



**THE ROYAL
AUSTRALIAN CHEMICAL INSTITUTE Inc**

ABN 69 030 287 244

The Secretary
Joint Standing Committee on Migration
Parliament House
Canberra 2600
ACT

14 August 2000

Re Review of Australia's Skilled Labour Migration and Temporary Entry Programs

Dear Secretary

Introduction

The Royal Australian Chemical Institute Inc (RACI) is the professional organisation of chemists in Australia. It represents chemists working variously in Academia (Universities and CSIRO), Industry and Government.

RACI assesses skills and qualifications of potential members and reviews Australian chemistry and related courses leading to the suitability of graduates for membership of the Institute

Together with mathematics and physics, chemistry is an enabling science ie those sciences upon the principles and practices of which science and technology is founded.

Chemistry and chemists provide much of the backbone for today's society and well-being; as the principal science of all materials discovery and development, energy (gas, fuels), water supply, (safe processed) food, medicines, minerals etc. In overview, chemists synthesis and/or purify materials to the community and the sub-discipline of analytical chemistry analyses these for their suitability, quality and consistency on an on-going basis.

Availability of Chemists to the Community

The practice of chemistry has markedly changed during the past 25 years. Use of more sophisticated, automated, chemical instrumentation and associated computers, enabling larger workload capacity, has significantly diminished the number of chemists at Bachelor level required for the practice of "routine" chemistry. Although RACI cannot provide hard data the allegorical evidence is that manufacture involving chemistry and chemists has coincidentally diminished. (However, I know that some 18 pharmaceutical factories in Sydney, owned by multi-national companies, have ceased manufacturing operations there in this period.)

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Academic Sector

Data shows that in the University sector, there was a total of about 970 academics and support staff in chemistry in 1990, reducing to about 650 in 2000 equating to some 25% decline. The number of support staff for chemistry in 2000 was less than two thirds of the number of support staff in 1990. In comparison, student numbers are constant within the statistical, year-by-year, fluctuations.

Reductions are uniform across the Australian University system. In the largest chemistry department in Australia the number of academic staff has dropped from 44 in 1990 to 24 in 2000, while in the same period that department's support staff has dropped by more than 50% - from 61 to 29.

These diminutions, in all sectors, lead to a situation of less employment and the perception that chemistry, at least in Australia, can lead to an uninviting career path.

As illustrated above, if this trend is allowed to continue it will be to the real detriment of Australian society. This not only applies to chemists but to scientists and science in general in Australia.

In part, Government has recognised this conundrum with the following "Actions" recently completed, about to be completed or underway at the time of this submission.

Chemical and Plastics Action Agenda March 2001 – Department of Industry, Science and Resources

Pharmaceutical Action Agenda (in preparation) – Department of Industry

The Chance to Change - Chief Scientists Statement Aug 2000

Backing Australia's Ability - Government Innovation Report 2001

Higher Education at the Crossroads - Department of Education April 2002

Developing National Research Priorities – Department of Education May 2002

Business Commitment to R&D in Australia - Parliamentary Inquiry (current)

Review of Australia's Skilled Labour Migration and Temporary Entry Programs - Parliamentary Inquiry (current)

The RACI views these various inquiries and their outcomes as interlinked and trusts that the data and conclusions can be integrated into a cohesive total for chemistry (and science) in Australia.

With regards to migration consideration must be given to an intake of suitably qualified migrants for

Tertiary research
Tertiary teaching
Secondary teaching

However, before attempting to attract overseas candidates, positions and career opportunities must be available and hopefully increased, particularly in the University and CSIRO sectors. R&D and manufacturing must be encouraged in the private sector to increase career opportunities in chemistry.

Only if this is successful, in the medium term vacancies may need to be filled by qualified migrants.

RACI cannot supply figures for non-qualified teachers teaching chemistry but allegorical evidence is that there is a high proportion and that trainees are not attracted to courses to prepare them for secondary school chemistry teaching.

In conclusion Australia requires high quality chemists for research/tertiary teaching and secondary teaching, at PhD level and beyond for the former and at least Bachelor level for the latter.

Yours sincerely



David Edmonds
President Elect
RACI