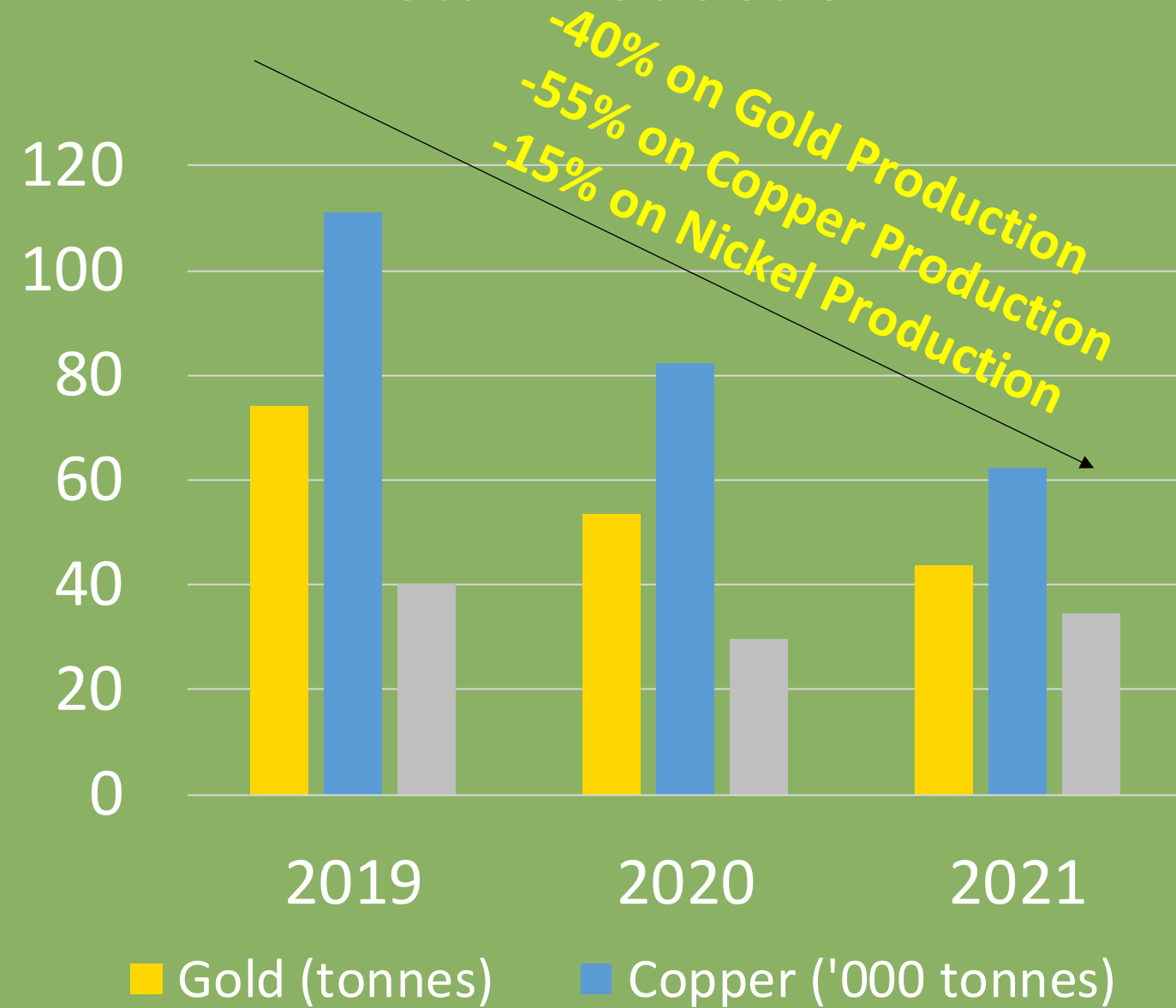
**Resources Sector Multiplies GDP
& Job Creation In PNG's Economy**



Mining Sector Export Contribution by Commodity



Papua New Guinea Annual Metal Production

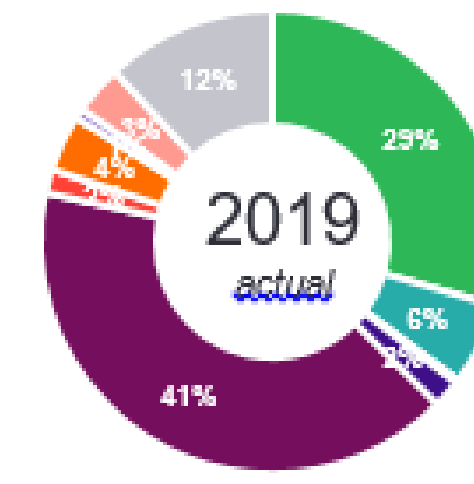
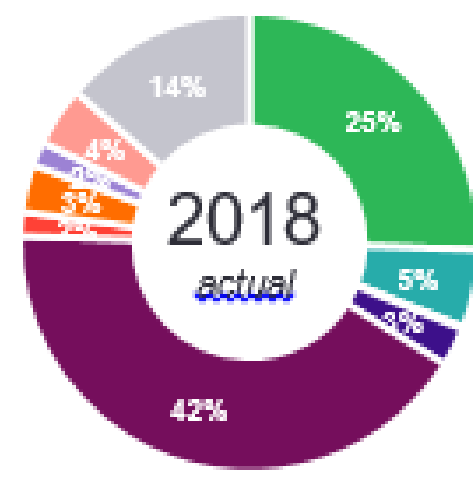
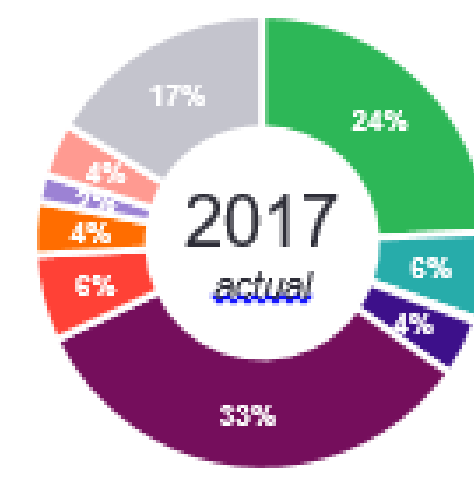
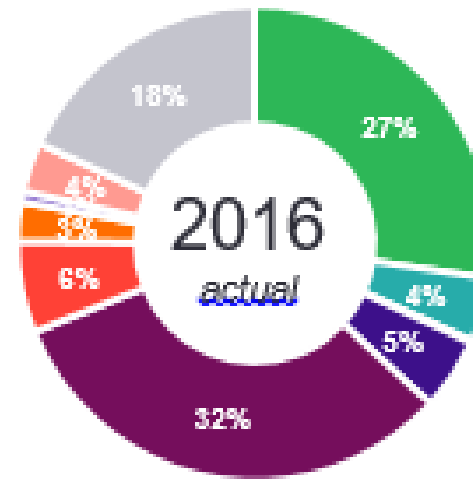
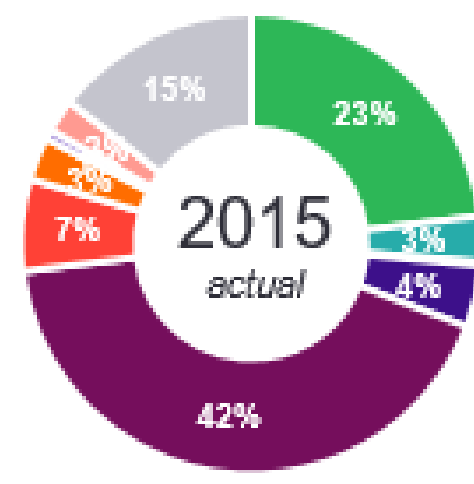
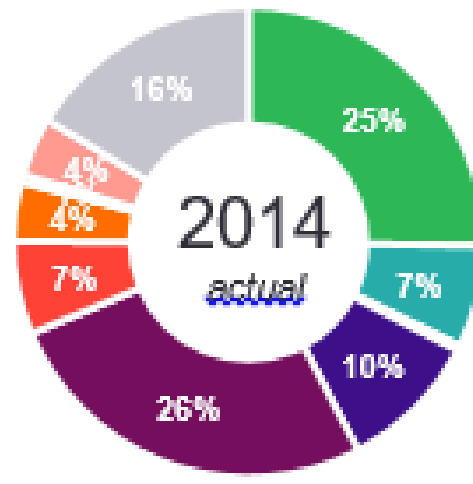
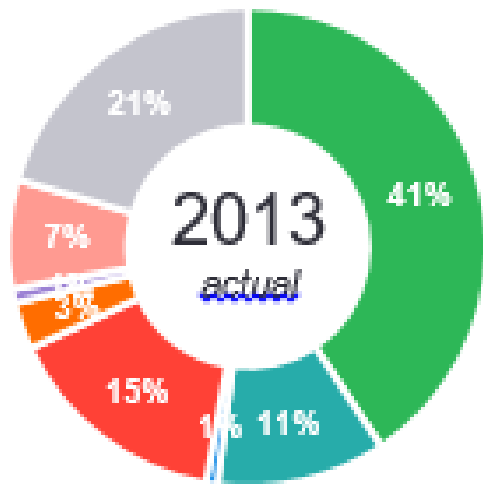


Total metals exported has considerably declined over past few years
Exports have been relatively stable due to rising commodity prices

Resource sector consists of the base majority of exports



26% of PNG's GDP Growth was Driven by the Resources Industry



Extractive industry in PNG

Year	Value of Oil and gas and mineral exports (PGK million)
2013	10,807
2014	18,088
2015	19,932
2016	20,885
2017	28,288
2018	28,768
2019	33,530

Legend:

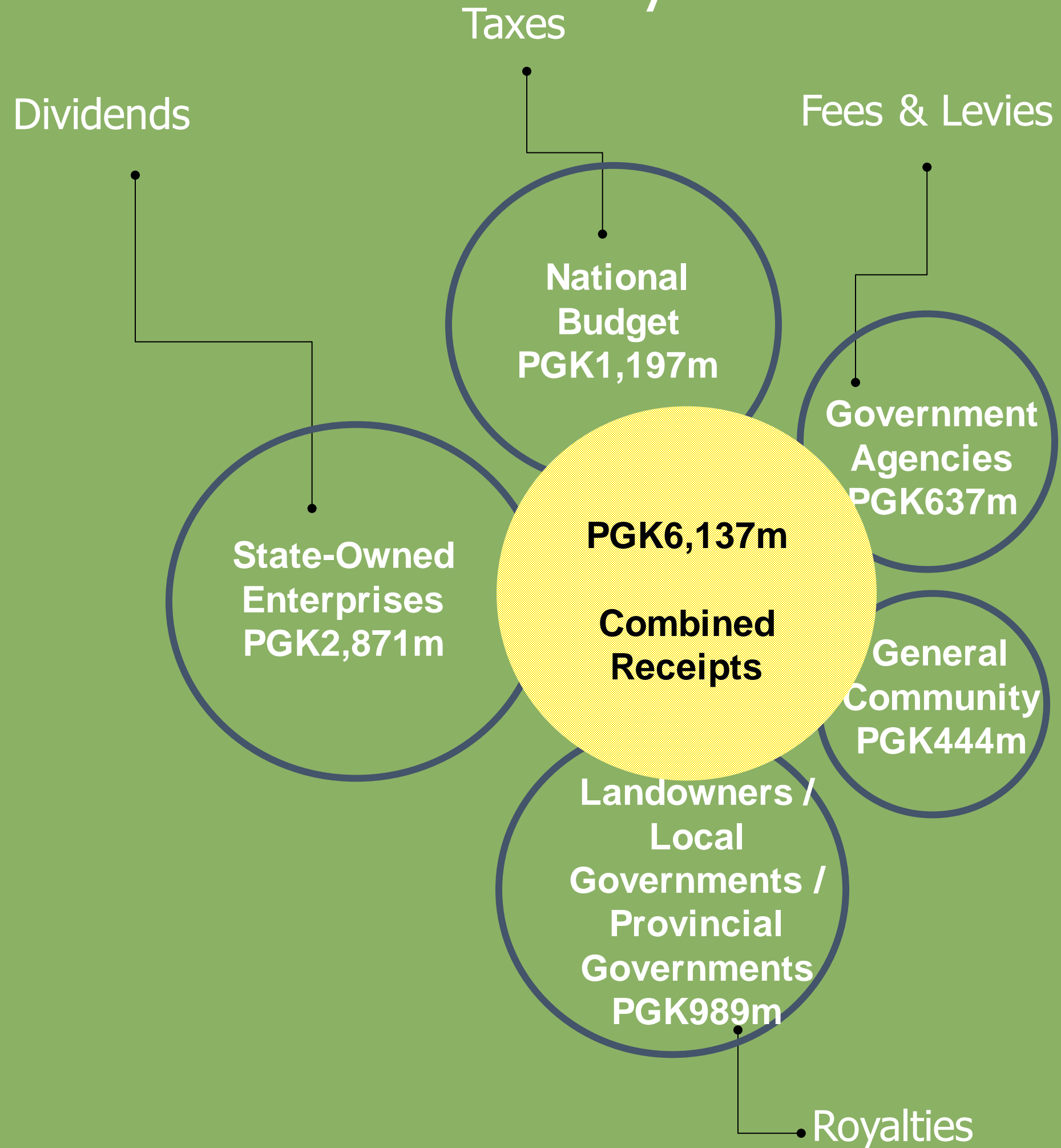
- Gold
 - Condensate
 - Non-mineral exports
 - Copper
 - Nickel
 - Oil
 - Cobalt
 - LNG
 - Refined Petroleum Products
- Silver comprises 0.2% and is not shown on the charts

- Growth in export value of Extractive Industry products is driving growth in the PNG economy
- This is a “good news” story – but what matters is:
 - How the “profits” are split
 - How PNG citizens are engaged
 - How environment is preserved
 - How do we sustain and grow the industry

Resources Sector a Major Contributor to Economic Growth



Extractive Industry Sector Contribution to the Government



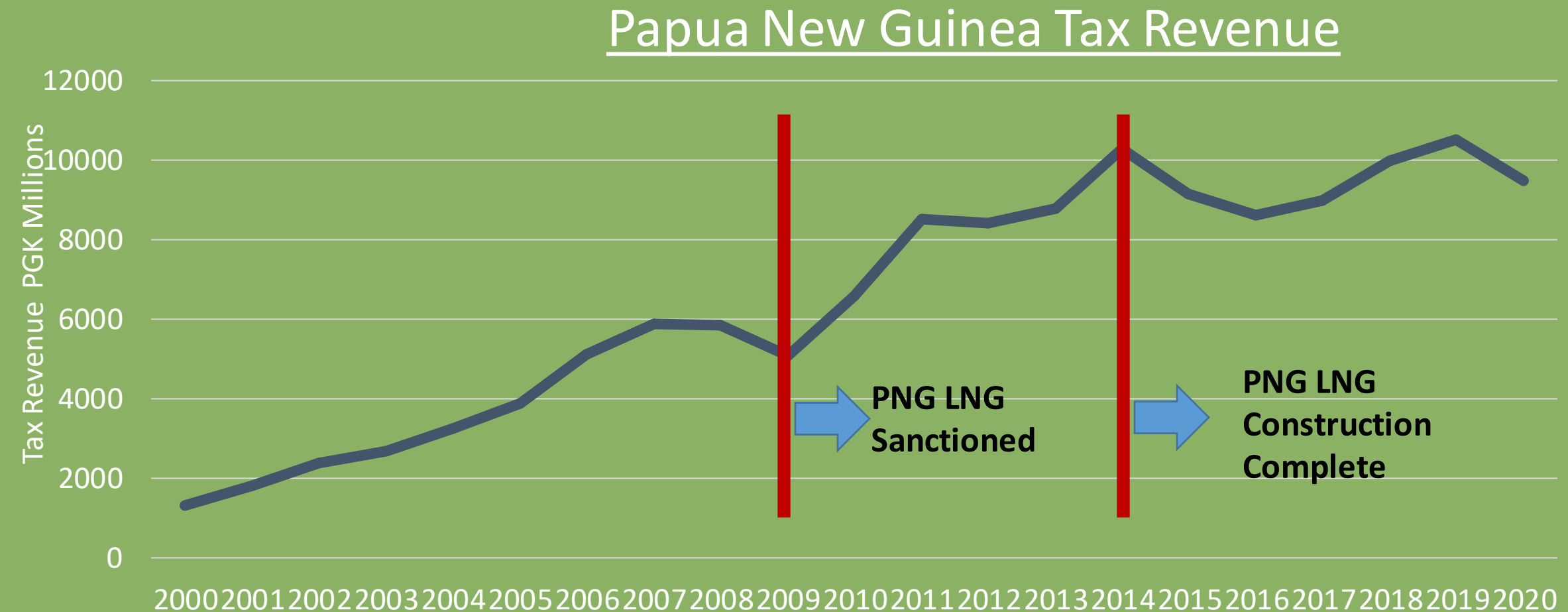
Resources Sector Contributes Through Multiple Revenue Streams to Government



A Major Contributor to Tax Base – Resource Projects



- PNG tax take has grown dramatically since 2002 due to:
 - Increase in resources prices (oil post 2004)
 - Sanction of PNG LNG (2009)
 - End of construction (2014) led to a reduction in payroll tax
- Future tax increase over the next five years should occur due to
 - PNG LNG moves into tax paying position (post-capital depreciation)
 - Restart of Porgera Gold Mine
 - Kainantu Expansion
 - Construction of Papua LNG
 - Construction of Wafi Golpu



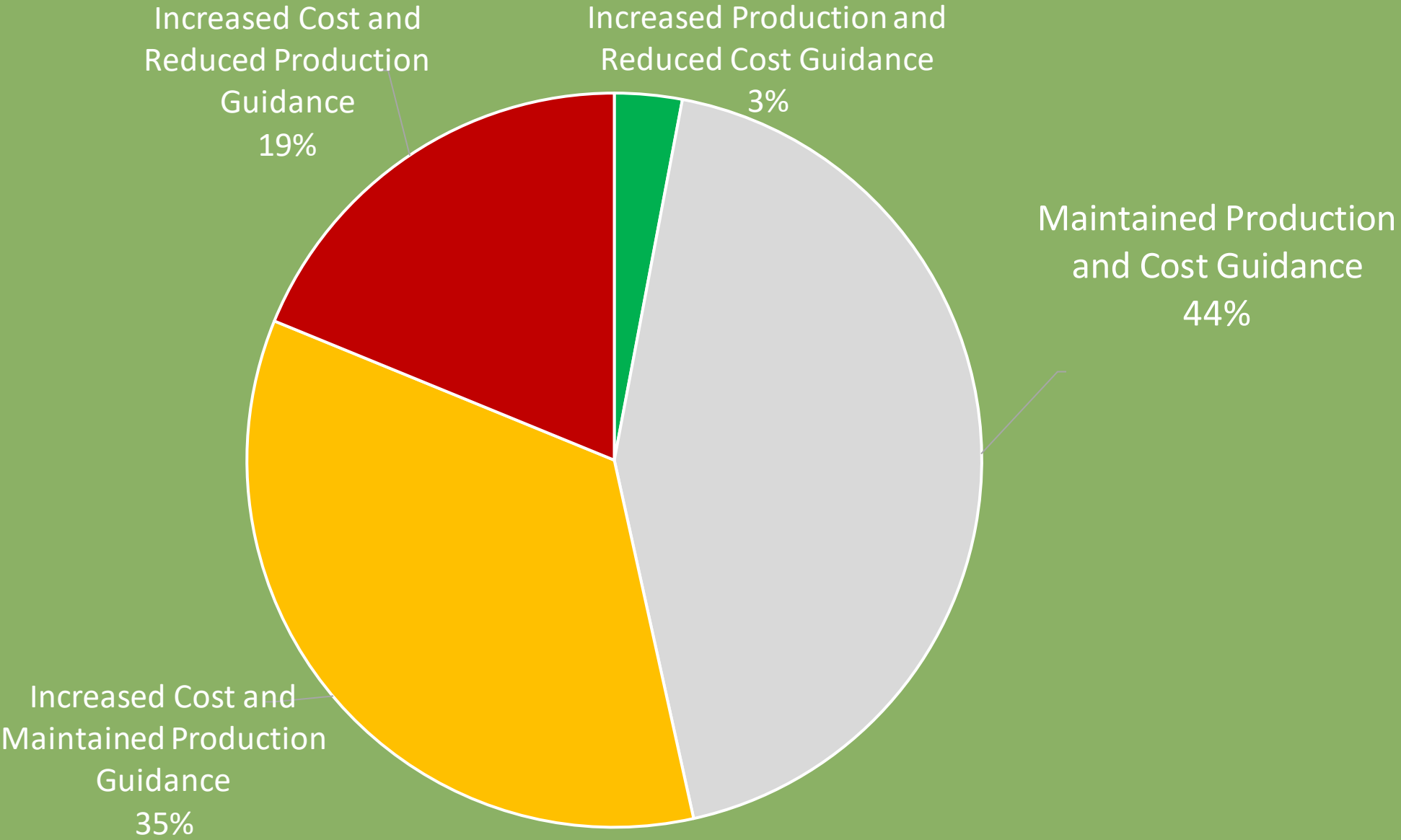
**Sanction of large projects gives quick economic benefit
That is then sustained over a long period of time**



Metals Mining Industry Currently Under Significant Pressures



- Supply chain, fuel prices and skills shortages have increased costs and/or reduced production for many mining companies
 - Mid-way through the year:
 - Approximately half of Precious Metals Companies have either downgraded their production and/or increased their cost guidance⁽¹⁾

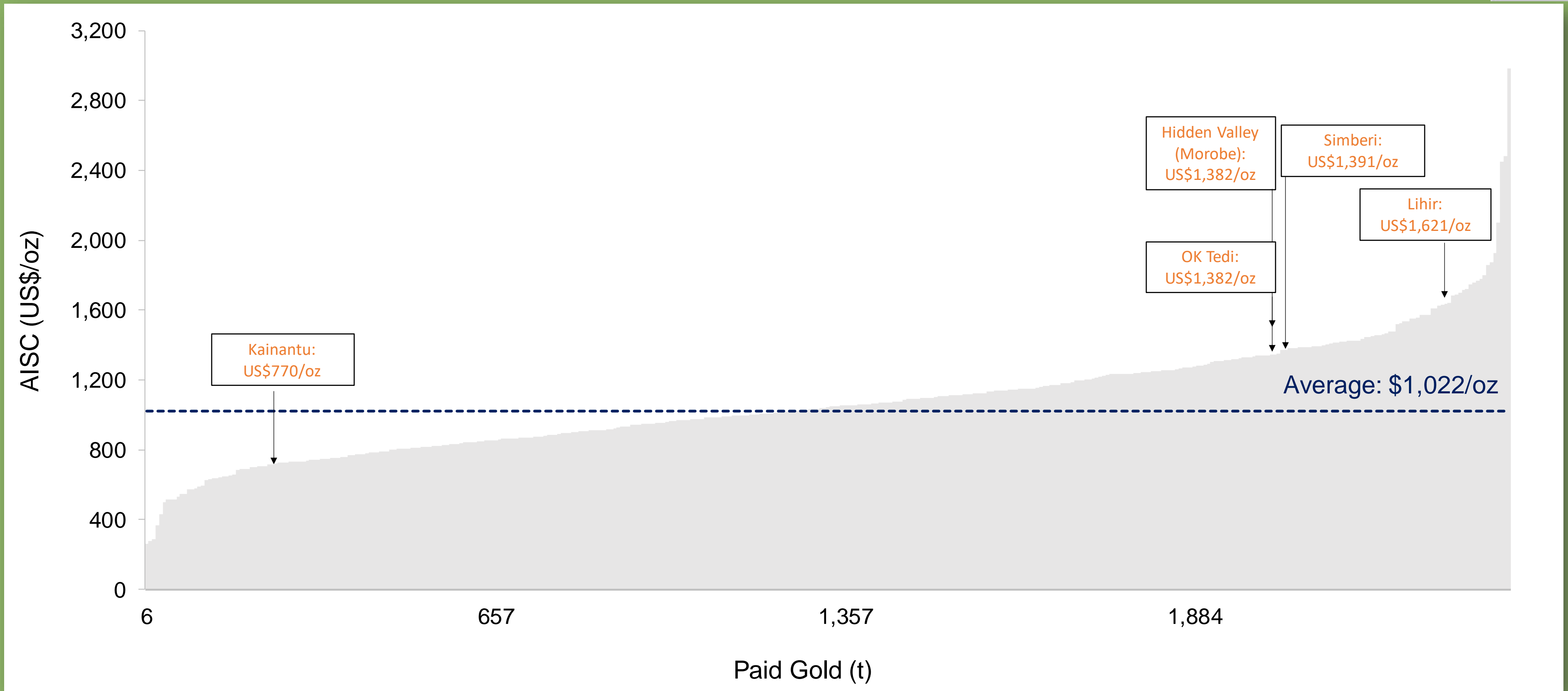


2021 and 2022 have been challenging year for the metals mining industry
Many of the pressures are being felt by producers of other commodities



Data Source: Cormark Securities Inc. based on their firms gold producer research coverage universe (32 companies).

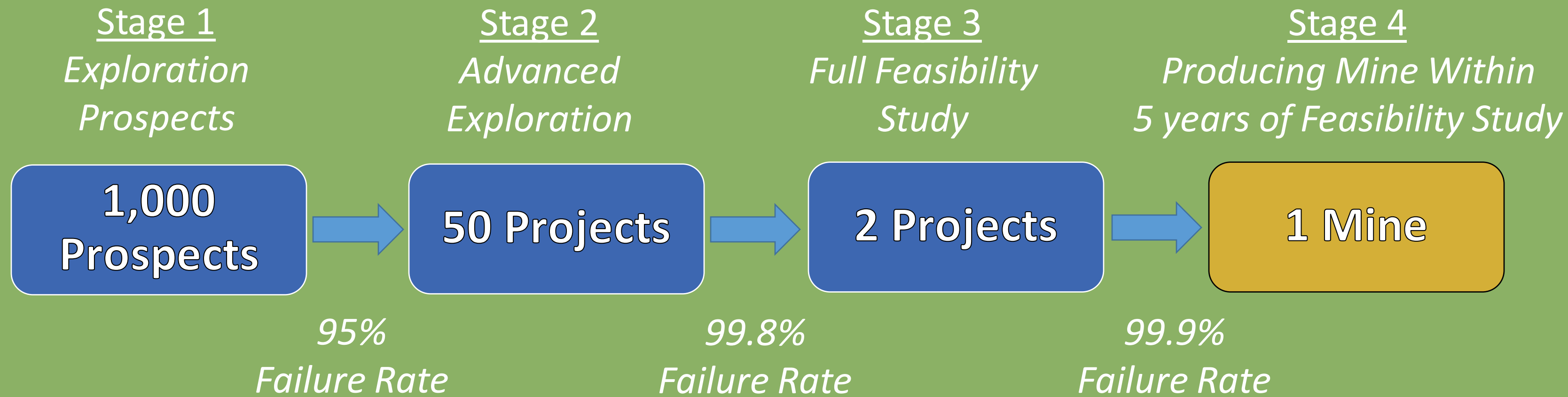
2021 Gold Industry Cost Curve



Papua New Guinea has mostly mature mines which are above the global average cost curve in 2021 – global costs have since risen due to inflationary pressures



Exploration is a High-Risk Business 1 in 1000 Prospects Become a Mine



The probability of finding a mine is very low and it takes considerable time

Investors will only invest in exploration and development if they can get a sufficient return when a successful prospect becomes a mine

To get more mines in Papua New Guinea we need more exploration

Data Source: Burgex Mining Consultants - <https://burgex.com/improving-mineral-exploration/>



Building a Mine is High Risk – Most Go Over Capex Budget



80%

**Of mines built go over capex budget
and are delivered late**

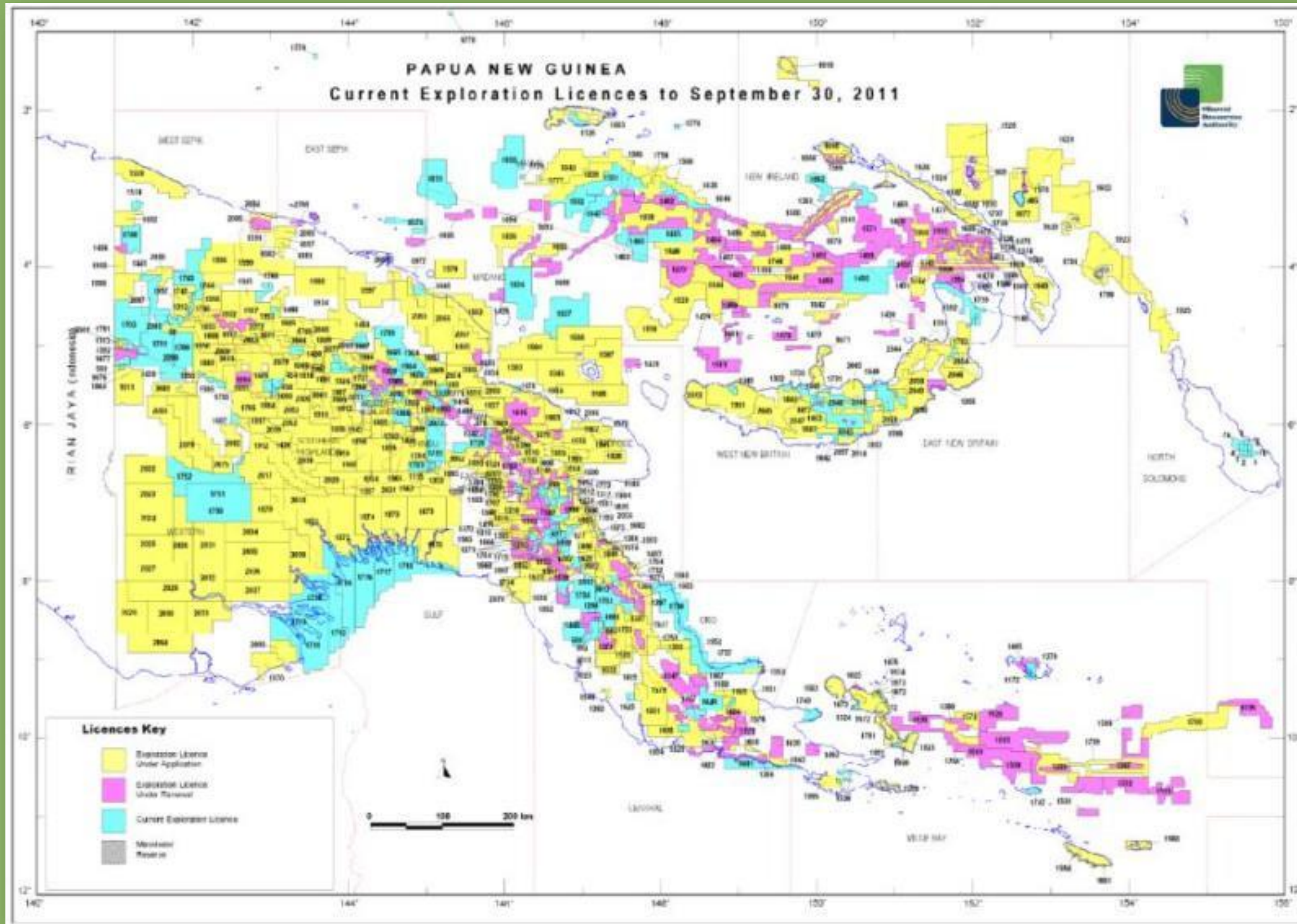
43%

**Average amount that mines are over
budget on capital costs**

**Building and operating a mine is technically challenging
requires a significant amount of expertise and capital investment**



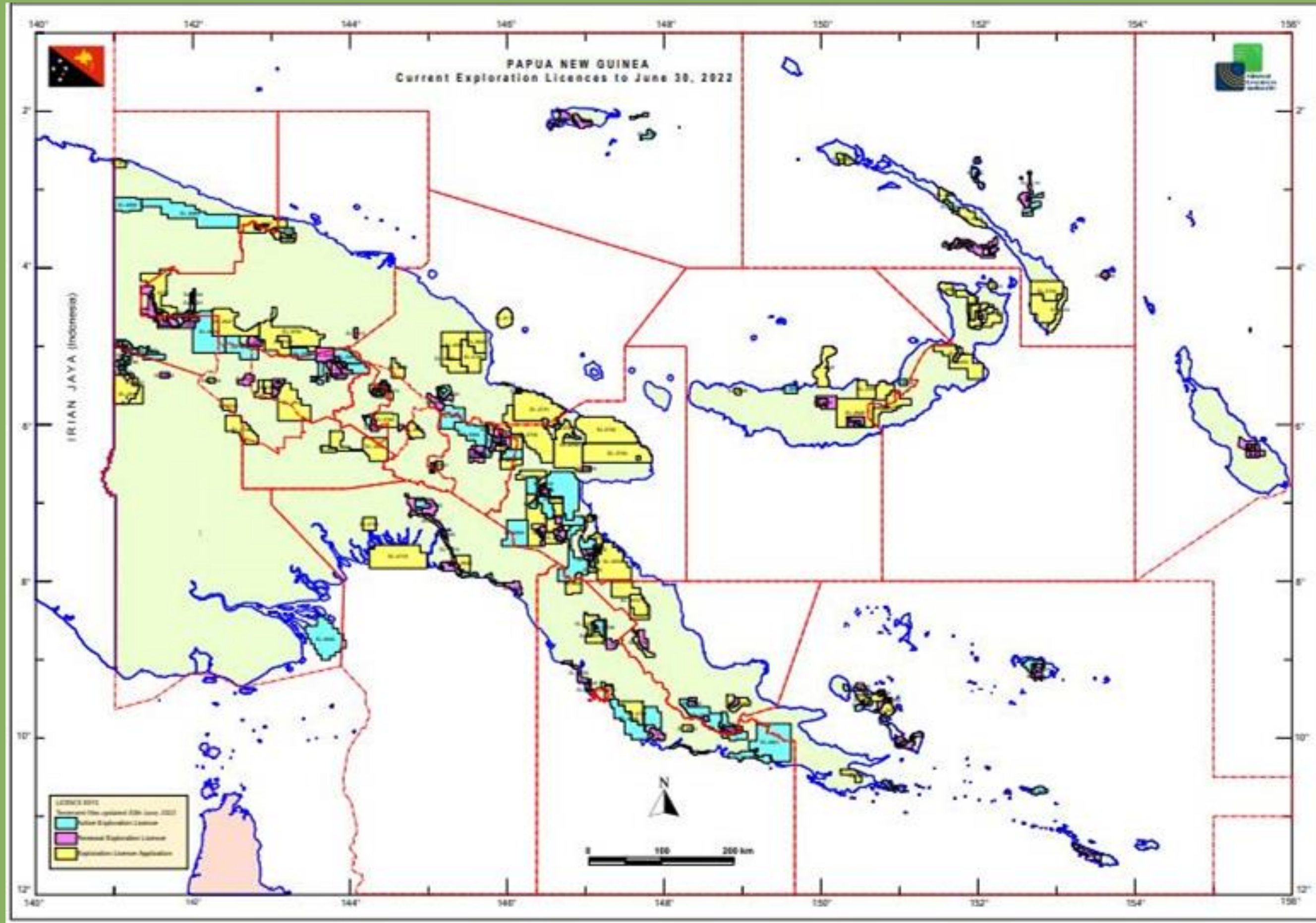
PNG Exploration Tenement Map - 2011



PNG has some of the best geology in the world &
In 2011 many companies were exploring



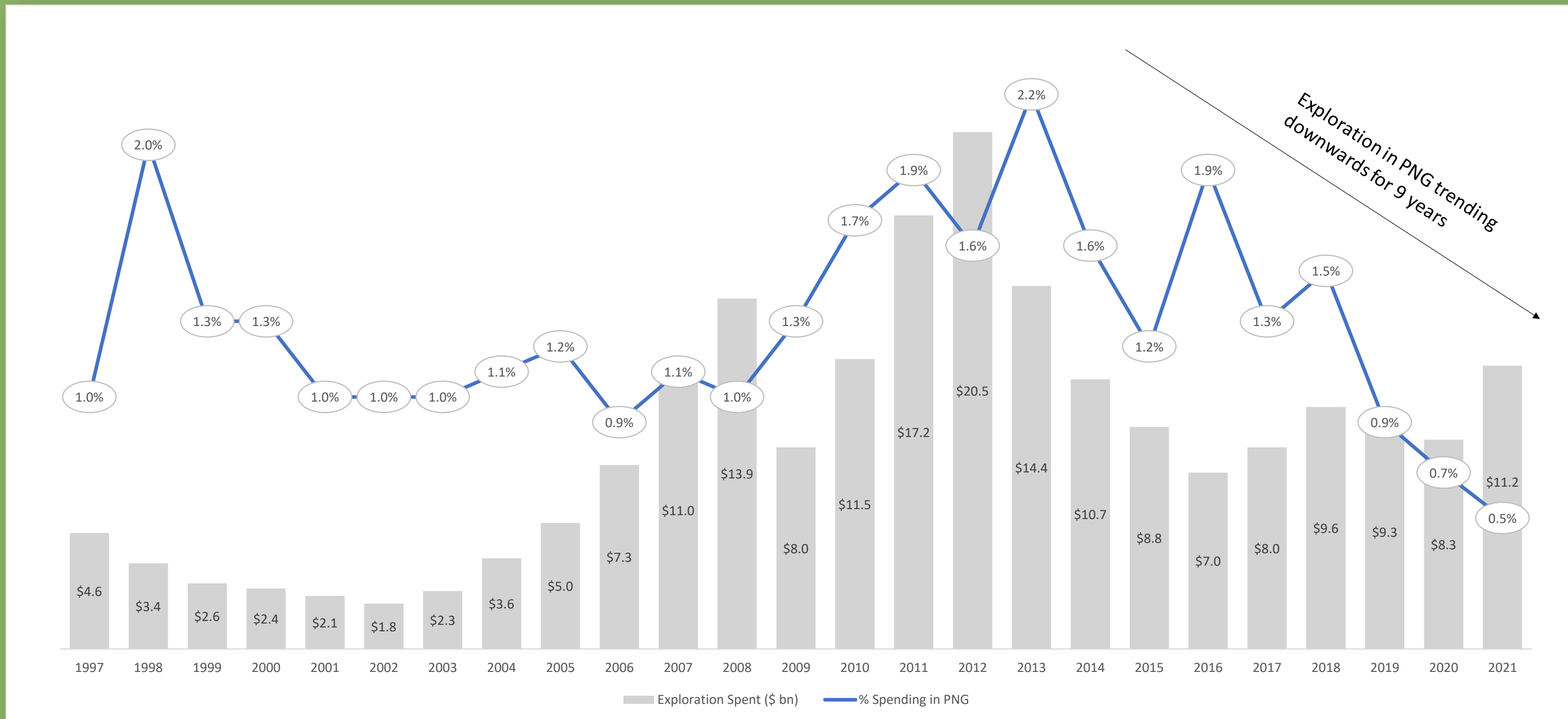
PNG Exploration Tenement Map - 2022



The geology never changed – it still is the best, but very few companies are investing and exploring



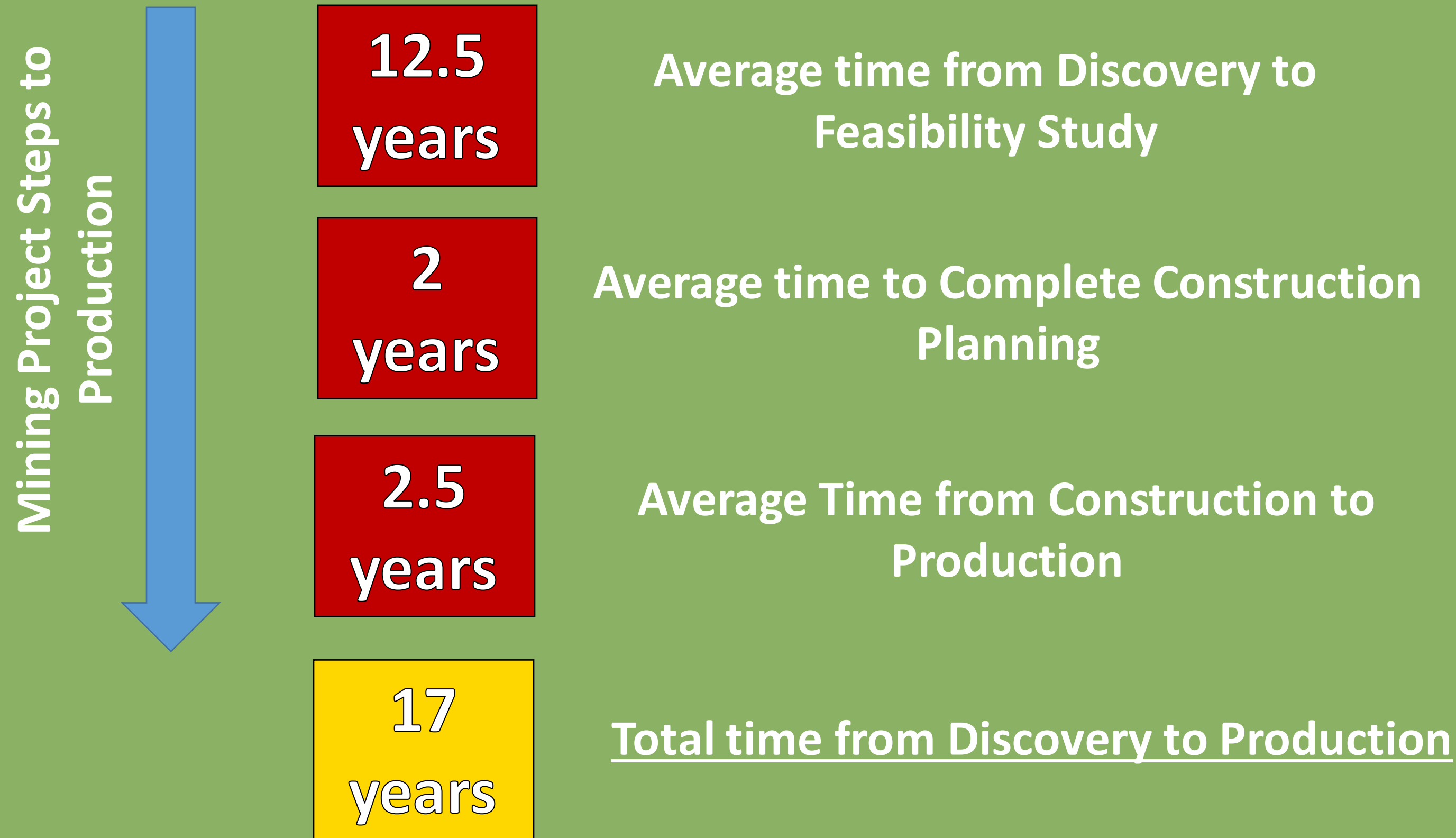
Exploration Spending Worldwide vs Papua New Guinea



Since 2013 Papua New Guinea's Share of Worldwide Exploration Spend has Significantly Decline. 2021 was a new low



Exploration to Production Takes a Very Long Time



Building and operating a mine is technically challenging
requires a significant amount of expertise and capital investment



Development & Advanced Exploration Projects



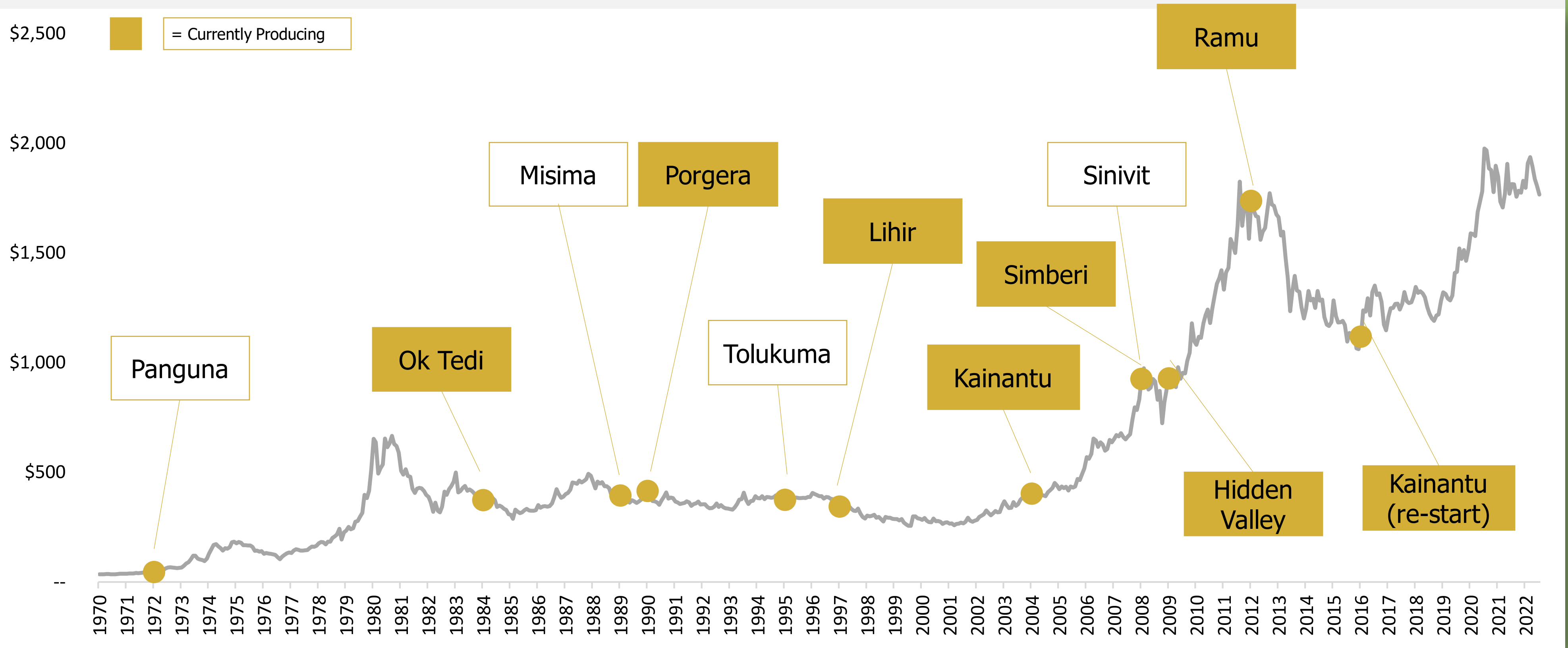
	Projects	Company	Commodity	Status
1	Wafi/Golpu (Morobe)	Harmony & Newcrest JV	Copper, gold, silver	Permitting
2	Frieda (West Sepik)	PanAust	Copper, gold, silver	Permitting
3	Woodlark (Milne Bay)	Geopacific	Gold	Mining Lease Granted - Construction Suspended
4	Misima (Milne Bay)	Kingston	Gold	Feasibility Study Stage
5	Yandera (Madang)	Era Resources	Copper, molybdenum	Pre Study
6	Mt Kare (Enga)	GMG	Gold, silver	Pre Study



Timeline of Mines In Papua New Guinea



Gold Price Since 1970 with New Mines Annotated



No new mines have been brought online since Ramu in 2012

Key Elements to Encourage Exploration & Mining



- Prospectivity
- Clear Legal Authority
- Security of Tenure & Transferability of Exploration & Mining Rights
- Exclusivity of Exploration and Mining Rights
- Non-discrimination between Local & Foreign Nationals
- Preferential Right to Convert Exploration License to Mining License
- Reasonable Royalty Rates
- Transparent Licensing Procedures
- Clear and Uniform Policy on Government Ownership
- Protection against Speculation
- Access – Infrastructure, Communities, Climate
- Availability of Geological Database
- Fiscal Stability & Certainty





The Future of the Exploration and Mining Industry is in Your Hands

Y  **U**





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Thank you

