

The case against high levels of immigration

By Peter Martin.

On a personal level, almost everyone likes the idea of immigration. There is a lot to like about it. We love the influx of new ideas, skills, foods, outlooks and values. Immigration has changed our culture for the better. Most Australians count migrants and their families amongst their closest friends. In fact, half of us now are either from migrant families, or married a migrant, or are migrants ourselves. That's the overwhelmingly positive emotional and personal reality we experience. So bearing this experience in mind, could there ever be a case against immigration?

One factor that keeps surfacing in the discussion around immigration is its now dominant role in Australia's rapid population growth. With family sizes continuing to fall in Australia, immigration is now the primary driver of population growth. Doubts about high immigration today come mostly from scientists and citizens concerned with the deteriorating condition of our natural environment, since population growth makes these issues harder to deal with.

The latest forecast for 'net overseas migration' is up to 213,000 in 2023-24, the equivalent of creating a city of over a million new citizens every 4-5 years. The question being raised for serious discussion is whether we actually need to do this to thrive as a nation. After all, there are plenty of smaller nations with a high living standard that are not intent on population increase. Could there be losers as well as winners from this program? And what do we mean by 'thrive'?

Such doubts are rarely voiced in the Australian media or in serious policy discussions within business or government circles. Nor are they raised within any of the three largest political parties, where any mention of population is more or less taboo. However, at the same time there is a strong, well-resourced cheer squad for permanent and ever higher immigration targets, widely supported in the media, in particular by SBS.

Yet there are a range of serious concerns that need open discussion. And it needs to be a respectful exchange, not one marked by insulting and disingenuous innuendo from vested interests, some of whom claim that only racists and fascists could possibly question the government's long-standing support for endless population growth.

One thing that needs to be said at the outset is that this discussion is not about refugees. People fleeing war, persecution and disasters need all the help we can provide. Indeed, this article argues for a much higher refugee intake, to 50,000 a year up from the current 20,000, backed by generous taxpayer-funded resettlement programs.

1. Environmental concerns

For most observers concerned about Australia's rapid population growth, it is not people themselves that are the problem. Rather, it is the impact that we humans inevitably,

undeniably, have on Australia's environment. We all play a part in that – we cause that impact collectively. As long as we refuse to lessen our individual impact by more than token amounts, our numbers remain as the main factor driving our overall environmental impact.

If it were not for our high level of immigration, Australia would now be in step with other advanced western countries in moving towards a stable population, or possibly even a smaller one, as Japan, South Korea, France, Germany and Italy are all doing. Birth rates amongst Australian women have decreased steadily since a peak of 3.6 children each in the mid 1960s to about 1.7 today. This number is known as the Total Fertility Rate, or TFR. A rate of 2.1 is required over the long term for a population to replace itself.

Some may share Elon Musk's alarm at the idea of populations decreasing at all. However, it is important to note the global context here, especially the eight-fold explosion in human numbers on the planet in the last 250 years. Across the world it is now very clear that human pressure on our environment continues to exceed sustainable levels.

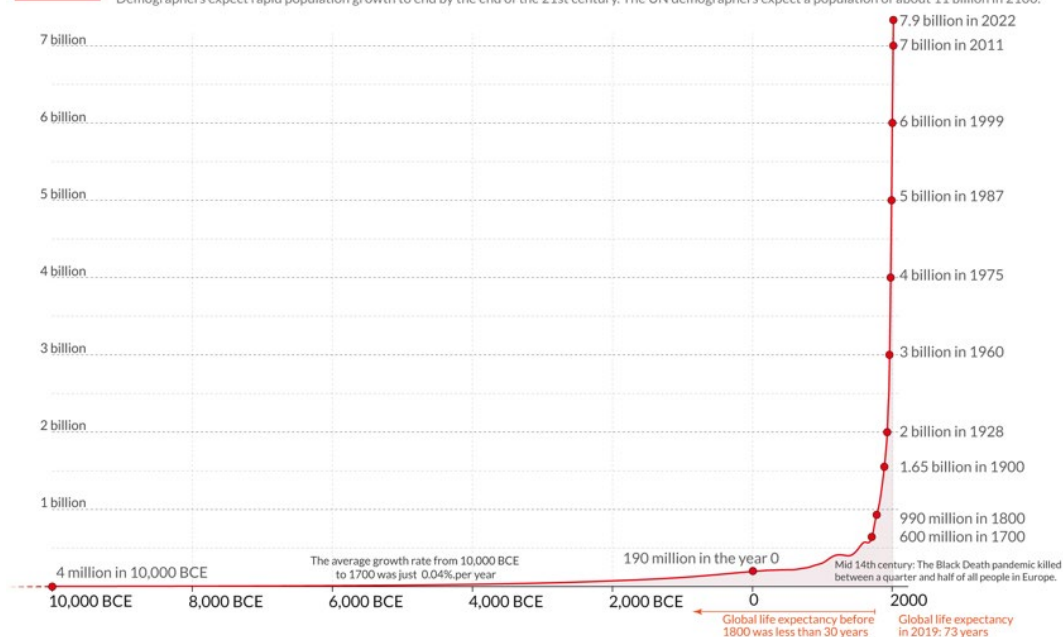
It is pressure from human numbers and our consumption and waste patterns that has caused climate change. It is human pressure on habitat and excessive harvest of wildlife that has precipitated the greatest crash in global biodiversity and abundance since the asteroid impact of 63 million years ago, an event that wiped out the dinosaurs and ended the Cretaceous era. Today, with the human population at 8 billion, 96% of total biomass of vertebrates on the planet is now made up of humans and their domestic livestock¹. If we can only stand back and adjust our spatial and temporal scales a bit, it becomes gobsmackingly obvious that continuing the growth in our numbers as well as the amount we each consume is not sustainable.

As Rockstrom² and others have pointed out, on a global scale we have now exceeded safe limits on six of the nine planetary boundaries identified by research. This situation has been directly caused by a combination of an unprecedented surge of human numbers, together with our individual patterns of consumption and waste disposal. It makes no sense to go on excluding population growth from a review of these factors.

This was pointed out over 50 years ago by the Club of Rome in its classic 'Limits to Growth'³, which basically said either we rein in our demands as a species, or experience dire consequences. Recent reviews have confirmed that its predictions are well on track.

The size of the world population over the last 12,000 years

Demographers expect rapid population growth to end by the end of the 21st century. The UN demographers expect a population of about 11 billion in 2100.



Based on estimates by the History Database of the Global Environment (HYDE) and the United Nations. On [OurWorldinData.org](https://ourworldindata.org) you can download the annual data. This is a visualization from [OurWorldinData.org](https://ourworldindata.org). Licensed under CC-BY-SA by the author Max Roser.

(<https://ourworldindata.org/world-population-growth>)

Even in Australia, at the current population growth rate of 1.5%, we will have a population of 110 million in the lifetime of some people being born today. This is just basic maths. At that rate all Australian cities will be four times as big, demanding four times the food, water, pipes, wires, poles, roads, homes, schools, hospitals, cars, and so on. Do we really need to do this, and who are the winners?

Different estimates exist for a sustainable global population, since it depends on many things. One approach is to look at the world before the most rapid growth rates began in about the year 1800, when the global population was about 1 billion. Before that, however, for most the Holocene period that began about 10,000 years ago, the global population may have been as low as 4 million. We should remember too that this population, on average, had a much lower material standard of living than we are used to, with far lower levels of per capita consumption and waste emission. It appears that people had minimal environmental impact at a planetary scale.

If we assume living standards of a future sustainable world would be like ours today, some say that a target as large as 1 billion might possibly be sustainable, provided we deployed technology and wisdom to minimise our impact.

One billion is only one eighth of the current global population. If every country undertook to aim for that, say as part of a 100-year global 'Restore the Balance' program supported by the UN, Australia's target would be one eighth of our current 25 million, so about 3 million. Previous scientifically informed estimates of a maximum sustainable population for Australia have varied from 6-24 million. However, they presumed that humans would exploit all available resources and not leave substantial amounts in reserve for difficult

times (climate change wasn't anticipated then), nor for other species. More prudent estimates might be lower.

Some have suggested that a global population of 3-4 billion might be sustainable. But there are serious issues to resolve before we can fix a target. For example, what material standard of living would we demand? Would we accept lower levels of consumption, smaller homes, bikes instead of cars, less meat and so on, and willingly reduce our per capita impact in that way? And would we all do it, or just some of us? More importantly perhaps, is the issue of the condition we would like the planet, and our own country, to be in for our descendants. One can imagine a miserable, impoverished condition that could feasibly remain in that state indefinitely. It might therefore be 'sustainable', by definition, but a poor degraded shadow of its former self.

There's another issue too. The discussion so far assumes that we humans continue to commandeer most of the planet's resources and productive capacity for our own benefit. But this leaves out the moral question of stewardship of other life forms and nature, which is fundamental to the values of many people. Indigenous peoples around the world understand this well. Do we care enough about other life forms, or even about future generations of people, to give up space, assets and wealth now for their benefit in the future? Can we estimate what and how much we might need to give up to deliver a particular outcome?

Whatever we decide, the endless growth of a country's population appears to be incompatible with long-term stewardship. The late ecologist E.O. Wilson famously called for humanity to return 50% of the planet's assets to nature so that other ecosystems can recover and thrive. There is wide agreement amongst ecologists that nations and jurisdictions need to set aside a minimum 30% of their land and water area for ecosystems if we are to stop the further slide to extinction of animal, bird and plant species. Wilson, in his book 'Half-Earth'⁴, called for 50%. Do we care enough about them to do that? What could this mean for those regions of Australia, for instance, that long ago converted over 90% of their land to agriculture and pasture? Will we willingly allow large areas of land to return to native ecosystem function? If we the public decide this is necessary for long-term responsible stewardship, which it appears to be, what sort of public programs and incentives could conceivably drive such a radical land use change, and over what timeframe? If we can sort out the politics, the strategy and the mechanics, when should we start?

As it happens, the goal of a long-term program that would allow our population to fall to one eighth of the current level, and the goal of returning large areas of food-producing land to ecosystem function, are quite compatible. This could be a peaceful and relatively painless pathway to genuine sustainability. Whilst it entails a very different vision of our nation, how we live and what we value, it appears to be achievable.

As already noted, a suite of more advanced countries are already on a path to restoring the balance of humans and nature. The population of Japan, for example, has been slowly falling since 2009 (<https://www.worldometers.info/world-population/japan-population>). Italy appeared to peak in 2017.

Australia, however, is at the opposite end of the growth spectrum. In 2019, before immigration was cut due to Covid, we had the fastest population growth rate in the OECD (1.5%). As noted above, this rate will lead to a population of 110 million in the lifetime of some people being born today. And as also noted earlier, in Australia it is our policy of high immigration that is largely responsible for this population forecast.

One of the unhelpful aspects of the discussion on population, and whether it should grow indefinitely or not, is the false linkage of being concerned about the impact we are having on our environment with racism. Some find the idea that there could ever be too many people unthinkable. For some that is plainly an anti-Christian idea. Others find the idea too embarrassing to respond to, perhaps because they confuse the notion with unspoken racism. This attitude is common on the left, and amongst very caring individuals too. No political party will touch it, not even the Greens, fearing that they might be tarred with a racist brush. This has led to a dysfunctional non-conversation, in which no amount of evidence is enough to change some people's minds. It is the same in the US.

Other people think they recognise far right sentiments, although if they looked closely they would see that the far right has no informed or rational ideas on either sustainability or the environment. Other views reflect the political reaction that surfaced in developing countries in the 1980s and 90s, resenting western disapproval of their high birth rates and rapid population growth. After misguided attempts in a few countries to encourage or even enforce sterilisation, any discussion of limiting population size became a target for anti-colonial and anti-racist rhetoric. A few jurisdictions managed to dodge the flak and quietly encourage family planning, such Kerala state in India, and today they reap the benefits of their calm foresight.

There is an extensive scientific critique going back 60 years on the impact of human population growth, when the world population was 3 billion and Australia 10 million. Just as policy makers in Australia foolishly ignored warnings of climate change for decades, this critique has also been dismissed. Indeed, the federal government has completely ignored repeated observations in its own five-yearly 'State of the Environment' reports that population growth is a key driver of environmental impact. The latest report was issued in July 2022, and states:

*'Population growth contributes to all the pressures described in this report. Each person added to our population increases demand on natural resources to provide food, shelter and materials for living.'*⁵

The government's Intergenerational Report (2015) was a good opportunity to take stock of the implications for future generations of the impact we have been having on our environment. However, despite a range of submissions drawing attention to this, the issue was ignored.

It is possible to calculate an average long-term level of immigration into Australia that would not drive endless population growth. That level is about 70,000 a year, at which the number of people moving to Australia more or less balances those leaving. There are clearly many ways of making up that 70,000, and the community should be consulted on that. One way,

for example, might be to reserve 20,000 places for people with skills and knowledge simply unavailable here, and their families. The balance of 50,000 could then be refugees.

While ideas may vary on how to proceed, repeated public surveys have shown that 70% of Australians do not want rapid population growth⁶. Many migrants themselves are against it, having experienced life in Australia. Australians heard Kevin Rudd's call for 'a Big Australia'⁷, and repeated surveys show they don't want it - but they're getting it anyway. Exactly why high population growth remains a favoured policy position for all the major political parties is a question that deserves more attention. One suspects it's a question that goes to the heart of public policy making, and who is influential, and why.

2. Economic concerns

One of the main arguments used by advocates of high immigration is that a large population is needed to deliver prosperity. However, critics of this position point to the high living standards of some of the smallest and most advanced economies on the planet, such as Finland, Switzerland and Singapore, and at the low living standards in many countries with very large populations, such as Egypt, India, Indonesia and Nigeria. It is clear that a higher population does not in itself deliver prosperity – indeed it may do the opposite, especially in times that demand resilience.

Neither does a high *rate* of population growth deliver economic prosperity. China's rate of population growth fell throughout the period of its 'economic miracle', from 2.8% in 1970 to 0.3% in 2020 (<https://data.worldbank.org/indicator/SP.POP.GROW?locations=CN>). At the same time, countries with high rates of population growth are amongst some of the world's poorest, such as Nigeria (3.75%).

Politicians and the media in Australia have long argued that high immigration means more jobs and therefore immigrants are needed to reduce unemployment. Yet this is something of a circular argument, if not a plain non-sequitur. More people in the market, creating more demand, and often willing to work for whatever pay they can get, obviously means there are more people employed. To some extent they may even be servicing each other. It doesn't mean the unemployment *rate* changes. In fact, the unemployment rate *fell* dramatically when immigration was reduced from 200 000 to 60 000 a year in response to Covid. As immigration numbers fell, unemployment declined.

This shows that high employment is possible without high immigration. But governments and some businesses have asserted for decades that high immigration is needed to secure high rates of employment. That appears to be completely wrong. Many argue that there are other less impactful ways of boosting employment, such as making skills training free, or work more secure, or as inflation continues to reduce real wages, ensuring that more people in the workforce earn a fair living wage.

An important economic point was made by several observers in the lead-up to the Jobs and Skills Summit in August 2022. In older Australians we already have a resident work force on standby, which, with some upskilling and care in deployment, and some tweaking of incentives, could be used to great community benefit without adding to the population.

There are many older retired people willing to work some hours a week, but choosing not to because their pension is cut if they do. If this willing workforce could be mobilised, then accepting the government's own logic on immigration, it would mean that less workers would need to be imported.

If those on pensions were permitted to earn say \$15,000 extra a year without losing any social service benefits, this would take those on a full pension close to the median national income of \$41,860 (i.e. the most common income, as distinct from the 'average' which is skewed by high earners). There would be substantial net tax revenue from that extra income as well, which the government could steer back into pension support. Estimates are that there could be as many as 300,000 people willing to work on this basis. However, the Government did not accept this argument at the Jobs and Skills Summit (if it heard it), and decided to allow pensioners to earn only \$6000 before losing benefits.

3. The red herring of GDP

Despite the evidence marshalled against it, the nation continues trying to grow its population as fast as possible. Many argue this is an own goal, and ask why we are doing it. The answer is because a top policy goal of all Australian governments, regardless of which party is in power, is to grow GDP. And the easiest way to do that is to increase the population.

GDP simply measures the amount of money spent in the economy. The more people earning and spending, the larger the GDP. However, this tells us nothing about the nature of those transactions, or whether anyone or anything actually benefits. Natural disasters, for example, result in increases in GDP, since large amounts of money are spent repairing damage. Even the hospital and funeral costs of a disaster *add* to GDP. The GDP balance sheet doesn't even have a negative column.

GDP may have its place in economics, but it is widely seen as a seriously inadequate measure of human wellbeing or social progress. As its inventor Simon Kuznets pointed out himself, it should never be used for that purpose. Warning the US Congress about its misuse, Kuznets said, *'The welfare of a nation can scarcely be inferred from a measurement of national income.'*⁸

GDP was actually developed to enable the US government to assess that nation's capacity to build its war effort against Japan. To aim to grow the GDP for its own sake, without policies to effect a socially just distribution of benefits, and without considering any downsides, is a dubious exercise, to put it mildly.

Robert Kennedy famously said of GDP, 'it measures everything... except that which makes life worthwhile'. Amongst its oversights, it completely ignores the demands of growth on the natural resource base, such as water, soil, raw materials and remaining ecosystems. It also treats the environment as a free and bottomless waste sink.

Secondly, it is not physically possible to have endless growth anywhere in the Universe, unless it turns out to be a mysterious property of quantum physics. In the view of many scientists, the short-sighted view that we can have endless economic and population growth in a finite world is nonsense. While most politicians and economists seem to believe it, it's a view that drives many scientists to despair, as does the mounting damage it causes.

It is true that for impoverished countries with a manageable capacity for further growth, a greater GDP can indeed deliver real economic and social benefits. However, in advanced economies, the goal of further GDP growth makes much less sense, especially where it entails more consumption of materials and energy.

Critics point out that the idea dovetails nicely with the idea of free market, trickle down, neoliberal economics embraced for decades by an informal coalition of private and public interests, concerned primarily with the short-term, and with no thoughts of what might be sustainable, just or responsible. As major beneficiaries of this coalition's success, all major political parties appear to remain solid supporters of the idea of endless growth.

Nevertheless, economic growth from increasing the value of goods and services without demanding more consumption of energy and non-renewable resources is a different matter. Moving our enterprises up the value chain makes good sense, provided our net use of resources does not increase. This is the only type of growth that is going to be possible in a world where a decrease in overall national consumption is the only sensible, indeed possible, way forward. True sustainability will not, cannot, entail ongoing consumption of non-renewables at current levels, let alone an increase.

4. The social case

As observed above, continuing high immigration into Australia adds to the increasing demands that a growing population makes on housing, water, schools, hospitals, roads, transport, energy, jobs, waste management, as well as open space and the natural environment in general. We live in a time when access to all these assets seems to only get harder and more expensive.

Yet Australians have been told for decades that high immigration brings prosperity and higher living standards for all, simply because it grows our population. The most vocal advocates have always claimed that high immigration will deliver this dividend. Critics point out that it never arrives. Wages flat line, infrastructure becomes less adequate, and services like ambulances and hospitals get harder to access. Many people feel that their quality of life is actually declining⁹.

What we get instead seems to be extensive duplication, especially of suburbs, housing, roads, shops and businesses as cities sprawl. It's often a bland, uniform duplication which doesn't actually improve the lives of existing residents, although it may deliver a higher material living standard to newcomers, especially those from less developed economies.

Certain business sectors of the economy do well out of high immigration and can turn it to profit fairly readily. Prime examples are large real estate developers, large retailers, banks, and other businesses and service providers big enough to respond to the extra general growth in demand that migrants generate. However, while city dwellers see new suburbs emerging and experience longer commutes, it can be harder for them to see how this duplication has improved their own lives.

Researchers have calculated that for each new person added to our population – whether born here or an immigrant – at least \$100 000 needs to be invested in infrastructure just to keep up with the new demand that extra person represents¹⁰. But that investment has not been happening. In addition, the privatisation of many public utilities has simply made the situation worse, since for those now private companies, investing in infrastructure for the future competes with their immediate obligation to provide dividends to their shareholders. At the same time, while returns to some may be high, the impact of this failure to invest in the future has generally been socialised - that is, the community as a whole has shared the negative impacts. These are disbenefits that everyone wears.

Those questioning high population growth also ask whether the supposed net economic benefits are shared equitably across the nation. They contest the claim that while there might be some inconvenience to some, we will all nevertheless share in the immense benefits flowing from endlessly increasing our numbers.

A problem for growth advocates, of course, is that the Australian experience has been the opposite. Over decades of high immigration driving the most rapid population growth in the OECD, wages in Australia have flatlined, while costs such as housing have skyrocketed. Many young people have given up any hope of owning a home. Of course, the housing cost disaster has been in part caused by unregulated lending (Bob Menzies would not have allowed it) and inappropriate tax breaks. Intense competition for housing through population growth has been imposed on this dysfunctional market. In the meantime, the main benefits of the growth in national income have gone to investors who don't really need it to build a decent life. They already have one.

Happily for them, immigration policy has long supplied large amounts of labour willing to enter the workforce at minimum rates, a situation made easier for employers by enterprise bargaining. With wages low for so long, while business and investor profits have grown strongly, increasing numbers Australian workers and their families have found the Aussie good life and family home remains out of reach.

5. Small is beautiful...and resilient

Resilience involves adopting practices and goals that maximise the chances of riding out adversity and being able to recover well from stress. Some reports predict, for example, that climate change could lead to major declines in food production and water supplies over large areas in the world. Canadian and Australian grain researchers warned in 2017, that 'as Australia progresses towards 2°C warming with the associated changes in rainfall, it will be extremely challenging for crop yields to be maintained¹¹.

One of the great strengths of Australia as this global crisis unfolds is that we have, quite unintentionally, preserved a remarkable degree of resilience simply by keeping our numbers low. If we can maintain that advantage, we should be able to grow enough food somewhere in our large country to meet national demand, even if we have serious crop failures in some regions. Prolonged heat and drought in some years, and floods in others, might seriously erode or even prevent food exports, but our lower population should give us a chance to adjust our internal production and supply chains without causing a deprivation as serious as hunger. We are indeed fortunate in this regard compared to many other countries facing serious climate disruption and sea level rises.

Given the range of uncertainties unfolding around us, from climate change to unreliable global supply chains, there is much to be said for building resilience. As well as deliberately staying within the limits that seriously stressed production systems would dictate, we might also consider returning to the levels of food and technical self-sufficiency that Australia once took for granted.

6. The scary ageing fallacy

One of the arguments often heard in support of high immigration is that it is needed to 'correct' the changing ratio of the elderly to the young. We often hear that there are now too many old people, and that they will be an increasing financial burden on the young.

It is true that the demographic composition of our society is shifting as women have fewer children and people live longer. But Australia is not unique in this. It is a phenomenon in every country experiencing lower fertility and longer life spans. Indeed, some nations began this 'demographic transition' some years ago, as Australia did, while others are just beginning. It appears every country will go through this change.

The answer is not to try to combat it by importing young people from other countries. Not only does that make the situation more difficult for those countries, it is ultimately pointless since those young people will age themselves. Under the logic of relying on more migrants, the answer will always be to import more young people, and so on forever. Obviously that is not a solution. The answer is to support the elderly in lifestyles that promote physical and mental health, reducing their demand on services, at least while the demographic transition is underway. Australians are healthier for longer these days, and that should be a cause for respect and celebration.

Research has also debunked other fallacies around ageing. One is the assertion that those over 65 are generally dependent on the working-age cohort of 15-65, which is not the case. Neither is it true that having a smaller proportion of workers in the 15-65 age bracket means there is less economic activity overall (O'Sullivan 2020)¹². We should remember too, that what is classed as 'economic activity' is confined to work counted in the GDP. Older Australians do an immense amount of childcare, voluntary work and other caring jobs that is unpaid and not included in the GDP.

It is not true either that ageing is a budget-buster for health services. While health spending in Australia has been increasing, ageing represents only a small fraction of this increase. In a discussion paper on this topic, O'Sullivan reviews the ageing myths commonly repeated by advocates of high immigration. She also points out the major role played by property developers in undermining a consensus that was emerging in the 1990s that Australia should aim for a stable population of 25 million. She concludes by calling for a more complete and generous view of the real contributions that older people can and do make to our society.

7. A way forward

The lever of high immigration to increase our numbers and thus grow GDP appears to be an outdated idea that is now seriously misguided. However, it seems clear that leadership in this discussion is not going to come from Government or political parties or corporate business interests. Yet the times call for a new vision of an attractive and sustainable future that we can all embrace and work towards.

Here then lies a real challenge for those in the scientific community and others who have considered the complexities of this issue in full.

One suggestion is that the emerging application of deliberative democracy, as in 'citizen assemblies', could offer a way forward. Experience around the world, especially in Europe and the UK, has been forging a new community trust in the ability of these assemblies to tackle issues that political parties won't touch.

The underlying principle is that citizens are chosen by lot (known as sortition) to come together in assemblies – 100 people is a common number – which take their time to carefully consider evidence and opinion, and deliberate until a consensus is reached. All the evidence is that they do this very well, provided the participants are well informed through the process and well supported by facilitators and experts. Repeated meetings over weeks may be required.

This is the process that helped Iceland to reform its Constitution after the GFC crashed its economy in 2009, and which enabled Ireland to make difficult national decisions about abortion and gay marriage. Taking the hardest decisions out of the hands of political parties and their financial backers and letting the public consider and recommend a way forward can be a great political enabler for nervous governments. Social activists go further and point out that if this process could be institutionalised over time, it would make political parties largely redundant. That, no doubt, would be music to the ears of the 'Voices For' movement backing the election of more independent MPs. It would also doubtless strike an equally harmonious chord with a public increasingly disenchanted with politics and the party system.

Conclusion

The goal of high levels of immigration locked in as permanent policy is fraught with complex interests and beliefs - financial, economic, social and cultural. Critics of the policy emphasise the environmental impact of endlessly growing our human footprint, and how in Australia immigration is now the primary driver of that impact. It does that in the name of growing the GDP, which seems to be highly questionable in itself. While a number of influential sectors of the economy are well positioned to benefit from generalised growth, the net benefits of this policy to the community as a whole are anything but clear.

Like all countries, we have no choice but to adjust to the different age structure being delivered by demographic change. Those changes are not as difficult as many make out. Indeed, there are many positives to be embraced. We can use change here to be much more generous to refugees as well.

At the same time, our pursuit of endless economic and material growth cannot continue in a world where the natural systems that we need to survive, let alone thrive, are being degraded daily. Critics of endless economic and population growth say that as a society we surely possess the wisdom to devise a better, less destructive way forward. Our immediate and very substantial challenge is to find ways of tapping into our collective intelligence and goodwill and letting ideas for serious change surface. New ideas and public deliberation need to be fostered, not slapped down by those with influence who see such discussion as contrary to their own vested, short-term interests.

Peter G Martin
Science writer, Adelaide

Peter Martin is President of the South Australian branch of Sustainable Population Australia (SPA). All opinions and claims in this paper are Peter's own and may not necessarily reflect those of SPA.

References

1. <https://ourworldindata.org/mammals#wild-mammals-make-up-only-a-few-percent-of-the-world-s-mammals>
2. Rockström et al (2015), 'Planetary boundaries: Guiding human development on a changing planet', *Science* 13 Feb 2015, Vol. 347, Issue 6223
3. Meadows D H et al (1974), 'Limits to Growth', Club of Rome
4. Wilson E O (2016), 'Half-Earth. Our Planet's Fight for Life', Liveright Publishing, Norton, NY, USA
5. State of the Environment Report 2021, Australian Government, Canberra, July 2022
<https://soe.dcceew.gov.au/biodiversity/pressures/population>

6. <https://tapri.org.au/wp-content/uploads/2021/10/TAPRI-survey-Oct-2021-final-V3.pdf>
7. <https://www.abc.net.au/news/2009-10-23/rudd-welcomes-big-australia/1113752>
8. <https://gnhusa.org/gpi/the-case-against-gdp-made-by-its-own-creator/>
9. <https://www.abs.gov.au/statistics/people/people-and-communities/general-social-survey-summary-results-australia/latest-release>
10. van Onselen, L., O'Sullivan J., and Cook, P.G. (2019), 'Population growth and infrastructure in Australia: the catch-up illusion', an SPA discussion paper, <https://population.org.au/>
11. Shamloo et al. 2017, <https://pubmed.ncbi.nlm.nih.gov/28831148/0>
12. O'Sullivan, J. (2020), 'Silver tsunami or silver lining', (<https://population.org.au/discussion-papers/ageing/>)