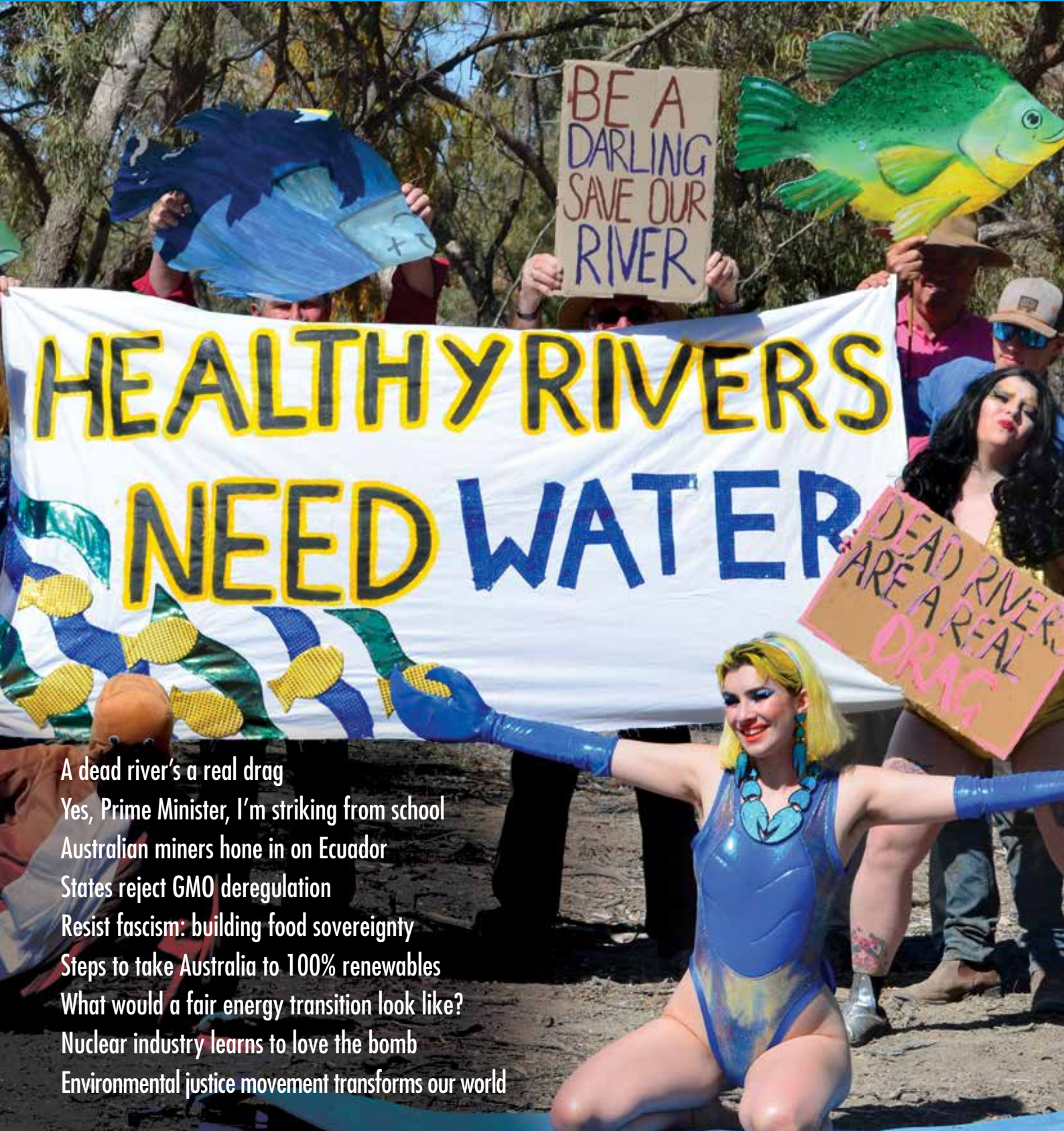


# chain reaction

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A dead river's a real drag  
Yes, Prime Minister, I'm striking from school  
Australian miners hone in on Ecuador  
States reject GMO deregulation  
Resist fascism: building food sovereignty  
Steps to take Australia to 100% renewables  
What would a fair energy transition look like?  
Nuclear industry learns to love the bomb  
Environmental justice movement transforms our world



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the Earth**

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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](http://foe.org.au/local-groups)

There is a monthly FoE Australia email newsletter – subscribe via the website: [www.foe.org.au](http://www.foe.org.au)

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## Underground coal gasification poses a grave risk to northern SA

After the disaster of the test UCG project in Queensland, it is clear that this dangerous technology should not be given a second chance.

However, the SA government has approved a trial project in the north of the state at Leigh Creek. A Supreme Court challenge lodged by Adnyamathanha traditional owners has been knocked back.

Please support our call for a national ban on this dangerous technology.

[www.foe.org.au/ban\\_underground\\_coal\\_gasification](http://www.foe.org.au/ban_underground_coal_gasification)

## Walk this Way: no time to waste on tackling climate change

On October 13, Friends of the Earth (FoE) Melbourne held its second ever Walk this Way. This year's event – a 15 km walk – was centred around the impacts of waste and climate change on Melbourne's bayside suburbs. A huge part of this was launching FoE Melbourne's newest campaign to tackle waste and consumption.

The walk took place along Melbourne's beautiful bayside foreshore from Sandringham to St Kilda on Boon Wurrung country, which extends from the Werribee River to Wilsons Prom. This area is hugely threatened by climate change with rising sea levels and coastal erosion likely to have far-reaching impacts.

The walk was filled with colourful costumes and outfits, including a representative from the forest collective dressed as a Glider, a River Country campaigner in a Murray Cod suit and many outfits made from recycled materials.

Overall it was a magical day! We couldn't have asked for better conditions with the sun shining. About 70-80 people gathered

in Sandringham to kick things off early in the morning, and we started the day with a Welcome to Country from Jayden Williams of the Boon Wurrung people.

We heard about FoE's new waste and consumption campaign from Anine Cummins, and heard about microplastics and monitoring of pollution from the Port Phillip Bay Keeper Neil Blake.

Further down the route, Kate Wattchow from FoE's Act on Climate collective and Geoff Love of the Elwood Flood Action Group talked about the work being done to secure investment in climate impact resilience in communities like Elwood, which is already affected by coastal erosion and flooding.

Our colourful crowd made its way along the bayside tracks and ended with a delicious feed provided by the food co-op in St Kilda's Catani Gardens.

Not only was it a great day for all those involved, the fundraising results were outstanding with donations reaching over \$25,000!



FoE's #transformwaste campaign (formerly Waste & Consumption) is gaining momentum, and would love your participation.

Did you know that an average Australian's landfill bin is 36-50% organic material? And that food scraps rot in landfill, producing methane? And that methane amounts to 23% of Australia's greenhouse gas emissions? We need action to arrest this problem, and you can help.

We're seeking people all over Australia to engage their local councils about taking on organics recycling. If you live, work, eat or play in a council you have power to change their decisions. You are welcome to get involved with our decision making (we have face to face meetings and online meetings), or involved in talking to your council, or both!

You can find out everything you need to know at [www.melbournefoe.org.au/waste\\_and\\_consumption](http://www.melbournefoe.org.au/waste_and_consumption)

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## AGL AGM

FoE's Quit Coal campaign took the trusty green-washing machine down to AGL's AGM to call the company out for their misleading advertising. While they sell themselves as a green and clean company, they are still Australia's largest climate polluter with 80% of their energy still coming from fossil fuels and a new gas project in the works.

Over 100 people turned up to call the company out and demand they scrap their plans for a gas import terminal along Victoria's beautiful coastline. A bus full of locals came up from Westernport with hand-made dolphins, fish and banners - speaking of the threats this project poses to their homes and community.

Quit Coal will continue to stand in solidarity with the Westernport community, recognising that any new fossil fuel projects in Victoria delays urgent action needed on climate change. As AGL has not ruled out importing fracked gas, it's essential that communities rise again after the #VicGasBan to ensure that AGL does not create a market in Victoria for fracked gas that has contaminated water and land in other states.

[www.facebook.com/quitcoalvic/videos/138041762875767](https://www.facebook.com/quitcoalvic/videos/138041762875767)

## Australian Student Environment Network (ASEN) updates

National strategy weekend: ASENites from Adelaide, Brisbane, Sydney, Newcastle and Melbourne came together on a beautiful property on the land of the Wurundjeri in Victoria. We chatted about our plans, how we can do Students of Sustainability conferences better in the future and about all our visions and dreams! We also went a lovely bush walk together on Wurundjeri country.

UNSW 50-hour occupation: In October, University of New South Wales (UNSW) students in Sydney completed a 50-hour occupation of the UNSW Chancellery, as part of their Fossil Free campaign. The campaigners had strong support from students and staff, as well as the backing of other university collectives across Australia. Acting Vice Chancellor Merlin Crossley and Vice Chancellor Ian Jacobs failed to meet students' demand for their university to divest from the fossil fuel industry. UNSW students announced that they would continue the fight for our climate and future! ASEN congratulates the students involved in the occupation and extends our thanks to them for their powerful actions.

Meanjin (Queensland): The Meanjin crew have been preparing beds and planting at the permaculture project called the Pelican Patch, and been getting involved in the No Gatton Women's Prison campaign ([facebook.com/NoGWP](https://facebook.com/NoGWP)).

ASEN NSW Road Trip: Students from across different universities in NSW

participated in a mid-semester road trip, visiting communities affected by coal, and deforestation on Gamilaraay Country. Students visited Wollar where local community members are challenging the Wilpinjong coal mine expansions. On the second day ASENites met with Gomeroi traditional custodians who introduced traditional cultural and environmental values at risk due to the local coal seam gas pipeline. Planeteers had the opportunity to learn from Gomeroi astrophysicist Krystal de Napoli, who discussed with students the relationship between Indigenous astronomy and local traditions.

A little later in the journey, road-trippers spent time with ecologist, David Paul, who explored the ecological impacts of the Whitehaven Coal and Narrabri Underground Mine, and attended a community meeting about a new proposed mine. On day five of the road trip, students took part in a koala habitat survey in the Leard Forest as part of a Koala Species Recovery Program and on final day Gomeroi folks took students to visit the proposed Shenhua coal mine in the Liverpool Plains.

The trip was an awesome adventure of learning, bonding, exploring and connecting with communities. ASEN road trips are a big part of how the NSW state network keeps connected and engaged with state-based campaigns and rural community struggles, so we want to thank all those community members who invited us in and made us feel welcomed.

## The Kuranda Wet Tropics Corridor dilemma

The Kuranda section of the Wet Tropics World Heritage Area (WTWHA) of North Queensland is an essential corridor and is one of its most threatened sections. The 'Kuranda Corridor' is an active centre for evolutionary biology. It is a part of the original Gondwana forests. Kuranda links the wider Bellenden Ker bioregion with Mt Lewis, Daintree and Windsor Tableland providing an essential transfer of genetics north and south. It is the narrowest section of the World Heritage Area (<1.5kms) and is the most threatened by road building and development. There is 9,800 ha of surrounding unprotected lands of almost exclusively freehold property in private ownership spread across hundreds of landholders.

A further and more recent threat to WTWHA values is the massive KUR-

World 'eco-resort' development. This large development is planned right in the middle of an important ecological corridor next to the Wet Tropics with endangered species such as the Southern Cassowary and the endemic Kuranda tree frog and Myola palm.

The Environmental Impact Statement (EIS) for the KUR-World proposal is now out with submissions due by January 14. Please have your say and make a submission. The Kuranda Region Planning Group website has a pre-prepared submission template at [www.kurandaregion.org/eis](http://www.kurandaregion.org/eis)

The EIS is online at [www.dsdmip.qld.gov.au/assessments-and-approvals/kur-world-eis-documents.html](http://www.dsdmip.qld.gov.au/assessments-and-approvals/kur-world-eis-documents.html)

In the past few years there has been an ongoing controversy regarding the dangers of the herbicide Glyphosate. In 2016 the International Agency for Research on Cancer announced that Glyphosate was a probable carcinogen. People spraying Glyphosate are at most risk of exposure. However, Glyphosate has been detected in many common foodstuffs and consumers have little knowledge about whether they have been exposed or not.

We want to know how Glyphosate levels in Australian's compare to levels in people from across the world. We also want to know where Glyphosate levels are highest. Hence the need for testing. The tests will be analysed by the French based Kudzu Science, working in conjunction with the Detox Project. Friends of the Earth will publish the Australian results after getting them back from France sometime in May 2019. At the same time results from the global survey will be published internationally.

You can join us: A glyphosate hair test for one person, costs about \$240. If we are successful, \$6000 should be enough money to allow 25 people to be tested. We hope to get these tests from various locations across Australia. All test results will remain confidential and copies of the individual test results will be sent back to the individual whose hair sample was posted to the laboratory in France.

We are hoping to raise enough money to test for 12 people in urban environments and 13 people living in the country. Your donation will help pay for someone's testing. (There may also be the chance that you may be selected to be included in the survey too).

If you would like to be added to the list of people who want to be tested let us know.

To donate: [www.chuffed.org/project/glyphosate-in-australian-hair-analysis](http://www.chuffed.org/project/glyphosate-in-australian-hair-analysis)

Contact: Anthony Amis,  
[ajamis50@gmail.com](mailto:ajamis50@gmail.com)

FoE's Sustainable Cities team has been hitting the streets, spreading the word about Melbourne Metro 2 and getting hundreds of petition sign-ups! Melbourne Metro 2 (MM2) is the vital next addition to Melbourne's 21st century rail network and integrated public transport system. It's a tunnel between Newport and Clifton Hill via Fishermans Bend, Southern Cross, Flagstaff, Parkville and Fitzroy connecting to existing services.

With a dozen actions now, we've visited train stations that would directly benefit from new connections to and through the city from Preston and Thornbury, to Clifton Hill and Richmond. We also blitzed the city at Parliament Station with every station exit covered to ensure all the commuters to Parliament, government departments and local businesses heard about the project.

It's been especially awesome having lots of urban planning students joining us on the street to see how the public reacts to ideas, and getting experience in on the ground work.

## Corporate capture in Europe

ALTER-EU - a coalition of over 200 public interest groups and trade unions (including Friends of the Earth) concerned with the influence of corporate lobbyists on the political agenda in Europe - has published a report, 'Corporate Capture in Europe: When big business dominates policy-making and threatens our rights'.

Whether avoiding regulation or increasing public funding for corporate activities: lobbying; the revolving door between business and politics; strategic pitches of corporate 'expertise'; as well as privileged access to decision-makers and corporations' threats to leverage their structural economic power continue to be highly effective tools used by big business to ensure decision-makers prioritise the profit interests of corporations over vital public needs.

The report includes eight case studies from the EU level and member states, covering the banking sector, trade policy and the case of TTIP, the gas industry, tax policy in the Netherlands, the pharmaceutical industry, data protection and privacy policies, the arms industry, and 'Dieselgate' and the German car industry.

[www.alter-eu.org/corporate-capture-in-europe](http://www.alter-eu.org/corporate-capture-in-europe)

[www.foe.org.au](http://www.foe.org.au)



## New research finds solar, wind and battery storage cheaper than diesel or fracked gas in Kimberley

A detailed plan to power the West Kimberley region with renewable energy was unveiled in Perth on November 7. The Kimberley Clean Energy Roadmap outlines how small, medium and large communities across the West Kimberley could transition to a clean energy future that would save \$14 million per year, reduce carbon emissions and create much needed jobs.

The plan, produced by Friends of the Earth affiliate Sustainable Energy Now, used sophisticated modelling of different energy paths to show that solar energy, battery storage and wind generation

could out compete diesel generators or fracked gas on cost across the region.

Key findings:

- The Kimberley is currently powered by 94% fossil fuels
- Communities and the government could save \$14.8 million annually on energy bills if the Kimberley Clean Energy Roadmap is adopted
- A sustainable local workforce of over 180 jobs could be created across WA with 160 of those in the Kimberley.

The report is posted at [www.sen.asn.au/kcer](http://www.sen.asn.au/kcer)

In late September, the Victorian environment department was notified that critical habitat with legal protection was about to be logged. You would think they would spring into action, right? Instead, the department chose to make excuses for their inaction. They refused to investigate and allowed logging to continue.

Surveyors from Friends of the Earth affiliate WOTCH (Wildlife of the Central Highlands) detected Zone 1B Leadbeater's Possum habitat in the logging area. This special kind of habitat is legally protected.

Despite providing clear evidence that the forest meets legal protection requirements, the environment department refused to investigate and instead made up excuses as to why logging should continue.

## Repower Health launch

Saturday 27th of October saw the launch party for Repower Health, an exciting new project from Healthy Futures, the NGO for health practitioners who want to take action on climate, on health grounds.

Repower Health will promote the installation of renewable energy, particularly solar, across Australia's health services by campaigning with health practitioners and facilitating industry connections.

The launch took place at FAD Gallery, an art space and bar in Melbourne's Chinatown. A number of special guests from across the health and renewable energy worlds spoke. Repower Health's Director Alex Bhathal said "our sector has led the way on tobacco and now it's time for us to do the same with coal and gas".

Repower Health is the latest project of Healthy Futures, an affiliate of Friends of the Earth Australia. Doctors Kate Lardner and Harry Jennens founded the organisation in 2015. Dr Lardner said "There was a real sense of energy in the room. It was inspiring to see the great turnout of health professionals, all keen to know how they can help with the Repower project."

You can see what Healthy Futures and Repower Health are up to on their website and Facebook pages:

[www.repowerhealth.org.au](http://www.repowerhealth.org.au)

[www.facebook.com/RepowerHealth/](https://www.facebook.com/RepowerHealth/)

[www.healthyfutures.net.au](http://www.healthyfutures.net.au)

[www.facebook.com/HealthyFuturesAU/](https://www.facebook.com/HealthyFuturesAU/)

In September, Environment Minister Lily D'Ambrosio announced an independent inquiry into the department and their approach to enforcing environment laws in our forests ([www.tinyurl.com/vic-forest-review](http://www.tinyurl.com/vic-forest-review)). This was prompted after years of inaction, years of not properly investigating logging breaches and failing to prosecute VicForests for illegal logging.

Even whilst they are under scrutiny, the environment department continues to fail. They refuse to investigate, refuse to enforce the laws and bend over backwards to allow VicForests to log endangered species habitat.

[www.facebook.com/VICWOTCH](https://www.facebook.com/VICWOTCH)

[www.wotch.org.au](http://www.wotch.org.au)

[www.melbournefoe.org.au/forests](http://www.melbournefoe.org.au/forests)

## Climate Frontlines

Friends of the Earth's Climate Frontlines campaign has begun a process of lobbying the relevant MPs and Senators in the Federal Government to advocate for Australia to sign on to the UN Global Compact for Safe, Orderly and Regular Migration, due to be agreed by member states in Morocco in December. The Pacific Island governments and civil society organisations lobbied hard to get forced migration due to climate change into the compact, and Climate Frontlines was involved in some of the initial lobbying. More information about our advocacy strategy will be available soon.

On November 6, Climate Frontlines hosted a public seminar with Prof Patrick Nunn, geographer at the University of the Sunshine Coast, at the Centre for Interfaith and Cultural Dialogue at Griffith University Nathan Campus, Brisbane. The topic of Prof Nunn's presentation was "Climate Change and Faith in the Pacific Islands". He has been involved in researching this issue for more than 20 years, much of that time based at the University of the South Pacific in Suva, Fiji, and has contributed to several IPCC reports.

The crux of the seminar was an illustration of how working with local communities in the Pacific on climate change mitigation and adaptation was essentially ineffective if it did not take into account the traditional spiritual and faith-based understandings that form the basis of people's lives. He pointed out the difficulty of communicating this challenge to most outside aid agencies, and as well opened up the drawbacks of fundamentalist Christian beliefs when effective long-term action was required.

Gene Ethics, a member of Friends of the Earth affiliate GM Free Australia Alliance, summarises some of the wins they contributed to in 2018:

GM crops kept at bay in Australia: Our advocacy for GM-free saw GM canola drop from 30% to <15% of Australia's canola crop. Only GM canola and cotton are grown commercially.

35 local councils move to Roundup-free: Gene Ethics' campaign petitions helped Local Councils go Roundup-free as they are liable for Roundup's impacts on residents and workers. Our long-running Chemical-free Councils campaign took off when Dewayne Johnson, plaintiff in the Johnson vs Monsanto case, was awarded \$78 million for his glyphosate-induced cancer. ABC TV's Four Corners questioned the independence of our Ag and Vet chemicals regulator, the APVMA. Nearly 90% of APVMA's \$40 million annual budget is paid by the companies that produce and market registered toxins.

SA GM-free set to continue till 2025: We took the lead with the SAGFIN team in the campaign to keep South Australia GM-free. Our cyberaction and letter writing campaign were successful.

New CRISPR GM deregulation delayed: Our joint cyberaction with FoE mobilised 1,500 people to lobby State Ministers. Ministers then resisted the federal government's push to deregulate new GM CRISPR techniques and products which are untried and unsafe. They called for further advice so we are sending more evidence to add to our earlier submissions.

Farmers Compensation Fund for WA: Gene Ethics, FOODWatch and FoE made a strong case for a no-fault Compensation Fund, from which farmers can claim for GM contamination. It would be funded from a levy on GM seed sales, so the GM industry opposes the scheme. But Agriculture Minister Alannah MacTiernan and Greens MP Diane Evers are sympathetic.

Senate reviews APVMA and farm chemicals: Gene Ethics contributed background to the ABC TV Four Corners program Monsanto Papers. It featured Dewayne Johnson's success and Monsanto's fake denial that Roundup causes cancer. In Australia, the program challenged the APVMA's independence as the regulator recovers most of its operating costs from the chemical companies. We met the Senate Committee to argue the case Gene Ethics made in its written submission.

[www.geneethics.org](http://www.geneethics.org)



## Victorian state election

The dust is settling on the Victorian state election, and while we still don't know the exact makeup of the Upper House, we've had a chance to reflect on our largest ever state election campaign.

In short, Friends of the Earth ran a massive grassroots campaign – our largest ever – which put climate, transport and forests firmly on the agenda in many seats and changed the state-wide narrative in the lead up to the election.

We impacted on votes. For instance in seats where we worked deeply on forests, the swing to pro-conservation parties was noticeable. Our work resonated with voters across Melbourne, not just the inner marginals.

Exit polling showed that renewables also resonated, with 23% of people saying that renewables mattered to them as an issue when they voted.

There were some good outcomes that defend our previous wins, including

- A commitment by the Andrews government to enshrine the ban on fracking in the state's constitution. FoE led the successful campaign for a ban.
- The VRET is safe, and will continue to create climate-friendly, job-rich energy. FoE led the campaign to secure the VRET.

- The current moratorium on onshore gas drilling will not be lifted, as had been the Liberals' plan.

Sadly, we didn't secure the good outcomes on forests that we worked so hard to win. This largely came down to a leak from within the party to the *Herald Sun*, which scared the government, and they subsequently retreated into the bunker.

While 'metrics' are important, numbers don't necessarily equate to impact or outcomes. Our approach has been to ask for specific, tangible outcomes and then work through a combination of 'inside track' lobby efforts and grassroots organising; this is what gets results. But the metrics are still impressive:

- We worked deeply in nine metro and two regional seats
- Our forests campaign leafletted more than 202,000 households, and distributed a total of over 220,000 leaflets from Brunswick to Prahran
- We organised several hundred events: including leaflet handouts at railway stations, forums, banner drops, projections, community surveys, stunts and info stalls
- We generated some incredible mainstream media, including an ABC 7.30 report into illegal logging, a couple of days before the election

- We spoke with several thousand people via phone, at stalls, at public events, and in street surveys
- More than 350 people volunteered their time to our campaign efforts

FoE Melbourne has never had a stronger, more skilled team of activists. We started our election campaign back in August 2017. We made forest protection a key issue in the November by-election that saw Lidia Thorpe elected in Northcote. We officially launched our campaign in May this year, then started work in a range of Labor/ Liberal seats before focusing on the inner marginals in the last three months, whilst maintaining consistent lobbying pressure.

It's been exhausting. It's been inspiring. We have built our alliances with regional communities, other green groups, trade unions and other progressive allies. And we have had significant impact.

One of things I love about FoE is our ability to achieve a lot on very little. We're frugal, smart and very effective. And we couldn't do it without your support. Thanks to everyone who donated funds, time, passion, strategic advice and moral support. I'm proud to work with such a dedicated and amazing team.

Here's to an awesome 2019!

*Cam Walker, campaigns coordinator,*

## Illegal logging in Victoria

The ABC reported on 21 November 2018: Thousands of hectares of state forest appear to have been logged illegally, an ABC investigation has found, amounting to what some say is the mass "theft" by a government-owned for-profit logging company.

The apparently illegal logging is also threatening the habitats of some of the country's most vulnerable species, including the Leadbeater's possum, Victoria's animal emblem.

The Victorian Government determines where VicForests can log in state forests by creating what is known as an "allocation order". That order includes a map, and the ownership of the timber inside the borders of that map is transferred to VicForests.

According to the Sustainable Forests (Timber) Act 2004, only trees within that allocation can be harvested for sale — and all other timber in state forests remains the property of the Crown.

But VicForests appears to be taking trees from outside its allocation at hundreds of locations across the state.

"It's theft. Essentially these forests belong to all Victorians and by logging them, VicForests is stealing from all Victorians," said Ed Hill, an environmental activist employed by Friends of the Earth.

He was one of the first to notice VicForests was regularly planning logging of timber it did not own.

"The [Environment] department have failed in their role as the regulator to hold them accountable for a whole raft of breaches that have not been acted on," Mr Hill said.

*Abridged from: Michael Slezak and Penny Timms, 21 Nov 2018, 'Australia's endangered forests are being 'stolen' and sold in hardware and office stores', [www.abc.net.au/news/2018-11-21/victorian-forests-appear-to-have-been-logged-illegally/10496424](http://www.abc.net.au/news/2018-11-21/victorian-forests-appear-to-have-been-logged-illegally/10496424)*



## Gina Rinehart-backed Lakes Oil loses court battle to challenge #VicGasBan

In a fantastic outcome, Lakes Oil lost their attempt to have the ban on fracking in Victoria declared unlawful. Friends of the Earth Melbourne played a key role in winning the moratorium back in 2012.

Lakes Oil initiated legal action in 2016 after the Andrews Government announced a permanent ban on unconventional gas in Victoria following a parliamentary inquiry and long-running community campaign.

Victorian communities fought tirelessly for more than five years to secure Australia's first permanent ban on fracking. This is a great outcome for the community, the environment and the climate.

# Dead river's a real drag

Fox Pflueger

It's quarter to midnight, and we are driving as fast as we can in a twin cab ute named Djinn on a dirt road that is mostly potholes, avoiding kangaroos and stopping only to pop a squat on the red dirt. We sing along to Aussie prog rock and admire all the stars in the clear sky. We have driven 800 kms from Narrm (Melbourne) to advocate for a dying river system with queer drag and performance art.

The Murray-Darling Basin has been extremely mismanaged with devastating results. The finger is pointed mainly at foreign-owned cotton and almond farms who have been allowed to steal the water from its source. Suspicions also lie with recently built mines that are plotted along a new 230 km long pipe line which is pumping water from a lower part of the river from Wentworth to Broken Hill to "solve" the drinking water shortage problem in Broken Hill. Meanwhile the river is getting lower and lower, seriously affecting native animal populations, including the endangered Golden Perch, as well as culture and community. It is believed that parts of the river will be completely dry by Christmas.

Our first destination on the River Country Campaign mission is Tolarno sheep station. Driving up to the hundred year old house we are met by Rob McBride and the postie Jeff with smiles beaming, spaghetti on the stove and giant glasses of locally harvested red wine from orchards that cease to exist anymore due to the drought.

Rob gives us a tour of the house, starting by paying respects to the Barkindji people, which translates literally to "belonging to the river", who are the traditional caretakers of the land we are on. The lack of water in the Barka (river) directly impacts these people's culture and identity. The Barkindji people of Wilcannia are known as having the lowest life expectancy in this country of only 36-42 years of age. It is believed that the destruction of the river has had a direct influence on this statistic.

The following morning is Threatened Species Day and we jump straight into action. Weird Alice, a performing artist from North America, and myself get busy painting our faces up in drag while Megan Williams (the River Country campaign coordinator at Friends of the Earth Melbourne), Jemila Rushton (fellow activist and owner of Djinn) and Rob rush around getting ready to host a number of locals whom we perform to on the dried river bed.

Weird Alice, dressed as the endangered Golden Perch, sings a powerful rendition of "I Will Survive". Dressed as a native Blue Yabby, I lip sync "When The River Runs Dry" while locals dance around me with cardboard cut-outs of dead fish. In what feels like a flash of lightning, videos are edited, photos are uploaded and a media release is sent out into the world with the hopes of getting some coverage about the dying river.

Weird Alice, Fox Pflueger and Jemila Rushton.





We say our goodbyes to Tolarno then get in the car and drive another hour to the once great Menindee Lake, now bone dry - it is a very sad sight to say the least. We set up next to a couple of unsuspecting camper vans while a bevy of locals and activists pour in with their fold-out chairs to watch our drag show and hear our plea for the river. Petitions are signed that we are compiling to send to the Minister of Water to stop corruption in river management, and to implore them to keep environmental water in the river where it belongs!

## Broken Heel Festival

The following day our hard work pays off as we have made the front page of Broken Hill's "Barrier Daily Truth"! This coincides perfectly with the Broken Heel Festival, a three-day event celebrating all things drag inspired by Priscilla Queen of The Desert. What appears to be your classic country mining town is painted pink and the LGBTQI+ community of Broken Hill, and greater Australia, fill the town with colour and flare. As well as drag shows at night in the amazing Palace Hotel, there is a huge parade through the town which we walk in holding our banner proudly.

Megan dressed as a Murray Cod "swims" the whole length of the street to the delight of all onlookers. Having seen us in the paper many locals thank us for our support and advocacy for the river, asking how they too can help stop the corruption and signing the petition. We even enter the best dressed competition and have the hosts ask everyone to pay attention to the importance of our cause. It is obvious that the issue of the river drying up is felt so deeply by many.



We finish the weekend off heading out to Silverton pub to share a beer and a laugh with the staff and some local donkeys (literally). Reflecting on what we have done it feels like a small splash in the face of the ongoing devastation and disrespect to the Murray-Darling Basin, but we sit and plan how we can do it bigger, queerer and more inclusive next time.

Using drag and performance to make our splash turn into a whole monsoon of action and activation to save the Barka. As Megan Williams said: "Drag is the art of resistance. We are dancing in solidarity with endangered species and communities who have been left out to dry. The queer community has fought for our existence for generations and we are here to give voice to threatened species to say 'I will survive!'"

Please sign the petition at [www.melbournefoe.org.au/env\\_water](http://www.melbournefoe.org.au/env_water)

More information:

[www.melbourne.foe.org.au/river\\_country](http://www.melbourne.foe.org.au/river_country)  
[www.melbourne.foe.org.au/2018\\_the\\_story\\_so\\_far](http://www.melbourne.foe.org.au/2018_the_story_so_far)

Weird Alice (dressed as an endangered Golden Perch), Tolarno local Rob McBride, and Fox Pflueger (dressed as a native Blue Yabby).

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# Australian miners hone in on Ecuador

Anthony Amis

In June 2018, the Rainforest Information Centre (RIC) was alerted that mining exploration was occurring within the boundaries of the 7000-hectare Los Cedros Biological Reserve in northern Ecuador.

Los Cedros is a biodiversity hotspot consisting of pre-montane wet tropical rainforest and cloud forest. Los Cedros had been set up in the 1980s largely through a grant from the Australian government and has been a long running campaign of RIC. The call-out from long-term rainforest activist John Seed inspired a small group in Melbourne to relaunch the Melbourne Rainforest Action Group and we got busy better comprehending what was occurring at Los Cedros and more broadly in Ecuador and South America.

Ecuador is currently under assault from a myriad of Australian mining companies. All of the big players of Australian mining are staking a claim in the country. Two of Australia's richest mining magnates, Gina Reinhart and Twiggy Forrest, have areas under exploration, as do heavyweights like BHP and Newcrest. A little-known Brisbane-based company called Solgold is also one of the prime movers and shakers in the country.

In February 2015, the Ecuadorian government created the Ministry of Energy and Mines to grant hundreds of new mining exploration licences throughout the country, the first granting of licences in six years. These new licences funnelled millions of dollars into Ecuadorian government coffers. Eighty percent of mining concessions have been granted to Australian and Canadian companies, and 67% of Australian concessions have been granted to Solgold and subsidiaries.

Newcrest is part owner of a new gold mine in the south east of the country, near the Peru border, called Fruta Del Norte. This mine is currently under construction and is expected to start operation in 2019 in partnership with Swedish/Canadian company Lundin Mining. Fruta del Norte lies about 30 km south of a Chinese copper megamine called Mirador. Both mines are located in the traditional lands of the Shuar people. Mirador has been linked to human rights violations and is owned by Ecuacorriente and the China Railway Construction Corporation.

Solgold have concessions throughout the country, but particularly in the north at a prospect called Cascabel. South of Cascabel, the Solgold concessions have been surrounded by both Hancock and BHP in concessions that cover thousands of hectares. Both Newcrest and BHP have purchased large percentages of Solgold and are circling for a takeover bid.

Solgold is a Brisbane-based minerals explorer, a subsidiary of DGR Global. Individuals involved with Solgold, Nick Mather in particular, have been involved with environmentally destructive developments in Australia. These include kick-starting coal mining in the Galilee Basin through Waratah Coal which was purchased by Clive Palmer in 2008 and also helping kick-start the coal seam gas industry throughout Queensland in the Surat Basin, Galilee Basin and Bowen Basin (Arrow Energy, Bow Energy and Armour Energy - currently active in Queensland and the Northern Territory).

BHP is trying to buy up access to new copper mines to position itself for the expected increase in demand for electric cars, which require 3-4 times more copper than conventional vehicles. Already locals in Ecuador are starting to report pressure from BHP. An activist website highlighting concerns in the Intag area has been removed after complaints from the company.

Despite its tiny size, Ecuador is one of the world's biodiversity hotspots, with more vertebrate and endemic plant species than the entire United States and Northern Europe combined. This mega-diverse nation also contains some of the world's most endangered forests. The incredibly species rich, north western cloud forests of Ecuador have experienced around 95% deforestation - only fragments of previous habitats remain. Many species unique to the region are under threat of extinction and many more remain unknown to science.

In spite of its global significance as one of the world's most biodiverse countries, around 14% of its total land area has been secretly sold to multinational mining companies by the Ecuadorean government. Many of these mining concessions overlap protected forests and indigenous reserves.

All is not lost however. Support for indigenous groups and local communities could be vital in turning the mining juggernaut around. Over the past year there have been two successful legal challenges of unsustainable development in Ecuador by local people. A mine called Rio Blanco was closed in August 2018 after a local judge revoked the mining licence of Chinese firm Ecuagoldmining on grounds that the people of Molleturo had not been properly consulted.

In October 2018, the A'i Cofan people won their case in the Provincial Court of Sucumbios against the granting of 32,000 hectares of mining concessions in their country based on grounds of violations of free, prior and informed consent; rights to water; and the Rights of Nature.

Melbourne Rainforest Action Group actively supports the Confederation of Indigenous Nations of Ecuador (CONAIE) and local Ecuadorian conservationists and farming communities in their struggle to halt the massive expansion of mining in Ecuador.

CONAIE was founded by 500 indigenous representatives in 1986. Composed of three regional federations, it incorporates Ecuador's Shuar, Achuar, Siona, Secoya, Cofán, Huaorani, Záparo, Chachi, Tsáchila, Awá, Epera, Manta, Wancavilca and Quichua tribal groups.

Melbourne Rainforest Action Group has produced detailed reports on Solgold, Newcrest and Blackrock and also a report on BHP's activities throughout South America.

*Anthony Amis is a member of Melbourne Rainforest Action Group and Friends of the Earth Melbourne.*

More information:

*Melbourne Rainforest Action Group: <https://rainforestactiongroup.org/> and [www.facebook.com/MelbourneRAG/](http://www.facebook.com/MelbourneRAG/)*

*Reserva Los Cedros: <http://reservaloscedros.org/>*

*Rainforest Information Centre: [www.rainforestinfo.org.au/](http://www.rainforestinfo.org.au/)*

# States reject proposal to deregulate new genetic modification techniques

Louise Sales

In October this year, state governments thwarted the federal government's plans, and a massive global push by the biotech industry, to deregulate a range of new genetic modification (GM) techniques that are being referred to as 'gene editing'. At the recent Legislative and Governance Forum on Gene Technology meeting, State and Federal Ministers agreed that further consideration of the potential risks posed by these techniques is needed before a decision can be made.<sup>1</sup>

The federal government's incredible plan is to deregulate these techniques by changing the definition of GM so that these gene editing techniques are magically no longer GM at all. These techniques are not as precise as has been claimed and can result in high levels of unexpected genetic mutations - raising serious environmental and food safety concerns.<sup>2</sup>

Powerful, clear scientific evidence shows the potential risks these new GM techniques pose. It's vital that organisms produced using these techniques are assessed for safety before being released into our environment and supermarkets.<sup>3</sup>

In July 2018, the European Union's top court ruled that gene editing techniques such as CRISPR pose similar risks to older GM techniques and need to be assessed for safety in the same way.<sup>4</sup> Our key agricultural competitor New Zealand will also be regulating these techniques as GM.<sup>5</sup>

## Australian regulators are letting industry write the rules

In shocking contrast to overseas regulators, the Office of the Gene Technology Regulator (OGTR) and Food Standards Australia New Zealand (FSANZ) have both recommended that a number of these new GM techniques be deregulated. To add insult to injury, they have relied on advice from scientists from institutions with clear commercial conflicts of interest, and partnerships with Monsanto in making their recommendations.<sup>6</sup>

These techniques are quite clearly genetic engineering - the fact that our regulators are even considering not regulating them demonstrates how captured they have become by industry interests.

## There is a global push to deregulate these new GM techniques

The global push by industry to deregulate these techniques began a few years ago. Puff pieces started appearing in the science media about this amazing new 'gene editing' tool called CRISPR that could precisely edit DNA and could apparently solve everything from world hunger

to HIV. Those of us old enough to have seen similar claims made for the first generation of GM crops - and fail to materialise - viewed these utterances with a healthy level of scepticism.

The language being used has clearly been carefully workshopped by the biotechnology industry to maximise the public acceptance of these new technologies. The term 'gene editing' implies that you could just go in and change a DNA letter as easily as you could a letter in a Word document.<sup>7</sup> Others have likened the technique to a molecular pair of scissors that can cut DNA at precise points.<sup>8</sup>

Such analogies fail to acknowledge that when these techniques are used in plants the same methods used to produce first generation GM crops are being used - i.e. particle bombardment with genetic material and cell tissue culture - with all the resultant mutation risks. They also conveniently ignore the fact that CRISPR, and other similar gene editing techniques, are all prone to cutting unintended bits of DNA. If an analogy is to be used, gene editing with CRISPR is more akin to doing a 'find and replace all' in a Word document in a language you don't understand. And as recent studies show, the technique is also prone to deleting and rearranging random bits of text.<sup>9</sup>

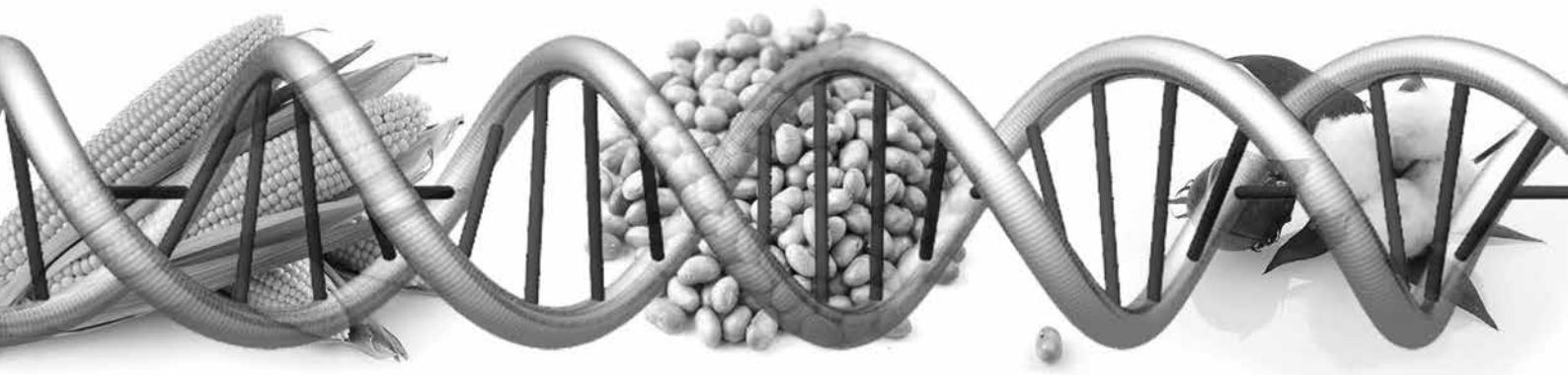
Industry has argued that the genetic differences caused by these techniques are really no different to traditional breeding - and therefore they don't need to be regulated. And, unfortunately, these claims have been uncritically repeated by our regulators - the Office of the Gene Technology Regulator and Food Standards Australia New Zealand.<sup>10</sup>

Let's be clear what the real agenda is here. The GM crop industry hoped that the tacit endorsement of genetically modified organisms (GMOs) by our regulators would result in us happily eating them. This approach has completely failed. People remain quite rightly concerned about the safety of GMOs and their role in the global food system. So now industry has changed tack, and is trying to argue that these new techniques aren't really GM at all - so they can sneak them into the food chain with no safety testing and no labelling.

## Manufacturing outrage

After a lengthy deliberation, in July this year the European Court of Justice ruled that these gene editing techniques such as CRISPR pose the same risks as older GM techniques and need to be assessed for safety in the same way.<sup>11</sup> This finding is consistent with similar reviews commissioned by the Norwegian and Austrian Government on the topic.

*The federal government's incredible plan is to deregulate these techniques by changing the definition of GM so that these gene editing techniques are magically no longer GM at all*



The GM crop industry response to the ruling has been quick and vicious. Straight away industry funded cheerleaders Mark Lynas and Kevin Folta took to social media slamming the ruling. And the industry funded Science Media Centre released a series of scathing comments.<sup>12</sup> Soon the mainstream media followed suit, with *The Observer* declaring the ruling “illogical and absurd”. Writing in *The Times*, Matt Ridley (author of *Genome*) accused Europe’s highest court of pandering “to the views of a handful of misguided extremists.”<sup>13</sup> And now scientists are arguing that the ruling is having a ‘chilling’ effect on research.<sup>14</sup>

Contrary to the industry orchestrated hyperbole, Europe has not banned these experimental new GM techniques – just required that organisms produced using them be assessed for safety before they are released into our environment and our food chain.

And lots of scientists agree. In their submissions to Office of the Gene Technology Regulator Monash University, University of Melbourne and the Institutional Biosafety Committees of the University of Wollongong, Victoria University,

Walter and Eliza Hall Institute of Medical Research, and Children’s Medical Research Institute and Children’s Hospital Westmead all agreed that these techniques should be regulated. So why are our regulators letting the GM crop companies write the rules?

### What’s next?

The issue will be discussed again at the next Legislative and Governance Forum on Gene Technology meeting in a few months’ time. No doubt CropLife and other industry players will be using this time to pressure the state ministers – we need to do the same!

### Take action!

Please contact your state minister and urge them to protect our environment, our health and our food markets by ensuring that these risky new GM techniques are regulated: [www.gmfree.org.au](http://www.gmfree.org.au)

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# Rethink Melbourne's North East Link

Rachel Lynskey

Back in the 1960s and '70s the Melbourne community fought against building the Eastern Freeway. These activists prevented the giant road ripping through inner city suburbs, containing damage to the parklands and green wedge in the east. Yarra Bend Park and Koonung Creek Reserve have been forever changed.

A slither of hope in the road mania was the rail reservation down the middle of the freeway – eventually a direct rail link from Doncaster to the CBD and broader public transport network could happen after being proposed in 1890.

Many of the extended Friends of the Earth family would remember this fight against the freeway better than myself. Many of you will know we are still waiting for the Doncaster train (or any kind of high-capacity reliant public transport to this black spot of Melbourne). What many don't know about is the current plan to expand the freeway to 20 lanes.

There are plans to turn our Eastern Freeway into a 20-lane monster as part of the North East Link Project. The sneakily-named North East Link is more than just the proposed 26 km road project connecting the Metropolitan Ring Road in Greensborough with the Eastern Freeway at Bulleen. A tunnel under the Yarra River at Banyule Flats will connect to a vastly 'upgraded' Eastern Freeway. From Hoddle Street to Springvale Road lanes will be widened, paving over the rail reservation. The enormous size of the future Eastern Freeway is like something from Los Angeles – spreading as much as 94 metres wide. Construction is set to begin in 2019/2020 with estimated completion in 2027. It is estimated to cost between \$10-16 billion, making it the most expensive Victorian road project in history.

## Traffic cut?

With all major roads projects, immediately after completion of the road there will be shorter travel times and less traffic congestion. The 40-year old Eastern Freeway is congested and full of traffic for long periods beyond the usual peak hours, hence the call to widen the lanes.

However, in five years' time the benefits would disappear, with the potential for even worse traffic congestion. Roads follow the law of 'induced demand', meaning that if there is more road space available then more cars will come to fill it. This is because people who stopped driving because of road frustration, begin to drive again. The new roads also attract new drivers, right up until they're completely full, with congestion as bad as ever. The road is predicted by the Victorian government itself to shift 25,000 people per day from trains to cars.

## Environmental impacts

As the road widens it will also eat into green space, bringing the road closer to homes, schools and parks. Five different creeks or rivers will be affected by the North East Link: Yarra and Plenty Rivers and the Merri, Banyule and Koonung Creeks. The Plenty River, Merri and Koonung Creeks are already in 'very poor' shape according to an assessment of their condition. Construction near these sites risks further worsening their condition.

After years of work to create the Yarra River Protection Act, the government will risk this work and need to apply for an exception in order to go ahead with the North East Link. A report from the Andrews Government has admitted that the construction could "result in stress and degradation of ecosystem health" of the Yarra.

There are also questions about the lane widths on the Eastern Freeway possibly widening to 3.7m, so much larger trucks can use the road. With increased traffic, this means increased air pollution and road noise.

The scale and cost of the project mean the government is seeking a private consortium to build, operate and maintain the road. This tender process has shown tolls not only on the newly-constructed tunnel section, but other roads could also be tolled to fund the construction. Private car and toll companies will earn profits from this road for decades to come, while public transport and sustainable solutions miss out on the funding and priority needed.

## Alternatives?

The best alternatives for the North East Link, as with all major roads projects, is to upgrade our public transport system. If people do not have easy access to their public transport, they will opt for car travel. This means we need improved bus services from suburbs to their train stations, and upgrades to our train lines to carry more people, more often, and more reliably. Duplication of the single-track Hurstbridge line would ensure that more trains can run, with less delays and service interruptions. Committing to the long-awaited Doncaster line will move people from cars to trains and free up congestion.

The North East Link will eventually be used for access to massive trucks to move our freight. By getting rid of big trucks in our suburbs and moving more of the stuff we need by rail, we can ease congestion on the roads and improve air pollution at the same time.

## What can we do?

We need to Rethink North East Link now. Tell our political decision makers that now is the time to stand with the community and protect our environment. Tell our political decision makers that now is the time to stand up to the car and toll lobby, and invest in public transport.

Please get started by signing the petition to Rethink North East Link: [www.getonboard.org.au/rethink\\_nelink](http://www.getonboard.org.au/rethink_nelink)

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## More information:

[www.melbournefoe.org.au/sustainable\\_cities](http://www.melbournefoe.org.au/sustainable_cities)

[www.facebook.com/WeSustainCities](https://www.facebook.com/WeSustainCities)

[www.planning.vic.gov.au/environment-assessment/browse-projects/projects/north-east-link](http://www.planning.vic.gov.au/environment-assessment/browse-projects/projects/north-east-link)



# Indramayu farmers against coal power

Wahyu Widiyanto – FoE Perth member; former campaigner, WALHI West Java (FoE Indonesia)

The planned expansion of Indramayu coal-fired power station in West Java, Indonesia threatens the livelihoods of thousands of farmers. Farmers from the Indramayu Coal Smokeless Network (JATAYU) who have demanded that their human rights are respected, and insisted on basic procedural fairness, have been criminalised. The massive investment required for this land grab and development is funded by the Japan International Cooperation Agency (JICA). This is the story of three farmers arrested for protesting the lack of justice in Indramayu.

## Improper consultation on land acquisition and environmental permits

At the end of 2015, Indonesian President Joko Widodo gave instructions to accelerate land acquisition for the expansion of the Indramayu coal power plant, which would have a capacity of 2 x 1000 megawatts (MW). During the entire process of forced land acquisition, no space was ever provided for the public to submit objections.

In the public consultation meeting in February 2016, held in the Patrol sub-district, the land acquisition committee (TP2T) and the state-owned electricity company (PLN) only invited supportive landowners and selected community leaders. This manufactured agreement on the location of the development. Meanwhile, according to Law No. 2 of 2012 concerning land acquisition for development in the public interest, the land acquisition committee is obliged to invite affected communities and tenant farmers as rightful parties, in addition to land owners.

In July–August 2016, after land acquisition had begun, the Japan International Cooperation Agency (JICA) sent consultants to make a Land Acquisition Plan (LAP). The LAP should have been prepared prior to the land acquisition so that social problems could be anticipated. According to JICA's own guidelines: "Democratic decision-making is indispensable for environmental and social considerations. It is important to ensure stakeholder participation, information transparency, accountability, and efficiency, in addition to respect for human rights, in order to conduct an appropriate decision-making process."

## Resisters

Sawin (50), Sukma (35) and Nanto (41) are typical of hundreds of tenant farmers and farm labourers who lost their livelihoods due to the plan to expand the Indramayu coal power plant.

Together with his wife, Sawin had rented land within the planned project site to plant rice and onions. Besides losing their livelihood, Sawin and his family did not receive compensation for lost crops. As a tenant farmer, he should be involved in every process, from consultation to pricing and compensation of crops.

Sawin Sukma and Nanto live in Mekarsari village together with about 55 other families. Their hamlet is only 150 metres from the planned construction site. Residents will face significant negative impacts from reduced air quality, along with derivative impacts on health. Resident Pulo Kuntul notes several reasons why residents object to the presence of a coal power plant: "First, health threats because of declining air quality. Second, seizing people's land. In fact, this is all productive land. Third, the elimination of employment, especially for mothers. If we farm, we usually work together. If there is coal power plant, what kind of mother will work?"

## Errors and legal defects

The environmental permits for the construction Indramayu coal power plant 2 x 1000 MW contains substantial errors and legal defects including:

- There has been no involvement of affected communities. This is a violation of government regulation PP27/2012 concerning environmental permits and ministerial direction LH17/2012 concerning guidelines for community involvement.
- The Environmental Impact Assessment (EIA) document had expired before the permit was issued in 2015. This violates Law No. 32/2009.

Furthermore, the process of land acquisition and the issuance of environmental permits that are not participatory is clearly contrary to the basic policies, processes and procedures contained in JICA guidelines on environment and social consideration. Especially that: "Appropriate and accessible grievance mechanisms must be established for the affected persons and their communities." And: "The Universal Declaration of Human Rights makes clear a common standard of achievement for all peoples and all nations: to promote respect for human rights and freedoms, and to secure their universal and effective recognition and observance. Environmental and social considerations refer not only to the natural environment, but also to social issues such as involuntary resettlement and respect for the human rights of indigenous peoples."

## Criminalisation and human rights violations

In July 2017, community members from the Indramayu Coal Smokeless Network (JATAYU) filed suit over the environmental permit through the state administrative court in Bandung. Their main reason is that there is a health threat that will occur if the power plant has a capacity of 2 x 1000 MW. In addition, they allege that there was no community participation in planning and compiling environmental documents.

After a lengthy trial process, the community lawsuit over environmental permit of Indramayu Plant was upheld by an administrative court judge on December 6, 2017. The judge ordered the governor of West Java to revoke the environmental permit for the expansion.

Eleven days after the victory, at 1am on December 17, Sawin Sukma and Nanto were arrested. Armed police officers arrested both of them on allegations of insulting the flag of the Republic of Indonesia on December 15, 2017, as prohibited by Law No. 24 of 2009. They had been holding the Indonesian flag upside down at a protest to signal distress.

Sukma was arrested without a warrant. It was days later that his family received an arrest warrant through the Mekarsari village apparatus. One day later, the community advocacy team requested a detention suspension and the police allowed them to go home. On September 24, 2018, farmers day, Sawin and Sukma were officially detained and imprisoned in the Indramayu penitentiary.

Previously, in March, four Mekarsari villagers had been sentenced to six months' imprisonment for alleged acts of violence against a person who won the tender for the construction of an extra high voltage substation of Indramayu coal power plant. Among them is Taniman (55), one of the three plaintiffs of the case against the Indramayu coal power plant permit. They were released in September 2018.

Mekarasi villagers have experienced continuous threats and criminalisation when they fight for environmental rights and health. In the name of development and economic interests, the Indonesian government and JICA continue to force the construction of the Indramayu coal power plant. All of this encourages severe human rights and environmental violations such as the loss of livelihoods, pollution and destruction of marine resources, police surveillance, intimidation and, criminalisation.



There was a conspiracy between the companies and security apparatus to use strategic laws against public participation (SLAPP). They intimidate and criminalise the community to stop taking action to against the proposed coal-fired power plant.

We urge the Japanese government to immediately reject funding of this coal fired power plant as such funding is another betrayal by Japan of the efforts every country is making to dramatically decrease carbon emissions in line with the Paris Agreement and a 2°C global warming limit.

We also urge the Indonesian government to release Sawin and Sukma immediately. Any Indonesian citizen who fights for a good and healthy environment, should not be prosecuted or sued (article 66 Law No 32/2009 concerning environment). They are climate warriors, they have struggled not just for their lives but fight for all of humanity against the threat of climate disaster. Without farmers, what will you eat?

WALHI West Java has been working with the Indramayu Coal Smokeless Network (JATAYU) in seven villages since 2015. FoE Japan has also demonstrated their solidarity, including by organising a protest at the Indonesian Embassy in Tokyo.

*Edited by Lian Sinclair, FoE Perth*

## Background to the Indramayu power station

Size of productive area : 269,7 Ha. Capacity : 2 x 1000 MW. Jica has provided the loan for engineering service (1,727 million yen) of this project in march 2013. In 2015, the Indonesian government announced plans to add 35,000 MW of new electricity generation capacity in Indonesia between 2015 - 2019 to meet predicted demand. The Indramayu expansion is part of the drive to reach 35 GW of additional power. Land acquisition in Indonesia is governed by new land law (Law no.2 /2012). However, the law does not provide enough rights for community dissent. In this case, the community has officialy sent an objection letter to the land aquisition land comittee, but did not receive a response.



# Resist fascism: building food sovereignty from people's unity

Martín Drago

Food sovereignty, as originally proposed by La Via Campesina<sup>1</sup> involves people cultivating self-determination, solidarity and social, political, economic, environmental and gender justice. It brings together and builds on different sensibilities, and counters the homogenising discourse of agribusiness, while resisting its physical expansion.

For Friends of the Earth International, strengthening food sovereignty is key to achieving peoples' emancipation. But how can we make progress in the current context of the unbridled expansion of fascism? To change the system, it is imperative to cast out fascism.

## Post-truth distortions

Fascism, according to Umberto Eco's characterisation, is a social, political and cultural ideology that it is racist, xenophobic, misogynist, male chauvinist, homo-lesbo-transphobic, acritical, simplistic, anti-pacifist, elitist and aporophobic, antipolitical and antidemocratic, totalitarian, and homogenising.<sup>2</sup> It's a social practice that some European comrades describe as necropolitics, whereby those in power decide who should die and how people should live in order to sustain the system.

Resisting fascism is a categorical imperative and an urgent tactical necessity that requires organised unity. In this post-truth era, unified peoples must acknowledge the diversity of struggles, while avoiding falling into antagonistic traps.

'Post-truth' refers to the deliberate distortion of reality to influence public opinion and social behavior. Such distortions increase and strengthen the hold of agribusiness giants on the global food and agriculture system and its profits.

Undeniably, the agribusiness model has resoundingly failed, leaving in its wake a global swathe of social, economic, environmental and nutritional destruction. This has even been acknowledged by the director-general of the Food and Agricultural Organization (FAO).<sup>3</sup>

## Anti-capitalist movements

The lie, repeated ad nauseam, that agribusiness is necessary to feed the world is no longer effective. The proponents of agribusiness are now recognising the failure of their model – as the World Economic Forum recently did<sup>4</sup> – only to advance alternatives that further entrench their power.

This year's FAO State of Food Security and Nutrition in the World report is illustrative. It acknowledges the links between the climate and food crises, but the alternative it advances is climate-smart agriculture – agriculture with no people on the land. The report makes no mention of agroecology, which is a real alternative practised by those who grow the vast majority of the food we eat.

Another example is, as Filardi and Prato argue in this year's Right to Food and Nutrition Watch<sup>5</sup>, that we are facing “processes of dematerialization, digitalization and financialization [that] are deeply changing the character of the corporate food system. The result of this includes the shifting of power to new actors who are often increasingly distant from food production [and] are altering the conception of the food market, and food consumption habits within urban centers and beyond”.

Social movements have been resisting agribusiness and its post-truths for decades, and instead promoting food sovereignty – a project by and for those always left behind: peasant, indigenous, family farmer, fisher folk, rural and urban men and women. Food sovereignty is an anti-capitalist and anti-patriarchy project that transforms the living conditions of the working and popular classes.

## Peasant to peasant

We need to learn from Cuba, which reinvented its food production in the wake of the crisis of the socialist block and the aggravation of the inhumane US blockade. This reinvention was led by the knowledge and methodologies of “de campesino a campesina” (peasant to peasant), with supportive public policies and investments.

Cuba and its peasantry have become engines for the development of agroecology, demonstrating that this paradigm can indeed feed the masses and generate dignified living conditions in rural areas.<sup>6</sup> A pathway by and for the peoples.

Fascist projects, on the other hand, always serve the interests of the elites and ignore or attack any form of organisation that defends the interests of the people they claim to represent and that proliferate with the consent (whether by active support or by omission) of the dominant mainstream media.

Strengthening the convergence of the peoples is essential to halt this expansion of fascism and transform our realities. It will require political will from organisations, and resources and dedication from every comrade, to work around the nuances and differences of opinion on the basis of the common agreements that unite us.



It also requires formation, and the generation of information and communication tools created by and for the people, powered with technological sovereignty and digital security that enable us to bypass the media responsible for spreading lies to serve the system's interests.

## Antifascist front

Can we not, now, recognise fascism when we see it coming? Do we need to put our bodies on the line – the final frontier of adversity – to resist the expansion of fascism?

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We must take bold and solid steps towards unity, without forgetting the urgent threat we are facing. Fortunately, many voices in the popular camp are rising to the challenge. We may need to urgently build an international antifascist front, as Victor Baez, the secretary general of the Trade Union Confederation of the Americas recently commented.

Let's make 'No Pasarán'<sup>7</sup> (They shall not pass) a reality.

*Martín Drago is Friends of the Earth International's program coordinator for Food Sovereignty. He is a member of REDES/Friends of the Earth Uruguay and works closely with La Via Campesina, TUCA, World March of Women and other social movements.*

# People Power in action: Communities in England resist fracking

Friends of the Earth England, Wales and Northern Ireland

Working side-by-side with communities threatened by fracking, Friends of the Earth England, Wales and Northern Ireland is fighting to prevent dangerous shale gas extraction.

The tenacity of local residents and campaigners across the United Kingdom has kept the fracking industry at bay since 2011. Lancashire residents have been leading the campaign locally to protect communities from fracking. Their extraordinary efforts have won support from all over the country and helped keep the UK frack-free, despite the UK government's staunch support for the industry.

«We have discovered that we have a community through this movement and support is growing stronger by the day,» said Ian Roberts from Residents Action on Fylde Fracking. «We have an incredible network of autonomous but united groups throughout Lancashire and the UK and links with individuals and groups in Scotland, Ireland and Canada.»

Friends of the Earth England, Wales and Northern Ireland has provided legal and planning advice and expertise, and launched legal cases on behalf of communities to challenge UK government decisions. They have also helped supply monitoring equipment to register changes in air quality and noise, and provided training and materials.

The campaign against fracking has been taken to a national level, targeting the UK government and slowing the industry's progress. In 2015, the Lancashire County Council voted to block fracking at Preston New Road – but the UK government overturned the ruling and gave fracking the final go ahead in July 2018.

As machinery was delivered to Preston New Road, mobilisations intensified. Hundreds of people, religious groups, unions, farmers and families demonstrated. The project is behind schedule, largely due to the daily opposition from local people at the roadside and hundreds of people regularly flocking to the site to support them.

The government has proposed fast-tracking fracking in England by making it a «permitted development», which would remove the need for fracking companies to apply for council planning permission. Friends of the Earth are heaping pressure on the government to drop this proposal, in which fracking would be covered by the same planning rules as putting up a fence.

Around 40,000 people have signed a petition urging the government to allow local councils to make planning decisions on fracking, and to not allow fracking companies to drill without the need to apply for planning permission.

Barbara Richardson lives in Roseacre, just 500m from another proposed Cuadrilla fracking site. The more she learnt about fracking, the more horrified she became about its impacts not just on her community, but every community across the UK. A member of the Roseacre Awareness Group, Richardson said: «I am determined to fight fracking as I know what the risks are and the potential threat to my community. If we lose here in Lancashire it will encourage energy companies to apply for permission to frack all across the country. This would affect thousands of people as well as threaten our environment.»

*More information: [www.friendsoftheearth.uk/climate-change/fracking](http://www.friendsoftheearth.uk/climate-change/fracking)*

# Four key steps to take Australia towards 100 per cent renewable electricity

Mark Diesendorf

Even in the absence of a carbon price, several simple, affordable policies could drive the transformation of the large-scale electricity supply system from one that's dominated by fossil fuels to one dominated by, clean, safe, everlasting, affordable renewable energy – given the political will.

The most urgent policies involve supporting dispatchable renewables and other forms of storage, building or upgrading a few key transmission links, two changes to market rules, and implementing an industry-funded scheme for retiring the most polluting coal-fired power stations.

The details are set out in the Discussion Paper recently published by the Australia Institute. Here is a summary.

Most Australians are concerned about climate change (73%) and agree that the government needs to implement a plan to ensure the orderly closure of old coal plants and their replacement with clean energy (70%) within the next 20 years (67%).

Furthermore, an overwhelming majority (84%) of Australians supports the statement that “the government should focus on renewables, even if this means we may need to invest more in infrastructure to make the system more reliable”. The recent Wentworth by-election confirmed the public attitudes for the case of a formerly safe Liberal seat.

In Australia, neither major political party at the federal level is implementing the will of the majority of citizens on energy policy. The Liberal National Coalition (LNC) government continues to promote coal.

Its former national target for renewable energy (26%) was so weak that it could be reached without federal intervention as the result of the positive policies in several states and territories and local governments, and purchases of renewable energy (RE) by the industrial, commercial and household sectors.

It has no other policies capable of driving a transition to a predominantly RE future and still has legislation, stalled in the Senate, to undermine existing policies, namely to close the Australian Renewable Energy Agency (ARENA) and the Clean Energy Finance Corporation (CEFC).

The Australian Labor Party (ALP) Federal Opposition has an easily achievable renewable electricity target for 2030 (50%), several worthwhile minor policies supporting renewable energy, but no support for its target from

Renewable Energy Certificates between 2020 and 2030, and no other policy capable of driving its target or a stronger one.

Vested interests appear to be still determining the policies, or lack thereof, of both major parties, particularly in the federal sphere.

Therefore, the community must make RE an important election issue nationwide, correct public misconceptions about energy policy and renewable energy being disseminated by opponents, and put increasing pressure on recalcitrant governments to act. If they don't comply with the will of the majority, these governments must be voted out of office.

In particular, the federal Coalition, New South Wales Coalition and Western Australian ALP governments must set realistic RE targets (they have none) and follow the lead of the ACT, Victoria and Queensland by implementing reverse auctions with contracts-for-difference to achieve their targets.

Electricity is the focus of this article, because it's the easiest form of energy supply to transition and so almost all energy used in a future ecological sustainable energy system will be produced directly or indirectly from renewable electricity (RE).

Because emissions from agriculture, non-energy industry and air and sea transport are more difficult to cut rapidly, electricity will have to contribute a much greater share of emission reductions, transitioning to zero emissions by 2030 or soon afterwards.

Since the present Federal Government is unwilling to budge on climate and energy policy, we outline the key policies recommended for the next Federal Government.

## Dispatchable renewables

Electricity from new variable renewable electricity (VRE) sources, wind and solar PV farms, is now much cheaper than from new fossil fuelled (FF) power stations.

Therefore, the unguided market will implement these technologies preferably above all others. The problem is that an electricity supply system cannot be composed of only VRE. To maintain reliability and security of supply, it needs a contribution from supply that's dispatchable, i.e. can supply power on demand at short notice.

The last thing it needs is inflexible, slow-response, coal-fired power stations; instead it needs (together with demand response) flexible, dispatchable renewables and/or other forms of storage.

These include pumped hydro, concentrated solar thermal with thermal storage, batteries charged with excess VRE and open-cycle gas turbines operating on fuels produced from excess VRE (e.g. hydrogen and ammonia).

However, the market for most of these technologies is just beginning to grow, they will only operate for short periods of time, and so their electricity is more expensive than from VRE.

With time being the essence, government policies are needed to accelerate their growth and hence reduce their costs. Therefore, we recommend that a future Federal Government provide an additional tranche of funding, (say) \$4 billion over four years, for ARENA grants specifically for dispatchable renewable electricity, other forms of storage and demand response.

This tranche should be additional to any ARENA funding allocated to Snowy 2.0. Current ALP policy commits to a specific additional \$207



million over four years for concentrated solar thermal. Although this is a positive gesture, it is not sufficient to obtain reliable mix of variable and dispatchable renewable energy sources.

A future Federal Government should also provide an additional tranche of funding of \$2 billion over four years for CEFC loans specifically to dispatchable renewable electricity and other forms of storage.

## Phase out the most polluting coal stations

The anticipated rapid growth of RE must be matched with the retirement of coal-fired power stations. To assist this transition, the policy suggested by the ANU Centre for Climate Economics & Policy could be adopted.

Plants bid the payment they require for closure and the regulator chooses the most cost-effective bid. The plants remaining in operation then make financial transfers to the plant that exits, in line with their emissions, under government regulation.

## Building key transmission links

The construction of key transmission lines must commence as soon as possible, because they take longer to plan and build than the rapidly growing wind and solar farms. The Integrated System Plan of the Australian Energy Market Operator covers most of the needs, but even its 'Fast Change' scenario, is too slow. Planning and constructing the following links should commence immediately:

- Upgrade NSW-Qld and connections in northern NSW;
- Build a new SA-NSW link;
- Upgrade lines in western and north-western Vic.

## Simple rule changes to National Electricity Market

Following community and industry pressure, the settlement period for spot prices in the NEM will be changed from 30 minutes to the dispatch period of 5 minutes on 1 July 2021. Since this change will help to reward flexible, fast response, dispatchable, power plants and help reduce electricity prices, it should be brought forward to 1 July 2019.

Batteries should be rewarded for their very rapid response time (tens of milliseconds). The value of batteries for frequency control and ancillary services has already been demonstrated by the Hornsdale Power Reserve.

## More complex barriers to 100% renewables

Implementing the simple policies listed above will accelerate the transition and take Australia a long way on the path towards 100% RE. But the market was not designed for such a system,



despite all the talk about it being 'technology neutral'. The main problem will arise from the Merit Order Effect.

The growth in renewable electricity generation with almost zero operating cost will reduce the operating times of fossil fuel power stations and bring down the wholesale price of electricity, forcing fossil fuel power stations into retirement. No doubt this effect helped to force the retirement of SA's two coal-fired power stations. Excellent, so far!

But, as the growth of RE continues and the wholesale price continues to decline, spot prices (and contract prices influenced by spot prices) will no longer be sufficient to fund the capital costs of new generation of any type, including renewable energy, or even to fund loan repayments on existing solar and wind farms.

Either a new design will be needed for the electricity market or a non-market system will be needed. This non-trivial problem, and four possible solutions suggested by others, are discussed in the Discussion Paper.

## Conclusion

The community wants renewable energy and climate science shows that the transition must be rapid. There are no major technical or economic barriers to the transition. The next Federal Government must implement the proposed policies and the recalcitrant state governments must follow the lead of the ACT, South Australia, Victoria and Queensland.

*Mark Diesendorf is associate professor at the University of NSW.*

*The full report written for The Australia Institute is online:*

*Mark Diesendorf, Nov. 2018, 'Renewable electricity policy for Australia', [www.tai.org.au/content/renewable-electricity-policy-australia](http://www.tai.org.au/content/renewable-electricity-policy-australia)*

*Reprinted from RenewEconomy, 16 Nov 2018, [www.reneweconomy.com.au](http://www.reneweconomy.com.au)*

# 'Renewables capital of Australia'? Port Augusta shows off its green energy credentials

Stephen Long

Driving towards Port Augusta, a luminous white light appears on a concrete shaft to the side of the highway. The giant light is a receiver; it sits among a sea of mirrors which beam the sun onto it, producing intense heat that creates steam, turns a turbine, and makes electricity. It's known as concentrating solar thermal, a new breed of energy.

Nearby, a chimney is visible in the distance across the salt pans. It's a remnant of the Northern Power Station, one of two defunct coal-fired plants here that used to supply more than a third of South Australia's electricity. Its boilers were detonated last December.

"In 2015 when they announced the closure of the [Northern] coal-fired power station, I said that Port Augusta would become the renewables capital of Australia," Sam Johnson, the mayor of Port Augusta, said. "Three years on, I think we have."

Or soon will be. That white light on the outskirts of town is a mere taste of the technology coming to Port Augusta on a far grander scale. Thirteen renewable energy projects are underway or under consideration - from wind farms and pumped hydro-electric power to solar with storage that can shift electricity made when the sun's shining to meet peak demand in the evening.

"The one great resource we have here in Port Augusta and the upper Spencer Gulf is this wonderful natural resource called the sun," Mr Johnson said. "It's no different to having a massive uranium deposit, a massive gold deposit, a massive copper deposit."

In a country drenched in sun, this natural resource is particularly abundant in the arid landscape around Port Augusta, and there are also plenty of flat expanses on which to build the facilities needed to exploit it.

Framed by the Flinders Ranges, stage one of the Bungala solar farm stretches over 300 hectares of land owned by the Bungala Aboriginal Corporation about 10 kilometres north-east of town. Bungala uses a solar photovoltaic technology, with panels mounted on a tilting axis that can follow the sun's path from east to west, maximising output and efficiency. "It's not only the largest solar project in Australia," Mr Johnson said. "It's also the largest in the southern hemisphere. And it's only half complete."

When stage two is complete, the entire 300-megawatt Bungala solar project will cover more than 800 hectares - an expanse nearly as big as the Melbourne CBD - and generate enough

electricity to power about 82,000 households, according to its owners, Italian multinational Enel Green Power and the Dutch Infrastructure Fund.

"The solar plant will only operate when the sun is shining, but when you start to incorporate battery storage and solar thermal, you then build in the energy security," Mr Johnson said.

## Solar that releases energy even when the sun doesn't shine

The Aurora project about 30 kilometres north-west of Port Augusta addresses the criticism often levelled at renewable energy - that when the sun doesn't shine, and the wind doesn't blow, the power doesn't flow. Construction is due to start soon on the concentrated solar thermal power station. It will be able to store a massive 1,100 megawatt-hours of electricity, according to the project proponent, SolarReserve.

When it is built, an impressive sight will greet observers: a tower full of molten salt standing about 250 metres high, surrounded by more than 10,000 heliostats - movable mirrors, the size of billboards, algorithmically programmed to track the sun. Those thousands of mirrors will reflect and concentrate sunlight, beaming it onto a receiver straddling the top of the tower.

During the day, molten salt will flow through the receiver and be heated to temperatures as high as 566 degrees Celsius, then stored in tanks overnight. The energy will be dispatchable as electricity when needed - after dark in the evening peaks, or in the morning, hours after it was generated. It will be enough energy to power 90,000 homes, according to SolarReserve, which wants to build six of these plants in South Australia.

Crescent Dunes in the Nevada desert uses an identical technology. There is one key difference: the price of the power. "Pricing has come down dramatically, as it has throughout the renewable energy industry," Kevin Smith, the chief executive of SolarReserve, said.

Crescent Dunes, the first plant of its kind, began operating in 2014. Construction was aided by a concessional loan of \$US737 million (A\$1,040 million) from the US Department of Energy. Despite that subsidy, it was contracted to supply electricity to Nevada at \$190 a megawatt hour. Not cheap.

The Aurora project is receiving a much smaller concessional loan from the Australian Government - about \$110 million - but will

*When stage two is complete, the entire 300-megawatt Bungala solar project will cover more than 800 hectares - an expanse nearly as big as the Melbourne CBD - and generate enough electricity to power about 82,000 households*

*The arid-zone landscape of the upper Spencer Gulf has solar resources ideally suited for concentrating solar thermal power, wind in abundance at speeds well suited for turbines, and a coastal location that opens the possibility of pumped hydro energy using seawater.*

supply energy at a fraction of the price. SolarReserve is cagey about the precise figure (the contractual conditions are complex) but Mr Smith agreed with reports that put the cost at about \$78 a megawatt hour.

At current exchange rates, that is well under half the price of electricity from its inaugural plant in the US – and far cheaper than new coal-fired power. “In terms of cents per kilowatt hour, we can supply electricity 30 to 40 per cent cheaper than new-build coal,” Mr Smith maintained.

## A town blanketed in ash

Coal used to be Port Augusta’s lifeblood. From the middle of last century, generations of Port Augustans worked in the coal-fired plants. They burnt lignite, the lowest rank of coal, mined at Leigh Creek about 250 kilometres away. The jobs buoyed the town but came at a cost: air pollution which blanketed the town, putting its citizens at risk of respiratory diseases from asthma to lung cancer.

“For 60 years the coal-fired power stations were dumping ash over the city,” Lisa Lumsden, a community activist and city councillor, said. “At times in the early years up to 15 tonnes of ash a day. People’s health suffered; asthma, respiratory disease was commonplace.”

For years, no-one assessed the toll the pollution was taking, but when a study finally examined lung cancer rates in Port Augusta, it found a cluster double the average rate. Though particulate matter and other carcinogens released by burning coal is a known cause of lung cancer, the government tried to blame it on smoking.

The ABC met Lisa Lumsden in the town square by a statue of her mentor, Joy Baluch, mayor of Port Augusta for 29 years until she died in 2013. Ms Baluch took to politics because of her son’s severe asthma. For decades, she battled to cut the city’s air pollution. Her husband worked in the power stations. He died of lung cancer 16 years before her, though he did not smoke.

Ms Baluch campaigned for solar thermal technology to replace the ageing coal-fired electricity generators. Through the community group Repower Port Augusta, Ms Lumsden took on the mantle.

“[In] 2011 we started the campaign – well before the power station announced its closure,” Lumsden said. “The community could see that there was a short future. We could see that it was likely that in a world of climate change and

dirty coal ash and a 60-year-old power station, change was going to come. We researched and found that solar thermal technology was exactly suited to the environment here, started a local campaign, then a state campaign, then a national campaign, and we won.”

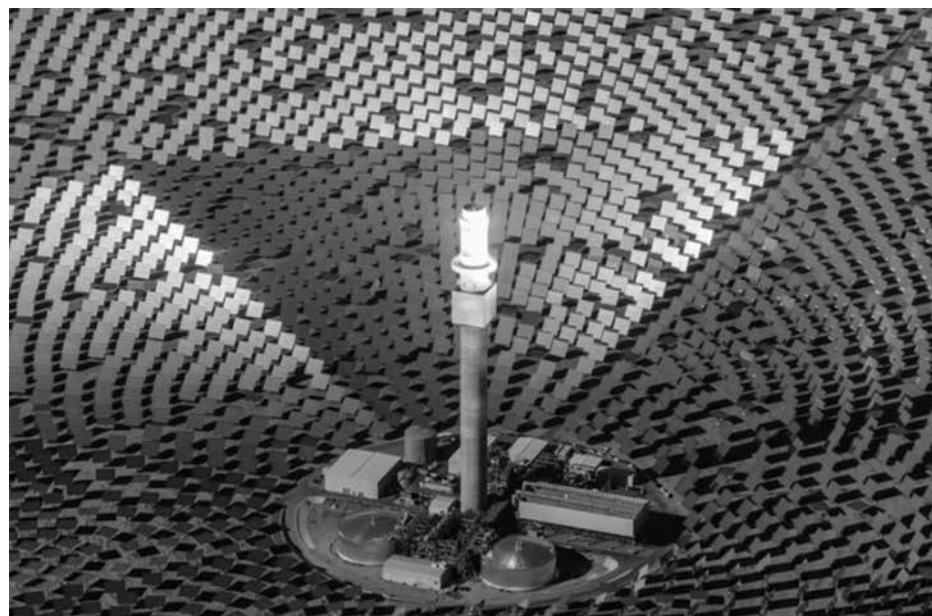
Ms Lumsden acknowledged the closure of the coal plants had been tough for locals. “We lost 200 jobs. It brought huge stability to our community – great, secure, well paid jobs – but it was no longer economically viable,” she said. “We had to embrace the options we have. We have incredible geography. We have everything we need to become the renewables capital of the world.”

An exaggeration? Maybe, but it’s not far off the mark. The arid-zone landscape of the upper Spencer Gulf has solar resources ideally suited for concentrating solar thermal power, wind in abundance at speeds well suited for turbines, and a coastal location that opens the possibility of pumped hydro energy using seawater.

What you won’t find are fields of fruit and vegetables – but where there’s a will, there’s a way. That white beacon of light on the edge of town? It’s a solar thermal power plant that runs a massive greenhouse that grows truss tomatoes. Sundrop Farm is using the solar thermal electricity to desalinate water, create electricity to power the operation, and pump heat through 60 kilometres of pipe around the vines. It’s a testament to human ingenuity, like much of what’s happening in the renewal of Port Augusta.

*Reprinted from the ABC, 8 Oct 2018, [www.abc.net.au/news/2018-10-05/port-augusta-becomes-australian-renewable-energy-hub/10338812](http://www.abc.net.au/news/2018-10-05/port-augusta-becomes-australian-renewable-energy-hub/10338812)*

The Crescent Dunes solar plant in Nevada.





# The energy of Thomas Playford

David Faber

Australia, and with it South Australia, stands at an historical crossroads of socioeconomic development. With climate change a pressing peril, the need to rely on emerging renewable energy technologies, whose costs are dropping relative to fossil fuels, to promote employment in sunrise industries, is imperative.

Only innovative thinking superseding outdated dogma and vested interests will suffice. When all is said and done, the weakness of the defunct National Energy Guarantee was the unnecessary reliance it placed on vested interests seeking to perpetuate investment in old coal technology which fuels global warming. Fortunately, a tendency to innovative thinking, while not unalloyed, has been one of the strengths of South Australian society since colonisation by imperial utopians in 1836.

Progressive people on this question are above partisan considerations. They don't care who does the right thing by the public interest so long as it is done and done pronto. It is possible that South Australia's Liberal Environment Minister, Dan van Holst Pellekaan, being a conservative conviction politician with a scientific, engineering background, understands all this.

The first party to implement an energy policy which is not in denial about global warming will lay the foundation for an electoral ascendancy for a couple of terms at least. So long, of course, as retail electricity prices can be brought down from the obscene levels that neo-liberal privatisation, pursued over recent generations by both major parties, has occasioned.

Certainly, the SA Environment Minister has indicated recently, in response to the parliamentary implosion of Liberal-conservatism at the Federal level over just this question, that a national energy policy may have to be cobbled together by the states if the state Coalition parties are to save Liberal-conservatism's scorched bacon. The hot breath of the ALP will be upon conservatives in this policy arena. The ALP vaunts clued-up exponents like South Australian Mark Butler as an articulate spokesperson regarding energy and climate change, so temporising is not an option for Liberal conservatives.

## Sir Thomas Playford

Where energy questions are concerned, the figure of Sir Thomas Playford (1896-1981) is inspirational. As longstanding SA Premier from 1938-65 [!] he broke the mould of centuries-long Liberal small-state ideology to intervene in the energy sector immediately after the Second World War.

He was able to do so in part because of the bi-partisan progressive Liberal consensus which

was a feature of the responses of Liberals and Social Democrats to the Depressions of the 1890s and 1930s. He thus set a peripheral economy on a balanced course of state-fostered industrialisation and diversification.

The legend that Playford single-handedly diversified the state economy and guaranteed generations of prosperity independently of international and national conditions is exaggerated. But he achieved a great deal through state economic leadership and nationalisation of the conservative and unenterprising Board of the Adelaide Electricity Supply Co. (AESC). This was done in the teeth of resistance from his party and its old money, patrician constituents, but with the support of the Labor Opposition.

The tale of how he accomplished this in the public interest is instructive. It identifies factors to which recourse must likewise be had in the future. It is a story of more than regional significance at the current juncture, given that South Australia will in time benefit from playing a leading national role in promoting the transformation of energy infrastructure on a low-cost renewable basis.

The crisis which faced Playford came when the AESC refused point blank to replace imported NSW coking coal. The supply of this had been interrupted during the War in part due to industrial strife. Playford was sufficiently conservative, prejudiced and unfamiliar with the labour movement that he thought the strife, which did threaten South Australia's interests however it was caused, was due to Communist union officials duping the miners. Indeed, his biographer, Stewart Cockburn, commits the historical howler of supposing that the Communist Party fomented unrest to sabotage the war effort in the name of the Nazi-Soviet Pact!

Labour historian Tom Sheridan, in analysing later Cold War industrial relations, has found that such myths had long flown in the face of the fact that, if anything, the men 'exploited' Communists by voting to back them in to union office because of their superior work ethic as proletarian representatives. This was acknowledged at the time by Anti-communists like Santamaria and senior ALP exponents.

Such observations need to be backdated, given that Cold War prejudice grew out of interwar Anti-socialism. At any rate, Playford appears to have misattributed to politics industrial strife which was in fact structurally incident on appalling working conditions in the NSW coalfields. Cockburn's error is important because it detracts from emphasis on the structural issue of the importance of energy autonomy for SA if it were to develop, provide employment and attract

*The crisis which faced Playford came when the AESC refused point blank to replace imported NSW coking coal*

socioeconomic consensus. Nevertheless, Playford was not so blinkered as to substantially overlook the realities involved.

Be that as it may, Playford's response did harness Anti-communism to practice class collaboration with South Australia's constitutionally more moderate labour movement to mollify it, contributing to ongoing reduced wages and wage costs compared with interstate. These were made palatable to labour given a lower cost of living and higher employment.

Playford wanted a de-radicalised labour movement with which he could negotiate reliance on South Australia's competitive advantages of lower wages and reduced industrial disputation. This was the basis of a reasonably beautiful understanding which long endured between a labourist labour movement and a progressive conservative benevolent despot, as his biographer has hailed him. Of course, as MHA Frances Bedford has commented, he benefitted in this from the Playmander, South Australia's rurally-weighted gerrymander, which secured his rear politically. As an agrarian conservative he inherited the necessary mechanisms and sense of entitlement from the colonial era.

Playford recognised that natural monopolies, of which energy inputs were production costs, were best organised as public utilities. Needing to prime recovery from the Great Depression if he was to relieve unemployment and stay in office, he was persuaded by the economic analysis of his Auditor General, John William 'Bill' Wainwright. Wainwright argued for economic diversification through state fostered and led industrialisation to alleviate South Australia's excessive reliance on agrarian exports.

Wainwright argued that the industrialised eastern states benefitted from national protectionism at the expense of South Australia, which paid for the associated costs in terms of the higher prices of consumer products and manufacturing items and inputs. He had an arguable point. With his political future on the line, the practical and pragmatic Playford fully endorsed the reasoning of this fearless Keynesian public service advice, backing Wainwright to the hilt.

This was in part because Playford understood the social and political importance of promoting the public interest. Wainwright, who had a moderately unconventional economic education, was the theoretical father of postwar prosperity in South Australia, with Playford the entrepreneurial leader who signed off on and implemented his vision.

## Vision thing

What is needed now in South Australia is more of the same leadership, animated by what conservative United States President George Bush senior called 'that vision thing.'

Playford wished to fuel his policies by exploiting the undeveloped resource of Leigh Creek reserves of low grade hard brown coal with little bitumen in its ore. The softer black coking coal imported from NSW burned at a higher



Thomas Playford

temperature. The AESC had long declined to take an interest in developing a commodity which did not suit its antiquated boilers, which developed steam to turn turbines. They refused to reinvest in specialised, new-fangled boilers capable of exploiting Leigh Creek coal, frustrating Playford.

Then the AESC thumbed its nose at his interventionism, buying new old-fashioned boilers to replace those which were incapable of further operation. At this offense against the public interest, Playford pounced, carrying enough of his own party's Members with him to drive nationalisation legislation through both Houses of the South Australian Parliament with delighted ALP support. The game was up for conservative resistance to the Playford and Wainwright dispensation.

One test of historical significance of past experience is its contemporary legacy. Both major political parties can lay some claim to different aspects of the Playford legacy of state intervention in the name of progressive conservative development. Playford was a ruthless operator when necessary. In the good sense of the term he was a principled Machiavellian, a Liberal Premier capable of enforcing what were effectively Social Democratic socioeconomic policies in the public interest with Labor parliamentary votes, over the opposition of the majority of his conservative colleagues.

The modern lesson to be learned, in South Australia and elsewhere in the Commonwealth, is the political potential, available to all who have the vision and courage to seize it, of entrepreneurial, progressive energy policy, developing new energy sources for pioneering development on an ecologically safer and socioeconomically more savvy and less costly basis. Even if government were not to renationalise the utility companies, much could be accomplished by political and cultural leadership. Healthy political competition to win just climate laurels is wide open.

*Playford recognised that natural monopolies, of which energy inputs were production costs, were best organised as public utilities.*

# REN21 Renewables 2018 Global Status Report

REN21 – a large coalition of industry associations, international organizations, NGOs, 10 national governments, and scientists and academics – has released the *Renewables 2018 Global Status Report*.<sup>1</sup>

Last year was another record year with 178 gigawatts (GW) of renewable power generation capacity added. Non-hydro renewable capacity (1,081 GW) passed 1,000 GW for the first time and should overtake hydro capacity (1,114 GW) in 2018. Of the 178 GW added in 2017, non-hydro renewables accounted for 159 GW and hydro 19 GW.

Year	Global Renewable Electricity Capacity (GW)	Annual Growth (GW)
2007	989	
2008	1,058	69
2009	1,133	75
2010	1,223	90
2011	1,326	103
2012	1,444	118
2013	1,563	119
2014	1,690	127
2015	1,845	155
2016	2,006	161
2017	2,195	178

Renewables accounted for 70% of net additions to global power generating capacity in 2017, the largest percentage in modern history.

Solar PV capacity was up 29% relative to 2016, with a record 98 GW added. More solar PV generating capacity was added to the electricity system than net capacity additions of coal, natural gas and nuclear power combined. Wind power also drove the uptake of renewables with 52 GW added globally.

The renewable energy sector employed, directly and indirectly, approximately 10.3 million people in 2017.

Investment in new renewable power capacity was more than twice that of new fossil fuel and

nuclear power capacity combined. More than two-thirds of investments in power generation were in renewables in 2017, thanks to their increasing cost-competitiveness – and the share of renewables in the power sector is expected to continue to rise.

Renewables accounted for 26.5% of total global electricity generation in 2017 (up from 24.5% a year earlier), comprising hydro 16.4%, wind 5.6%, bio-power 2.2%, solar PV 1.9%, and 0.4% combined for ocean power, concentrated solar, and geothermal.

Nuclear power accounted for 10.3% of global electricity generation in 2017.<sup>2</sup> Thus renewables generated 2.6 times more electricity than nuclear power. Renewable capacity (2,195 GW) is 5.5 times greater than nuclear capacity (395 GW including idled reactors in Japan).

## Broader energy sector

While the growth in renewable electricity continues the transformation of the electricity sector, REN21 says it is concerned by the lack of change in transport, cooling and heating, which means the world is lagging behind its Paris climate goals.

“We may be racing down the pathway towards a 100 percent renewable electricity future but when it comes to heating, cooling and transport, we are coasting along as if we had all the time in the world. Sadly, we don’t,” said Randa Adib, executive secretary of REN21.

The REN21 report said of particular concern was that global energy demand and energy-related CO2 emissions rose for the first time in four years in 2017, by 2.1% and 1.4% respectively.

The contributions of different energy sources to total final energy demand in 2017 were: fossil fuels 79.5%, modern renewables 10.4%, traditional biomass 7.8%, and nuclear 2.2%.

## Bloomberg New Energy Finance report

A Bloomberg New Energy Finance (BNEF) report finds that the average costs of solar PV (US\$70/MWh) and onshore wind (US\$55/MWh) have fallen by 18% in the past year alone and the cost of lithium-ion batteries has fallen 79% since 2010.<sup>3</sup>

BNEF’s report on the levelised costs of electricity (LCOE) finds that fossil fuel power is facing an unprecedented challenge in all three roles it performs in the energy mix – the supply of ‘bulk generation,’ the supply of ‘dispatchable generation,’ and the provision of ‘flexibility.’

Elena Giannakopoulou, head of energy economics at BNEF, said “the economic case for building new coal and gas capacity is crumbling, as batteries start to encroach on the flexibility and peaking revenues enjoyed by fossil fuel plants.”

A separate BNEF report states that the LCOE from new solar PV plants is forecast to fall a further 71% by 2050, while that for onshore wind drops by a further 58%. These two technologies have already seen LCOE reductions of 77% and 41% respectively between 2009 and 2018.<sup>4</sup>

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2. Mycle Schneider, Antony Froggatt et al., Sept 2018, ‘The World Nuclear Industry Status Report 2018’, [www.worldnuclearreport.org/Nuclear-Power-Strategic-Asset-Liability-or-Increasingly-Irrelevant.html](http://www.worldnuclearreport.org/Nuclear-Power-Strategic-Asset-Liability-or-Increasingly-Irrelevant.html)
3. Bloomberg New Energy Finance, 28 March 2018, ‘Tumbling Costs for Wind, Solar, Batteries Are Squeezing Fossil Fuels’, <https://about.bnef.com/blog/tumbling-costs-wind-solar-batteries-squeezing-fossil-fuels/>
4. Bloomberg New Energy Finance, June 2018, ‘New Energy Outlook 2018’, <https://about.bnef.com/new-energy-outlook/>



# Yes, Prime Minister, I'm striking from school: consider it a climate lesson

Over 15,000 students participated in school climate strikes in late November, in all of Australia's capital cities and 20 regional centres. Many students will continue strike action after the summer holidays and ahead of the federal election, starting with Stop Adani protests in the coming weeks. Many are organising meetings with their federal politicians to call for an end to the Adani coal mine, no new coal and gas projects, and a commitment to get Australia to 100% renewable energy by 2030.

Below is an article by Veronica Hester, a student in Sydney's Sutherland Shire, published in the Fairfax press.

I am Veronica, 15 years old, from Scott Morrison's electorate. Despite our Prime Minister's calls for students not to strike from school on Friday, we're choosing to no longer be powerless. We will be striking with thousands of other students, to show we will not stand for our government's inaction on climate change.

Veronica Hester, a 15-year-old student from Sutherland Shire, who will be among young Australians striking from school on Friday.

Mr Morrison has condemned the strike, saying he does not support our schools being turned into parliaments. "More learning and less activism," he said. If he and our politicians listened to the climate science we have been taught, and took action like those of us in school, we wouldn't have to resort to strike action.

In school, we have seen the raw truth of climate change: videos of our dead and dying Great Barrier Reef, increasingly shocking statistics, forecasts of a worrying future.

Seeing this, we students do not shout at each other across the classroom. We sit in a shocked silence. Afterwards, we shout, with our signs and our demands. Because how can an educated person know all we know, and do nothing?

Mr Morrison and his government continue to overlook the danger of climate change, while not seeming to have a problem helping coal miners such as Adani dig up and burn more coal. It's surreal to watch nothing significant happening on the parliamentary floor, when the solutions have been made so clear. We are one of the sunniest and windiest countries in the world, yet our government chooses to burn more coal.

When Mr Morrison refuses to implement a climate policy that keeps fossil fuels in



Student strike for climate action, November 2018, Sydney.

the ground and transition to 100 per cent renewable energy, he isn't representing us, our community, or the majority of Australians who want urgent climate action.

Tackling climate change isn't just about looking out for our young people. We'll all live with extreme heat and changing weather patterns, not to mention the sense of helplessness in losing our natural world.

By making a stand and organising our communities, we can push our politicians to represent us, not lumps of coal.

A 15-year-old Swedish student, Greta Thunberg, was alone and frustrated when she started striking from school to protest climate inaction in politics. Now she's sparked a global movement.

I'm not old enough to vote, but the strike has taught me that I'm old enough to do something. All of us are.

Greta's one request was that "we treat this climate crisis as a crisis".

That is all we want - for a serious problem to be treated seriously by our politicians. We need the fire of climate change to be confronted, not left to engulf my generation.

*More information:*

[www.schoolstrike4climate.com](http://www.schoolstrike4climate.com)

[www.schoolstrike4climate.com/blog](http://www.schoolstrike4climate.com/blog)

[www.flickr.com/photos/160136040@N02/albums](http://www.flickr.com/photos/160136040@N02/albums)

[www.facebook.com/StrikeClimate](http://www.facebook.com/StrikeClimate)

[www.instagram.com/climatestrike/](http://www.instagram.com/climatestrike/)

[www.twitter.com/StrikeClimate](http://www.twitter.com/StrikeClimate) / #StrikeClimate

Videos: [www.tinyurl.com/student-climate-strike](http://www.tinyurl.com/student-climate-strike)

# What would a fair energy transition look like?

Franziska Mey and Chris Briggs

Opposition Leader Bill Shorten announced in November that a federal Labor government would create a Just Transition Authority to oversee Australia's transition from fossil fuels to renewable energy.<sup>1</sup> This echoes community calls for a "fast and fair" energy transition to avoid the worst impacts of climate change.<sup>2</sup>

But disruptive change is already here for Australia's energy sector. 2018 has been a record year for large-scale solar and wind developments and rooftop solar. Renewable energy is now cheaper than new-build coal power generation<sup>3</sup> - and some are saying renewables are now or soon will be cheaper than existing coal-fired power.<sup>4</sup>

Based purely on the technical lifetime of existing power stations, the Australian market operator predicts that 70% of coal-fired generation capacity will be retired in New South Wales, South Australia and Victoria by 2040.<sup>5</sup> If renewables continue to fall in price, it could be much sooner.

We must now urgently decide what a "just" and "fair" transition looks like. There are many Australians currently working in the energy sector - particularly in coal mining - who risk being left behind by the clean energy revolution.

## Coal communities face real challenges

The history of coal and industrial transitions shows that abrupt change brings a heavy price for workers and communities.<sup>6</sup> Typically, responses only occur after major retrenchments, when it is already too late for regional economies and labour markets to cope.

Coal communities often have little economic diversity and the flow-on effects to local economies and businesses are substantial.

It is easy to find past cases where as many as one third of workers do not find alternative employment.<sup>7</sup>

We often hear about power stations, but there are almost 10 times as many workers in coal mining, where there is a much higher concentration of low and semi-skilled workers. The 2016 Census found almost half of coal workers are machinery operators and drivers.<sup>8</sup>

The demographics of coal mining workers in Australia suggest natural attrition through early retirements will not be sufficient: 60% are younger than 45.<sup>9</sup>

Mining jobs are well paid and jobs in other sectors are very unlikely to provide a similar income, so even under the best scenarios many will take a large pay cut.

Another factor is the long tradition of coal mining that shapes the local culture and identity for these communities. Communities are particularly opposed to change when they experience it as a loss of history and character without a vision for the future.

Lastly, the local environmental impacts of coal mining can't be neglected. The pollution of land, water and air due to mining operations and mining waste have created brownfields and degraded land that needs remediation.

## What is a 'just' transition?

A just transition to a clean energy economy has many facets. Unions first used the term in the 1980s to describe a program to support workers who lost their jobs. Just transition was recognised in the Paris Agreement as "a just transition of the workforce and the creation of decent work and quality jobs".<sup>10</sup>

However, using the concept of energy justice, there are three main aspects which have to be considered for workers, communities and disadvantaged groups:

- distributing benefits and costs equally,
- a participatory process that engages all stakeholders in the decision making, and
- recognising multiple perspectives rooted in social, cultural, ethical and gender differences.

A framework developed at the Institute for Sustainable Futures maps these dimensions.

Just Transition	Just outcomes: distributional dimension			Just process: procedural dimension
Key stakeholders	Decent work	Environment	Equity in Cost and Benefit Sharing	Social Dialogue
Fossil Fuel Sector Workers	Workers rights	Safe and healthy workplace environment	Mechanisms to minimise the costs on displaced workers and support their transition	Workplace representation and voice
Other local workers and broader community	Diversifying the economy to provide employment opportunities	Improving the local environment	Measures to share access to the economic opportunities of clean energy technologies	Mechanisms for community participation
Vulnerable or Disadvantaged Groups (Recognition)	Mechanisms to improve access to work for vulnerable and disadvantaged groups		Measures to widen access to clean energy technologies to vulnerable or disadvantaged groups	Participation mechanisms that include vulnerable or disadvantaged groups

A just transition requires a holistic approach that encompasses economic diversification, support for workers to transition to new jobs, environmental remediation and inclusive processes that also address equity impacts for marginalised groups.

## The politics of mining regions

If there is not significant investment in transition plans ahead of coal closures, there will be wider ramifications for energy transition and Australian politics.

In Australia, electricity prices have been at the centre of the “climate wars” over the past decade. Even with the steep price rises in recent years, the average household still only pays around A\$35 a week.<sup>11</sup> But with the closure of coal power plants at Hazelwood<sup>12</sup> and Liddell<sup>13</sup>, Australia is really only just getting to the sharp end of the energy transition where workers lose jobs.

There are some grounds for optimism. In the La Trobe Valley, an industry wide worker redeployment scheme, investment in community projects and economic incentives appears to be paying dividends with a new electric vehicle facility setting up.<sup>14</sup>

AGL is taking a proactive approach to the closure of Liddell and networks are forming to diversify the local economy.<sup>15</sup> But a wider transition plan and investment coordinated by different levels of government will be needed.

We know what is coming: just transition investment is a precondition for the rapid energy transition we need to make, and to minimise the economic and social impacts on these communities.

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# UN nuclear weapons ban treaty spurs research on impact of nuclear testing

Matthew Bolton – International Disarmament Institute, Pace University ([www.pace.edu/dyson/disarmament](http://www.pace.edu/dyson/disarmament))

The International Campaign to Abolish Nuclear Weapons (ICAN) was awarded the Nobel Peace Prize in December 2017 “for its ground-breaking efforts to achieve a treaty-based prohibition” of nuclear weapons. But the Treaty on the Prohibition of Nuclear Weapons (TPNW), adopted at the UN by 122 governments earlier that year, is not only a ban treaty.

During the negotiations, a small team of ICAN campaigners also worked to ensure that the Treaty included “positive obligations” that address the ongoing humanitarian, human rights and environmental harms of nuclear weapons use and testing.

After the negotiations, ICAN’s “PosObs” team, as we called ourselves, realized that ensuring implementation of the TPNW’s provisions on victim assistance, environmental remediation and international cooperation and assistance required considerable further work.

As a result, under the auspices of Pace University’s International Disarmament Institute, where I work, we have started doing research on how nuclear weapons use and testing have affected people and environments, focusing particularly on the Pacific region.

In January 2018, I travelled to Kiritimati (Christmas) Island where, along with nearby



Malden Island, the UK and USA conducted 33 atmospheric nuclear tests between 1957 and 1962. British, Fijian, New Zealand and American veterans of the testing program and i-Kiribati civilians who lived on Kiritimati claim their health (as well as their descendants' health) was adversely affected by exposure to ionizing radiation. Their concerns are supported by independent medical research.

The UK and US testing program at Kiritimati relied on racist discourses that framed it, as a British military magazine put it, as a "lonely island ... boasting little more than a few coconut palms." But about 100 i-Kiribati civilians lived on Kiribati, employed by a copra plantation and the military base. The number increased to almost 500 i-Kiribati civilians by the end of the tests.

I spoke with Teeua Tetua, President of the Kiritimati Association of Cancer Patients Affected by the British and American Bomb Tests, who was a child at the time of the UK tests. "We felt uncomfortable every day," she said, describing the persistent anxiety caused by living on an island bombarded by nuclear detonations.

Teeua Tetua remembers gathering on the tennis courts in the village, in the middle of the night before a test. She said "the people were really afraid." She describes the blast as very hot and so loud that "people tried to put their fingers in their ears."

The Association has identified 48 survivors who experienced the tests first hand, as well as 800 descendants. Members of the Association report numerous health problems which they attribute to the testing, including blindness, hearing problems, cancers, heart disease and reproductive difficulties. They also report that their children and grandchildren have suffered similar illnesses. Survivors are "worried about the disease in their bodies," said Teeua Tetua.

In two reports we published in May - one on Kiritimati and one on Fijian test veterans<sup>1,2</sup> - I outlined how the TPNW's positive obligations could offer a way to assist the people who are suffering from the impact of the nuclear tests in Kiritimati. While the British, US, Fijian and New Zealand governments have, to greater and lesser extents, responded to demands from test veterans for recognition and assistance, i-Kiribati survivors have had little help or acknowledgement.

While the debate about helping civilian victims and test veterans has often been framed only in terms of compensation from the testing state, the TPNW frames assistance broadly, including

"medical care, rehabilitation and psychological support, as well as ... social and economic inclusion" (Article 6[1]).

This means we do not need to wait for the nuclear-armed states to have a change of heart to help those people they harmed. Teeua Tetua said the desire for compensation was "not about money, but about doctors and medicine" - they need help addressing their health problems.

We can also think of more broadly remedial and restorative measures. For instance, we have learned from our research that many survivors want recognition of what happened to them. "It should be known by the world, the cruel things that have been done," Teeua Tetua told me. She says that there are few systems in Kiritimati for archiving and disseminating information about the impact of the nuclear tests and the potential health risks for those who may have been exposed to radiation. Association members have called for a monument in Kiritimati memorializing the suffering caused by the nuclear testing.

Recently, we have expanded our work beyond Fiji and Kiribati to research the impact of nuclear testing elsewhere in the Pacific. We are finding similar neglect of the needs of both civilian and military survivors and disregard for the rights of Indigenous peoples. But we also see the efficacy of the TPNW's holistic approach, rooted in humanitarian, human rights and environmental norms.

For example, in October, we published a report on Australia, authored by Dimity Hawkins of Swinburne University. She outlined the complex, overlapping histories of harm caused by the UK nuclear weapons program in Australia, from the detonations themselves, to uranium mining, displacement of Aboriginal communities and lands contaminated by fallout.<sup>3</sup>

Unlike Kiribati and Fiji, which have both signed the TPNW, Australia boycotted the negotiations and on 1 November was the only state subjected to nuclear testing by another other state to vote against a UN resolution calling for the TPNW's universalization.<sup>4</sup>

However, the framework offered by the TPNW's positive obligations offers a way for affected communities in Australia to seek solidarity from others around the world. I like to tell skeptics that the TPNW's provision on victim assistance has already had a normative effect, because it has made people at a university in New York pay attention to the impact of nuclear weapons on communities on the opposite side of the world.

While the debate about helping civilian victims and test veterans has often been framed only in terms of compensation from the testing state, the TPNW frames assistance broadly, including "medical care, rehabilitation and psychological support, as well as ... social and economic inclusion"

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# ANSTO nuclear waste to compromise safety and security in SA

David Noonan

The federal government intends shipments of irradiated nuclear fuel waste to be imposed through Whyalla or Port Pirie to go onto indefinite above-ground storage at a nuclear dump site at either Kimba or Hawker – all of which is illegal under state law in South Australia.

Two shipments of reprocessed nuclear waste – arising from the reprocessing of fuel irradiated in research reactors operated by the Australian Nuclear Science and Technology Organisation (ANSTO) – are intended in the first two years of nuclear store operations in SA. A shipment is due from Sellafield in UK in the early 2020s, and ANSTO plans a shipment of nuclear waste that was reprocessed in France then shipped to ANSTO's Lucas Heights site (south of Sydney) in 2015.

Some 100 B-Double truckloads of federal government Intermediate Level Wastes (ILW) – predominantly ANSTO waste from Lucas Heights – are also to be trucked into SA in the first four years of nuclear store operations in SA.

SA communities face decades of potential accident and terrorist risks and impacts from ongoing ANSTO nuclear waste transports, with all of the next 40 years of ANSTO reactor waste also to be shipped and trucked to SA for indefinite above-ground storage.

The federal nuclear regulator, the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), states that nuclear fuel wastes and other ILW require radiation shielding and require isolation from the environment for over 10,000 years. Yet the current plan is to store this waste in SA in a fancy shed for indefinite storage described as “interim” and as “long term above-ground storage (approximately 100 years)”.

After 60 years, ANSTO still has no nuclear waste disposal capacity, while ANSTO's nuclear waste production is set to increase to more than double waste stockpiles over the next 40 years.

Multiple shipments of reprocessed nuclear waste are planned to be shipped from France through either Whyalla or Port Pirie over the coming decades, this waste resulting from ANSTO's ongoing reactor operations.

The government's April 2018 ‘Australian Radioactive Waste Management Framework’<sup>1</sup> reports total ILW at 1,770 cubic metres (m<sup>3</sup>), with 95% by volume arising as federal government wastes.

The federal government plans to produce a further 1,960 m<sup>3</sup> of ILW over next 40 years, with 95% (1,850 m<sup>3</sup>) arising from ANSTO's reactor operations – all to be trucked into SA for indefinite above-ground storage at either Kimba or Hawker.

All of these federal government nuclear waste plans face serious obstacles and community opposition. They are illegal under state law in SA; are in breach of formal advice of the Nuclear Safety Committee to the federal regulator ARPANSA<sup>2</sup>; and do not represent International Best Practice.

The import, transport, storage and disposal of ANSTO nuclear fuel wastes were prohibited by the SA Liberal government in 2000; then in 2002–03 the incoming SA Labor government extended the legislation to cover other radioactive wastes. Yet the federal Coalition government intends to override state law to impose nuclear wastes onto SA.

Advice provided to the CEO of ARPANSA by ARPANSA's ‘Nuclear Safety Committee’ in Nov. 2013 states that:

*“International best practice points to the need to have in place a policy and infrastructure for final management and ultimate disposal of waste before activities generating waste commence.”*

*“[T]he dual handling and transport process associated with interim storage does not represent international best practice”*

*“Dual handling also has implications for security.”*

More recently, in Nov. 2016, the Nuclear Safety Committee advised the CEO of ARPANSA on the “ongoing requirement to clearly and effectively engage all stakeholders, including those along transport routes” and the Committee said that such engagement is “essential”.<sup>3</sup>

However, in an arrogant, flawed process, the federal government named port cities in SA as required ports to take shipments of nuclear waste in a report<sup>4</sup> posted on the internet but failed to even inform the targeted communities and their local councils.

The story broke on Southern Cross TV on Aug. 6. The next day the ABC quoted Port Pirie's Mayor saying Council was “blind-sided” by the federal government position to potentially require Port Pirie as a nuclear waste port. On Aug. 9 the story ran on p.1 of the *Whyalla News*, with the Whyalla Mayor saying Council won't accept this.

Communities in Whyalla or Port Pirie – and in Port Augusta which was named on a number of potential required nuclear waste transport routes – face “complete shutdown” in transport of nuclear wastes through their cities but have been excluded from having a say by this federal government.

The federal Coalition government must stop this untenable nuclear waste threat to compromise safety and security in SA and accept extended storage of ANSTO nuclear fuel waste and ILW at Lucas Heights.

As the alternate federal government, the ALP is yet to say what they may do if elected in 2019.

*More information: [www.nuclear.foe.org.au/noonan](http://www.nuclear.foe.org.au/noonan)*

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# Don't dump on South Australia rally

Mara Bonacci

On Saturday November 3, about 1,000 people gathered at Parliament House in Adelaide for the 'Don't Dump on SA - We Still Say No to Nuclear Waste' rally.

Plans to turn SA into the world's nuclear waste dump were defeated in 2016 but the state is being targeted for a national nuclear waste dump by the conservative federal Coalition government.

Millions have been spent bribing local communities and tens of millions more are promised to the selected site - either in the Flinders Ranges or farming land near Kimba in the Eyre Peninsula.

With the ballot to gauge public opinion on hold due to the court injunction sought by the Barngarla Determination Aboriginal Corporation (BDAC), the rally was held to send a clear message to the Federal Government to abandon the current abysmal site selection process and to the SA government to uphold state legislation that makes radioactive waste facilities illegal.

People travelled from the affected communities of Kimba on the Eyre Peninsula and the Flinders Ranges to join other South Australians concerned about the issue for a vibrant and colourful event of speakers and performers.

Eyre Peninsula resident Anna Taylor asked the crowd: "Why would you put radioactive waste in the middle of our food bowl when only 4% of our country is productive land?"

Adnyamathanha man Dwayne Coulthard said: "This process by the Federal Government is cultural genocide. We have had enough of being ignored. No radioactive waste dump on Adnyamathanha country in the Flinders Ranges. No waste dump in Kimba."

Dr Margie Beavis from the Medical Association for Prevention of War (MAPW) dispelled government scare-mongering linking the practice of nuclear medicine to its dump plans. Nuclear medicine has not been hindered by the absence of a national dump nor will it be helped by the establishment of a dump.

President of SA Unions Jamie Newlyn said: "Minister Canavan came out recently and identified Whyalla, Port Pirie and Port Lincoln as areas where



Rally at Parliament House, Adelaide, 3 Nov. 2018.

they could bring in nuclear waste. Those port communities in that logistics chain were all stunned by that announcement. The mayors of all of those communities are surprised that the announcement was made without any consultation."

"We're talking about this toxic, horrible nuclear waste coming through ports and across supply chains, across our boat links, across our highways and through our ports, that then it has to travel hours and hours by road or rail to a final destination, and those communities don't get a say either? That is a disgrace," Newlyn said.

Jim Green from Friends of the Earth Australia noted that the plan to turn SA into the world's nuclear waste dump is still being promoted even though it lost support from major political parties in 2016. Green said that dumpsters aim to turn the SA into Australia's nuclear waste dump as a stepping stone to turning the state into the world's dump. Two recent reports have promoted the plan to turn SA into the world's nuclear waste dump.

Other speakers included state ALP member for Giles Eddie Hughes and federal Greens Senator Sarah Hanson-Young.



# Matt Canavan's 'urgent' new nuclear waste dump: The devil is in the detail

Dave Sweeney

It is a national problem that has taken 60 years to make and will last 10,000 years, but according to Canberra, it will be soon be sorted.

Radioactive waste management has been a challenge for successive federal governments, with communities across South Australia and the Northern Territory consistently rejecting plans for the dumping and storage of wastes in their region. Now the pressure is right back on regional South Australia, with a concerted federal push to locate a site either near Kimba on the Eyre Peninsula, or Hawker in the iconic Flinders Ranges.

The plan sounds straightforward: take radioactive waste from around Australia to a central site, where low-level material would be disposed of and higher-level wastes stored, pending a final management decision.

But, as ever, the devil is in the detail. Or in this case, in the profound lack of detail. Despite two years of promotional newsletters, shopfronts and drop-in centres, and publicly funded visits from pro-nuclear advocates, there remains a disturbing lack of clarity and deep concerns over the federal government's plan and process.

Radioactive waste is a complex policy area. The stuff lasts a long time, poses a real management challenge and, understandably, raises community concerns. Responsible decisions are best based on the "T" factor: talk, time, testing and trust. Sadly, the current federal push has failed to learn from this history and is replicating a failed formula.

Despite plenty of talk about the benefits of the plan, the federal Government has actively refused to debate critics in open forums, key project assumptions have never been independently verified or tested, and many community members, Aboriginal landowners and wider stakeholders do not trust the process. Time is now running out on Minister for Resources and Northern Australia Matt Canavan's long stated plan to make a siting decision this year.

This timeline won't be met - largely due to legal action initiated by the Barngarla Determination Aboriginal Corporation. The Barngarla Traditional Owners have sought legal redress over their exclusion from the community ballot planned to assess public opinion in the Kimba region, arguing that this breaches the Racial Discrimination Act. Despite this delay the Minister still hopes to push ahead with the plan before the 2019 federal election, expected in May.

The federal Government has been spending big and promising large, with job and community benefit estimates and assurances soaring since the ballot was announced.

The Government is working to localise this issue and present it as an economic opportunity for a small region, but this plan is a national issue with profound and lasting implications.

Around 95 per cent of the material planned to be moved to any new facility is currently managed at two secured federal sites. Low-level waste that needs to be isolated for 300 years is currently at the Woomera defence lands in South Australia's north. The more problematic intermediate level waste, that needs isolation for 10,000 years, is stored where it was made at the Australian Nuclear Science and Technology Organisation's (ANSTO) Lucas Heights facility in southern Sydney.

Both sites have the physical, technical and regulatory capacity to continue to store these wastes for many years, and the current sense of federal urgency and pressure is being driven by politics and ANSTO's corporate preferences, rather than by evidence or need. The federal nuclear regulator the Australian Radiation and Nuclear Safety Agency has repeatedly confirmed that there is no urgency to move the waste from ANSTO.

In any discussion around radioactive waste management, a lot of airspace is devoted to the question of nuclear medicine. No one disputes either the importance or the need for secure access to nuclear medicine. The planned national radioactive waste facility is not expected to receive nuclear medicine waste from any hospital or medical clinic in Australia.

These wastes would continue to be managed at these multiple sites on the current "store and decay" basis. A national radioactive waste facility would take nuclear reactor waste from the process that generated the nuclear medicine, but not nuclear medical waste. Importantly, this means that a national waste facility is not required to ensure access to nuclear medicine.

Currently, Australia's most serious radioactive waste is stored above ground at ANSTO. This makes sense, as the waste is already on site and Lucas Heights also has clear tenure, high levels of security and policing, the most advanced radioactive monitoring and emergency response capacity in the country, and it is the workplace of around 1,200 people.

The federal Government's plan is to move this material from this facility to one in regional South Australia with far less capacity and institutional assets.

There is no radiological protection rationale to move this material from extended above ground storage in Sydney to extended above ground storage with far fewer checks and balances in regional South Australia. The current federal approach to the intermediate level waste is not consistent with international best practice and is merely kicking the can further down a less travelled road.

The current federal plan is a retreat from responsibility, which is playing short-term politics with a long-term hazard. It is extraordinary that, after over six decades of making waste and two decades of sustained and successful community resistance to federal siting plans, Australia has never had an objective review of management practises and options. We need this now.

*Dave Sweeney works on nuclear issues with the Australian Conservation Foundation and was a member of the Federal advisory panel on radioactive waste. You can follow him on Twitter @nukedavesweeney*

# Australian Nuclear Free Alliance 2018 national meeting

*The following statement was endorsed by the 21st national meeting of the Australian Nuclear Free Alliance (ANFA) held on Kaurna and Peramangk land in the Adelaide hills*

Members of the Australian Nuclear Free Alliance (ANFA) met on Kaurna and Peramangk country over the weekend of 19-21 October 2018.

Dozens of Aboriginal Nations and civil society organisations were represented; people came together to share stories, strategy and solidarity.

The nuclear industry impacts the lives and country of Aboriginal people in many ways. The federal government has been trying to find a site for a radioactive waste dump for over two decades. Every proposed site has been on Aboriginal land and at every site Aboriginal people have resisted and stopped the plan. Adnyamathanha, Barngarla and Kokatha communities in regional South Australia are currently being targeted for a national radioactive waste dump and store and ANFA stands with them in solidarity against this federal government push.

Representatives from Brewarrina in NSW and Leonora in WA voiced their opposition to the nomination of sites in their regions for the national nuclear dump. Together we are stronger and we will continue to support each other to fight waste dumps wherever the community does not want it.

Wherever it happens uranium mining impacts disproportionately on Aboriginal communities. In Australia there is an extensive history of adverse impact on country and communities and a sustained and powerful tradition of resistance. This year marks 35 years since the Olympic Dam blockade and the meeting paid particular respect to the late Ms Eileen Wingfield and those Kokatha and other Aboriginal people who led this powerful protest at the time.

The meeting welcomed the recognition given to Koongarra senior Traditional Owner Jeffrey Lee, the recipient of the 2018 Nuclear Free Future Award. The gathering heard stories of resistance to planned uranium mining in WA and to the important efforts of the Mirarr people of Kakadu to ensure the comprehensive clean-up of the Ranger uranium mine and the transition to a vibrant post mining regional economy.

ANFA members are living with the legacy of nuclear weapons testing on their country, this year is 65 years since the tests at Emu Field. We have heard from affected communities that the land is crying. ANFA welcomed the efforts of members involved in the International Campaign to Abolish Nuclear Weapons in advancing an International Treaty to Prohibit Nuclear Weapons and were very pleased that ICAN's 2017 Nobel



Peace Prize medal was at the meeting and able to be shared. ANFA will continue to push the Australian government to sign and ratify the ban treaty and to ensure justice, recognition and repair for country and communities that continue to be impacted by earlier nuclear weapons tests and trials in Australia.

The meeting discussed the dangers of transporting radioactive materials on road, rail and ships. There is a risk to workers handling these materials as well as communities targeted to host facilities. ANFA will continue to outreach to transport workers around the world to ensure safety in workplaces as well as in our communities.

ANFA turns 21 this year and the meeting was marked by a strong youth representation. Several senior members have been involved for all or most of the past 21 years giving the Alliance powerful continuity. We remember and honour those who have passed on and enthusiastically welcome the new and young members. In an ANFA first a delegation of youth compiled a statement to be presented to the United Nations at an upcoming forum.

The meeting elected a renewed and energetic committee and concluded with an enthusiastic commitment to continue our shared work. We will keep supporting each other through our many struggles and share the joys of our victories as we continue to resist the nuclear industry.

*A video about the ANFA 2018 meeting is posted at [www.anfa.org.au/anfa-2018-meeting](http://www.anfa.org.au/anfa-2018-meeting)*

Australian Nuclear Free Alliance national meeting, Adelaide, 2018.

# Western Australian uranium industry on the brink

Mia Pepper

Ten years ago the conservative Barnett government lifted the long-standing ban on uranium mining in Western Australia (WA). The government had promised “\$5 billion to WA’s gross State product” and “\$450 million a year.” Industry proponents promised jobs and bragged that uranium will be like “iron ore on steroids.”

The reality has been far more like morose miners on methadone. After a decade that has seen sustained Aboriginal and wider community resistance to mining plans, the uranium price plummet in the wake of Fukushima and a surge in renewable energy production, there is not a single operating uranium mine in WA.

Uranium exploration companies were a dime a dozen but just four projects surfaced as having potential in WA. Three of them raced through the environmental assessment process under the Barnett government and emerged with environmental, but not final, approvals just weeks before the state election in a clear move to wedge the incoming Labor government.

The McGowan Labor government felt the wedge and let the four mines with partial approvals continue – a clear breach of Labor’s pre-election promise not to allow mines to proceed unless they had full approvals. But the sustained low uranium price and community opposition has thwarted plans to develop any of the four mines.

Cameco has written off the entire value of the Kintyre project, Toro Energy has shelved its uranium plans and is now trying to strike lucky with gold, Cameco’s Yeelirrie project is the subject of a legal challenge by the Conservation Council of WA and three traditional owners, and then there is Vimy’s Mulga Rock project.

Vimy released its Definitive Feasibility Study for Mulga Rock earlier this year and the company is reported to be “confident of securing contract prices of about \$US60/lb this year or next for delivery in 2021 when it hopes to be in production with Mulga Rock.” There was supposed to be an investment decision by July but instead Vimy was handing out pay cuts and scaling back or bunkering down for the sustained lull in the uranium price (currently around \$US30/lb).

And while Toro is looking for gold – and other uranium companies have diversified into medicinal marijuana production or property development – Vimy is hedging its bets by setting up a subsidiary to explore for base metals.

Globally, 115 nuclear reactors are undergoing decommissioning – double the number under construction. The International Energy Agency is warning about the lack of preparation and

funding for a “wave of retirements of ageing nuclear reactors” and an “unprecedented rate of decommissioning”. A growing number of countries are phasing out nuclear power, including Germany, South Korea, Switzerland, Belgium and Taiwan.

The world’s most experienced reactor builder, Westinghouse, went bankrupt last year and the debts it incurred on reactor projects almost bankrupted its parent company, Toshiba. After the expenditure of at least \$A12.4 billion, construction of two partially-built reactors in the US was abandoned last year, and the only other reactor construction project in the US was almost abandoned this year after cost overruns of \$A14 billion.

No wonder that nuclear lobbyists are themselves acknowledging a “crisis that threatens the death of nuclear energy in the West” and are already writing eulogies about the “ashes of today’s dying industry”.

Nuclear power’s crisis has direct and obvious implications for the uranium industry. Only two mines uranium are operating in Australia – Olympic Dam and Beverley Four Mile – while mining has ended at the Ranger mine in the NT and ore stockpiles are being processed while work begins on a A\$1 billion rehabilitation.

The low uranium price is a symptom of a growing trend away from nuclear, a trend matched by increasing investment in renewable energy. Renewables generate 2.5 times more electricity than nuclear reactors worldwide, and the gap is growing rapidly. Even Dr Ziggy Switkowski – who used to be nuclear power’s head cheerleader in Australia – recently said that the window for large nuclear reactors has closed and that the cost comparison is rapidly diverging in favour of renewables.

It is with great optimism we look to great technological advancements made in renewable energy and hope to see the end of old and dirty energy like coal and nuclear. So we sigh with relief that there are no operating mines at Kintyre, Yeelirrie, Wiluna and Mulga Rock, that uranium from WA is not on its way to processing plants or reactors destined to become waste, a toxic legacy.

And we can celebrate those special places and unique ecosystems and continue, with watchfulness, to monitor the activities of those companies who have not yet seen the writing on the wall that uranium is uneconomic, unwanted and unsafe.

*Mia Pepper is a member of the Ban Uranium Mining Permanently (BUMP) collective of Friends of the Earth Perth; and board member of the Mineral Policy Institute.*



# Nuclear industry insiders and lobbyists learns to love the bomb

Jim Green

In 2015, *Nuclear Monitor* published a detailed analysis of the many ways nuclear industry insiders and lobbyists trivialise and deny the connections between nuclear power (and the broader nuclear fuel cycle) and nuclear weapons proliferation. Since then, the arguments have been turned upside down with prominent industry insiders and lobbyists openly acknowledging power-weapons connections. This remarkable about-turn has clear origins in the crisis facing nuclear power and the perceived need to secure increased subsidies to prevent reactors closing and to build new ones.

The new sales pitch openly links nuclear power to weapons and argues that weapons programs will be jeopardised unless greater subsidies are given to the civil nuclear industry. The US Nuclear Energy Institute, for example, tried in mid-2017 to convince politicians in Washington that if the only reactor construction projects in the US – in South Carolina and Georgia – weren't completed, it would stunt development of the nation's nuclear weapons complex. (The half-built nuclear plant in South Carolina was later abandoned after crippling delays and cost blow-outs, and the expenditure of over US\$9 billion.)

The Nuclear Energy Institute paper wasn't publicly released. But in the second half of 2017, numerous nuclear insiders and lobbyists openly acknowledged power-weapons connections and called for additional subsidies for nuclear power. The most important of these initiatives was a paper by the Energy Futures Initiative – a creation of Ernest Moniz, who served as energy secretary under President Barack Obama.

Even the uranium industry has jumped on the bandwagon, with two US companies warning that reliance on foreign sources threatens national security and lodging a petition with the Department of Commerce calling for US utilities to be required to purchase a minimum 25% of their requirements from domestic mines.

Decades of deceit have been thrown overboard with the new sales pitch linking nuclear power and weapons. However there are still some hold-outs. Until recently, one nuclear lobbyist continuing to deny power-weapons connections was Michael Shellenberger from the 'Environmental Progress' pro-nuclear lobby group in the US. Shellenberger is a high-profile contrarian 'environmentalist' and a former *Time Magazine* 'Hero of the Environment'.

Shellenberger told an International Atomic Energy Agency conference last year that "nuclear energy prevents the spread of nuclear weapons". And

he claimed last year that "one of FOE-Greenpeace's biggest lies about nuclear energy is that it leads to weapons" and that there is an "inverse relationship between energy and weapons".

## Shellenberger's backflip

In two articles published in August 2018, Shellenberger has done a 180-degree backflip on the power-weapons connections. "[N]ational security, having a weapons option, is often the most important factor in a state pursuing peaceful nuclear energy", Shellenberger now believes.

A recent analysis from Environmental Progress finds that of the 26 nations that are building or are committed to build nuclear power plants, 23 have nuclear weapons, had weapons, or have shown interest in acquiring weapons.

"While those 23 nations clearly have motives other than national security for pursuing nuclear energy," Shellenberger writes, "gaining weapons latency appears to be the difference-maker. The flip side also appears true: nations that lack a need for weapons latency often decide not to build nuclear power plants ... Recently, Vietnam and South Africa, neither of which face a significant security threat, decided against building nuclear plants ..."

Here is the break-down of the 26 countries that are building or are committed to build nuclear power plants according to the Environmental Progress report:

- Thirteen nations had a weapons program, or have shown interest in acquiring a weapon: Argentina, Armenia, Bangladesh, Brazil, Egypt, Iran, Japan, Romania, Saudi Arabia, South Korea, Taiwan, Turkey, UAE.
- Seven nations have weapons (France, US, Britain, China, Russia, India and Pakistan), two had weapons as part of the Soviet Union (Ukraine and Belarus), and one (Slovakia) was part of a nation (Czechoslovakia) that sought a weapon.
- Poland, Hungary, and Finland are the only three nations (of the 26) for which Environmental Progress could find no evidence of weapons latency as a motivation.

Current patterns connecting the pursuit of power and weapons stretch back across the 60 years of civilian nuclear power. Shellenberger notes that "at least 20 nations sought nuclear power at least in part to give themselves the option of creating a nuclear weapon" – Argentina, Australia, Brazil, Egypt, France, Italy, India, Iran, Iraq, Israel, Japan, Libya, Norway, Romania, South Africa, Sweden, Switzerland, Taiwan, West Germany, and Yugoslavia.

*A recent analysis from Environmental Progress finds that of the 26 nations that are building or are committed to build nuclear power plants, 23 have nuclear weapons, had weapons, or have shown interest in acquiring weapons.*

Shellenberger points to research by Fuhrmann and Tkach which found that 31 nations had the capacity to enrich uranium or reprocess plutonium, and that 71% of them created that capacity to give themselves weapons latency.

## Nuclear weapons – a force for peace?

So far, so good. The pursuit of nuclear power and weapons are often linked. That's a powerful reason to eschew nuclear power, to strengthen the safeguards system, to tighten export controls, to restrict the spread of enrichment and reprocessing, and so on. But Shellenberger has a very different take on the issues.

Discussing the Fuhrmann and Tkach article (and studiously avoiding contrary literature), Shellenberger writes:

*“What was the relationship between nuclear latency and military conflict? It was negative. “Nuclear latency appears to provide states with deterrence-related benefits,” they [Fuhrmann and Tkach] concluded, “that are distinct from actively pursuing nuclear bombs.”*

*“Why might this be? Arriving at an ultimate cause is difficult if not impossible, the authors note. But one obvious possibility is that the “latent nuclear powers may be able to deter conflict by (implicitly) threatening to ‘go nuclear’ following an attack.” ...*

*“After over 60 years of national security driving nuclear power into the international system, we can now add “preventing war” to the list of nuclear energy’s superior characteristics. ...*

*“As a lifelong peace activist and pro-nuclear environmentalist, I almost fell out of my chair when I discovered the paper by Fuhrmann and Tkach. All that most nations will need to deter military threats is nuclear power – a bomb isn’t even required? Why in the world, I wondered, is this fact not being promoted as one of nuclear power’s many benefits?*

*“The answer is that the nuclear industry and scientific community have tried, since Atoms for Peace began 65 years ago, to downplay any connection between the two – and for an understandable reason: they don’t want the public to associate nuclear power plants with nuclear war.*

*“But 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 – of motivations and means – between the two. Worse, in denying the connection between energy and weapons, the nuclear community reinforces the widespread belief that nuclear weapons have made the world a more dangerous place when the opposite is the case. ...*

*“Nuclear energy, without a doubt, is spreading and will continue to spread around the world, largely with national security as a motivation. The question is whether the nuclear industry will, alongside anti-nuclear activists, persist in stigmatizing weapons latency as a nuclear power “bug” rather than tout it as the epochal, peace-making feature it is.”*

## Deterrent effects

Shellenberger asks why the deterrent effect of nuclear power isn't being promoted as one of its many benefits. Nuclear weapons can have a deterrent effect – in a uniquely dangerous and potentially uniquely counterproductive manner – but any correlation between latent nuclear weapons capabilities and reduced military conflict is just that, correlation not causation.

On the contrary, there is a history of military attacks on nuclear facilities to prevent their use in weapons programs (e.g. Israel's attacks on nuclear facilities in Iraq in 1981 and Syria in 2007). Shellenberger points to the same problem, asking whether latency could “also be a threat to peace?” and noting Israeli and US threats to take pre-emptive action against Iran. He doesn't offer an answer or explore the issue further.

Shellenberger argues that Iran should be encouraged to develop nuclear weapons. He cites nuclear weapons enthusiast Kenneth Waltz, who claims that the “decades-long Middle East nuclear crisis ... will end only when a balance of military power is restored”. He cites a German academic who argues that a nuclear-armed Germany “would stabilize NATO and the security of the Western World”. We “should be glad that North Korea acquired the bomb” according to Shellenberger. And on it goes – his enthusiasm for nuclear weapons proliferation knows no bounds.

## A dangerous intellectual lightweight

*Nuclear Monitor* has previously exposed the litany of falsehoods in Shellenberger's writings on nuclear and energy issues. In his most recent articles he exposes himself as an intellectual lightweight prepared to swing from one extreme of a debate to the other if that's what it takes to build the case for additional subsidies for nuclear power.

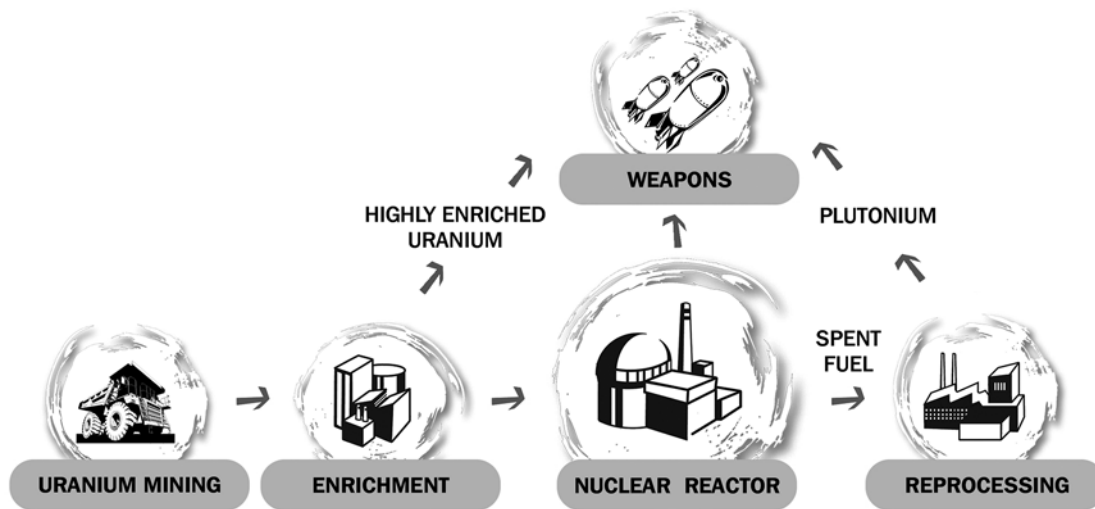
A dangerous intellectual lightweight. Environmental Progress attorney Frank Jablonski writes:

*“From Shellenberger’s article you would conclude that, for any “weak nation”, or for the “poor or weak” persons within such nations,*

*The pursuit of nuclear power and weapons are often linked. That’s a powerful reason to eschew nuclear power, to strengthen the safeguards system, and to tighten export controls.*

*‘Atoms for Peace’ travelling exhibition, 1957, United States.*





*things are bound to improve with acquisition of nuclear weapons. So, for humanitarian reasons, the imperialistic nations and hypocritical people standing in the way of that acquisition should get out of the way. No. The article's contentions are falsified by ... logical untenability, things it got wrong, and things it left out. While Shellenberger's willingness to take controversial positions has often been valuable, a "contrarian" view is not always right just because it is contrarian."*

Sam Seitz, a student at Georgetown's Walsh School of Foreign Service, argues that Shellenberger's argument is "almost Trumpian in its incoherence". He takes issue with Shellenberger's claims that no nuclear powers have been invaded ("a pretty misleading statistic" and "wrong"); that battle deaths worldwide have declined by 95% ("fails to prove that nuclear weapons are responsible for this trend ... as we are frequently reminded, correlation and causation are not equivalent"); that Indian and Pakistani deaths in two disputed territories declined sharply after Pakistan's first nuclear weapons test in 1998 ("doesn't account for non-nuclear factors like the role of outside mediation and domestic politics"); and that Nazi Germany invaded France because the French lacked a credible deterrent ("makes very little sense and conflates several things ... also silly"). Responding to Shellenberger's more-the-merrier attitude towards nuclear weapons proliferation, pro-nuclear commentator Dan Yurman put the problem bluntly: "Here's the problem. The more nations have nuclear weapons, the more dangerous the world will be. Sooner or later some tin pot dictator or religious zealot is likely to push a button and send us all to eternity."

### Power-weapons connections

No doubt there will be more acknowledgements of power-weapons connections by nuclear industry insiders and lobbyists. As Shellenberger notes, the nuclear 'community' today finds itself in an increasingly untenable position denying the connections.

There is a degree of domestic support for nuclear weapons programs in weapons states ... but few people support generalised nuclear weapons proliferation and few would swallow Shellenberger's arguments including his call to

shred the non-proliferation and disarmament system and to encourage weapons proliferation.

Understanding of the power-weapons connections, combined with opposition to nuclear weapons, is one of the motivations driving opposition to nuclear power. According to Shellenberger, the only two US states forcing the closure of nuclear plants, California and New York, also had the strongest nuclear disarmament movements.

There is some concern that claims that a civil nuclear industry is an important (or even necessary) underpinning of a weapons program will be successfully used to secure additional subsidies for troubled nuclear power programs (e.g. in the US, France and the UK). After all, nuclear insiders and lobbyists wouldn't abandon their decades-long deceit about power-weapons connections if not for the possibility that their new argument will gain traction, among politicians if not the public.

The growing acknowledgement -and public understanding - of power-weapons connections might have consequences for nuclear power newcomer countries such as Saudi Arabia. Assuming that the starting point is opposition to a Saudi nuclear weapons program, heightened sensitivity might constrain nuclear exporters who would otherwise export to Saudi Arabia with minimalist safeguards and no serious attempt to check the regime's weapons ambitions. Or it might not lead to that outcome - as things stand, numerous nuclear exporters are scrambling for a share of the Saudi nuclear power program regardless of proliferation concerns.

More generally, a growing understanding of power-weapons connections might lead to a strengthening of the safeguards system along with other measures to firewall nuclear power from weapons. But again, that's hypothetical and it is at best some way down the track - there is very little or no momentum in that direction.

And another hypothetical arising from the growing awareness about power-weapons connections: proliferation risks might be (and ought to be) factored in as a significant negative in comparative assessments of power generation options.

*Dr Jim Green is the national nuclear campaigner with Friends of the Earth Australia and editor of the Nuclear Monitor newsletter. A longer, referenced version of this article is online: [www.tinyurl.com/learn-love-bomb](http://www.tinyurl.com/learn-love-bomb)*

*The more nations have nuclear weapons, the more dangerous the world will be. Sooner or later some tin pot dictator or religious zealot is likely to push a button and send us all to eternity.*



# Margaret Thorsbourne

In memory of a remarkable woman, conservationist, activist, artist, poet and friend.

The Wet Tropics Rainforest, World Heritage Rainforest and Great Barrier Reef Marine Park were given these protections by her tireless efforts of raising awareness and campaigning and fostering relationships.

Margaret's goodbye service on October 25, 2018 was attended by over 300 people whose lives have been enriched and environmental appreciation deepened by knowing this wonderful woman.

Steven Nowakowski pays this tribute to Margaret:

I do not know where to start, and in some ways words cannot articulate my respect and love for Margaret. However, some of my most memorable times was with her quietly sitting in her humble rainforest sanctuary home listening to her stories about how large swathes of Australian landscapes 'used to be'.

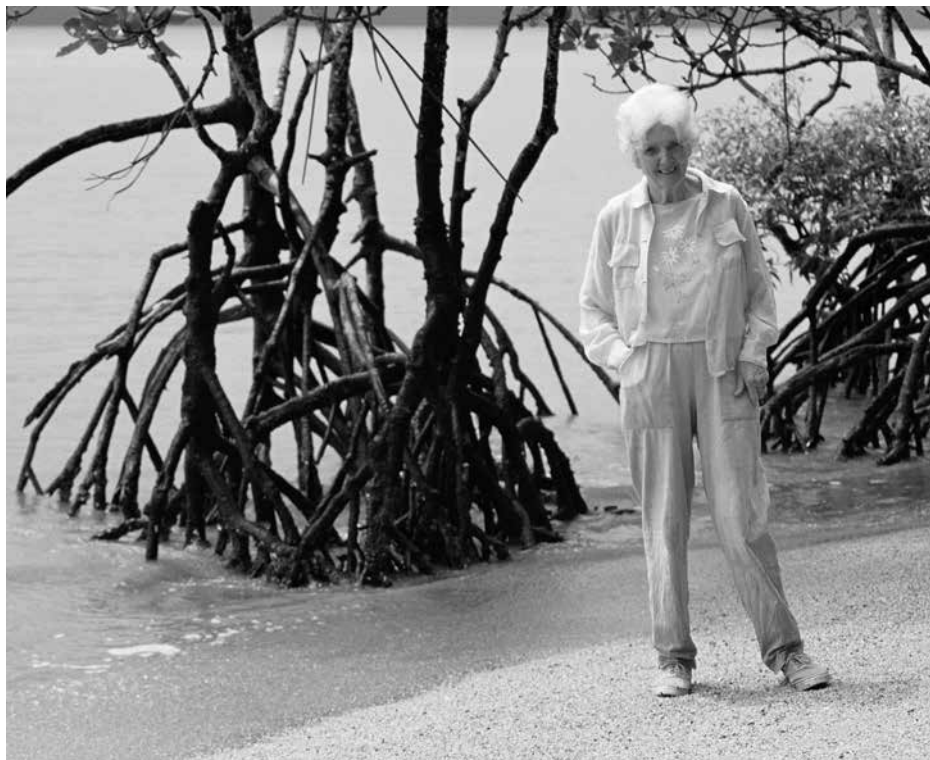
One vivid story was when she spoke about her father and his love for the rainforest that backed along the beach foreshore on what is now the Gold Coast. Her father used to say it, 'really was a Surfers Paradise with the most gorgeous rainforest clothing Greenmount Hill', near where they used to live.

Greenmount Hill was a place of peace and reflection, diverse and rich.

Upon her father's return from the Great War he returned to Greenmount Hill to find someone had cleared the entire hill with not a tree standing. He never understood how this could happen and never returned to Greenmount Hill ever again. He was so saddened by this act of vandalism, and, I suppose this care for place carried through with Margaret.

Another vivid story is when Margaret explained how beautiful and vast the lowland rainforests of the Murray Valley would have been, just up the road from here. It was only during the 1960's that most of the valley, tens of thousands of hectares were sold for a pittance to a U.S. cattle rancher by the Bjelke Petersen Govt. In one foul sweep The Murray Valley was cleared of all its lowland rainforest. If only the bulldozers were kept at bay for another decade, the vast Murray Valley may have survived from conservationists' efforts. If so it would have been an area larger than the Daintree and just as wonderful. Conserving a treasure trove of diversity as well as providing economic opportunities for tourism for perpetuity.

There are so many ways we can reflect on Margaret's life, by looking above and watching the incoming migrating Nutmeg Pigeons, walking along the seashore of Edmund Kennedy National Park, visiting the ancient forests



of the Daintree or camping under the giant arching limbs of a Beach *Callophyllum* tree on Hinchinbrook Island. All of which she had a hand to play in protecting for us and our fellow wildlife on planet earth.

Her favourite saying was, 'sometimes there is no need for us to visit wild places, just knowing they exist is all that matters'.

Margaret made us all slow down and reflect on the simple things. It is these things that bring true happiness.

Margaret Thorsbourne.  
Photo by Steven  
Nowakowski.

## The Coming of the White Birds

'The Coming of the White Birds - Fifty years counting Torres Strait Pigeons' is a 25-minute video produced by Bryony Barnett and Sarah Scragg with funds going to the Thorsbourne Trust. In January 1965 wildlife activists Arthur and Margaret Thorsborne had their first encounter with Torres Strait Pigeons on North Brook Island, North Queensland, during a Christmas visit from their distant home in Southport, south-east Queensland.

Margaret recalls this as a life-changing experience, which prompted the start of a regular monitoring program, counting the big white birds as they return daily from mainland feeding sites to their island nests. In 1967 they were instrumental in stopping destructive pigeon shooting practices, which saw the pigeon count numbers plummet to 1451 in December 1968.

This video honours the roles of the late Arthur Thorsborne, Margaret Thorsborne and Dave Green and the wonderful group of supporters who have kept the program - and the Torres Strait Pigeons - very much alive on North Brook Island. The film can be purchased for \$17.50 from [www.sarahscragg.com/films/whitebirds](http://www.sarahscragg.com/films/whitebirds)

# How the environmental justice movement transforms our world

*Environmental conflicts should not be seen as disruptions to smooth governance, fixable with market solutions, technology or police bullets. People are expressing grievances, aspirations and political demands. They should not be repressed. They lead us to a better world for all, argue a team of academics working together as ENVJUSTICE.*

It had cost them 22 years of resistance, 100 days of street mobilisation and 13 deaths from police fire. But on 28 May, a very controversial copper plant in India was closed – instead of expanded. This struggle – worthy of an Avatar sequel – is just the most recent illustration that the environmental movement is to our age what the workers' movement was for the industrial age: one of the most influential social movements.

Yet while strike statistics are collected systematically, environmental protests lack monitoring. Over the past years, we filled that gap with The Global Atlas of Environmental Justice (EJAtlas), a growing inventory with more than 2,500 cases of social conflicts around environmental issues.

As ecological economists and political ecologists, we argue that damaging economic activities – from mining to waste dumping – have triggered the creation of a global movement for environmental justice that is reshaping how humanity lives on this planet.

## Land-grabbing: 600+ conflicts

Booming palm oil production is behind a land-grabbing surge for plantations, which threatens communities. Palm oil is now in half of all packaged products sold in the supermarket.

Plantations replace food crops, deprive farmers from their land, increase slave labour and cause environmental destruction like deforestation, water pollution, infertile soil and fires.

Grassroots activist networks achieved temporary suspensions of further expansion of what they call “green deserts” in Honduras, Colombia, México, Indonesia and Myanmar.

## Conflicted renewable energies: 31 wind conflicts, 326 water infrastructure conflicts

Renewables are necessary in a post-carbon world, but mega dams (like Narmada) and mega wind projects (Mexico, Kenya, India) are triggering conflicts.

Methane emissions and cost overruns, are hidden behind a twisted sustainability discourse to justify a new wave of dams, especially in the Himalayas, Amazon basin, Balkans and Africa.

Rural communities often create cooperative wind energy models as alternatives to the corporate

schemes, thus reshaping global production and consumption patterns. Communities expose the violence and reclaim the right to decide what energy transformation and sovereignty they want.

## Mega-mining: 270 conflicts

New technologies, highly polluting chemicals and massive amounts of water accompany mega-mining expansion in Latin America and Western Africa (bauxite or iron in Guinea, gold in Burkina Faso, Senegal or Ghana).

Resistance in Latin-America and Africa is strong and often enjoys the high participation and leadership of women. This often leads affected communities to develop new local initiatives that are more sustainable.

## Unburnable fuels: 178 conflicts

Faced with declining stocks, the fossil fuel industry depends on unconventional means and locations of extraction: from oil sand and fracking to Arctic and deep water petroleum sources.

The resulting contamination of fresh water supplies, devastation of marine systems, seismic activity and global warming gave rise to a Blockadia movement of direct action – forging a connection between unique struggles due to the combination of global and local threats that oil, coal and gas pose.

Massive oppositions have resulted in moratoria on off-shore drilling, litigation over continued oil exploration, bans on fracking, the removal of gas pipelines, and the halting of oil and gas operations.

## Trash economy: 126 conflicts

Facing a multi-billion dollar waste industry are alliances of grassroots organisations protecting health and livelihoods. GAIA unites communities resisting incinerators. BAN tries to halt the flow of hazardous waste such as e-waste and ships from the North to the South.

The Global Alliance of Waste Pickers defends the informal recycling sector. In Delhi (India), middle class residents and informal recyclers allied to oppose the privatization of waste management and the resulting introduction of incineration.

## Sand mafias: 82 conflicts

Illegal sand mining has ten times more value than all wildlife crime. Causes of the surge in demand for sand range from the booming building industry to land expansion to mining of ilmenite or zircon at beaches.

India is a particular hotbed of sand mining conflicts, from beach sand mining in the South to riverbed sand mining in the Himalayas. Hundreds have been killed by various sand mafia branches, from activists to investigative journalists. Despite all the violence, the latter do occasionally succeed in getting sand mine moratoria enforced through the courts.

## Fighting for fish: 77 conflicts

The industrialisation of fishing since the 1950s caused stock collapses and extinctions. Small-scale fishing communities are reclaiming their rights for access to and control over aquatic commons.

The World Forum of Fisher People and World Forum of Fish Harvesters and Fish Workers aim to stop fisheries injustices such as the ones caused by intensive fish farms in Turkey or in Chile, big port projects in India and polluting industries in Ecuador.

## PX-explosions in China: 76 conflicts

China is swept by large scale protests against the highly flammable petrochemical Paraxylene (PX), used to make plastic and polyester.

Protests in Xiamen (2007) stopped the construction of a PX plant. Protests spread to Dalian, Chengdu, Shanghai and elsewhere.

Together with protests against incinerators, wastewater issues, coal-fired power plants, etc. a new type of a-political mass mobilization emerged: to go for a “collective stroll” (sànbù).

## Nuclear nightmares: 57 conflicts

Nuclear power is criticised due to risks illustrated by accidents in Three Mile Island (1979), Chernobyl (1986) and Fukushima (2011). Particularly controversial were the more risky “fast breeder reactors” in Creys-Malville (France, where an activist lost his life), Kalkar (Germany) and Monju (Japan).

While these were stopped, struggles at other places, such as Kalpakkam (India) are ongoing. Accidents and grassroots movements slowed down the nuclear industry, leading to phase outs in many countries.

## Pesticide popularity: 23 conflicts

Despite pesticides impact on the environment and human health (like cancers or bird deaths), their use in farming is increasing – especially in developing countries.

Sadly, it is usually only when the impacts of these toxins have become irreversible that people demand justice for the damage they do to health.

In Argentina the use of glyphosate in soybean cultivation has been challenged. The use of a nematocide to kill worms which destroy banana plantations has been fought in Asia, Latin America and Africa.

## World economy

The world economy has continued to consume more energy and materials. Basic physics tell us that the economy is not circular but entropic. While key resources are running out, humanity trespasses planetary boundaries at the output side.

Economies based on economic growth are ecologically unsustainable and socially conflictive. The socio-environmental conflicts on resource extraction, transport, processing and dumping beg a question: who gains and who loses in any economic activity?

The EJAtlas shows that people all over the world, organized in groups and networks, struggle for the kind of world they want to create. In doing so, they are promoting sustainability.

Environmental conflicts are not disruptions to smooth governance, fixable with market solutions and technology. People are expressing grievances, aspirations and political demands. They should not be repressed, they should lead us to a better world for all.

*More information:*

*EJAtlas: <https://ejatlas.org>*

*EnvJustice research project: <http://envjustice.org>*

*Reprinted from The Ecologist, 5 June 2018, <https://theecologist.org/2018/jun/05/how-environmental-justice-movement-transforms-our-world>*

# Almost four environmental defenders a week killed in 2017

Jonathan Watts

*197 people were killed last year for defending land, wildlife or natural resources, new Global Witness data reveals. In recording every defender's death, the Guardian hopes to raise awareness of the deadly struggle on the environmental frontline.*

The slaughter of people defending their land or environment continued unabated in 2017, with new research showing almost four people a week were killed worldwide in struggles against mines, plantations, poachers and infrastructure projects. The toll of 197 in 2017 – which has risen fourfold since it was first compiled in 2002 – underscores the violence on the frontiers of a global economy driven by expansion and consumption.

“The situation remains critical. Until communities are genuinely included in decisions

around the use of their land and natural resources, those who speak out will continue to face harassment, imprisonment and the threat of murder,” said Ben Leather, senior campaigner for Global Witness.

But there was a glimmer of hope that after four consecutive increases, the number of deaths has flattened off, amid growing global awareness of the crisis and a renewed push for multinational companies to take more responsibility and for governments to tackle impunity.

Most of the killings occurred in remote forest areas of developing countries, particularly in Latin America where the abundance of resources is often in inverse proportion to the authority of the law or environmental regulation.

## Extractive industries

Extractive industries were one of the deadliest drivers of violence, according to the figures, which were shared exclusively with the Guardian in an ongoing collaboration with Global Witness to name every victim.

Mining conflicts accounted for 36 killings, several of them linked to booming global demand for construction materials.



In India, three members of the Yadav family: Niranjan, Uday and Vimlesh, were murdered last May as they tried to prevent the extraction of sand from a riverbank by their village of Jatpura.

In Turkey, a retired couple, Ali and Aysin Büyüknöhtüçü, were gunned down in their home after they won a legal battle to close a marble quarry that supplied blocks for upscale hotels and municipal monuments.

The hunger for minerals was also blamed for turning the Andean nations into a “war zone” with high-profile conflicts between indigenous groups and the owners of Las Bambas copper mine in Peru and El Cerrejón coal mine in Colombia.

Agribusiness was the biggest driver of violence as supermarket demand for soy, palm oil, sugarcane and beef provided a financial incentive for plantations and ranches to push deeper into indigenous territory and other communal land.

With many of the tensions focussed in the Amazon, Brazil – with 46 killings – was once again the deadliest country for defenders. Relative to size, however, smaller Amazonian neighbours were more dangerous.

Colombia suffered 32 deaths, largely due to an uptick of land conflicts and assassinations in the wake of the 2015 peace deal, which left a power vacuum in regions previously operated by Farc guerrillas. Among the most prominent victims was Efigenia Vásquez, a radio and video journalist from the Kokonuko community who was shot during a protest “to liberate Mother Earth”.

Peru witnessed one of the worst massacres of the year in September when six farmers were killed by a criminal gang who wanted to acquire their land cheaply and sell it at a hefty profit to palm oil businesses.

Gangs and governments were largely responsible for the bloodshed in the second and fourth countries on the list: Mexico with 15 killings (a more than fivefold rise over the previous year), and the Philippines, which – with 41 deaths – was once again the most murderous country for defenders in Asia.

A broader crackdown by the country’s president, Rodrigo Duterte, was a key factor. When his soldiers massacred eight Lumad in Lake Sebu on 3 December, the government claimed they died in a firefight with rebels, but fellow activists insisted they were killed for opposing a coal mine and coffee plantation on their ancestral land.

In Africa, the greatest threat came from poachers and the illegal wildlife trade, particularly in the Democratic Republic of Congo where four rangers and a porter were ambushed and killed in July. But the highest profile victim last year of the poaching conflict was Wayne Lotter, an influential conservationist who was murdered in Tanzania after receiving death threats.

Global Witness believe many more murders go unreported. Defenders are also being beaten, criminalised, threatened or harassed. In a recent example, Ecuadorean forest activist Patricia Gualinga reported that attackers had thrown rocks through her windows and yelled death threats at her.

This is common. The EU-funded Environmental Justice Atlas has identified more than 2,335 cases of tension over water, territory, pollution or extractive industries, and researchers say the number and intensity are growing.

## Justice is rare

Justice is rare. The assassins are often hired by businessmen or politicians and usually go unpunished. Defenders, who tend to be from poor or indigenous communities, are criminalised and targeted by police or corporate security guards. When they are killed, their families have little recourse to justice or media exposure.

But there are patches of progress. Some countries saw falls, notably Honduras and Nicaragua, though activists remain in a vulnerable situation.

Civil society groups and international institutions are also increasingly mobilising behind environmental rights. Last month, 116 organisations in the Philippines launched a petition declaring: “It is not a crime to defend the environment.”

Campaigners for indigenous communities have taken their struggle to global climate talks and the United Nations.

Some international institutions are willing to listen. Following criticism for having backed the Honduran hydro project linked to the murder of activist Berta Cáceres, the Dutch Development Bank (FMO) has broken ground by declaring the safety of human rights defenders to be a key factor in future investment decisions. “The time has come for more investors to step up and take measures which guarantee that their money isn’t fuelling attacks against activists,” said Leather.

The UN special rapporteur on human rights and the environment, John Knox, urged governments to address the culture of impunity and said the media had an important role in boosting transparency.

“Environmentalists have been at risk for many years, but the full extent of the global crisis has only become clear as a result of the work of Global Witness and the Guardian to identify every environmental defender killed because of their work,” Knox said.

“As a result, it’s possible to see more clearly the underlying causes and risk factors, including the failures of governments to protect these defenders from threats and violence. I think that there are some signs that governments are starting to respond to the increasing international attention to these cases, but much more needs to be done.”

*Reprinted from The Guardian, [www.theguardian.com/environment/2018/feb/02/almost-four-environmental-defenders-a-week-killed-in-2017](http://www.theguardian.com/environment/2018/feb/02/almost-four-environmental-defenders-a-week-killed-in-2017)*

*More information: [www.theguardian.com/environment/ng-interactive/2017/jul/13/the-defenders-tracker](http://www.theguardian.com/environment/ng-interactive/2017/jul/13/the-defenders-tracker)*

# Agent Orange – a humanitarian concern we can do something about

Dr. Charles Bailey

I first went to Vietnam in 1997, three decades after I graduated from college, volunteered for the Peace Corps and was assigned to teach high school in a remote village in Nepal. One day the students asked me why we Americans were destroying the forests in Vietnam. I couldn't answer them. But when I arrived in Vietnam as the head of the Ford Foundation office there, I found their assertion to be distressingly true.

Moreover, the herbicides, collectively called Agent Orange, had been contaminated with dioxin, a chemical that is extremely toxic to humans in small amounts. Severe disabilities associated with Agent Orange/dioxin were occurring in generation after generation in Vietnamese families.

Until recent years though, officials in both the Vietnamese and U.S. governments were unable to talk about Agent Orange in a way the other side saw as constructive. They were deadlocked over what to do about it. For NGOs there, this terrible war legacy was the third rail in the subway – you touch it, you're dead.

Agent Orange continues to impact the Vietnamese today. The U.S. and Vietnam are now cooperating to address this legacy of the Vietnam War. We are halfway done. Sometimes such sensitive topics are ideal places for philanthropy to try to help. Over time I was able to use resources to get a wider array of people in the two governments and the NGO community working on solutions that focused on the needs, not on the causes.

At the same time, Vietnam was quietly allocating more and more resources to help persons they regarded as victims of Agent Orange, and following the Agent Orange Act in 1991 the United States began making payments to disabled U.S. veterans who had been exposed to dioxin in Vietnam.

By 2003, a Ford-funded study had identified three former U.S. air bases at Phu Cat, Danang, and Bien Hoa as the places where residual dioxin was most concentrated and likely to cause continuing harm. The finding that dioxin was a point-source problem that could be addressed with existing technology provided the key opening when President George W. Bush came to Vietnam for APEC in 2006. He and Vietnamese President Nguyen Minh Triet agreed that something should be done – in partnership.

Sen. Patrick Leahy (D-Vt.) pushed appropriations through Congress to support the clean up, as he has done each year since then, insisting that a portion be used to help Agent Orange victims.

In 2009, another Ford-funded study found that Agent Orange victims were a fraction

of Vietnam's disabled population and their disabilities severely limited their mobility and mental functioning.

Since 2007, Congress has appropriated \$200 million to address Agent Orange in Vietnam – to clean up the dioxin at the Danang Airport and to assist Vietnamese with disabilities. The Danang Airport is now free of dioxin and the dioxin residues at Phu Cat, with the United Nations Development Programme (UNDP) assistance, have been placed in a secure landfill. Most importantly, the two governments now have a practical partnership. The extreme sensitivity of this subject is a thing of the past.

Much remains to be done. Phu Cat and Danang are estimated to hold only 15% of the soil requiring remediation. The remaining 85% – some 600,000 cubic yards – is at the Bien Hoa air base, 20 miles upstream of Ho Chi Minh City's 8.5 million people.

USAID estimates that remediation there will cost at least US\$395 million and take a decade. And several hundred thousand young Vietnamese still await help in coping with disabilities linked to dioxin exposure of a parent or grandparent (or even a great-grandparent).

The tragic legacy of Agent Orange could end if the two countries' leaders chose to do it. Constructive engagement would require Vietnam to say that cooperatively addressing this legacy is among its highest priorities in the bilateral relationship and spell out its goals. The U.S. would need to outline the size and scope of assistance it can provide. At the same time, annual congressional appropriations must continue. President Trump should include it in his annual budget requests for USAID and the Department of Defense.

Clean-up assistance should focus on Bien Hoa. Disability assistance should focus on the most heavily sprayed areas and the most severely affected people, aiming for permanent improvements both in their lives and the capacities of local governments and NGOs to provide services. The state department and USAID should also encourage other countries and companies doing business in Vietnam to support health and disability projects.

Such a diplomatic and financial initiative would be in the interests of both countries. A war legacy that for decades was a source of resentment and recrimination can be a compelling example of how we build a better future.

*Charles R. Bailey is co-author of the 2017 book, "From Enemies to Partners – Vietnam, the U.S. and Agent Orange."*

# Working to protect cassowaries in far-north Queensland

Ingrid Marker

February 2015: a pack of roaming domesticated hunting dogs entered the Wet Tropical rainforest adjoining my property and mauled to death nine endangered cassowaries I had been observing as a citizen scientist for 28 years.

The matriarch named Avalon was a regal bird of 50 years. With four (and sometimes up to five) resident males she produces many eggs, leaving the male to raise the young. Known as the gardeners of the rainforest, their guts assist germination of many rainforest seeds that they disperse as they move around the forest. The cassowaries had survived Cyclone Larry and Yasi but were unable to fight back a pack of dogs.

I naively believed the Animal Management Act, the Queensland Parks and Wildlife Service (QPWS) laws and the federal Environmental Protection and Biodiversity Conservation Act would prevent these crimes happening again and prosecute the irresponsible dog owners. I was soon to learn the laws were ineffective.

Cassowary Keystone Conservation Inc was formed to lobby local state and federal governments creating these positive outcomes:

All regional Wet Tropics Councils are providing responsible dog education and awareness programs, TV, Radio, newspapers, workshops, free dog obedience training.

- All regional Wet Tropics Councils are conducting audits of households for compliance with the Animal Management Act. This includes microchipping, registration and fencing, owning a maximum of two dogs and informing residents of the new amendment (Oscar's Law) to the Animal Management Act that we helped develop.
- Introduced in May 2017, Oscar's Law requires all dogs in the state to be de-sexed unless you apply for a breeder's permit. This was to stop backyard breeders – particularly of hunting or dangerous dogs – to address the wild dog issue sweeping across Australia and to prevent the thousands of healthy puppies needing to be euthanised annually.
- Agreements are being finalised to ensure Local Council, QPWS and the Dept. of Environment & Science (DES) communicate with each other and are able to respond when receiving an incident report of a roaming domestic dog trespassing into a Park or Protected Area or is threatening wildlife outside the Park.

Currently we are working on:

- Regulating pig-hunting dogs to declare them a dangerous dog. This requires that they be



kept in a secure self-locking fenced enclosure, muzzled in public and wear a tracking collar when hunting, and owner incurs a heavy fine and possible goal term if through negligence the dog attacks or kills. The dangerous dog label can be removed if you can produce a certificate that your dog has been socialised, temperance report and obedience trained.

- Currently, many Councils across the state have their dog off-leash zones near estuary mouths, head-lands and mudflats where most shore and seabirds nest and feed. Currently I am working with Birdlife Australia and hope to address this threat to our endangered feathered friends, by making these areas dog free or nature conservation zones.

I hope to create greater clarity around our understanding of “wild dogs” by changing the definition to “feral dog” which includes pet dogs gone bad. Wild dog is a dingo / domesticated dog hybrid which land-holders are permitted to kill. These dogs have very different behaviours to dingos and whilst dingos many not always be pure breeds can we learn to judge them on their behaviour.

I seek to protect dingos not by their breeding but by their nature. The debate is that there are no pure dingos, however there are different behaviours that can be learnt and understood. Dingos pair for life, breed only once per year and this year's pups learn whilst helping to raise next year's pups then leave home. Dingos hunt for food, not for sport and target the old, sick, weak and young in an ecosystem.

Dogs operate on a hierarchical system of top dog, breed twice per year with every bitch on heat being fair game, chase, menace and hunt for sport – often maiming many stock without killing or eating just for fun. This behaviour leaves many farmers distressed, having to shoot injured stock resulting in huge net agricultural losses across Australia and a hatred for wild dogs or dingos.

Dingos are the apex predator we could be entrusting with restoring Australia's ecological balance. They are wonderful at removal of cats, foxes and rabbits.

Thank-you Friends of the Earth for all your support and training over the past two years, without which these positive outcomes would not have been possible.

Ingrid Marker is a member of Cassowary Keystone Conservation Inc.



# It's time for Australia to stop arms promotion

Medical Association for Prevention of War

Every day we see images of war's terrible impact on innocent people. We often feel powerless to make a difference, but there are things we can do. Identifying who profits from war, and how Australia is aiding these war profiteers, are important first steps.

Do you realise how much financial support and encouragement our Government gives to huge multinational weapons corporations?

- The Government has committed \$3.8 billion of taxpayer funds to help Australian arms makers – including the subsidiaries of global weapons makers – export more weapons.<sup>1</sup>
- The Australian War Memorial seeks funding from weapons companies and actively promotes their brand names, even inside the Memorial itself.
- The weapons industry made huge profits from the carnage of World War 1 yet the world's largest weapons-maker, Lockheed Martin, is this year funding Australian War Memorial activity around commemorations of the Centenary of the end of WW1.<sup>2</sup>
- The Avalon arms fair, held biennially in Victoria alongside the air show, is organised by a group of corporations that have charitable status and thus receive generous tax concessions. The Federal and Victorian State governments appear as sponsors on the website, in arrangements which lack transparency.
- Australia sells weapons to Saudi Arabia, a country which has helped create a humanitarian catastrophe in Yemen. Recently the Australian Defence Department admitted it could not rule out the possibility that Australian military equipment is being used by Saudi Arabia in Yemen.
- Australian universities are accepting weapons' company funding which will influence students to opt for careers in this sector instead of areas the world needs more, such as renewable energy.

The Medical Association for Prevention of War (MAPW) believes weapons promotion tends

to normalise warfare and desensitises us to its impacts. To counter the increasing influence of weapons manufacturers in our national life MAPW has launched the Australia: Stop Arms Promotion project and we need your help.

This is what we're doing:

- **Media on the Australian War Memorial:** We've already received national media coverage for our call on the War Memorial to stop accepting weapons' company funding.<sup>3,4</sup> We received further media coverage on the need for the peace message to be prominent on Armistice Day<sup>5,6</sup>, and we reiterated our call for Lockheed Martin's money to be kept away from the commemoration of our war dead.
- **Petition:** We have started a petition to the Australian War Memorial calling on its Director and Council to cease accepting weapons company money.
- **Public engagement:** Using social media and a postcard campaign, we will engage people around the country to pressure the Australian War Memorial to stop commercialising our war dead.
- **Melbourne University:** We've met with senior staff at Melbourne University to protest their financial arrangement with Lockheed Martin. We have also begun a poster campaign on campus and circulated a statement for students, staff and alumni to sign.
- **Digging for information:** Our questioning, including via Freedom of Information requests, has unearthed major subsidies for the Avalon air show/arms fair. We'll continue this investigation and publicly question the organisers' charity status. We've also used FOI to expose government secrecy about its arms sales to Saudi Arabia.

None of this work would be possible without the financial support of our members and supporters. Thank you. Yet funds are running low, just as we are gaining traction! If you can donate, please visit <https://actionnetwork.org/fundraising/donate-to-australia-stop-arms-promotion-project>

*Every day we see images of war's terrible impact on innocent people. We often feel powerless to make a difference, but there are things we can do. Identifying who profits from war, and how Australia is aiding these war profiteers, are important first steps.*

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# Sitting here on Djapwurrung country protecting sacred trees

Amanda Mahonet

There are a handful of us still standing after many months of daily racial taunts from drivers by. Rain, storms, strong winds and the luxuries of everyday living like turning on a light switch unavailable.

It's no easy task but we know it must be done. The small examples must be won or the big examples will continue to get bigger and this nation and all of its People will be lost forever.

The Women warriors that are left are from all walks of life, and the fact that they descend from other nationalities has no effect on which order we stand. They are now my Sisters. They get it. Better than most. They understand the importance of keeping Culture alive, it is the reason why they are my fellow warriors.

A plan by Vic Roads to widen the Highway just outside of Ararat is why we are sitting on Country. In this 12 km or so stretch (if all goes to their plan) hundreds of trees will be gone. Beautiful trees including an 800 year old tree that has seen over 50 generations been born inside her and a 350 year old directions tree that is shaped like and resembles a Woman - literally.

Vic Roads will also succeed in ripping up the land on which we are still finding artefacts today. To our People, the land is our means of survival. It is our food, spirit, identity and culture. Our lands have a spiritual value and not an economic one.

If the land is destroyed so is our dreaming. Our dreaming is our story. It is what connects us to the beginning of time, back to our spirit ancestors, our creators.

Today, roads are built on our song lines and our song lines are what connects our stories up all around our nation from one tribe to the next, you could even say like chapters in a book.

Our stories are passed down to teach us to respect Mother Earth, our sacred places and all living creatures. They teach us morals and more importantly the law, what is accepted and what is not!



Protest camp on Djapwurrung land near Ararat.

We must be given our rights to be the true custodians and caretakers of this nation. If we do not take a stand now, our Culture along with our People will be merely a distant memory.

It was never ok for our lands to be taken away. Sovereignty never ceded.





# Chemical pollutants – Just because the amounts are small, does it mean they are safe?

Alfred Poulos

Most people would be surprised to learn how little of certain chemicals is required to produce quite pronounced effects in biological systems, including the human body. For example, depending on the chemical, our olfactory receptors which are involved in our sense of smell, may react to as little as one billionth of a gram. Treatment of cells derived from the human ovary with fractions of a billionth of a gram of the toxic pollutant dioxin has been shown to reduce the production of one of the female sex hormones.<sup>1</sup> Around 2-3 micrograms (a microgram is a millionth of a gram) of vitamin B12 taken daily is enough to keep us from developing a form of anaemia, 5 micrograms are sufficient to prevent rickets (a bone disease) in children, and 10-20 micrograms of vitamin K are enough to prevent very young children from bleeding.

Conversely, people would also be surprised to learn how little of certain poisons are required to cause illness. For example, one microgram or less of the botulism or tetanus toxins is sufficient to cause harm or even death. There are, as well, other more common examples of how small amounts of certain chemicals have the potential to cause harm or even death and these include the allergies to certain foods such as peanuts, egg or milk where a few milligrams (thousandths of a gram) are sufficient to cause a response.

There is therefore no question that amounts that we consider exceedingly tiny do have the potential to keep us healthy or even kill us. It all depends on the nature of the chemical and the various bodily processes it affects. So, while small can be beautiful, it can also be lethal.

There is also no doubt that some of the chemicals we are exposed to in our everyday lives are harmful to us if taken in large enough amounts. Indeed, one could argue that just about everything, even oxygen and ordinary salt are poisonous if the amounts taken are sufficiently large. Certainly, many of the pesticides, metals such as arsenic, lead and mercury, and a great number of the industrial waste products are considered toxic and yet governments believe that, in the amounts we are exposed to, they do not pose a risk to our health. However, there are numerous examples of chemicals causing disease when taken in amounts much lower than the poisonous dose.

## Smoking

Perhaps the best example is smoking. While there are dozens of potentially poisonous and cancer-causing substances in cigarette smoke,

the amounts a smoker is exposed to in each cigarette are much lower than that required to harm. And yet research has demonstrated fairly clearly that there is a link between smoking and lung cancer in particular.

Another example is the toxic metal arsenic. In large doses, from a few hundred milligrams to gram amounts, it kills – the actual amount depending on the chemical form of the arsenic. But chronic exposure to amounts a hundred-fold or more lower than this can also cause skin abnormalities, nerve damage, and anaemia. This is clear from the poisoning that occurs through ingestion of arsenic contaminated groundwater in concentrations of as little as one tenth of a millionth of a gram per millilitre in some parts of the world e.g. Bangladesh.<sup>2</sup>

Similarly, while a few grams of mercury in its different forms can kill outright, chronic exposure to much smaller amounts may not kill but can affect the function of the brain, kidney and other organs as occurred in Minamata Bay in Japan through eating seafood contaminated with the metal.<sup>3</sup>

There is yet another factor which can profoundly influence the effect of a chemical and that is the timing of exposure. A good illustration of this is the drug thalidomide which was taken by many pregnant women in the late 1960s. In non-pregnant women the drug is relatively safe but in pregnant women as little as a single 50 mg dose (i.e. one twentieth of a gram) taken from 20-30 days after conception may be sufficient to cause devastating birth defects. What thalidomide taught us was that some chemicals – even in apparently non-toxic doses – may be more toxic in humans than in some of the animal species used to test for toxicity. In the case of thalidomide, mice, often used for testing drugs, were much more resistant to its effects than other animals. And finally, the toxic dose can vary according to how a chemical enters the body i.e. through the skin, mouth, or the lungs.

## Animal testing

The usual way of determining whether a chemical is potentially toxic is to try it out on animals, the most used species being rodents such as rats and mice. However, there are a number of problems with these sorts of studies. Firstly, rats and mice are not humans and, despite the fact that there are similarities in the way rats and humans handle chemicals such as polychlorinated biphenyls (PCBs), there are differences as well.

*Similarly, while a few grams of mercury in its different forms can kill outright, chronic exposure to much smaller amounts may not kill but can affect the function of the brain, kidney and other organs as occurred in Minamata Bay in Japan through eating seafood contaminated with the metal.<sup>3</sup>*



Secondly, most toxicology studies, particularly for environmental chemicals such as PCBs, do not involve very long-term chronic exposure which can more accurately mimic the exposure of humans. The situation is different with pharmaceuticals where toxicological testing is much more rigorous and, moreover, even after approval for a particular drug, once the drug is released into the market there is continuing monitoring. It is impractical to subject the thousands of industrial chemicals to this degree of testing and scrutiny.

Thirdly, the studies carried out with rodents do not take into account the fact that many humans have pre-existing conditions (diabetes, cancer, arthritis, hepatitis, nephritis etc), or smoke, drink excessively, have abnormal liver function, or take recreational or other drugs. It is further complicated because there is increasing evidence that there are genetic differences in the way we deal with chemicals such as drugs and pollutants. These factors can affect the capacity of an individual to deal with a chemical, perhaps even at the very low concentrations that may be present in our food, water or air.

And finally, it must be emphasised that any toxicological testing that is carried out, even for pharmaceuticals, almost always involves the testing of a single substance. It is rare that mixtures of chemicals are used. However, in the case of environmental chemicals, it is the rule rather than the exception that we are exposed to complex mixtures. Indeed, recent analyses of the exposome have shown that the human body may contain a great number of chemical pollutants which have accumulated throughout life.<sup>10</sup> Despite what governments may tell us, there is no way one can know for certain what these complex mixtures may do to our health.

## Concentration threshold

Whereas in the past toxicologists (scientists who study poisonous substances) believed that there was a concentration threshold below which poisons had no effects on animals or humans, scientists working in an area of toxicology known as “hormesis” have espoused the view that sub-lethal amounts of a poison may also produce some effect, perhaps even an opposite effect. Perhaps because this view smacks somewhat of homeopathy, an alternative way of treating disease and largely dismissed by many scientists. However, in the past decade there have been numerous reports in journals that point to measurable effects at very low and sublethal amounts of a toxic substance.

A few examples are worth noting. Cadmium is a known toxin and chronic exposure can lead to bone and kidney diseases. Acute exposure to cadmium leads to severe gastrointestinal problems and severe lung inflammation ultimately leading to death. One of the major effects of chronic exposure is damage to the kidneys. Experiments carried out with cadmium using lung cells taken from human embryos actually showed two effects – one at low concentrations that stimulates the growth of

these cells, and an inhibition of cell growth at high concentrations.<sup>4</sup>

The effects of glyphosate provide another example because there is increasing evidence that in much smaller amounts, such as may occur in spray drift onto non-sprayed fields, it may stimulate growth of some plants.<sup>5</sup> These examples, and there are many others, point to a phenomenon that is truly surprising. In the case of the examples cited, it indicates that very small amounts of something that is toxic may be beneficial. Of greater importance, however, is the conclusion that very small amounts of substances, both toxic and non-toxic, may not necessarily behave in a manner expected. And, further, if toxic substances may have certain beneficial effects at very low levels, can they also have other, as yet unrecognised, harmful effects? After all, in the examples cited, and in much of the available literature on the topic of hormesis, the focus has been on the systems known to be affected by large doses of a toxin without any consideration of the scores of other systems or pathways that may be vulnerable.

Another way that tiny amounts of chemicals can produce an effect is via the process of synergy where the combined activity of two separate substances is much greater than that predicted by adding the sum of each. This is a well-known phenomenon in medicine where mixtures of drugs can apparently produce unexpected, and often harmful, effects that are not predictable from a knowledge of the effects of each individual drug.

There are also many examples of synergy using mixtures of pesticides against insects or fungi. Perhaps the most impressive studies are those showing synergy between rotenone, an insecticide found in derris dust, and lipopolysaccharide (LPS), parts of the cell wall of many bacterial strains. LPS occurs naturally in humans because antibodies to LPS are routinely detected in blood and very small amounts, of the order of fractions of a millionth of a gram, can promote inflammation. Rotenone is a mitochondrial poison and works by stimulating the production of free radicals and this can damage the mitochondria, the tiny powerhouses of the cell, ultimately leading to the death of the cell.

A group of US researchers, studying the combined effects of rotenone and LPS on certain brain cells that specialise in the production of dopamine, an important substance involved in the transmission of nerve impulses in the brain, found that while rotenone, by itself, at concentrations much lower than the toxic dose, produces an apparently negligible effect on the brain cells, in combination with LPS (again at levels below that required to produce any direct effect), can induce a large increase in free radical formation ultimately leading to the death of cells.<sup>6</sup> This is an interesting observation with relevance to Parkinson’s disease, a degenerative disease affecting humans, which is caused by a gradual loss of function of brain cells that make dopamine. The researchers speculated that while the causes of Parkinson’s disease are not known, it is possible that the disease may

*Acute exposure to cadmium leads to severe gastrointestinal problems and severe lung inflammation ultimately leading to death.*

result from the effects of interactions among multiple factors, another way of saying that synergism may be involved.

## Priming

There is yet another way tiny sub-lethal amounts of a substance can produce marked and unexpected effects and that is via a mechanism that is referred to as “priming”. There is some overlap between the mechanisms of hormesis, synergy and priming. However, priming is a biological process that is well known to scientists, particularly those who work in the field of immunology.

Some of the special proteins produced by the immune system, the so-called cytokines, can interact with certain immune cells, to produce a cell that is “primed”, that is the cell is sensitised and potentially hyperactive as compared to corresponding non-primed cells. A primed cell is ready to go and all it takes is some other substance to produce an effect. There are examples of pollutants, such as pesticides that, at non-toxic levels, can greatly augment the response of immune cells via priming. Studies carried out by a group of Italian scientists showed that chronic exposure rat immune cells to permethrin, a well-known pesticide, at levels not considered to be toxic, primes the cells and this results in a greatly amplified response to other stimuli.<sup>7</sup>

The cells studied by the researchers produce free radicals which can kill bacteria but, in excess, free radicals can also damage delicate tissue causing disease such as arthritis. The permethrin-primed response measured by the scientists was so great (more than 30 times greater than normal) that the researchers speculated that, if something similar occurred in humans, then chronic exposure to some pesticides had the potential to harm.

A similar augmentation of an immune response has also been shown in laboratory mice.<sup>8</sup> In this case the mice had been previously primed with albumin, a protein found in blood, which had rendered their lungs very sensitive (a type of priming). Motorcycle exhaust particles, known to contain a variety of pollutants with the capacity to induce a type of lung inflammation, were introduced into the lungs of both sensitised and non-sensitised animals and the response to these treatments was measured. The researchers concluded that prior sensitisation and subsequent treatment with a mixture of environmental pollutants greatly augmented inflammatory



"You are completely free to carry out whatever research you want, so long as you come to these conclusions."

processes in the lung. This is especially relevant to people with asthma, whose airways are particularly sensitive.

## The bottom line

We may need to re-evaluate our beliefs on toxicity because they are often based on animal studies that do not take into account the differences between animals and humans, the fact that much of our exposure can occur over many years, and there are likely to be genetic differences in our abilities to handle chemical pollutants. There is increasing evidence that exposure to tiny amounts of a toxic chemical may have unexpected effects through the process of hormesis, or through synergism or priming which depend on the combined actions of a pollutant with other substances that may be present in our blood and tissues. Some of the pollutants we are exposed to have been demonstrated to produce effects via these processes in animal, and even human, tissues such as the brain and the immune system.

However, there are literally thousands of chemical reactions occurring in our bodies at any time and it is likely that at least some of these reactions are either inhibited or stimulated in the presence of small amounts of one or more of the many pollutants taken up into our bodies, possibly affecting the function of the organ(s) in which the reactions are taking place.

*Alfred Poulos' new book 'The Secret Life of Chemicals' is available from the author: [alfredpoulos@gmail.com](mailto:alfredpoulos@gmail.com)*

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# The Secret Life of Chemicals

*The Secret Life of Chemicals*

By Prof. Alfred Poulos

2018

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Review by Anthony Amis

In his second book, Prof. Alfred Poulos investigates 'The Secret Life of Chemicals', offering a detailed and mind-boggling overview about how chemical pollutants interact with human beings and how they can impact on health. Prof. Poulos has worked in universities, research institutes and hospitals in the UK, USA, Canada and Australia. He held the position of Chief Medical Scientist at the Women's and Children's Hospital in Adelaide, South Australia for many years; has a professorship from Adelaide University, for his research into genetic diseases, fats and fat metabolism; and has published over 150 papers in international scientific and medical journals.

As a follow-up to the 2005 publication 'The Silent Threat' (reviewed in Chain Reaction #133), this offering is more detailed and equally impressive. Taking three years to write, Poulos has the ability to examine extremely complex processes and explain them in ways that people without training in this field can comprehend.

With the internet saturated with information about the dangers of a myriad of substances, Poulos acts as a guide for the reader attempting to come to grips with the often contradictory positions of published science and "junk science".

Not only does the book outline some of the most troublesome chemicals in terms of human health, but the author also explains the latest scientific thinking into how a host of chemicals impact on the body.

I particularly found the chapters on genetic variability and the risk of disease particularly

useful as this area appears to be of great significance to explaining why one person may become ill from exposure to a chemical, whilst another person exposed to the same chemical may not have any adverse reaction at all. This conundrum makes regulating chemicals extremely difficult, particularly in terms of defining what a safe dose actually is.

I also appreciated the chapters of environmental chemicals and our genes, mitochondria and immune system, all of which were very insightful. It is also encouraging to see a chapter on "Just because the amounts are small, does that mean they are safe?". This has been an increasingly topical area in regards to a host of pesticide issues that I have been researching and again has implications regarding how what may be OK for one person can be devastating for someone else.

Drawing from the latest peer-reviewed medical and scientific literature (with over 600 references), the book includes chapters on:

- The health effects of plastic packaging
- Pesticides in our food
- Toxic metals such as lead, arsenic, mercury and how they have ended up in the food chain.
- Air pollutants and their presence in home, through sprays, detergents and cleaning agents
- Plastics in the ocean and in landfill and the chemicals they release
- 'Indestructibles' - the industrial chemicals like PCBs, dioxins and PBDE flame retardants that hang around and don't break down very easily
- Non-stick chemicals added to our cooking utensils
- Chemical exposure in our workplaces
- Effects of environmental chemicals on our genes and immune systems

Prof. Poulos says that the book was inspired by a wish for his grand-children grow up in a less polluted world. "You think of the legacy you are leaving them: What sort of planet are you bequeathing for them? You don't just sit back and think there's nothing you can do - no matter what age you are."

For anyone campaigning on toxic issues, from pesticides, to air pollution, plastics, fluorocarbons, radiation and chemical exposure in the workplace, "The Secret Life of Chemicals" should be mandatory reading.

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Brisbane

Perth

# SCHOOL STRIKE FOR CLIMATE ACTION



Hobart.  
Photo by Laura Campbell.



Albury-Wodonga

"The turnout by students was awesome, I am so proud. Kids everywhere know politicians need to immediately act to stop climate change, and Adani's mine, to save our future. Scott Morrison said this should be dealt with outside of school, but it's not being dealt with and that's why we're taking action. Students are keen for more because the student revolution is well underway."

- Jean Hinchliffe, 14 years old, Sydney



Sydney

Bendigo

Adelaide.  
Photo by Matthew Richards.





"As young people, we will inherit the decisions that our politicians are making about climate change. We learn in school that scientists think we have just a decade to avoid the worst impacts of climate change and yet our politicians are helping rich companies like Adani mine and burn more coal that will only make this worse. We're striking from school to tell them to stop, now."

- Harriet O'Shea Carre, 14 years old, central Victoria

"I wake every morning in a state that is 100 percent drought declared. I have seen our government axe policies to protect my generation's future. I have seen the failure to invest in solutions that would protect us and the failure to prevent and prepare for the climate crisis. Enough is enough. As young people, we didn't create this problem, but we're going to do everything we can to stop it."

- Ruby Walker, 17 years old, Inverell

