European Social and Economic Committee

Non-energy mining industry in Europe

Bucharest 15th of May 2008

Thorium drawing: Kaianders Sempler.

European mining in a global context - Threats & opportunities

Magnus Ericsson

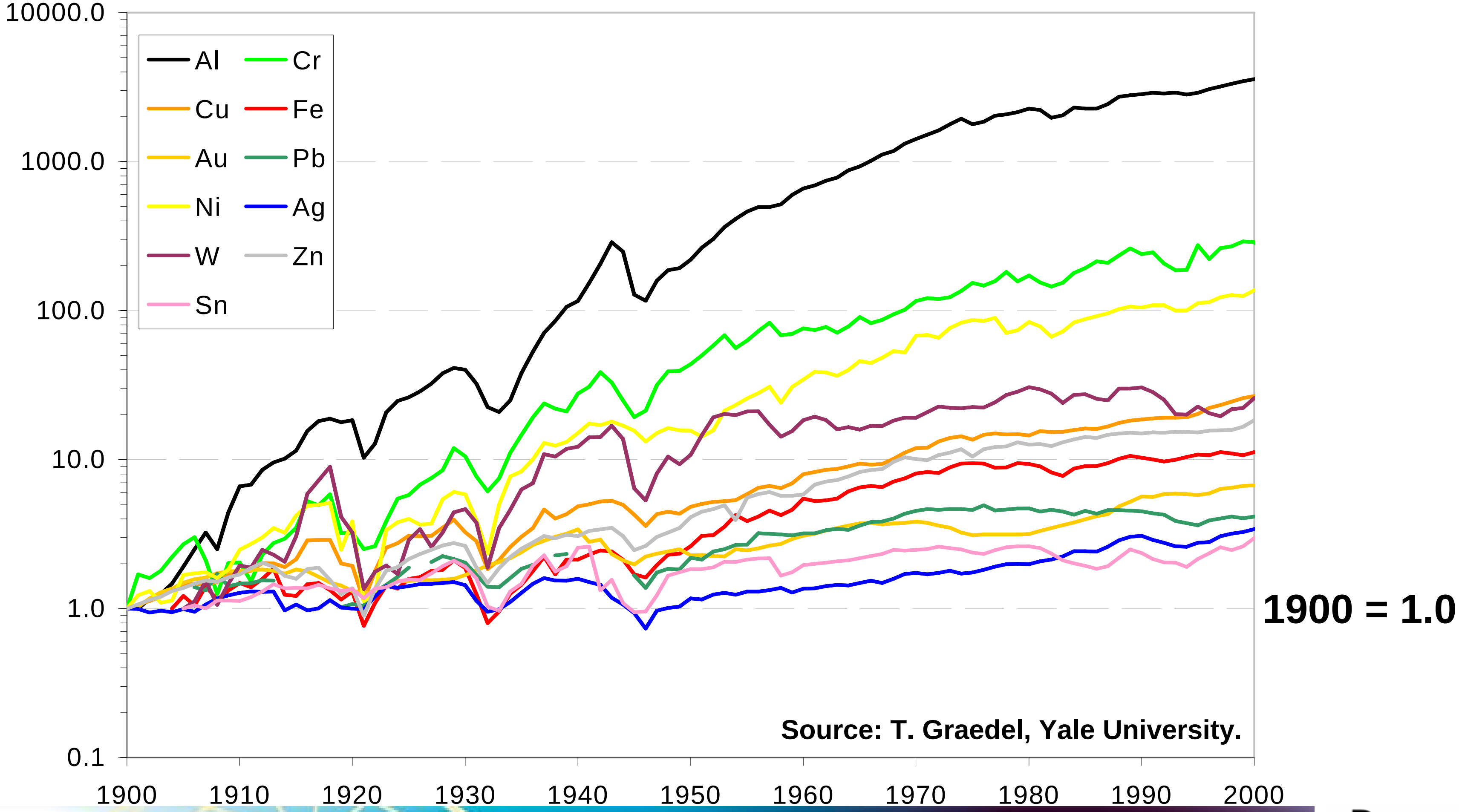
Raw Materials Group

SPECIAL PROPERTIES OF METALS

- High strength
- Affordable cost
- Conduct heat and electricity
- Beautiful
- Undestructable

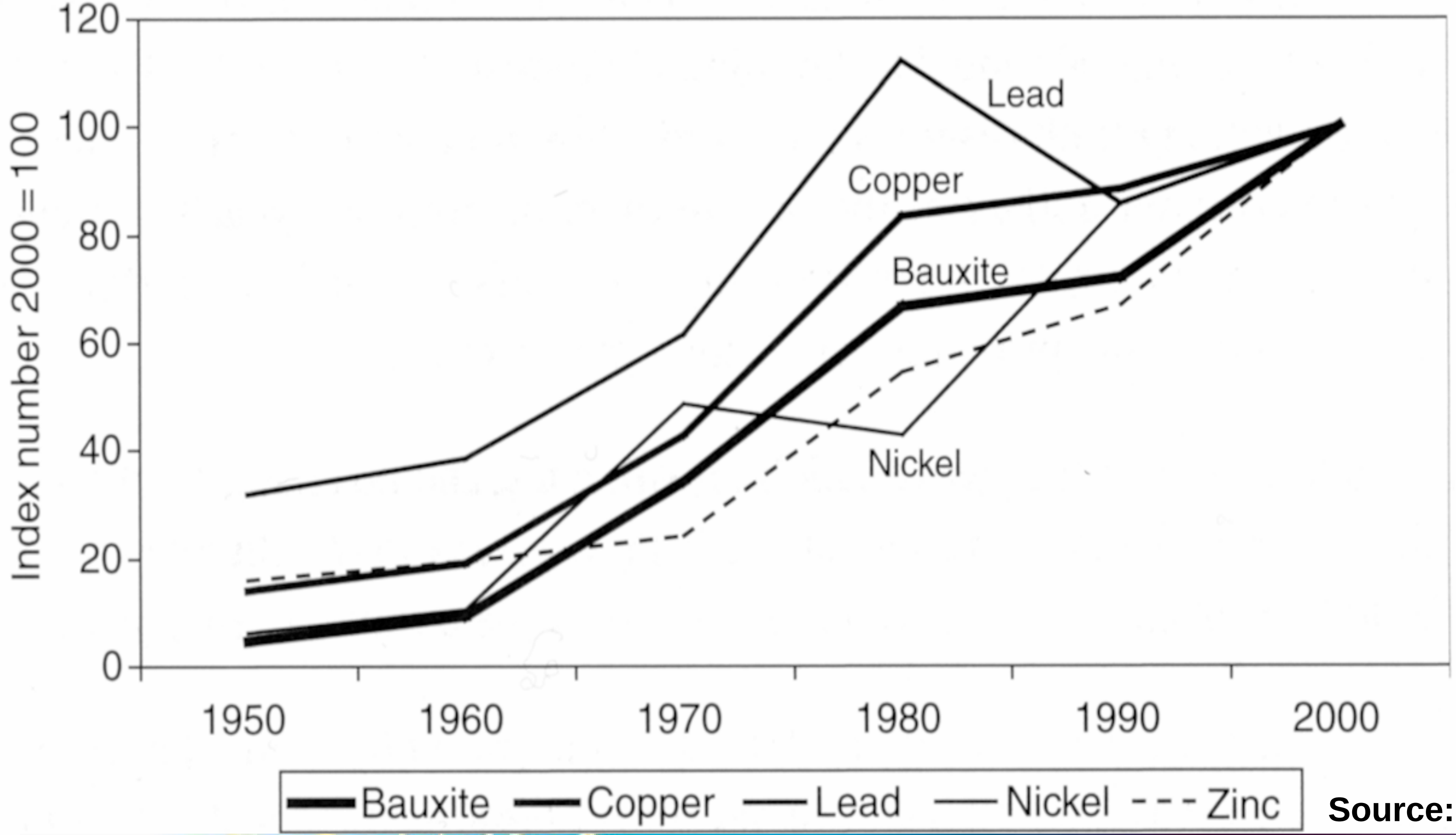
Source: T. Graedel, Yale University.

20th CENTURY MINING OF METALS



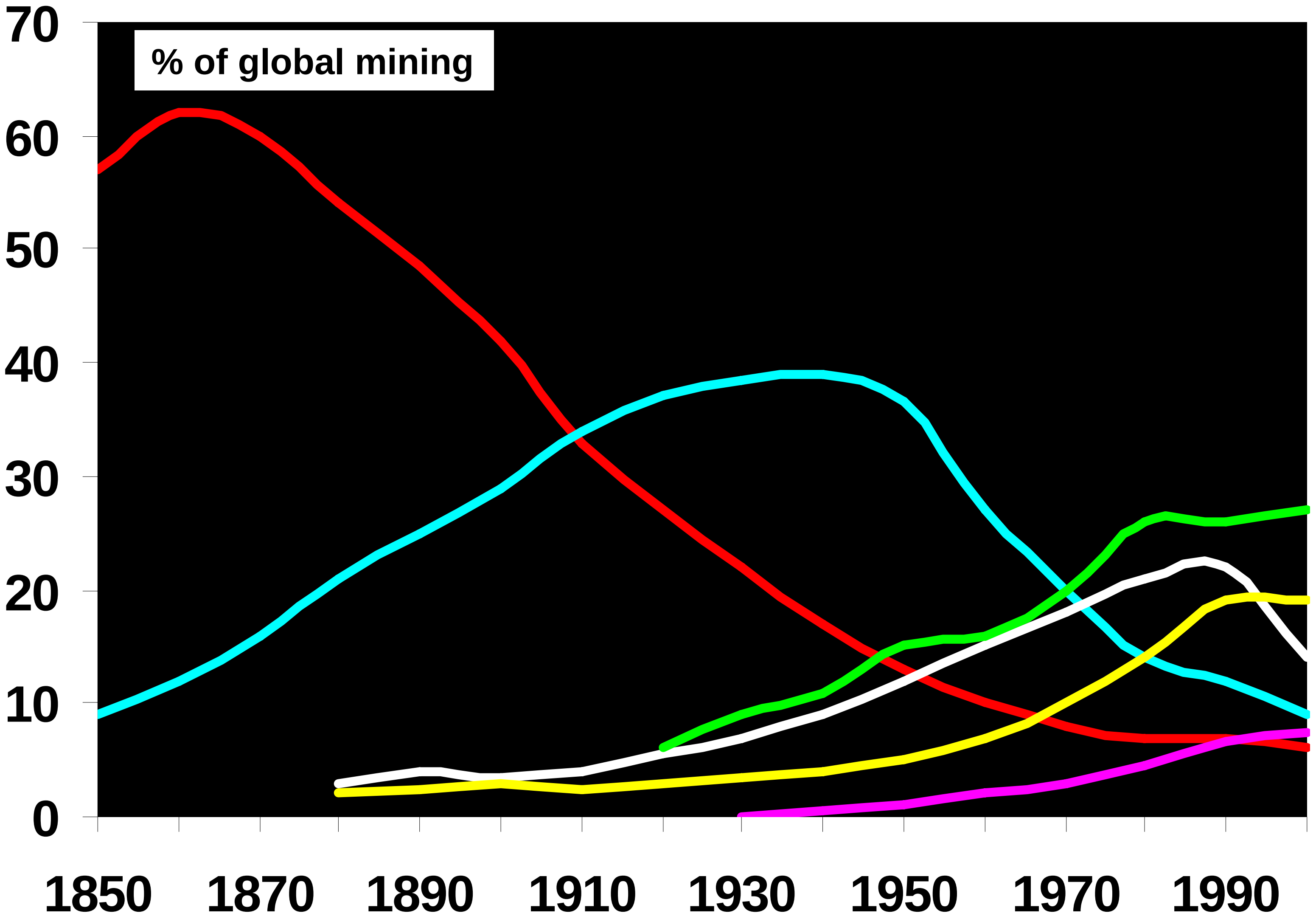
Raw Materials Group

GROWTH OF RESOURCE BASE



Source: Crowson.

GLOBAL MINING – SHIFTING SOUTH



MINING INDUSTRY CHALLENGES

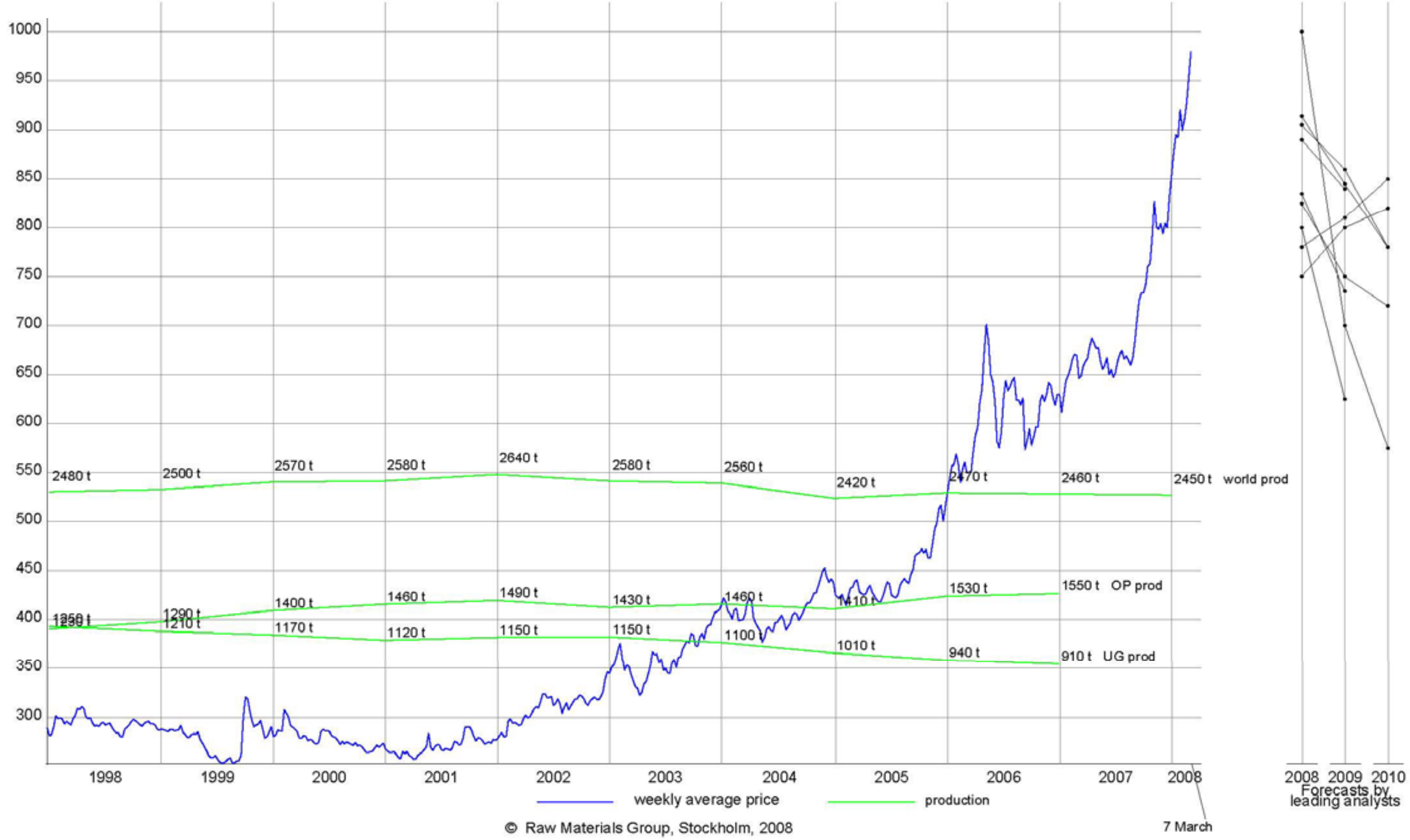
- Deliver sufficient volumes.
- Reasonable prices:

  Not drive inflation nor substitution.
- Plough back acceptable share to host countries.

Raw Materials Group

GOLD PRICE

USD/oz



Raw Materials Group

AGENDA

- **Demand**
- **Supply**
  - **Exploration**
  - **Mining**
- **Threats & opportunities**

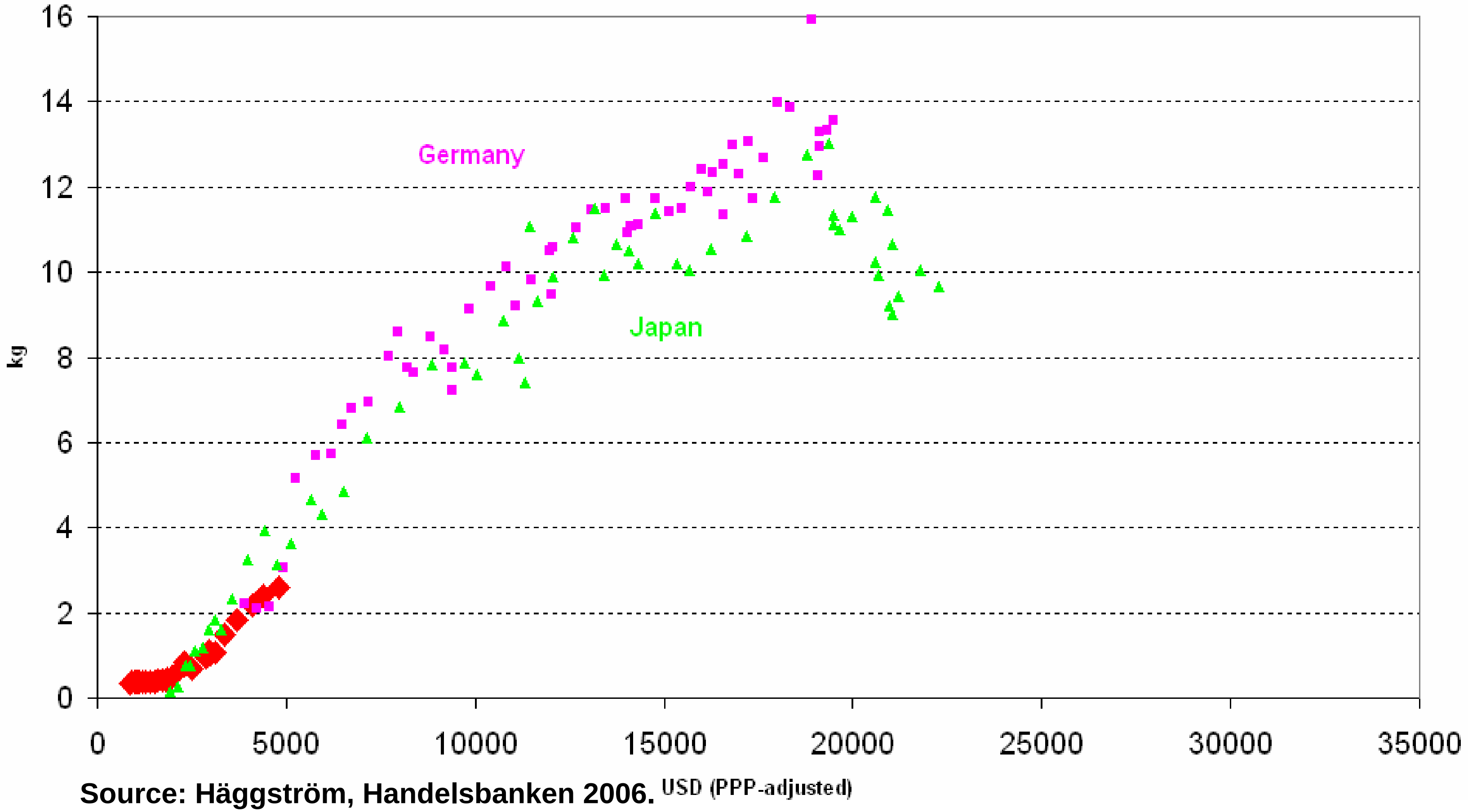
RAW MATERIALS GROUP

- RAW MATERIALS DATA, METALS/COAL
- MINERAL ECONOMICS
- STRATEGY DEVELOPMENT
- MINERAL POLICY
- INVESTMENT PROMOTION

DEMAND

Vanadium drawing: Kaianders Sempler.

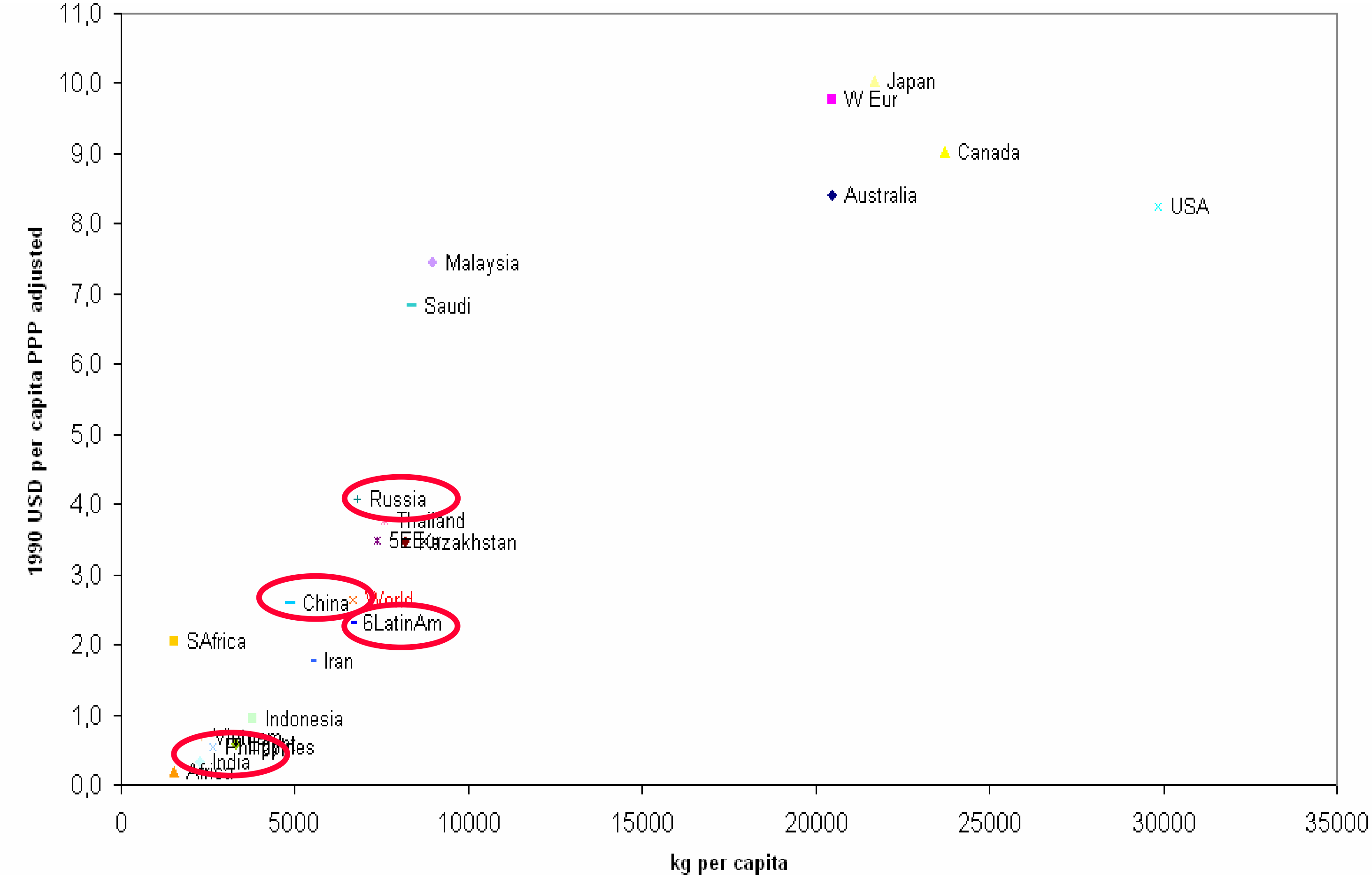
COPPER USE vs GDP/capita



Source: Häggström, Handelsbanken 2006.

Raw Materials Group

COPPER USE vs GDP



Source: Häggström, Handelsbanken 2006.

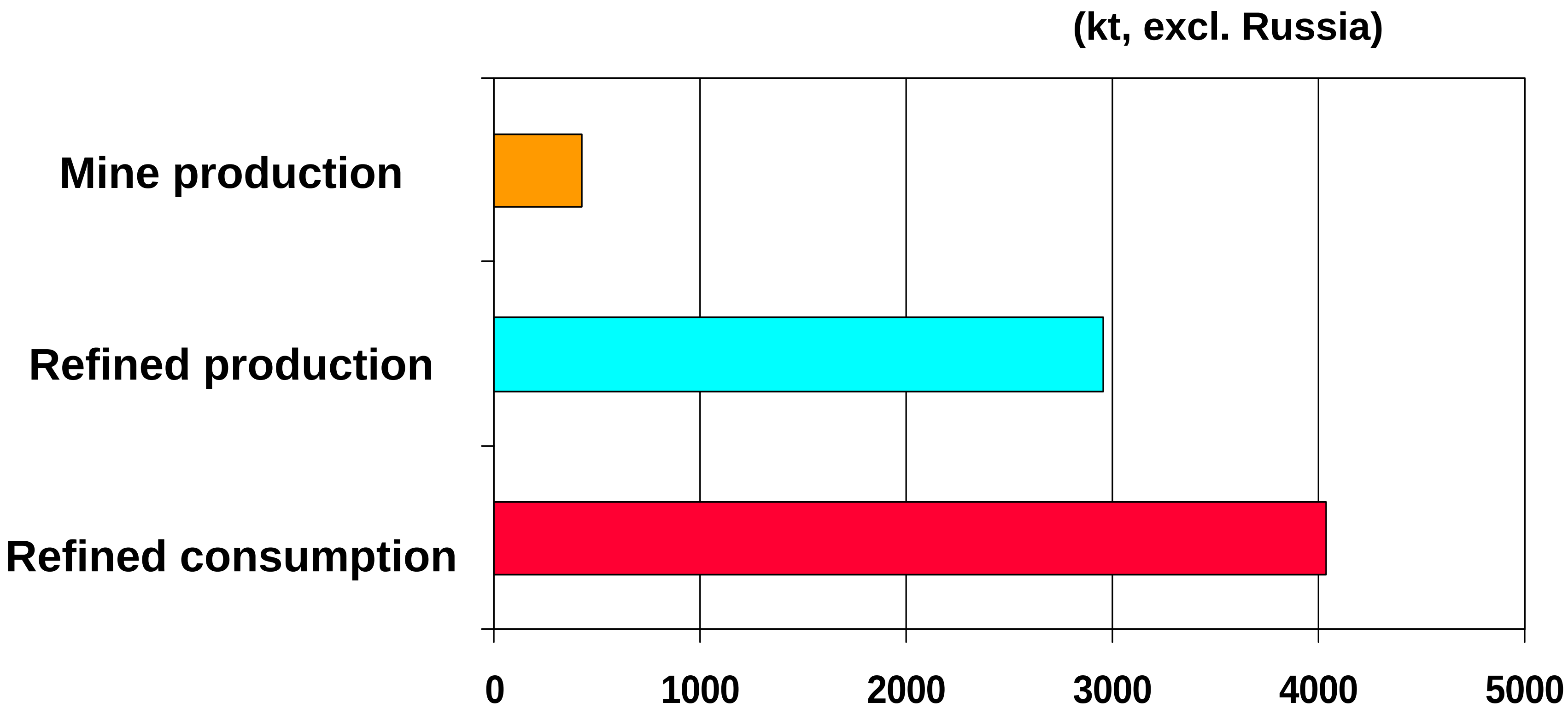
GLOBAL USE

	CHINA	USA
COPPER	20 %	15 %
ALUMINIUM	21	23
LEAD	20	20
ZINC	23	12
NICKEL	11	10

Source: Handelsbanken, RMG.

Raw Materials Group

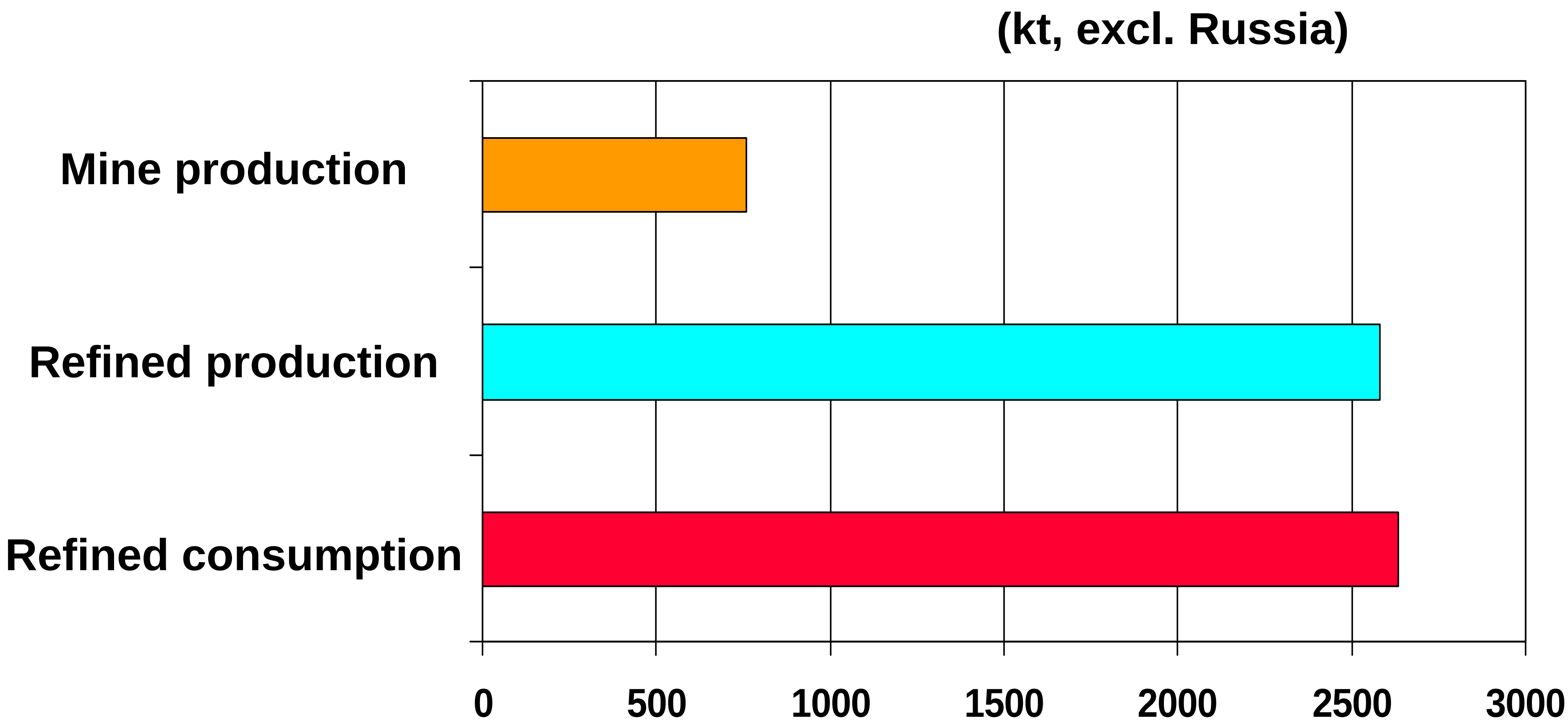
EUROPEAN CU BALANCE



Sources: Raw Materials Data and Brook Hunt .

Raw Materials Group

EUROPEAN ZINC BALANCE



Sources: Raw Materials Data and ILZSG.

Vanadium drawing: Kaianders Sempler.

DEMAND SUMMARY

- Extended period of growth.
- China, India engines but East Europe, CIS also strong.
- Infrastructure & personal use.
- European inbalances.
- No (?) signs of weakening but demand growth will slow down.

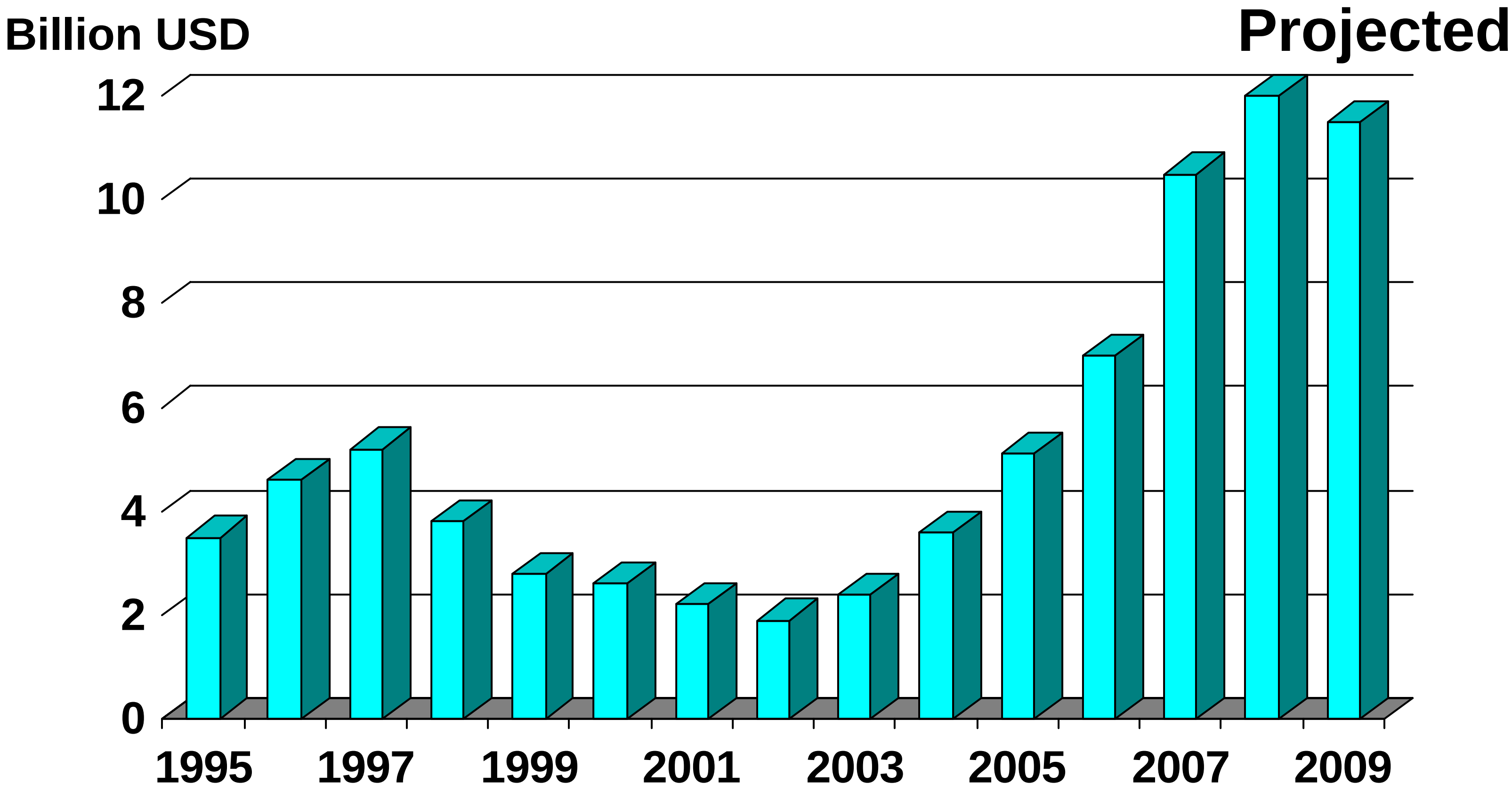
Raw Materials Group

EXPLORATION

Nickel drawing: Kaianders Sempler.

Raw Materials Group

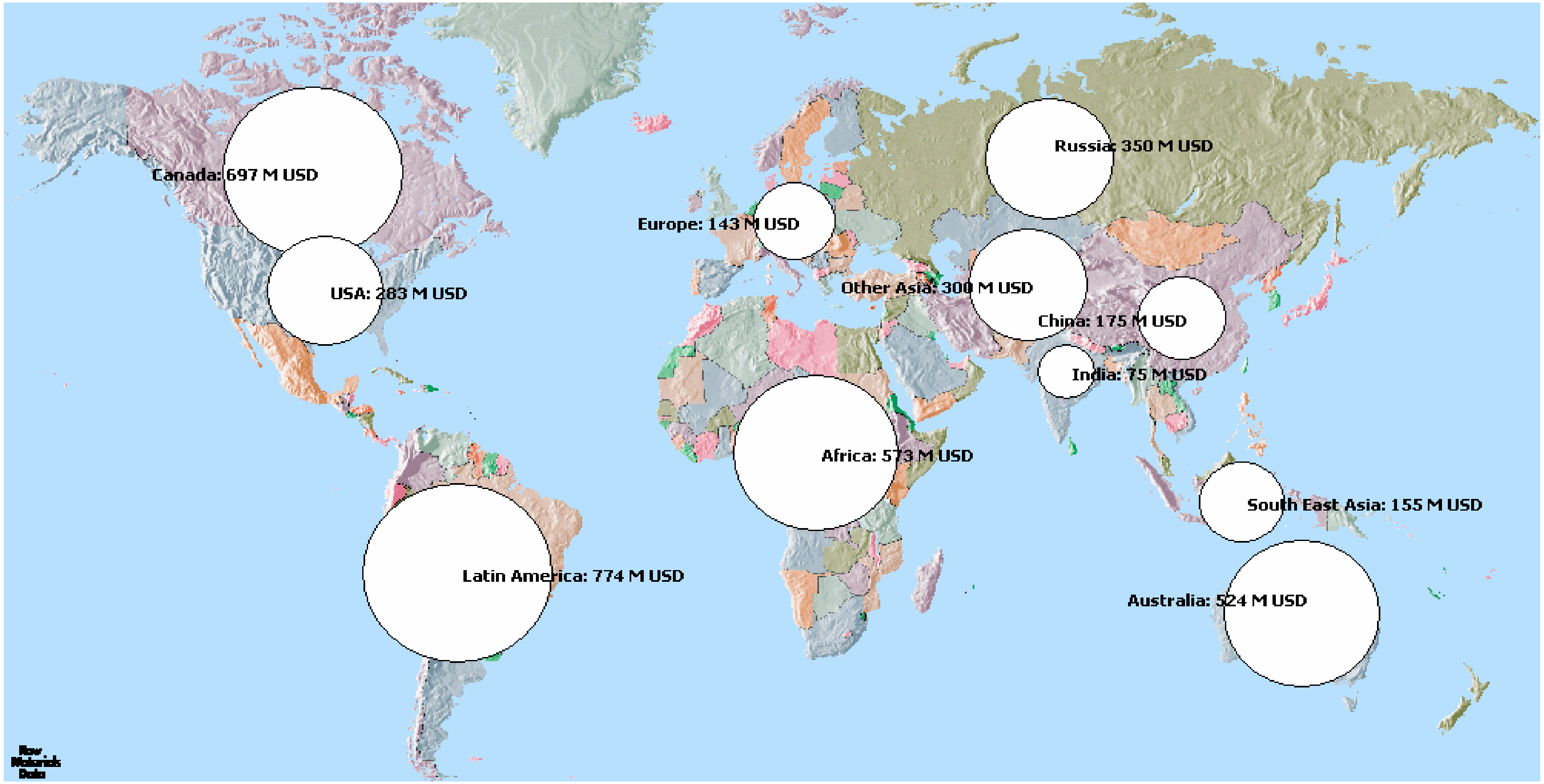
GLOBAL COMMERCIAL EXPLORATION 1995 - 2009



Sources: 1995-2007 MEG; 2008, 2009 RMG.

Raw Materials Group

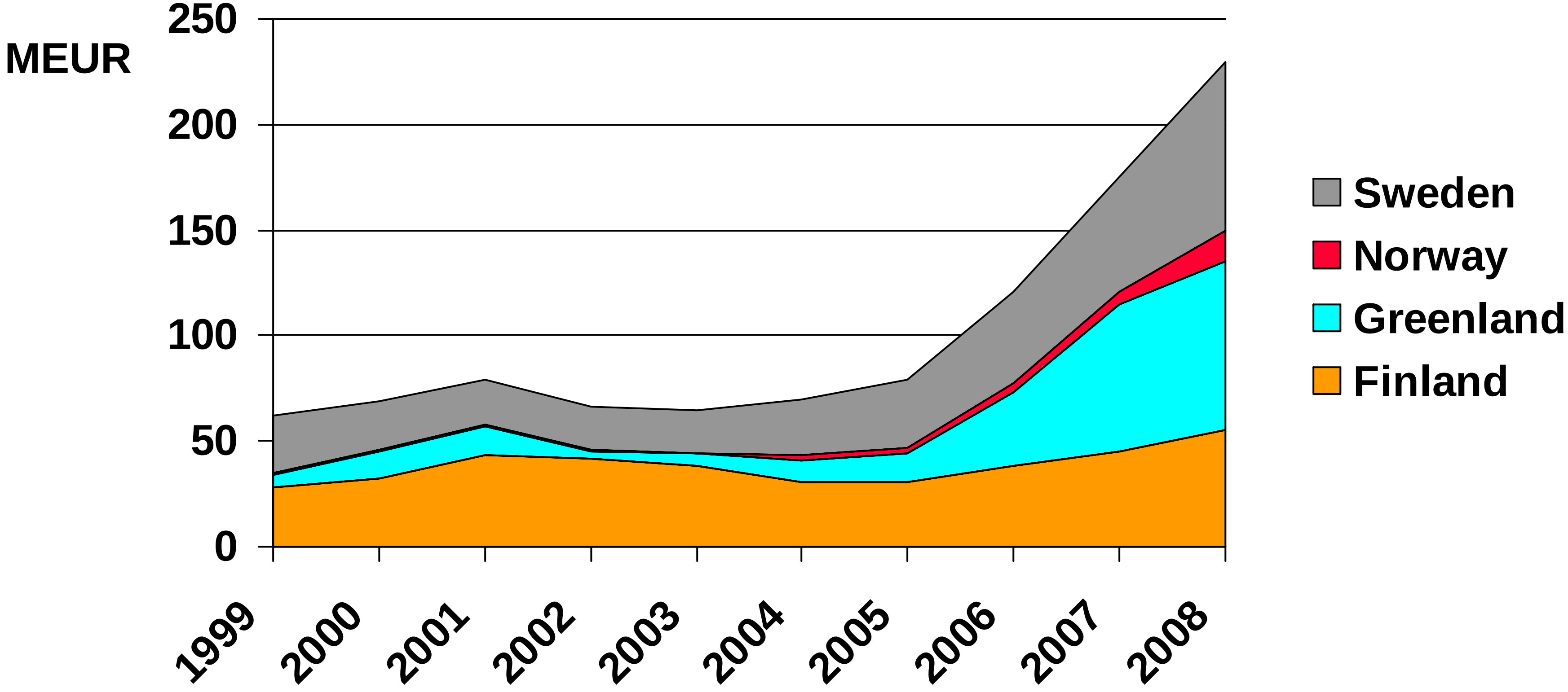
GLOBAL EXPLORATION



Sources: RMG, MEG.

Raw Materials Group

EXPLORATION IN THE NORDIC COUNTRIES



Sources: Geological Surveys in each country, 1999-2007, RMG 2008.

Raw Materials Group

HARSH CONDITIONS – REMOTE AREAS

INCREASINGLY DIFFICULT

- Remote locations
- Harsh conditions
- Lower oregrades
- Deeper orebodies
- Long permitting process

- Lack of people & equipment

Raw Materials Group

Nickel drawing: Kaianders Sempler.

EXPLORATION SUMMARY

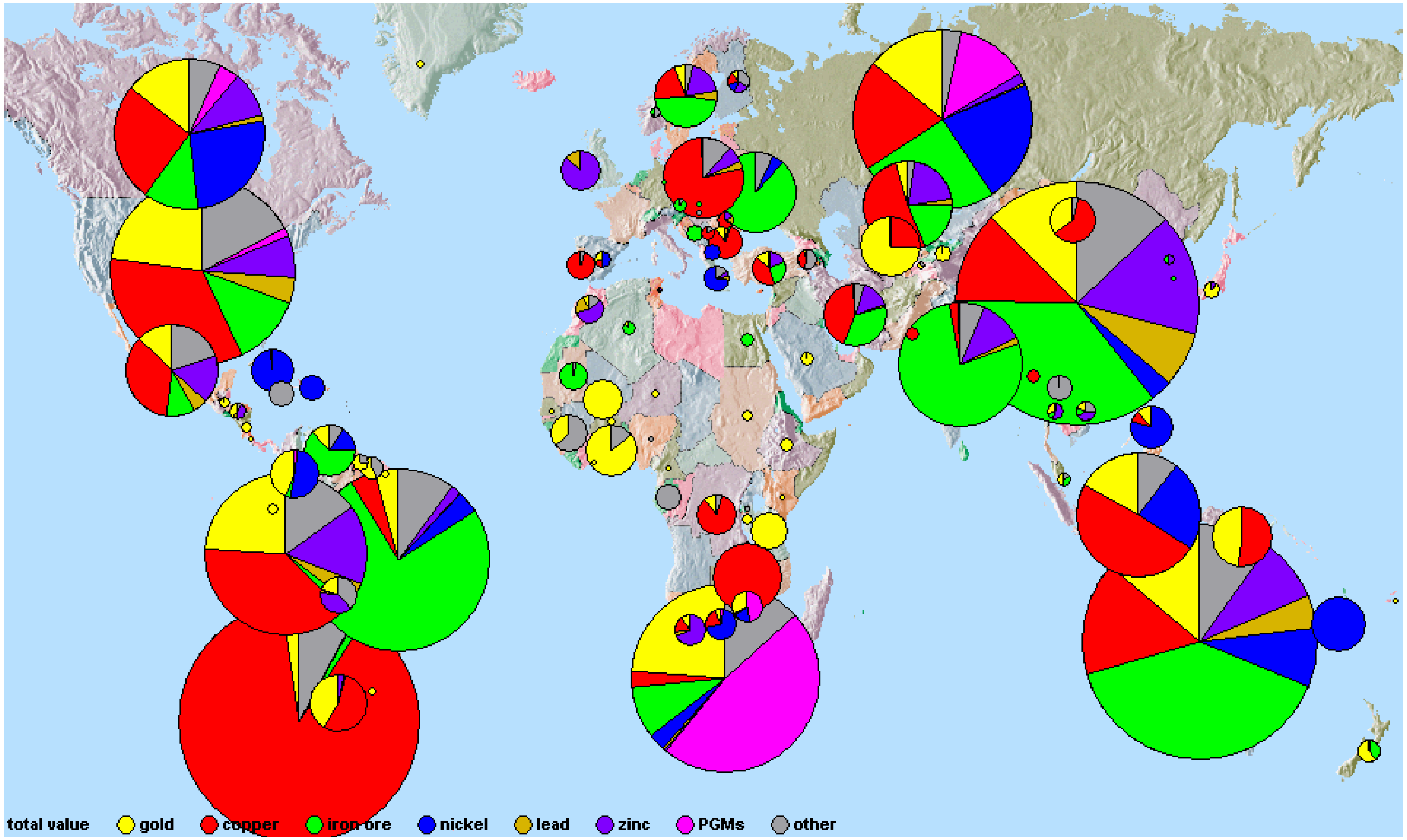
- **Exploration cyclical - at peak.**
- **Exploration more difficult.**
- **Limited recent new ”elephants”.**
- **Quickly rising costs.**
- **Europe diminishing share.**
- **Lack of trained staff.**
- **More R&D necessary!**
- **Public support !?**

Raw Materials Group

MINING

Manganese drawing: Kaianders Sempler.

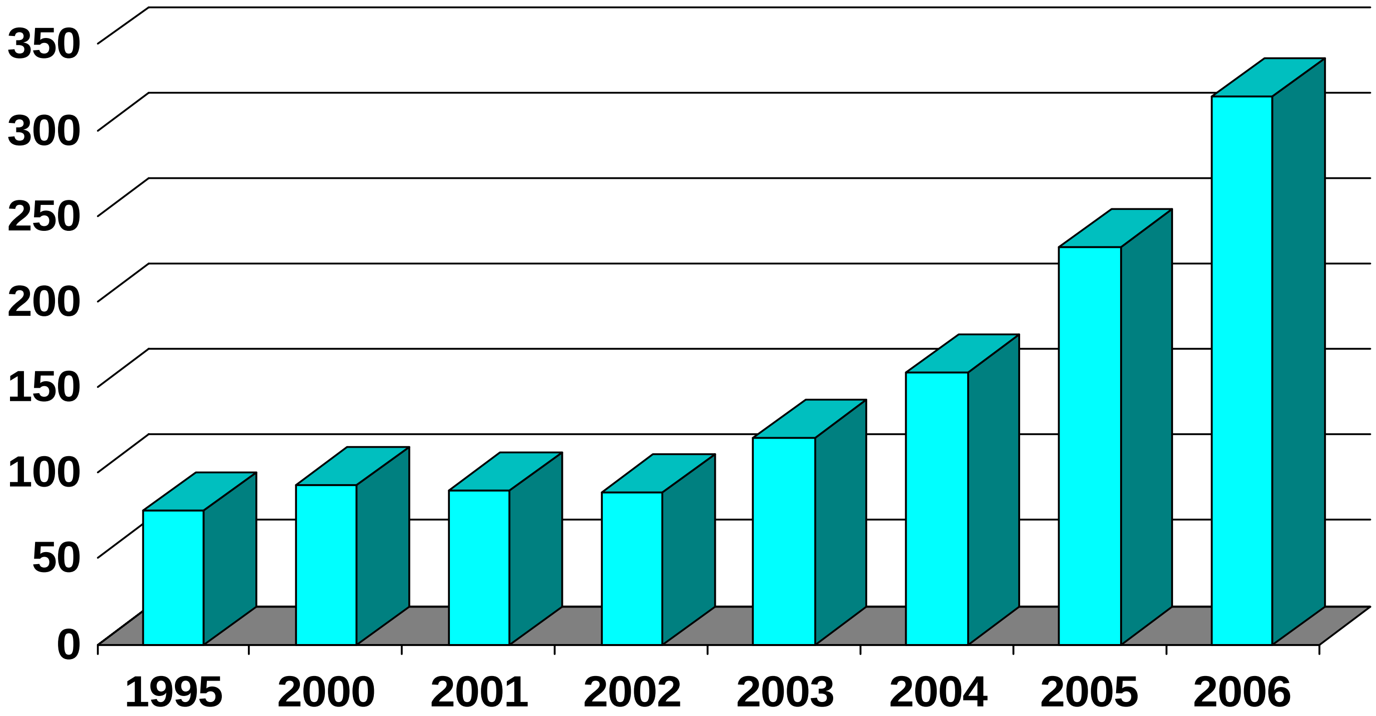
GLOBAL MINING – GEOGRAPHY



Raw Materials Group

VALUE OF GLOBAL MINING

Billion USD



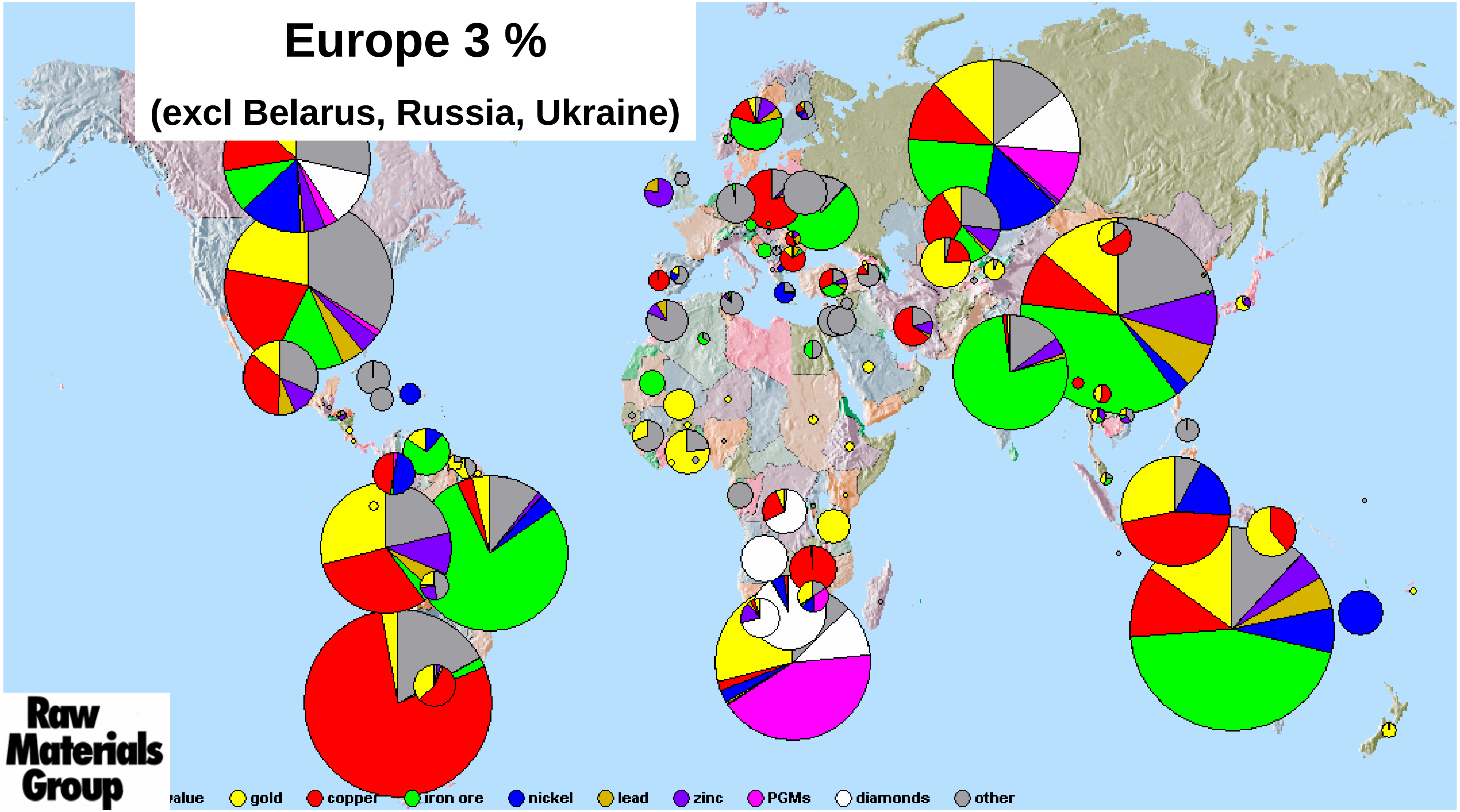
Sources: Raw Materials Data, 2008.

Raw Materials Group

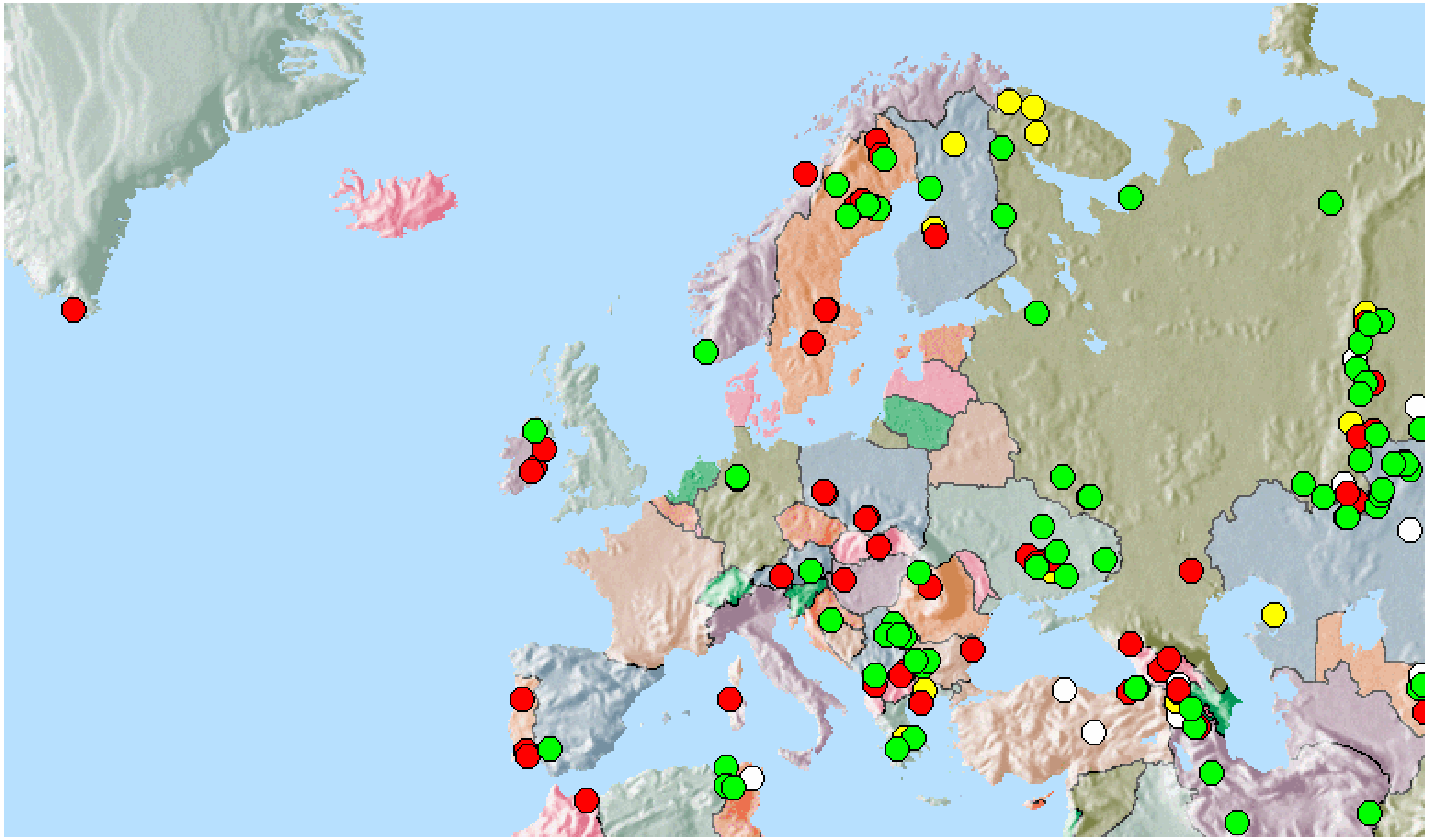
GLOBAL MINING - GEOGRAPHY

Europe 3 %

(excl Belarus, Russia, Ukraine)



OPERATING MINES

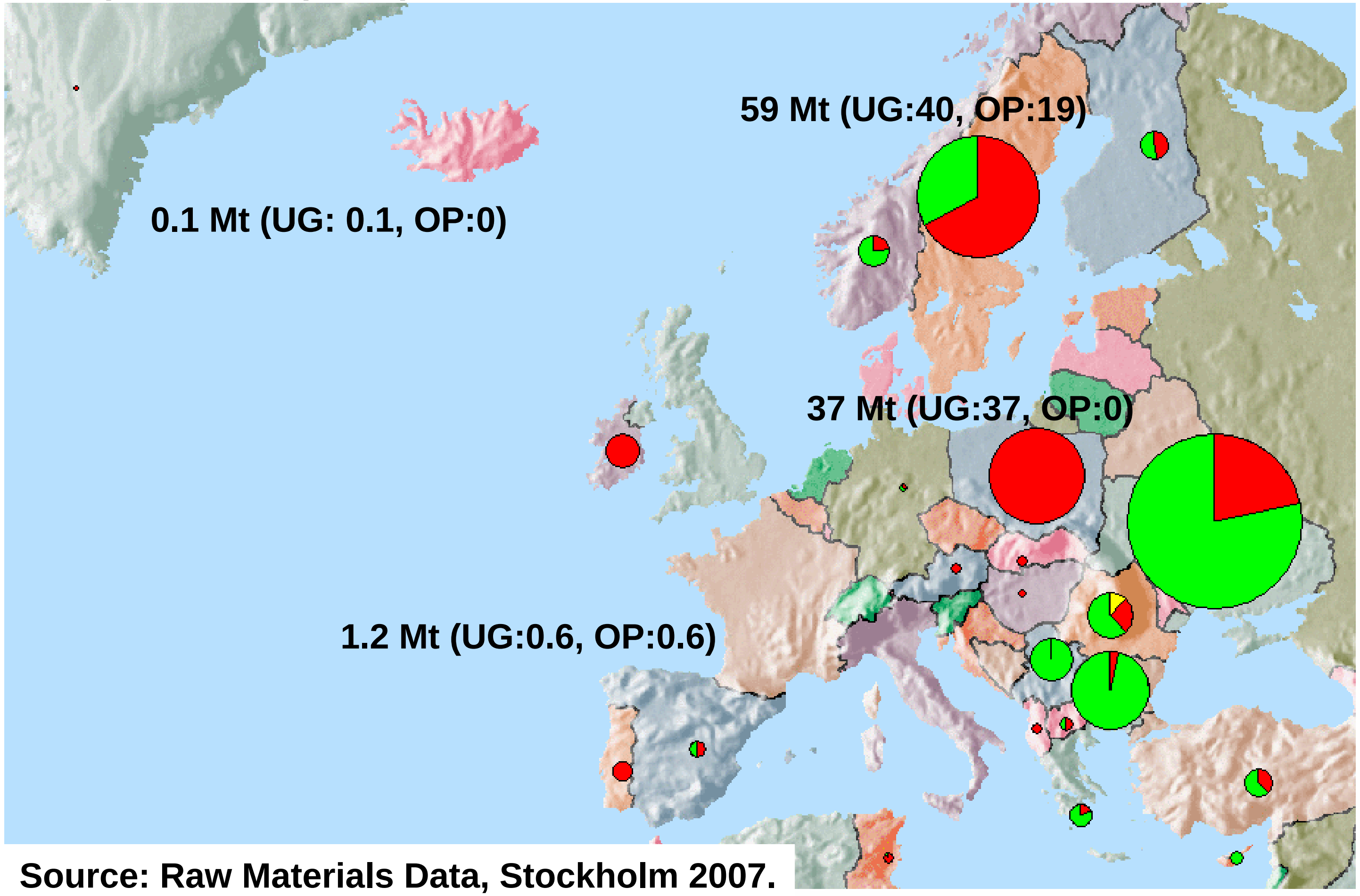


Source: Raw Materials Data, Stockholm 2008.

Raw Materials Group

OPERATING MINES

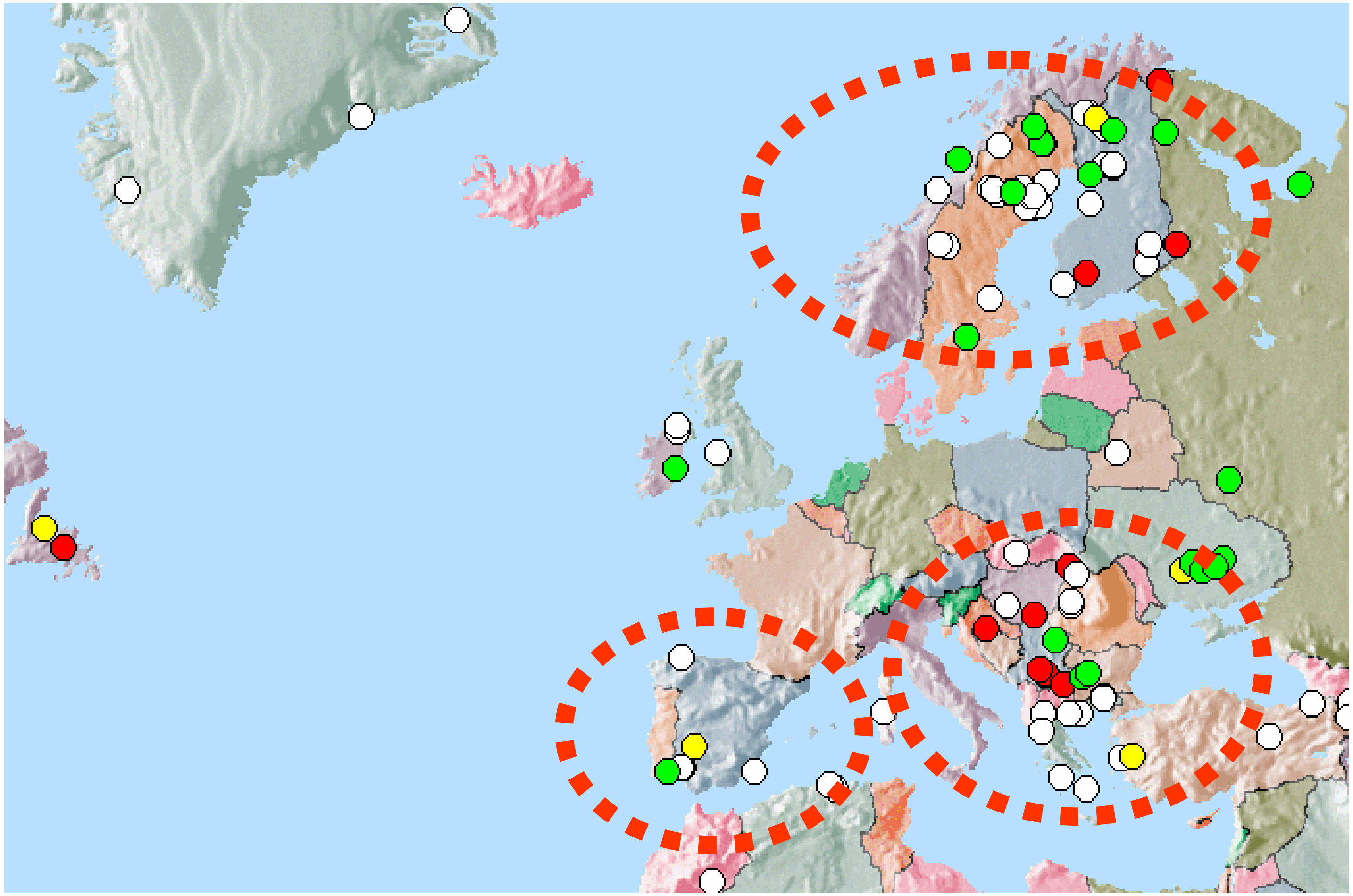
Ore production (metal)



Source: Raw Materials Data, Stockholm 2007.

Raw Materials Group

MINING PROJECTS



Source: Raw Materials Data, Stockholm 2008.

Raw Materials Group

Manganese drawing: Kaianders Sempler.

MINING

EUROPE

- Activity in the periphery.
- Regions with limited alternatives.

GLOBAL

- New companies from new countries.
- Increasing corporate concentration.
- Slow supply response.

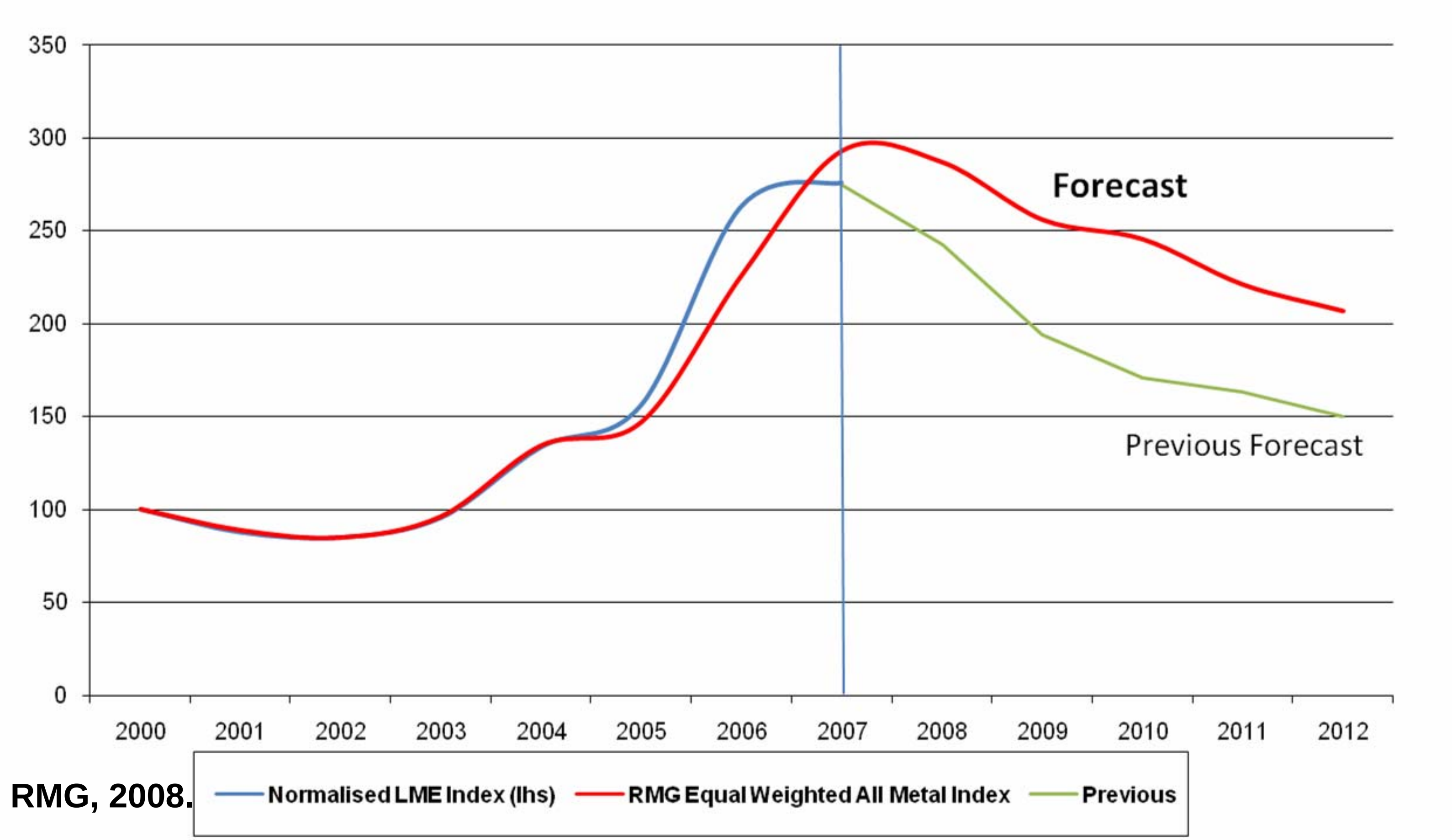
Raw Materials Group

THREATS & OPPORTUNITIES

Vanadium drawing: Kaianders Sempler.

Raw Materials Group

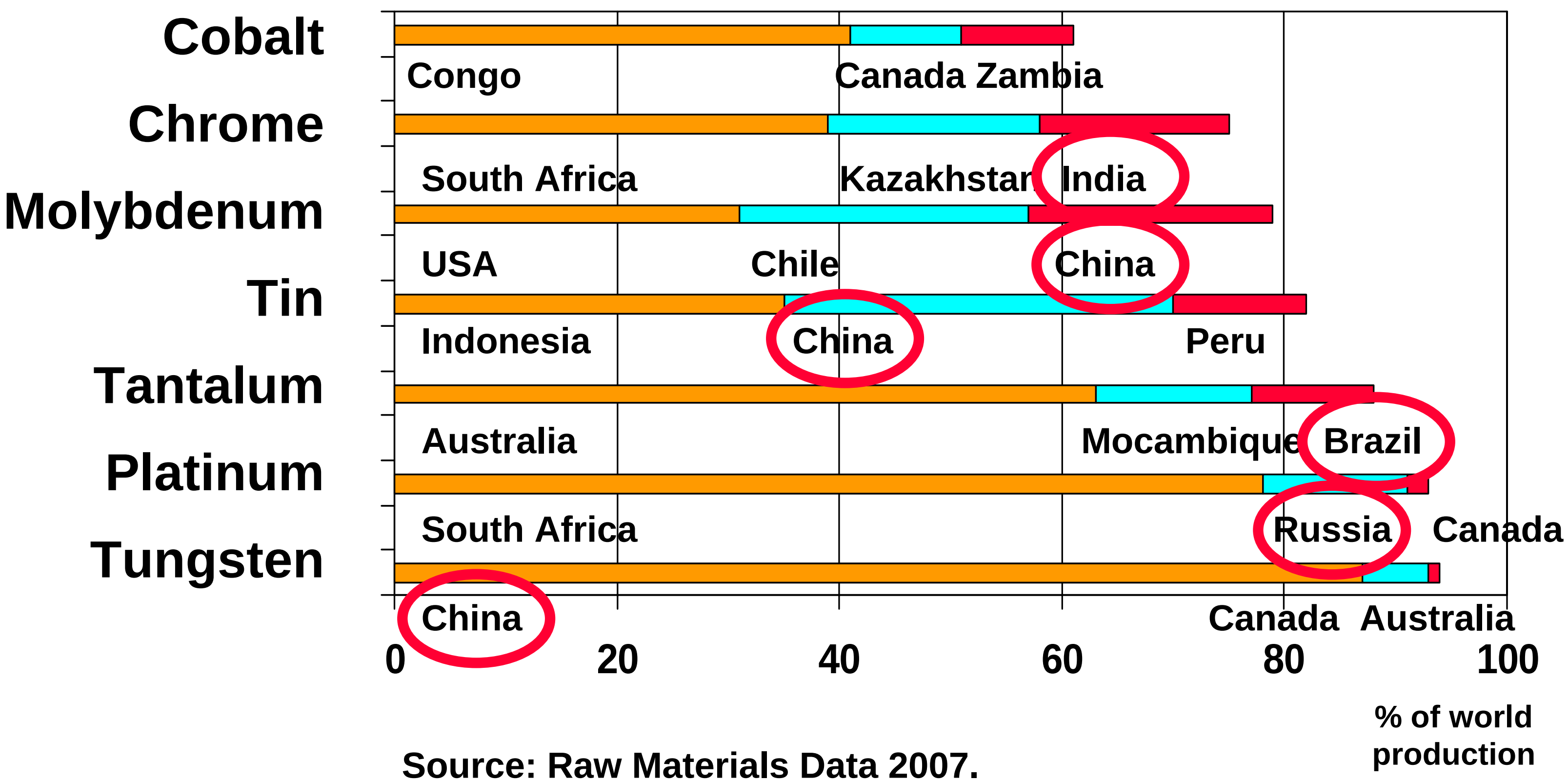
METAL PRICE INDEX



Source: RMG, 2008.

Raw Materials Group

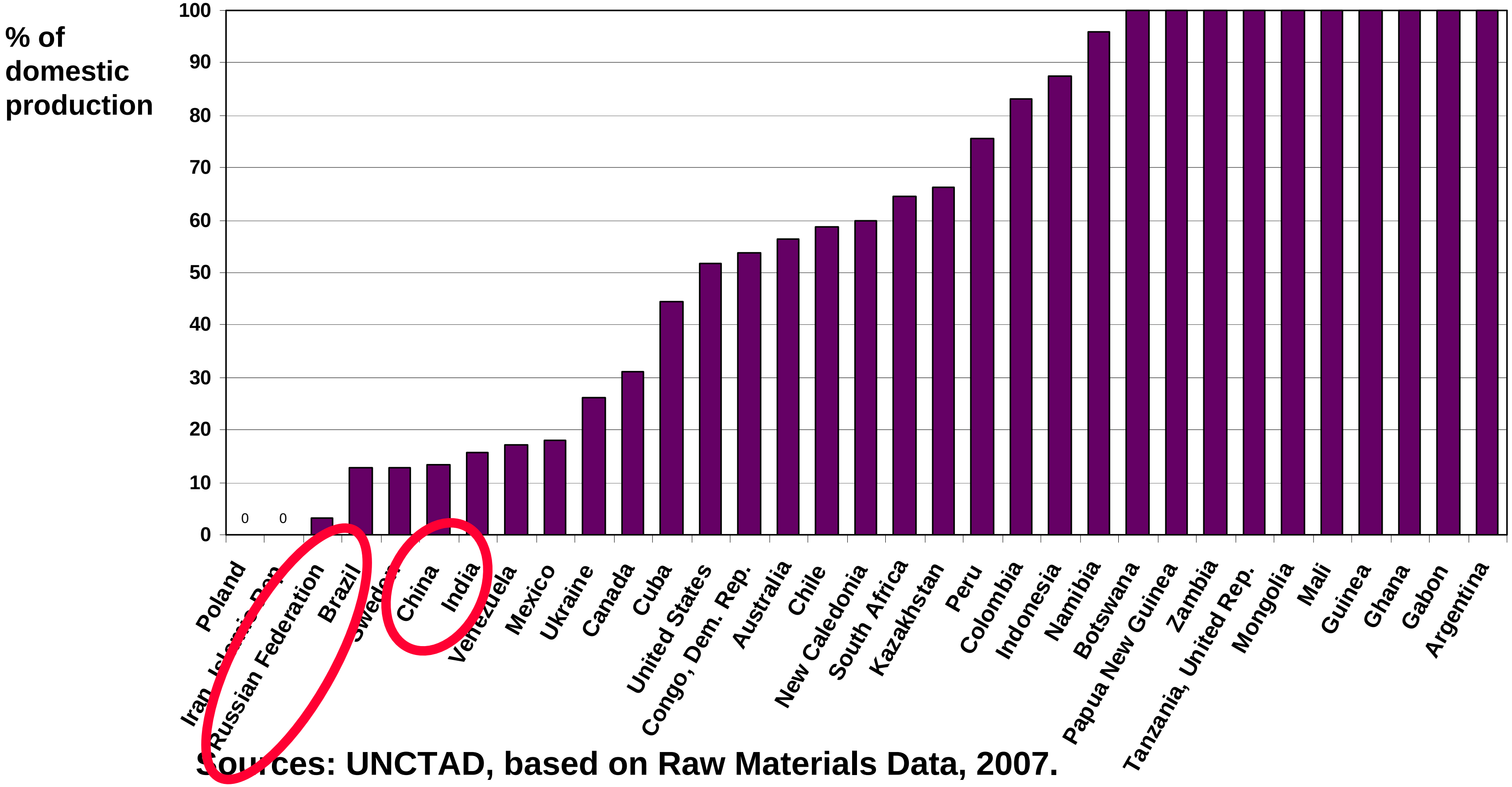
GEOGRAPHICAL CONCENTRATION



Source: Raw Materials Data 2007.

Raw Materials Group

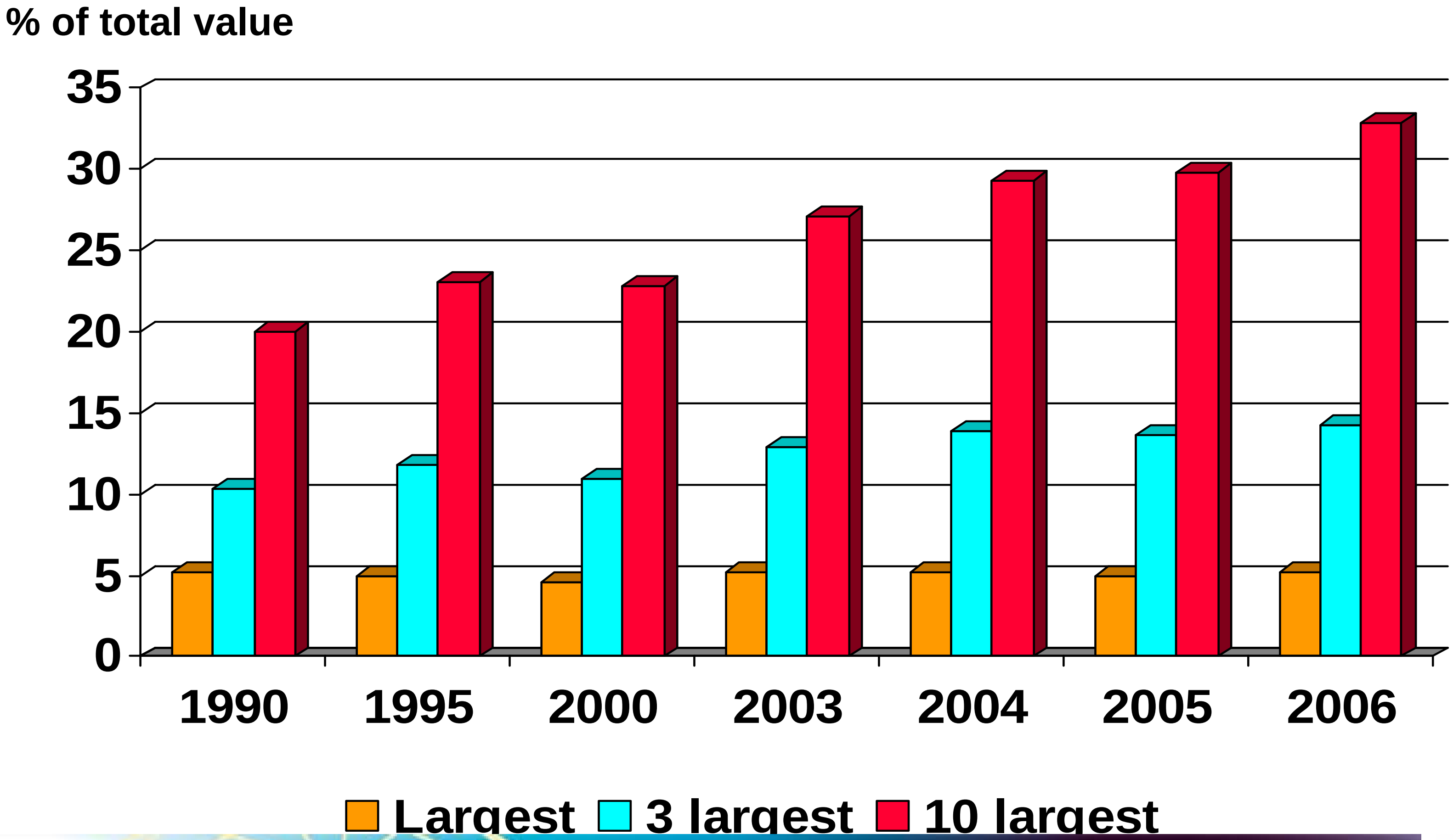
TNCs IN GLOBAL MINING



Sources: UNCTAD, based on Raw Materials Data, 2007.

Raw Materials Group

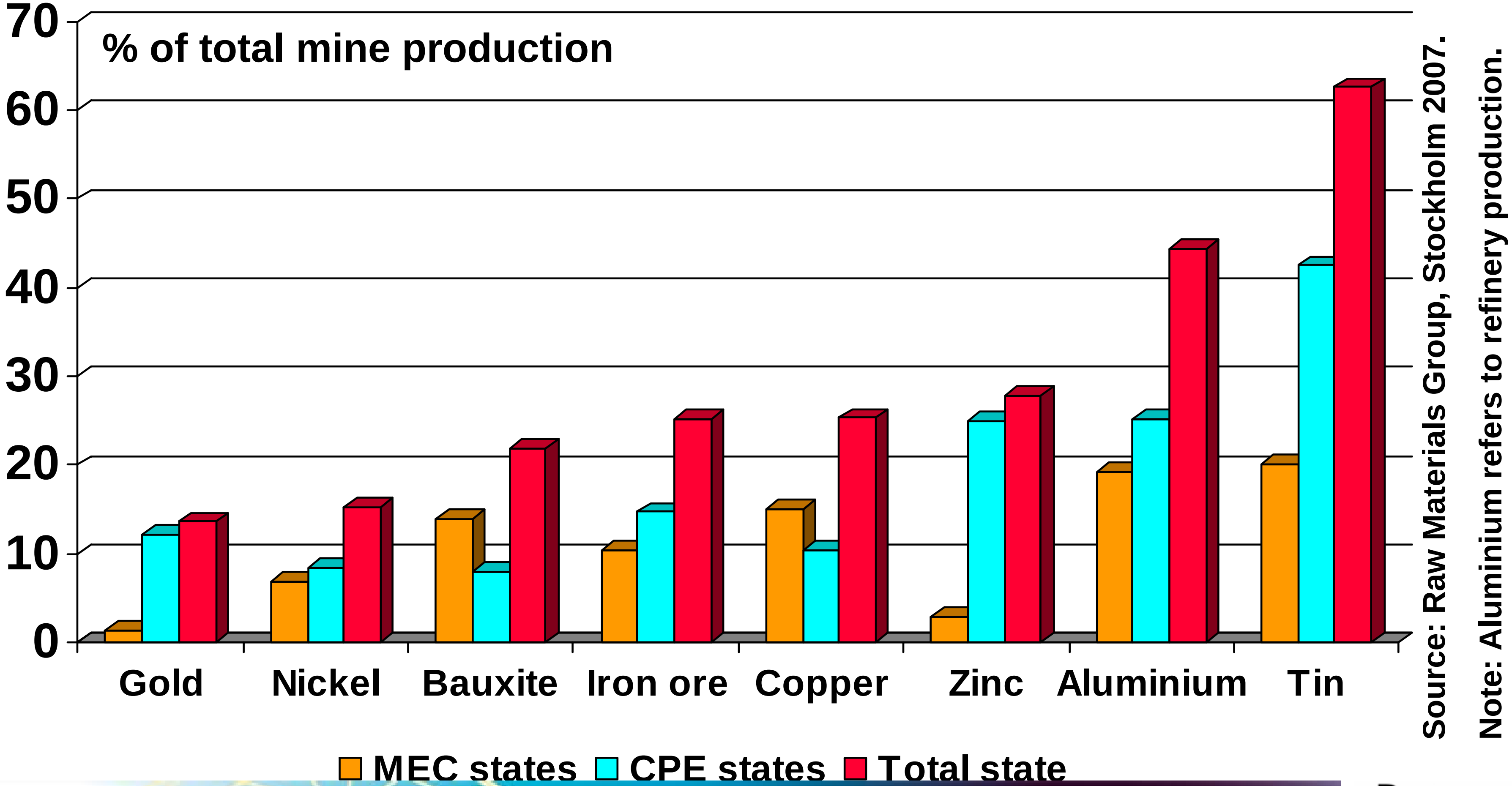
CORPORATE CONCENTRATION



Source: Raw Materials Group, Stockholm 2008.

Raw Materials Group

STATE MINING 2005



Raw Materials Group

CONCLUSIONS

Thorium drawing: Kaianders Sempler.

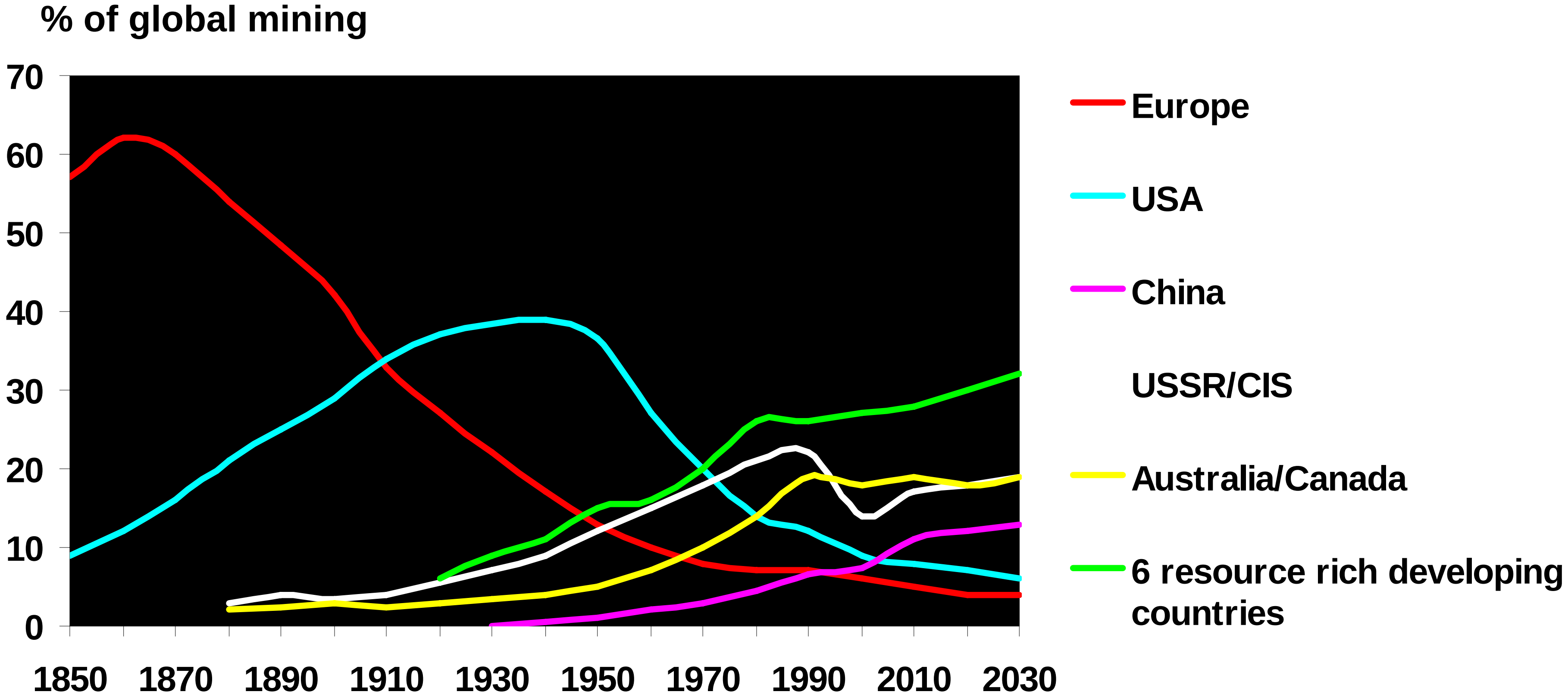
THREATS

- Corporate concentration increasing.
- Playing field not level - new entrants new rules.
- Not enough new discoveries.
- Environmental & social aspects not always in focus.

OPPORTUNITIES

- Potential in European periphery.
- New alliances with Africa.
- High costs need to be combatted.
- More R&D to deal with challenges:
  - Exploration technologies
  - Energy demands
- Cluster exists in Nordic countries
- Public sector's role crucial:
  - Setting the rules
  - Supporting R&D & exploration

WORLD MINING to 2030



Sources: Raw Materials Data, Stockholm 2008 and Sames.

Raw Materials Group

Tungsten drawing: Kaianders Sempler.

THANK YOU !
Multumesc!

Raw Materials Group

Magnus Ericsson

PO Box 3127

SE-169 03 Solna

Tel: +46-8-744 00 65

Fax: +46-8-744 0066

E-mail: magnus.ericsson@rmg.se

www.rmg.se

Raw Materials Group