

Preface: The SAF Program – rethinking science advice to government

Emeritus Professor Michael N Barber FAA, FTSE, FAICD

Chair, Program Steering Committee (Jan 2013–June 2016)

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In an age dominated by science and technology it is ironic that science and research are not taken as seriously as they should be in the formulation of public policy. From climate change and genetically modified crops to debates on the safety of nanotechnology and vaccination, scientific facts often get lost. Part of the problem lies with those offering *science advice* failing to appreciate, as Sir Peter Gluckman, the Chief Scientist for New Zealand, has emphasised, that science advice is only one stream of advice that public policy makers receive.

The vision of the Securing Australia's Future (SAF) program was to encourage more compelling science and research advice, enriched through an interdisciplinary way of generating *evidence-based findings* (importantly, not recommendations) that were based upon contemporary and high-quality research and conveyed with a greater awareness of the cultural, economic and social and even political contexts in which any ensuing policy would be developed.

To do so, the then Chief Scientist for Australia, Professor Ian Chubb, decided to draw upon the collective wisdom of Australia's four learned academies operating as the Australian Council of Learned Academies (ACOLA). With the support of the Australian Research Council, SAF was conceived.

The entire program of 11 reports was overseen by a project steering committee (PSC) that ACOLA convened. The PSC was a remarkable group of individuals that I had, for all but the first six months of the program, the privilege and honour to chair. At any time the PSC consisted of three Fellows from each of the four academies. Over the four years of SAF, 22 Fellows served on the PSC. As Fellows we came to the PSC with recognition of distinction in our disciplinary specialities: from mathematics to history, economics to biology, engineering to geography. However, over the program we all increasingly relished the views that came from very different perspectives. As Peter McPhee, a historian, once said: 'the camaraderie, sense of purpose and willingness to step out of our own comfort zones often made the PSC meetings exhilarating'.

Scott Page of the University of Michigan has written a book, *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*, on the importance

of diversity in public policy, particularly in tackling so-called wicked problems for which interventions can have (and usually do have) unintended consequences. By diversity Page does not only mean gender diversity, as important as that is. Rather he refers to the value that different perspectives of experts from different backgrounds, experience, discipline and so on can have on the development of effective public policy and associated interventions. However, to realise this value, Page argues, the experts must be willing to step outside their comfort zones and recognise that no particular perspective is any more valuable than any other. I believe that the PSC, and to a large extent the SAF program itself, was a confirmation (and indeed an exemplar) of Page's thesis.

What did the PSC do? Initially it was conceived as a steering and oversight committee charged with recommending the membership of the Expert Working Groups (EWGs), high-level oversight of their work and quality assurance. Over the duration of the program the PSC evolved in response to various issues that arose. In particular it took a greater direct involvement – through periodic 'deep dives' and the assignment of specific PSC members to liaise with the EWGs – in the workings of the EWGs to ensure that the breadth of the academics' expertise was brought to bear and timely reports were delivered with clear findings that could be actioned by the Office of the Chief Scientist and/or line government departments.

The 11 reports developed through the SAF program, and this volume which synthesises them, are the important legacy of the work undertaken through the SAF program. The individual reports, while summarised in the appendices of this volume, can be accessed on the ACOLA website (www.acola.org.au). The ACOLA website also archives the working papers and consultant reports commissioned by the EWGs. These, by themselves, constitute a significant legacy of the program that can assist future research.

A less formal but nonetheless very important legacy of the SAF program is the lessons PSC and ACOLA learned from delivering the program itself. SAF was a novel experiment and had to test and learn as it progressed. The learnings form a valuable asset for ACOLA which should continue to contribute to the development of any future opportunities for SAF-style programs that contribute to national interests.

So what did we learn? The most significant conclusion from the past four years is that the SAF program demonstrated that the four academies, working collectively and collaboratively as ACOLA, can be an important voice in evidence-based policy advice in Australia. Eleven reports of substance, drawing value and insights from both the science, technology, engineering, mathematics (STEM) and humanities, arts and social sciences (HASS) disciplines, were produced on topics of importance to Australia's future. The quality and depth of these reports should see their relevance maintained for some time. In process terms, we learnt a great deal about the management and leadership skills necessary to produce effective, productive research across the disciplines. Such skills paid rich rewards in outcomes and are recorded in the PSC review of the program available on the ACOLA website.

Since the overall aim of the SAF program was to influence the formulation of public policy, how successful was it in achieving this objective? By design many of the projects coincided with important issues of public policy and they do seem to have had an influence. Prime examples include:

- SAF01: substantive input to the development of the Productivity Commission Report, *Migrant Intake into Australia* (2016);

- SAF02: substantive input to the development of the Chief Scientist's position paper *Science, Technology, Engineering and Mathematics in the National Interest: A Strategic Approach* (2013) and the *Vision for a Science Nation Consultation Paper* (2015);
- SAF03: influence on the development of the Department of Foreign Affairs and Trade's *Public Diplomacy Strategy 2014–2016* (2014);
- SAF04: substantive input to the development of *Boosting the Commercial Returns from Research* (2015) and the *Industry Innovation and Competitiveness Agenda* (2014);
- SAF06: substantive input to the development of shale gas policies at federal and state/territory level (2014);
- SAF07: coincided with the release of the Government's *Agricultural Competitiveness White Paper* (2015);
- SAF08: references in the *Australian Infrastructure Plan: Priorities and reforms for our nation's future* (2016); and
- SAF09: findings incorporated in the *National Innovation and Science Agenda* (2015), the *Watt Review of Research Policy and Funding Arrangements* (2015).

Ideally this book will carry the SAF findings even more widely.

What else could have been done with SAF? The 11 SAF reports all deal with issues of public policy important to Australia's future. There are, of course, many other issues that will affect and determine Australia's future, a number of which could benefit from the multidisciplinary perspective brought to the SAF program.

As Simon Torok and Paul Holper, the authors of this book, note:

The scope of the SAF project was limited by the commission agreed between the government of the day and the Office of the Chief Scientist. There was no suggestion that the project would examine every major challenge facing Australia: so, for example, there was no specific report that examined the implications of Australia's demographic changes, such as in life expectancy, and their implications for health policy. Nor was there a report devoted to climate change, although the imperatives of environmental sustainability underpin many of the reports and this book.

Two of my favourite projects that the PSC tried to get up but failed to for various reasons were tentatively called 'Reengineering Health' and 'Privacy in the Age of Security'. The former would have explored how technology and other disciplines from engineering and operations technology to economics, industrial relations, psychology and design theory might transform health, thereby decreasing cost and increasing patient outcomes. The latter could have explored the tensions and compromises involved in striking an appropriate balance between privacy and the need for security particularly given technological developments, and could have asked questions such as: has the notion of privacy changed in the age of Facebook?

While those of us close to the SAF program and particularly on the PSC could, by the end, see topics that SAF could have explored and even how we might have improved the ones we did, SAF has left a lasting legacy. And indeed, in doing so, it broke new ground.

A fundamental tenet ... is the interdisciplinary nature of the enterprise. The ability to mobilize first-rate expertise across the science, engineering, social science and humanities communities is quite extraordinary. Indeed, there is no comparable effort

outside Australia that has been able to sustain such an integrated structure beyond a one-off study ... In that sense, the work of the SAF is not only a unique asset in Australia; it is also a model that academies abroad should watch closely to see whether it can be institutionalized.

– Richard Bissell, Executive Director, Policy & Global Affairs, of the US National Academies in Washington

This book by Simon Torok and Paul Holper is thus not just a synthesis of the reports but also a tribute to all who made SAF what it was. I commend the book to you.