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**Summary:** Resolving the high-level barriers to Aboriginal and Torres Strait Islander inclusion will facilitate Australia overcoming race and greenhouse gas emissions challenges

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<b>Abstract</b>
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**Introduction:** Climate change is the greatest threat to human health this century. With a view that the planet's resources are infinite, the ongoing production and consumption of fossil fuels is driving environmental changes that undermine the determinants of health. In accordance with the Paris Climate Accord, it is imperative that societies transition to sustainable existences to keep the earth's temperature below two degrees Celsius.

To date, Australia's responses to climate change continue to propagate the marginalisation of Aboriginal and Torres Strait Islander populations. There is an increased burden on Indigenous peoples as a known vulnerable population. Further, nearly all policy areas that contribute to increasing greenhouse gas emissions, such as agricultural systems, could achieve immediate and significant reductions in Australia's carbon footprint if they embedded evidence-based and native alternatives.

**Summary:** This article outlines the benefits of including the voices and experience of Aboriginal and Torres Strait Islander peoples. Through collaboration and shared political decision-making with Indigenous peoples in a genuine and substantial way, Australia may better support self-determination and address exclusion as significant drivers of ongoing health disparities amongst Aboriginal and Torres Strait Islander peoples. Contemporary Australia may also gain access and privilege to time-tested, Australian-specific expertise on both adaptive and mitigative strategies to the greatest existential threat to civilisation this century.

Australia has the greatest opportunity to improve public health for all Australians by including Indigenous peoples in climate solutions, concurrently achieving Sustainable Development Goals and Paris Accord commitments.

Three learning points:

1. Australia's greenhouse gas emissions are continuing to increase, with Australia set to drastically miss its Paris Agreement targets and face worsening implications on the health of Australians and the practice of healthcare.
2. Current federal policy still relies on fundamental Western principles that exclude time-tested, Australian-specific Indigenous expertise on strategies to address greenhouse gas emissions and broader sustainability.
3. To achieve meaningful inclusion of Indigenous experiences the fundamental causes of exclusion must be acknowledged and addressed such as constitutional recognition and ratification of Indigenous people's rights.

## Introduction

*Our identity as human beings remains tied to our land, to our cultural practices, our systems of authority and social control, our intellectual traditions, our concepts of spirituality, and to our systems of resource ownership and exchange. Destroy this relationship and you damage — sometimes irrevocably — individual human beings and their health.*

*Pat Anderson 1996 (page 15)[1]*

### **Why is a changing climate an issue?**

The health impacts of climate change are already being felt today, with future projections presenting unprecedented risks to the human right to health [2]. As such, climate change will alter the way in which we manage and seek to ensure the highest attainable standards of health for billions of people within Australia and worldwide [2,3]. The major threats to humanity are via increased temperatures and extreme weather events leading to changing patterns of disease, water and food security, vulnerable shelter, population growth, and migration. The impacts will be both direct and indirect, especially among vulnerable populations [2-6].

Globally, the disease burden depends on the existing climate and development of particular nations. For example, under-developed countries are experiencing a larger burden from vector-borne diseases, while more developed countries are experiencing a greater burden from cardiovascular and respiratory diseases [2,7].

Australia is particularly vulnerable to the impacts of climate change [4,8-10], due to high susceptibility to increased temperatures and the resultant disasters of heatwaves, bushfires, droughts and flooding that are occurring with increasing frequency and severity. Australian agriculture is particularly under threat as a result of growing water scarcity and population growth in flood zones [8]. Additionally, the frequency and duration of heatwaves is increasing, with Melbourne projected to experience twenty-four days per year over 35°C, with the urban heat island effect anticipated to amplify the impact within cities [11].

### **Impacts on Indigenous Australians**

Indigenous Australians are known to be more vulnerable to climate change due to existing vulnerabilities resulting from historic and ongoing colonisation [8]. For example, there is unequal access to primary health care, effective sewerage systems, rubbish collection services and housing. These effects are amplified by the undermining of environmental determinants of health such as clean air, water, and sufficient food [3]. The significant socioeconomic disadvantage experienced by Aboriginal and Torres Strait Islander people places them at increased risk of suffering from environmental health risk factors [12]. These impacts are of particular significance to medical professionals whom are tasked with managing the health consequences of these broader socio-political drivers.

The consequences not only relate to the right to health but recognise that health is closely related to, and dependent on, other determinants such as access to food and water that promote the conditions for a healthy life [13]. This is of particular relevance to all Australians. Therefore, there is an impetus for Australia to reduce greenhouse gas emissions in line with the preservation of the human right to health for all and with particular focus on those most marginalised and vulnerable.

Despite the current and future threat, addressing climate change also poses the greatest global health opportunity of this century [2]. Meaningful actions toward a sustainable economy will

accrue co-benefits that reduce the burden of disease in line with achieving the Sustainable Development Goals and the 2015 Paris Agreement [2,14].

### **Australia's current responses to climate change**

Australia is one of the world's largest emitters of greenhouse gases per capita with over 22 tonnes per person in 2015 [11]. Under the Paris Climate Accord, Australia has an international responsibility to address the social, economic, and environmental impacts that threaten the right to health across the globe [15].

In 2015, the Australian Government announced a target to reduce national emissions by 26-28% below 2005 levels by 2030 [16,17]. This target, known as the Intended Nationally Determined Contribution (INDC), is supposedly to be achieved through the Australian Government's newly rebranded *Climate Solutions Package* [18]. The package contains two main approaches - soil sequestration of carbon dioxide and a reverse-auction mechanism through an Emissions Reduction Fund (ERF). These have the objectives of "lowering business costs, improving competitiveness, and protecting the environment for current and future generations"[19].

Despite the political rhetoric [18], independent analysis has demonstrated that the package is neither substantial enough to meet Australia's Independent Nationally Determined Contribution (INDC), nor meet the targets set under the plan itself [18,20-22]. For example, approximately 60% of the Climate Solutions Package emissions reductions are relying on hypothetical soil sequestration schemes that exist within unsustainable agricultural models for the Australian landscape. The remaining mechanisms rely mostly on funding the largest polluters through the reverse-auction mechanism of the Emissions Reduction Fund [17,19].

In relation to Indigenous Australians, the current Climate Solutions Package does include the Arnhem Land Fire Management Strategy [17]. This strategy employs Indigenous rangers to utilise long-standing landscape and fire management knowledge to methodically burn bushland, such that the release of methane and nitrous oxide is reduced and carbon dioxide is maximally sequestered in dead organic matter. The project is celebrated by the Australian Government as partnering "thousands of years of Aboriginal traditional land management practice with modern scientific knowledge" [17].

### **Absence of Indigenous expertise**

Beyond the inclusion of a Northern Territory specific fire management strategy, there is a clear absence of Aboriginal and Torres Strait Islander input. Climate change is an interdisciplinary and multifaceted issue which Indigenous people can, and have the right to, participate in. A national climate policy package that embedded Indigenous sustainability values into the upscale of renewables, food and agricultural production, waste management, acceleration of electric vehicles, and energy efficiency in homes and industry would be able to achieve carbon neutral status by 2050, whilst growing the economy at 2.4% per annum [21,23].

In regard to current federal policy, the Arnhem Land Fire Management Strategy is not transferrable to other states or territories. This is because the environment, bush density (fuel load), local building codes (regulations regarding constructing new buildings), and burn-off protocols (bushfire prevention protocols) differ significantly [24]. Additionally, in areas such

as the Kimberly, government incentivised burn-offs have resulted in approximately 30% of ochre rock art being destroyed that had previously been preserved for thousands of years [25].

In regard to agriculture, approximately one fifth of Australia's emissions are attributed to the sector [6]. Over the past 200 years, 60% of the Australian landmass has been managed by farmers who, despite improving technology and efficiency of their practices, undertake land clearing, rely on fertilisers and pesticides, and persist with growing non-native and unsustainable crops, such as cotton or cattle, that are all large emitters of greenhouse gases [1,26]. Conversely, Indigenous peoples have been conducting experiments in their regions for thousands of years and have an expertise regarding traditional ecological knowledge [26]. A recent report by the Farmers for Climate Action emphasises that the agricultural sector will face significant threats to viability unless there is a structural transformation of food production and land management in line with ultimate sustainability objectives [27]. This has already been witnessed in the last twelve months alone. Three mass fish deaths across Australia have occurred due to drought and excess water diversion for irrigation of Western-style managed land [28]. Addressing these agricultural choices and principles is a fundamental issue of long-term sustainability and land management that is neglected under Australia's current strategy yet central to the culture and experience of Indigenous Australians.

What is clear is that the landmasses around the world that have the best sustainable outcomes are those that are managed by Indigenous peoples [26]. Agricultural growers who have transitioned to focussing on plant nutrition, soil health, and diversity founded on Indigenous regenerative agricultural practices are reaping the benefits of fundamentally embedding sustainability into practice [29]. Agricultural businesses in Western Australia are obtaining the same grain price as farmers who are not undertaking regenerative techniques, however, regenerative farmers are benefiting from boosted productivity of up to 30%, increased pasture and soil quality, reduced soil erosion and chemical use [29]. More so, these positive consequences also result in larger carbon sequestration into soil, with further benefit to Australia's carbon neutral ambitions.

### **An example of deep-rooted racism?**

Firstly, the minimal engagement with Indigenous peoples to contribute their in-depth knowledge and understanding on sustainability across many sectors of modern Australian society points to the longstanding issues of colonisation still present today. Secondly, it points to a failure of our economic system to adequately price the services the environment provides – such as clean water, arable land, fisheries, and a climate conducive with human existence and development. This valuation of biodiversity is embedded into thousands of years of Indigenous culture [24].

Understanding why Indigenous Australians are not included in a meaningful way is to understand the historic and ongoing socio-political context of Australia. In 2007 the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) was released calling for recognition of the land and territorial rights of Indigenous peoples [30]. Australia voted against the declaration. All of the members of the United Nations Human Rights Council and 143 other country representatives voted in favour [30]. Underpinning the ongoing resistance from Australia is the absence of *Truth Telling* [31] surrounding Terra Nullius, the dispossession of ancestral lands, impacts from genocide, conflict, and forced assimilation into

mainstream society, loss of control over natural resources, and knowledge and integration into the market economy [32].

In line with the historic structural violence imposed on Indigenous peoples, it is of benefit to colonising interests to portray Indigenous peoples as tribal and simplistic. This strategy ignores the wealth of evidence-based experience on living sustainably in Australia and allows for specific portions of Australia to profit. If climate change was indeed appreciated as the existential threat to human existence described by scientists [8,10], the inclusion and collaboration with people whom have expert engineering, scientific, agricultural, geographic, economic, and astrological knowledge would be occurring “in a canter” [8, 17].

### **High-level solutions**

For Australia to catch up to world leaders on both Indigenous rights and climate change, mitigation recommendations that address both overarching racism and greenhouse gas emissions are central. Such responses require leadership at the highest level.

To date, Australia still opposes the United Nations Declaration on the Rights of Indigenous Peoples. Recognition and respect for Indigenous people’s rights, as contained in the UNDRIP, acknowledges Indigenous peoples as environmental managers with immense ecological knowledge and as crucial collaborators in efforts to address the loss of biodiversity and climate change [30]. Early engagement and participation by Indigenous peoples with relevant skills and expert knowledge can assist in subsequently reducing Australia’s emissions.

Second, the *Uluru Statement from the Heart* brings together over 250 Aboriginal and Torres Strait Islander leaders calling for the establishment of a ‘First Nations Voice’ in the Australian Constitution [33]. Supporters argue that basic inclusion and recognition of Indigenous peoples within modern Australian society is at the core of addressing the longstanding issues that continue to impact on Indigenous Australians and obstruct their opportunity to flourish and contribute to all facets of modern Australian society. This includes contributing experience regarding environmental sustainability.

### **Global leadership examples**

These solutions ultimately require social and political will. To date, the Prime Minister does not support enshrining a voice within the constitution [34]. Ongoing advocacy regarding the role of Indigenous peoples as important knowledge holders and land managers, crucial to reducing greenhouse gas emissions, is important to achieving health and wellbeing for all Australians.

Other governments have demonstrated implementation pathways through higher-level inclusion and active listening to First Nations people. For example, New Zealand have integrated Maori First Law with contemporary law after parliamentary vote [32]. This has led to the Whanganui River receiving status as a legal person. This means that the environment and biodiversity can operate hand-in-hand with contemporary law and society.

### **Conclusion**

Bipartisan support is critical for contemporary Australia to address both climate change and the ongoing disparities commonly experienced by Indigenous peoples. The opportunity to combine traditional Indigenous knowledge with contemporary practices is crucial to taking meaningful steps towards greater inclusion and participation of Indigenous peoples in line

with the highest standard of human rights, and to provide a genuine attempt by the Australian government to rapidly decarbonise in a time-tested, sustainable way. By focussing public health efforts at the highest level, promoting the signature of the UNDRIPs, and promoting the Uluru Statement from the Heart, Australia can achieve multiple benefits for the community, the environment, and the local economy. Implementation ultimately lies with the voting constituency to support bipartisan agreement allowing for constitutional inclusion and collaboration to begin.

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Within this feature article Aboriginal and Torres Strait Islander peoples are referred to as 'Indigenous peoples'. In doing so, I acknowledge the distinct cultures and societies of different Aboriginal peoples and Torres Strait Islanders. The term 'peoples' is also used to recognise the collective aspect of Indigenous people, with distinct cultural beliefs that differentiate them as a group from other Australians.

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