

NUCLEAR POWER NO SOLUTION TO CLIMATE CHANGE

Green New Deal

The Murray-Darling Basin scandal

Community concerns over 5G

Spotlight on Rio Tinto's Kakadu uranium clean-up

Talisman Sabre war 'games'

Australia's environmental scorecard: dreadful

Risky changes to gene technology regulations



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Friends of the Earth

Friends of the Earth (FoE) Australia is a federation of independent local groups.

You can join FoE by contacting your local group – see the inside back cover of Chain Reaction for contact details or visit foe.org.au/local-groups

There is a monthly FoE Australia email newsletter – subscribe via the website: www.foe.org.au

To financially support our work, please visit foe.org.au/donate

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Save the date (November 9) for Walk This Way 2019!

Jemila Rushton, fundraising coordinator with Friends of the Earth Melbourne, writes:

There is an urgent climate imperative to transform our economic and energy systems. Victoria is already in the middle of a largely unplanned transition – many coal-fired power stations are nearing the end of their lives and the native forests sector is on the verge of collapse. There is no doubt that change is coming to extractive industries. We need to plan accordingly. Where governments have fallen behind, communities are taking the lead in preventing climate change from getting worse and setting the agenda for a fair and just energy transition for Victoria.

On Saturday November 9, join us on a sponsored walk through Melbourne's evolving urban landscape as we announce our plan for a fair and just energy transition for Victoria.

More information online soon at www.walkthisway.org.au, #WalkThisWay

Climate Frontlines campaign updates

In 2017, FoE Australia's Climate Frontlines campaign sponsored Brisbane-based Stella Miria-Robinson, originally from PNG, to join the FoE International team at the UN COP23 climate negotiations in Bonn Germany. Stella has used every opportunity since then to highlight one of the key FoE International's campaign messages – decent jobs on a living planet – most recently at a well-attended women's nation building event at a mosque in Brisbane.

Climate Frontlines is partnering with the University of Queensland Human Rights Consortium to hold a conference on Human Rights and Climate Change on Friday 11 October 2019. The aim of this one-day conference is to increase understandings of, and effective responses to, rights and justice issues emerging in a climate-changed world with a focus on Australian and Pacific Island local communities and indigenous peoples. Key themes will include climate change and human mobility, resource extractivism and resistance, mainstreaming human rights in development, opportunities for climate litigation, and the role of social movements in advocacy for climate justice. The conference will be held at the Global Change Institute at the University of Queensland, and will include an evening public lecture by Dr Anne Poelina, Nyikina Warrwa Traditional Custodian and Chair of the Martuwarra Fitzroy River Council. For more information contact wendy.flannery@foe.org.au

Climate Frontlines collaborated with the Pacific Islands Council of Queensland to send Sailoto Liveti as a civil society representative to the 2019 Pacific Islands Forum meeting in Tuvalu in August. For the first time, there was an opportunity for formal civil society participation in the deliberations. Sailoto was born in Australia of Tuvaluan parents, and is studying for a Masters in Environmental Management.

Government survey shows public support forest protection, not logging

From FoE Australia affiliate Goongerah Environment Centre (GECO):

Results of a public survey conducted by the Victorian government show overwhelming support for protecting native forests from logging and provide the Victorian Labor government with a strong platform to protect forests and transition jobs out of the native forest logging sector.

The survey was phase one in the Victorian government's engagement with the public as part of the Regional Forest Agreement (RFA) modernisation program. In 2018, rather than extend the bilateral RFAs for another 20 years as has occurred elsewhere, the Victorian government instead provided a short-term extension in order to review the effectiveness of the state's RFAs.

Protecting native forests from logging was identified by 52% of respondents as being the most important way of improving forests for all Victorians, whilst 42% identified protecting and restoring biodiversity to the forests as the most important action for government to take.

The online survey was completed by 2,824 respondents while data was also collected at 126 events across regional Victoria, a Forest Youth Symposium and from written submissions.

The RFAs have comprehensively failed the environment, the logging industry, and the public. The survey results show the Victorian people know this and that they expect change.

The government survey report is posted at <https://preview.tinyurl.com/forests-feedback>

More information: www.geco.org.au/gov_survey_shows_public_support_forest_protection_not_logging



Earthworker Cooperative workers
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Earthworker Energy in the news and on the move

Recent developments around the world are giving many reasons to despair. But providing hope and vision is at the heart of the work of Friends of the Earth affiliate Earthworker, and there are reasons to be hopeful. The Earthworker Energy Manufacturing Cooperative has begun producing and selling premium solar hot water products at the Morwell factory in Victoria's Latrobe Valley! To celebrate the milestone, a social day and factory celebration was held on June 30.

Please spread the word that Earthworker Energy solar hot water products are now available, including a range of evacuated

tube and new CO2 heat pump solar hot water systems incorporating our 'Made in Morwell' stainless steel tanks! See www.earthworkerenergy.coop

Earthworker is not a one-trick-pony, with other cooperatives in the network also on the move. The award-winning Redgum Cleaning Cooperative (<http://redgumcleaning.coop>) is a member of the Earthworker Cooperative network, and Earthworker is co-founder of Cooperative Power Australia – a new electricity retailer cooperative (www.cooperativepower.org.au).

Sustainable Cities, Victoria

In late June, locals came together for a mock opening of Doncaster Rail to call on the Victorian government to stop the North East Link toll road. It was a fantastic action with moving speeches from community members calling on the government to immediately review their mega-toll-road thinking of the past decade.

The North East Link will jeopardise the potential for a much-needed express rail line from the city to Doncaster. Metro-style train lines are much more efficient and sustainable than mega toll roads, with the ability to move more than double the people in the same amount of time. North East Link will kill off future plans for a railroad to Doncaster. A reservation for Doncaster Rail runs through the Eastern Freeway, but North East Link will demolish it for car lanes.

Please sign the petition at www.getonboard.org.au/stop_north_east_link

Please support Djap Wurrung people

VicRoads is planning on expanding the western highway near Ararat. The project threatens ancient trees that are sacred to Djap Wurrung people who have camped on the site for over one year. The Djap Wurrung embassy has issued a red alert and they are calling for support.

You can help by coming to the camp, bring supplies, resources, energy and volunteer on the front line. Information is posted at www.dwembassy.com/come-to-camp/

Or help the protectors by making a donation: www.gofundme.com/support-towards-djap-wurrung-embassy

Goodbye to a kind and gentle soul, John Glue

Ingrid Marker, a member of FoE Far North Queensland, writes

It was in 2015 at the Cairns Esplanade markets one beautiful Autumn morning that I met this kind hearted bear of a man, with his grey shoulder length hair, beard and contemplative eyes. We sat on a park bench beside the lagoon and I shared with this stranger my story of witnessing an environmental crime.

John was a compassionate listener, deep thinker and slow in responding to my urgent pleas for help.

John responded eventually with have you heard of Friends of the Earth, the Cairns and Far North Environment Centre or the Environmental Defenders Office. I had not, so he quietly recommended they were a good place to start.

I trusted John's advice, he was that kind of guy. Decent, trustworthy, integral and cared about people and the planet with a long history of environmentalism.

We were to become good friends as he guided the start of what was to become a campaign, bumping into him at Rusty's markets, he would patiently listen to where it was at and steer me in the right direction, not many people take the time to listen to people's stories. John was a special man.

The last conversation I was to have with John was like no other I had shared over our four-year friendship. There was a desperation in his voice and frustration. Nothing else matters but the climate crisis, it is a pending climate catastrophe he said "we all need to work together on this issue as nothing else matters everything else is just fluffy around the edges".

Now John is gone and all I can think about is how precious he was. I keep hearing the last message he shared with me, how we need to collectively focus our attention on the climate crisis and protect the planet that we collectively love, share and depend on, supporting us much like John Glue did for me.

Much love on your next journey John.



Emissions Reduction Targets – Victoria

Leigh Ewbank from FoE Melbourne's Act on Climate collective writes:

The countdown to climate action continues. The Victorian Labor government has less than eight months to set the state's first interim Emissions Reduction Targets. If we can get Premier Dan Andrews and the Labor government to commit to bold and ambitious targets, then we can lock in the rollout of renewable energy. Momentum is building, with over 2,200 submissions calling for the state government to set science-based Emissions Reduction Targets. It's why we've launched a community-led lobbying blitz of state Labor MPs.

The Victorian Parliament's Environment and Planning Committee will conduct an inquiry into what communities are doing to tackle the climate crisis and how the government can support them. We're keen to seize this opportunity to educate MPs about community action and local climate impacts as well as building the case for bold and ambitious solutions such as the Climate Budget. More information is posted at www.actonclimate.org.au/parl_inquiry_into_climate_action

We know who's working with Adani

From FoE affiliate Market Forces:

We know who's working with Adani. Engineering firm GHD is leading the engineering design work for Adani's disastrous Carmichael coal mine. GHD claims to have a "commitment to sustainable development". Yet it is working on a project that threatens water supplies, trashes traditional owners' rights and will fuel ever-worsening heatwaves, bushfires, droughts and storms. Please let GHD know that this is not a project an ethical company works on via the online action at www.marketforces.org.au/info/key-issues/theadanilist/ghd/

We've been in this position before. Last year, with people all over Australia taking action, AECOM (another international engineering firm) pulled out of their work with Adani. With enough pressure we can convince GHD that helping Adani build its climate-wrecking mine just isn't worth the damage to its reputation.



Antibiotic resistant bacteria genes found in GM cattle

Scientists from the US Food and Drug Administration have discovered that cattle genes edited not to grow horns unexpectedly contain bacterial DNA. These include complete DNA sequences that confer resistance to three different antibiotics. The study demonstrates how risky the Australian government's current proposal to deregulate a number of these new genetic modification techniques in animals, plants and microbes is.

Take action: tell Shadow Health Minister Chris Bowen to keep regulating these GM techniques at <http://gmfree.org.au>

Friends of the Earth report uncovers Australian banks financing palm oil

The big four banks have been exposed in new research by Friends of the Earth to be financing the palm oil supply chain. The report finds that all four banks had a financial relationship with Wilmar International, whose subsidiary in West Sumatra, Indonesia, is accused of intimidating local inhabitants off their native land. And this is just the tip of the iceberg. The study uncovers 68 reports of human rights and environmental violations by the palm oil companies that receive funds from Australian banks. From land grabbing to rainforest destruction, these harmful practises are systemic in the palm oil business.

The report was covered widely by the media and is part of a campaign demanding we hold Australian companies accountable for their human rights and environmental impact overseas.

The report – *Draw the Line: A Black Book about the Shady Investments of Australian Banks in Palm Oil* – is posted at www.tinyurl.com/palm-oil-report

Transform Waste

Transform Waste was created as FoE campaign in response to the ever-increasing demand on Earth's finite resources and a disposable culture which has led to a global waste crisis. We believe in the transition to a circular economy and are advocating for a suit of regulatory and policy changes to influence behaviour and promote investment in infrastructure and technology in order to achieve this.

At present, our major focus is calling for the immediate implementation of a 10c refund for cans and bottles in Victoria – an action which will result in significant reduction in litter and pollution as well as increase recycling quality. We have protested on the steps of Parliament on multiple occasions in support of this cause and our actions are being noticed – with mounting pressure on the Victorian government we are confident that it will not be long until we will see a breakthrough!

Come along to our meetings 6pm every Wednesday at FoE Melbourne, 312 Smith St, Collingwood.

www.transformwaste.org.au

A step forward for Vic's renewable energy transition

Pat Simons, FoE Melbourne Yes 2 Renewables campaigner, writes:

FoE Melbourne welcomed the Victorian government's introduction of legislation to increase Victoria's Renewable Energy Target (VRET) to 50% by 2030. The announcement comes as the Victoria government prepares to set economy-wide Emissions Reduction Targets for the state.

It is predicted the increased VRET will generate thousands of jobs across the state, and secure and additional \$5.8 billion in investment by 2030. The Victorian government can build on this announcement by delivering the next round of renewable energy auctions; committing to power Melbourne's train network with renewable energy; and paving the way for the landmark Star of the South offshore wind farm proposed off the coast of Gippsland South.

www.melbournefoe.org.au/vret_50_anotherstep



Protest at the Olympic Dam uranium mine, 2012.

Anti-nuclear campaign update

There's a renewed push for nuclear power, with no less than three parliamentary inquiries underway – federal, NSW and Victoria. Thankfully the push is mostly driven by ignorant far-right ideologues and they are unlikely to make much progress. Friends of the Earth will put in submissions to the three inquiries and we have written a briefing paper on nuclear power and climate change as well as a paper on nuclear power's economic crisis (both posted at nuclear.foe.org.au).

Submissions to the federal inquiry close soon (September 16): please put in a submission if you can. Details are posted at <https://tinyurl.com/omg-another-nukes-inquiry>

The Barngarla People are Traditional Owners for two of the three sites in SA being targeted by the federal government for a national nuclear waste dump. The government planned a 'community ballot' which would have excluded Barngarla Traditional Owners other than those living near the proposed dump site. The Barngarla Determination Aboriginal Corporation (BDAC) initiated a legal challenge on the grounds that the exclusion of Traditional Owners from the ballot was a breach of the Racial Discrimination Act. Sadly, the Federal Court rejected BDAC's legal challenge, but BDAC has lodged an appeal in the Full Court of the Federal Court.

The two proposed dump sites on Barngarla land are both near the farming town of Kimba. The other SA site being targeted for a national nuclear waste dump is on Adnyamathanha land near Hawker in the Flinders Ranges. The Adnyamathanha Traditional Lands Association lodged a complaint with the Australian Human Rights Commission last year, alleging contractors damaged a precious cultural site while assessing land for the proposed nuclear dump, and also protesting the exclusion of

Traditional Owners from the proposed 'community ballot'. The complaint remains unresolved.

BHP is seeking approvals to expand its Olympic Dam copper and uranium (and gold and silver) mine in South Australia. FoE is working with environmental campaigner David Noonan to hold the mining giant to account – and to hold state and federal governments to account given that their preference would be to approve the expansion with minimal scrutiny and few if any conditions. In June, BHP disclosed that three radioactive mine waste tailings facilities at Olympic Dam are in the global "extreme risk" hazard category based on the consequences of a potential catastrophic failure. More information: www.nuclear.foe.org.au/olympic-dam/

Traditional Owners, conservationists and supporters of the campaign against the proposed Yeelirrie uranium mine in Western Australia were disappointed by the unsuccessful legal challenge against the mine's approval. But the fight is not over! Vicki Abdullah, Traditional Owner and Tjiwarl Native Holder said, "We are disappointed, but glad we took this to court, to defend our country and expose the problems with environmental law in this state. We won't give up – our country is too important. We will continue to fight for Yeelirrie and to change the laws."

The Yeelirrie mine proposal was twice rejected by the WA EPA but approved by the state Liberal government just prior to losing office at the March 2017 election. Then the federal environment minister Melissa Price approved the mine the day before the May 2019 federal election was announced – without any public notification of the approval and despite previously saying that federal approvals would not be given before the resolution of the court case. More information is posted at www.ccwa.org.au/yeelirrie

Federal bully effort on gas an attempt to hide policy failure

The federal government has stepped up its attempt to bully NSW and Victoria into opening up new gas fields. "This is part of a long running campaign by the fossil fuel industry and conservative MPs, with the support from some conservative and business media outlets," said Friends of the Earth's Cam Walker in an August 6 statement.

"These groups continue to push the argument that the moratorium on onshore gas drilling and ban on fracking in Victoria are driving up gas prices for consumers. However, what we have is a failure of the market and government policy, not a lack of supply. The federal government has aggressively pursued the development of an export LNG industry without putting price safe guards in place for local consumers.

"The moratorium was hard fought for by regional and urban communities in Victoria. The Coalition would be unwise to provoke these communities by attacking these sensible policy measures. We urge the Victorian government to stand firm against this fear campaign which seeks to overturn the outcome of an 18-month public inquiry and broad community support for the moratorium."

A briefing paper, 'Busting Victoria's Gas Myths', is posted at www.melbournefoe.org.au/_busting_victoria_s_gas_myths

Background reading on the campaign that secured the original moratorium is posted at www.melbournefoe.org.au/coal_and_gas

Transforming Victoria: Creating jobs while cutting emissions

A 'green new deal' proposal for a Fair and Just Transition, from Friends of the Earth Melbourne.

There is an urgent climate imperative to transform our economy. The Intergovernmental Panel on Climate Change report (2018) argued that, by 2030, global emissions must drop by 45% from their 2010 levels if we are to avoid exposing hundreds of millions of people to serious climate-related hazards. A growing body of mainstream climate science says that we need to achieve deeper targets earlier if we are to avoid catastrophic climate change.

We are already in the middle of a largely unplanned transition of our economy, partly due to the forces of economic globalisation and partly through technological changes to the energy system. Because it is unplanned, it is unjust. At the national level, there is already wage stagnation and an industrial relations system which works against the interests of workers. Many ageing coal-fired power stations are nearing the end of their lives and the native forests sector is clearly unsustainable and on the verge of collapse. The economy is undergoing a market-driven transformation and many of these changes are bad for blue collar workers, as was shown by the closure of the Australian car industry.

Without a fair and just transition plan, the inevitable impact of future changes will disproportionately fall on workers and communities who are currently reliant on the stationary energy sector, fossil fuel extraction, forestry products, and associated downstream industries.

Both state and federal governments have allowed, or encouraged, previous destructive transitions. Privatisation, as happened in the Latrobe Valley, and 'economic reform' and the neoliberal programs of the Hawke, Keating and Howard eras hurt the poorest and most vulnerable in our society. As noted by the ACTU, previous industrial transitions have increased inequality.

Tony Maher of the miners' union says "workers in Australia have spent decades being restructured ... generally without justice or fair burden sharing".

As noted by organisers in the Electric Trades Union, in most previous transitions, "we privatise the profit and socialise the risk". An example is the privatisation of Victoria's State Electricity Commission in 1994 by the Kennett government, which delivered \$22 billion in asset sales to the government. This benefitted the state budget,

while the people of the Latrobe Valley paid the financial and social costs of privatisation. There was no state government plan for transition and 7,500 direct jobs were lost.

We must ensure that the impending next transformations do not re-create the pain of previous changes.

The Australian and Victorian governments should create a Just Transition Authority to plan, oversee and manage the required- and inevitable - transition to a low carbon economy.

Friends of the Earth has released the first version of its plan for a 'Green New Deal' style approach which would start the transformation the Victorian economy. In its initial version, it focuses largely on the energy sector and urban form and transport. Later versions will cover relationships with traditional owners, broader economic transformation and other sectors including agriculture.

The *Transforming Victoria: creating jobs while cutting emissions* report aims to provide a pathway outlining how the state could place itself on a sustainable footing, while ensuring affected communities are not left behind in the transition to a low carbon future.

Key aspects of the report call for:

- Creating a Just Transition Authority and appointing a Minister for Transition
- Ensuring good, secure union jobs are created in the transition away from oil, coal, gas and native forest logging
- Ensuring sustained investment in the Latrobe Valley, including support for economic diversification, renewable energy and storage, and high-tech manufacturing
- Ensuring better energy efficiency standards for new homes and buildings and continued retrofitting of existing housing stock
- Helping householders and businesses shift from relying on gas to 100% renewable energy
- Shifting funding away from mega road projects like the North East Link and into major public transport infrastructure like the Metro 2 tunnel
- Greatly expanding the public transport network
- Continuing to build trams, buses and trains locally
- Supporting a rapid transition away from coal to 100% renewable energy
- Committing to deep emission reduction targets
- Supporting public ownership of energy production and the electricity grid
- Supporting a not for profit, community owned electricity retailer
- Supporting game-changing renewable energy projects like the Star of the South offshore wind farm proposed for South Gippsland
- Ruling out further development of fossil fuel reserves
- Protecting native forests and redeploying affected workers

There is no doubt that further change is coming to the coal and forest industries. The government needs to publicly accept this, and plan accordingly. Ignoring the transition until closures are announced is no longer an option.

*You can find a link to the full report at www.tinyurl.com/transformingvic
You can sign on to support the vision of the report as an individual, union or other organisation using the same web-link.*

The New Deal and the Green New Deal

Katherine Phelps

My grandfather meant a lot to me. He was funny, attentive and had many great stories to tell. I also grew to be very proud of the work he did during his lifetime. When I first heard of the Green New Deal, I immediately became excited. My grandfather was an agronomist, employed through one of the many programs that were established in the United States by the New Deal during the 1930s.

Before the Great Depression, European migrants settled the plains region of the US. They did not understand its ecology and therefore used deep plowing to preserve moisture in the soil. However, in this case it removed the native grasses which were the area's natural means of conserving moisture, even during drought and high winds. Under these industrialised farming methods, the topsoil turned to dust and farming failed. This resulted in immense dust storms called 'black blizzards'. In 1935, the Black Sunday blizzard displaced 300 million tonnes of topsoil from the plains.¹ The impacts of some of these blizzards were felt as far as New York and Washington DC.

My grandfather was one of the people tasked to help fix this problem. He was sent to rehabilitate the area then known as the 'Dust Bowl'. He and his compatriots encouraged people to replant the native grasses and learn to better manage the land. Then US President Franklin Roosevelt sent the newly-formed Civilian Conservation Corps to plant over 220 million trees between the Canadian border and Texas.² The trees were planted to form a windbreak, retain water in the soil, and hold topsoil in place. I remember how pleased my grandfather was that they had reclaimed an area on the verge of becoming a desert. His work was so well respected that he was later sent as a federal goodwill ambassador to help people grow crops in other countries, including Morocco and Egypt.

I tell this story because it shows how effective the New Deal could be in solving problems to do with both employment and the environment.

The Great Depression

The New Deal was a response to the Great Depression; the tremendous economic downturn that began right after the US stock market crash of 1929. The circumstances of the time sound eerily similar to our current situation.

PBS American Experience describes the era: "The imbalance between the rich and the poor, with 0.1 percent of society earning the same total income

as 42 percent, combined with production of more and more goods and rising personal debt, could not be sustained. On Black Tuesday, October 29, 1929, the stock market crashed, triggering the Great Depression, the worst economic collapse in the history of the modern industrial world. It spread from the United States to the rest of the world, lasting from the end of 1929 until the early 1940s. With banks failing and businesses closing, more than 15 million Americans (one-quarter of the workforce) became unemployed."³

Australia was also badly hit, with unemployment rising to 32% in 1933.⁴ Our economy relied on export demand for our farm goods such as wool, which was shrinking as many of our trade partners were tightening their belts.

President Herbert Hoover was the first US leader tasked with addressing this crisis, which occurred during his term. He strongly believed in diplomatically working with corporations in order to encourage voluntary policies, which he assumed would correct US economic woes. In his December 1929 State of the Union Address, Hoover explained, "I have ... instituted systematic, voluntary measures of cooperation with the business institutions and with State and municipal authorities to make certain that fundamental businesses of the country shall continue as usual, that wages and therefore consuming power shall not be reduced."

He adamantly believed that people should pull themselves up by their own bootstraps. To not be able to do so was a personal weakness. Between 1930-31, Congress tried to pass a US\$60 million bill to provide relief to victims of the Dust Bowl. The plan was to give them access to food, fertiliser, and animal feed. However, Hoover refused to provide food and resisted direct relief. The final bill of US\$47 million provided for everything except food and did not adequately address the crisis.⁵

Many victims of the Dust Bowl ended up moving to cities, hoping to feed their families. This proved a hopeless pursuit, as the whole country was experiencing a 25% unemployment rate. The rate was considerably higher in industrial towns; sometimes up to 80%.⁶ 'Hoovervilles' – tent cities full of people who had become homeless – sprung up across the US.

After nearly four years of suffering, the people of the US voted in Franklin Delano Roosevelt as their president. People were ready to give him a free hand to experiment with broad ranging policies in order to end the depression.



1935 Civilian Conservation Corps poster.

History of the New Deal

Within the first hundred days of his presidency, Roosevelt began reforming the government, reforming economic policies, and setting up public relief programs. The sort of control that this democratically elected federal government was able to wield over banks and businesses is unheard of today. In 1935 Congress passed, and the president signed into law, the Wealth Tax Act to redistribute wealth. This meant a 79% income tax on incomes over \$5 million.

Around two dozen programs were established under the New Deal. Some failed. Some were rejected by the Supreme Court. Some were successful. Three in particular stood out: the Public Works Administration, the Works Progress Administration, and the Civilian Conservation Corps.

The Public Works Administration (PWA) managed large federal projects such as the full electrification of the US, as well as the building of canals, tunnels, bridges, highways, streets and sewage systems. One of its projects was the building of public housing within various cities. These were carried out via contracts with

private companies and cooperatives. A certain amount of military funding was redirected to this administration, because it was recognised that a strong national infrastructure would result in a stronger and more defensible nation.

The Works Progress Administration (WPA) was a smaller agency, though it still employed millions of people directly through the federal government. Because of its cultural impact, it is probably the best remembered of the agencies that are no longer with us.

The WPA also built infrastructure such as bridges, schools, libraries, post offices, hospitals, and theatres, but at a more local level. The WPA created employment for artists, writers, theatre directors and musicians, producing memorable works. One particularly apt product of this project was a play by Nobel Literary Prize winner Sinclair Lewis called 'It Can't Happen Here'. The story charts the rise of a president who becomes a populist dictator by promising to save the nation from welfare cheats, rampant promiscuity, crime, and a liberal press.

People employed by the WPA were paid at local rates for similar work. This was unlike Australia's cheap, less than minimum wage, workfare. In fact, unions were encouraged to protect people's right to earn a living wage under the New Deal.

The administrative gem of this era was the Civilian Conservation Corps (CCC). This was a public work relief program for young unemployed, unmarried men. Jobs were created in the areas of forestry culture and protection, erosion control, flood control, wildlife preservation and eventually disaster relief and more. The CCC planted more than 3.5 billion trees and constructed trails and shelters in more than 800 parks nationwide during its nine years of existence.⁷ The public were overwhelmingly supportive of what the CCC was doing for their young men and the nation, both Republican and Democrat.

History of the Green New Deal

Much of what was achieved by the New Deal was subsequently dismantled piece by piece: first by the need to divert people from these programs into the WW2 war effort. Later the Congressional Conservative Coalition removed much of Roosevelt's legislation. President Ronald Reagan then put the last nails into the coffin of the New Deal with policies that gave the wealthy the largest tax cuts in US history and eliminating social programs. Nevertheless, the New Deal's presence continues to surround the citizens of the US through public buildings, history lessons and people who remember.

US Representative Alexandria Ocasio-Cortez did not conceive the Green New Deal out of thin

air. People, like myself, who know something about the original New Deal, have been pointing to it as a success story for how to care for both our people and the environment. The world has plenty of work that needs doing: cleaning oceans, restoring environments, building housing for the homeless. What we don't have is paid employment to do these things. That is what the New Deal provided, as well as security for all those without jobs.

During the Global Financial Crisis of 2007-2008, people who knew about the New Deal in Britain pulled together to form the Green New Deal Group. Their first core principle was that it would be "A massive environmental transformation of the economy to tackle the triple crunch of the financial crisis, climate change and insecure energy supplies."⁸ One of the founding members of this group is Tony Juniper, who was Executive Director of Friends of the Earth England, Wales and Northern Ireland from 2003-2008 and Vice Chair of Friends of the Earth International from 2001 to 2008. They published a report on 21 July 2008 which the United Nations Environment Programme (UNEP) began to promote. Former presidential candidate Jill Stein of the Green Party of the United States then proposed a 'Green New Deal' in 2012.

This idea was clearly bubbling away just below general public awareness for some time before US Representative Alexandria Ocasio-Cortez and Senator Ed Markey released a fourteen-page resolution for a Green New Deal 7 February 2019. Ocasio-Cortez's high visibility made the resolution a subject for media commentary.

What the Green New Deal currently is

At this point, it looks like we have three major proposed Green New Deals: the Green New Deal Group, the Green Party of the United States, and the Ocasio-Cortez/Markey resolution. All are relying on history to give the public a sense of security in making such significant changes. They all propose guaranteed employment for at least one member of all households (this was achieved for white families alone in the US under the original New Deal). They also propose higher environmental standards, and banking regulations.



However, they are missing a few key points from Roosevelt's efforts. Where is the talk of relief to those who are homeless? Where is the discussion of indigenous rights? What about people who can't take up regular employment, such as the sick, disabled, elderly, and new mothers? Will they be left to a demeaning system where they must regularly demonstrate their need, or be cut off? These are not sideline issues. They are, in fact, part of the core problems we must engage with in order to avoid planet-wide disaster.

US President Franklin Delano Roosevelt said, in his inaugural speech, that he would act swiftly to face the "dark realities of the moment" and assured Americans that he would "wage a war against the emergency" just as though "we were in fact invaded by a foreign foe." Teenage Swedish climate activist Greta Thunberg expressed a similar sentiment: "We can't solve a crisis without treating it as a crisis. We need to keep the fossil fuels in the ground, and we need to focus on equity. And if solutions within the system are so impossible to find, maybe we should change the system itself."

A Green New Deal could be an important step in this direction. I would not be here today if it weren't for the original New Deal, so I am all for it! We need to start making tracks now!

Dr Katherine Phelps has been a peace and environmental activist since the late 1970s. She is the author of Surf's Up: Internet Australia Style. She has also written and produced musicals about social justice and the environment. Recently, she organised the event Remake the Future, where people could speak directly with one of the lead authors of the 2018 Intergovernmental Panel on Climate Change report.

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A Green New Deal needs to be global, not local

Andrew Taylor and Harpreet Kaur Paul

In the US and the UK, the Green New Deal movement has galvanised hope for transitioning to the more equitable zero carbon world we so desperately need; to address poverty and keep global average temperatures to below 1.5°C. But there has also been criticism of an apparent initial focus on jobs in “every town and city across the UK”, rather than on transformational justice globally. The challenge for Green New Deal advocates is to recognise the historical roots of the climate crisis and avoid being the PR face of ongoing climate colonialism.

In a challenge to the current inadequate emissions reduction targets (80% by 2050), Green New Deal supporters are calling for Britain to go “zero carbon by 2030”, alongside addressing the social and economic impacts of neoliberalism and inequitable de-industrialisation in many parts of the UK. Such plans could radically reduce poverty rates and low-paid, precarious work across the country. They could be designed to address the fact that poor people and people of colour are disproportionately negatively impacted by environmental pollution. But it can't stop there. Nathan Thanki argues that a Green New Deal cannot be allowed to become “eco-socialism for [us] and barbarism for the rest of the world”. Thanki argues for a larger transformation of the structure of our energy, housing, food, transport, and health systems, alongside de-growth. Yanis Varoufakis and David Adler propose an International Green New Deal¹ that would fund a transition to renewable energy and commit to providing climate reparations and needs-based energy rather than means- or geography-based.

Global workers' rights

As Asad Rehman of War on Want wrote recently, at the heart of our economic system is a “belief that the UK and other rich countries are entitled to a greater share of the world's finite resources” through the global mineral supply chain. As Rehman articulates, we can thus expect that “mining giants and dirty energy companies will be waving the flag of climate emergency to justify the same deathly business model”.² A truly *global* Green New Deal must seek to support workers around the world, rather than narrowly focusing on UK workers. Co-operation – rather than imperialist intervention – will be required to de-carbonise the global economy.

So far, little attention has been paid to working conditions in the global renewables supply chain. This is partially due to nervousness around discrediting green ‘solutions’.

If we are going to meet the scale of the challenge of keeping below 1.5°C, industries like solar, wind and battery storage will need to expand rapidly. For example, lithium-ion batteries for electric vehicles will require up to 43% of the world's cobalt production and 50% of its lithium production by 2020.³ Solar panels and magnets in wind turbines will require large quantities of other minerals and rare earths, such as neodymium, dysprosium and tellurium.

Countries with significant mineral reserves include China, Argentina, Chile, Australia and the Democratic Republic of Congo. The majority of the world's cobalt reserves (58%) are found in the Democratic Republic of Congo, where mining is associated with ongoing conflict, child labour, human rights violations⁴, land grabs and environmental pollution. The supply chains of solar panels have a similar pattern of association with exploitation and oppression – land grabs from indigenous and other communities, toxic chemical poisoning of workers and communities, poverty wages, forced and child labour and union busting.⁵

The renewable supply chain challenge doesn't end with the extraction of raw materials for renewables. With China dominating the manufacturing of solar PV and lithium-ion batteries, what happens on the factory floors of Guangzhou should be as important as rebuilding industry in County Durham. Chinese workers are facing detention⁶ for organising their workplaces, as they continue to fight for the kind of conditions many take for granted in the UK. Large buyers, such as governments, can and should use their buying power to support workers on the ground.

Now is the time to examine ways in which the UK can be part of driving a renewables revolution for the many, not the few. Building in protections to enshrine supply chain justice is vital to stop the renewables industry, and indeed nationalised green energy production, from merely reproducing the global exploitation and destruction of fossil fuel companies like Shell and BP. Supply chain justice in Labour's Green New Deal should be a key demand for members. While a Green New Deal for the UK can't solve these issues on its own, it can be allied to the workers and communities resisting green colonialism. An example of this in action could be public procurement contracts, which would require the protection of workers' and communities' human rights in their supply chains. Law changes to allow impacted communities in the Global South easy access to sue companies for damages in UK courts could also be effective.

The need for reparations

However, just addressing supply chain justice would still not be enough. Countries in the Global North – with high individual consumption habits – used up their fair share of carbon emissions decades ago.⁷ Since then, these rich countries have been delaying their responsibility to decarbonise and provide financing for mitigation, adaptation and loss and damage to Global South countries whose quotas they have eaten into.

Today, at 1°C warming, climate change is already devastating the lives of those who did the least to cause our current crisis. Cyclone Idai, which tore through Mozambique, Malawi and Zimbabwe in March and

was followed by Cyclone Kenneth, has likely displaced more than one million people. The city of Beira in Mozambique – larger than Atlanta in the U.S. or Manchester in the UK – was wiped out. The death toll from drowning, dehydration, hunger and cholera will be in the many thousands. Mozambique is the sixth-poorest country in the world. The average citizen of Mozambique is responsible for 55 times less carbon emissions than the average U.S. citizen.⁸

Every day, more than 1,300 individuals move from rural areas of Bangladesh to the capital, Dhaka. They are driven not just by events like cyclones, but also slow-onset climate impacts such as saltwater intrusion and reduced fish stocks. The cities of Karachi and Kolkata are becoming increasingly uninhabitable due to soaring temperatures, while drought in Somalia has left half of the country's population facing food and water shortages. The average metric tons per capita emissions of citizens in these countries (Bangladesh 0.5, Pakistan 0.9, India 1.7, Somalia 0.04) are tiny compared to the average emissions of a person in the U.S. (16.5), Canada (15.1), Australia (15.4), or the UK (6.5).

The Global South – already subjected to colonialism and exploitative trade relations – is now also experiencing the impacts of historic carbon emissions, while future generations in those countries will experience the consequences of ours emitted today. We need to thoughtfully, equitably and responsibly find ways to deal with the consequences of historic emissions, while preventing unmanageable climate chaos for future generations.

Industrialised countries – through their emission-heavy development – now have higher adaptive capacities to avoid the most severe impacts of climate change. Meanwhile, those in countries least responsible are the least prepared and resourced to respond to intensifying impacts.

In the immediate term, ending state aid for the

fossil fuel industry could allow us to re-direct \$5.3 trillion-worth of subsidies to address poverty and climate change. Achieving 100% renewable energy globally by 2050 is estimated to cost only about a third of the amount spent on fossil fuel subsidies.⁹ The remaining savings could fund adaptation and address loss and damage from climate change impacts. Progressive taxes such as a frequent flyer levy, a Climate Damages Tax on oil, gas and coal extraction, together with a Financial Transaction Tax (a small levy to raise revenue from the trading of financial instruments), could also mobilise billions – and potentially trillions of dollars.¹⁰ Applying these funds in a way that centres those most impacted is crucial.

We must also address the root causes of the injustice multipliers that climate change sits upon: systemic exclusion due to poverty, gender, age, indigenous or minority status, disability, sexuality, sexual identity, lack of access to sexual reproductive health and rights, national or social origin, birth or other status. It is past time to address the multiple injustices and histories of slavery, colonialism and neo-colonialism which have culminated to create our current crises.

The vast majority of the world's richest 10% high emitters still live in the wealthiest OECD countries, though this is slowly changing.¹¹ 100 oil, coal and gas companies have been collectively responsible for 71% of global emissions since 1988. The global consumer class cannot continue to build their lives on the backs of the global poor.

A Green New Deal must recognise the UK's global climate debt and fossil-fuelled colonial past. Olúfemi O. Táíwò has suggested that the same apply for the U.S. In his view, Green New Deals can either enhance the power of poor nations to determine their own destinies, or they can promote climate colonialism through bordered concepts of justice.¹²

At the very least, a Global Green New Deal creates a direct responsibility to both aggressively mitigate emissions through funding renewable energy and green jobs, but also to repair climate harms abroad and fund mitigation and adaption efforts in the Global South. To be consistent with justice principles, a Global Green New Deal will require a transformative transition away from poverty and climate harms and towards social, economic, political and cultural liberation.

Andrew Taylor is an organiser for climate and social justice. His work has supported communities fighting on the front lines against the fossil fuel industry, sweatshops, colonization and homelessness. Harpreet Kaur Paul is a PhD Candidate at the University of Warwick's Law School. Her research focuses on climate justice for loss and damage. She has previously worked at Global Policy Forum, Amnesty International, REDRESS and Electronics Watch.

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Back on Track: A Community Action Plan to restore integrity in the Murray Darling Basin



Friends of the Earth Melbourne's River Country Campaign in collaboration with the Lifeblood Alliance

The Murray Darling Basin Plan set out to save our rivers from environmental disaster. Since the \$13 billion Plan began in 2012, there have been major concerns raised with implementation, including allegations of corruption, maladministration and mismanagement.

Communities who depend on our rivers fear that if we don't act now to bring the Plan back on track, our rivers will die and dependent communities will decline. Here, we present a 7-point strategy to restore integrity to the Plan, so it can deliver on its key objectives – to keep the rivers and dependent communities alive and well.

1. Protect River Flows

Prevent redirection of environmental water to other uses, including for private purposes during dry times.

Resume open tender buybacks to enable cost-effective water recovery and meet Basin Plan environmental targets.

Protect low flows and maintain connectivity within and between the rivers of the northern Basin.

2. Build Resilient Communities

Support Basin communities to broaden their economic base to adjust to a more variable water future and build socio-economic resilience.

Encourage wider representation and participation in decision making and actively encourage First Nations involvement to address cultural water needs in the Basin.

3. Establish Good Governance

Restore the National Water Commission as the independent oversight body for national water reform

Establish a Federal Basin Plan Regulator to deal with enforcement of water resource plans, underpinned by a Nation Integrity Commission

Undertake rigorous independent assessment of all water recovery projects prior to any further funding or works, including 'bridging the gap' and Sustainable Diversion Limit Adjustment Mechanism supply and efficiency measures.

Ensure trading rules protect the environment.

4. Secure First Nations Cultural Water

Secure unallocated surface and groundwater across the Basin as a Strategic Indigenous and Environmental Reserve.

Provide appropriate funding for First Nations to buy water in fully-allocated systems, and co-design models for acquiring and holding water entitlements.

Address urgent threats to cultural values and Native Title rights in the Lower Darling and other critically impacted waterways by restoring low flows and connectivity.

Develop a national First Nations Water Strategy to address key unfinished business in water reform.

5. Align Water Extraction with Science

Ensure Sustainable Diversion Limits reflect an environmentally sustainable level of take, including accounting for climate change.

Licensing of floodplain harvesting must not be used to increase overall water extraction limits.

Include minimum flow provisions under low flows and drought in all sub-catchments as part of Water Resource Plans.

Fund and implement a comprehensive Native Fish Strategy.

6. Track the Progress

Conduct a full independent audit of environmental water recovery to date, including water availability for provision of environmental flows.

Measure real world river flows against Basin Plan targets, with improved modelling, monitoring and reporting.

Undertake an independent review of whether the Basin Plan is meeting its objectives under the Commonwealth Water Act, while allowing for realistic timeframes for ecological restoration and consideration to whether Australia is fulfilling its obligations to protect internationally recognised RAMSAR sites.

7. Improve Transparency

Adopt a consistent approach to measuring, monitoring and compliance across all Basin States through mandatory metering and real time monitoring including satellite tracking, to provide up-to-date information on water availability.

Establish a free, publicly-accessible register of water ownership across the Basin, and a National Water Exchange with public reporting of all water trades.

Require open access to all data, modelling and reporting conducted by the Murray Darling Basin Authority.

Back on Track was developed in collaboration with the Lifeblood Alliance of environmental, Indigenous and community groups.

The Murray-Darling Basin scandal: economists have seen it coming for decades

John Quiggin – Professor, School of Economics, The University of Queensland

Nations behave wisely, Israeli foreign minister Abba Eban observed five decades ago, “once they have exhausted all other alternatives”.

One can only hope that proves the case with water policy in Australia’s Murray-Darling Basin, the nation’s largest river system and agricultural heartland.

The ABC’s Four Corners program *Cash Splash*, aired in July, illustrates how thoroughly we are exhausting the options that don’t work to keep rivers being sucked dry by irrigators.¹ Billions of dollars have been spent on infrastructure schemes that have failed to deliver any measurable improvement in water flows or the state of the environment.

This failure is no surprise to economists who have studied the problems of the Murray-Darling Basin for decades.

The central problem is well understood, as are the workable (and unworkable) possible responses.

The basin covers four states: Queensland, New South Wales, Victoria and South Australia. All state governments have allocated permits to extract water for human uses (irrigated agriculture and urban water). The allocations grew rapidly in the second half of the 20th century, exceeding the sustainable capacity of the natural environment.

One sign of the failure became dramatically obvious in 1991, with an outbreak of toxic blue-green algae over 1,200 km of the Darling River.² Algal blooms are fed by nitrogen and other nutrients in fertiliser runoff and sewerage. They continue to occur.

This event underlined the need to leave enough water in rivers for “environmental flows” to keep the system healthy.

Acting with what now seems like impressive promptness, the Murray-Darling Basin Ministerial Council (made up of the water resources ministers from the basin states, the Australian Capital Territory and the federal government) imposed a cap on water extractions in 1995. It limited extractions to the volume of water capable of being taken out by the infrastructure (pumps, dams, channels, management rules) that existed in 1993–94.³

The cap was supposed to be a temporary measure. It wasn’t intended to solve the problem, just stop it getting any worse in the short run.

The long-term solution was to be a system of trade in water rights, introduced by the Council of Australian Governments in 1994. Combined with the right price signals from environmental purchases, this system was meant to allocate water to its most productive uses while reducing extractions to sustainable levels.

A quarter-century on, the cap is only now being phased out, and a vast array of measures have come and gone, including the National Water Initiative, the Water Act of 2007, Water for the Future and the Murray-Darling Basin Plan.

Buying block

The failure of these initiatives rests on one simple fact: the refusal of irrigation lobby groups to countenance the government buying water rights on the open market to increase environmental flows. Their opposition has been immovable, despite many individual irrigators being keen to sell their water rights and use the money to invest in alternative cropping activities or retire.

On the other hand, there are a lucky (often politically well-connected) few who have done very well from “strategic” purchases of water. Investigative journalist Michael West has noted the National Party’s Barnaby Joyce has been publicly hostile towards buybacks of water entitlements but authorised, as federal water resources minister, three major “strategic purchases”.⁴

Instead of water purchases, politicians like Joyce have put their faith in subsidies to infrastructure, to improve the efficiency of water use.

The idea has a lot of intuitive appeal. If less water can be used, it should be possible to increase flows in the river system without reducing agricultural output. With rare exceptions, this appealing vision has dominated the thinking of politicians and much of the public.

The reality is sadly different. The failure of infrastructure-based water recovery was both predictable and predicted.

I pointed out the main difficulties in a piece for ABC Online in 2012.⁵ The article didn’t contain any remarkable insights. It simply stated views shared by every independent economist who has worked on the issue.

The illusion of efficiency

Among the many problems with infrastructure schemes, two have stood out.

First, the measured cost of saving water through infrastructure schemes is two to three times as much as that of buying water on the open market.

Second, and more importantly, much of the supposed water savings are illusory. Much of the water “wasted” in irrigation systems is not lost to the environment. Most of the water leakage and seepage from irrigation channels eventually returns to rivers through groundwater systems. So “saving” this water through infrastructure efficiency doesn’t actually add anything more to environmental flows.

My 2012 analysis assumed a scientifically based effort to secure water savings at the lowest possible cost to the public. As the *Four Corners* report has shown, that assumption was massively over-optimistic. In reality, the scheme has been characterised by lax monitoring, cronyism and rorting.

After the expenditure of billions in public money, the system may be worse off than before. As a result, environmental disasters keep on happening.

Along with recurring algal outbreaks, we are witnessing disasters such as the massive fish kills like that in western New South Wales in January. The massive fish kills have been attributed to little or no flow in the Darling River combined with plunges from high temperatures, starving the water of oxygen.⁶

As the riverine environment keeps deteriorating, there’s no sign of any positive change in policy.

Eventually, though, we must hope Abba Eban will be proved right. Having exhausted all the options that don’t work, we will have to turn to those that do.

John Quiggin is a signatory of the Murray-Darling Declaration, a statement prepared by a group of independent scientists and economists
<https://murraydeclaration.org/signatories/>

Reprinted from The Conversation, 9 July 2019,
<https://theconversation.com/the-murray-darling-basin-scandal-economists-have-seen-it-coming-for-decades-119989>

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Chennai is the latest city to have almost run out of water and Australia is not immune

ABC

Chennai is a city that has withstood the rise and fall of empires, but it now faces a grave existential crisis as it runs dry due to a severe water shortage, leaving millions in the lurch. In June, taps ran dry as water levels in its four major reservoirs fell to one-hundredth of what they were this time last year, caused by a devastating drought.

The crisis in India’s sixth-largest city – with a population bigger than Melbourne and Sydney combined – has pushed schools, hotels and commercial establishments to close, while hospitals have put off non-essential surgeries. Millions of people are lining up at water trucks to fill containers of water in a crisis that’s hit urban and rural Indians alike, and usually only half leave with their pots filled.

But the problem isn’t confined to Chennai – in the western state of Maharashtra, some are so desperate for water they are lining up their pots two days before water tankers are due to arrive. Children as young as 10 were being sent to fetch water a train ride away, hauling back containers of water almost as big as they were.

While India faces its worst long-term water crisis in its history as demand outstrips supply, its story is one that is becoming increasingly common in rapidly urbanising countries around the globe.

Urbanisation and poor planning drive water scarcity

Abroad, climate change – coupled with rapid urbanisation and population growth – have brought issues around water scarcity and security into focus. Amid this context, attention has been cast on how municipal authorities have mismanaged the responses to these mounting ecological crises.

Cape Town, a city of more than 4.2 million people in South Africa, faced its worst water crisis in history between 2015 and mid-2018. As dam levels fell to record lows, some at less than 10 per cent, authorities prepared for Day Zero – where taps were to be shut off with citizens restricted to 25 litres per day.¹

In Northern Africa, the Egyptian capital of Cairo could run out of water because Ethiopia is damming the Nile River, which currently provides the city with 97 per cent of its water supply.

In the United States, damming of the Colorado River – combined with a 19-year drought – has led some officials to determine that some reservoirs fed by the river will never be full again.² The Colorado stretches across the southwest of the country, being a source of water for some of the region’s biggest cities such as Los Angeles, San Diego and Las Vegas.

In Asia, 3.4 billion people could be living in “water stressed areas” by 2050, according to a 2016 Asia Development Bank (ADB) report. “Water shortage should be treated as a permanent ongoing issue,” said Thuy Trang Dang, an urban development and water specialist at the ADB’s Southeast Asia office. Diets filled with more water-demanding meat and dairy products and general growth in consumption also mean “the issue will only become more pressing unless dealt with not as a one-time crisis but as a way of life”, she said.

Australia, the world’s driest inhabited continent, is not immune

Australia is the world’s driest inhabited continent.³ Over centuries, Australia’s environment has absorbed a number of dry spells, but recent pressures are disrupting a traditionally resilient environment.

The Murray-Darling Basin - a vast river system that stretches across South Australia, Victoria, New South Wales and Queensland - faces severe stress as a result of drought and what a 2019 royal commission said was due to “gross maladministration”.⁴

“Australia has an uncertain climate that looks like it may be becoming drier in the south, where the majority of the population live,” says Ian Wright of the University of Western Sydney.⁵

Experts have said that Cape Town-style crisis could theoretically play out in Perth, which shares the problem of a drying climate.⁶ The construction of two large desalination plants, however, will likely mean that the West Australian capital is better prepared for climate change than its South African counterpart.

Melbourne, which previously only had a year’s supply of water at the height of the Millennium Drought, also has a desalination plant. The plant, combined with a pipeline fed from the Goulburn River in Victoria’s north, now have the potential to supply over half of the city’s water.⁷

But according to a report from Melbourne Water in 2017, projections show that it is possible the city’s demand for water could exceed the capacity of its existing sources of water by 2028.⁸ Melbourne could be facing shortfalls of more than 450 GL (almost the entire volume of Sydney Harbour) per year by 2065, if water resources weren’t managed well, it said.⁹



Millions of people are turning to water tank trucks as taps run dry.

Chennai tells the story of a changing world

Part of the reason for Chennai’s current predicament is due to its groundwater depletion, a situation that government think-tank Niti Aayog warned about last year. It said it was one of 21 cities that it thought could run out of ground water by 2020.

India uses more ground water than any other country, a problem successive governments have failed to tackle, said environmental campaigner Himanshu Thakkar. “We use more groundwater than what China and the United States collectively use,” Mr Thakkar said. “Countries like the US identify and protect their groundwater recharge zones. What have we done?”

But Chennai’s groundwater depletion isn’t the sole reason for its current crisis, as drier climatic conditions have exacerbated water scarcity. Drought followed a 62 per cent shortfall in monsoon rains last year compared to 2017, according to government officials. Meteorologists said monsoon rains usually cover two-thirds of the country by mid-June. However, they currently have reached less than half that area.

Poor rainfall has ravaged crops, dried up reservoirs and forced people to migrate from their villages. In Maharashtra, many have gone to work farming sugar cane - a thirsty crop that devours two-thirds of its irrigation water, exacerbating the problem.

Meanwhile, in northern and eastern parts of India, temperatures soared to 48 degrees Celsius. In one eastern state, Bihar, at least 90 people have died of heat stroke in June alone. The state of Tamil Nadu, where Chennai is located, has asked other states across the country for spare water until monsoon rains fall.

Reprinted from the ABC, 22 June 2019, www.abc.net.au/news/2019-06-22/chennai-telling-the-globe-a-story-about-water-scarcity/11229084

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Choosing Humanity: Why Australia should sign the UN nuclear weapon ban treaty

Choosing Humanity is a new publication by the Nobel Peace Prize-winning International Campaign to Abolish Nuclear Weapons (ICAN). It sets out the case for Australia to join the global majority of nations in supporting the United Nations' Treaty on the Prohibition of Nuclear Weapons (TPNW). It addresses key criticisms and myths about the TPNW and advises a practical pathway for signature and ratification.

Choosing Humanity showcases a diverse range of voices including faith groups, experts, unions, parliamentarians, the Australian Red Cross and First Nations people impacted by nuclear testing. The TPNW has strong civil society and political support in Australia. Currently, the Coalition government does not support Australia's accession to the treaty but the Australian Labor Party does.

ICAN Australia, 2019, Choosing Humanity: why Australia must join the Treaty on the Prohibition of Nuclear Weapon, www.icanw.org.au/choosinghumanity

Don't Bank on the Bomb

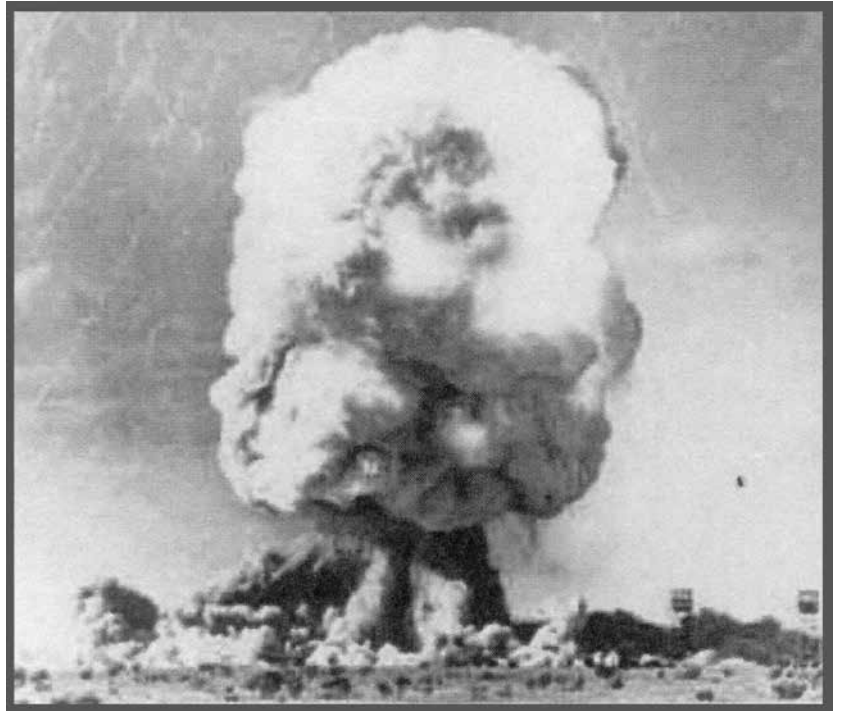
In May, PAX and ICAN launched a new report, *Producing mass destruction: Private companies and the nuclear weapons industry*. The report is part of the Don't Bank on the Bomb project (dontbankonthebomb.com) and shows how the commercial sector is producing key components of nuclear weapons.

The report provides detailed information about the way governments are contracting at least US\$116 billion to private companies in France, India, Italy, the Netherlands, UK, and the US for the production, development and stockpiling of nuclear weapons. For the first time ever, the report also provides some information about a state owned company in China connected to nuclear weapon production that is now attempting to raise money through bond issuances.

There are a few companies that stand out in terms of their overall nuclear weapon related activities, with billions in outstanding contracts. Huntington Ingalls Industries is most heavily involved, with more than US\$28 billion in outstanding contracts, and Lockheed Martin is a close runner-up with US\$25 billion in contracts.

These companies are part of the nuclear weapons problem. Avoiding business with these companies is a way for others to become part of the solution.

PAX and ICAN, 2019, Producing Mass Destruction: Private companies and the nuclear weapon industry, www.dontbankonthebomb.com/2019_producers-report-final/



Shorting our security

Another report by PAX and ICAN, *Shorting our security: Financing the companies that make nuclear weapons*, shows that the companies building nuclear weapons are not only receiving billion dollar contracts from the nuclear-armed states, they are also being funded by banks, insurance companies and pension funds.

The report, released in June 2019, also finds that client pressure to stop these investments is working. Over the previous year, almost 100 financial institutions had stopped financing nuclear weapons. Some of these decisions can be traced directly back to the requests made by clients, while others directly cite the TPNW. Most financial institutions want to do two things: make money and keep their clients happy. If you, as a client, aren't happy with how your money is being used, you can demand change. So check your bank, insurance and pension fund today and if they're on the list, give Customer Service a call and tell them: Don't Bank on the Bomb!

Between January 2017 and January 2019, the following Australian banks lent funds to nuclear-weapon producing companies: Macquarie Group US\$1,516m; ANZ US\$1,314m; Commonwealth Bank US\$188m; and Westpac US\$1,487.5m.

PAX and ICAN, 2019, Shorting our security: Financing the companies that make nuclear weapons, https://www.dontbankonthebomb.com/wp-content/uploads/2019/06/2019_HOS_web.pdf

The nuclear bomb test codenamed 'One Tree' at Maralinga on 27 September 1956.

Nuclear power and Australia's culture wars

Jim Green

Nuclear power is currently enjoying a flurry of interest in Australia. But those promoting nuclear power are almost exclusively from the far right of the political spectrum. They include far-right politicians from the Coalition and One Nation; the Minerals Council of Australia (who lobby furiously for clean nuclear and clean coal) and the Business Council of Australia; media shock-jocks and the Murdoch media; and the Institute of Public Affairs.

Beyond the far right, support for nuclear power in Australia has ebbed due to the Fukushima disaster, catastrophic costs overruns on reactor projects, and the falling costs of renewables. Nuclear lobbyists routinely acknowledge that nuclear power is in "crisis" and wonder what if anything can be salvaged from "the ashes of today's dying industry".

The far-right won't let facts get in the way of their promotion of nuclear power. NSW Deputy Premier John Barilaro claims, against all the evidence, that nuclear power would probably be the cheapest power source for the average Australian household and is "guaranteed" to lower power bills.

Tony Abbott's rationale for supporting nuclear power – and repealing Howard-era legislation banning nuclear power plants – is to "create a contest" with the unions, GetUp, the Greens and the Labor Party. Likewise, he said last year that promoting nuclear power "would generate another fight with Labor and the green left."

Abbott – and some others on the far-right – would undoubtedly oppose nuclear power if Labor and the 'green left' supported it and they would be pointing to the A\$17–24 billion price-tags for new reactors in western Europe and north America.

Abbott seems to have forgotten the experience in John Howard's last term as Prime Minister. Howard became a nuclear power enthusiast in 2005 and the issue was alive in the 2007 election contest. Howard's nuclear promotion did nothing to divide the Labor Party. On the contrary, it divided the Coalition, with at least 22 Coalition candidates publicly distancing themselves from the government's policy during the election campaign. The policy of promoting nuclear power was seen to be a liability and it was ditched immediately after the election.

Inquiry

Those of us opposed to nuclear power can take some comfort in its increasing marginalisation to the far-right. But there are far-right-wingers highly placed in the federal government and a number of state governments.

Right-wing National Party MPs lobbied for a Senate inquiry and for a repeal of the legislation banning nuclear power. It had the sense of a political set-piece: the far-right wins control of the numbers on a Senate inquiry and the government agrees with its pro-nuclear findings and repeals the legislation banning nuclear power.

But would Prime Minister Scott Morrison agree to repeal the ban given that there is no prospect of nuclear power being a viable option for Australia in the foreseeable future? Surely that would be an own goal, providing ammunition to political opponents and opening up divisions within the Coalition.

The Prime Minister has set two tests for nuclear power: it must be able to stand on its own feet without government subsidies, and it must reduce household power bills. There isn't the slightest chance that nuclear power could meet either test.

The Prime Minister's solution to this dilemma has been to announce a faux inquiry with a prefigured outcome. Federal Parliament's Standing Committee on Environment and Energy has begun an 'inquiry into the prerequisites for nuclear energy in Australia'. The Government states unequivocally that "Australia's bipartisan moratorium on nuclear energy will remain in place" regardless of the findings of the inquiry.

Further emphasising the uninquisitive nature of this inquiry is its truncated timeline: submissions must be received by September 16 and the whole inquiry will be done, dusted and forgotten by the end of the year.

The inquiry's terms of reference specifically mention 'small modular reactors' (SMRs). Amanda Stoker, Liberal National Party Senator for Queensland, summed it up thus: "The modern nuclear reactor is small, modular, self-contained and safer than any other energy generation method."

In the Senator's imagination, perhaps. But SMRs don't exist and recent history is littered with SMR corpses. The Generation mPower project in the US was abandoned. Transatomic Power gave up on its molten salt reactor R&D. MidAmerican Energy gave up on its plans for SMRs after failing to secure legislation that would force rate-payers to part-pay construction costs. Westinghouse sharply reduced its investment in SMRs after failing to secure US government funding. Rolls-Royce scaled back its investment to nothing more than paying for "a handful of salaries" and is threatening to abandon its SMR R&D altogether unless hefty government grants are made available by the UK government.

There was a wave of enthusiasm for SMRs in the late 1980s. It came and went without a single SMR being built anywhere in the world. A *Chain Reaction* article about SMRs, written 30 years ago by anti-nuclear campaigner John Hallam, could have been written this year with scarcely any changes – and perhaps it will be just as fresh 30 years from now.

More information: www.nuclear.foe.org.au/power

SMRs: WISE Nuclear Monitor #872-73, 7 March 2019, www.wiseinternational.org/nuclear-monitor

Jim Green is the national nuclear campaigner with Friends of the Earth Australia.

Nuclear Power – No Solution to Climate Change

Friends of the Earth Australia Statement – August 2019

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2. Nuclear Power Would Inhibit the Development of More Effective Solutions
3. The Nuclear Power Industry is in Crisis
4. Small Modular Reactors
5. Nuclear Weapons Proliferation and Nuclear Winter
6. A Slow Response to an Urgent Problem
7. Climate Change & Nuclear Hazards
8. Nuclear Racism
9. Nuclear Waste

1. Introduction

Support for nuclear power in Australia has nothing to do with energy policy – it is instead an aspect of the ‘culture wars’ driven by conservative ideologues (examples include current and former politicians Clive Palmer, Tony Abbott, Cory Bernardi, Barnaby Joyce, Mark Latham, Jim Molan, Craig Kelly, Eric Abetz, and David Leyonhjelm; and media shock-jocks such as Alan Jones, Andrew Bolt and Peta Credlin). With few exceptions, those promoting nuclear power in Australia also support coal, they oppose renewables, they attack environmentalists, they deny climate change science, and they have little knowledge of energy issues and options. The Minerals Council of Australia – which has close connections with the Coalition parties – is another prominent supporter of both coal and nuclear power.

In January 2019, the Climate Council, comprising Australia’s leading climate scientists and other policy experts, issued a policy statement concluding that nuclear power plants “are not appropriate for Australia – and probably never will be”. The statement continued: “Nuclear power stations are highly controversial, can’t be built under existing law in any Australian state or territory, are a more expensive source of power than renewable energy, and present significant challenges in terms of the storage and transport of nuclear waste, and use of water”.

Friends of the Earth Australia agrees with the Climate Council. Proposals to introduce nuclear power to Australia are misguided and should be rejected for the reasons discussed below (and others not discussed here, including the risk of catastrophic accidents).

2. Nuclear Power Would Inhibit the Development of More Effective Solutions

Renewable power generation is far cheaper than nuclear power. Lazard’s November 2018 report on levelised costs of electricity found

that wind power (US\$29–56 per megawatt-hour) and utility-scale solar (US\$36–46 / MWh) are approximately four times cheaper than nuclear power (US\$112–189 / MWh).

A December 2018 report by the CSIRO and the Australian Energy Market Operator concluded that “solar and wind generation technologies are currently the lowest-cost ways to generate electricity for Australia, compared to any other new-build technology.”

Thus the pursuit of nuclear power would inhibit the necessary rapid development of solutions that are cheaper, safer, more environmentally benign, and enjoy far greater public support. A 2015 IPSOS poll found that support among Australians for solar power (78–87%) and wind power (72%) is far higher than support for coal (23%) and nuclear (26%).

Renewables and storage technology can provide a far greater contribution to power supply and to climate change abatement compared to an equivalent investment in nuclear power. Peter Farley, a fellow of the Australian Institution of Engineers, wrote in January 2019:

“As for nuclear the 2,200 MW Plant Vogtle [in the US] is costing US\$25 billion plus financing costs, insurance and long term waste storage. For the full cost of US\$30 billion, we could build 7,000 MW of wind, 7,000 MW of tracking solar, 10,000 MW of rooftop solar, 5,000MW of pumped hydro and 5,000 MW of batteries. That is why nuclear is irrelevant in Australia.”

Dr. Ziggy Switkowski – who led the Howard government’s review of nuclear power in 2006 – noted in 2018 that “the window for gigawatt-scale nuclear has closed”, that nuclear power is no

longer cheaper than renewables and that costs are continuing to shift in favour of renewables.

Globally, renewable electricity generation has doubled over the past decade and costs have declined sharply. Renewables account for 26.5% of global electricity generation. Conversely, nuclear costs have increased four-fold since 2006 and nuclear power's share of global electricity generation has fallen from its 1996 peak of 17.6% to its current share of 10%.

As with renewables, energy efficiency and conservation measures are far cheaper and less problematic than nuclear power. A University of Cambridge study concluded that 73% of global energy use could be saved by energy efficiency and conservation measures. Yet Australia's energy efficiency policies and performance are among the worst in the developed world.

3. The Nuclear Power Industry is in Crisis

The nuclear industry is in crisis with lobbyists repeatedly acknowledging nuclear power's "rapidly accelerating crisis", a "crisis that threatens the death of nuclear energy in the West" and "the crisis that the nuclear industry is presently facing in developed countries", while noting that "the industry is on life support in the United States and other developed economies" and engaging each other in heated arguments about what if anything can be salvaged from the "ashes of today's dying industry".

It makes no sense for Australia to be introducing nuclear power at a time when the industry is in crisis and when a growing number of countries are phasing out nuclear power (including Germany, Switzerland, Spain, Belgium, Taiwan and South Korea).

The 2006 Switkowski report estimated the cost of electricity from new reactors at A\$40–65 / MWh. Current estimates are four times greater at A\$165–278 / MWh. In 2009, Dr. Switkowski said that a 1,000 MW power reactor in Australia would cost A\$4–6 billion. Again, that is about one-quarter of all the real-world experience over the past decade in western Europe and north America, with cost estimates of reactors under construction ranging from A\$17–24 billion (while a reactor project in South Carolina was abandoned after the expenditure of at least A\$13.3 billion).



The V.C. Summer reactor project in South Carolina was abandoned in 2017 after the expenditure of at least A\$13.3 billion.

Thanks to legislation banning nuclear power, Australia has avoided the catastrophic cost overruns and crises that have plagued every recent reactor project in western Europe and north America. Cheaper Chinese or Russian nuclear reactors would not be accepted in Australia for a multitude of reasons (cybersecurity, corruption, repression, safety, etc.). South Korea has been suggested as a potential supplier, but South Korea is slowly phasing out nuclear power, it has little experience with its APR1400 reactor design, and South Korea's 'nuclear mafia' is as corrupt and dangerous as the 'nuclear village' in Japan which was responsible for the Fukushima disaster.

4. Small Modular Reactors

The Minerals Council of Australia claims that small modular reactors (SMRs) are "leading the way in cost". In fact, power from SMRs will almost certainly be more expensive than power from large reactors because of diseconomies of scale. The cost of the small number of SMRs under construction is exorbitant. Both the private sector and governments have been unwilling to invest in SMRs because of their poor prospects. The December 2018 report by the CSIRO and the Australian Energy Market Operator found that even if the cost of power from SMRs halved, it would still be more expensive than wind or solar power with storage costs included (two hours of battery storage or six hours of pumped hydro storage).

The prevailing scepticism is evident in a 2017 Lloyd's Register report based on the insights of almost 600 professionals and experts from utilities, distributors, operators and equipment manufacturers. They predict that SMRs have a "low likelihood of eventual take-up, and will have a minimal impact when they do arrive".

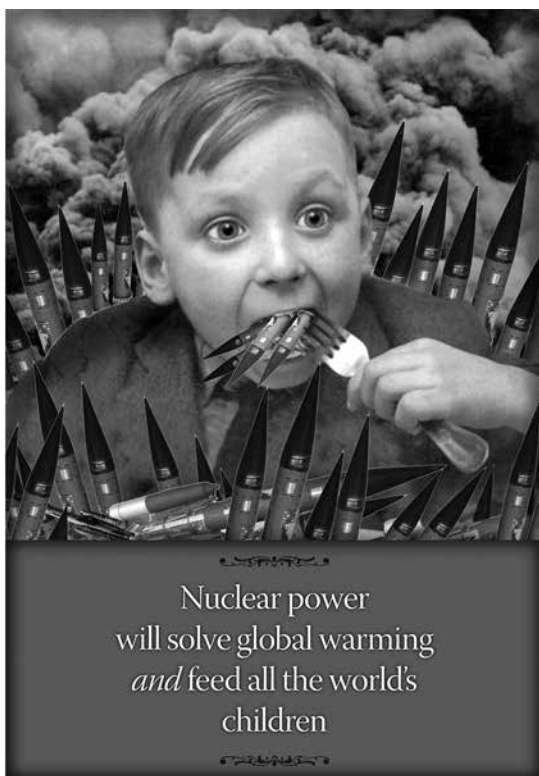
No SMRs are operating and about half of the small number under construction have nothing to do with climate change abatement – on the contrary, they are designed to facilitate access to fossil fuel resources in the Arctic, the South China Sea and elsewhere. Worse still, there are disturbing connections between SMRs, nuclear weapons proliferation and militarism more generally.

5. Nuclear Weapons Proliferation and Nuclear Winter

"On top of the perennial challenges of global poverty and injustice, the two biggest threats facing human civilisation in the 21st century are climate change and nuclear war. It would be absurd to respond to one by increasing the risks of the other. Yet that is what nuclear power does."

Australian academic Dr. Mark Diesendorf

Nuclear power programs have provided cover for numerous covert weapons programs and an expansion of nuclear power would exacerbate the problem. After decades of deceit and denial, a growing number of nuclear industry bodies and lobbyists now openly acknowledge



and even celebrate the connections between nuclear power and weapons. They argue that troubled nuclear power programs should be further subsidised such that they can continue to underpin and support weapons programs.

For example, US nuclear lobbyist Michael Shellenberger previously denied power-weapons connections but now argues that “having a weapons option is often the most important factor in a state pursuing peaceful nuclear energy”, that “at least 20 nations sought nuclear power at least in part to give themselves the option of creating a nuclear weapon”, and that “in seeking to deny the connection between nuclear power and nuclear weapons, the nuclear community today finds itself in the increasingly untenable position of having to deny these real world connections.”

Former US Vice President Al Gore has neatly summarised the problem:

“For eight years in the White House, every weapons-proliferation problem we dealt with was connected to a civilian reactor program. And if we ever got to the point where we wanted to use nuclear reactors to back out a lot of coal ... then we’d have to put them in so many places we’d run that proliferation risk right off the reasonability scale.”

Running the proliferation risk off the reasonability scale brings the debate back to climate change. Nuclear warfare – even a limited, regional nuclear war involving a tiny fraction of the global arsenal – has the potential to cause catastrophic climate change. The problem is explained by Alan Robock in *The Bulletin of the Atomic Scientists*:

“[W]e now understand that the atmospheric effects of a nuclear war would last for at least a decade – more than proving the nuclear winter theory of the 1980s correct. By our calculations, a regional nuclear war between India and Pakistan using less than 0.3% of the current global arsenal would produce climate change unprecedented in recorded human history and global ozone depletion equal in size to the current hole in the ozone, only spread out globally.”

Nuclear plants are also vulnerable to security threats such as conventional military attacks (and cyber-attacks such as Israel’s Stuxnet attack on Iran’s enrichment plant), and the theft and smuggling of nuclear materials. Examples of military strikes on nuclear plants include the destruction of research reactors in Iraq by Israel and the US; Iran’s attempts to strike nuclear facilities in Iraq during the 1980–88 war (and vice versa); Iraq’s attempted strikes on Israel’s nuclear facilities; and Israel’s bombing of a suspected nuclear reactor site in Syria in 2007.

6. A Slow Response to an Urgent Problem

Expanding nuclear power is impractical as a short-term response to climate change. An analysis by Australian economist Prof. John Quiggin concludes that it would be “virtually impossible” to get a nuclear power reactor operating in Australia by 2040.

More time would elapse before nuclear power has generated as much as energy as was expended in the construction of the reactor. A University of Sydney report states: “The energy payback time of nuclear energy is around 6.5 years for light water reactors, and 7 years for heavy water reactors, ranging within 5.6–14.1 years, and 6.4–12.4 years, respectively.”

Taking into account planning and approvals, construction, and the energy payback time, it would be a quarter of a century or more before nuclear power could even begin to reduce greenhouse emissions in Australia ... and then only assuming that nuclear power displaced fossil fuels.

7. Climate Change & Nuclear Hazards:

‘You need to solve global warming for nuclear plants to survive.’

“I’ve heard many nuclear proponents say that nuclear power is part of the solution to global warming. It needs to be reversed: You need to solve global warming for nuclear plants to survive.”

Nuclear engineer David Lochbaum.

Nuclear power plants are vulnerable to threats which are being exacerbated by climate change.

These include dwindling and warming water sources, sea-level rise, storm damage, drought, and jelly-fish swarms.

At the lower end of the risk spectrum, there are countless examples of nuclear plants operating at reduced power or being temporarily shut down due to water shortages or increased water temperature during heatwaves (which can adversely affect reactor cooling and/or cause fish deaths and other problems associated with the dumping of waste heat in water sources). In the US, for example, unusually hot temperatures in 2018 forced nuclear plant operators to reduce reactor power output more than 30 times.

At the upper end of the risk spectrum, climate-related threats pose serious risks such as storms cutting off grid power, leaving nuclear plants reliant on generators for reactor cooling.

'Water wars' will become increasingly common with climate change – disputes over the allocation of increasingly scarce water resources between power generation, agriculture and other uses. Nuclear power reactors consume massive amounts of cooling water – typically 36.3 to 65.4 million litres per reactor per day. The World Resources Institute noted last year that 47% of the world's thermal power plant capacity – mostly coal, natural gas and nuclear – are located in highly water-stressed areas.

By contrast, the REN21 Renewables 2015: Global Status Report states:

"Although renewable energy systems are also vulnerable to climate change, they have unique qualities that make them suitable both for reinforcing the resilience of the wider energy infrastructure and for ensuring the provision of energy services under changing climatic conditions. System modularity, distributed deployment, and local availability and diversity of fuel sources – central components of energy system resilience – are key characteristics of most renewable energy systems."

8. Nuclear Racism

The nuclear industry has a shameful history of dispossessing and disempowering Aboriginal people and communities, and polluting their land and water, dating from the British bomb tests in the 1950s. The same attitudes prevail today in relation to the uranium industry and planned nuclear waste dumps and the problems would be magnified if Australia developed nuclear power.

To give one example (among many), the National Radioactive Waste Management Act dispossesses and disempowers Traditional Owners in every way imaginable:

- The nomination of a site for a radioactive waste dump is valid even if Aboriginal owners were not consulted and did not give consent.



- The Act has sections which nullify State or Territory laws that protect archaeological or heritage values, including those which relate to Indigenous traditions.
- The Act curtails the application of Commonwealth laws including the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 and the Native Title Act 1993 in the important site-selection stage.
- The Native Title Act 1993 is expressly overridden in relation to land acquisition for a radioactive waste dump.

9. Nuclear Waste

Decades-long efforts to establish a repository and store for Australia's low-and intermediate-level nuclear waste continue to flounder and are currently subject to legal and Human Rights Commission complaints and challenges, initiated by Traditional Owners of two targeted sites in South Australia. Establishing a repository for high-level nuclear waste from a nuclear power program would be far more challenging as Federal Resources Minister Matt Canavan has noted.

Globally, countries operating nuclear power plants are struggling to manage nuclear waste and no country has a repository for the disposal of high-level nuclear waste. The United States has a deep underground repository for long-lived intermediate-level waste, called the Waste Isolation Pilot Plant (WIPP). However the repository was closed from 2014-17 following a chemical explosion in an underground waste barrel. Costs associated with the accident are estimated at over A\$2.9 billion.

Safety standards fell away sharply within the first decade of operation of the WIPP repository – a sobering reminder of the challenge of safely managing nuclear waste for millennia.

A referenced version of this statement is posted at www.nuclear.foe.org.au/climate

Our environment law is powerless to prevent extinction and this ruling just proved it

Piers Verstegen – director of the Conservation Council of WA.

Very few human activities have no impact at all on the environment. From purchasing your morning coffee, to planning a 9 kilometre-long open-pit uranium mine on sacred Aboriginal lands, everything we do has consequences.

The way we consider those consequences is important. The coffee purchase might take a second or two to contemplate – is it worth the guilt of knowing the single use cup will remain in landfill for thousands of years?

In contrast, major developments like the Yeelirrie uranium mine in Western Australia's mid-west require extensive environmental studies, often taking years to complete.

The Conservation Council of WA, with members of the Tjiwarl native title group, recently lost our epic two-year court battle against the approval for this project as the Court of Appeal challenge was dismissed.

This battle has decided the fate of obscure underground creatures in a remote part of our state and turned our comfortable notion of environmental protection on its head, proving that Australia's environment laws are powerless to prevent extinction.

Project approvals inevitably require a balancing of environmental issues with other considerations. Protection of wildlife and cultural heritage, and preservation of the clean air, water, and nature we depend upon are clearly in the public interest. Other considerations relate directly to private benefit or profit.

Because of this need to weigh competing private and public interests, such decisions are undertaken by governments and involve complex moral, and political judgements informed by scientific evidence.

Some decades ago, environment laws were passed in most countries around the world to guide governments in making such decisions. In a developed country like Australia, it is reasonable to assume that these laws provide a 'line in the sand' to prevent the worst forms of damage to our environment.

Wildlife extinction is the most profound and permanent form of environmental damage and the most extreme example of animal cruelty. From extinction there is no restoration, no recovery, no hope. Extinction is the permanent snuffing out of millions of years of evolutionary heritage. It is the denial of existence not just to an individual, but to a whole species.

The Yeelirrie case in WA's Supreme Court has overturned the comfortable notion that Australia's environment laws can prevent this most permanent form of environmental impact.

The decision of the court is the latest chapter in the Tjiwarl country women's ongoing fight to protect sacred country from uranium mining, a fight which has so far lasted four decades and has already seen off at least two mining companies including BHP.

It has profound implications. The latest proposal to mine Yeelirrie by Canadian company Cameco involves a 9-kilometre open-pit in sacred Tjiwarl Aboriginal lands, part of the Seven Sisters songline that has been connecting remote parts of WA for hundreds of generations.

Thirty-six million tonnes of mine waste are to be dumped into the open pits, and would remain radioactive for thousands of years. The project would require clearing nearly 2500 hectares of native vegetation, and would use 8.7 million litres of water per day for the life of the mine.

These are the kinds of impacts that routinely occur with mining operations in WA, albeit not often on this scale; however, it is what lies beneath the ground that has made Yeelirrie different.

Following a public assessment process, the WA Environmental Protection Authority concluded that the mining operation carried an unacceptable risk of extinction of several species of underground fauna and loss of a unique saltbush. It was on this basis that the EPA recommended against the proposal, noting that extinction of any species, no matter how obscure, went against key principles in the WA Environmental Protection Act.

Despite this finding, WA's previous Environment Minister Albert Jacob went ahead and signed an environmental approval for the mine to proceed.

Exactly what factors or evidence the Minister took into consideration in making this decision are unknown, because the laws do not require the Minister to disclose them.

It is precisely this kind of situation that our laws are supposed to guard against. Australia's environment laws were fought for by communities, scientists, and conservationists decades ago. While many concessions were made along the way and in changes since, this fundamental principle of preventing extinction was thought to be preserved.

The precedent this decision sets is so important. Even if the obscure underground wildlife beneath Yeelirrie are unseen and unheard by to most Australians, approving the extinction of any species opens a dangerous legal door.

Suddenly the growing list of endangered wildlife in Australia looks a lot more vulnerable than ever.

Unfinished Business: Spotlight grows on Rio Tinto Kakadu uranium clean-up

Dave Sweeney – nuclear-free campaigner, Australian Conservation Foundation

Four decades of imposed uranium mining by Energy Resources of Australia (ERA) and Rio Tinto is about to end at the Ranger uranium mine in Kakadu in Australia's Northern Territory.

What remains is a heavily impacted site that requires extensive, complex and costly rehabilitation. This must meet both community expectation and the mining company's legal obligation to restore the site to a standard where it can be incorporated into the surrounding Kakadu World Heritage area.

As mineral processing winds down at Ranger ahead of a mandated 2021 end to operations, a new report has found that Kakadu, Australia's largest national park, is at long-term risk unless the clean-up is comprehensive and effective.

Unfinished Business, co-authored by the Sydney Environment Institute (SEI) at the University of Sydney and national environment group the Australian Conservation Foundation (ACF), examines the ERA Mine Closure Plan which outlines the rehabilitation works.

The report identifies significant data deficiencies, a lack of clarity around regulatory and governance frameworks and uncertainty over the adequacy of current and future financing – especially in relation to future monitoring and mitigation works for the mine site.

Mine operator ERA and parent company Rio Tinto are required to clean up the site to a standard suitable for inclusion in the surrounding Kakadu National Park, dual-listed on UNESCO's World Heritage list.

No mine in the world has ever successfully achieved this standard of clean-up and the rehabilitation project is attracting national and international attention. This interest has put increased pressure on the Australian and Northern Territory governments, and on ERA and Rio Tinto, to get this work right.

The outcome at Ranger is of critical importance to Rio Tinto's international reputation as a responsible corporate citizen and the company's wider social license to operate. The report argues that Rio Tinto's future access is directly linked to its efforts to repair past impacts.

Concerns over the adequacy of the rehabilitation plans and the financial capacity needed to deliver a comprehensive clean-up operation have been formally raised with Rio Tinto at the company's annual meetings in both London (April) and Perth (May).

Ranger has been one of the most contested and high-profile resource projects in Australia since the mine was opened in 1981 despite the clear opposition of the Mirarr Traditional Owners and other Aboriginal people of the Kakadu region.

The challenge now facing Rio Tinto is not to simply scrape rocks into holes and plant trees, it is to make sure mine tailings, radioactive slurry and toxic by-products of mining are isolated from the surrounding environment for 10,000 years.

"Achieving this in a monsoonal environment like Kakadu raises enormous environmental and governance challenges," said report co-author Dr Rebecca Lawrence from the Sydney Environment Institute. "For the rehabilitation process to even have a chance at success, the existing opaque and complex regulatory regime needs an urgent overhaul".

Tailings – the waste material remaining after the processing of finely ground ore – are one of the serious environmental risks at Ranger. The report examines how ERA and Rio Tinto intend to deliver on the federal government's requirement to protect the Kakadu environment by isolating any tailings and making sure contaminants do not result in any detrimental environmental impacts for at least 10,000 years.

Long after the miners have gone, this waste remains a direct human and environmental challenge. This issue is key to the long-term health of Kakadu, but there is insufficient evidence and detail on how this work will be managed and assured in the future. Without this detail there will be a sleeping toxic time bomb deep inside Kakadu. This work is a key test of the commitment and capacity of Northern Territory and Commonwealth regulators as well as the mining companies.

At its recent twin AGMs, Rio Tinto again committed to make sure ERA has the financial resources to deliver its rehabilitation obligations, but the financial mechanism to do so remains undisclosed and uncertainty persists.

The report makes recommendations to improve the chances of a successful clean-up at Ranger. It calls for increased transparency and community input, the public release of key project documents, a better alignment of research and operations and open review processes for key decision points.

Australia has a long history of sub-standard mine closure and rehabilitation in the uranium and wider mining sector, and there is a clear need for a better approach and outcome at Ranger. The challenge is how to rehabilitate the heavily impacted mine and larger Ranger Project Area in a way that reduces adverse impacts and provides confidence that the living and peopled landscape of Kakadu is best protected, now and into the future.

The full report – Unfinished business: Rehabilitating the Ranger uranium mine – is online at https://www.acf.org.au/unfinished_business_rehabilitating_ranger

BHP Olympic Dam tailings an “extreme risk” to workers and the environment

David Noonan

The world’s largest miner BHP proposes a major new Tailings Storage Facility at the Olympic Dam copper-uranium mine in outback South Australia.¹

Tailings Storage Facility (TSF) 6 is intended to be larger in area than the CBD of Adelaide – at 285 hectares and up to 30 metres in height. BHP states the total footprint area of TSF6 is intended to be 416 hectares.

BHP is seeking federal government approval of TSF6 under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), prior to a comprehensive Tailings Safety Risk Assessment of all BHP tailings waste across the entire Olympic Dam operation.

This BHP application follows on from a BHP Tailings Facilities Disclosure stating that three Olympic Dam tailings facilities are at the highest “extreme risk” hazard category based on the consequences of a potential catastrophic failure of the radioactive tailings waste facilities.²

BHP and the mining industry are in serious trouble internationally over catastrophic mine tailings dam failures in South America at the BHP and Vale joint venture mine at Samarco in Brazil in 2015 and the nearby Vale Brumadinho tailings dam collapse in early 2019.

In response, the International Council on Mining and Metals (ICMM) has teamed with the United Nations Environment Program (UNEP) to conduct a comprehensive Independent Tailings Review to draw up a new international safety standard for the management of tailings storage facilities.³ This important report and new tailings storage safety standard are due at the end of 2019.

BHP’s June 2019 ‘ESG Briefing: Tailings Dams’ states that the “principal potential impact” of a “most significant failure” of Olympic Dam tailings waste facilities is that of “employee impacts”, with the potential loss of life of 100 BHP employees.⁴

The Canadian Dam Safety Guidelines “extreme risk” consequences category shows impacts of a potential loss of life of more than 100; an extreme loss of infrastructure and economics; and a major permanent loss of environmental and cultural values – with restoration stated to be impossible.

BHP is seeking federal environmental approval for TSF6 prior to availability of the new ICMM and UNEP international safety standard for the management of tailings storage facilities.

With BHP stating a preferred schedule for TSF6 to start construction in November 2019 and to operate in early 2020.

BHP is also seeking federal approval for TSF6 to be held prior to and separate from a required federal and state assessment of a major proposed expansion in the scale of underground mining at Olympic Dam, with copper production to increase from 200,000 to 350,000 tonnes per year.

The SA “Olympic Dam Major Projects Declaration” (SA Government Gazette, 14 Feb. 2019, p.461-462) has already “excluded” the three “extreme risk” Olympic Dam tailings waste facilities, and the proposed major new TSF6 and associated Evaporation Pond 6, from the scope of a required public environmental impact assessment process on BHP’s proposed Olympic Dam mine expansion.⁵

To exclude, or to fail to apply, environmental assessment and public consultation on fundamental environmental impacts of mining at Olympic Dam is contrary to the public interest, and works against transparency, scrutiny, public confidence and basic modern community expectations.

Environmental impact assessment process

The new Federal Environment Minister Sussan Ley should require a public environmental impact assessment process on BHP’s EPBC Act Referral 2019/8465 Tailings Storage Facility 6 under federal responsibilities to protect Matters of National Environmental Significance (see NGO briefing *Uranium Mining Triggers “Protection of the Environment” Under the EPBC Act*⁶).

This EPBC Act public assessment should include a comprehensive Tailings Safety Risk Assessment of TSF6 and of all BHP tailings waste across the entire Olympic Dam operations, especially the three “extreme risk” tailings waste facilities, before any potential approval or advance of major new BHP radioactive tailings waste facilities or increase in tailings waste production output.

The Minister must not approve this major new Tailings Storage Facility on the basis of limited non-independent BHP Referral input. Significant safety and environment protection issues cannot be left to BHP to decide. BHP must be made accountable for the three “extreme risk” tailings waste facilities at Olympic Dam and made to apply the most stringent safety standards in this case.

BHP Olympic Dam radioactive tailings waste present a significant long-term risk to the environment (see *Tailings Briefing Paper*⁷). The tailings contain approximately 80% of the radioactivity associated with the original ore and characteristically also retain around one-third of the uranium from the original ore. Tailings wastes retain the radioactive decay chains of uranium, thorium and radium and should be isolated from the environment for over 10,000 years.

Since 1988, Olympic Dam has produced around 180 million tonnes of radioactive tailings, intended to be left in extensive above ground piles on-site, imposing ongoing risks – effectively forever.

In October 2011, the federal government recognised BHP tailings risks are effectively perpetual with its Olympic Dam Approval Condition #32 seeking to require environmental outcomes “that will be achieved indefinitely post mine closure”.⁸ However, these conditions were not applied to Olympic Dam as BHP abandoned a proposed open-pit mine expansion project in 2012.



Tailings waste at Olympic Dam. Photo by Jessie Boylan.

Existing BHP radioactive tailings waste facilities at Olympic Dam are extensive, covering an area totalling 960 hectares (ha) or 9.6 sq km – an area far larger than the Melbourne City Centre of 6.2 sq km.

One of two active “extreme risk” tailings waste facilities at Olympic Dam, TSF4, started tailings slurry waste operations in 1999 and is already over 30 metres in height, equal to the height of a ten-storey building at the centre of the tailings pile. TSF4 covers an area of 190 ha – over 100 times the playing area of the Melbourne Cricket Ground.

In 2015 federal approval was granted to BHP to extend the period of operations of TSF4 into the mid-2020s and to increase the height of TSF4 to up to 40 metres. The federal government should now require BHP to decommission this “extreme risk” facility and not to extend its use.

TSF 1, 2 and 3 are now classified as a single “extreme risk” inactive facility, totalling 190 ha in area and up to 30 metres in height. These TSFs are from a 1980s design and no longer receive tailings slurry waste but BHP has failed to close or to cover these radioactive waste piles.

Olympic Dam is an out of date “extreme risk” mining operation in sore need of high standards.

Prudent approach

Federal environmental protection standards for the management of radioactive tailings waste have been set at the Ranger uranium mine in the NT “to ensure that:

- *The tailings are physically isolated from the environment for at least 10,000 years;*
- *Any contaminants arising from the tailings will not result in any detrimental environmental impact for at least 10,000 years.”*

This prudent approach and public interest requirement must also now be applied at Olympic Dam.

Sussan Ley faces a key decision test on the consistency and integrity of EPBC Act powers and responsibilities in BHP’s TSF6 referral and proposed mining expansion at Olympic Dam. The Minister’s tests include acting consistently with important Department of Environment Recommendations in the September 2011 ‘Olympic Dam expansion assessment report EPBC 2005/2270’ that: “conditions be applied to the existing operation so that the entire Olympic Dam operation (existing and expanded) is regulated by a single approval under the EPBC Act”.⁹

The Minister’s 2019 decision should adopt Olympic Dam Approval Condition 32 Mine Closure (Oct. 2011) as a requirement on BHP for a comprehensive Safety Risk Assessment covering all radioactive tailings at Olympic Dam, including that the tailings plan must “contain a comprehensive safety assessment to determine the long-term (from closure to in the order of 10 000 years) risk to the public and the environment from the tailings storage facility”.¹⁰

Further, the Minister should enforce Fauna Approval Conditions 18–21 (EPBC 2005/2270)¹¹ to help protect Listed Bird Species and 21 Listed Migratory Bird Species found in the area from mortality caused by BHP’s toxic acid liquor Evaporation Ponds – that kill hundreds of protected birds each year (see NGOs Briefing *Migratory Birds at Risk of Mortality if BHP Continues Use of Evaporation Ponds*¹²). These strong federal EPBC Act conditions required that BHP “must not construct Evaporation Ponds (for the purpose of the expanded mine)” and to “phase out the use of Evaporation Ponds as soon as practical”.

The Minister should also mandate a 100% non-negotiable bond on BHP to cover rehabilitation liabilities across the entire Olympic Dam operation – including the three “extreme risk” radioactive tailings waste facilities. BHP has avoided paying this multi hundred million dollar bond since taking over the Olympic Dam mine in 2005 (see NGO Briefing *BHP Must Lodge a Bond to Cover 100% of Rehabilitation Liabilities at Olympic Dam*¹³).

More information about the proposed Olympic Dam mine expansion is posted on the Friends of the Earth website: www.nuclear.foe.org.au/olympic-dam

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Welcome to Rockhampton – gateway to the Great Barrier Reef, host to Talisman Sabre war ‘games’

Robin Taubenfeld

In July, Australia once again played host to huge joint US–Australian military exercises primarily along the Queensland coast, mainly within or traversing the Great Barrier Reef. And once again, a small group of die-hard peaceniks travelled to Rockhampton, the main town servicing the exercises, to see what we could do in response.

Once again, dressed up as my alter-ego – the quintessential patriotic American Trump-loving Grannie Smith – I was not allowed to attend the military open day, despite the notice in the local newspaper inviting us all to come along. Despite all the jargon about working in partnership to protect democracy, the military alliance seemed uninterested in my lawful right to peacefully look at military hardware.

We *were* allowed to drive up to the gates of the military training area, though we were told we were not allowed to take pictures facing it. It's a huge expanse of diverse, critical habitats for numerous bird, bat and plant species and marine life. As the Australian Department of Defence notes, the Shoalwater Bay Training Area “is approximately 453,700 hectares (ha) with 289,700 ha occupied by terrestrial environments and the remaining area 164,000 ha occupied by marine environments.” Much of this is considered protected as part of the Ramsar agreement for wetlands and by being part of the Great Barrier Reef Marine Park ... but don't face the gate or any of it, as you might be exposing some top-secret military secrets.

The big secret is the ongoing and increasing use of this precious place as a military training grounds by an increasing number of Australian – read US – military allies.

Touted as Australia's “largest ever bilateral Defence exercise”, Talisman Sabre 2019 saw the involvement of 34,000 US and Australian personnel, plus additional forces from Canada, Japan, New Zealand, and the United Kingdom, and observing delegations from India and the Republic of Korea. According to Defence, 18 nations from across the Indo-Pacific region were also invited to an international visitors' program.

Despite the partnerships and broad participation, the majority of troops were American. This year's active involvement of British, Canadian, New Zealand and Japanese contingents is indicative of the gravitas with which these nations view the US-led patrolling of the region. The north-eastern coast of Australia was the stage for

yet another display of US military power and Australia's support for it – from Evans Head in NSW to Townsville in Queensland, including the Bundaberg Region, Mackay, Bowen, Proserpine, Gladstone, Townsville, Amberley, Rockhampton, Capricorn Coast, Stanage Bay, the Duke Islands regions and Shoalwater Bay.

Environmental and social impacts

In the lead up to Talisman Sabre, in its public information material and throughout the environmental consultation period, Defence announced an estimated 25,000 troops participating – smallish for Talisman exercises and, despite its growing breadth in area, insisted that Talisman Sabre would entail little or insignificant environmental risk and would not include live firing – a cornerstone, indeed the rationale, for previous Talisman Sabre exercises.

As with the numbers, the military consistently downplays any potential environmental, social or political impacts of these – and other – military exercises, while, with the help of the media, hyping up purported benefits. Brisbane was set to earn millions from marines cavorting in town (read bars).

While we were in the Rockhampton region, however, right-wing senator Pauline Hanson was in Marlborough, a small town north of Rockhampton, listening to disgruntled locals whose properties are targeted for purchase by Defence as part of the Shoalwater expansion. Though forced acquisition of land has been ruled out, the military is buying up properties around the region and seeking to increase Defence's ‘estate’ in others.

Upon reading further documents, it was also clear that live firing would take place in Shoalwater Bay and possibly other exercise locations, prior to and most likely after the official exercise date – and that these activities would go unassessed due to the technicality of their timing being outside the official exercise dates.

While Defence may have successfully curried favour with local councils, the economic benefits to regions are dubious, the environmental impacts certainly underestimated, and the political ramifications, while perhaps not immediately felt in those regions, are real.

You may have heard the brouhaha about the lone Chinese spy ship surveilling the exercise, but did you hear about the possible nuclear weapons

on board US ships? Or that the High-Mobility Artillery Rocket Systems, known as HIMARS, live-fired in Shoalwater Bay prior to the official start date of the exercise, will stay in Australia after Talisman Sabre, for training with the 2,500 US marines in Darwin?

Of course, China is watching. That is one of the aims of Talisman Sabre – and the build-up of troops in Darwin, and the reason for inviting other countries to come along. To remind China that while our economic links are tight, and though we can agree to boycott nuclear disarmament talks together, in terms of war-fighting capacity, the US is da bomb!

12th Marines commander Col. Mike Roach said “The HIMARS are taking advantage of the opportunity that Australia provides.” The article in *Stripes.com* also opined that “The sparsely-populated continent with its massive military training areas is a contrast to the Marines’ home on Okinawa, where military bases take up much of the island, causing friction with some locals.”

The Morning Bulletin reported Col. Roach as saying: “Preparation on an exercise like this is years in the making. ... So this is the culmination of a lot of hard work by American and Australian partners working together to put together thousands of soldiers and marines in an area a region, that really nothing existed (in) before... just a while ago, this area was just kangaroos and emus.”

Apparently, war games justify *Terra Nullius* – without them, there would be nothing in the region other than kangaroos and emus! Even in

the marine part of the region – just kangaroos and emus, no whales, turtles, shrimp, sea grass, dugongs, nary a snubfin dolphin to be seen.

Sadly, Col. Roach seemed to have forgotten about the traditional owners of the Shoalwater region, the Darumbal people, who have lived continuously in the region for thousands of years as well as all the other beings who lived there... and, of course, all the traditional owners, predecessors and eco-systems of the other regions used by Talisman Sabre. Talisman Sabre is a large, brash face of ongoing colonisation for Shoalwater Bay and other regions it involves.

Expanding into non-Defence areas

Talisman Sabre 2019 continued Defence’s push to expand its footprint into non-Defence areas, explicitly using both Defence and non-Defence sites in NSW and new coastal and inland Queensland non-Defence locations at Midge Point, Sarina, Proserpine and the Duke Islands.

Its key location, Shoalwater Bay, is part of (or within) the Great Barrier Reef Marine Park. The wetlands at Shoalwater Bay are Ramsar listed wetlands significant to migratory birds. The sea grass beds at Shoalwater and other Talisman Sabre locations are critical to Dugong. Only recently identified as a unique species, the Snubfin Dolphin has been found in these waters.

Government-commissioned research in 2017 found that the Shoalwater Bay Training Area provides habitat for:

Robin Taubenfeld, at the gates to the Shoalwater Bay Military Training Area.



- Thirty-six water bird species including eleven species of migratory shorebirds, particularly in Port Clinton, southern Shoalwater Bay and Island Head Creek;
- The largest Dugong population in the southern Great Barrier Reef since 1987 with a Dugong Protection Area covering the SWBTA waters;
- Important feeding habitat for Green Turtles;
- One hundred and one listed marine species; and
- Large numbers of whales and other cetaceans, migratory waders and shorebirds.

A previous survey concluded that the Training Area provides critical habitat for migratory shorebirds and supports more than 20,000 water birds.

Contested space

Within our limited means, we wanted to give voice to those who live or pass through there.

Shoalwater Bay is, and has been, home to many. And it is contested space. In the 1990s, the Australian public was sold the idea that removing pastoralists and turning the Shoalwater Bay region into a military training area that would have the dual purpose of defence and conservation, would be better for the environment than farming.

What was and still is best for the environment is protection of Shoalwater Bay from both militarism and pastoralism. What's best for the Great Barrier Reef is complete demilitarisation and denuclearisation of the entire ecosystem. What's best for our community is to redress aspects of military colonialism by returning militarised spaces to their Traditional Owners. What's best for our environment is respecting it for its intrinsic value.

We wanted to find ways to make the links between these learnings or yearnings and the rest of the world. We started protesting Talisman

Sabre in 2005 when John Howard tagged along as Bush led the world in to the era of ongoing war. As Donald Trump pokes and prods, the wars are ongoing and yet another war is looming. We wanted to link protecting the home of the snubfin dolphin to preventing a war in Iran.

At the gates to the Shoalwater Bay Military Training Area, we held up photos from the Children of the Gulf War exhibition (tinyurl.com/garsmith) while playing the soundtrack from the Collateral Murder files. Released by WikiLeaks in 2010, the files show a classified US military video depicting the indiscriminate slaying of over a dozen people in the Iraqi suburb of New Baghdad, including two Reuters news staff.

We did the same at the Rockhampton Barracks. We participated in NAIDOC events and I dressed up as Nemo. I couldn't see much through the eye holes, but I waved and danced around. My guide, Treena, held my hand, handed out *#SaveSnubby - Stop the War Games* stickers and talked with the public. Little children bombarded me with hugs and we walked around the Adani-sponsored River Festival with a group of Stop Adani friends, including a bobble-head Guatam Adani.

In a town where a company wanting to open Australia's - and one of the world's - largest coal mines has an electronic billboard reading "Thanks for your support, Rockhampton. We're getting to work. Adani Australia", Pauline Hanson coasters reading "I have the guts to say what you're thinking" can be found, and people can be excluded from public events because of who they know, I am glad to be an American.

I can't understand why people would think it OK to prioritise potential short-term jobs in a coal mine over a threatened bird or the Great Barrier Reef. I find it incomprehensible that people whose ancestors came here by boats or came by boat themselves, would want to deny others a

Naidoc event in Rockhampton.



space here or refuse to acknowledge the original peoples of the land ... and seas.

And I am bemused that people would believe that another nation would want to take over Australia, though as a nation born from invasion, I understand that the Australian settler-state may understandably fear being overtaken as it has done to others. I question, however, whether exercises such as Talisman Sabre provide any security or are indeed an act of defence. In fact, I am pretty sure that they are more about offence. They re-occupy other peoples' lands as an aggressive show of the ability to occupy other peoples' lands – at any expense. While iconic images of the wild, wild west tell us that to be American is to be gun-toting and “All the way with the USA” means to support US-led wars, I am proud to be an American who is unsupportive of US troops training in Shoalwater Bay and US military endeavours globally.

Waving the nuclear sword

I can't imagine how waving the nuclear sword at China is Australia's best political option. Or that engaging in huge nuclear-powered and nuclear-weapons capable military exercises, with one of the world's largest polluters and the world's number one consumer of fossil fuels, the US military, in the midst of World Heritage-listed environments is really the best way to protect our way of life – or good for the environment. And even though the military may be doing its best to not destroy some parts of Shoalwater Bay, some of the time, there's no green-washing a nuclear blast.

The *Bulletin of the Atomic Scientists*, originally a collaboration of scientists who worked on developing nuclear weapons, uses the Doomsday Clock to represent our proximity to global catastrophe. With 12 midnight being the apocalypse, the hands of the clock are set forward or back depending on their assessment of geopolitics and environmental factors. Set in 2016, at a perilous 3 minutes to midnight because of the combined threat of climate change and nuclear weapons, the Trump presidency has seen the Doomsday Clock moved forward to 2.5 minutes to midnight.

There are over 15,000 nuclear weapons on the planet today. It is 2.5 minutes to midnight. The threat of large- or small-scale nuclear war is as high as it has ever been. And climate crisis is at hand. And Australia seems to be doing what it can to keep these threats high.

Welcome to Rockhampton, where military and mining, coal and camo, are promoted as the economic drivers of the region.

Beyond the confusing promotion of just wars, patriotism, the necessity of defence and the inevitability of war, everyone really wants peace. And yes, we do use electricity and we do drive cars but everyone also wants a clean



'Grannie Smith' at the military open day.

environment. And while war and extractive industries do provide us our “way of life”, very few of us benefit greatly from either industry. Other species have struggles but no other intentionally destroys its own habitat to get there.

I believe that deep down we know that we have to move away from digging up the Earth – and that move will also be a move towards peace. We know we that need to reduce our carbon emissions and work together as a global community. To do that, we need peace. To make peace, we know that we will need to remedy some of the wrongs of the past and build structures based on justice and equality – which are incompatible with war and the destruction of the environment.

At the moment, we struggle to get politicians to commit to immediate environmental targets, which to many of us seem as no-brainers – such as reducing carbon emissions and committing to energy efficiency and renewables. We are forced to fight local campaigns at the coal face, such as to stop Adani in Queensland or gill net fishing in the Great Barrier Reef. At the same time, it's important to recognise that, unchallenged, military use of these places perpetuates the structures of violence that underpin extractivism which keep us killing each other and polluting the Earth.

It is time for this to stop. It is time for us to include demilitarisation as part of our narrative of uncompromising protection for the Great Barrier Reef. It's time to stop supporting the military use of these regions and, in doing so locally, begin dismantling the global structures of war.

It's time to defend Shoalwater Bay from Defence. Stop Talisman Sabre.

Robin Taubenfeld is a member of Friends of the Earth Brisbane and a national anti-nuclear spokesperson for FoE Australia.

From Ranger to Fukushima

Alexander Brown explores the origins of the nuclear connection between Australia and Japan and the transnational movement for a nuclear free future.

'You stop it on the other side of the world ... you can't stop it here.' - Frank Gunnunga, Chain Reaction No 3, September 1975

In 2012 I was living in Japan during the peak of the anti-nuclear movement in Tokyo, when I came across an open letter from Mirarr elder Yvonne Margarula addressed to the Secretary-General of the United Nations. In her letter written in solidarity with the people of Fukushima, Margarula aired her suspicions that the uranium fuel used at the Fukushima Daiichi plant was sourced from her traditional lands, which include the Ranger uranium mine site.¹

These suspicions were later confirmed in October 2011, when Dr Robert Floyd, Director-General of the Australian Safeguards and Non-proliferation Office, revealed that "Australian obligated nuclear material was at the Fukushima Daiichi site and in each of the reactors - maybe five out of six, or it could have been all of them; almost all of them".²

Margarula explains the history of the Ranger mine, her people's opposition to it and the commitment given by then-Prime Minister Gough Whitlam to his Japanese counterpart Tanaka Kakuei in 1974, to export uranium to Japan.³ Learning about the longstanding connection between uranium mining in my home country and the Japanese nuclear power industry set me on a journey to understand this connection and to build solidarity between movements in the two countries. Having returned to Japan in 2018, I am now looking into the history of this connection and thinking about its implications for the global struggle for a nuclear free future.

The full extent of Australia's uranium reserves only became apparent during the prospecting boom of the 1960s and 1970s.⁴ This boom was part of a global embrace of nuclear technology, which saw Japan develop a domestic nuclear power industry. The trouble was, Japan only had very limited reserves of uranium. In 1966 Japan began to look overseas for supplies, with exploration efforts focused on Australia and Canada as well as Niger, the People's Republic of China, the United States and Zimbabwe.⁵

In February 1967 an official with Japan's Atomic Fuel Corporation - the body tasked with securing uranium fuel for Japan's growing reactor fleet - returned to Japan from a research

trip to Australia. He gave a press conference where he told his audience that, "as a nation, we too need to look to Australia", and warned that "if we do not act quickly to develop uranium mining in Canada, Australia and other foreign countries, we will be too late".⁶

Aboriginal land rights

Following the discovery of the Ranger and other uranium deposits in the Alligator Rivers region in the Northern Territory, mining companies and the Australian government were eager to exploit them. However, following the election of the Whitlam Labor government in 1972, these plans were put on hold. The Aboriginal land rights movement had become a powerful political force and the new government had promised to develop a national system for recognising land rights claims. Mining was therefore suspended, pending the resolution of any potential land rights claims arising from the new system.

However, Aboriginal land rights soon came into conflict with the government's economic nationalist agenda, which was pursued in particular by Minister for Minerals and Energy Rex Connor. Connor was keen to make Australia's uranium reserves the centre of a quasi-nationalised mining and enrichment industry, as part of a strategy to free Australia from the influence of international capital. He wanted the government to retain control of the industry and to mine uranium resources gradually to keep prices high, thereby funding the government's reform agenda.⁷

In May 1974 the Whitlam government was returned to office following a double-dissolution election, but with a reduced majority in the lower house and having lost control of the Senate. Battling high

An aerial view of Fukushima Daiichi reactors after the March 2011 explosions, meltdowns and fires.



inflation and unemployment, the government was keen to display its economic credentials and saw uranium mining as a matter of urgency.

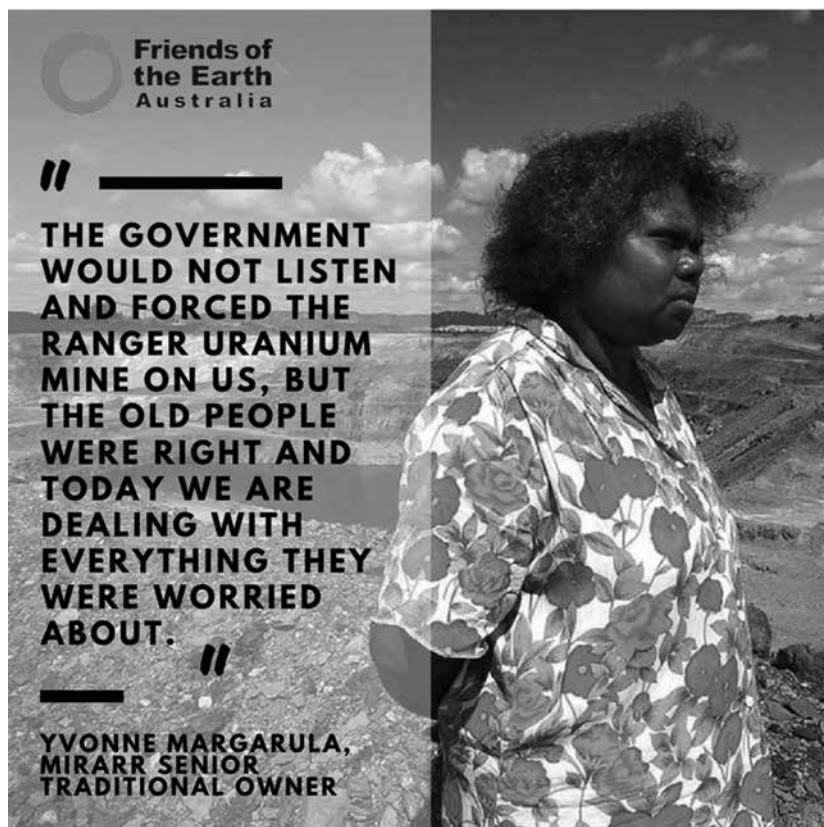
Later that year, Japanese Prime Minister Tanaka Kakuei announced that he wanted answers on Australia's uranium policy during a forthcoming visit to Australia. On the eve of Tanaka's visit, Whitlam, Connor and Deputy Prime Minister Jim Cairns met with representatives of the owners of the Ranger mining lease, Peko-EZ. At three o'clock in the morning of 28 October 1974, they signed the Lodge Agreement, which provided for a 50% equity stake for the government and Peko-EZ (who held 25% each). Whitlam went on to inform Tanaka that the government would guarantee a stable supply of uranium, despite the fact that land rights laws and land claims in the Alligator Rivers region were yet to be finalised.⁸

Fox Inquiry

Despite his commitment on uranium exports, Whitlam faced growing domestic opposition to mining, including within his own party. He sought to address these concerns by announcing a public inquiry into the Ranger proposal, to be presided over by Justice Russell Fox. The Ranger Uranium Environmental Inquiry (known as the 'Fox Inquiry') took place over a period of 18 months and heard from 303 witnesses, producing 13,525 pages of testimony. In 1976 and 1977 Fox delivered two reports stemming from the inquiry to the new Fraser Liberal government. Fox made a number of recommendations and called for a broad national debate on uranium mining, but the new government interpreted his reports as giving a green light to mine in the Northern Territory.

One of the first Japanese public intellectuals to take an interest in the issue of uranium mining in Australia was Sibatani Atuhiro, a biologist who moved to Sydney in 1966 to take up a position as a research scientist at the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Sibatani was active in a critical movement within the scientific community that questioned the ideology of scientific rationalism and the role of science and scientists in facilitating war and industrial pollution. He became an active participant in a Sydney group called Science for People, which had been initiated by Hugh Saddler, who had been a key figure in the British Society for Social Responsibility in Science (BSSRS).

Groups such as this emerged in the 1960s alongside the movement against the Vietnam War, the feminist movement and civil rights



and anti-racist struggles. The Sydney group concerned itself with the role of science in perpetuating war, racism and oppression. They wanted to interrogate the place of science in society and the responsibility of scientists to think about the social and political uses to which their work was put.⁹

Around 1974 Sibatani established a connection with Friends of the Earth, which eventually led him to take a public stand against the Ranger mine. After a number of abortive plans to coordinate action between anti-nuclear activists in Japan and Australian opponents of the mine, Sibatani decided to testify in front of the Fox inquiry in 1976. In his testimony, he countered claims about Japan's desperate need for uranium by pointing out the growing opposition to nuclear power in the country. He also attended the Bicycle Ride Against Uranium protests in Canberra that year.

In 1977 and 1981 he published two articles on the Ranger mine in Japanese magazines. In the articles, he explained the plan to mine uranium in the Alligator Rivers region and his testimony before the Fox inquiry. He also discussed a visit by Japanese anti-pollution activists who had taken part in the first Bicycle Ride Against Uranium in 1975. These articles appeared alongside similar pieces on domestic and international anti-nuclear movements. They demonstrate the concern which was growing in Japan at the time about the global expansion of the nuclear industry.

Historical roots

Discovering these writings against uranium mining in Australia, directed to the Japanese-speaking world from an expatriate writer, prompted me to think about the historical roots

of the transnational environmental and anti-nuclear movements. The 1970s were a time when Japanese environmental activists were particularly active in reaching out to the Pacific nations, as part of a broad anti-nuclear movement.¹⁰

Scientists like Sibatani were at the forefront of many of these movements. They articulated a critique of the way science was used by industry and the military-industrial complex, which was leading to significant harms affecting people and their environment and undermining democracy. Their vision of science in defense of people and the natural world seems to prefigure the work of contemporary climate scientists, whose work has galvanised the global environmental movement.

Reading Sibatani's articles today enables us to recognise how resistance first arose in and between Japan and Australia, as the two countries became imbricated in a nuclear embrace. The words quoted at the start of this article come from a conversation between Frank Gunnunga of the Oenpelli Aboriginal Community Tribal Council and a group of Friends of the Earth activists, who had travelled to the Northern Territory to see the proposed mine site. Gunnunga's remark seems pessimistic. His assessment was, however, realistic.

Australia is a small player in the global capitalist economy and alone we are often powerless to prevent the depredations of international investors seeking to make a profit. However, looking at this remark again after Fukushima, we can see how 'stopping it over there' can indeed be critical to stopping it here. Japan after Fukushima witnessed an unprecedented wave of anti-nuclear protests which brought its domestic nuclear power program to a virtual standstill.

Just nine of Japan's nuclear reactors are currently operating, down from 54 before the disaster.

New reactor construction has also stalled, meaning there is little prospect of new capacity coming online to replace ageing reactors as they come to the end of their operating lives. This has, in turn, depressed uranium prices and made uranium mining unattractive to investors.

Nuclear technologies only function thanks to the cooperation of governments, mining companies, reactor manufacturers and electric utilities



operating across national borders. The industry can, therefore, be resisted at every stage of its global production chain. Furthermore, as the industry expanded so did the capacity of transnational civil society and environmental organisations to challenge it.

When Sibatani was warning his Japanese readers of the high price that Aboriginal people in Australia would pay for Japan's access to cheap uranium, the anti-nuclear movement in Japan was already starting to affect government plans to expand the industry. The growth of anti-nuclear movements in each country has had a positive effect on growth in the other. To paraphrase the quote from Frank Gunnunga with which I opened this essay, perhaps if we can stop it on the other side of the world, then we can stop it here.

Alexander Brown is a JSPS International Research Fellow at Japan Women's University. He is the author of 'Anti-nuclear protest in post-Fukushima Tokyo' (Routledge, 2018), a book which examines the vibrant anti-nuclear movement in Japan after the 2011 Fukushima disaster. He is currently researching the transnational history of anti-nuclear struggle in Australia and Japan and blogs irregularly at <lovefromtokyo.org>.

Senior Mirarr Traditional Owner Yvonne Margarula pictured with Naoto Kan (the Prime Minister of Japan at the time of the Fukushima disaster) in 2014.

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There's a lot of bad news in the UN Global Environment Outlook, but a sustainable future is still possible

Pedro Fidelman – Senior research fellow,
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The Sixth Global Environment Outlook (GEO-6), the most comprehensive environmental assessment produced by the UN in five years, brought us both good and bad news. The environment has continued to deteriorate since the first GEO-6 report in 1997, with potentially irreversible impacts if not effectively addressed. But pathways to significant change do exist, and a sustainable future is still possible.

Launched in March at the fourth session of the United Nations Environment Assembly in Nairobi, the 700-page report involved nearly 200 global experts who collaborated over 18 months. It covers, in detail, a range of topics, including air, biodiversity, oceans and coasts, land and freshwater, climate change, human health and energy.

And it assessed the state of the global environment, the effectiveness of policy responses, and possible pathways to achieve the environmental goals of the 2030 Agenda for Sustainable Development.

There is a fair bit of negative information in the GEO-6, which unfortunately reflects the overall state of environmental affairs globally. But it is not all doom and gloom, the GEO-6 has many positive, solution-oriented messages too.

The GEO-6 advises that pathways and approaches to systemic change exist, which must be scaled up quickly to steer the planet towards more sustainable futures. The considerable connections between environmental, social and economic policies can inform multiple goals. So policies addressing entire systems – such as food, energy and waste – are more likely to have beneficial impact.

For instance, reducing our use of fossil fuels leads to health benefits by decreasing outdoor air pollution responsible for premature deaths. And efforts to eliminate hunger (such as changes in agriculture production) can help address climate change, biodiversity loss, land degradation and chemical pollution.

With the window for action closing quickly, given the unprecedented rate of global environmental change, the GEO-6 is calling for more ambitious and innovative policy. We need significant change leading us to decarbonisation, a circular economy, sustainable agriculture and food systems, and better adapting socio-economic systems to climate change.

The GEO-6 warns the overall condition of the global environment continues to deteriorate, driven mainly by population growth, urbanisation, economic development, technological change and climate change.

Here's what we're dealing with:

- air pollution currently causes an estimated 6 to 7 million premature deaths annually
- we might be witnessing the sixth mass species extinction in the planet's history
- 8 million tons of plastic enters the ocean every year as a result of mismanagement of domestic waste in coastal areas
- warming ocean waters are leading to mass mortality of coral reefs across the world's tropics
- 29% of all lands are degradation hotspots
- pathogen-polluted drinking water and inadequate sanitation cause approximately 1.4 million human deaths annually, with many millions more becoming ill.

These and other issues reported in the GEO-6 will lead to ongoing and potentially irreversible impacts if they are not addressed effectively, and immediately.

Typically, environmental policy efforts are based on individual issues, like air pollution, or industry sectors. But this approach doesn't address the complexity of contemporary environmental problems that require system-oriented efforts at large scales.

Under current policy scenarios, the environmental dimension of the Sustainable Development Goals, as well as other goals like the Paris Agreement, are unlikely to be achieved. The GEO-6 calls for urgent, inclusive and sustained action by governments, business and society proportionate to the scale and pace of global environmental change.

In Australia, positive action is taking place at state and local levels of government, where support for more ambitious emissions targets is generally stronger than at the Australian government level.

And many sectors of society and business are shifting towards more sustainable practices. The booming uptake of rooftop solar and the development of large-scale renewable projects illustrates such a shift.

But when it comes to sustainable development policies at the national level, Australia lags behind most of the developed world, particularly in relation to energy and climate change policy.

We don't yet have long-term certainty for support of the uptake of electric cars, the transition to renewables, the adoption of fuel efficiency standards, and limiting emissions from the manufacturing and resources industry.

Effective strategies to curb land clearing remains to be seen, and only recently Australia has incorporated principles of circular economy into the National Waste Policy.

These do not help Australia meet its agreed commitments under the UN 2030 Agenda for Sustainable Development and associated Sustainable Development Goals.

With long-term environmental, socio-economic and political stability at stake, it is time for commitment, leadership and robust policies that can last beyond the three-year electoral cycle.

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Australia's 2018 environmental scorecard: a dreadful year that demands action

Albert Van Dijk (Professor, Water and Landscape Dynamics, Fenner School of Environment & Society, ANU) and Shoshana Rapley (honours student and research assistant in the Fenner School).

Environmental news is rarely good. But even by those low standards, 2018 was especially bad. That is the main conclusion from Australia's Environment in 2018, the latest in an annual series of environmental condition reports.¹

Every year, we analyse vast amounts of measurements from satellites and on-ground stations using algorithms and prediction models on a supercomputer. These volumes of data are turned into regional summary accounts that can be explored on our Australian Environment Explorer website.² We interpret these data, along with other information from national and international reports, to assess how our environment is tracking.

A bad year

Whereas 2017 was already quite bad³, 2018 saw many indicators dip even further into the red.

Temperatures went up again, rainfall declined further, and the destruction of vegetation and ecosystems by drought, fire and land clearing continued. Soil moisture, rivers and wetlands all declined, and vegetation growth was poor.

In short, our environment took a beating in 2018, and that was even before the oppressive heatwaves⁴, bushfires⁵ and Darling River fish kills⁶ of January 2019.

The combined pressures from habitat destruction, climate change, and invasive pests and diseases are taking their toll on our unique plants and animals. Another 54 species were added to the official list of threatened species, which now stands at 1,775⁷. That is 47% more than 18 years ago and puts Australia among the world's worst performers in biodiversity protection.⁸ On the upside, the number of predator-proof islands or fenced-off reserves in Australia reached 188 in 2018, covering close to 2,500 square kilometres. They offer good prospects of saving at least 13 mammal species from extinction.⁹

Globally, the increase of greenhouse gases in the atmosphere accelerated again after slowing down in 2017. Global air and ocean temperatures remained high, sea levels increased further, and even the ozone hole grew again, after shrinking during the previous two years.

Sea surface temperatures around Australia did not increase in 2018, but they nevertheless were well above long-term averages.¹⁰ Surveys of the Great Barrier Reef showed further declining health across the entire reef.¹¹ An exceptional heatwave in late 2018 in Far North Queensland raised fears for yet another bout of coral bleaching, but this was averted when sudden massive downpours cooled surface waters.

The hot conditions did cause much damage to wildlife and vegetation, however, with spectacled flying foxes dropping dead from trees and fire ravaging what was once a tropical rainforest.¹²

While previous environmental scorecards showed a mixed bag of regional impacts, 2018 was a poor year in all states and territories. Particularly badly hit was New South Wales, where after a second year of very poor rainfall, ecosystems and communities reached crisis point. Least affected was southern Western Australia, which enjoyed relatively cool and wet conditions.

It was a poor year for nature and farmers alike, with growing conditions in grazing, irrigated agriculture and dryland cropping each declining by 17-20% at a national scale. The only upside was improved cropping conditions in WA, which mitigated the 34% decline elsewhere.

A bad start to 2019

Although it is too early for a full picture, the first months of 2019 continued as badly as 2018 ended. The 2018-19 summer broke heat records across the country by large margins¹³, bushfires raged through Tasmania's forests¹⁴, and a sudden turn in the hot weather killed scores of fish in the Darling River.¹⁵ The monsoon in northern Australia did not come until late January, the latest in decades, but then dumped a huge amount of rain on northern Queensland, flooding vast swathes of land.

It would be comforting to believe that our environment merely waxes and wanes with rainfall, and is resilient to yearly variations. To some extent, this is true. The current year may still turn wet and improve conditions, although a developing El Niño makes this less likely.¹⁶

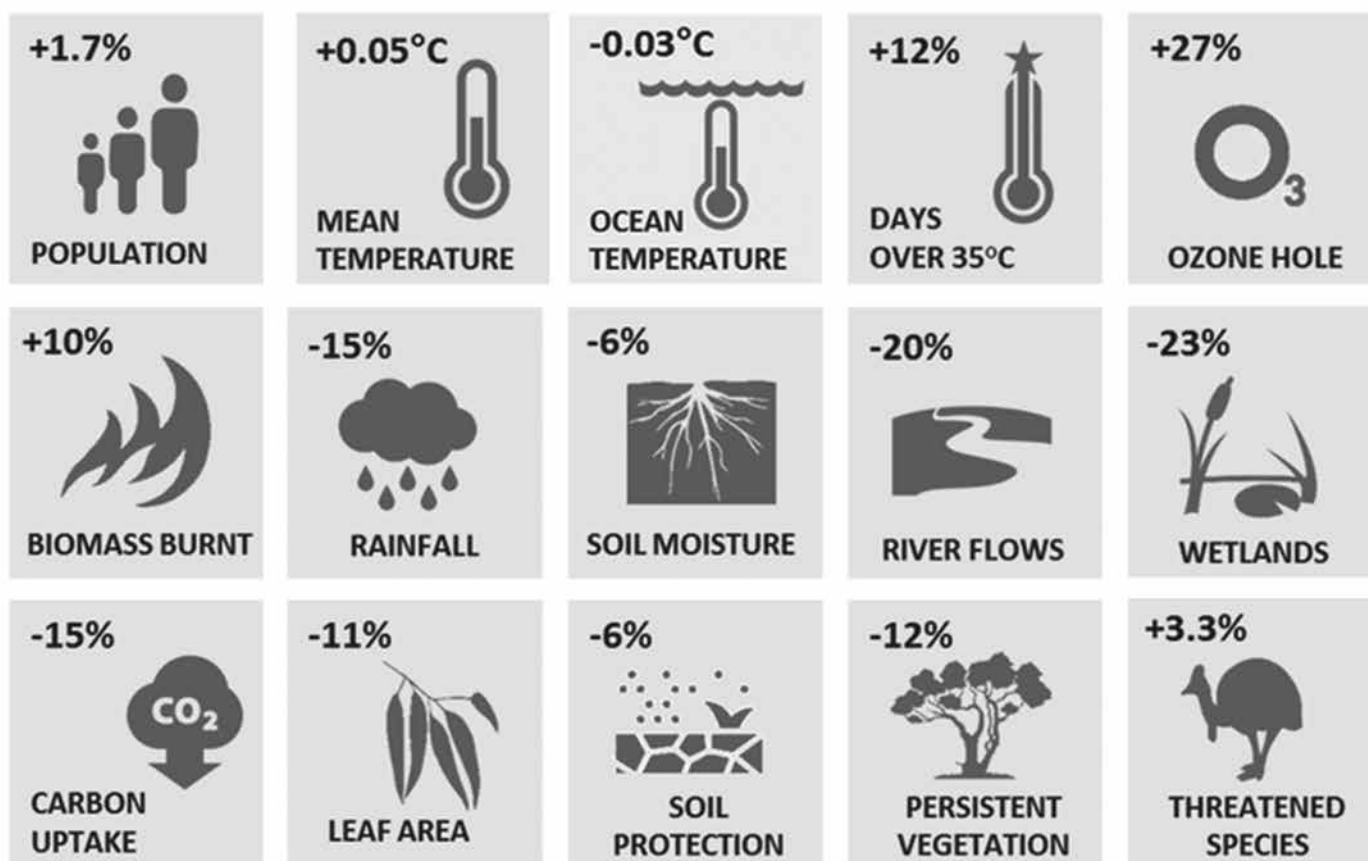
However, while we are good at acknowledging rapid changes, we are terrible at recognising slow, long-term ones. Underlying the yearly variations in weather is an unmistakable pattern of environmental decline that threatens our future.

What can we do about it?

Global warming is already with us, and strong action is required to avoid an even more dire future of rolling heatwaves and year-round bushfires. But while global climate change requires global action, there is a lot we can and have to do ourselves.

Australia is one of the world's most wasteful societies, and there are many opportunities to clean up our act. Achieving progress is not hard, and

National environmental indicators: change from 2017



despite shrill protests from vested interests and the ideologically blind, taking action will not take away our prosperity. Home solar systems and more efficient transport can in fact save money.¹⁷ Our country has huge opportunities for renewable energy, which can potentially create thousands of jobs. Together, we can indeed reduce emissions “in a canter” – all it takes is some clear national leadership.¹⁸

The ongoing destruction of natural vegetation is as damaging as it is unnecessary, and stopping it

will bring a raft of benefits.¹⁹ Our rivers and wetlands are more than just a source of cheap irrigation for big businesses. With more effort, we can save many species from extinction. Our farmers play a vital role in caring for our country, and we need to support them better in doing so.

Our environment is our life support. It provides us our place to live, our food, health, livelihoods, culture and identity. To protect it is to protect ourselves.

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Nine reasons to fight for ambitious emissions reduction targets in Victoria

Phillipa Grylls

The Combet report – the independent advice to the Andrews government on emissions cuts – has been tabled in Parliament and kicked off the decision-making process about Victoria's first interim Emissions Reduction Targets (ERTs). Victoria has a legislated target of zero-net emissions by 2050 and the government has until 31 March 2020 to set targets for the years 2025 and 2030.

While the Combet Report recommends 'flexible' targets of 32-39% below 2005 levels by 2025 and 45-60% below 2005 levels in 2030, the real test is whether the government will commit to targets that meet the 1.5°C challenge. Here are 9 reasons that we should fight for bold and ambitious science-based targets:

1. Climate change is a local problem

We all know climate change is a global problem. But the effects of climate change are also already being felt in Victoria. In Inverloch, local scientist Aileen Vening has documented an astounding 40 metres of coastal erosion due to sea level rise since 2012. Setting high ERTs is crucial for mitigating further climate impacts in Victoria and around the world.

2. Victoria can be a climate leader in Australia

Victoria is a big emitter. We produce over double the carbon emissions per capita (18.4 tons) than the country of Belgium (8.3 tons), even though our population is almost half its size! With the federal government showing a shocking lack of concern for action on climate change, states must step up in the meantime. Victoria can be a climate leader beyond the state's boundaries and set an example for other states. Bold ERTs demonstrate to the federal government that we are not willing to accept climate inaction.

3. Make sure we're on track to Paris

The Paris Agreement calls for global action to limit global warming to 1.5°C – the uppermost level of warming we can reach if we are to avoid ecological catastrophe. Australia agreed to reduce its emissions by 26-28% of 2005 levels by 2030 as part of the Paris Agreement, but this will not even keep us below 2°C of warming. We've heard politicians at the national level who seek to block climate action say that any measure Australia takes to reduce emissions 'won't make any difference.' This unhinged logic denies the Paris Agreement's collective, global promise to all take action. If we take bold steps at the state level, we can help Australia fulfil its promise to the international community.

4. Help Protect Victoria's forests

Victoria is home to the world's most carbon-dense forests, which are threatened with ecological collapse as climate change worsens. But these forests are also a crucial piece of the puzzle in climate change mitigation; they are our most efficient and natural carbon storage technology. The logging of Victoria's old growth forests is releasing their stored carbon into the atmosphere and decimating the landscape so it is much harder for them to grow back. Setting high ERTs will incentivise the Victorian government to transition the forestry industry out of old-growth logging and create a just transition plan for all workers.

5. More public transport

Transport is responsible for 20 percent of Victoria's emissions – and this figure is on the rise. Yet there are still new projects in the works to expand Victoria's roads, with the Victorian 2019/20 budget dedicating an exorbitant \$15.8 billion to the North East Link. Ambitious ERTs will discourage investment in polluting transport options like car travel or freight via truck and encourage investment in accessible public transport powered by renewable energy.

6. Stop new fossil fuel developments

Victoria's legislation of the Climate Change Act should render any new fossil fuel project proposals out of the question. Yet Victoria's southwest coast is threatened with a new offshore gas industry, AGL Energy has plans to turn Westernport Bay into a giant gas import terminal and Victoria's Latrobe Valley is set to become a test site for producing hydrogen from brown coal. The Andrews government has already banned fracking in Victoria in response to an incredible five-year grassroots campaign. Setting ambitious ERTs will send a clear market signal that Victoria will not be the sandpit for mining companies and make approval for such projects much harder.

7. More Victorian Renewable Energy

Electricity generation is currently the most polluting sector in Victoria, pumping out over 50 percent of our total emissions. But we also have a budding renewable energy industry, its growth facilitated by the Victorian Renewable Energy Target (VRET). Ambitious ERTs will encourage the growth of our renewables industry, which will be needed as we transition away from using fossil fuels for electricity.

8. More jobs and a healthier economy

The global economy is already in transition as the market responds to climate change impacts and solutions. High ERTs will create business certainty by indicating that Victoria is embracing climate solutions and no place for polluting, outdated technologies. To ensure communities aren't left behind in this transition, ambitious ERTs are also needed as a policy mechanism to plan ahead by creating good jobs for workers in transforming industries.

9. It's the right thing to do

Climate change is a human rights issue. As we move through this century, more people will become climate refugees due to increased extreme weather events and sea level rise.

Wealthy nations are responsible for a disproportionately large share of historical global emissions and Australia currently contributes 1.3% of global emissions, though we make up only 0.3% of the world's population. As part of a well-resourced, developed country, we need to do the heavy lift now with strong ERTs to ensure we are working toward achieving climate justice for all.

Abridged from a longer, referenced article posted at www.actonclimate.org.au/ten_reasons_to_fight_for_ambitious_erts

Changes to our gene technology regulations will put us all at risk

Louise Sales

The Australian government is tearing up regulations that were put in place to protect us from potentially dangerous genetically modified organisms (GMOs).

Changes to the Gene Technology Regulations currently tabled in Federal Parliament will leave the majority of new CRISPR and other gene editing applications unregulated. This means anyone will be free to use these techniques to genetically modify animals, plants and microbes – posing major risks to the environment and human health.

In 2016, the US Director of National Intelligence, James Clapper added gene editing techniques such as CRISPR to a list of threats posed by “weapons of mass destruction and proliferation” in the annual worldwide threat assessment report of the U.S. intelligence community. “Given the broad distribution, low cost, and accelerated pace of development of this dual-use technology, its deliberate or unintentional misuse might lead to far-reaching economic and national security implications,” the report concluded.¹

This decision deregulates biohacking

Biohacking means genetically modifying a bacteria, yeast, plant or animal to change its function or physical characteristics. Increasingly, people – many with no formal biological training – are genetically engineering common microbes in community labs. Currently, such facilities must be licensed by the Office of the Gene Technology Regulator (OGTR). However, the regulatory amendments mean that anyone will be able to use GM techniques like CRISPR to genetically modify any organism, anywhere – unlicensed and unsupervised.

In 2018, both gene editing and biohacking were identified by the European Union’s Scientific Committee on Health, Environmental and Emerging Risks as issues “having the potential to significantly impact human health and /or on the environment in the future.”²

Similarly a 2015 report by the Global Challenges Foundation and Oxford University identified synthetic biology – which is pretty much synonymous with gene editing – as one of the 12 risks that threaten human civilisation.³ This report observes that:



“One of the most damaging impacts from synthetic biology would come from an engineered pathogen, targeting humans or a crucial component of the ecosystem (such as rice, which accounts for 20% of all calories consumed by humans). This could emerge through military bio-warfare, commercial bio-warfare, bio-terrorism (possibly using dual-use products developed by legitimate researchers, and currently unprotected by international legal regimes), or dangerous pathogens leaked from a lab.”

This is not idle speculation. One of the largest funders of synthetic biology globally is the Defence Advanced Research Projects Agency (DARPA) – the US military’s research arm.⁴ They are funding CSIRO and the University of Adelaide to develop gene drives – a kind of genetic extinction technology that uses CRISPR to try to wipe out certain genetic populations. The technology is being trialled in mice initially – but it’s pretty obvious what its dual-use potential is.⁵

The chance of a rogue actor or even a bumbling biohacker creating a dangerous pathogen is very real when you consider that even small changes in the genome of microbes can result in large increases in pathogenicity. For example, it was found that a single mutation in one Zika virus protein contributes to fetal microcephaly.⁶

The OGTR acknowledged this problem in its discussion paper regarding the current amendments to the Gene Technology Regulations:⁷

"Exclusion of a particular technique from regulation would result in all plants, animals or microbes modified by that technique being excluded. To date there has been a focus on plant applications of new technologies because these applications are closest to commercialisation. However, for pests or disease-causing organisms, for example pathogenic microorganisms, small sequence changes might give rise to significant risks. Blanket exclusions may not be commensurate with the level of risk posed by these techniques."

So our regulator is warning that deregulating these techniques is potentially dangerous. So why on earth is the government doing it?

There is a small clue in the second sentence: "To date there has been a focus on plant applications". What the OGTR really means is that there has been a concerted global push by the GM crop industry – i.e. BASF, Bayer, Syngenta and Dow – to deregulate these techniques.

Industry 'experts' have stacked Government advisory panels.⁸ Politicians, their advisors, bureaucrats and farming groups have all been intensively lobbied – and there is the infamous revolving door. Louisa Matthew who coordinated the OGTR review is a former genetic engineer with CSIRO and CropLife's CEO Matthew Cossey is a former senior official and campaign director for the Australian Labor Party.⁹

And there are the political donations. In the 2017–18 financial year, the GM crop company Bayer donated \$40,600 to Labor and \$42,540 to the Coalition. The GM crop and agrichemical industry lobby group CropLife donated \$34,271 to Labor and \$22,300 to the Coalition.¹⁰

All of which of course is no excuse for the Australian Government turning the whole country into a giant unregulated genetic engineering experiment.

Take action!

Contact the Shadow Health Minister Chris Bowen and demand that Labor disallow these regulatory changes in the Senate: <http://gmfree.org.au>

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World hunger is on the rise

Timothy A. Wise

For the third straight year, U.N. agencies have documented rising levels of severe hunger in the world, affecting 820 million people.¹ More than two billion people suffer "moderate or severe" food insecurity. During the same period, the world is experiencing what *Reuters* called a "global grains glut," with surplus agricultural commodities piled up outside grain silos rotting for want of buyers.²

Obviously, growing more grain is not reducing global hunger.

Yet every day, some academic, industry, or political leader joins the Malthusian chorus of warnings about looming food shortages due to

rising populations and strained natural resources. For example, here's Richard Linton, dean of the College of Agriculture and Life Sciences at North Carolina State University, sounding the familiar alarm: "We've got to find a way to feed the world, double the food supply," he said.³ "And we all know if we don't produce enough food, what the outcome is: it's war, it's competition."

"How will we feed the world?" calls the preacher. "Increase our bounty," responds the choir.

There is so much wrong with that answer. And even with the question, which is profoundly arrogant.

How will "we" feed "the world?" We know who we mean when we ask that question: rich countries, with high-yield seeds and industrial-scale agriculture. The United States thinks it's feeding the world now. It is not. More than 70 percent of the food consumed in developing countries, where hunger is pervasive, is grown in those countries, the majority of it

by small-scale farmers. Those farmers are the main people doing the feeding now. And they're only using 30 percent of agricultural resources to do it. (That means industrial agriculture is using 70 percent of the resources to feed 30 percent of the population.)

There is no "world" out there, passively waiting to be fed. Most of the hungry are small-scale farmers or live in farming communities. They aren't waiting for food handouts; they are actively – often desperately – trying to feed their families and their communities.

But the world already grows more than enough food to feed 10 billion people, which is nearly 3 billion more than we currently have.

Why do we keep getting it so wrong, acting like growing more commodity crops will end hunger?

Indian economist Amartya Sen won his Nobel Prize for showing that famine is rarely caused by food shortages. Frances Moore Lappé showed us almost 50 years ago in her seminal "Diet for a Small Planet" that hunger isn't caused by a scarcity of food.

Hunger caused by a scarcity of power

Hunger is caused by a scarcity of power on the part of food producers and the poor. Power over land, water, and other food-producing natural resources. And the power to earn incomes that can allow people to buy the food they need.

The illusion that "we" feed "the world" has its home in places like Iowa, planted fencerow to fencerow in corn and soybeans in a system designed to coax every last bushel from the incomparably fertile soil.⁴

But it's hard to find demonstrable ways that Iowa's prolific production feeds any hungry people in the developing world. Iowa mainly feeds pigs, chickens, the junk food industry, and cars; half of our corn goes to ethanol, and 30 percent of soybean oil is now used for biodiesel fuel. The world's poor can't afford meat and they don't drive cars; junk food is the last thing they need.

We export about half our soybeans and 15 percent of our corn, but even those don't feed the hungry, because they're mainly used as animal feed, overwhelmingly for hogs, many in China, the world's biggest pig producer and consumer. But the poor aren't eating that pork; it mainly feeds the country's growing middle class.

At best, Iowa's prodigious production of corn and soybeans is making food bills a little lower for the developing world's emerging middle classes. But it is an illusion that Iowa is feeding the hungry.

And it's a dangerous illusion that we can solve global hunger by expanding global production with industrial-scale agriculture. Dangerous because the way we are growing that food, on chemical-intensive, monoculture farms, is quite literally destroying the resource base – soil, water, climate – on which future food production depends.

Take Iowa, again: The state has lost half its topsoil to erosion, the product of excessive row-cropping.⁴ Half-a-million acres came out of conservation in the last decade as farmers planted right up to streambeds trying to cash in on the ethanol-fueled high in corn prices. Soil is a renewable resource, but only if you farm it in a way that protects and renews it.

Water

Iowa is also failing to renew that other renewable resource, water. The state's agriculture is mainly rain-fed, but the Jordan and Dakota aquifers are being pumped at unreplenishable rates. It takes five gallons of water a day to raise a hog; with 20 million hogs, that's more than 30 billion gallons of water a year. It takes three to distill a gallon of ethanol from corn; that's more than 12 billion gallons of water annually. If ethanol and meat production grow at projected rates, those huge aquifers will eventually run dry.

Meanwhile, the excessive chemical applications needed for corn and soybeans pollutes drinking water and destroys habitats for those species agriculture needs to grow food. A recent UN report⁵ raised alarms about mass extinctions, while another study documented an "insect apocalypse" that includes the loss of key pollinators for crops.⁶

Meanwhile, every part of Iowa's agriculture is implicated in and threatened by climate change. Industrial agriculture is a major emitter of greenhouse gasses: The excessive fertilizer applied to Iowa's corn fields emits clouds of nitrous oxide, more potent than carbon dioxide. The state's factory farms also contribute when concentrated manure is sprayed on farmers' fields.

The changing climate makes current farming practices all the more self-destructive. NASA modeling for Iowa shows a high probability of more intense storms, like the recent cyclone and continued flooding, with a growing threat of long droughts. A University of Minnesota study estimated that by 2075, Iowa corn yields could be 20 to 50 percent lower than they are today.

It's not a system that's working well, and if we're worried about the overall availability of food, we in the rich world should stop doubling down on industrial agriculture and immediately take two simple measures: First, reduce food waste, which squanders one-third or more of the food the world produces. Second, stop diverting food and land to biofuel production.

In the meantime, let's stop feeding the illusion that producing more U.S. agricultural commodities will do anything to reduce global hunger.

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Northern Territory drinking water

Anthony Amis

As part of the national drinking water project, Northern Territory (NT) data was added to the Australian Drinking Water Website in May 2019 (for details see <https://water.australianmap.net>).

The data was gleaned from Power and Water Annual Reports 2003–16. Most of the communities supplied with drinking water are small isolated Aboriginal communities located from the tropical north to the arid desert regions of Central Australia. As a result, drinking water issues occurring in these communities tend to have unique and localised impacts to their populations of only a few hundred people.

If these water quality problems were occurring in larger cities, they would be much harder for the government to avoid dealing with. However, the isolation of these small communities means they generally do not have the political resources to demand better water quality. They therefore tend to be ignored, as government resources are directed to larger regional centres where the bulk of the population – and voters – are.

Kidney disease in the NT is particularly high in Aboriginal communities. The remoteness of these communities makes it more costly and difficult to treat. Many of the breaches to the Australian Drinking Water Guidelines (ADWGs) in the NT concern substances harmful to kidneys. These include sodium, fluoride, uranium and nitrate. Levels of these substances were exceeded in approximately thirty communities between 2003–16. Furthermore, few of these communities have access to the water treatment facilities required to remove dangerous substances from drinking water. As many rely on groundwater, it should be a government priority to provide resources to properly deal with this problem.

E.coli, sodium and fluoride

In this time period of 2003–16, the largest percentage (48%) of all breaches of the ADWGs were for detections of E.coli in drinking water. E.coli is regarded as an indicator of faecal contamination as it is the most common thermotolerant coliform present in faeces. Fifty-four communities in the NT between 2003–16 had issues with E.coli in their drinking water, with the highest number of incidents occurring in Tennant Creek, Nganmaryanga (Palumpa) and Ti-Tree. E.coli in water can be seen as an indicator of more harmful organisms and can be the cause of a number of gastrointestinal problems.

The second largest number of breaches of the ADWGs were for sodium, with ten communities recording sodium levels higher than the safe level. As the problem has been ignored for so long, many residents have likely been drinking sodium-contaminated water for decades. These communities include Daly Waters, Nturiya,

Wilora, Papunya, Tara and Imanpa. Sodium in drinking water poses health risks for people with high blood pressure, cardiovascular/heart disease, kidney problems and for those having to be on low sodium diets.

The third largest number of drinking water breaches between 2003–16 were for fluoride, which is added to the water supply of some communities to combat tooth decay. In some places, fluoride is already naturally present in bore water that communities rely on. In the NT, fluoride levels in bore water remained at or just over the ADWG for a number of years in five communities, particularly Tennant Creek, Warrabri and Lake Nash. Excessive levels of fluoride can cause mineralisation of tissue and bones in children and adults. Dental fluorosis can occur in children between the ages of 6–8 from excessive fluoride and skeletal fluorosis has been documented in people exposed to levels of fluoride higher than that recorded in the NT. People with kidney problems may be more susceptible to retention of fluoride.

Radiological and uranium breaches

Radiological and uranium breaches to drinking water guidelines were recorded in 10 communities. In the Kings Canyon community, radiological guideline limits were breached for 6 years. The highest reading of 2.37 millisieverts per year occurring in 2009/10 was 237% above the guideline levels. Three communities – Laramba (Napperby), Willowra and Wilora – recorded levels of uranium in their drinking water above guideline levels for several years.

Laramba fared worst, with the highest level of uranium recorded in 2016/17 at 0.047mg/L (or 276% above the guideline level). The source of the uranium was bore water, with high levels of uranium in local geology. Exposure to uranium in drinking water can lead to multiple health problems such as kidney issues, while longer-term exposure greatly increases the risk of developing cancer. In June 2018, the community of Laramba appealed to the NT government to solve their drinking water crisis in a story reported by ABC's 7:30 Report.

Nitrate levels exceeded drinking water levels in the communities of Ti Tree, Warrabri, Kintore and Pmara Jutunta. The levels of nitrate detected in these communities were at levels of most concern to bottle fed infants under the age of three months old. Babies ingesting nitrate are susceptible to methaemoglobinaemia (blue baby syndrome), a condition where oxygen cannot be transported to tissues by the blood. The condition can be fatal. Elevated levels of nitrate in drinking water may also be linked to kidney disease and diabetes.

The mineral selenium was recorded at levels above guideline levels in four communities, with the highest levels recorded at Daly Waters, Kings Canyon and Mataranka. Nail deformities have been associated with exposing people to high levels of selenium. Other problems can include stomach problems, skin problems and rashes, and dizziness.

Antimony, a potentially carcinogenic mineral, was detected regularly above guideline levels at Beswick. When ingested, antimony is distributed mainly to the liver, spleen, heart and thyroid and adrenal glands. Another mineral, Barium, was regularly detected above guideline levels in the small community of Gundabijin (Bulla). Barium is thought to contribute to causing cardiovascular problems and kidney problems, although evidence is not conclusive.

Lead has been a problem in four communities, with the small community of Garawah experiencing the highest levels of exposure. Lead is commonly found in drinking water as a result of it leaching from plumbing fixings, as well as from old solder on water tanks and runoff from roofs painted with lead paint. It can also enter drinking water supplies as part of environmental pollution from waterways.

McArthur River mine

In 2018 residents at Borroloola, a community one kilometre west of Garawah, raised concerns about lead contamination coming from the McArthur River mine upstream. The mine is located about 45 km south-west of Borroloola, and has raised a lot of controversy since it began operations and subsequently underwent a massive expansion approved by then federal environment minister Peter Garrett in 2011.

Lead is a cumulative poison which can lead to a host of health problems including hindering the mental development of children.

Finally, the community of Katherine (population 10,000) has suffered from contamination of their water supply in recent years from PFAS (per- and poly-fluoroalkyl substances) leaching from the Tindall RAAF base. The Defence Department will fund the operation of the new Katherine water treatment plant and agreed to pay \$15m for its construction. While the PFAS contamination has likely been occurring for many years, testing for PFAS only began in 2017.

Attempting to quantify which communities in the NT are in the most urgent need of assistance is an extremely difficult task, but it would be fair to say that the following 10 communities would be the most urgent: Warrabri (Ali Curung), Gudjabadjin (Bulla), Daly Waters, Beswick, Laramba (Napperby), Wilora (Stirling), Ti Tree, Kings Canyon, Tennant Creek and Willowra. Over 5,300 people live in these 10 communities, but excluding Tennant Creek, the remaining nine communities have an average population of 256 people. Almost all of these communities rely on bore water, but treatment would need to be tailored to each area depending on the substances requiring filtering out. Special attention also needs to be given to the people of Garawah and a thorough investigation into the source of lead in that community's drinking water supply.

The tiny Western Australian community of Buttah Windee (located 760 km north east of Perth) learnt that they were drinking uranium at levels as high as 0.04mg/L (235% above ADWG) which is a similar level to uranium levels detected at Laramba. But in a good news story from earlier this year, Buttah Windee residents managed to crowdfund \$26,000 for a reverse osmosis water treatment plant, which is able to capture and produce 900 litres of treated water per month.

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The Aboriginal community of Buttah Windee in WA now has a solar-powered filtration system to provide safe drinking water.



Community concerns over 5G: Needless anxiety or wise precaution?

Don Maisch

Fifth generation (5G) wireless technology, as the name indicates, is the next generation wireless communication network from 3G, 4G and 4G LTE. 5G will use the spectrum for the existing 4G frequency range (600 MHz to 6 GHz) and also the millimetre wave bands (24–86 GHz). Once fully implemented it would predominantly operate in the millimetre (mm) radiofrequency band which would allow much higher data transfer, as much as 100 times faster than 4G cellular networks. This would be used for future autonomous vehicle transport networks by enabling rapid data transfer between vehicles and nearby fixed infrastructure to avoid collisions or hit pedestrians.

5G also provides the foundation for the Internet of Things (IoT) by being able to support an estimated one million wireless connected devices per square kilometre, including smart household appliances such as refrigerators, washing machines, dryers, entertainment equipment, TVs, lighting fixtures, thermostats, home security systems, etc. 5G is planned to provide the foundation for the smart city concept where virtually everything we use will be wirelessly connected.

Consumers will be able to download ultra high-resolution videos and movies on their 5G smartphones in seconds. It will enable virtual and augmented reality video games, which promises to immerse the viewer in a virtual world of high-resolution digital imagery.

In the industrial sphere, 5G has been referred as ushering in the fourth industrial revolution by enabling industries to utilise artificial intelligence to improve industrial efficiency and reduce labour costs by removing the human element in much of the manufacturing process.

The downside of 5G mm waves, however, is that the signals do not penetrate objects readily such as buildings and foliage. This necessitates a far denser network of 5G small cell antennas which will be mounted on power poles, light poles, street furniture, bus shelters and so on, which in many cases will be close to homes, workplaces and public areas.

In some cases, internal antennas in buildings will also be needed for reception. This will result in higher radiofrequency exposures to occupants in these areas. The high number of small cells needed for an effective 5G network is causing community disquiet and that, combined with many scientific unknowns about the possible

biological effects of prolonged exposure to 5G mm waves, is resulting in increasing community opposition in Australia and internationally.

Counter to this, however, are statements by so-called experts that there is a total lack of risk with 5G technology and that community concerns are being fuelled by misinformation without any scientific validity. This paper examines this viewpoint, termed “technological fundamentalism” as an unquestioning faith in the ‘goodness’ of advanced technology. Anyone who questions this ‘goodness’ is portrayed as an ill-informed fear monger.

An example of this is seen in the statements put out by the University of Sydney’s Professor Simon Chapman, who, when discussing 5G community protests, stated that:

“Mobile phone alarmists are a relentless (small) lobby group who are risk-phobic about almost every new form of communication. Every time there’s a new generation of cell phone or electronic technology, they crank out the same fear-mongering stuff. Cult-like, they wake every morning, to spread the word about the deadly rays they believe are being foisted on the world by the evil telecommunications industry. They follow in the hallowed footsteps of those in history who raised health alarms about railway travel, electric light, ordinary phones, radio, TV, electric blankets, computers, microwave ovens, wind turbines and solar roof cells etc. Some are also anti-vaccination (eg: this is one of their US queen bees).”

Another example is from Adam Verrender, a PhD student at the University of Wollongong, who claimed on ABC News on January 9, 2019 that community concerns over 5G are being “fuelled by misinformation, scepticism and a complex psychological phenomenon known as the nocebo effect”.

Concerning problems

Despite the above dismissive assurances about a lack of risks from 5G networks there are a number of very concerning problems with 5G that give weight to community concerns.

In April 2019 a department of the Directorate-General for Internal Policies of the European Commission (EC) published a detailed analysis on the deployment of 5G networks. Titled, ‘5G Deployment: State of Play in Europe, USA and Asia’, the report’s authors state that “5G is more complex than previous wireless technologies and should be considered as a long-term project to solve technical challenges and develop a clear business case”. To quote in part from the executive summary (my underlining below):

“As 5G is driven by the telecoms supply industry, and its long tail of component manufacturers, a major campaign is under way to convince governments that the economy and jobs will be strongly stimulated by 5G deployment... The notion of a “race” is part of the campaign but it is becoming clear that the technology will take much longer than earlier



generations to perfect... This is because the technologies involved with 5G are much more complex. One aspect, for example, that is not well understood today is the unpredictable propagation patterns that could result in unacceptable levels of human exposure to electromagnetic radiation."

To understand what is meant by those unpredictable propagation patterns mentioned in the EC report, it is worthwhile examining an Ericsson presentation, titled 'Impact of EMF limits on 5G network roll-out'. The presentation was given at an International Telecommunications Union's Workshop in Warsaw, Poland on December 5, 2017. In part, the presentation concluded that with increased human exposure levels from 5G antennas, radiofrequency exposure compliance in some nations will be difficult.

At a recent scientific conference by the Australian Radiation Protection and Nuclear Safety Agency, two expert presentations gave reason to pause in the rapid roll out of 5G networks. The first was by Dr. Dariusz Leszczynski, adjunct professor of biochemistry, University of Helsinki, Finland and chief editor of *Frontiers in Radiation & Health*. His presentation, '5G Millimetre-Waves Health & Environment', examined the serious limitations of biomedical research on millimetre waves but nonetheless from studies that are available, it should cause great concern. He specifically called for urgent research on 5G millimetre waves because of the rapid ongoing deployment of 5G technology.

Another presentation was by Dr. Andrew Wood, School of Health Sciences, Swinburne University of Technology, Melbourne. Titled 'What is the current status of research on mm-Wave frequencies', Wood mentioned two areas of uncertainty with 5G radiation:

- Skin and eyes are regions of concern in regard to 5G frequencies (6-60 GHz) and beyond.
- Could be resonant enhancement absorption due to skin structures.

In 2017 an international 5G Appeal was launched by scientists and medical doctors who are calling for the European Union to halt the roll out of 5G due to serious potential health effects from the technology. As of April 24, 2019, 231 scientists and medical doctors have signed the appeal.

A problem specific to 5G mm emissions is that they can be disrupted or blocked by trees and foliage, especially after rain. This creates a potential problem for suburban streetscapes. Will residents have to choose whether they prefer tree-lined streets or great download speeds? The potential problem of trees and 5G reception has not escaped Telstra's notice. To quote from Telstra's managing director of networks: "Telstra is also funding research into whether uniquely Australian obstacles – including flora – will disrupt 5G signals Something that seems to be unique to Australia ... is how gumtrees impact those radio signals and the way they get from the radio tower to the end user."

Another little researched potential hazard with 5G networks is that the extremely fast data transmission rates, unique to 5G in comparison with 4G and earlier, may be sufficient to generate what is called Brillouin precursors. This is a very fast pulse of radiation, which when it enters the human body, may generate a burst of energy that can travel much deeper into the body than predicted by conventional models.

Similar concerns were raised in a recent paper published in *Health Physics* in December 2018 by Neufeld and Kuster. The authors suggest that permanent biological damage from tissue heating may occur even after short exposures to 5G mm wave pulse trains (where repetitive pulses can cause rapid, localised heating). The authors stated that there is an urgent need for new thermal safety standards to address the kind of health risks possible with 5G technology.

Concluding thoughts

What is apparent in this controversy is that the public's perception of risk and that of some experts defending the technology is at wide variance. The assurances of a complete absence of risk from 5G networks coming from these experts is not reflected in what is known about the many uncertainties which exist with 5G technology and speaks more about their own ignorance than that of concerned communities. A real danger of these 'expert' assurances of a lack of risk to health from 5G is the discouragement of the necessary research needed to determine the extent of any such risk.

A longer, referenced version of this paper is posted at www.tinyurl.com/maisch-5g

Don Maisch has been involved in the issue of the health impacts of electromagnetic fields (EMF) since the early 1990s when he was a science writer for Australian Democrat Senator Robert Bell. He has served on government and industry EMF standard setting committees representing the public interest. He completed his PhD at the University of Wollongong in 2010 that examines the historical development of the Western radiofrequency and microwave exposure standards. www.emfacts.com, www.emfacts.com/blog

Environment reporters and defenders face harassment and murder

Thirteen journalists who were investigating damage to the environment have been killed in recent years and many more are suffering violence, harassment, intimidation and lawsuits, according to a study. The Committee to Protect Journalists (cpj.org), which produced the tally, is investigating a further 16 deaths over the last decade. It says the number of murders may be as high as 29, making this field of journalism one of the most dangerous after war reporting.

The study was produced for Green Blood, a reporting project whose aim is to continue the reporting of local environmental journalists who have been forced to abandon their work (theguardian.com/environment/series/green-blood). Led by Forbidden Stories (forbiddenstories.org), a group of 15 media partners, including the Guardian, El País and Le Monde, have come together to shine an international light on the way these activities affect local environments and communities.

India is one of the most dangerous places to be a journalist – three of the 13 identified as having been killed in the course of their work since 2009 were from the country. Three more were based in the Philippines. The others died in Panama, Colombia, Russia, Cambodia, Myanmar, Thailand and Indonesia.

Abridged from: Juliette Garside and Jonathan Watts, 18 June 2019, 'Environment reporters facing harassment and murder, study finds', <https://www.theguardian.com/environment/2019/jun/17/environment-reporters-facing-harassment-murder-study>

UN Human Rights Council resolution

On March 21, the UN Human Rights Council adopted a consensus resolution affirming “the positive, important and legitimate role” played by environmental defenders. The Council also noted more than 150 states have recognized some form of a right to a healthy environment.

At a time when even authorities in established democracies harass environmental defenders and roll back environmental safeguards that protect public health to benefit corporate interests, the Council called upon states “to strengthen democratic institutions, safeguard civic space, uphold the rule of law and combat impunity,” as key components to protect environmental defenders. The resolution also underscores the responsibility of businesses to respect the rights of defenders to carry out their work safely.

The distance between a Council resolution and the realities of grassroots activists will remain a challenge, but environmental human rights defenders now have a new tool to call for accountability – backed by the top global human rights body.

Abridged from Luciana Téllez Chávez / Human Rights Watch, 27 March 2019, 'Top UN Rights Body Calls for Protection of Environmental Defenders', <https://www.brw.org/news/2019/03/27/top-un-rights-body-calls-protection-environmental-defenders>

Laws designed to silence: the global crackdown on civil society organizations

A new Amnesty International report shows that an alarming global trend has surfaced over the last decade in which states are introducing and using laws to interfere with the right to freedom of association and to hamper the work of civil society organizations and individuals who participate in them.

The report, ‘Laws designed to silence: the global crackdown on civil society organizations’, highlights the global trend to use restrictive legislation to target civil society organizations and human rights defenders who speak out against unjust laws and government practices, challenge public opinion or those in power, and demand justice, equality, dignity and freedom.

The pace is accelerating: in the last two years alone almost 40 pieces of legislation have been either put in place or are in the pipeline. Various provisions impose barriers at all stages of these organizations’ existence, and allow the authorities to closely monitor them. This happens particularly at the point of registration, but also when they plan, conduct and report on their activities, when they seek and receive funds, and when they carry out public campaigning and advocacy. At least 50 countries have put in place such laws in recent years.

Restrictive legislation reflects the broader political and cultural trends in which toxic narratives demonize “the other” and breed blame, hatred and fear, creating a fertile ground for the enactment of such laws; and justifying them in the interests of national security, identity and traditional values.

In practice, they often silence critical and diverse views and opinions and inhibit the ability of organizations and individuals to scrutinize governments.

The phenomenon is evident in all regions. The justifications for draconian restrictions are as diverse as the countries in which they are implemented.

Such justifications include national security, concern about foreign interference in national affairs, the need to protect national identity, traditional values and morals, religious beliefs, economic development and other imperatives.

The practical obstacles posed by restrictive and arbitrary laws, and the climate of fear and suspicion surrounding civil society organizations and human rights defenders, discourages others from demanding human rights and makes it increasingly difficult to maintain an open and healthy space for civil society.

Australia is among countries such as Azerbaijan, Belarus, China, Egypt, Hungary, Pakistan and Russia in being criticised for passing restrictive laws which often silence critical and diverse views and opinions and inhibit the ability of organisations and individuals to scrutinise governments.

“It’s shocking to think that Australia is noted in the same breath as some notoriously repressive regimes, but the reality is that over the past decade, there has been a concerted effort to stifle civil society in the name of ‘national security’,” Amnesty International Advocacy Manager Emma Bull said.

'Laws designed to silence: the global crackdown on civil society organizations', highlights the global trend to use restrictive legislation to target civil society organizations and human rights defenders who speak out against unjust laws and government practices, challenge public opinion or those in power, and demand justice, equality, dignity and freedom.

The National Security Legislation Amendment (Espionage and Foreign Interference) Act 2018 imposes criminal penalties for sharing what is broadly defined as "sensitive" information. While the legislation contains certain provisions to protect journalists, it does not contain safeguards to protect whistle-blowers who divulge information about human rights abuses or other information of public interest, nor for other human rights defenders or organisations who may discuss human rights concerns with representatives of foreign governments or international human rights mechanisms.

"By passing this draconian law, Australia is effectively criminalising organisations which expose human rights violations or that share information with the UN, which is a key right protected by the UN Declaration on human rights defenders," Bull said.

Here's the link to the full report: Amnesty International, 2019, 'Laws designed to silence: the global crackdown on civil society organizations', https://www.amnesty.org.au/wp-content/uploads/2019/02/Laws-designed-to-silence_final_web-version.pdf

Amnesty International Australia statement: <https://www.amnesty.org.au/laws-designed-to-silence-the-global-crackdown-on-civil-society-organizations/>

Green activists dragged down by petty lawsuits

Despite the global environmental crisis confronting our planet, environmental activism has become a dangerous activity. In many countries, environmental defenders are harassed, attacked or even killed for speaking out and mobilizing against projects that threaten the health and livelihood of communities.

The latest tactic is nuisance lawsuits, as a new report about South African mining communities shows. The companies that bring these baseless lawsuits – known as "Strategic lawsuits against public participation," or SLAPPs – are not particularly concerned with winning. Rather, it's a tactic to suppress environmental defenders' effectiveness by intimidating them and burdening them with onerous costs of mounting a legal defense.

The South Africa report documents the targeting of community rights defenders in KwaZulu-Natal, Limpopo, Northwest, and Eastern Cape provinces between 2013-2018 for expressing opposition to mining projects. Activists reported

intimidation, violence, damage to property, use of excessive force during peaceful protests, and arbitrary arrest, but also frivolous lawsuits and social media campaigns to curb their opposition to the mining projects. The companies have often sought court orders to halt or ban protests. The report was a collaborative effort between Human Rights Watch, Centre for Environmental Rights, groundWork, and Earthjustice.

These lawsuits are a growing trend globally. In Australia, Adani – India's largest coal importer with interests in a coal mine in Central Queensland – engaged a law firm that recommended adopting an aggressive legal strategy to bankrupt opponents, silence critics and pressure the government.

Nongovernmental groups have been mobilizing to resist these tactics. In late 2018, environmental and human rights organizations came together to form the Protect the Protest task force against these nuisance lawsuits (protecttheprotest.org). It offers legal and campaign support and solidarity to those involved in these cases. The task force takes the view that an attack against one group of environmental defenders is an attack against all.

Abridged from Marcos Orellana / Human Rights Watch, 'Green Activists are Fighting the Great Fight - But are Being Dragged Down by Petty Lawsuits', <https://www.brw.org/news/2019/05/20/green-activists-are-fighting-great-fight-are-being-dragged-down-petty-lawsuits>

Environmental laws won't fix climate change unless we enforce them

The number of environmental protection laws around the world has increased 38-fold since 1972, but a lack of sufficient enforcement has rendered many of them useless, a new United Nations report has found. In 1972, the year of the first UN environmental agreement, only three countries had national environmental framework laws. By 2017, 176 nations had these laws.

But the UN report, based on 35 case studies, found that few of these laws have been implemented and enforced effectively.

"It really is something that all countries share," said Carl Bruch, the director of International Programs at the Environmental Law Institute and one of the authors of the report. "We do have a lot of environmental laws that are on that books that could be so much more effective if they were actually fully implemented."

The report broke down the shortcomings of environmental policies into four categories: institutions responsible for the laws, civic engagement, environmental rights, and justice for those who break the law. Not every country has a problem in each category, but every country has challenges in at least one sector that has reduced the effectiveness of its environmental laws, Bruch said.

Bruch said he hopes this will be the first in a series of reports so people can track the progress – or regression – that governments make in shoring up their environmental laws.

United Nations, 2019, 'Environmental Rule of Law, First Global Report', <https://www.unenvironment.org/resources/report/interactive-environmental-rule-law-report>

Kaleigh Rogers, 24 Jan 2019, 'Environmental Laws Won't Fix Climate Change Unless We Enforce Them, New UN Report Says', https://www.vice.com/en_us/article/qvyp4x/environmental-laws-wont-fix-climate-change-unless-we-enforce-them-new-un-report-says

Malaysia must not renew Lynas' licence to generate more toxic radioactive waste

As of 21 July 2019, 88 NGOs from all over Malaysia had signed onto a strongly-worded petition demanding that the Cabinet of the Pakatan Harapan (PH) Government not to renew the operating licence of the 100% Australian-owned Lynas Advanced Materials Plant in Gebeng, near Kuantan in Pahang. More are expected to endorse the petition.

Save Malaysia Stop Lynas! said: "We challenge any Minister and public servant wanting Lynas to continue operating in Malaysia to first fill their own backyard, then go and fill up Putrajaya and Pulau Langkawi with Lynas' waste! Lynas has misled Malaysia by giving two undertakings to remove its toxic radioactive waste from Malaysia even though Western Australia (WA) had made it clear back in 2011 that its waste would not be accepted into WA, where its Mount Weld mine is located. Now there are nearly half a million tonnes of waste sitting in inadequate storage dams that leak and overflow to contaminate our groundwater and the surrounding environment with nowhere to go."

The waste stream, known as water-leached purification (WLP), contains long living low-level radioactive thorium which is a known cancer-causing substance. This waste is also contaminated with radioactive uranium, a range of toxic heavy metals, arsenic and a cocktail of chemicals.

Lynas' own 2011 Safety Case Analysis report by Environ Consulting stipulated that the WLP waste would be isolated from the biosphere in a permanent disposal facility away from the current site. Under the temporary licence conditions, a site for the permanent disposal facility was to be found within 10 months. In addition, about 1.2 million tonnes of Lynas' scheduled waste has been stored on site against Malaysian regulations.

Save Malaysia Stop Lynas! said:

"Lynas has flaunted its licence conditions and its own undertakings including those in its Radioactive Waste Management Plan. Why have our regulators been so lenient with Lynas when the company enjoys a 12-year tax holiday for leaving us its toxic waste.?"

"We, the Rakyat, have work hard and pay our taxes to the Government. We expect a safe living environment and a hazard-free future for our family and future generations of Malaysians. We do not accept this raw toxic exploitation from Lynas."

"Cabinet should take heed that Lynas' financial position has always been precarious although it pays its executive staff fat salaries. Its ore



consists mostly of light rare earth that is not worth much. Lynas could not even afford to pay Malaysia the US\$50 million deposit in cash. Lynas has no intention to build a leak-proof permanent disposal facility that can last at least 1,000 years appropriate for its thorium waste because it could not afford to do so."

"We do not want Lynas' WLP waste to remain in Malaysia. Why should Malaysia sacrifice productive land to build Lynas' mega-tomb for its toxic waste? Besides, the high risk of landslides and erosion in a wet tropical country like Malaysia makes it unsafe to house any toxic waste dump."

Prime Minister Tun Dr Mahathir Mohamad made a surprise announcement while he was visiting Japan in late May that Malaysia would renew Lynas' licence and that the radioactive waste should perhaps be spread out.

Save Malaysia Stop Lynas! said:

"Spreading out radioactive waste will expose more people to its hazards. Is Tun so obsessed with Lynas and its toxic investment that our health and our environment no longer matter to him?"

"We are appalled by the Flying Car Minister Mohd Redzuan Md Yusof advocating for Lynas to keep the toxic waste in Malaysia and more recently, the Bauxite Minister Xavier Jayakumar on rare earth beat wanting to exploit the country's projected RM700 billion rare earth resources."

"That RM700 billion price tag is more like what Malaysia would have to pay to clean up Lynas' mega toxic waste and spread-out contamination in 10 years' time; to pay for the healthcare costs of rising cancer cases to be treated in our hospitals and the losses sustained by fishery and tourism industries due to Lynas' piles of toxic wastes that have completely ruined the local economy."

"We are alarmed by these ministers championing Lynas' corporate profit at the expense of Malaysia's environment and public health. We voted for Pakatan Harapan on May 9 last year because we wanted a clean and sustainable Malaysia."

"We welcome other groups to join us in our petition to demand Tun and his Cabinet to prioritised Malaysia and Malaysians FIRST instead of Lynas to keep Malaysia clean and green. Any group yet to sign onto our petition can contact Save Malaysia Stop Lynas!, Greenpeace or any of the groups in the list to add onto our list. We will present the petition to Cabinet Ministers and MPs in the Parliament Caucus."

More information:

www.savemalaysia.org

www.facebook.com/groups/PDNHP/

@RT_Stop_Lynas



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