



Informal Working Group on Education

Anglo American, BHP Billiton, Rio Tinto, Xstrata

**Global survey of Minerals Industry graduate
supply and demand**



Key questions

- What are the supply and demand sides of the equation for graduates in the core mining areas of Mining Engineering and Mineral Engineering/Metallurgy?
- If there is a shortfall in supply (or quality) of graduates and what can be done by the Working Group and as individual companies to address this issue?

BUT

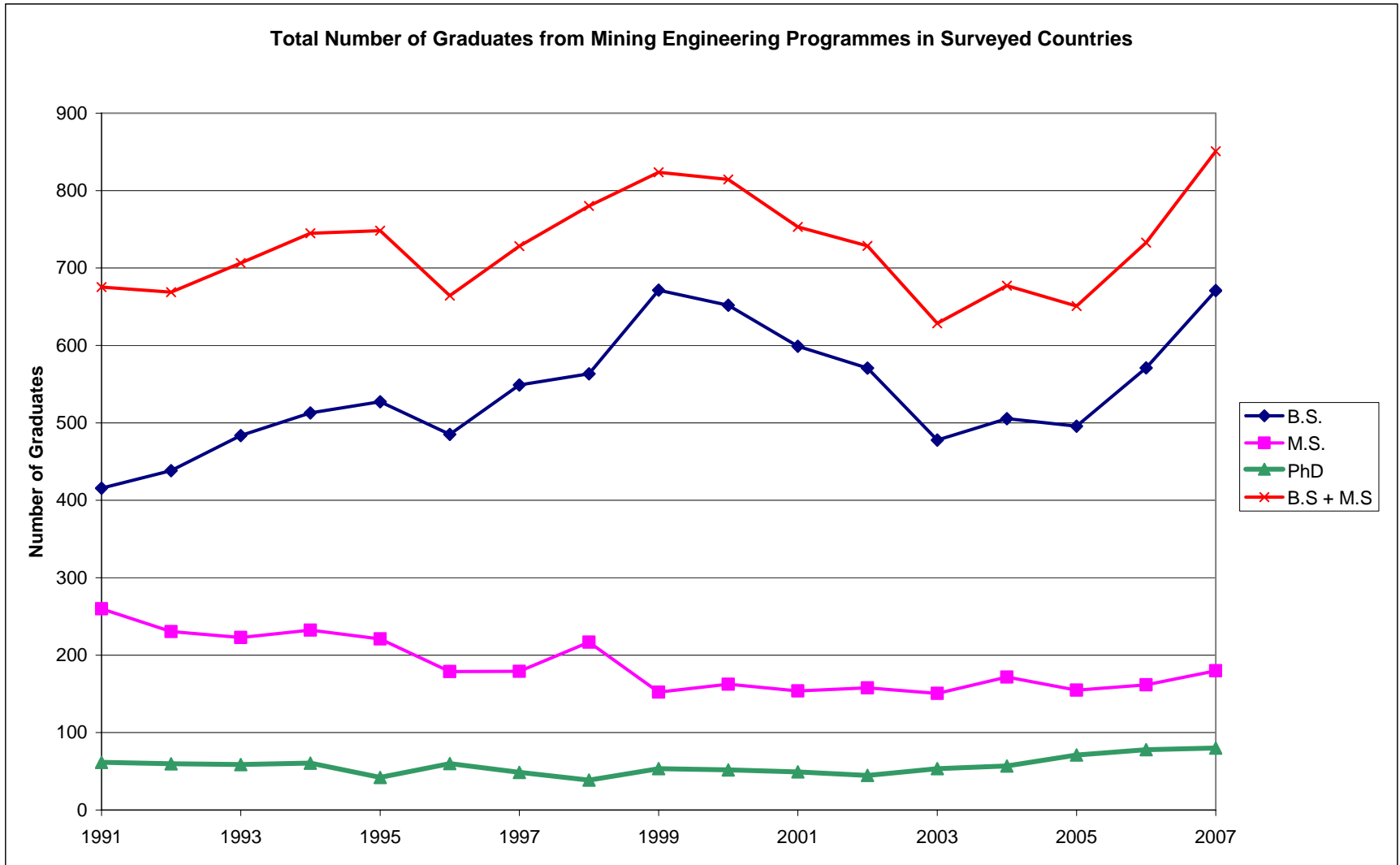
- Why is a minerals education necessary?



Survey questions

- What is the historical and projected supply of BSc, MSC and PhD graduate engineers?
- What is the status of the course – is it stable or at risk of closure?
- If applicable, what are the factors causing a lack of students?
- What can be done to promote student interest in minerals education?

Global supply – Mining Engineers

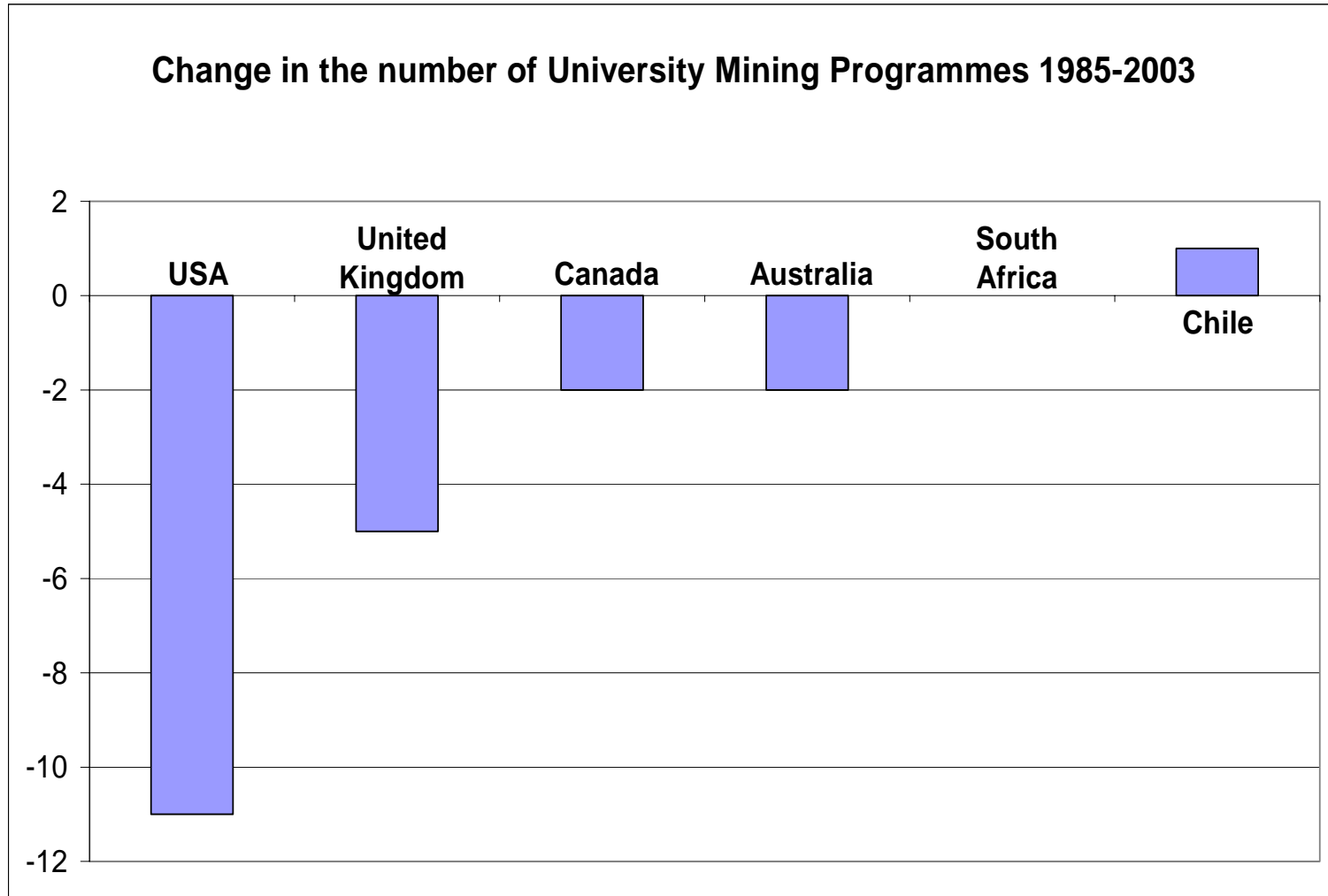


Where do mining engineers go?

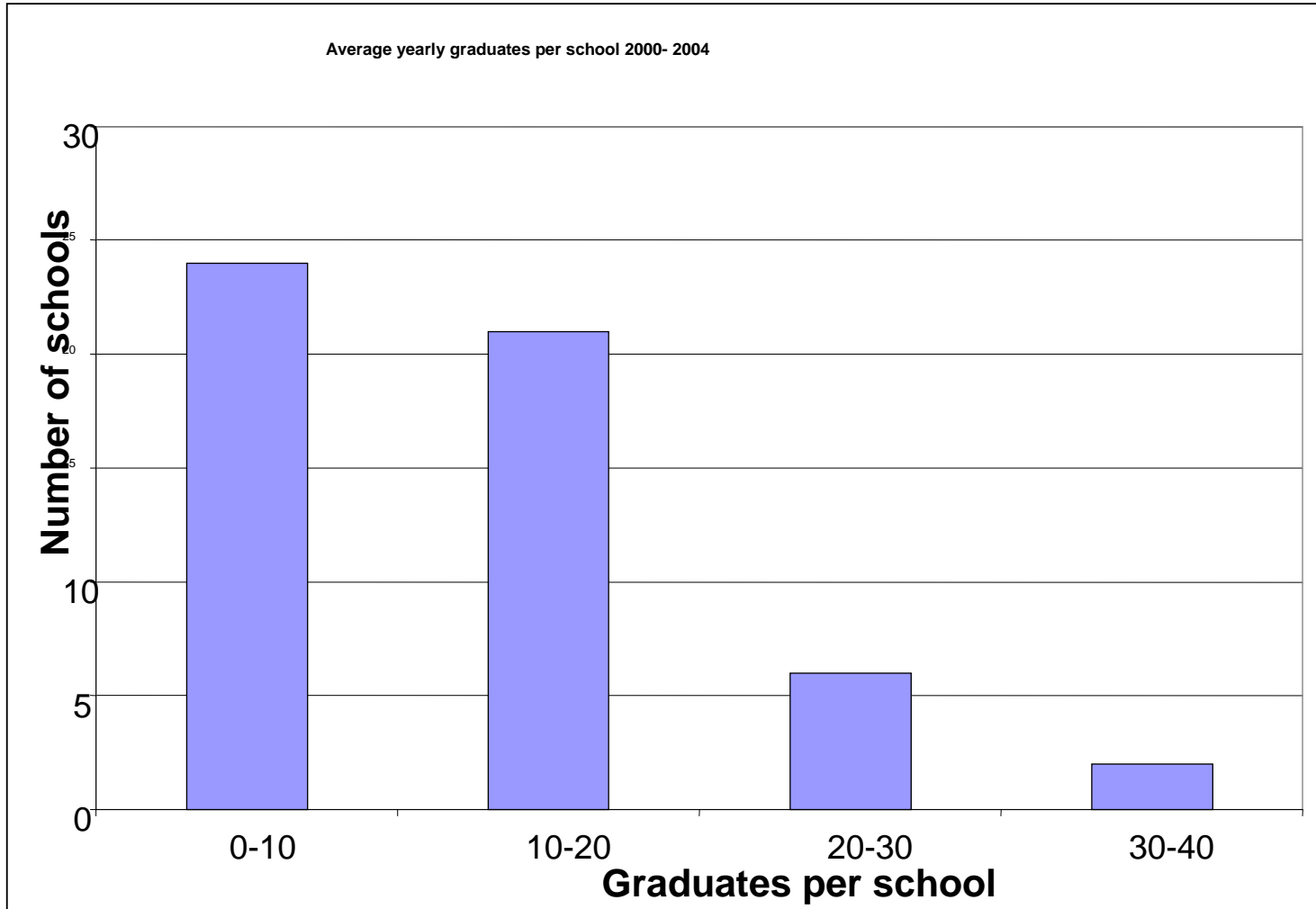
Destination	Number	Percentage
Mining company	55	60
Small mining company	0	0
Contractor	12	13
Consultancy	4	5
Extractive industry	2	2
Financial	0	0
Government	2	2
Further study	5	6
Other	11	12
Total graduates	91	100%

MTEC survey of three Australian universities Tuckwell 2004

Sustainability 1- recent closures



Sustainability 2 - class sizes



Demand for mining engineers

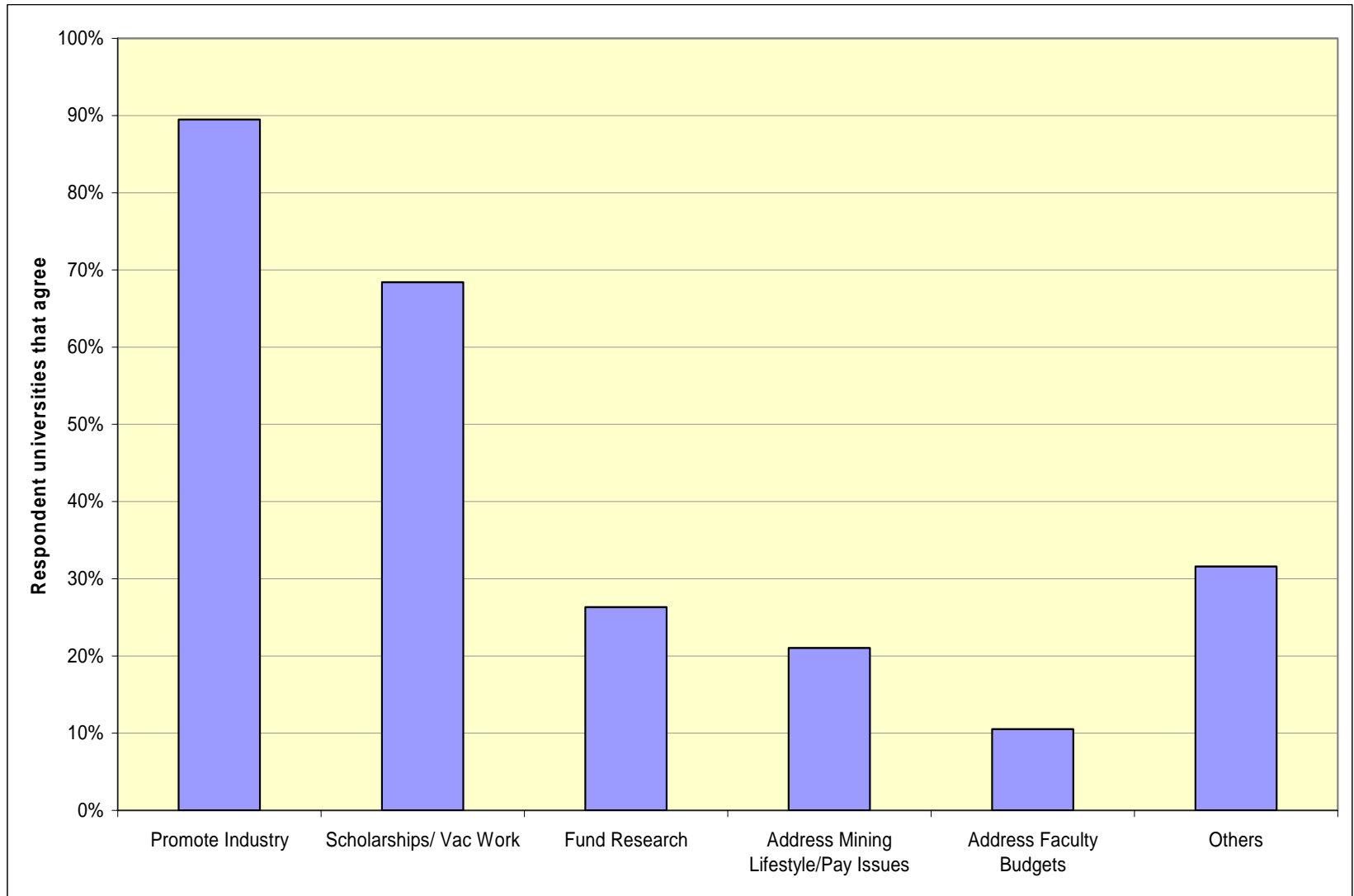
- From the respondent universities, graduate supply is currently around 690 per year
- Approximately 60% of university graduates enter the mining industry workforce directly into therefore 414 graduates are available
- Extrapolating demand to the whole industry based on market capitalisation and employee numbers gives an approximate supply requirement ranging from 500 towards 800 graduates per year.
- If retirement issues are taken into account the number will become higher



Demographics

- The workforce is ageing, retirement rates will increase at a time of increased demand
- In the USA half the industry professionals are over 50, similarly elsewhere in the world
- By 2024, 40% will leave the industry
- The experience base will halve in the same time

What the universities want



What industry can do

- Increased support for teaching - materials and in-kind assistance by industry to universities
- Provision of financial support such as targeted scholarships
- Industrial training opportunities for students - internships
- Support for research, to enhance status and provide the next generations of lecturers
- Increased involvement through industry advisory boards.
- Promotion of collaboration between universities
- Improve the industry image