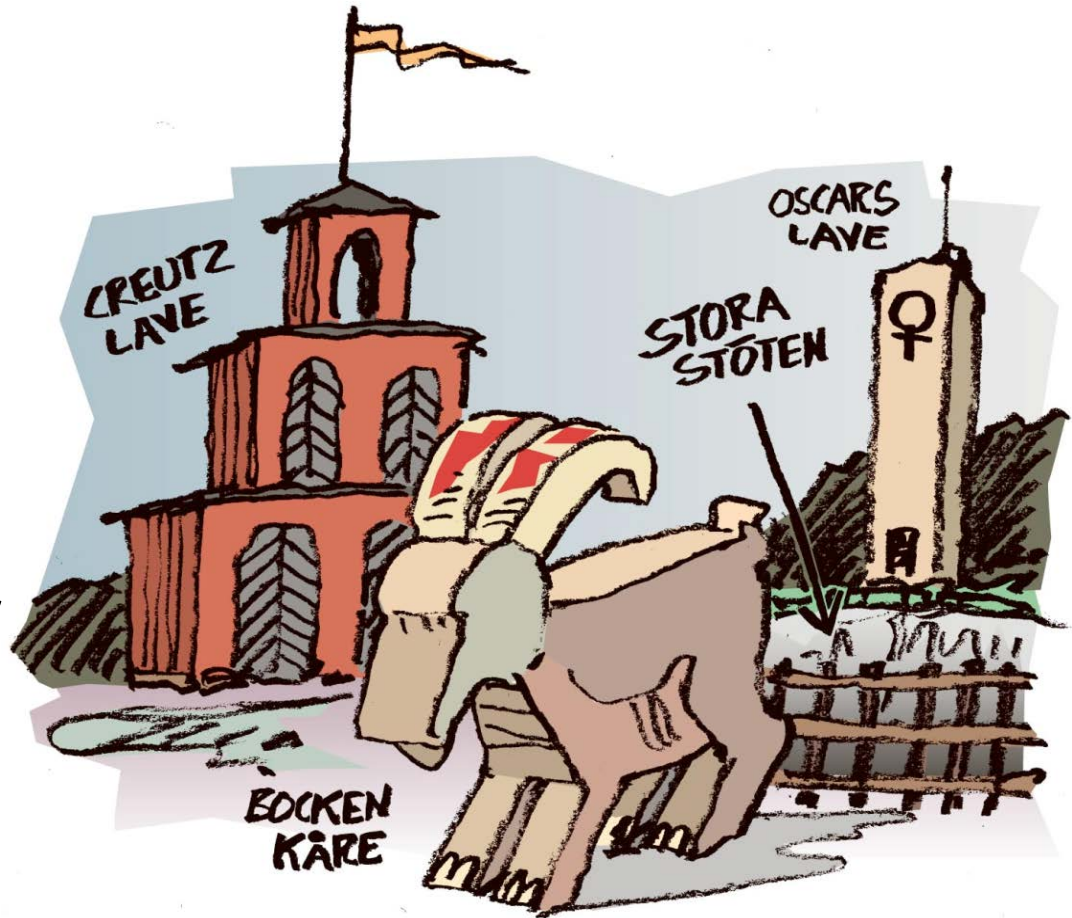


Gruvskatt - en försumbar inkomst för staten



Copper drawing: Kaianders Sempler.

Magnus Ericsson



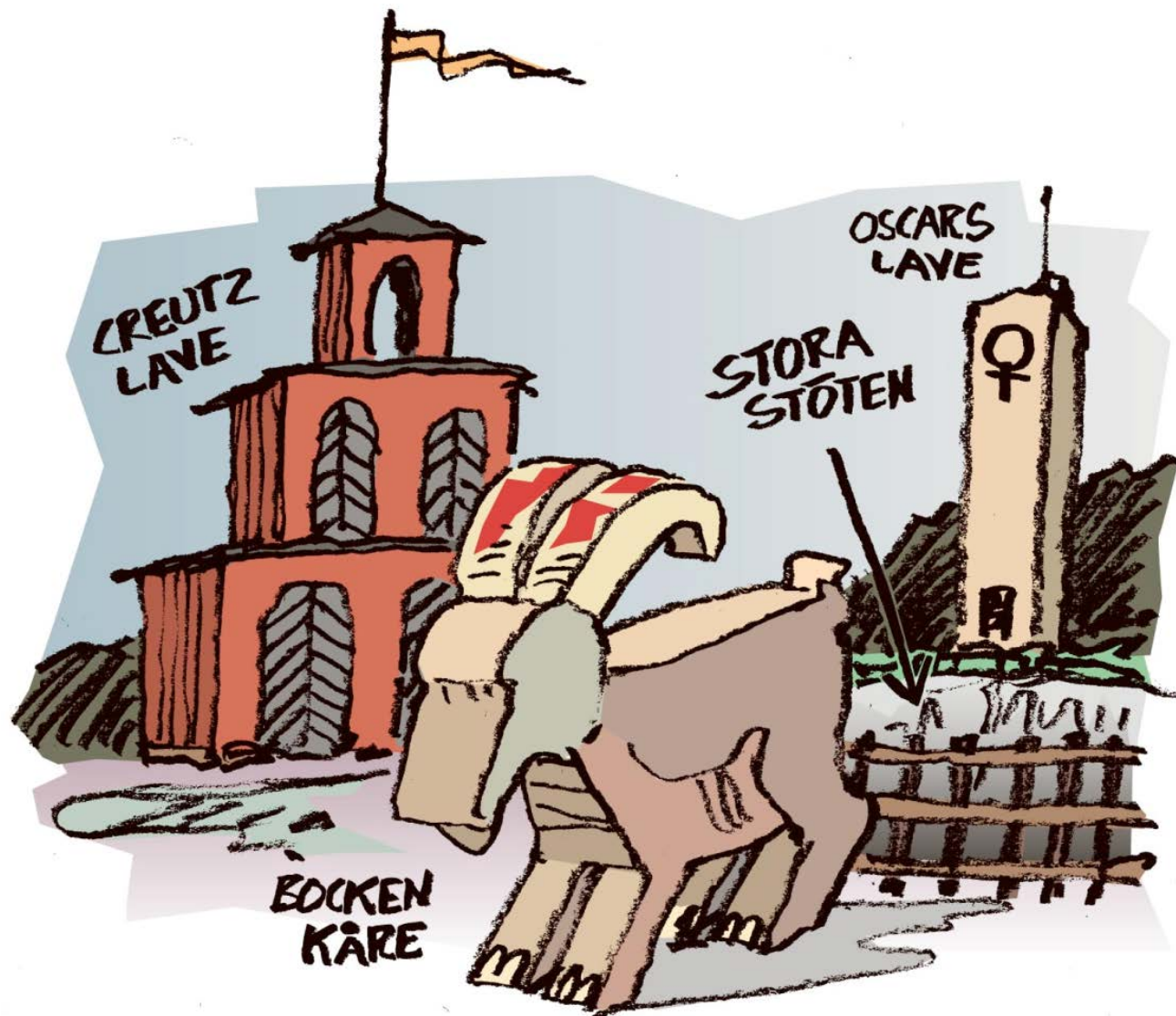
Favoritlektyr



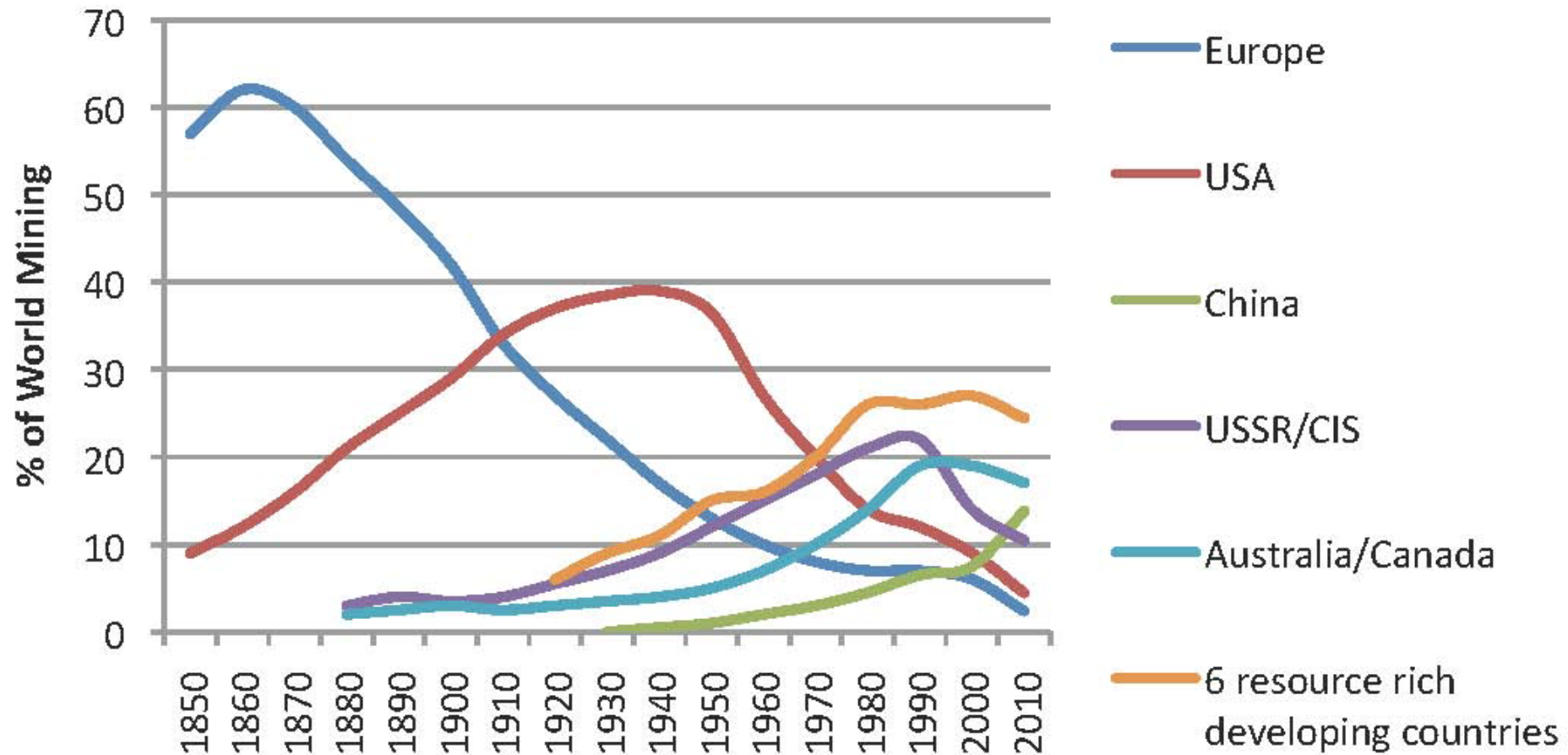
Sammanfattning

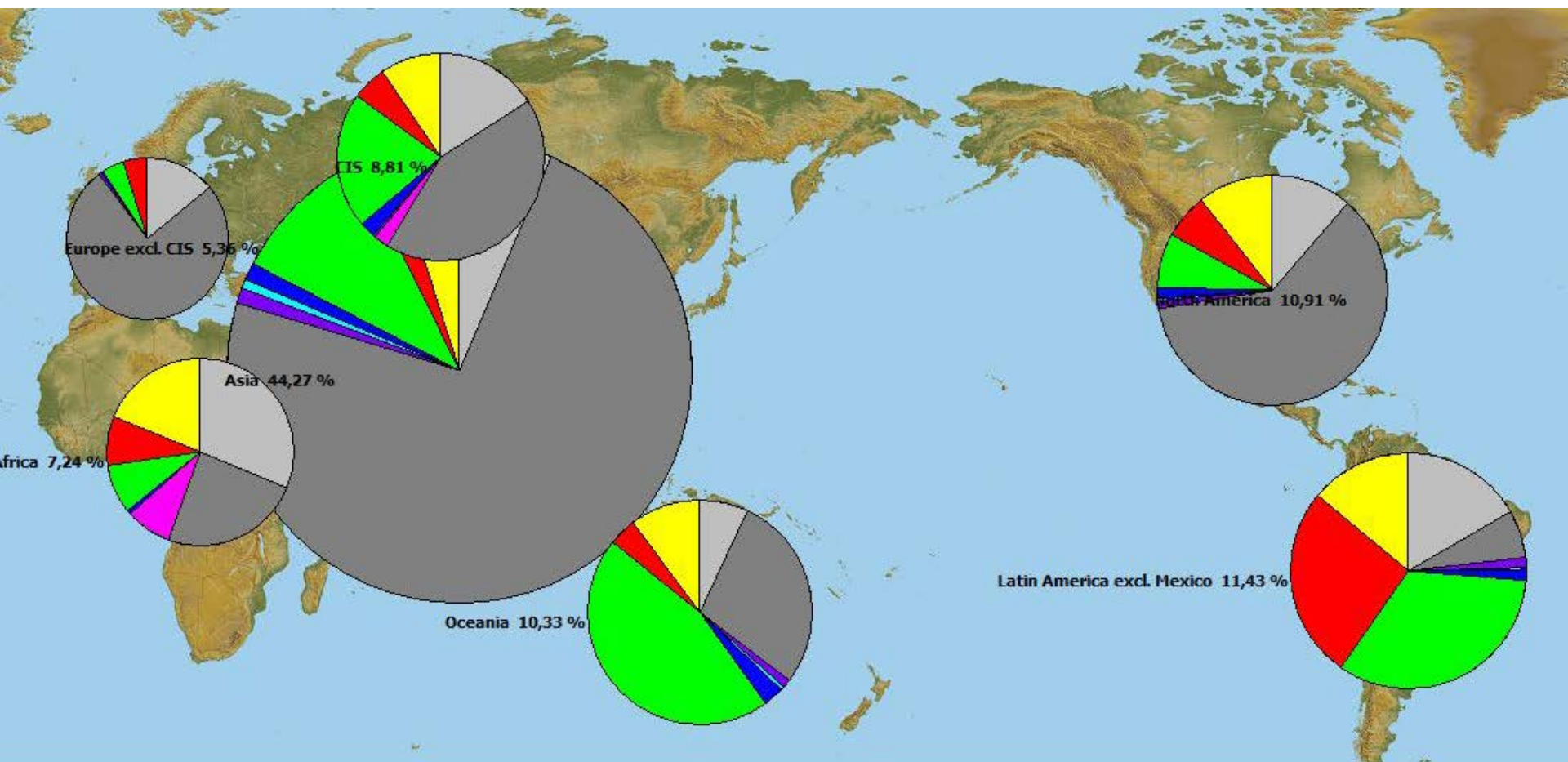
- **Avför gruvskatten från den politiska dagordningen. Låga skatter kan ge ytterligare investeringar och motverka avflyttningen från Norrland.**
- **Håll Sverige öppet för internationella ideer och kapital.**
- **Bredda det internationella samarbete med Norden och med Afrika.**

Tack !



Locus of mining





Metal shares of total value

● Au
 ● Ag
 ● Cu
 ● Fe
 ● Ni
 ● Pb
 ● Zn
 ● PGMs
 ● coal
 ● other

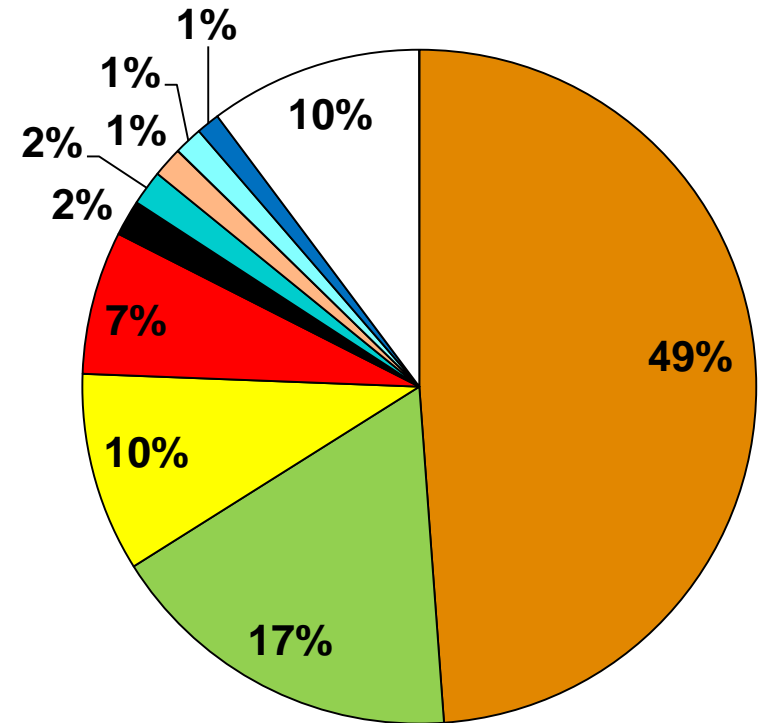
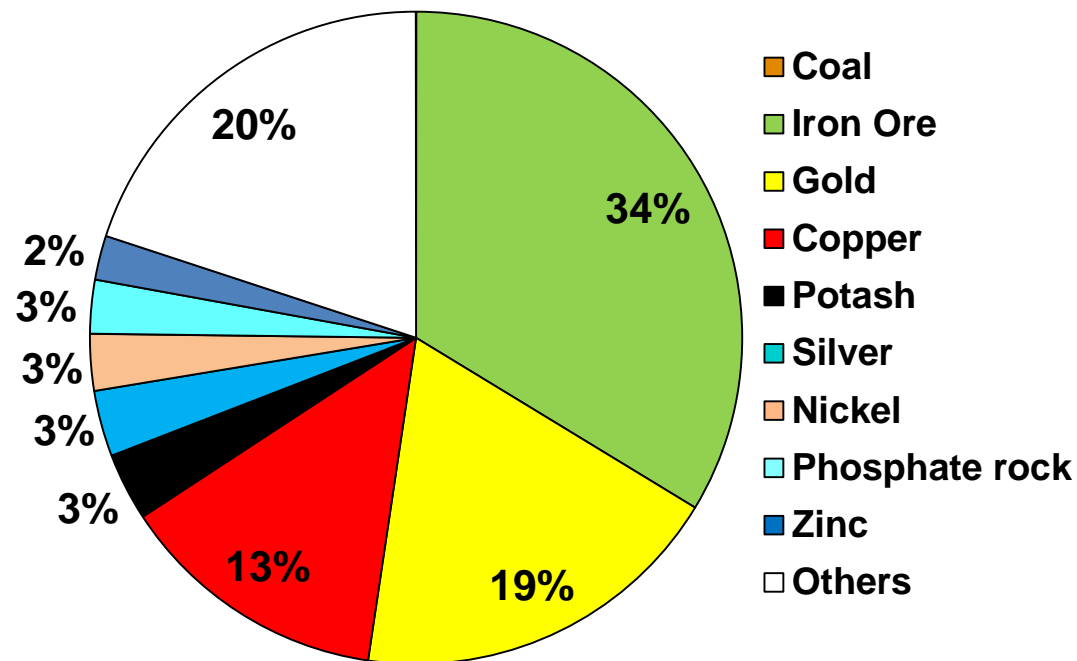
Metals, coal, ind. minerals

Source: Raw Materials Data.

YEAR 2012 TOTAL

~ 765 billion USD (excl coal)

~ 1490 billion USD (incl coal)



Source: Raw Materials Group, Stockholm 2014.

Copper price

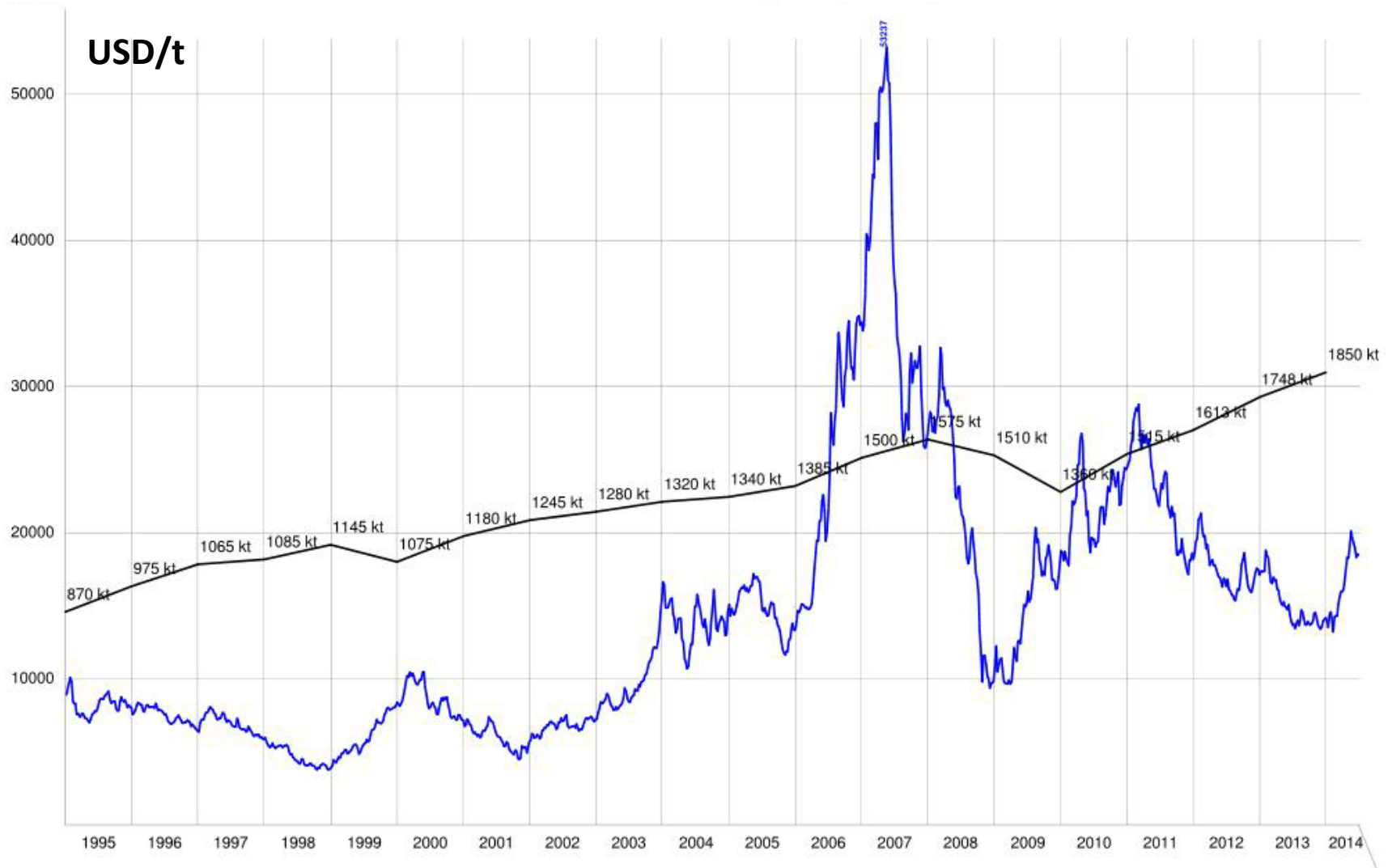


Gold price



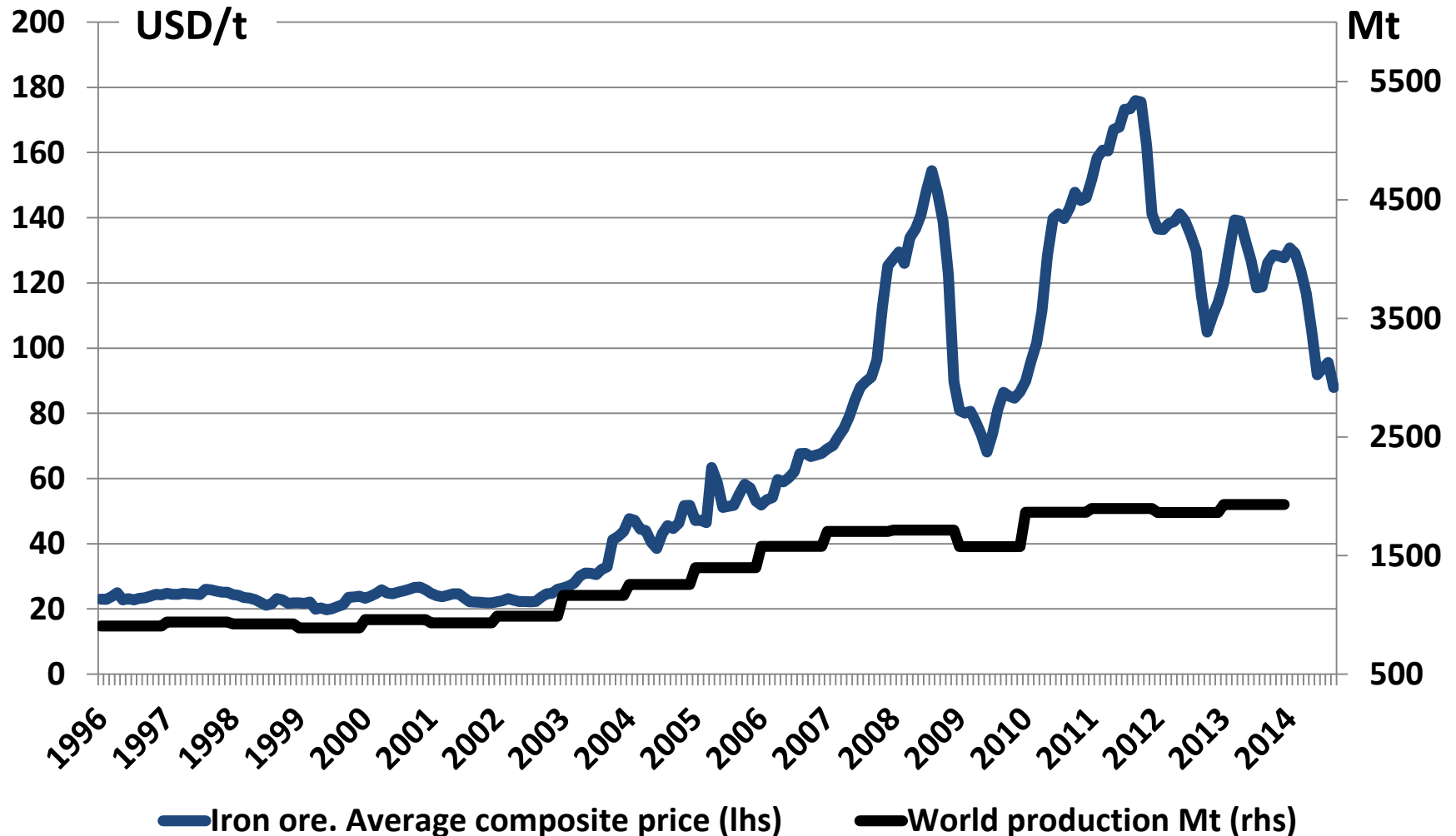
Source: Raw Materials Data.

Nickel price



Source: Raw Materials Data.

Iron ore price



Source: Raw Materials Data.

- **Demand**
- **Supply**
- **Exploration**
- **Future**
 - **Government policies**
 - **Prices**
 - **Ore production**
 - **Capex**
 - **Technology, R&D**
- **Summary**



Manganese drawing: Kaianders Sempler.

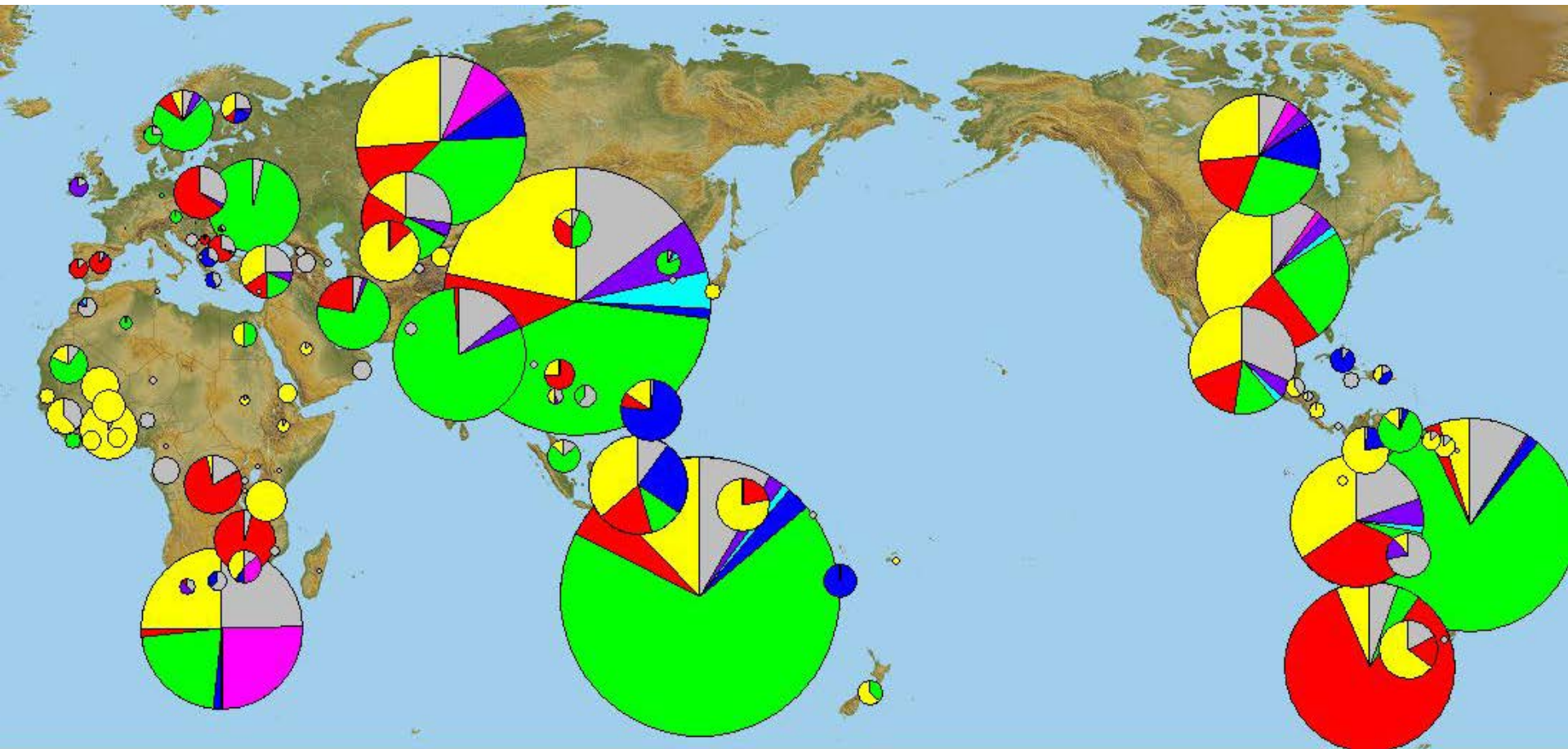
(%)	2012	2013	2014	2015	2016	2017-21
World	3.2	2.9	3.6	4.0	4.1	4.1
Africa	9.0	3.5	5.7	5.4	5.0	4.7
Asia	4.1	4.0	4.1	4.2	3.8	3.5
Europe	0.1	0.3	1.4	1.8	1.9	1.9
N. America	2.7	1.5	2.6	3.3	3.4	3.3
L. America	2.5	2.9	3.0	3.4	3.5	3.6
Oceania	3.6	2.5	2.8	3.0	2.9	3.0
China	7.7	7.6	7.3	7.0	6.5	5.5



- Population growth.
- Urbanisation & industrialisation.
- Special properties of metals.
- GDP related steady growth.



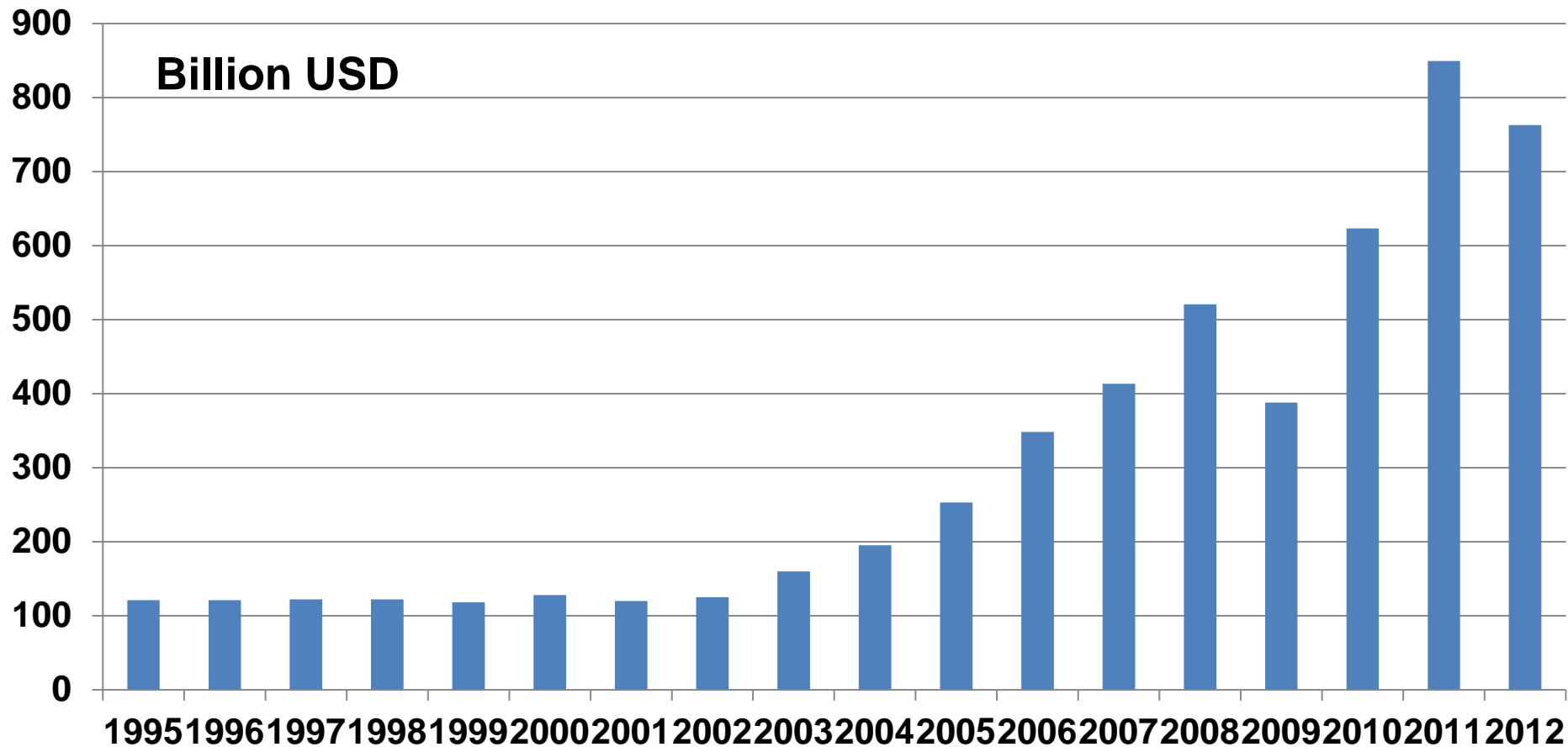
Vanadium drawing: Kaianders Sempler.



Metal shares of total value Au Ag Cu Fe Ni Pb Zn PGMs other

Source: Raw Materials Data.

World mine value



Source: Raw Materials Group.

Iron ore market 2013

Rank 2013	Company name	Country	Share of world %	Production Mt	Rank 2012	Main metal 2012
1	Vale	Brazil	16.1	311	1	Fe 88
2	BHP Billiton	Australia	11.2	217	3	Fe 67
3	Rio Tinto	UK	10.6	204	2	Fe 79
4	FMG	Australia	5.1	99	4	Fe 100
5	Arcelor Mittal	Luxembourg	3.1	59	5	Fe 100
6	Anglo American	UK	2.2	42	6	Fe 42
7	Cliffs Nat. Resources	USA	2.1	41	7	Fe 100
8	Metalloinvest	Russia	2.1	40 e	8	Fe 100
9	State of India	India	2.0	38 e	9	Fe 88
10	System Capital Managem.	Ukraine	1.7	33 e	10	Fe 100



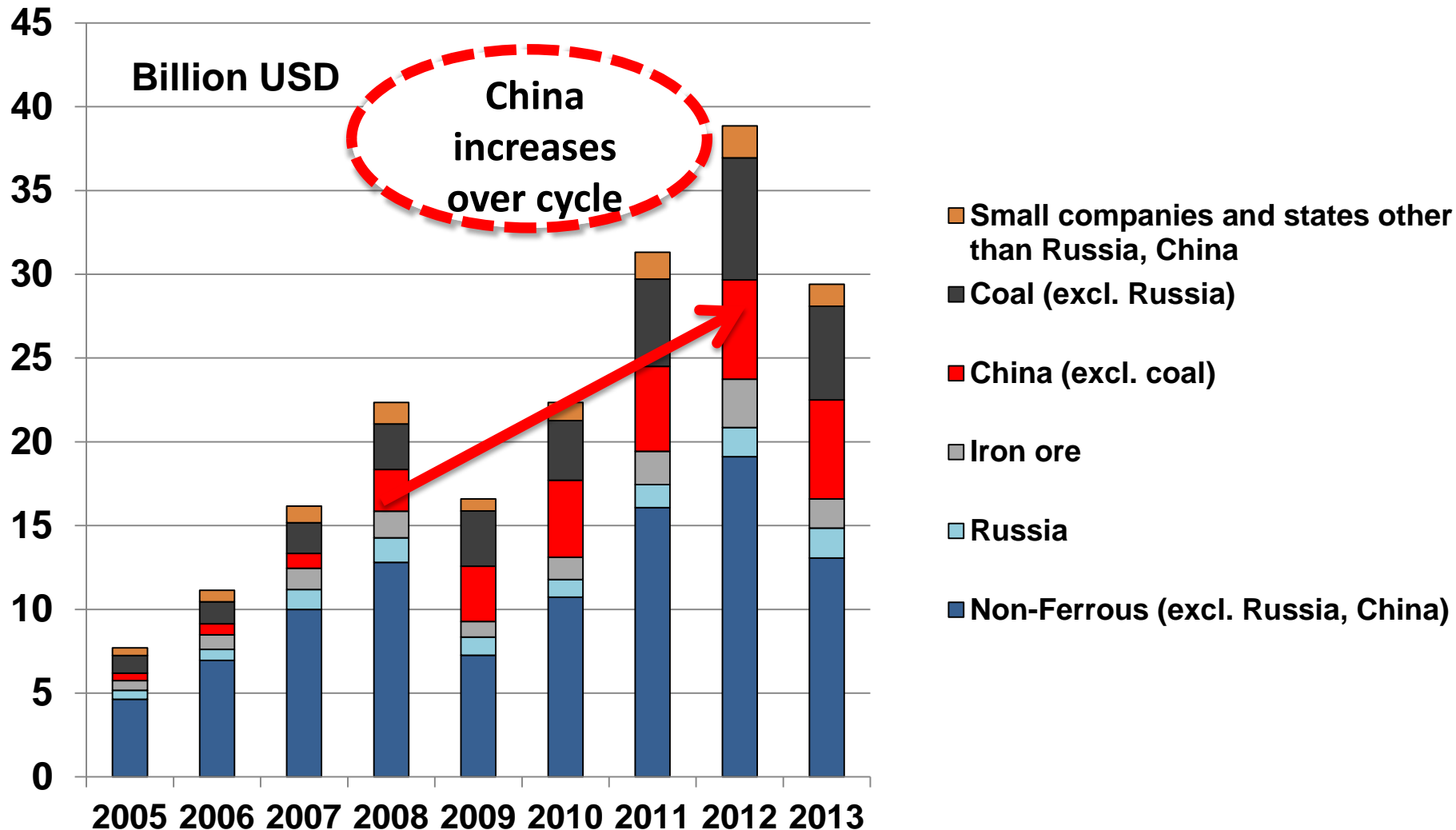
Vanadium drawing: Kaianders Sempler.

- **Barriers of entry increase:**
 - Remote locations.
 - Harsh conditions.
 - Deep deposits with lower grades, complex ores.
- Longer permitting processes.
- Increasing corporate concentration.

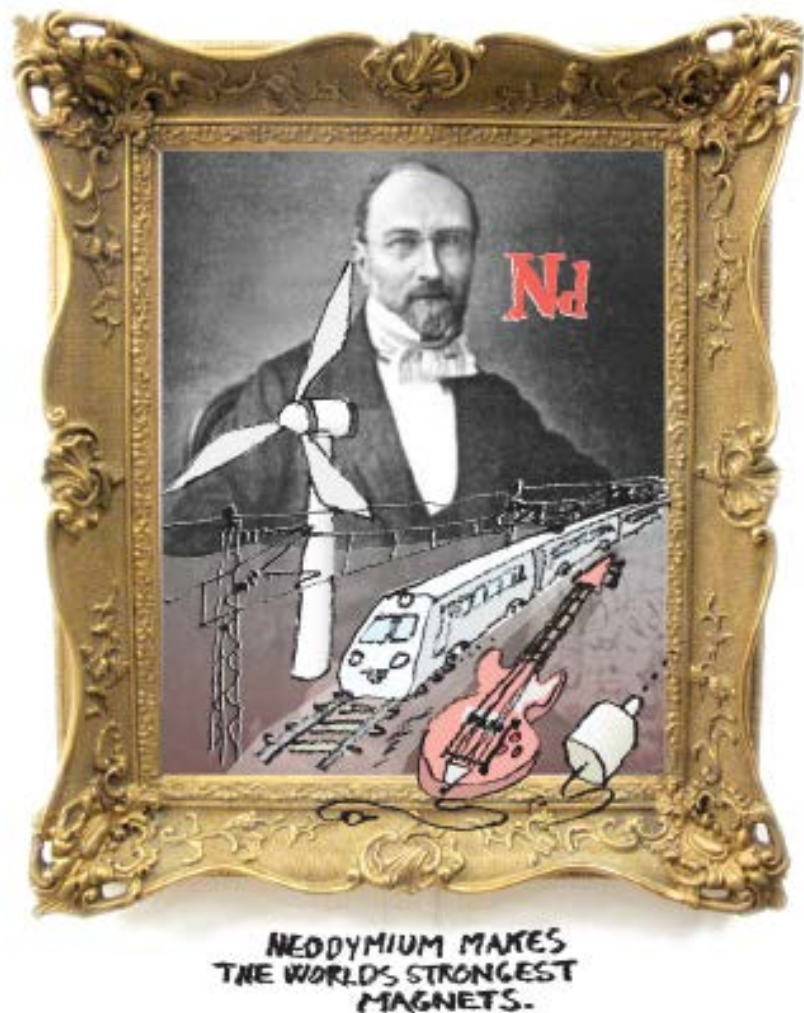


NEODYMIUM MAKES
THE WORLD'S STRONGEST
MAGNETS.

Neodymium drawing: Kaianders Sempler.



Sources: SNL Metals & Mining (MEG), Raw Materials Group.



Neodymium drawing: Kaianders Sempler.

- **Exploration too low.**
- **China exploration giant.**
- **Gold in focus, more base metals necessary.**
- **Into risky areas.**
- **More R&D efforts needed.**



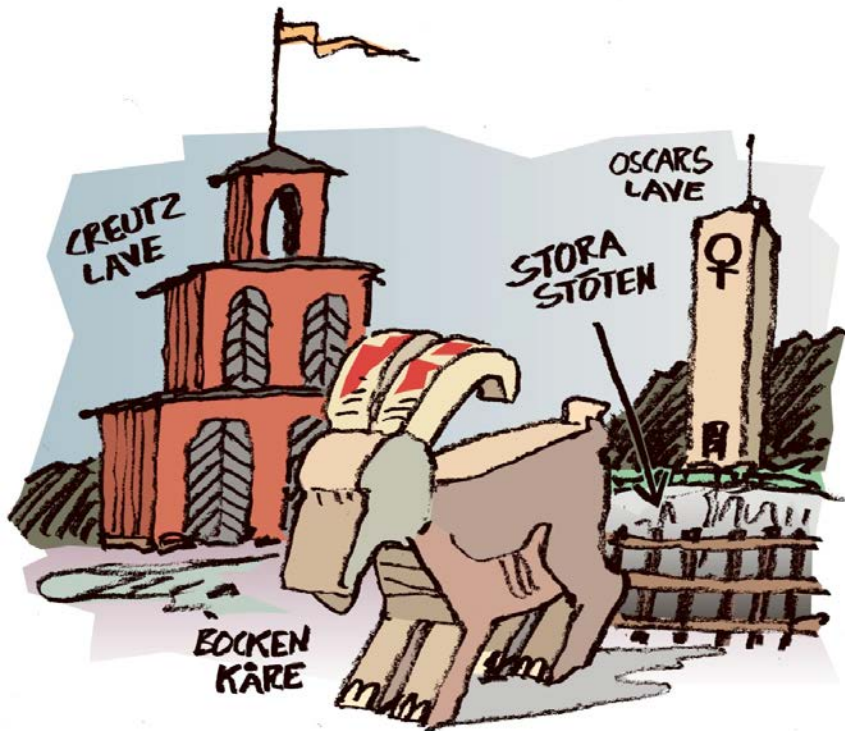


Nickel drawing: Kaianders Sempler.



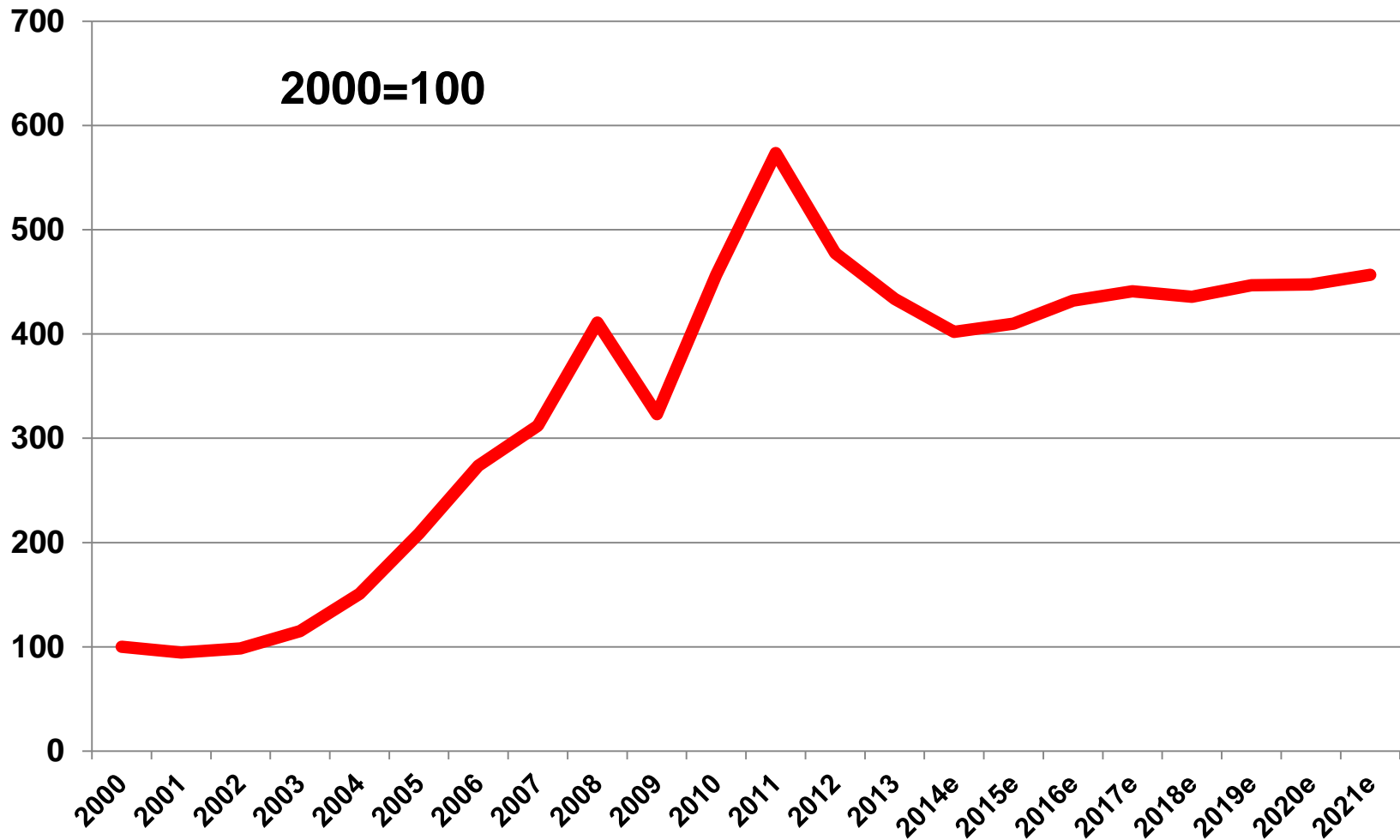
- **“Resource nationalism”.**
- **Increased taxes/royalties.**
- **Environment.**
- **CSR.**
- **Sustainability.**
- **Value addition.**
- **Safer and less pollution.**
- **Production is lacking!!**

Nickel drawing: Kaianders Sempler.

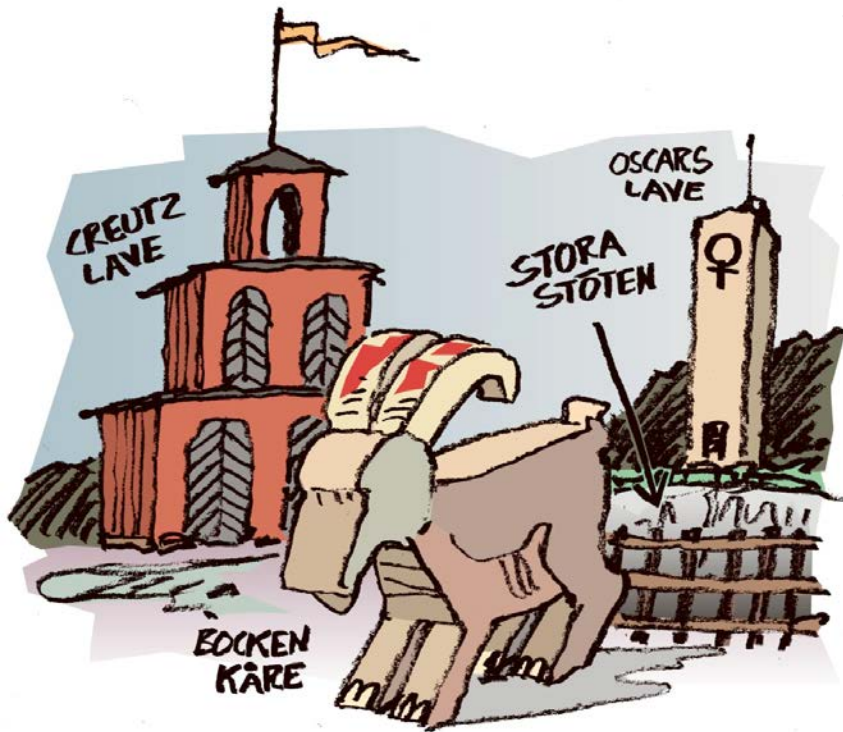


Copper drawing: Kaianders Sempler.

RMG price index



Source: Raw Materials Group.



Copper drawing: Kaianders Sempler.

- **Prices fall 2013/2014 – turn around 2015.**
- **Long term price increase reflecting higher mining costs and growing demand.**
- **Long term price - high levels.**
- **Too little investment/exploration at present could trigger new price boom.**

Ore production



Lithium drawing: Kaianders Sempler.

Ore production



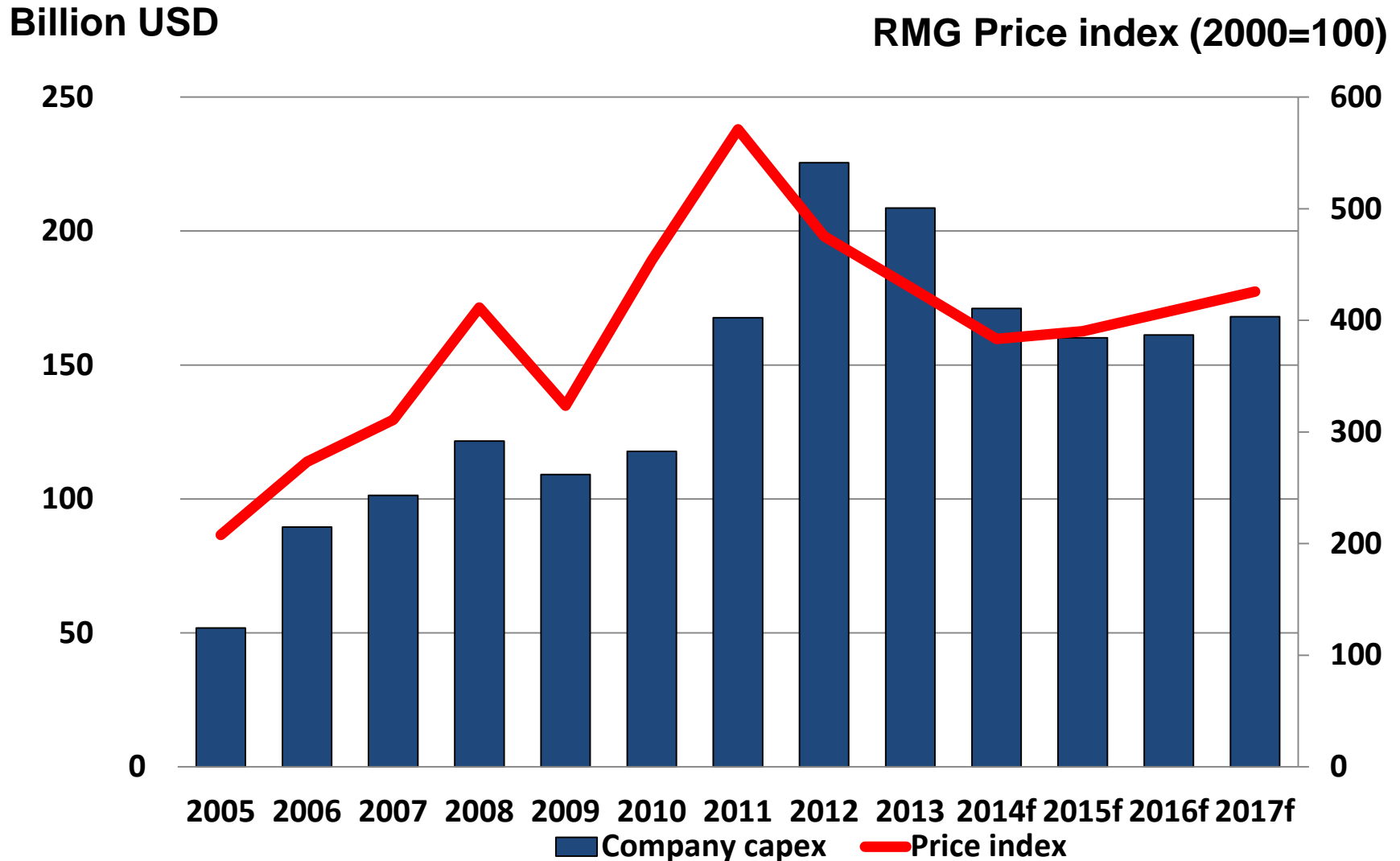
- **Total ore prod. 12 000 Mt 2013 (excl. thermal coal).**
- **2014, ore volumes increase 3% to 12 400 Mt.**
- **Slowdown lower prices means closing high cost mines.**
- **Growth over the next decade 2.3% p.a.**
- **6.1% average annual growth from 2004-13.**
- **Total ore including thermal coal almost 19 000 Mt 2013.**

Mining capex



Tungsten drawing: Kaianders Sempler.

Mining capex



Source: Raw Materials Group.

Mining capex



Tungsten drawing: Kaianders Sempler.

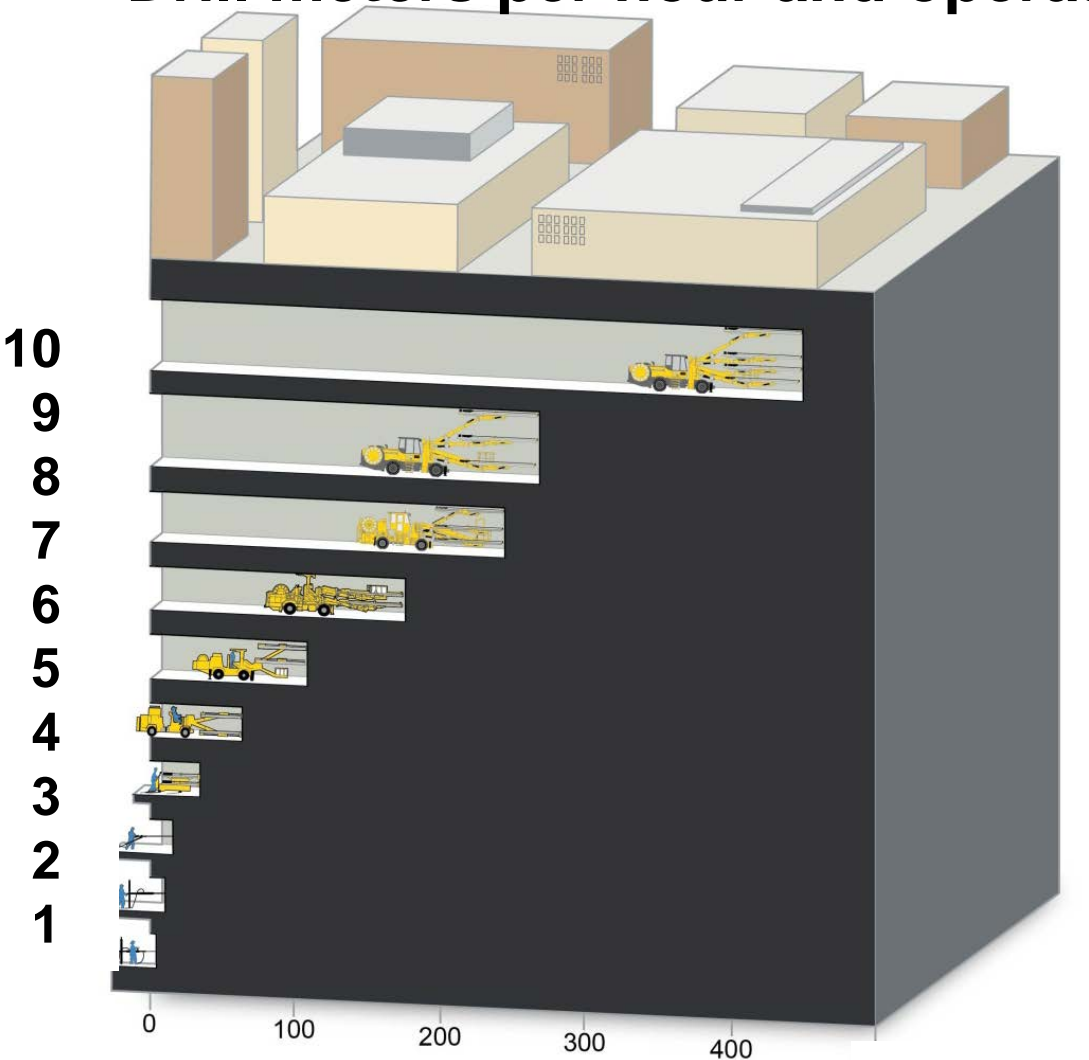
- **Larger than perceived.**
- **20 largest companies 50 %.**
- **All companies matter, large and small.**
- **Drivers:**
 - **Technical development.**
 - **Grades, depth, complexity.**
 - **Regulations:**
environment, H&S, other.
 - **Exports/transport.**
- **Dampeners:**
 - **Cost cutting.**
 - **Prices.**



REE drawing: Kaianders Sempler.

Drill productivity

Drill meters per hour and operator



10: 2005

Rocket Boomer

XL4C30 4 x rock drill

COP 3038 and with

ABC total 450 m/hr.

▪

▪

1: 1908

Cyclop 50, 3-5 m/hr.

Source: Atlas Copco.



- In situ processing.
- Continuous processes.
- Hard rock cutting/
blast free mining.
- Automated mining.
- Process control.
- Safer and less pollution.
- Increase availability of
existing equipment.
- Energy/water efficiency.
- Shale gas revolution.

REE drawing: Kaianders Sempler.

Summary

- Demand grows steadily.
- Supply barriers increase.
- Governments slow to act.
- Metal prices turn 2015/16.
- Ore production slow down – but absolute volumes still huge.
- Capex still higher than early 2000s
- Technology increasingly important.
- China will continue to hold key to future.
- Investment slow down - new super cycle?



Thank you!

For questions or comments please contact:

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Alof@snl.com

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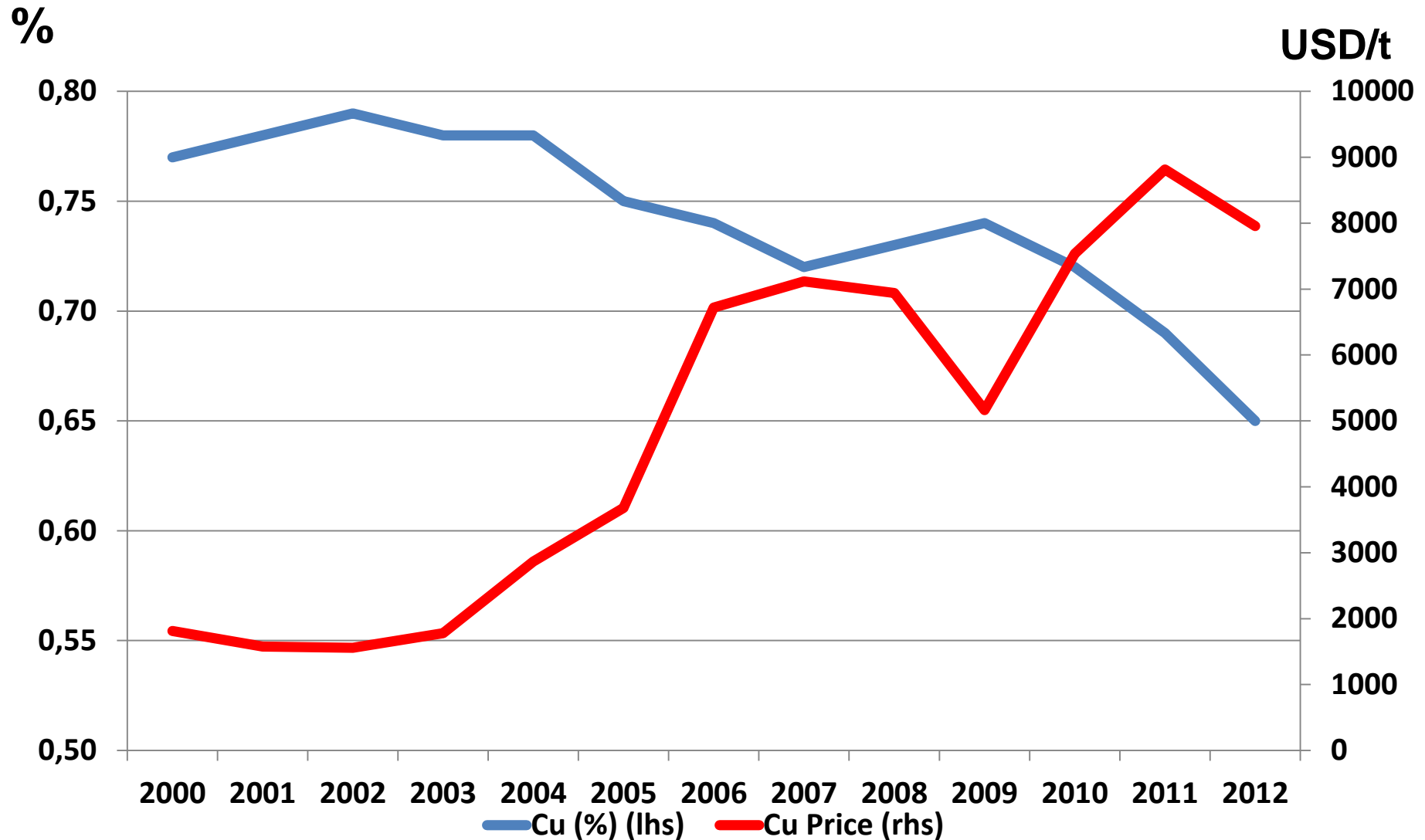
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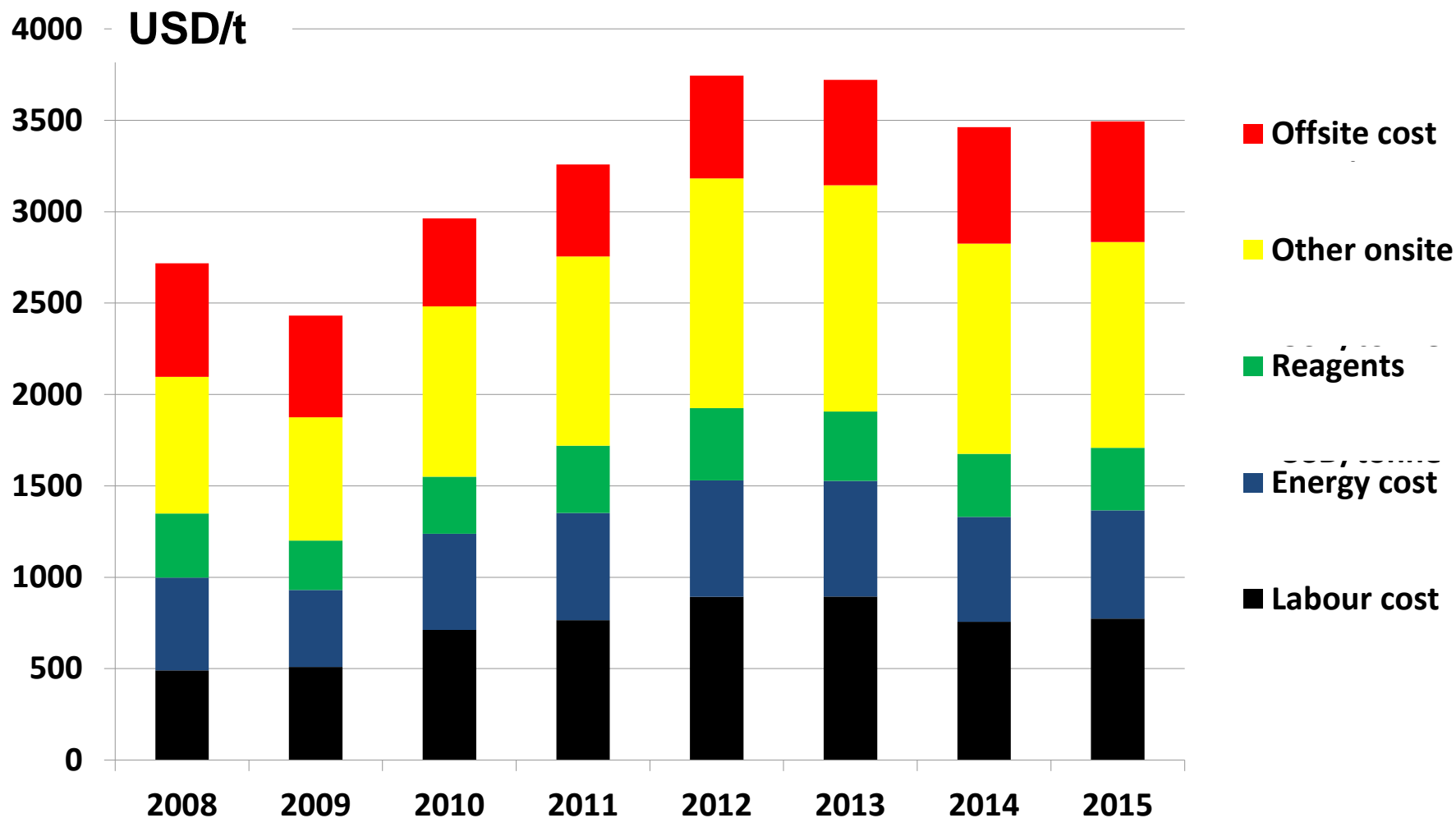
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Copper grades



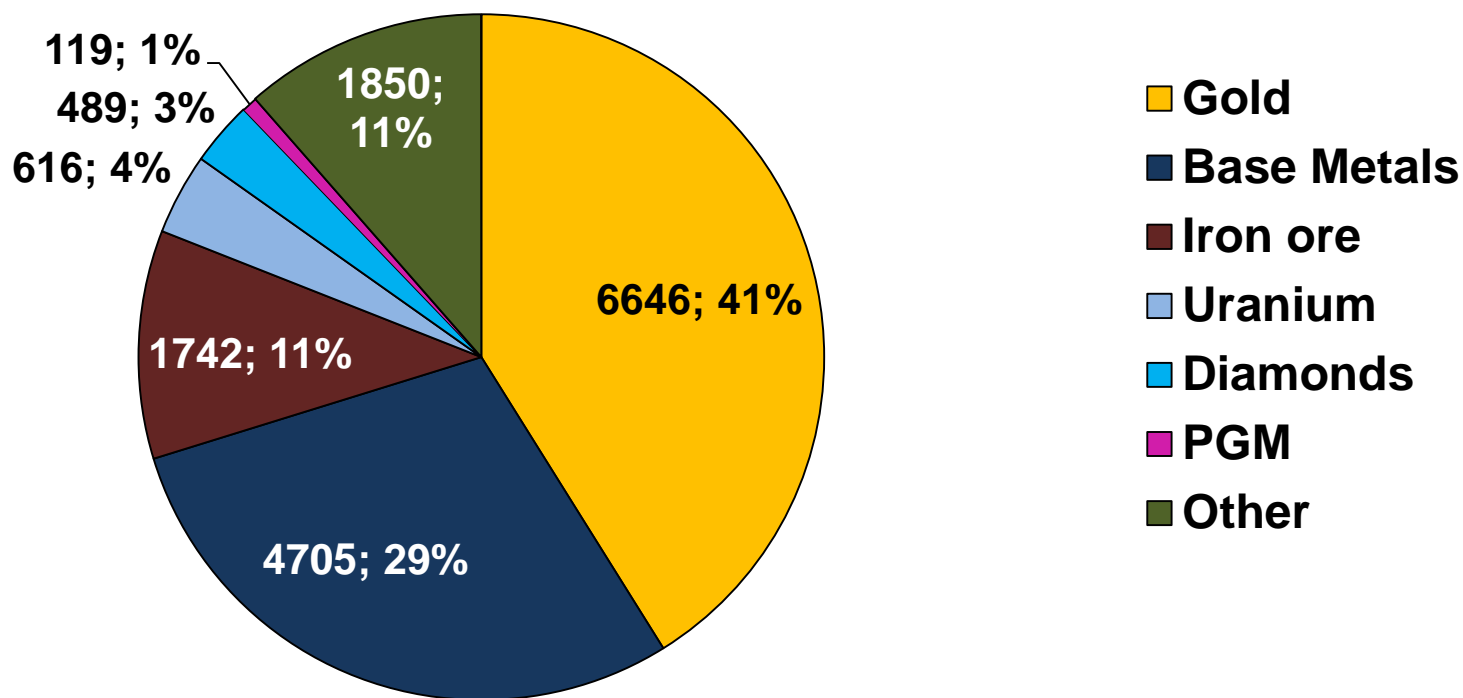
Source: Raw Materials Group.

Copper costs

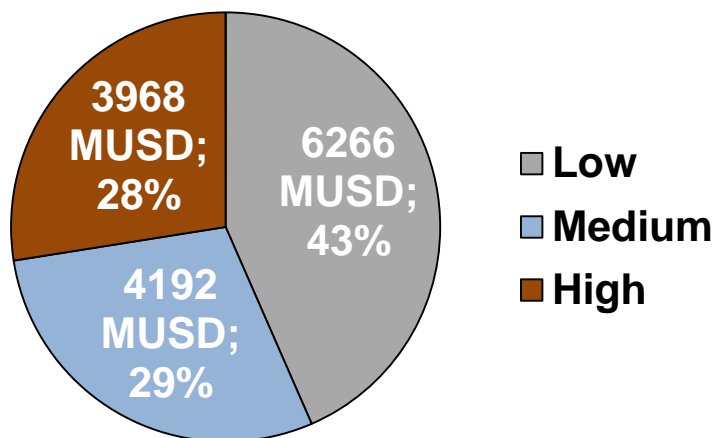


Source: Raw Materials Group.

Million USD



Exploration country risk 2013



New deposits in past decade in risky areas





IntierraRMG

Resource Sector Intelligence

Maps

Consulting and analysis

Online databases

Claims data

Exclusive reports



Metals Economics Group



Global mining news

Interactive mapping

Excel add-in

In-depth financials

Expert research

= **SNL Metals & Mining**

Maps

Global mining news

Interactive mapping

Consulting and analysis

Online databases

In-depth financials

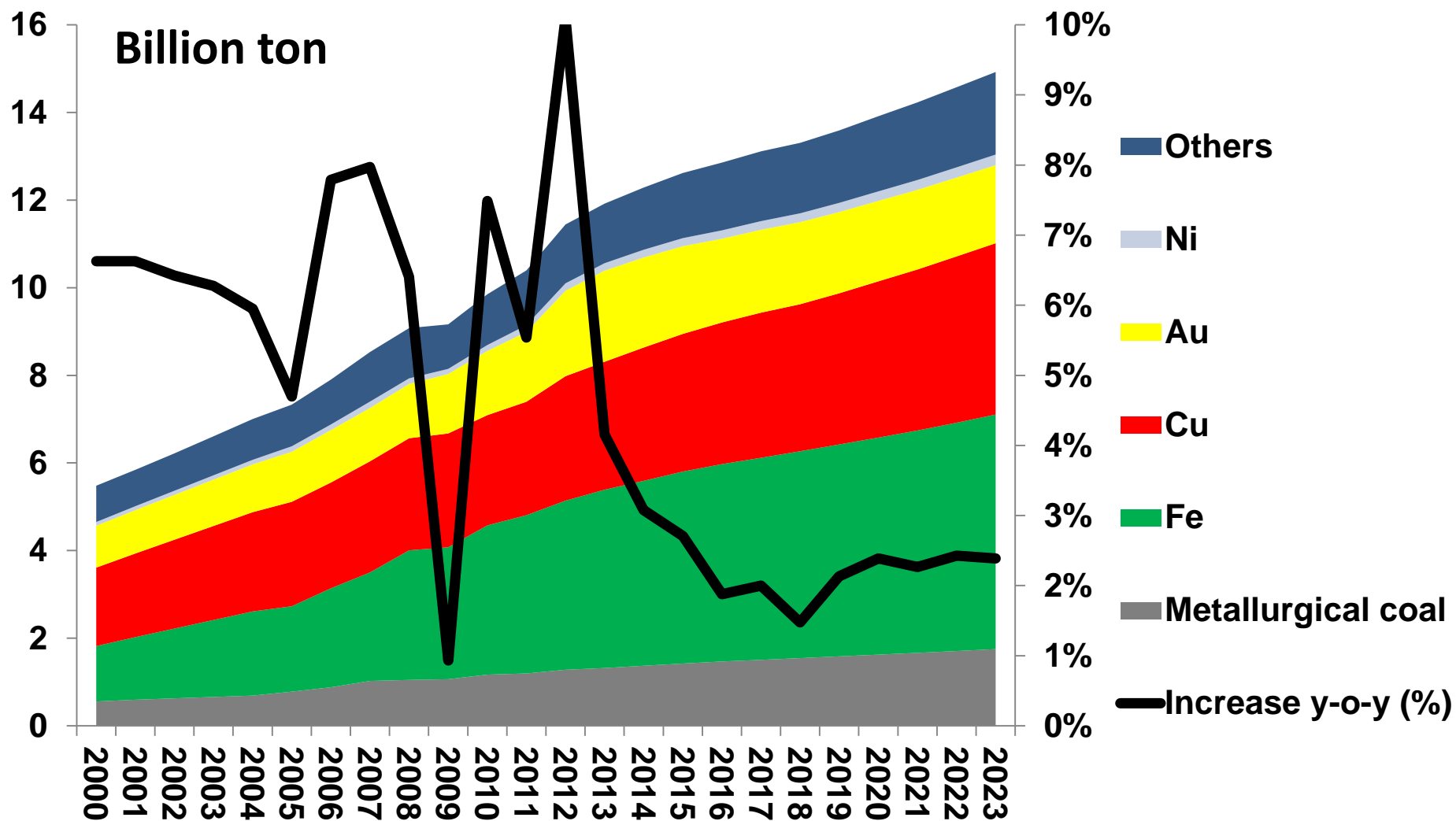
Excel add-in

Expert research

Claims data

Exclusive reports

Ore production



Source: Raw Materials Group.