

AUSTRALIA 2050

Seeking an environmentally, economically and socially sustainable 21st century nation

INTRODUCTION

Fifteen years into the 21st century our world is experiencing transformative change. Geopolitical forces are realigning. The centre of economic gravity is moving east. Our climate is changing, and we are heading for a population of 9–10 billion by mid-century that is economically globalised and undergoing profound urbanisation and demographic transitions.

Australia is a developed nation on the fringe of the great centres of population growth in Asia. We enjoy some of the most enviable lifestyles and highest per capita incomes in the world. But how will our lifestyles change as markets, the environment, and political alignments shift around us? More importantly, what can Australians do now to ensure the health, wellbeing, equity and prosperity of future generations, and a diverse and sustainable natural environment in which they'll live?

The Australian Academy of Science's ambitious Australia 2050 project helps us answer these questions by engaging scientists, business people, policy makers and members of the public in structured conversations about the challenges we face, and the kind of Australia we want for our children.

Looking forward and looking back

2050 is 35 years away. These decades will be shaped by foreseeable and unforeseeable changes; think of the enormous changes wrought on society in the last 35 years by globalisation on the one hand, and the internet on the other. We also know that the decisions we make today will

WHERE ARE WE HEADING?

Australia in the mid-21st Century

Australia has a unique demographic and economic signature with an urbanised population concentrated in large cities around the rim of a sparsely populated continent. Our population growth rate is more like that of a developing than a developed country, and we have become accustomed to successive decades of high economic growth and steadily increasing personal wealth.

By 2050, international demand for Australia's natural resources may have fallen, and the economy is likely to have been overtaken in size by those of several South East Asian neighbours. Australia's population will have reached around 40 million, and the median age will have risen to over 45.

Slightly less than half of this population growth will be due to natural increase, with the remainder resulting from immigration. The ratio of people in the workforce to people aged over 65 could halve from 5:1 today to just 2.5:1 by mid-century, likely placing significant pressure on publicly funded programs and services. Without decentralisation, our major cities will double in size. Australia's climate is expected to change, with higher average temperatures, shifting rain patterns, increasing number and severity of extreme weather events, and a substantial rise in the number of days above 35°C. Our domestic food supply is expected to remain secure, but agricultural trade is likely to have fallen because of climate-related downturns in production.

have profound consequences for 2050. Just as tariff removal and floating the Australian dollar have shaped our industries, and changes in immigration policy since 1980 have altered the nature of Australian society, so will decisions about carbon emissions, education and social welfare shape Australian society over the decades to come.

AUSTRALIA 2050

Planning for the future

Australia 2050 is the start of a landmark process to plan for an ecologically, economically and socially sustainable and equitable future for all members of Australian society. It's about science and scientists taking part in the conversations going on in the nation's boardrooms; around office water coolers; in classrooms; in hospital corridors; on bush telegraphs; and in the back paddock. It's about gathering these conversations together so that national decision making can be informed by a view that looks to future generations.

A new approach

The Australia 2050 project has developed a new approach to engaging Australians in conversations about the future. 'Living Scenarios' allow groups of people from the spectrum of Australian life—science, industry, commerce,

government, community and social welfare, leisure, sports and entertainment—to come together to think meaningfully about our collective future.

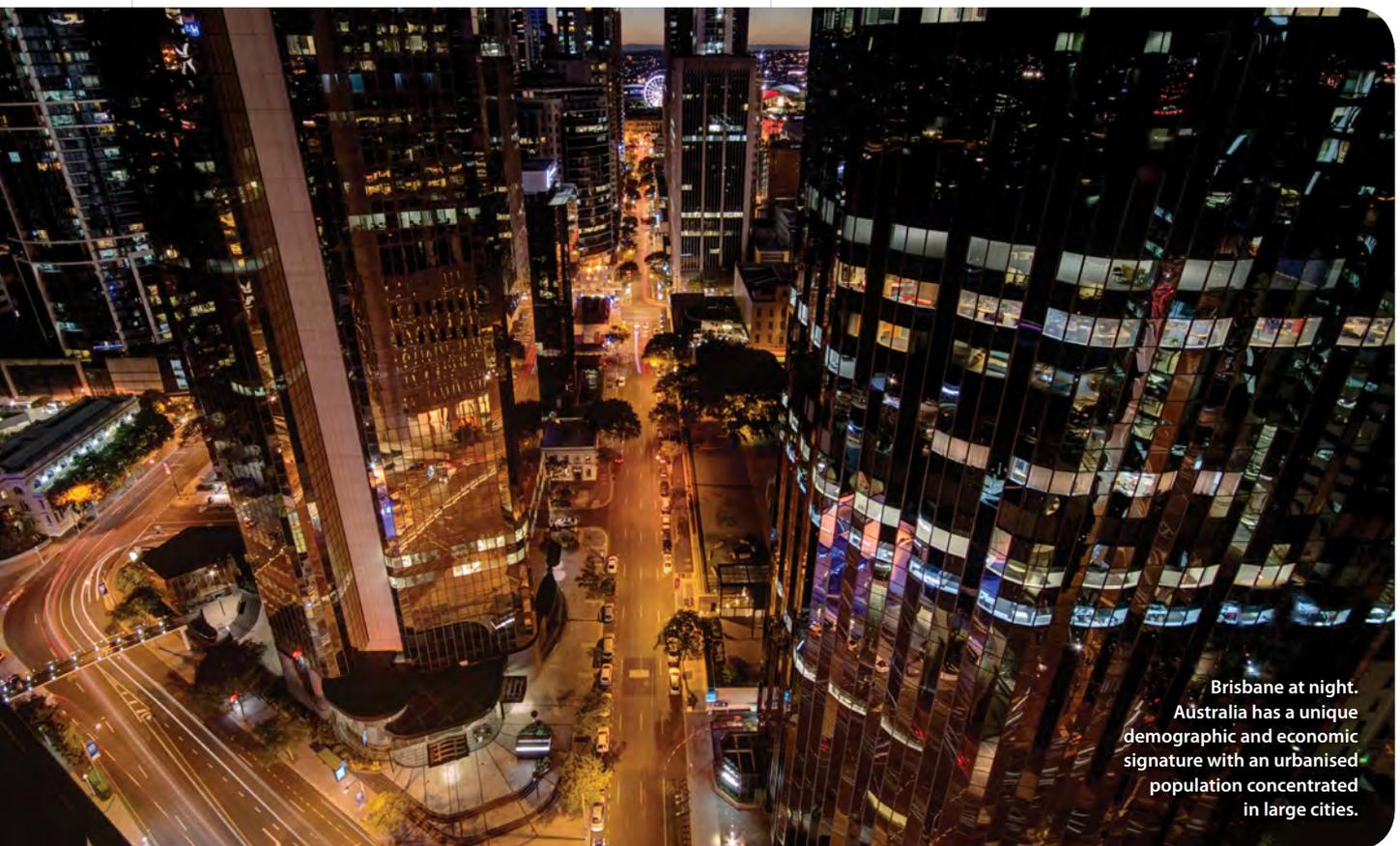
The approach involves:

- opportunities for participants to get to know one another and to understand their own and others' beliefs and views about the future

ARCHETYPES OF THE FUTURE

The archetypes, or scenarios, used for workshop discussions involved:

- **growth**—imagining an Australia that has continual growth
- **restraint or contraction**—imagining an Australia that has come to terms with internally or externally imposed constraints
- **catastrophe**—imagining an Australia that has collapsed under environmental, social or economic pressures
- **transformation**—imagining a future in which we've found ways of dealing with challenges by making fundamental changes to our lives as Australians.



Brisbane at night.
Australia has a unique
demographic and economic
signature with an urbanised
population concentrated
in large cities.

Photo: Brisbane CBD by Jorge Lázcar. <http://flic.kr/p/1a6z5F>
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- a series of 15-minute discussions among rotating groups of three to encourage sharing of ideas about plausible, acceptable and workable 'archetypes' of the future (see box page 2)
- real-time recording and amalgamation of 'key-point tweets' from each group to allow on-the-run refinement of the process
- time for participants to reflect on the discussions and to share their thoughts and learnings about commonalities and differences of viewpoint, and about the strengths and weaknesses of the process.

BACKGROUND TO THE AUSTRALIA 2050 PROGRAM

Australia 2050 began as a three-year national research project carried out by a consortium led by the Australian Academy of Science with funding from the Australian Research Council. The project was run in two phases.

Phase one—defining the problems

Getting started—Australia 2050: toward more environmentally sustainable and socially equitable ways of living

Phase one brought together scientists and experts in economics, the humanities and business to take part in a four-day workshop in the NSW town of Bowral to discuss different visions for an ecologically, economically and socially sustainable Australia.

The outcomes, processes and details of the workshop were brought together in the Australia 2050 project's first publication: *Negotiating our Future: Living Scenarios for Australia to 2050, Vol. 1* (see box this page).

The workshop set out to answer the question: What is a realistic vision for an ecologically, economically and socially sustainable Australia to 2050 and beyond? It considered how such a vision can develop and evolve to support coherent societal responses to the great challenges of environmental and economic sustainability and social equity, and addressed the following questions:

- What are the climatic, social, economic and demographic challenges Australia will face over the coming decades, and what do they mean in the context of our current and future society?
- How can our society best prepare to meet these challenges?

- How can we work towards coherent action as a society?

It drew out a set of core principles that could be used to guide considerations of future challenges to 2050 and beyond, posing the question of whether they might form a more formal, national approach to developing a shared, long-term vision of our nation's future.

FIVE THEMES FOR THE FUTURE

Negotiating our future: Living scenarios for Australia to 2050, Vol. 1 covers five themes:

1. Australia as a complex adaptive system made up of interacting natural and human components.
2. The present state of the Australian system; a brief survey of where we are now.
3. Ways of thinking about the future; distinguishing between objective analysis and subjective statements of goals or aspirations, and analysing the concept of a safe operating space.
4. Tools for navigating the future, including both quantitative models and scenarios.
5. The concept of living scenarios for Australia as a complex adaptive system; how could such scenarios be developed and be useful in negotiating the future?

Understanding the position today

In the lead up to the Bowral workshop, a steering committee formulated basic issues and questions about Australia's future and developed a series of 14 comprehensive briefing papers covering current understanding, known gaps in knowledge, and initial expert opinions in key areas such as climate change, population growth, health, and food security. These formed a starting point for working group discussions, providing a pivotal snapshot of the state of scientific understanding of Australia at the beginning of the 21st century. This was published as *Negotiating our future: Living scenarios for Australia to 2050, Vol. 2*.

From these discussions emerged the concept of Living Scenarios (see box next page).

LIVING SCENARIOS

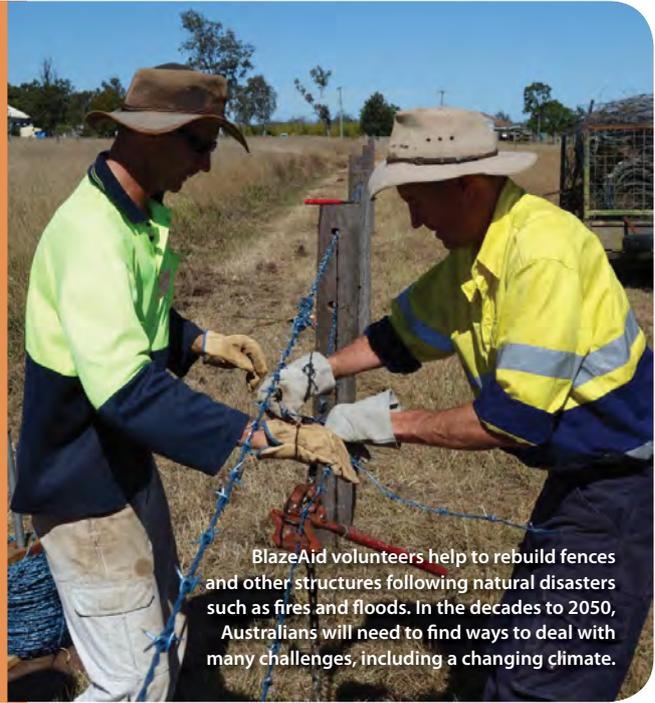
Living scenarios are shared, ongoing explorations of how the future might unfold

As maps of the future, Living Scenarios can be reworked, adapted and, when needed, transformed.

In principle, Living Scenarios:

- allow for flexibility and ambiguity
- are refashioned in response to changing circumstances
- reflect a rich diversity of opinions, values and aspirations.

Most importantly, the Living Scenarios *process* is a tool for achieving a coherent shared vision of the future, and the pathways that our society might consider taking as we move towards it.



BlazeAid volunteers help to rebuild fences and other structures following natural disasters such as fires and floods. In the decades to 2050, Australians will need to find ways to deal with many challenges, including a changing climate.

Photo: 'BlazeAid - Straining!' by peter boer. <http://flic.kr/p/1K4RZ>
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Phase two—getting Australia talking

Starting the conversation

The second phase of the project put the Living Scenarios concept into action through conversations among Australians from a wide variety of backgrounds. In a two-day conference held in Canberra in 2013, 50 Australians congregated at the Academy of Science... and talked.

The outcomes of that conference are published in *Australia 2050: Structuring conversations about our future, Vol. 3*.

This volume outlines what happened during the meeting. But more importantly, it spells out the methods that were used to ensure productive conversations—and the lessons that were learned. In doing so, it provides a template that can be used by groups around the country to structure their own discussions about Australia's future.

Towards the future

The workshop convenors structured the conversations around four archetypes, or views, of the future (see box page 2).

The emphasis of the Phase 2 workshop was ensuring fruitful conversations that allowed exchange of information and sharing of ideas rather than the default position, where entrenched positions are

defended. Real conversation is an absolute necessity if the Living Scenarios model, or any kind of fruitful national conversation about our future, is to take place.

WHERE TO FROM HERE?

The national conversation the Academy hoped for has just begun. From here it needs to grow with coherence, structure and energy to help formulate a great and sustainable nation for the 21st century that will be a major part of the international response to our planet's future.

READ THE FULL REPORTS ONLINE

science.org.au/australia-2050

