

# chain. reaction

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The National Magazine of Friends of the Earth Australia

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## Why the National Electricity Market is a disaster, and how to fix it

Nuclear power industry in crisis

Deep sea mining plans for PNG

Food and the next generation of GM

The evolution of corporate greenwashing

Racist nuclear waste laws should be dumped

Green-black alliances are less simple than they seem







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# Support Friends of the Earth

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Help ensure FoE remains a vibrant & independent voice for social and environmental justice.

Give your support by:

- Becoming an **Active Friend** by giving monthly tax-deductible donations
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2

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I'd like to make a **monthly** donation of:

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A Service Agreement will be sent to you upon receipt of this form. All contributions are tax deductible with the exception of \$20 per year to cover a membership fee.

## Membership

Become a FoE member with a yearly membership payment:

- \$165 **Supporting Member** (\$100 tax deductible)
- \$95 **Organisation**    \$90 **Household**
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3

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Request you, until further notice in writing, to debit my/our account described in the schedule below, any amounts which Friends of the Earth Inc may debit or change me/us through our direct debit system. I/We understand that 1) the bank/financial institution may in its absolute discretion determine the order of priority of payment by it of any moneys pursuant to this request or any other authority or mandate. 2) The bank/financial institution may in its discretion at any time by notice in writing to me/us terminate the request as to future debits. Bendigo Bank Direct Debit User ID no: 342785

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BSB#: \_\_\_\_\_ Account#: \_\_\_\_\_

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

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

To financially support our work, please visit [foe.org.au/donate](http://foe.org.au/donate)

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### Strzelecki Cores and Links Reserve update

On April 2, Friends of the Earth (FoE) organized a forest tour in the Strzelecki Ranges. The goal was to educate local people about options available regarding the Strzelecki Cores and Links Reserve. The Reserve, first mooted in 2001, is 8000 ha in size and links Tarra Bulga National Park with Gunyah Gunyah reserve, a distance of 30 km.

The first handback of land, 800 ha at College Creek, is expected to occur in June 2017. Because the handback of the entire 8000 ha of future Reserve will be staggered over the next 10 years, complications arise in regards to what land status the set-aside land will be granted before the entire 8000 ha is finally reserved in 2027.

Eight separate land statuses are possible, with most people agreeing with either National Park of Forest Park status. FoE has been involved in the Strzeleckis since 1996. It is one of the most complicated forestry areas in the country due to its proximity to the Maryvale Pulp Mill, the heart of the pulp industry in Australia.

Strzelecki Cores and Links Reserve



### FoE Sydney Bill Busters campaign launch

FoE Sydney has launched a campaign for more affordable and comfortable tenant housing. The *Bill Busters* campaign aims to fix up the worst, most expensive to run rental homes. We believe that everyone has a right to live in a home which is safe, comfortable, and doesn't cost the world to run!

Heaps of renters live in run-down housing, and are too afraid to ask for repairs. Simple repairs and upgrades can save a lot of money, knocking off \$1000 a year from the average energy bill. Landlords have little incentive to upgrade their property/properties to save energy because they don't pay the bills.

Homes that leak energy can't be kept at comfortable temperatures without outrageous bills, and this is a big health problem. In NSW, heatwaves are already the most common cause of death from natural disasters. The good news is these deaths could largely be avoided if the worst performing homes were fixed up to a decent standard.

Can it be done? Yes, water efficiency standards were already introduced in NSW in 2010 and now we need to see standards improved for everything else. Countries all over the world have decent standards for tenant housing and Australia is lagging behind.

Fixing up tenant housing is a simple and effective way to relieve people from financial stress, improve health, cut emissions, and adapt to climate change. We need you as part of a strong movement to raise awareness of the issue and build pressure!

*More information:*

[www.foe.org.au/tenantrights](http://www.foe.org.au/tenantrights) and  
[www.facebook.com/foesydney/](https://www.facebook.com/foesydney/)

Endorse the campaign at [www.foe.org.au/rase\\_campaign](http://www.foe.org.au/rase_campaign)

Videos from the campaign launch are posted on the FoE Sydney youtube channel: <http://tinyurl.com/foesydd-billbusters>



## We Won! Victoria is officially gasfield free!

We did it! On March 7, Victoria became the first Australian state to permanently ban the process of fracking to access 'unconventional' gas (gases like coal seam gas or CSG, and shale and tight gas). Despite last minute amendments from the Shooters Party and Victorian Coalition, we also achieved an extension of the moratorium on onshore conventional gas drilling until 2020.

This is a fantastic outcome. It is the result of more than five years of hard work and dedication by many thousands of Victorians. It shows that people power and community organising works. FoE is proud to have played a pivotal role in this long campaign. A brief history of the campaign is posted at: [www.melbournefoe.org.au/coal\\_and\\_gas](http://www.melbournefoe.org.au/coal_and_gas)

So, what's next? Now that the state government has announced its short-term greenhouse emission reduction target (ERT) for 2020, we have two key goals before us in the coming months:

- Building the expectation that the Victorian government will release a policy on coal that explicitly acknowledges that the time for coal is over,
- Building the expectation that the ERTs for 2025 and 2030 will be deep and sufficient to the task confronting us as a result of climate change.

We also have work to do on the Victorian Coalition. The last-minute threat to the passing of the gas ban followed an announcement that, if elected at the next state election, the Coalition would scrap the Victorian Renewable Energy Target. The Coalition also voted against the Victorian Climate Change Act in February, attempting to block policy that embeds a commitment to Paris Agreement and making it clear that they are happy to vote against a safe climate future for Victoria. We have an uphill battle to convince the Coalition to take climate and environmental issues seriously.

Please check the website for more information and ideas about how you can help us build pressure on the government: [www.melbournefoe.org.au/action\\_on\\_coal](http://www.melbournefoe.org.au/action_on_coal)

## Sun-Powered Queensland

FoE Brisbane has joined more than 30 other organisations involved in the Sun-Powered Queensland campaign. Queensland's Palaszczuk government is developing a plan to see 50% of the state's power needs met by

renewable energy sources by 2030. The aim is for the campaign to be a stepping stone to 100% renewables and retiring Queensland's coal-fired power plants.

[www.solarcitizens.org.au/sunpoweredqld](http://www.solarcitizens.org.au/sunpoweredqld)

## Act on Climate: FoE's new climate justice campaign

FoE Melbourne's newest campaign, Act on Climate, hit the ground running in 2017 - helping to secure the passage of amendments to the Victorian Climate Change Act.

The Climate Change Act became law in 2010. The legislation compelled governments to be transparent with climate goals and enshrined an emissions reduction target for the state. That was, until 2011, when the Liberal National government of Ted Baillieu gutted the act.

After five lost years, the opportunity to put teeth back into the climate act came in the form of a one-off independent review of the act. The drafters of the act inserted the requirement into the original legislation.

The downfall of the Baillieu/Napthine government was another factor allowing progress on state climate change policy. The Labor government - which is developing a repertoire of pro-climate positions with its embrace of a state-wide ban on unconventional gas and commitment to 40% renewables by 2040 - agreed to implement the recommendations of the review.

The amendments to the Victorian Climate Change Act would legislate a zero-net emissions target by 2050; require governments to set transparent emissions reduction targets on a five-yearly basis; see the preparation of adaptation plans for each sector of the economy on a five-yearly basis; and, subject governments that fail to account for climate change in decision-making to judicial review.

Efforts to strengthen state climate change laws were thrown into doubt in December 2016 when the Matthew Guy opposition voted against the bill in the lower house. The fate of the bill would

be determined by the cross-bench in the upper house. The citizen-powered Act on Climate campaign jumped into this political situation to help the bill pass.

Securing the backing of key MPs allowed Act on Climate to shift focus to the opposition. The collective leafletted state parliamentarians and staff during the first sitting week of 2017, calling on them to be climate champions not climate blockers.

And in partnership with FoE affiliate Healthy Futures, we coordinated an open letter to Mary Wooldridge - shadow health minister and leader of the Opposition in the upper house - calling on her to allow the amendments to pass. The open letter was signed by leading health organisations including the Public Health Association Australia, the Australian Nursing and the Midwifery Federation.

On January 23, the strengthened Victorian Climate Change Act became law. It established Victoria as national leader on climate change policy and provides a foundation stone to build on.

So where to from here? Having strengthened the Victorian Climate Change Act, we believe the Andrews government can build on its positive first steps by investing in climate change measures in the budget. Act on Climate will be ramping up a campaign to see transparency around climate-related expenditure in the budget. And we will push for climate change to be a key pillar of the Andrews government's election year budget in 2018.

*The Act on Climate collective is based in Melbourne and meets weekly. If you'd like to get involved, please contact coordinator Leigh Ewbank [leigh.ewbank@foe.org.au](mailto:leigh.ewbank@foe.org.au), 0406 316 176*





## Call to ban ISDS

The February 2017 report of the Senate Inquiry into the Trans-Pacific Partnership (TPP) suggests that the Investor-State Dispute Settlement (ISDS) was a major concern. FoE believes that in order to ensure the continued protection of our environment and human rights, ISDS must be banned from any future trade agreements entered into by Australia.

On top of this, FoE's Economic Justice Collective (EJC) recognises the dire need for a democratisation of the treaty process. Last October, EJC's Kat Moore and Emerging Tech's Louise Sales travelled to Canberra to speak with senators about the TPP and ISDS. We had two asks of every person we spoke to. Firstly, that senators not sign on to any enabling legislation for the TPP, and that

they speak with others in their party about doing the same. Secondly, that senators introduce or support legislation banning ISDS from any future trade agreements entered into by Australia.

The following day, Senator Jacqui Lambie introduced a motion to the Senate calling on the Government to ban ISDS for all trade agreements. The motion was passed.

More information:

- The Senate report: [www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Foreign\\_Affairs\\_Defence\\_and\\_Trade/TPP/Report](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Foreign_Affairs_Defence_and_Trade/TPP/Report)
- FoE's submission to the Senate report: <http://tinyurl.com/foe-tpp>
- FoE's Economic Justice Collective: [www.melbournefoe.org.au/economic\\_justice](http://www.melbournefoe.org.au/economic_justice)

## Market Forces

FoE affiliate Market Forces sums up some of its work in 2016 and some of the achievements it helped to bring about: Our overhauled Super Switch website helps thousands of Australians demand their fund divests from fossil fuels and disclose where they're invested ([www.superswitch.org.au](http://www.superswitch.org.au)).

We released two reports, calling out the losses made by super funds on coal, oil and gas stocks and challenging them to do their job as economic stewards, managing carbon out of their portfolios.

Another five superannuation funds announced low or zero carbon exposed options for members, resulting in \$659 million divested from fossil fuel stocks.

Between June 2015 and September 2016, the superannuation industry in Australia divested \$2.14 billion of fossil fuel stocks.

Hundreds of Australians left their bank on Divestment Day, demanding the big banks

bring the policies and lending into line with their climate change commitments.

NAB became the first bank to recognise the IPCC's carbon budget as a guiding factor behind its climate change response.

ANZ ended its exposure to the Hazelwood coal-fired power station as the project failed to refinance. Months later the owners announced they will close Hazelwood in 2017.

ANZ, NAB and Westpac's exposure to coal, oil and gas fell by 18%, or \$4.7 billion.

The total number of banks that have distanced themselves from Galilee Basin coal export projects, or have policies that rule them out as potential lenders grows to 17, as ANZ effectively ruled out financing the project.

Over 40 fossil fuel companies and their investors faced questions and scrutiny at their annual general meetings from shareholders and people threatened by proposed fossil fuel projects.

## Pesticide contamination of Vic water supplies

March 24 - Several Freedom of Information requests over the past couple of months have confirmed that low level pesticide contamination of Victorian water supplies is commonplace.

Since last November, FoE has sent FoI's to five water authorities. All but one have confirmed widespread pesticide detections in their water supplies. The only one that has not recorded pesticide problems is Coliban Water (Bendigo and surrounds). This is because they are only testing for a handful of pesticides, some of which have not been used for decades. The other problem with Coliban Water is that the lab that does their tests is testing at levels too high to capture low level detections.

It is encouraging that most water authorities have now incorporated new testing regimes, something which FoE has been recommended for years. It is also interesting to note that in a couple of discussions with water authorities, they mentioned that they already have copies of reports produced by Friends of the Earth, including the landmark September 2016 report *Pesticide in Australian Waterways: An Overview*. To find out more contact Anthony Amis, Pesticide Free Waterways Campaigner: [ajamis50@gmail.com](mailto:ajamis50@gmail.com)

We called out Australia's biggest insurance companies for investing in companies and projects that worsen climate change, who all recognise the importance of operating in a way that keeps global warming to below two degrees.

Market Forces supported more than 30 other organisations, grassroots groups or individuals from the environment movement with research and advice.

We're also proud to have been recognised for our work last year, with Market Forces taking out the Melbourne Award for our contribution to environment and sustainability, and Super Switch being a finalist in the Victorian Premier's Sustainability Awards.

We are still threatened with mega coal mines in the Galilee Basin and now have to fight off a \$1 billion public subsidy to Adani.

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



## Court dismisses criminal charges against conservationists who exposed rainforest logging

Two conservationists from FoE affiliate Goongerah Environment Centre (GECO) had charges dismissed in the Orbost Magistrates Court on February 23. Ed Hill and Joe Henderson were prosecuted for entering a logging area where they documented and reported logging of protected rainforest in East Gippsland in April 2015.

Hill and Henderson submitted a report documenting the logging breach to the Department of Environment Land Water and Planning (DELWP). The DELWP investigation found a rainforest area

that was consistent with the minimum requirements to trigger legal protection, had been subject to 'unwarranted destruction' by loggers under the control of VicForests. Despite this conclusion, the Department decided not to take any regulatory action.

Instead of prosecuting those responsible for what the Environment Minister described as 'extremely poor practices', the government wasted taxpayers' money by prosecuting the community members for acting in the public interest. GECO spokesperson

Ed Hill said: "Despite hundreds of community reports of unlawful logging in threatened species habitat and protected rainforest areas, the Andrews government has not brought a single prosecution against VicForests."

[www.geco.org.au/court\\_dismisses\\_criminal\\_charges\\_against\\_conservationists\\_who\\_exposed\\_rainforest\\_logging](http://www.geco.org.au/court_dismisses_criminal_charges_against_conservationists_who_exposed_rainforest_logging)

[www.theage.com.au/victoria/environmentalists-who-exposed-logging-have-charges-thrown-out-20170224-gukkd.html](http://www.theage.com.au/victoria/environmentalists-who-exposed-logging-have-charges-thrown-out-20170224-gukkd.html)

## FoE Food Coop: Instilling environmentally conscious values

*The Inner Circle Magazine recently published this article about FoE Melbourne's Food Coop ([www.innercirclemagazine.com.au](http://www.innercirclemagazine.com.au))*

In Collingwood, one of Melbourne's oldest suburbs, on Smith Street, one of Melbourne's oldest main drags, lies Friends of the Earth, one of Melbourne's oldest health food shops.

FOE has been functioning in that space as a grocer and café downstairs/ environmental enterprise upstairs for over 15 years. Far before then, circa 1975, Friends of the Earth existed as a co-operative market based in Carlton. It is almost entirely volunteer run, and relies on donations and community support to keep it functioning.

FOE is a space that puts action behind words, instilling environmentally conscious values in everything that they do. All of their products are palm-oil free; most are organic and locally sourced. The co-op was promoting zero waste initiatives before that was on anyone's radar.

They offer bulk food shopping, reusable containers, chemical-free beauty and cleaning supplies, recycled toilet paper. This place is a hippie's dream and a Woolie's regulars' worst nightmare. There is nary a name brand to be found, and the ones that are there are likely unrecognisable to the untrained eco shopper.

But groceries aren't all that's on offer at Friends of the Earth. They have an affordable and delectable daily menu of vegan baked goods, house-made

rolls and pizzas, vegetarian pies and an organic/vegan/gluten-free dish of the day. (\$10 for a small and \$12 for a large gets you a grain, one to two salads, a hot dish of some sort, and sometimes an extra such as an arancini ball or dollop of fresh hummus.)

The place is always bustling with moms pushing prams, business people on their lunch break, employees from the upstairs offices coming down for a hit of caffeine. Yet the vibe is warm and friendly, never rushed nor overwhelming like some fast-casual eating establishments. This may be because, given most staff's volunteer status, they are there by choice (which shines through in service and in demeanour).

For those looking to have an impact beyond where they put their dollars, Friends of the Earth is constantly running events, workshops and campaigns to combat concerns both social and environmental in nature. Get involved with FOE and you can expect to learn about anti-nuclear war efforts, renewable energy, alternatives to fracking, and promotion of land/water rights for Indigenous communities.

This place is true to its name - employees and customers alike act as friends/good stewards of the earth *and* one another. I can wholeheartedly say that in the time I've lived in Melbourne thus far, I've yet to find a more authentic and conscious community.

If real food, real people and real change are what you're after, look no further than the OG health hub of Melbourne's inner north.



FOE is always looking for volunteers, so stop in or shoot them a message if you would like to get involved. [www.melbournefoe.org.au/contact\\_us](http://www.melbournefoe.org.au/contact_us), [food@foe.org.au](mailto:food@foe.org.au), ph 9417 4382

The shop is located at 312 Smith St. in Collingwood.



## Victorian native forest logging exempt from federal environment law

In February, over 100 people joined speakers from Friends of the Earth affiliate Goongerah Environment Centre (GECO) and also The Wilderness Society Victoria in a snap rally to condemn the Daniel Andrews government's decision to extend the 'regional forest agreement' which expired on the 3 February this year.

Since the late 1990s the logging industry in Victoria has been exempt from adhering to federal environment laws that protect our nationally threatened wildlife. Only native forest logging gets this special exemption known as a 'regional forest agreement' (RFA). The extension of the RFA has been condemned by proponents of environmental justice with the move widely seen as a precursor to extinction of many threatened species.

*More information:*

[www.foe.org.au/victorian\\_native\\_forest\\_logging\\_exempt\\_from\\_federal\\_environment\\_law](http://www.foe.org.au/victorian_native_forest_logging_exempt_from_federal_environment_law)

[www.geco.org.au/victorian\\_and\\_federal\\_governments\\_extend\\_logging\\_agreement\\_with\\_no\\_plan\\_for\\_threatened\\_species](http://www.geco.org.au/victorian_and_federal_governments_extend_logging_agreement_with_no_plan_for_threatened_species)

## Grow FoE!

In January, what started off as a small stalls team quickly grew into much more, a new FoE Melbourne collective called Grow FoE! Our activities include:

- Stalls at events across Melbourne  
Sharing and recognising FoE victories and history
- Supporting campaigns communications
- Petitioning and outreach to target communities/supporters
- Filming footage for campaign videos and media
- Beginning to organise and plan awareness-raising and fundraising events.

The great thing about Grow FoE is that we are fluid and flexible as we do not campaign or work on one singular issue. So far, the collective has been instrumental in creating space for cross-pollination and collaboration between other collectives and amplifying campaign objectives.

*If you'd like to get involved in the Grow FoE collective, contact Jemila Rushton [jemila.rushton@foe.org.au](mailto:jemila.rushton@foe.org.au)*

Friends of the Earth invites you to join the

# active friends program

## What is the Active Friends Program?

The Active Friends Program is one of the best means to support current and future work of Friends of the Earth. It involves a regular monthly donation of a self-nominated amount.

## Where will Active Friends donations go?

Friends of the Earth is renowned for making a little money go a long way. Because our administration costs are always kept to a bare minimum, practically all Active Friends contributions directly support campaign work, publications and community engagement. Active Friends donations support

- a moratorium on coal and coal seam gas mining through our 'Quit Coal' campaign

- renewable energy through our 'yes2renewables' campaign

- our work to safeguard water for the rivers, wetlands and forests of over 14% of Australia's landscapes through the 'ourdarlingmurray.org' campaign

- FoE's Anti Nuclear & Clean Energy (ACE) campaign, which continues to highlight the dangers of nuclear power and uranium mining and to promote safe alternatives.

## Why is the Active Friends Program vital to FoE?

To remain a radical and credible voice for social and environmental justice, we need a stable financial base.

## How can you join the Active Friends Program?

To join the Active Friends program, please see the 'Support Friends of the Earth' page in this edition of Chain Reaction, or go to [www.foe.org.au](http://www.foe.org.au) and click on the donate button.. All Active Friends donations are fully tax deductible.

# Why the National Electricity Market is a disaster, and how to fix it

Ben Courfice

The recent media focus on South Australia's blackouts has brought to the surface the festering problems of the National Electricity Market (NEM) system that serves SA and the eastern states. On the one hand, an oligopoly of mostly private corporations owns and manipulates the system to their own benefit. On the other hand, despite repeated studies showing Australia could easily go to 100% renewable energy, governments talk of new coal power stations and even grant extensions to existing, highly polluting brown coal generators.

A severe storm caused SA's statewide blackout in September 2016, knocking over power pylons that may have been neglected in maintenance since the 1999 privatisation of the state's power grid. Commentators from the ABC to the more predictable Coalition MPs blamed the state's high percentage of wind energy despite knowing that it had nothing to do with the blackouts.

A February 2017 set of rolling blackouts during a heatwave in SA saw renewables once again blamed by Coalition MPs, despite the fact that the state's most efficient gas generator was sitting idle because its owners find it more profitable to sell the gas for export.

Power price spikes in SA in 2016 were also blamed on the state's wind farms and solar, despite a planned outage of the lines that import backup electricity supply to SA from Victoria at the time. Price spikes are normal in such a situation of shortage. More recently, wholesale prices of electricity have been running at the same level as those SA price spikes for all of 2017 so far in Queensland (which has very little renewable energy) This has barely made the news (presumably because there are no wind farms to blame).

With the closure of Hazelwood, one of Victoria's big four brown coal generators, panicked commentators and LNP Coalition opportunists are trying to spook the public and blame Labor governments and renewable energy for a threatened spread of the problems that have occurred in SA. A confected crisis is being talked up, while various interests line up to present their interests as the solution: more gas fracking, axe renewable energy targets, new coal or gas power stations - all on the Coalition wish-list and some of the industries that support them.

This crisis is confected and staged. There is no shortage of generating capacity, even with the closure of Hazelwood. Wind farms have not caused any of the problems in SA, despite making up around 40% of that state's electricity generation.

## Real problems

But there are real problems which a more careful investigation brings to light. The big energy companies are "gaming" the electricity market. They reduce supply, cause a shortage so that the price spikes upward, and then sell less electricity at an exorbitantly inflated price to make a killing. They are quite happy selling half as much energy at ten times the unit price.

Despite the legislated requirement to build renewable energy to meet the Renewable Energy Target (RET), the big energy companies held back in a virtual capital strike for years. Wind farm construction is being led by state and territory governments, and the wind turbine manufacturers and development companies themselves.

While gas is sold for export, one of Australia's least polluting and most efficient gas power stations - Pelican Point, in SA - is closed. Yet the outdated, highly polluting and inefficient Torrens generator in the same state is running to supply SA with a large proportion of its electricity.

South Australia's Labor government has proposed an array of measures to assuage the supposed crisis, possibly including solar, pumped hydro energy storage, large-scale battery backup energy storage, and (perplexingly) a new gas power station. They plan to use these to intervene to protect SA's interests in the National Electricity Market, a seemingly radical step.

Lastly, although it was probably an empty threat, SA energy minister Tom Koutsantonis threatened to nationalise the state's grid if it was necessary to restore reliable supply. This gets to the heart of the problem of the NEM, and should be pursued vigorously by any progressive state government. The current system is dominated by an oligopoly of a few giant corporations who bend governments to their will and who have blockaded against the popular and essential renewable energy target, something being felt particularly in SA.

These responses are mostly good news (except the gas plant), but very limited. To reform (and by that I mean, replace) the National Electricity Market, I propose these lines of action, that would ideally be pursued simultaneously.

## 1. Abolish the NEM spot market

The bidding system for generators to offer electricity in the NEM rewards them for offering less electricity, as shortages lead to price spikes (although not normally blackouts) which benefit the generators at everyone else's expense. Some commentators have called for more competition, for example by breaking up and privatising the Queensland state-owned generators. This would only perpetuate the problems of a system that is designed to be rorted.

Instead of a spot market, a centralised system to control which generators are used at any given time could be run with the twin goals of reducing emissions and cost, selecting generators based on those considerations. Prices should be set based on actual costs of generation, not the speculative and manipulated spot market.

As the NEM is across several states it may be difficult for a single state government to implement this alone, but all options need to be investigated to circumvent or undermine the current corrupt system (such as states taking power supply back into public ownership).

## 2. Construct renewable energy strategically

The existing Renewable Energy Target (RET) relies on a market approach to determine which projects are built. This has had some wins - such as the fall in the global price of solar seeing a massive, unexpected expansion



in homeowners installing solar panels. However, if Victoria joins SA with 40% renewable energy, at some point strategic investment in energy storage and dispatchable renewable power will be needed. Transmission network upgrades will probably also be necessary.

Several options are available for dispatchable stored renewable energy, and all should be deployed and tested in the journey to 100% renewables: pumped hydro, solar thermal, and battery technology all have potential. Starting constructing each now will prepare the ground for rapid scaling up in the next decade as the urgency of the climate threat is turned into stronger action.

In practice, this means that the existing RET should be replaced in 2020 when it finishes. A planned scheme to construct renewables is needed, to mesh with a planned electricity generation system. The current RET simply favours whatever is the current cheapest technology. Most fossil fuel generators are expected to reach the end of their life by around 2030 anyway; a goal for 100% renewable energy should be set no later than then, and preferably earlier.

### 3. Scheduled closure of fossil fuel generators

The immediate cause of Hazelwood's closure was safety laws, as the operator had run the facility into the ground rather than maintain it properly (it was not designed to operate past 2000 anyway).

Conveniently, it is also the most polluting coal power station in the NEM. However, closures should be planned to ensure the most polluting generators close first where feasible (not the least polluting, as in the case of Pelican Point closing while Torrens steams on).

A publicly known schedule of closures will remove speculation and games by big energy companies, and provide some certainty to their workforces – and this should be coupled with redeployment into renewable energy industries, or to remaining generators as is occurring with some of Hazelwood's workforce. The schedule of closures can be designed to fit in with the planned rollout of renewable energy in each state while maintaining reliable electricity supply.

Climate Guardians protest.



### 4. Bring power back into public hands

Even neoclassical economic theory that supports extreme free market ideology recognises, in principle, cases where markets do not work. The concept of “market failure” includes systems that do not have true competition. True competition in a massive system such as energy supply would logically mean building much more than the necessary energy generation capacity, just to have enough generators to compete. This would be very expensive and inefficient for society (including for other market sectors who rely on affordable electricity to run their operations). The cost of electricity would rise anyway, as each competitor would still have to maintain their generators and make a profit, with a smaller share of sales. This is partly why current generators are opposing the entry of more (renewable) generators under the RET.

It would be possible to contract out operation of generation in a regulated, planned electricity system. The usual theory behind this kind of system is that private industry is more “efficient” than public industry. In practice, this efficiency comes at a cost, often by skimping on maintenance and running down assets while maximising profits, and similar ruses. Hazelwood took big handouts as “compensation” for the carbon price, yet is now closing because the owners deemed the cost of catching up on years of avoided maintenance to be too high. In addition to the risks of such “efficiency”, if the generators are able to make a profit, why shouldn't the profit go to the public?

However, a government with the political strength and momentum (and budget) to take over the generators may not need to spend money to take over fossil fuel generators that will have to be closed anyway. Here, the emphasis should be on ensuring that the private owners meet their obligations to their staff who are facing retrenchment, and to fully rehabilitate the sites of old power stations and mines, while providing new employment for the workforces.

A publicly owned renewable energy industry could choose to sacrifice some profits by setting up some operations (manufacturing, maintenance, etc.) in areas where ex-coal generator employees may be retrained. This would ensure a just transition for coal communities, but is unlikely to be done by privately owned renewable energy industries without costly and complicated incentives from government.

*Ben Courtice is a member of Friends of the Earth Melbourne's Yes 2 Renewables collective, and president of his local environment group. He writes on climate and energy policy while completing his Bachelor of Science.*

# The government is right to fund energy storage: a 100% renewable grid is within reach

Andrew Blakers, Bin Lu, and Matthew Stocks

In a speech to the National Press Club in February, Prime Minister Malcolm Turnbull declared that the key requirements for Australia's electricity system are that it should be affordable, reliable, and able to help meet national emissions-reduction targets.<sup>1</sup> He also stressed that efforts to pursue these goals should be "technology agnostic" – that is, the best solutions should be chosen on merit, regardless of whether they are based on fossil fuels, renewable energy or other technologies.

As it happens, modern wind, solar photovoltaics (PV) and off-river pumped hydro energy storage (PHES) can meet these requirements without heroic assumptions, at a cost that is competitive with fossil fuel power stations.

Turnbull and his government have also correctly identified energy storage as key to supporting high system reliability. Wind and solar are intermittent sources of generation, and while we are getting better at forecasting wind and sunshine on time scales from seconds to weeks, storage is nevertheless necessary to deliver the right balance between supply and demand for high penetration of wind and PV.

Storage becomes important once the variable renewable energy component of electricity production rises above 50%. Australia currently sources about 18% of its electricity from renewables – hydroelectricity in the Snowy Mountains and Tasmania, wind energy and the ever-growing number of rooftop PV installations.<sup>2</sup>

Meanwhile, in South Australia renewable energy is already at around 50% – mostly wind and PV – and so this state now has a potential economic opportunity to add energy storage to the grid.

## Pushing storage

To help realise this potential, in South Australia and elsewhere, the Clean Energy Finance Corporation (CEFC) and the Australian Renewable Energy Agency (ARENA) will spend A\$20 million of public funds on helping flexible capacity and large-scale energy storage projects become commercially viable, including pumped hydro and batteries.<sup>3</sup>

PHES constitutes 97% of worldwide electricity storage.<sup>4</sup> The retail market for household storage batteries such as Tesla's Powerwall is growing, but large-scale storage batteries are still much more expensive than PHES. "Off-river" pumped hydro has a bright future in Australia and many other countries, because there are very many suitable sites.<sup>5</sup>

Wind and PV are the overwhelming winners in terms of new low-emissions electricity generation because they cost less than the alternatives. Indeed, PV and wind constituted half of the world's new generation capacity installed in 2015 and nearly all new generation capacity installed in Australia.<sup>6</sup>

Recently, we modelled the National Electricity Market (NEM) for a 100% renewable energy scenario. In this scenario wind and PV provide 90% of annual electricity, with existing hydro and bioenergy providing the balance. In our modelling, we avoid heroic assumptions about future technology development, by only including technology that has already been deployed in quantities greater than 100 gigawatts – namely wind, PV and PHES.

Reliable, up-to-date pricing is available for these technologies, and our cost estimates are more robust than for models that utilise technology deployment and cost reduction projections that are far different from today's reality.

In our modelling, we use historical data for wind, sun and demand for every hour of the years 2006-10. Very wide distribution of PV and wind across the network reduces supply shortfalls by taking advantage of different weather systems. Energy balance between supply and demand is maintained by adding sufficient PHES, high-voltage transmission capacity and excess wind and PV capacity.

## Not an expensive job

The key outcome of our work is that the extra cost of balancing renewable energy supply with demand on an hourly, rather than annual, basis is modest: A\$25-30 per megawatt-hour (MWh). Importantly, this cost is an upper bound, because we have not factored in the use of demand management or batteries to smooth out supply and demand even more.<sup>7</sup>

What's more, a large fraction of this estimated cost relates to periods of several successive days of overcast and windless weather, which occur only once every few years. We could make substantial further reductions through contractual load shedding, the occasional use of legacy coal and gas generators to charge PHES reservoirs, and managing the charging times of batteries in electric cars.

Using 2016 prices prevailing in Australia, we estimate that the levelised cost of energy in a

*Storage becomes important once the variable renewable energy component of electricity production rises above 50%*





100% renewable energy future, including the cost of hourly balancing, is A\$93 per MWh. The cost of wind and PV continues to fall rapidly, and so after 2020 this price is likely to be around A\$75 per MWh.

Crucially, this is comparable with the corresponding estimated figure for a new supercritical black coal power station in Australia, which has been put at A\$80 per MWh.<sup>8</sup> Meanwhile, a system developed around wind, PV and PHES and existing hydro can deliver the same reliability as today's network. PHES can also deliver many of the services that enable a reliable energy system today: excellent inertial energy, spinning reserve, rapid start, black start capability, voltage regulation and frequency control.

### Ageing system

Australia's fossil fuel fleet is ageing. A good example is the closure of the 49-year-old Hazelwood brown coal power station in Victoria's Latrobe Valley.<sup>9</sup> An ACIL Allen report to the Australian Government lists the technical lifetime of each power station, and shows that two-thirds of Australia's fossil fuel generation capacity will reach the end of its technical lifetime over the next two decades.<sup>10</sup>

The practical choices for replacing these plants are fossil fuels (coal and gas) or existing large-scale renewables (wind and PV). Renewables are already economically competitive, and will be clearly cheaper by 2030.

Energy-related greenhouse gas emissions constitute about 84% of Australia's total. Electricity generation, land transport, and heating in urban areas comprise 55% of total emissions. Conversion of these three energy functions to renewable energy is easier than for other components of the energy system.

Transport and urban heating can be electrified by deploying electric vehicles and heat pumps, respectively. Electric heat pumps are already providing strong competition for natural gas in the space and water heating markets.<sup>11</sup> Importantly, these devices have large-scale storage in the form of batteries in vehicles, and thermal inertia in water and buildings.<sup>12</sup> Well-integrated adoption of these technology changes will help reduce electricity prices further.

So wind, PV and PHES together yield reliability and affordability to match the current electricity system. In addition, they facilitate deep cuts to emissions at low cost that can go far beyond Australia's existing climate target.<sup>13</sup>

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# South Australia makes a fresh power play in its bid to end the blackouts

Hugh Saddler

South Australia's government has unveiled its keenly anticipated new energy plan, with the aim of making itself more self-sufficient.<sup>1</sup> Against the backdrop of repeated crises such as the blackouts of last month and September last year, and a dramatic offer from Tesla founder Elon Musk to fix the state's energy security problems, the new plan proposes a range of measures to fix what Premier Jay Weatherill has described as the "failures" of national electricity regulation.

## Battery storage

First, as almost universally anticipated, there will be a tender for a battery storage facility capable of delivering 100 megawatts of power, to be funded from a A\$150 million Renewable Technology Fund. The plan document says this project will "modernise South Australia's energy grid and begin the transformation to the next generation of renewable-energy storage technologies".<sup>2</sup>

Neither the National Electricity Market rules nor any other federal policy provides any specific mechanism to encourage battery installation.<sup>3</sup> Nor do the existing regulations allow battery operators to be rewarded for other services they could provide, including responding rapidly to price spikes or to sudden drops in voltage on the grid.

Large battery installations, if appropriately configured, would be capable of providing large injections of energy to the grid over short periods, as a way to offset extreme volatility. Both SA and Queensland have been plagued by such volatility in recent months, causing a rash of short-term price spikes indicative of markets without enough competition.

The Australian Energy Market Commission<sup>4</sup> (AEMC) is currently considering a rule change, termed the 30 minute / 5 minute trading interval change, proposed by a large electrolytic zinc smelter in Townsville. The change is ferociously opposed by established generators, but supported by almost everyone else. If and when the AEMC ever gets around to approving the rule change, large battery installations would be able to compete directly with generators, thereby both gaining a new source of revenue and helping to keep wholesale prices within reasonable limits.

## Taking back control

The second component of the plan is to introduce legislation that would allow the state government to override the NEM's market dispatch process for generation in the event of an emergency such as the demand peaks that triggered last month's blackouts.

This is an obvious response to what is widely seen, at least in SA, as the reluctance of the federal regulator to use its powers to suspend the market. Many observers consider that such reluctance was most evident in the morning of the statewide blackout last September, and believe that earlier intervention could have prevented it, despite the massive storm damage to the state's transmission infrastructure.

The new proposal could be interpreted as a challenge to the federal government over who controls SA's electricity.

## Energy security

Third, the plan will require all new generators with more than 5MW of capacity to demonstrate how they will contribute to the state's energy security, by providing what are called ancillary services, such as frequency control, so-called inertia, or short-term storage. This is another clear statement that the state government believes the NEM rules, which establish markets for some frequency control services but not the other services mentioned above, fail to offer the state enough of a guarantee of reliable power supply.

## Build a new gas plant

The government plans to become a power station owner, 20 years after the Liberal state government sold off the last publicly owned plant, by building a new open cycle (peaking) gas turbine plant. This decision is most obviously a reaction to the load-shedding blackout amid last month's heatwave, when the operators of the Pelican Point gas power station were either unable or unwilling to increase output. Had they done so, load shedding could have been avoided.

At A\$360 million, this seems a rather expensive way to avoid another load-shedding blackout, presumably justified on the basis of avoided political cost. It could be seen as a missed opportunity to provide more support for a far more innovative (though well proven in other countries) project to integrate solar thermal generation, gas generation and molten salt storage.<sup>5</sup>

*First, as almost universally anticipated, there will be a tender for a battery storage facility capable of delivering 100 megawatts of power, to be funded from a A\$150 million Renewable Technology Fund.*



Solar thermal generation may gain support from the tender for new generation to supply the government's own electricity requirements, and possibly some from the Renewable Technology Fund, but that remains to be seen.

## Energy security target

Finally, the government will introduce a requirement, called an energy security target, requiring electricity retailers to source a minimum percentage of their wholesale requirements from local generators, rather than from Victorian coal-fired stations.

This will provide a guaranteed amount of revenue to local generators, thus reducing dependence on supply through the interconnectors with Victoria, with their associated security risks.

In a direct, though entirely unsurprising confrontation with the Commonwealth, the plan document states that "South Australia's energy security target will transition to an EIS or Lower Emissions Target (LET) if or when national policy changes in the future".

## The wider context

In the policy document, Weatherill writes that the NEM is "failing South Australia and the nation". Taken together, the various elements of the plan can be read as a list of how exactly the

SA government considers it to be failing, and what powers the state proposes to assume in order to get it fixed.

Although the plan's objectives are not stated explicitly, it is clear that they are threefold, and seen of equal priority: suppress retail price rises by introducing more competition into the wholesale market; enhance the physical security of electricity supply; and, encourage renewable generation and reduce greenhouse gas emissions.

These priorities neatly match the three components of what the preliminary report of the forthcoming Finkel Review calls the "energy trilemma", which is the need to "simultaneously provide a high level of energy security and reliability, universal access to affordable energy services, and reduced emissions."<sup>6</sup>

With the review's final version set to be delivered to the Commonwealth government in the coming months, it remains to be seen whether federal energy policy will become similarly proactive in the future.

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# Will the Victorian Liberal's anti-renewables stance cost it an election?

Patrick Simons

February 2017 – Just a week into the 2017 parliamentary year and the Victorian opposition leader has made an error that could relegate the Liberals to the political wilderness for another term. Victorian opposition leader Matthew Guy has kicked a hornet's nest by going along with Turnbull's ideological attacks on renewable energy. The opposition has pledged to scrap the Andrews government's popular Victorian Renewable

Energy Target (VRET) policy that will create 10,000 jobs, attract \$2.5 billion investment to the state, and cut power sector emissions by 12%.

Just how unpopular is the opposition's pledge? Well, its anti-renewables stance saw over 70 people rally at electorate offices across Melbourne – an astounding effort after a mere 24 hours after the announcement. One of the rallies took place in Caulfield outside the office of David Southwick, where community members called for the Liberal party's shadow minister for renewable energy to be retitled the minister against renewables.

Blocking renewables with a do-nothing approach to energy will lead to increased power prices, lost job opportunities for regional Victoria and greater climate impacts.

The reality is that ageing coal plants are closing and need to be replaced. The true cost of coal was recently revealed by French energy giant Engie confirming that rehabilitating the highly-polluting Hazelwood coal station and mine site is estimated to cost nearly \$1 billion and may rise.

Recent research by Dylan McConnell at Melbourne's Climate and Energy College confirms that building "ultra-super-critical-coal" would be twice the cost of using renewable energy to meet Australia's national climate goals.<sup>2</sup>

Evidence also indicates that gas companies are gaming the market, controlling supply while sending gas offshore to maximise profits at the expense of consumers.

Wind and solar power are now cheaper to build than coal and gas, and the best way to put the brake on rising energy bills. Recent analysis by Bloomberg New Energy Finance found wind energy could be built at a cost of \$80 per megawatt-hour - compared with \$143 for new build coal, and \$116 for new build gas-fired generation.<sup>3</sup> They predict solar will become cheaper than coal and gas as soon as 2020.

Matthew Guy's pledge to axe the VRET reveals an ideological opposition to the most economical new generation, wind and solar and pegs him to the most costly and polluting energy, coal and gas. Taking a do-nothing approach to the energy system by opposing renewables is a sure-fire way for Matthew Guy to make the Victorian Liberals the party for higher power prices.

## The universal popularity of renewables

Manufacturers want it. And communities want it. Friends of the Earth recently visited wind workers in Portland at Keppel Prince, Australia's largest wind tower producer and a leading solar installer. Keppel Prince general manager Steve Garner expressed disappointment in Matthew Guy's pledge to axe the VRET, asking "How much pain does a company like Keppel Prince have to go through?"

"Uncertainty around renewables leaves us wondering if business is worthwhile, if jobs are worthwhile," said Garner. "How is the Matthew Guy opposition going to replace the 10,000 jobs that the Victorian Renewable Energy Target will create?"

The opposition's pledge to axe the VRET is a slap in the face for communities who support renewables. Barry Mann of the Macedon Ranges Sustainability Group (MRSNG) attributes the Victorian Liberals' loss of the seat of Macedon in 2014 to their restrictive anti-wind farm laws while in government.

"In 2008 we began working towards a community led wind farm project in the Macedon Ranges," said Mr Mann. "A deciding



factor in the Liberals losing the seat of Macedon in the previous election was their policy to ban wind farms despite strong community support for the project."

Matthew Guy appears to have forgotten the days of the trouble plagued Baillieu government, whose ideological opposition to renewable energy meant even community groups like MRSNG couldn't build their own renewable energy projects.

As Mann says: "Most Victorians get that climate change and cheaper renewable energy aren't going away and any politician who doesn't is destined for opposition."

Evidence shows the majority of Victorians share Mann's views. A 2016 ReachTEL poll commissioned by Friends of the Earth found that the vast bulk of Victorians want an urgent shift to 100% renewables, including a majority of Liberal voters. As reported in *The Guardian*, more than 68% of Victorians said they agreed or strongly agreed that "Victoria needs to transition its energy use from coal to 100 per cent renewables as a matter of urgency", according to the ReachTEL poll of 1,137 people conducted in August 2016.<sup>4</sup>

A majority - 51.2% - of Liberal-voting or Liberal-leaning Victorians agreed that the state needed to move urgently towards 100% renewable energy. Support was highest among undecided voters, with 70% agreeing the state should urgently move to 100% renewables.

And more recently, a Sustainability Victoria poll of 3,300 people found a whopping 8 in 10 Victorians back the Victorian Renewable Energy Target. Hard to argue with the vast majority of the state.

This is why the Liberal party's shadow minister for renewable energy David Southwick should be retitled the shadow minister against renewables. How can you claim to stand for renewable jobs and investment when your policy is to scrap the VRET?

Despite their misguided opposition to the VRET, the Victorian Liberals have the opportunity to review their current stance. Simply following the orders of the federal Coalition, whose constant attacks on renewables is starting to catch with them, is a sure-fire way to remain stuck in the political wilderness for another term.

Without changing course, Matthew Guy and David Southwick risk a return to the troubled days of the failed Baillieu government.

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# The world faces a historic opportunity to ban nuclear weapons

Beatrice Fihn, Martin Butcher, and Rasha Abdul Rahim

As global tensions, uncertainty and risks of conflict rise amongst nuclear-armed states, nuclear weapons are treated as sabres to rattle, further heightening the risks of intentional or inadvertent use.

Nuclear weapons are the most destructive, inhumane and indiscriminate weapons ever created. Both in terms of the scale of the immediate devastation they cause and the threat of a uniquely persistent, pervasive and genetically damaging radioactive fallout, they would cause unacceptable harm to civilians.

But while the nuclear-armed states are implementing policies based on unpredictability, nationalism and weakening of international institutions, the majority of the world's states are preparing to finally outlaw nuclear weapons.

Setsuko Thurlow, a survivor of Hiroshima, described the nuclear bombing as blinding the whole city with its flash, being flattened by a hurricane-like blast, and burned in the 4,000-degree Celsius heat. She said a bright summer morning turned to a dark twilight in seconds with smoke and dust rising from the mushroom cloud, and the dead and injured covering the ground, begging desperately for water, and receiving no medical care at all. The spreading firestorm and the foul stench of burnt flesh filled the air.

A single nuclear bomb detonated over a large city could kill millions of people and cause catastrophic and long-term damage to the environment. The use of tens or hundreds of nuclear bombs would be cataclysmic, severely disrupting the global climate and causing widespread famine.

Strikes of this kind would invariably violate international humanitarian law and international human rights law, yet, these weapons are still not explicitly and universally prohibited under international law. Nine states are known to possess them and many more continue to rely on them through military alliances.

The alarming evidence presented by physicians, physicists, climate scientists, human rights organisations, humanitarian agencies, and survivors of nuclear weapons attacks have been successful in changing the discourse, and opened space for greater engagement from civil society, international organisations, and states.

Because the humanitarian and environmental consequences of using nuclear weapons would be global and catastrophic, eliminating such dangers is the responsibility of all governments in accordance with their obligation to ensure respect for international humanitarian law.



The world is now facing a historic opportunity to prohibit nuclear weapons.

In October last year, a majority of the world's states at the United Nations General Assembly agreed to start negotiations of a new legally binding treaty to prohibit nuclear weapons, in line with other treaties that prohibit chemical and biological weapons, landmines and cluster munitions.

As we've seen with these weapons, an international prohibition has created a strong norm against their use and speed up their elimination.

The negotiations began at the United Nations in New York on March 27 31, and continue on 15 June to 7 July, with the aim of concluding a legally binding instrument to prohibit nuclear weapons.

Amnesty International, Oxfam and the International Campaign to Abolish Nuclear Weapons (ICAN) believe that it is time to negotiate a treaty that would prohibit the use, possession, production and transfer of nuclear weapons, given their indiscriminate nature. No state, including permanent members of the UN Security Council, should possess nuclear weapons.

This is the moment to stand up for international law, multilateralism and international institutions. All governments should seize this opportunity and participate actively in the negotiations of a treaty prohibiting nuclear weapons in 2017.

*More information: [www.icanw.org](http://www.icanw.org)*

*Béatrice Fihn is Executive Director of the International Campaign to Abolish Nuclear Weapons (ICAN), Martin Butcher is Policy Advisor on Arms and Conflict at Oxfam International and Rasha Abdul Rahim is Advocate/Adviser on Arms Control and Human Rights at Amnesty International.*

# Australia's unprecedented decision to snub nuclear talks is irresponsible

Paul Barratt and Sue Wareham

Australia is doing something unprecedented in the conduct of our international relations. We are boycotting major UN multilateral nuclear disarmament negotiations. On March 27 in New York, negotiations commenced on a treaty to ban nuclear weapons, following a strongly supported resolution passed in the General Assembly last December – with 123 nations in favour, 38 against and 16 abstentions – for “a legally binding instrument to prohibit nuclear weapons, leading towards their total elimination”.

The UN resolution and the forthcoming negotiations are the result of intense government and civil society action in recent years that has highlighted the catastrophic humanitarian impacts of these most terrifying and destructive of all weapons, and the imperative to prevent any further use.

However, Australia has consistently maintained that we must rely on US nuclear weapons to “protect” us (“extended deterrence”), and therefore will not rule out their use on our behalf. Exactly how or under what circumstances that protection would manifest, or against which populations a nuclear bomb might be launched on our behalf, has never been explained.

Australia's boycott of the disarmament talks will have grave implications, quite apart from the unconscionable act of snubbing the most promising disarmament initiative in decades. It calls into question our commitment not only to the UN but also to the 1968 nuclear non-proliferation treaty, article 6 of which obliges all member states – not just those with the weapons – to “pursue negotiations in good faith on effective measures relating to ... nuclear disarmament”.

The key to a ban treaty's effectiveness lies in its power to delegitimise and stigmatise weapons that kill and maim whole populations indiscriminately. Which nation would boast of a “smallpox deterrent” or a “nerve gas deterrent”? Yet despite the existence of treaties to ban these other weapons of mass destruction, there is still no equivalent treaty to ban the only weapons that can destroy a city in an instant and leave human suffering and environmental devastation on a scale we can't imagine.

The US, which has been the strongest opponent of the ban treaty process, with Australia as our ally's most active and vocal supporter, has conceded behind closed doors that a ban treaty will have exactly its intended purpose. A letter

from the US mission to NATO to its NATO allies on October 17 last year, expressed alarm that a nuclear weapons prohibition could, among other things, “make it impossible to undertake nuclear planning or training”. Indeed; that's the whole point of the thing.

Australia's boycott will also render our advocacy in other areas less credible. Foreign Minister Julie Bishop's frequent pronouncements on the need for a rules-based international system will ring hollow if Australia actively undermines this historic effort to strengthen international law and give effect to the disarmament obligation written into the non-proliferation treaty.

How will Australia be able to condemn nuclear missile tests by, say, North Korea, or other possible future proliferators, when we support a nuclear apartheid and oppose efforts to place all nuclear-armed nations on the same legal footing?

And in the region, Australia will yet again stick out as merely an appendage to the US rather than an independently minded nation that considers global interests and its own interests above those of its ally. Every south-east Asian nation, and all Pacific island nations (save Micronesia, which is still vulnerable to US pressure) support the delegitimising of nuclear weapons via a treaty banning their development, testing, manufacture, deployment and use. New Zealand has, again, been a leader in the process.

Australia's approach to nuclear disarmament was best summed up in Senate estimates in October last year, when a Department of Foreign Affairs and Trade representative was questioned on it. The response was that: “In order to be able to effectively carry forward disarmament, you need to have a world in which there is not a threat of nuclear weapons and people feel safe and secure”. In other words, Australia will look at the need to get rid of the weapons when they no longer exist.

Australia's decision is irresponsible and unworthy of a nation that – notwithstanding our support for extended nuclear deterrence – has had a long history of engaging with UN disarmament initiatives. Whatever we have to say about this vital issue, we should be at the table saying it. The decision should be reversed.

*Paul Barratt is a former secretary of the Department of Defence. Dr Sue Wareham is vice-president of the International Campaign to Abolish Nuclear Weapons (Australia).*

*Australia's boycott of the disarmament talks will have grave implications, quite apart from the unconscionable act of snubbing the most promising disarmament initiative in decades.*

# With Donald Trump in power, Australia urgently needs to re-evaluate its US bases

Margaret Beavis

Recent changes to the US National Security Council should be ringing loud alarm bells in Canberra. By demoting the highest-ranking military officer and the highest-ranking intelligence officer, and appointing political adviser Stephen Bannon as a permanent member of the NSC, Donald Trump has seriously escalated the risk of the US launching into ill-advised conflicts.

Bannon comes from a role as chairman of the racist, Islamophobic website *Breitbart.com*, and is reported as having been in charge of writing the executive order that banned US entry for refugees and citizens from seven Muslim-majority nations.

It is no secret that Australian foreign policy and defence forces are closely enmeshed with the US. Since Trump has taken office he has loudly proclaimed an "America first" foreign policy, and his Secretary of State, Rex Tillerson, talks of denying China access to artificial islands in the South China Sea. Any such blockade is likely to be seen by the Chinese as an act of war.

Malcolm Turnbull's meek response to the immigration executive order does not inspire confidence that he will stand up to the US.

Historically Australia's foreign policy has also leaned towards "America first", with little differentiation between our ally's interests and our own. In rushing to join the coalition going into Iraq, the thought that Australia may be better off not invading another country on the basis of dubious intelligence was overlooked. Indeed, in the Vietnam War, the CIA knew the war was unwinnable, even before Australia sent troops. Malcolm Fraser, defence minister at the time, was livid when he discovered this many years later. A total of 521 Australian troops died in Vietnam and about 3000 were wounded.

Since World War II, Australia has joined in more US wars than any other ally. With Canberra's current "business as usual" agenda, Australia is at high-risk of joining future US wars that will likely create further humanitarian disasters and undermine our security.

Simultaneously there is talk of expanding US bases in the region. What is Australia going to say when the US asks to increase its bases on our soil? Are we willing to make Australia a target? CIA documents from the 1980s released this



month revealed authorities expected the Pine Gap spy base near Alice Springs to be attacked in the event of a US-Soviet nuclear fight.

Australia has US marines based in Darwin, multiple surveillance bases and about 40 senior Australian Army officers working in US Pacific Command. This includes an Australian Army Major-General serving as the deputy commanding general - operations, US Army Pacific. This intense enmeshment reinforces Australia's past behaviour; when the US goes to war, we have little option but to follow. With the US building up its military bases around China, American threats of blockades in the South China Sea are reckless and provocative. A war between China and the US is not in Australia's interests or anyone's interests.

Another example of US influence has been Australia's behaviour at recent UN talks regarding the nuclear weapons ban treaty. Australia has acted as US proxy in trying to thwart these negotiations. So much so that the Australian delegation was dubbed the chief of the "weasel states". Despite Australia's efforts, negotiations for a treaty will go ahead this year. Australia is not participating, which calls into question our government's commitment to the UN.

Australia urgently needs to re-evaluate its American bases and promote steps that defuse rather than intensify regional tensions. Having senior Australian defence personnel integrated into the US defence force hinders Australia acting independently. Do we want Australia to be capable of making strategic decisions in the national interest? New Zealand clearly acts in its own interest and remains an ally.

With Trump now the new US Commander-in-Chief, is it wise that we allow ourselves to be so automatically tied to American foreign policy? War in our region would be a humanitarian catastrophe for all involved.

*Dr Margaret Beavis is a Melbourne GP and president of the Medical Association for Prevention of War.*



# Undemocratic, racist nuclear waste legislation should be dumped

A new report released by Friends of the Earth Australia points to serious problems with Commonwealth legislation governing the push to establish a national nuclear waste dump in South Australia.

The report – written by Monash University fifth-year law student Amanda Ngo – concerns the National Radioactive Waste Management Act 2012 (NRWMA). Its release comes against the backdrop of the federal government's targeting of a site near Hawker in SA's Flinders Ranges for a national radioactive waste store and repository.

The NRWMA is heavy-handed, undemocratic legislation that gives the federal government the power to extinguish rights and interests in land targeted for a radioactive waste facility. In so doing the relevant Minister must "take into account any relevant comments by persons with a right or interest in the land" but there is no requirement to secure consent – or to back off if consent is not forthcoming.

Aboriginal Traditional Owners, local communities, pastoralists, business owners, local councils and State/Territory Governments are all disadvantaged and disempowered by the NRWMA.

The NRWMA goes to particular lengths to disempower Traditional Owners – in this case Adnyamathanha Traditional Owners from the Flinders Ranges. The nomination of a site for a radioactive waste facility is valid even if Aboriginal owners were not consulted and did not give consent. Federal Labor MPs complained long and loud about similar provisions in the Howard government's legislation, describing it as 'extreme', 'arrogant', 'draconian', 'sorry', 'sordid', and 'profoundly shameful'. At its 2007 national conference, Labor voted unanimously to repeal the legislation.

But it took five years for Labor Resources Minister Martin Ferguson to repeal the legislation, and Labor's NRWMA is scarcely any better than the legislation it replaced. It states that consultation should be conducted with Traditional Owners and consent should be secured – but that the nomination of a site for a radioactive waste facility is valid even in the absence of consultation or consent.

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

Adnyamathanha Traditional Owners have been clear in their opposition to the planned radioactive waste facility in the Flinders Ranges. Adnyamathanha Traditional Owner Enice Marsh said: "The Barndioota site in the Flinders Ranges must be struck off as a potential radioactive waste dump site and the National Radioactive Waste Management Act needs to be amended to give us the right to say 'no'."

Adnyamathanha Traditional Owner Regina McKenzie, who lives on Yappala Station near the proposed dump site, said: "The NRWMA is a political attack on Adnyamathanha women's spiritual beliefs. The destruction of our culture and significant woman's sites is a form of assimilation and thus breaches the UN Declaration on the Rights of Indigenous Peoples."

The NRWMA also puts the federal government's radioactive waste agenda above environmental protection as it seeks to curtail the application of the *Environment Protection and Biodiversity Conservation Act 1999*.

Successive governments have taken baby-steps towards a fair, responsible approach to radioactive waste management. The NRWMA outlines a process for land-owners to volunteer land for a waste facility. That's an improvement on earlier, failed attempts to impose facilities on unwilling communities. But land-owners weren't required to consult neighbours or local communities or councils before nominating their land. Thus the process led to acrimonious disputes around many of the nominated sites. The Flinders Ranges site was nominated by a formal Liberal Party politician and the nomination was accepted by the federal government despite overwhelming opposition from Traditional Owners, including those living near the proposed dump site.

Over the past year, the government has revised its process such that it will not accept any future nominations of land for a radioactive waste facility unless the applicant can demonstrate "broad community support".

Again, that's a welcome step towards a consent-based process. But the government still holds a very big stick behind its back – the NRWMA – which allows it to override opposition from communities, councils and Traditional Owners.

A senior government official told a public meeting in Hawker, near the proposed dump site, that the NRWMA is based on 'world's best practice'. In fact, the legislation systematically disempowers local communities and Traditional Owners and weakens environmental protections. It needs to be radically amended or replaced with legislation that protects the environment and gives local communities and Traditional Owners the right to say 'no' to nuclear waste dumps.

*Amanda Ngo's report, 'National Radioactive Waste Management Act 2012', is posted at <http://tinyurl.com/nrwma-2017>*

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# Uranium debate in Western Australia

Mia Pepper

No-one believed we would make it through eight years of a pro-nuclear WA state government without a single uranium mine. But here we are in 2017 with no uranium mines, no proposals with final approval to mine, no mines under construction and no companies that have made a final investment decision to go ahead with any of the four proposed uranium mines in WA – Kintyre, Yeelirrie, Wiluna and Mulga Rock.

In March, West Australians elected an anti-nuclear state Labor government which has delivered a progressive Environment Minister, Water Minister and Health Minister. A wave of relief has flowed across communities that have been fighting off uranium companies for the past eight years. But we are awaiting the delivery of a firm government policy to ban uranium mining and are acutely aware that the new government could go either way. Just two weeks after the election, the new Minister for Mines and Petroleum, Bill Johnston, was reported in the media saying he would allow four uranium mines to proceed. A huge policy decision such as this was not accompanied by a Ministerial statement, did not have the support of Cabinet and has caused a serious stir within the party.

In the lead up to the election, three of the four uranium mine proposals in WA were racing to get approval. All three were approved by the state Environment Minister just weeks out from the election, including one which was at odds with the EPA recommendation to reject the project. But the fierce political support for uranium under the previous state government has been no match for the falling uranium price.

In the lead up to the election, the world's largest uranium company – Cameco – wrote off the entire value of the WA Kintyre uranium project, from \$238 million to \$0, and in March the companies Australian director packed up and moved back to Canada. In 2016 the spot price (non-contract price) for uranium fell by 41%. The spot price is currently fluctuating between US\$22–25/lb and the long-term contract price is US\$33. Cameco has stated that the price would need to be between US\$60–\$80 for them to consider progressing the Kintyre project. Vimy Resources has said that at US\$50 the Mulga Rock project would break even.

The uranium price remains around half the value needed for uranium mines to break even and so we are seeing a retreat from what once was a bullish uranium sector in WA. A front-page promotion of uranium has since faded from the Department of Mines and Petroleum website as we enter a new era.

But we live in a world of political cycles. In WA we have four-year fixed terms. So the job ahead of us

is to take this landslide election victory – which has given power to Labor in the lower house and has Labor and the Greens with 50% control of the upper house of Parliament – and use it to legislate a ban on uranium mining in WA.

Affected communities remain resilient in their opposition to uranium mining and statewide alliances of unions, health, faith and environment groups continue their resolve to stop uranium mining.

Here is a run-down of the four WA uranium mine proposals and what is at stake:

## Mulga Rock (Vimy Resources 100%)

### *4 open pits*

This project is in a pristine environment and a priority ecological community – where there are no weeds or feral animals. It is home to many endangered and threatened species and is very close to a Class A nature reserve. The proposal is for four mines which are between three fault lines. The project would use 15 million litres of water a day and leave behind 32 million tonnes of radioactive mine waste. The company has ignored Aboriginal people's connection to the area and an Aboriginal refugee community who settled there after the British atomic weapons testing program in the 1950s forced them to leave their homelands in South Australia. The community is distressed that they are again being displaced by the nuclear industry.

[www.ccwa.org.au/mulga\\_rocks](http://www.ccwa.org.au/mulga_rocks)

## Kintyre (70% Cameco / 30% Mitsubishi)

### *Open pit 1.5 km long, 1 km wide, 220m deep*

The Martu people have fought against this mine since the 1980s. The proposal sits between two branches of a creek called Yantikutji which is connected to a complex network of surface and groundwater systems. It is also in an area that was cut out of the Karlamilyi National Park, WA's biggest National Park. Kintyre is home to 28 rare, endangered and threatened species. The project would include an open pit 1.5 km long, 1.5 km wide, it would use 3.5 million litres of water a day and leave behind 7.2 million tonnes of radioactive mine waste over the life of the project. [www.ccwa.org.au/kintyre](http://www.ccwa.org.au/kintyre)

## Yeelirrie (100% Cameco)

### *Open Pit - 9 km long, 1 km wide, 10 m deep*

Yeelirrie in the local Wongutha language means 'place of death'. The community has fought against mining at Yeelirrie for over 40 years. There was a trial mine here in the 1970s which was poorly managed, the site was abandoned, unfenced and unsigned with a shallow open

*Just two weeks after the election, the new Minister for Mines and Petroleum, Bill Johnston, was reported in the media saying he would allow four uranium mines to proceed.*

pit and tailings left behind. The project would include a 9 km long, 1 km wide open pit, it would use 8.7 million litres of water a day and leave behind 36 million tonnes of radioactive mine waste over the life of mine. There are many cultural heritage sites under threat from this proposal. The project was rejected by the WA EPA in 2016 because of overwhelming evidence that 11 species would become extinct. The WA Environment Minister ignored the EPA advice and approved the project anyway.  
[www.ccwa.org.au/yeelirrie](http://www.ccwa.org.au/yeelirrie)

## Wiluna (100% Toro Energy)

### *4 shallow open pits across two lake systems*

The Wiluna proposal includes four mine pits over two lake systems – Lake Way and Lake Maitland. These lakes are salt lakes that are mostly dry but flood during the summer months when tropical cyclones bring large rainfall into the WA desert. The project would use 10.6 million litres of water a day and leave behind 50 million tonnes of radioactive mine waste which would be stored in the floodplain area and parts of Lake Way. There are cultural heritage sites that would be destroyed if this mine were to proceed.  
[www.ccwa.org.au/wiluna](http://www.ccwa.org.au/wiluna)

## Conclusion

All four projects threaten cultural heritage sites, unique environments, communities, workers and in some cases threaten endangered species. These four projects are the most advanced uranium projects in WA and the four largest known deposits.

Mines around the world are closing or reducing production – unable to justify selling uranium at such low prices. The economics of uranium have helped us survive eight years of a pro-nuclear state government and will see us through the next term or two of government. The global nuclear industry is also in the doldrums with ageing reactors due to be decommissioned while new reactors are over-budget and behind schedule. It is expected that nuclear power will decline or struggle to maintain current levels.

So things are looking hopeful, but the best protection against these four mines is a legislated ban on uranium mining which will endure changes in market conditions and political leadership.

*Mia Pepper is the nuclear-free campaigner with the WA Conservation Council.*

*All four projects threaten cultural heritage sites, unique environments, communities, workers and in some cases threaten endangered species.*

# Fukushima nuclear disaster and the violation of women's and children's human rights

*Kendra Ulrich, Senior Global Energy Campaigner with Greenpeace Japan, summarizes key themes in her new report, 'Unequal Impact: Women's & Children's Human Rights Violations and the Fukushima Daiichi Nuclear Disaster'!*

The 2011 Fukushima Daiichi nuclear catastrophe may feel like ancient history in world constantly bombarded with news of another tragedy or disaster. But for those who were impacted by the worst nuclear disaster in a generation, the crisis is far from over. And it is women and children that have borne the brunt of human rights violations resulting from it, both in the immediate aftermath and as a result of the Japan government's nuclear resettlement policy.<sup>1</sup>

Japan has ratified multiple international treaties that recognise the right to health as a fundamental human right. It is defined as the “enjoyment of the highest attainable standard of physical and mental health,” and includes the right to information and participation as integral tenets of upholding this right.<sup>2</sup> Individuals must be able to make informed choices about their health and influence policy decisions that affect them.

But in the wake of the accident, unaddressed issues with Japan's nuclear policy and emergency planning, which the UN Committee on Economic, Social and Cultural Rights had warned the government about in 2001, led to the direct violation of women's and children's rights.<sup>3</sup>

And while the injustices faced by women and children in the immediate aftermath of the disaster were the result of policy failure and legislative inaction for a decade prior, the violations of their human rights resulting from the resettlement policy that has been rolled out under current Japanese Prime Minister Shinzo Abe are calculated and deliberate.

Fukushima-impacted women were faced with significantly greater obstacles in coping with the impacts of the disaster according to their own wishes due to a yawning gender gap in Japanese society. In fact, in the most recent ranking of the 34 OECD countries on gender wage gap, Japan was one of the bottom three with only South Korea and Estonia ranking lower.<sup>4</sup>

Despite these financial and social barriers, many women separated from or even divorced husbands who chose to stay in the contaminated region. They evacuated with only their children, in an effort to protect them.

*Individuals must be able to make informed choices about their health and influence policy decisions that affect them.*



But they continue to face a greater risk of poverty and are more vulnerable to financial pressures. And it is just these financial vulnerabilities that the Abe Government is exploiting now.

Thousands of Fukushima survivors from outside the designated zones will be stripped of their housing support in March 2017. The government is also moving forward with lifting evacuation orders in some of the more heavily contaminated areas in March and April of this year, even though radiation levels still far exceed long-term decontamination targets.<sup>5</sup> Those from areas where orders are lifted will lose compensation payments next year.

According to the most recent government data from October 2016, thousands of those losing housing support this month had nowhere else to go. They are at risk of homelessness. This means that some people may be forced to return to contaminated areas, even though they do not want to.

That is not only a direct violation of their rights under international treaty obligations, but also violates Japanese domestic law. In June 2012, the National Diet – Japan’s legislature – unanimously passed the ‘Nuclear Disaster Victims Support Act.’ The law clearly defines the government’s commitments to Fukushima disaster survivors – including the provision of full support as long as it is necessary, the right of victims to freely choose where to live, and the obligation to consider the greater vulnerability of pregnant women and children.

To be clear, the resettlement is a cynical effort to avoid a long-term exclusion zone, like the one near Chernobyl, which serves as a constant reminder that a major nuclear disaster causes irreparable damage to vast areas of land. Both in Japan and globally, the industry has been desperate to create a false reality that the contamination can be cleaned up and people’s lives can return to normal.

Massive investments were made in so-called ‘decontamination’. Evacuated areas, where there is little chance for success, were prioritised. This also meant that areas where people were still living and decontamination could have made a real impact on reducing exposures, were not. As a result, hot spots in these populated areas continue to be found years after the disaster.

In Iitate, which lies 30-50 km northwest of the reactor site and was heavily contaminated in the disaster, decontamination efforts are extremely limited in scope and success. Though the Ministry of Environment website declares the decontamination of Iitate 100% completed, in reality, only 24% of Iitate has even been touched

(5,600 hectares ‘decontaminated’ out of a total municipal area of 23,013 hectares).

The remaining 76% of Iitate remains heavily contaminated mountainous forests which cannot be decontaminated, and will pose the threat of recontamination of the decontaminated areas for the foreseeable future.<sup>6</sup> Evacuation orders in much of Iitate will be lifted by the end of this month.

While exposure to ionizing radiation poses a risk to all people, studies of atomic bomb survivors<sup>7</sup> and medical radiation exposures<sup>8-10</sup> clearly show that women and children are much greater risk for suffering health effects from it.

The right to health includes the right to participation, yet women are woefully underrepresented in decision-making bodies for both the ‘reconstruction’ and emergency planning. Thus, their ability to see their concerns and needs reflected in policy decisions is quite low.

But women have not been silent victims in this whole grossly unjust system. What political processes have denied them – a mechanism to participate in the decisions that affect them – they have pursued in the courts instead. Fukushima mothers who evacuated are living all across Japan, and thousands are plaintiffs in lawsuits to fight for continuation of housing support, fair compensation, accountability on the part of TEPCO and the government for the disaster, and even criminal cases against TEPCO.

They have been at the forefront of organising resistance – from marches to nonviolent direct actions. In the face of impossible odds, they have truly shown stunning resiliency and leadership.

And we, as the international Greenpeace community, stand with them. We are calling on the Abe government to take urgent action to protect Fukushima-impacted women’s and children’s human rights.

We have sent a joint letter with Japanese civil society organizations to the UN Human Rights Council Special Rapporteurs asking that they assess the current situation of Fukushima survivors. We will also be submitting comments to the UN Universal Periodic Review of Japan on the plight of Fukushima victims.

And we will continue to fight beside them for their rights, for justice, and for a healthy, sustainable nuclear-free future.

*Reprinted from [www.greenpeace.org/international/en/news/Blogs/nuclear-reaction/fukushima-nuclear-disaster-and-the-violation-/blog/58873/](http://www.greenpeace.org/international/en/news/Blogs/nuclear-reaction/fukushima-nuclear-disaster-and-the-violation-/blog/58873/)*

*Thousands of Fukushima survivors from outside the designated zones will be stripped of their housing support in March 2017.*

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# Half of the world's nuclear power industry is in crisis

Jim Green

Nuclear lobbyists are abandoning the tiresome rhetoric about a nuclear power 'renaissance'. Indeed they've turned full-circle and are now warning about a crisis. Michael Shellenberger from the Breakthrough Institute, a US-based pro-nuclear lobby group, has recently written articles about nuclear power's "rapidly accelerating crisis" and the "crisis that threatens the death of nuclear energy in the West".

A recent article from the Breakthrough Institute and the like-minded Third Way lobby group discusses "the crisis that the nuclear industry is presently facing in developed countries" and states that "the industry is on life support in the United States and other developed economies".

'Environmental Progress', another US pro-nuclear lobby group connected to Shellenberger, also acknowledges a nuclear power crisis. The lobby group notes that 151 gigawatts (GW) of worldwide nuclear power capacity (38% of the total) could be lost by 2030 (compared to 33 GW of retirements over the past decade).

As a worldwide generalisation, nuclear power can't be said to be in crisis. To take the extreme example, China's nuclear power program isn't in crisis - it is moving ahead at pace. Nuclear power is moving ahead at snail's pace in some other countries (e.g. India, Russia, South Korea), while in others the industry faces problems but is not in crisis (e.g. UK, Sweden, Switzerland, Belgium, Ukraine).

Nonetheless, the global picture is one of stagnation and malaise. The July 2016 World Nuclear Industry Status Report provides an overview of the troubled status of nuclear power:

- nuclear power's share of the worldwide electricity generation is 10.7%, well down from historic peak of 17.6% in 1996;
- nuclear power generation in 2015 was 8.2% below the historic peak in 2006; and
- from 2000 to 2015, 646 GW of wind and solar capacity were added worldwide while nuclear capacity (not including idle reactors in Japan) fell by 8 GW.

Renewable energy generation doubled over the past decade and renewables now account for 23.5% of global electricity generation, more than twice the contribution from nuclear reactors. The gap is widening every day. The International Energy Agency's 2016 Renewable Energy Medium-Term Market Report anticipates 825 GW of new renewable capacity from 2016-21.

## US nuclear industry in crisis

The US nuclear industry is in crisis, with a very old reactor fleet - 44 of its 99 reactors have been operating for 40 years or more - and no likelihood of new reactors for the foreseeable future other than four already under construction.

Japanese conglomerate Toshiba and its US-based nuclear subsidiary Westinghouse are in crisis because of massive cost overruns building four AP1000 reactors in the US - the combined cost overruns amount to about US\$11.2bn and counting.

Toshiba said in February 2017 that it expects to book a US\$6.3bn writedown on Westinghouse, on top of a US\$2.3bn writedown in April 2016. The losses exceed the US\$5.4bn Toshiba paid when it bought a majority stake in Westinghouse in 2006.

Toshiba says it would likely sell Westinghouse if that was an option - but there is no prospect of a buyer. Westinghouse is, as Bloomberg noted, "too much of a mess" to sell. And since that isn't an option, Toshiba must sell profitable businesses instead to stave off bankruptcy.

Toshiba is seeking legal advice as to whether Westinghouse should file for Chapter 11 bankruptcy. But even under a Chapter 11 filing, Reuters reported, "Toshiba could still be on the hook for up to \$7 billion in contingent liabilities as it has guaranteed Westinghouse's contractual commitments" for the US AP1000 reactors.

## The French nuclear industry is in crisis

The French nuclear industry is in its "worst situation ever", former EDF director Gérard Magnin said in November 2016. The French government is selling assets so it can prop up its heavily indebted nuclear utilities Areva and EDF.

The current taxpayer-funded rescue of the nuclear power industry may cost the French state as much as 10bn, Reuters reported in January, and in addition to its "dire financial state, Areva is beset by technical, regulatory and legal problems."

France has 58 operable reactors and just one under construction. French EPR reactors under construction in France and Finland are three times over budget - the combined cost overruns for the two reactors amount to about 12.7bn.

Bloomberg noted in April 2015 that Areva's EPR export ambitions are "in tatters". Now Areva itself is in tatters and is in the process of a government-led restructure and another taxpayer-funded bailout.

*Renewable energy generation doubled over the past decade and renewables now account for 23.5% of global electricity generation, more than twice the contribution from nuclear reactors.*

On March 1, Areva posted a 665m net loss for 2016. Losses in the preceding five years exceeded 10bn. A large majority of a 5bn recapitalisation of Areva scheduled for June 2017 will come from French taxpayers.

On February 14, EDF released its financial figures for 2016: earnings fell 6.7%, revenue declined 5.1%, net income excluding non-recurring items fell 15%, and EDF's debt remained steady at 37.4bn. All that EDF chief executive Jean-Bernard Levy could offer was the hope that EDF would "hit the bottom of the cycle" in 2017 and rebound next year.

EDF plans to sell 10bn of assets by 2020 to rein in its debt, and to sack up to 7,000 staff. The French government provided EDF with 3bn in extra capital in 2016 and will contribute 3bn towards a 4bn (US\$4.2bn) capital raising this year.

On March 8, shares in EDF hit an all-time low a day after the 4bn capital raising was launched; the stock price fell to 7.78, less than one-tenth of the 86.45 high a decade ago.

Costs of between 50bn and 100bn will need to be spent by 2030 to meet new safety requirements for reactors in France and to extend their operating lives beyond 40 years.

EDF has set aside 23bn to cover reactor decommissioning and waste management costs in France - less than half of the 54bn that EDF estimates will be required. A recent report by the French National Assembly's Commission for Sustainable Development and Regional Development concluded that there is "obvious under-provisioning" and that decommissioning and waste management will likely take longer, be more challenging and cost much more than EDF anticipates.

In 2015, concerns about the integrity of some EPR pressure vessels were revealed, prompting investigations that are still ongoing. Last year, the scandal was magnified when the French Nuclear Safety Authority (ASN) announced that Areva had informed it of "irregularities in components produced at its Creusot Forge plant."

The problems concern documents attesting to the quality of parts manufactured at the site. At least 400 of the 10,000 quality documents reviewed by Areva contained anomalies.

EDF is being forced to take over parts of its struggling sibling Areva's operations - a fate you wouldn't wish on your worst enemy. And just when it seemed that things couldn't get any worse for EDF, a fire took hold in the turbine room of one of the Flamanville reactors on February 9 and the reactor will likely be offline for two months at an estimated cost of roughly 1.2m per day.

## Half of the world's nuclear industry is in crisis and/or shutting down

No-one would dispute that Japan's nuclear power industry is in crisis, with no end in sight. Six years after the Fukushima disaster, only three reactors are operating in Japan; before the disaster, the number topped 50.

A February 2017 *EnergyPostWeekly* article says "the EU, the US and Japan are busy committing nuclear suicide."

Combined, the crisis-ridden US, French and Japanese nuclear industries account for 45% of the world's 'operable' nuclear reactors according to the World Nuclear Association's database, and they accounted for 50% of nuclear power generation in 2015 (and 57% in 2010).

Countries with crisis-ridden nuclear programs or phase-out policies (e.g. Germany, Belgium, and Taiwan) account for about half of the world's operable reactors and more than half of worldwide nuclear power generation.

The ageing of the global reactor fleet isn't yet a crisis for the industry, but it is heading that way. The assessment by the 'Environmental Progress' lobby group that 151 GW of worldwide nuclear power capacity could be shut down by 2030 is consistent with figures from the World Nuclear Association (132 reactor shut-downs by 2035), the International Energy Agency (almost 200 shut-downs between 2014 and 2040) and Nuclear Energy Insider (up to 200 shut-downs in the next two decades).

It looks increasingly unlikely that new reactors will match shut-downs. Another 20 years of stagnation is possible, but only if China continues to do the heavy lifting. And if China's nuclear program slows, worldwide nuclear decline is certain.

Perhaps the best characterisation of the global nuclear industry is that a new era is approaching - the Era of Nuclear Decommissioning (END). Nuclear power's END will entail:

- a slow decline in the number of operating reactors (unless growth in China can match the decline elsewhere);
- an increasingly unreliable and accident-prone reactor fleet as ageing sets in;
- countless battles over lifespan extensions for ageing reactors;
- many battles over the nature and timing of decommissioning operations, and battles over taxpayer bailouts for companies and utilities that haven't set aside adequate funding for decommissioning;
- more battles over proposals to impose nuclear waste repositories on unwilling or divided communities, and battles over taxpayer bailouts for companies and utilities that haven't set aside adequate funding for nuclear waste disposal.

Nuclear power is likely to enjoy a small, short-lived upswing in the next couple of years as reactors ordered in the few years before the Fukushima disaster come online. Beyond that, the Era of Nuclear Decommissioning sets in, characterised by escalating battles - and escalating sticker-shock - over lifespan extensions, decommissioning and nuclear waste management.

In those circumstances, it will become even more difficult than it currently is for the industry to pursue new reactor projects. A positive feedback loop could take hold and then the industry will be well and truly in crisis.

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

*Six years after the Fukushima disaster, only three reactors are operating in Japan; before the disaster, the number topped 50.*





# Militarism and environmentalism

Robin Taubenfeld

Protest against Talisman Saber war games, 2007.

Every two years, Australia hosts some of the world's largest military operations – Exercise Talisman Saber, joint US-Australian combined force training which sees thousands of personnel engaging in land, sea and air manoeuvres. It involves live firing, bombing practice, the use of sonar, on-shore landings, and nuclear-powered and nuclear-weapons-capable vessels.

With support locations in cities around the country, the majority of the action takes place in Queensland, on and around the Great Barrier Reef, in the Northern Territory and in the Coral, Arafura and Timor Seas. Talisman Saber 2017, set to involved 33,000 personnel, will commence in June with its major live component taking place from July 8-25.

In the pre-Trump era, it was clear that China had concerns about this show of military might in the region. With the Pacific Pivot in full swing, and a president calling for an expansion of the US nuclear weapons arsenal, the social, psychological and political ramifications of Australia's continued military partnership with the US deserve further exploration.

The Shoalwater Bay Military Training Area used in the Talisman Saber military training exercises sits just north of Rockhampton, on the central Queensland coast. Its waters are part of the Great Barrier Reef Marine Park and its shores comprise RAMSAR listed wetlands. The region has seagrass beds vital to turtles and dugongs and is part of the whale migratory route. Local ecosystems are under stress from extreme weather events – with recent years seeing cyclones and unprecedented

rain ripping through the area after years of damaging drought.

Despite this, the federal government has started acquiring land around Shoalwater Bay to expand the military training area for use by Singapore, an ally of the Australian and US governments. In mid-2016, a friend in Rockhampton wrote: "Currently we are being 'buzzed' 24/7 by military jets and helicopters and if the Singapore expansion happens it will be for six months each year rather than three, on top of the routine Australian Defence exercises and the joint biennial ones. Unimaginative local MPs and Councilors want us to be the Beef Capital, Coal Capital plus a military base rather than a leader in sustainable energy, biodiversity conservation and livable community."

## Vietnam

Some years ago, I travelled to Vietnam. One stop was to the ancient temple grounds of My Son. As a tourist, I had found it confronting to be taken to shops selling wares produced by the disabled victims of war, seeing limbless or disfigured victims of chemical warfare, landmines and years of hardship, and I was confused by what appeared to be chaos, beauty, pollution, seemingly endless half-built structures – what seemed to be a rampant push for development coupled with reverence for tradition, ancient culture, spirit.

No-one said much of anything to me about being American – which made me feel even more ill at ease. The country had been devastated and people were getting on with their lives, rebuilding their

*Unimaginative local MPs and Councilors want us to be the Beef Capital, Coal Capital plus a military base rather than a leader in sustainable energy, biodiversity conservation and livable community.*

lives on top of the horror of poisons still in the soil, the landmines still in the ground, the spilled blood of their loved ones and the remains of their rice fields, villages and forests.

My Son was a centre for spiritual practice for the Cham people from the fourth to the thirteenth centuries. For 1,000 years, people came to worship here. For some reason, my country thought it acceptable to carpet bomb this sacred site. I noticed the trees, or should I say, the lack of large trees. There are no large trees at My Son. An ancient landscape, denuded, defoliated. Imagine the mentality that says, to find or kill or hurt my enemy, I will destroy every living thing around them.

The military's impact on the environment is indisputable. Our acceptance of the military's impact on the environment, the military's right to alter ecological and human landscapes – and our acceptance of or failure to challenge the making of war – is an acceptance of militarism.

To flush out the enemy, my government was willing to put all other life forms at risk. Who speaks for the trees, grasshoppers, birds, fish in times of war? The military values the environment in terms of a resource – its utility for people – and then sees it as dispensable, acceptable collateral damage, especially if it is likely to fall in to the hands of the other. Such is the mentality of the dominant economic system / system of oppression: the cries of jobs and growth – even national interest – devalue the natural world and disregard the interconnectedness of life on earth.

In Vietnam, the chemicals and unexploded ordnance and landmines persist in the soil and on the land. And in the waterways in Iraq and Afghanistan – and the bones of the children of those who have been there – radioactivity from uranium munitions persists.

## Challenging (nuclear) militarism

It is the environmentalist's role to challenge militarism. Environmentalists aim to protect or preserve the natural world. While humans like to point out their diversity, there is only one species and one atmosphere, one Earth. Humans are the only inhabitants, who consciously and intentionally destroy their habitat and compete to the point of risking annihilation of the species. Unfortunately, humans have even less regard for other species that may be "collateral damage" in warfare, and rarely consider the landscape as an entity in itself worth protecting and preserving.

The *Bulletin of the Atomic Scientists* uses the Doomsday Clock to represent their experts' calculation of our proximity to global catastrophe. With 12 being the apocalypse, the hands of the clock are set forward or back depending on their assessment of geopolitics and environmental factors.

Set in 2016 at a perilous three minutes to midnight because of the combined threat of climate change and nuclear weapons, the Trump presidency has now seen the Doomsday Clock moved forward to 2.5 minutes to midnight. Thus the experts at the *Bulletin of the Atomic*

*Scientists* believe the earth is closer to imminent peril than at any point in the past 64 years.

The rising of global temperature coupled with weapons proliferation increases insecurity, which nuclear weapons states then use as a rationale to avoid disarmament commitments, further increasing insecurity.

Now, at least, it must be clear that while addressing climate change is certainly necessary – and mitigation of climate impacts will contribute to peace and security – addressing climate change alone will not eliminate the real possibility of small or large scale nuclear war, possibly nuclear winter.

Can humanity – starting with the environment movement – shift our goal from mitigating symptoms of out-of-control, eco-system destroying development to one that challenges the structures that keep this paradigm in place? Can we move from needing to address the climate crisis to a system that no longer keeps us in crisis mode? In the 1980s, the world faced a nuclear weapons emergency. Huge anti-nuclear movements took action against nuclear power and nuclear weapons – and achieved some outcomes addressing imminent dangers. The Doomsday Clock was moved back.

But people moved on. The underlying system that sees a logic in the existence of nuclear weapons, however, did not change. Last year, the United Nations General Assembly debated a motion to hold a meeting in 2017 to begin negotiations to eliminate nuclear weapons. Nuclear weapons states – and their allies, including Australia – opposed the motion and continue to oppose the disarmament initiative.

But there is hope – the UN meeting is going ahead to begin developing a legally-binding treaty to prohibit nuclear weapons with a view towards their total elimination.

If we are lucky, a Trump presidency will be what it takes to turn the situation around. Or for people to stop buying in to the idea that it all depends on keeping them in safe hands – and out of dangerous ones. Nuclear weapons are madness and only madmen possess them.

But Trump-phobia alone will not save us. We can't continue to sit at the table asking our neighbours to reduce their carbon footprint while, in effect, pointing nuclear weapons at them. We need to take action to ensure that we remove our military ties to nuclear weapons states, and that we eliminate not only nuclear weapons but also all threats of use of force. We need to find the courage to disarm ourselves, so that we can get down to the business of actually communicating and collaborating to saving the planet.

*Robin Taubenfeld is a member of Friends of the Earth, Brisbane.*

*To find out more about Talisman Saber or to get involved in challenging militarism through environmentalism contact Friends of the Earth Brisbane's Peace, Anti-Nuclear & Clean Energy (PACE) Collective - pb 0411 118 737 - and visit [www.peaceconvergence.org](http://www.peaceconvergence.org) and [www.facebook.com/peaceconvergence](http://www.facebook.com/peaceconvergence)*

*In Vietnam, the chemicals and unexploded ordnance and landmines persist in the soil and on the land. And in the waterways in Iraq and Afghanistan – and the bones of the children of those who have been there – radioactivity from uranium munitions persists.*

# Victoria's koala population needs protection

Ben Courtice

Conservationists say the Strzelecki Ranges hold “one of the most important koala populations in Australia”, after completing surveys that may suggest a population of several thousand koalas across the region.

Surveys conducted in Victoria's Strzelecki Ranges and South Gippsland over 2013–2016 indicate a population of almost 1000 koalas in the 10,500 hectare area surveyed, says koala expert Dr Steve Phillips.

Anthony Amis from Friends of the Earth conducted many of the surveys along with Suzie Zent from Friends of Gippsland Bush. Amis says that Phillips' calculations indicate koalas are resident in 28% of the available habitat, leading Amis to estimate a population of perhaps 2000–3000 koalas surviving in the region overall, which has “about 40,000ha of native vegetation, some of very poor quality”.

The koalas were observed to show preference for a range of Eucalyptus species, including mountain grey gum, bluegum, strzelecki gum, and swamp gum as well as manna gum.

“This is important as most people associate Koalas only with Manna Gums,” Amis said.

The Strzelecki koalas are the only known original, endemic, genetically diverse population of koalas in Victoria and South Australia: all other populations in the two states are descended from a tiny handful of koalas saved from hunting in the early 20th century on offshore islands.

Phillips said the Strzelecki population was probably pushed to the brink of extinction too, but survived in remote forest patches. These koalas recolonised wider areas after the end of hunting. “One of the potential advantages of these widely dispersed refuges is they each contained a unique genetic identity. Once they reconnected these identities mixed again and created a unique genome,” he said.

The genetic value of the Strzelecki population, containing much of the original Victorian koala genome, was only discovered in 1990 by researcher Bronwyn Houlden.

“It could be one of the most important koala populations in Australia,” Amis said, “due to the fact that it has survived even after the destruction of almost all of its habitat over the past 100 years. The reason why the animals have survived in this region could hold the key for protection of other populations as well.”

Despite the vulnerability of koalas to climate change, the Strzelecki/South Gippsland population is not protected.

Zent said that “the nomination to have the Strzelecki/SE Gippsland koala protected under the Victorian *Flora and Fauna Guarantee Act* was rejected. Also, our endeavour to have it protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act* was rejected on the grounds that there are ample numbers in Victoria. This is a highly politicised issue ... The state government and agencies have known about the importance of the Strzelecki / SE Gippsland koala for decades and have done nothing to protect it.”

NSW and Queensland koala populations, officially listed as threatened, are thought to be declining in all but one region. Climate change is making their habitat less survivable in the western parts of those states, while populations in wetter coastal forests are vulnerable to logging, clearing and urban growth pressures.

The Strzelecki koalas largely occupy habitat protected under the “Cores and Links” agreement in 2008 between plantation manager Hancock Victorian Plantations and the state government. Some of this is now becoming an official conservation reserve.



The part of the population living on the coastal plain of South Gippsland occupies a much more fragmented, unprotected landscape, Amis said. “In South Gippsland most of the surveyed sites were reserves, roadside vegetation and vegetation along the South Gippsland Rail trail. Most of the reserves in South Gippsland are isolated and surrounded by farmland. Animals dispersing from these reserves are then vulnerable to road kills etcetera. Fire is also a big problem, including burnoffs in autumn in reserves of the region.”

Apart from recommending EPBC Act protection for the population as a whole, Amis recommends work to restore habitat for the lowland South Gippsland population, especially in the western part of the area. “A lot of tree planting needs to occur to provide corridors for the animals to move through. One positive is finding koalas in areas that had been replanted by local groups 20–30 years ago in places such as Ryanston,” he said.

Phillips agrees that conservation management is essential. “This is a small population by conservation standards,” he said. “It needs to be managed carefully for threats like fire and climate change. We just can't sit back and relax knowing the population is there, in this day and age. We could lose half of it in one big fire.”

*Ben Courtice is a member of Friends of the Earth Melbourne. He writes on climate and energy policy while completing his Bachelor of Science. Reprinted from Green Left Weekly, 4 Feb 2017, [www.greenleft.org.au/content/victorias-koala-population-needs-protection](http://www.greenleft.org.au/content/victorias-koala-population-needs-protection)*



# Evidence mounts that nano-titanium dioxide in food may be harmful

Jeremy Tager

Two new peer-reviewed studies confirm that there are serious potential health risks associated with consuming nanoparticles of titanium dioxide and that they should not be permitted in our food.<sup>1</sup>

The studies undermine the position of our food regulator – Food Standards Australia New Zealand (FSANZ) – which continues to insist that there is no evidence that nano-titanium dioxide can cause harm when ingested. Food-grade titanium dioxide is approved as a white pigment (E171) in common foods such as confectionary and can contain up to 50% nanoparticles.

However, there are growing concerns that the ingestion of these particles could increase the risk of chronic intestinal inflammation and cancer and reduce nutrient absorption in the gut.

One of the studies, by a team of European scientists found that:<sup>2</sup>

- Long-term exposure to nanoparticles in the food colour additive titanium dioxide can trigger and accelerate early stages of colorectal cancer among rats.
- When rats were fed titanium dioxide over a 100-day period, it entered their bloodstream through their intestines. 4 out of 11 rodents spontaneously developed non-malignant lesions in the colon.

The other study, by a team of US scientists<sup>3</sup>, found that titanium dioxide nanoparticles can disturb nutrient absorption in gut cellular models.

The study exposed small intestinal epithelium cells to realistic concentrations of the nanoparticles. The results showed that the absorption of iron, zinc and fatty acids were reduced following chronic exposure.

In food testing commissioned by Friends of the Earth in 2015<sup>4</sup>, nanoparticles of titanium dioxide

were found in Mentos, M&Ms, gum, salad dressing, chicken salt, cake frosting, taco sauce and sour straps. At the time FSANZ dismissed these results based on a number of false claims.

FSANZ claimed that since titanium dioxide is deemed safe in foods, then nanoparticles of titanium dioxide are safe as well. That position is contrary to the prevailing scientific view that the safety of nanoparticles cannot be inferred from the safety of larger particles of the same material.

FSANZ claimed that there was no evidence that the use of nano-titanium dioxide was widespread. All of the samples tested by Friends of the Earth that contained titanium dioxide contained significant quantities of nanoparticles. The recent US study suggested that ingestion of nanoparticles of titanium dioxide was virtually unavoidable.

FSANZ ignored the known inhalation risks of titanium dioxide (the International Agency for Research on Cancer has declared it a possible carcinogen) – claiming it was irrelevant to ingestion but neither undertook or required studies of ingestion.

In response to the concerns raised about nanoparticles in food, FSANZ commissioned an independent report released last year. In its summary of the report, FSANZ claimed it concluded that “none of the nanotechnologies described are of health concern.”<sup>6</sup>

In actual fact the report concluded that “overall this review concludes there is insufficient, directly relevant information available to confidently support a contemporary risk assessment of nano-TiO<sub>2</sub> in food.”

And now two peer-reviewed studies have raised further concerns about the health risks associated with nano titanium dioxide in food.

FSANZ indicated in January that it is reviewing the European study<sup>5</sup>, but has made that commitment in the context of its belief that nano-titanium has always been used in food and it's perfectly safe.<sup>7</sup>

Will FSANZ finally admit that there appear to be significant health risks associated with the use of nanoparticles of titanium dioxide in food and prohibit their use until those risks are fully and independently assessed?

We suggest you don't hold your breath, but start reading labels and avoid foods labelled as containing E171. In the meantime, Friends of the Earth will continue to challenge the institutional corruption that is so deeply entrenched within FSANZ.

*Jeremy Tager is a campaigner with Friends of the Earth's Emerging Tech Project*

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# Food supply and the next generation of GM breeding

Fran Murrell

It is essential to have a sustainable food system; people want healthy, safe food to feed themselves and their family. The government is putting our food at increased risk by considering the deregulation of controversial gene editing techniques which may have a catastrophic impact on our already fragile food system.

Twenty years ago, industrial agriculture released GM crops. One type is engineered to withstand sprays of herbicide, usually glyphosate based ones like Roundup, while the other type produces toxins that kill insects by destroying their stomachs. There have been large numbers of claims and counter claims about the success or otherwise of these crops. It is frequently framed as a scientific discussion with neither side able to resolve the controversy. Many people are unaware that approval of these GM crops is based almost exclusively on unpublished studies done by the GM companies. There have been minimal animal studies and no human trials.

Pesticide usage has risen dramatically with GM crops.<sup>1</sup> Argentina has decimated mixed agriculture and rainforest to grow vast acreages of GM soy for export as animal feed.<sup>2</sup> These growing areas are experiencing increases in birth defects, cancers and other illnesses.<sup>3</sup> A recent UN report says pesticides aren't necessary to feed the world, in fact, they are killing 200,000 people a year by acute poisoning and causing numerous diseases.<sup>4</sup>

Pollinators, including bees, are also killed by pesticides and without pollination the production of many crops collapses. Only a minor increase in yield is due to GM breeding, the majority of increases are due to conventional breeding and changed farming practices.<sup>5</sup>

Now the seed breeding industry, which is dominated by chemical companies like Monsanto, Bayer, Syngenta and Du Pont<sup>6</sup> says that new breeding technologies, like gene editing and CRISPR (clustered regularly interspaced short palindromic repeats), will solve current agricultural problems. Industry claims that, although these techniques fall under the Cartagena Protocol and Codex definitions of biotechnology, they are not GM. I refer to these techniques as GM2 to highlight that they are the next generation of GM breeding.

I have been following the GM debate and the relevant science for over 20 years. Twenty years ago, no-one knew that a gene could produce several different proteins, or that many genes working together could produce one protein. It was assumed that one gene only ever made one protein. We didn't know there was an epigenome

that directs the expression of genes or that DNA is not the master molecule but that all parts of the cell influence each other.

## GM2 – the next generation of GM breeding

GM2 may say that it is only 'editing' the existing genes. It has been compared to cutting and pasting text in a computer. Genes and the cells that contain them are not a linear story line but complex interlinked networks that act, repeat and alter what they do depending on what every other part of the cell is doing.

GM2 is a fantastically interesting and useful set of tools that are also extremely powerful. But how genes operate needs more study and GM2 'editing' is an activity that should be confined to the lab and not used to produce food. Decisions about its use needs to be subject to democratic discussion and transparency. Considering the power of new gene editing tools, they need to be regulated.

The level of regulation of GM2 is currently under consideration, although almost no one knows this. Australia's Office of the Gene Technology Regulator (OGTR) has asked for submissions on what it calls a Technical Review.<sup>7</sup> FOI requests have revealed that the OGTR has been in consultation with the biotechnology industry for at least two years, asking them to "make the case" for deregulation of these technologies. This would mean that plants, foods, animals and microbes developed using GM2 techniques would enter the food system with no safety testing, assessment, labelling or post market monitoring.

This would be a very dangerous thing to do. It would affect the health of both people and ecosystems and it would hurt exports to the markets who do define these techniques as GM. We must start lobbying the Assistant Minister for Health, David Gillespie, to ensure that these GM2 techniques are regulated.

## Regenerative farming

To end on a more positive note, it is exciting that if we change the way we grow what we eat, we can heal our warming planet. Ways in which the earth is already benefitting from a new form of agriculture were outlined in *The Guardian* recently:

*"A study published recently by the US National Academy of Sciences claims that regenerative farming can sequester 3% of our global carbon emissions. An article in Science suggests it could be up to 15%. And new research from the Rodale Institute in Pennsylvania, although not yet peer-reviewed, says sequestration rates could be as high as 40%. The same report*

*The government is putting our food at increased risk by considering the deregulation of controversial gene editing techniques which may have a catastrophic impact on our already fragile food system.*



*argues that if we apply regenerative techniques to the world's pastureland as well, we could capture more than 100% of global emissions. In other words, regenerative farming may be our best shot at actually cooling the planet.*<sup>8</sup>

Huge improvements to our soils and lives can be made. Regenerative farming allowed fig trees to begin fruiting within four months in salty, arid soils two kilometres from the Dead Sea in Jordan.<sup>9</sup> The degraded Loess Plateau<sup>10</sup>, known as the cradle of Chinese civilization, was brought back to life using the same regenerative techniques. Both projects used trenches to capture rainfall, so it soaked into the earth, allowing plants to survive. As the plants grew they shielded the ground, slowing evaporation and enabling more plants to thrive. When the plants die, they return their carbon to the soil. The carbon feeds the organisms in the soil that

flourish and encourage more plant growth. The land is enlivened and animals, birds, insects and streams return.

Once we have protected the safety of our food we need to liberate it from the industrial system. Many farmers, people, businesses and organisations are already working towards this goal. Shoppers can support the farmers, food growers, shops, swaps, community gardens, seed banks, bee-keepers and local food producers who are improving the world through agro-ecological methods. We all need to work together to effect change and ensure that political will, money and research time accelerates this transition to regenerative agriculture.

*Fran Murrell is a member of MADGE Australia (Mothers Are Demystifying Genetic Engineering)*  
 More information: [www.madge.org.au](http://www.madge.org.au)

Deregulation of gene editing techniques risks putting our food at increased risk.

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# Fracking's frontier politics: The Northern Territory at an energy crossroads

Lauren Mellor

The Northern Territory has been in the spotlight as a target for outrage over our recently implemented moratorium on gas fracking. Apparently the Territory has overlooked the important role it could play in responding to the East Coast gas market crunch – by standing aside while the gas industry fracks roughly 85% of it.<sup>1</sup>

As the results of a gas industry plan to raise record profits by creating a domestic supply crisis<sup>2</sup> have begun to bite consumers, amid price gouging and threats of impending blackouts, our 'innovation' Prime Minister Malcolm Turnbull believes he has found a solution for more gas.

In mid-March 2017, Turnbull gathered the CEOs of Australia's biggest gas companies together for a stern talking to. The gas giants are predictably railing against a simple domestic gas reservation policy that could harm their profits. In return Turnbull is continuing to pick on easy targets, blame-shifting onto the States and Territories for restricting supply. With industry encouragement, the Federal Government is eyeing off the Northern Territory's untapped shale gas reserves, calling for the need to lift that 'silly' fracking moratorium<sup>3</sup> and get to work on a planned export pipeline to get all that gas to market.

But new gasfields in the Territory will do nothing to alleviate the industry's orchestrated East Coast market chaos now putting thousands of jobs, businesses and households at risk.<sup>4</sup>

The gas industry has made clear it has no interest in providing gas at prices affordable to those places struggling to heat homes and

run businesses. The same companies who colluded to treble the domestic gas price in recent years will, in the absence of Federal Government intervention, happily continue to sell to whoever will pay the highest price. Sure, some might argue the simple 'increase supply' solutions championed by Turnbull are just more of the same policy prescription that got the East Coast gas market into such a mess, but 10 points for the guy just trying to please his big political donors.<sup>5</sup>

## New gasfields are no solution to East Coast 'crisis'

The new Gunner Labor Government in the NT recently rolled out the first round of community consultations as part of its Inquiry into Hydraulic Fracturing. It faces its first important test of legitimacy on its promise to restore trust and transparency on an issue paramount to its election success.

Territory communities have made clear that they consider the prospect of fracking gasfields a major threat to their land, water and many livelihoods. The Territory's powerful pastoral sector has broken ranks with the Country Liberal Party to call for the right to say no to invasive mining, while Indigenous and non-Indigenous landholders and communities have joined forces to rally, door-knock their neighbours and declare whole regions off-limits to gas fracking.

The Inquiry promised a clear-eyed scientific assessment of the risks of unconventional gasfields. Yet the end of 2017 deadline to report on the far-reaching terms of reference<sup>6</sup> means the scientific panel, chaired by Justice Rachel Pepper, is likely to be just scratching the surface of the industry's problems.

This rushed timeframe risks being further undermined by a decision expected within weeks on whether to approve the Northern Gas Pipeline, a 622 km project that would connect Territory gas to Australia's East Coast for the first time.

Labelled 'nation building' by its architect, former Chief Minister Adam Giles, whose 'frack the lot' legacy contributed to his government's

Waramungu and Wakaya Traditional Owners walk out of pipeline negotiations with Jemena.



resounding defeat at last year's election, the pipeline project has been fast-tracked through assessments at breakneck speed.<sup>7</sup>

But could the project, once hailed as the economic panacea for a flailing Territory economy, actually be its undoing?

When asked whether the Northern Gas Pipeline would expose the Territory to the same price hikes and supply crunch currently crippling the East Coast gas market, Chief Minister Gunner insisted the Territory could sell its excess supply of gas to underpin a new export market.<sup>8</sup>

But the project's proponent Jemena, jointly owned by the Chinese and Singaporean governments, is more upfront about its reliance on new supplies of gas. In its Environmental Impact Statement, Jemena says the project's purpose is to 'stimulate the development of the Northern Territory through increased gas exploration and production'. It has previously boasted about the pipeline's ability to drive the development of new onshore (read: fracking) gasfields.

To the business press, Jemena is ambitious about the pipeline's export potential. Executive General Manager of Business Development Antoon Boey told an industry convention in August 2016: "This is the first step of a much larger picture and we're keen to see more incentives for upstream developers to get on and develop gas, which would enable us to make an expansion of the pipeline, or even an extension of it down into the big demand centres of Curtis Island."

Likely the promise of the East Coast gas market, where domestic customers are now forced to pay three times pre-export capacity prices, is appealing. In Jemena's rush to get gas flowing thousands of lengths of pipe are starting to be stockpiled in Tennant Creek. This despite the fact that the inquiry into hydraulic fracturing, environmental assessments and land access negotiations are still underway.

But this high stakes risk-taking backfired spectacularly in March when Jemena was forced to announce it had not secured agreement from two critical Aboriginal Land Trusts along the pipeline route<sup>9</sup>, going back on public claims it made in December 2016.<sup>10</sup>

Representatives of the Waramungu and Wakaya Land Trusts claim the company lied about the project's reliance on fracked gas during consultation meetings to assuage Traditional Owners' concerns.<sup>11</sup> The Wakaya people have previously called the land access negotiation process a sham and walked out of consultations after bullying by the pipeline company.<sup>12</sup>

Dianne Stokes from the Waramungu Land Trust said: "The company told us during consultations that the pipeline was not related to fracking, but we feel Jemena is speaking with a forked tongue. Jemena are keeping landowners in the dark to silence concerns about fracking while elsewhere promoting its plans to transport unconventional gas."

Max Priest from the Wakaya Last Trust issued a statement calling on the NT Government to



Waramungu Traditional Owners.

implement a fracking ban to guarantee the pipeline project would not result in pressure for new gasfields.

"We said numerous times that we do not want anything to do with fracking, as the impact it has on the environment would be devastating both for our water, community, animals and landscape", the statement said. "We want the NT Government to start listening us, and deal with the concerns that are being raised about this pipeline, not continue ignoring our people."

The groups have challenged the Land Council's authority to consent to the project on their behalf, forcing Jemena to delay its stated April project start-date indefinitely and re-tender major construction contracts.<sup>13</sup>

While Waramungu and Wakaya opposition to the pipeline transporting fracked gas may not be enough to stop the project, all Territorians have an interest in calling on the Chief Minister to abandon the proposal. Without a guarantee of a permanent ban, the pipeline will act as a market driver posing a real and present danger to any community targeted for fracking gasfields.

## 85% of the NT under application for shale gas exploration

85% of the Territory is under application for shale gas exploration permits including pastoral, rural and remote landholdings and waterways, iconic tourism icons like the Mataranka thermal springs, and wholly surrounding Uluru and Kata Tjuta National Park.

For these places the risk is that the pipeline could suddenly make development of new fracking gasfields economic to exploit. It is a source of major concern to communities who less than a year ago voted overwhelming for a moratorium on fracking.

If the Chief Minister is to be taken at his word, then any approval of the pipeline during its own fracking inquiry's community consultation phase would be a significant undermining of these commitments.

If regional and remote community consultations go the way of the urban hearings from Alice Springs to Darwin, where overwhelming support for a Territory-wide fracking ban has been demonstrated, the Gunner Government will have a hard time explaining to voters why it has offered support to a project designed primarily to drive exports of new fracked gas.

The good news is that the NT Government is not bereft of vision in the energy policy space. Its Roadmap to Renewables Inquiry, currently underway, offers a pathway to achieving a 50% renewable energy target by 2030. In sharp contrast to the high-risk and low-return nature of a fracked gas export industry, its renewables policy enjoys broad support for the potential to bring clean energy to our regional and remote areas and reduce electricity prices while creating local, skilled employment. While at the same time making good on its commitments for climate action.

The choice for our Chief Minister is clear. He could give a green light to the Northern Gas Pipeline and expose the Territory to the type of price chaos



that has marked the East Coast's mistaken foray into exports, while locking us into decades of dirty gasfields.

Or, he could stand with the thousands of ordinary Territorians calling for a fracking ban to safeguard our future.

Whichever way he moves one thing is certain, a growing movement against fracking will ensure his government is held to account.

*More information and petition:*  
[www.alec.org.au/don\\_t\\_frack\\_the\\_outback](http://www.alec.org.au/don_t_frack_the_outback)

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# Why won't Australia ratify an international deal to cut mercury pollution?

James Prest

While the Australian government congratulates itself on ratifying the Paris Agreement on climate change, it is dragging its feet on a less well known, but very important, international treaty on air pollution. Despite signing in 2013, Australia has still not ratified the UN's Minamata Convention on Mercury.<sup>1</sup>

Mercury is a potent neurotoxin. In fact, the treaty is named after the city of Minamata in Japan, where mercury release was linked to developmental disorders after pregnant women ate contaminated fish in the 1960s.<sup>2</sup>

Currently human activities are releasing around 2,000 tonnes of mercury each year. Scientists predict that this could reach 3,400 tonnes each year in 2050 unless we take action.<sup>3</sup>

Australia's reticence puts us behind 35 nations that have ratified the convention, including developing nations such as Madagascar, Gabon, Guinea, Guyana, Lesotho, Djibouti and Nicaragua.<sup>4</sup> So what's the holdup?

## Why reduce mercury?

The goal of the Convention is to protect human health and the environment from anthropogenic (human-caused) emissions and releases of mercury and mercury compounds.

Airborne mercury emissions can be transported far from their point of origin, even across continents, and are dispersed widely before being deposited, primarily via rainfall, into lakes and streams and the ocean.

The most important chemical forms of mercury are elemental mercury, divalent inorganic mercury, methylmercury, and dimethylmercury.

Through chemical conversion, mercury compounds enter food webs. Mercury becomes concentrated at the top of the food chain, in predatory fish through a process of biomagnification. Readers with a penchant for tuna sashimi or sushi might have some concern about mercury, as research finds that mercury levels in tuna are increasing.<sup>5</sup>

People are exposed to methylmercury through their diet, particularly if it is high in fish, and especially those high up the food chain.

As methylmercury, mercury damages the human central nervous system and is extremely harmful to pregnant women and their offspring.<sup>6</sup>

## The Mercury Convention

Australia signed the Minamata Convention on Mercury on 10 October 2013 at Kumamoto in Japan, when the text of the Convention was first adopted and opened for signature. But it has not taken sufficient action since then to ratify it.

One issue is that the Convention will not come into force unless enough countries ratify it. Fifty ratifications or accessions are required, but so far there have been only 35.

In March 2014, the Department of Environment issued a public consultation paper seeking the views of the Australian public on ratifying the Convention.<sup>7</sup>



In January 2015, the Department of Environment commissioned an economics consulting firm to undertake a cost-benefit analysis of ratifying the Minamata Convention.<sup>8</sup> That taxpayer-funded document has not been made public. Nor has the timetable for ratification. The consulting firm claims the report is the “intellectual property” of the Australian government.

## Electricity sector a major source

It is likely that one reason for the delay in ratification is deference to the objections voiced by the fossil-fuel energy sector. The electricity sector is a significant source of mercury emissions in nations that rely heavily on coal-fired electricity generation, including Australia. Coal currently supplies about 75% of Australia's electricity (excluding rooftop solar).<sup>9</sup>

The latest data from the National Pollutant Inventory show that 2,700kg of mercury were emitted from 105 electricity generators in 2014-15, an increase from the previous year's emissions of 2,600kg.<sup>10</sup>

The nation's top three mercury emitters from the electricity sector were all power stations in Victoria, burning brown coal (lignite): Hazelwood (420kg; due to close in 2017), Yallourn (310kg), and Loy Yang B (290kg, down from 470kg).

Pollution is regulated by state environment protection authorities, but pollution licenses show an alarming lack of attention by the regulator to the issue. For example, the licence for Hazelwood power station places limits on carbon monoxide, chlorine compounds, NO, particulate pollution, and sulphur oxides, but does not regulate mercury at all.<sup>11</sup> The word does not even feature in the licence.

Mercury is capped under general Victorian air pollution regulations, but in combination with antimony, arsenic, cadmium and lead.<sup>12</sup>

## Tightening pollution controls

Unlike the United States, Australia does not have a federal Clean Air Act.<sup>13</sup> The question of mercury emissions from coal combustion is largely left to state pollution laws.

Australian federal environmental laws do not regulate or restrict emissions of either mercury or carbon dioxide from coal-fired power stations. This is especially the case since the July 2014 repeal of the price signal that had been set by the carbon tax.

What would ratifying the Minamata Convention mean for coal power stations? As mercury pollution is now a matter of international concern there is a strong constitutional basis for Federal legislative action, even prior to the Convention coming into force.<sup>14</sup>

State pollution control regulations will need to be tightened to impose stricter limits on mercury emissions. Presently the standards found in some of the pollution licences<sup>15</sup> are much weaker than those to be applied under the US standard introduced in 2013.<sup>16</sup>

Unsurprisingly, the owners of Australia's coal-fired generators have pushed back against stricter pollution controls implied under the Convention, as shown by their submissions to the public consultation paper.<sup>17</sup>

They claimed that “if Australia is forced to adopt US-based mercury emissions reduction technologies, new and existing coal-based plant would cease to be competitive”, and pleaded that requirements to retrofit Australian coal-based power stations with mercury capturing equipment would be very costly and unnecessary.

Such pollution controls are only unnecessary if we are unconcerned about the environmental and health implications of mercury emissions. Researchers at MIT found that the US standard will provide benefits worth billions of dollars each year.<sup>18</sup>

Given Australia's ratification of the Paris Agreement, it would seem consistent for the Australian government to move ahead more rapidly with the ratification of the Mercury Convention. This will require a closer examination of the adequacy of domestic laws in order to implement the Minamata Convention.

The Minamata Convention has not been tabled yet in Federal Parliament and this means the Joint Standing Committee on Treaties has not yet moved ahead with its part of the ratification process.

New Zealand's analysis of ratification concluded it was “strongly” in that country's interest to ratify.<sup>19</sup> Even if the Australian government continues to delay ratification of the Minamata Convention, it is likely to come into force quite soon, and the international scientific literature is already making a strong case for stricter emissions controls in Australia.

Ratification of the Mercury Convention by Australia is a necessary step for human health and the environment.

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# Deep sea mining plans for Papua New Guinea raise alarm

David Hutt

Hydrothermal vents create both hotspots of deep-sea biodiversity and rich mineral deposits. Papua New Guinea is at the centre of a debate about whether these sites should be preserved or mined. Remote-controlled vehicles will soon begin churning up the ocean floor off the coast of PNG, searching for millions of tons of copper and gold. In 2011, Canada-based Nautilus Minerals was granted a 20-year mining license by the PNG government to begin exploring almost 500,000 sq km in the Bismarck Sea. The project, called Solwara 1, was granted the first-ever permit for deep sea mining. After a series of disputes and financial setbacks, extraction is slated to begin in the first quarter of 2019.

The project aims to mine deposits laid down over thousands of years around underwater hot springs, otherwise known as hydrothermal vents. These are found between one or two kilometres below sea level, where islands of life are created by a rare combination of superheated highly mineralised vent fluids, cold seawater and microbes that are capable of using these conditions to produce organic nutrients.

The resulting ecosystems are rich in carbon dioxide, hydrogen sulphide, organic carbon compounds, methane, hydrogen and ammonium. These same conditions make deep sea vents very attractive for resource extraction companies; when hot, mineral-rich vent fluids hit cold seawater, gold and other precious metals drop to the sea floor.

"We know very little about deep sea ecosystems; some scientists say we know more about the surface of the moon," said Natalie Lowrey from the Deep Sea Mining Campaign. "The proponents of this 'frontier' industry are pushing the line that deep seabed mining will have less impact than terrestrial or land-based mining. This is a very irresponsible argument as there is no scientific evidence yet provided to say there will be little to no environmental impact."

Before mining is allowed to commence, Lowrey said, "independently verified research must be conducted to demonstrate that neither communities nor ecosystems will suffer long term negative impacts."

Nautilus maintains that it carried out extensive impact studies before applying for a mining permit, and found that mining more than 1,300 metres below the surface would not affect shallower water, due to the temperature and density of water at such great depths.

The company also commissioned US-based consultancy firm Earth Economics to write a report on the possible implications of the operation. The overall conclusion of the report, titled *Environmental and Social Benchmarking Analysis*, was that the deep-sea mine would be "remarkably advantageous" because no people live at the site, so there would be "no cultural or historical claims to the site." The report also concluded natural resources will be "less impacted" than with conventional mining since fresh water will not be contaminated, and that the possible impact of the mine would be less significant than the impacts of a nearby erupting underwater volcano.

When the report was published last year, it was widely criticised by environmental groups, economists and civil-society organizations. The critique was encapsulated in a rival report, titled *Accountability Zero*, authored by Helen Rosenbaum of the Deep Sea Mining Campaign and Francis Grey, of Economists at Large.

According to its critics, the Earth Economics' report used an unsatisfactory comparison between Solwara 1 and existing land-based copper mines to examine environmental impacts. Conservation biologist Richard Steiner said Nautilus has "absolutely not" done enough research into possible affects.

"These are poorly understood deep sea communities, and we are unclear what the full immediate and long-term impacts of mining disturbance would be," Steiner said. "But we do know that thousands of vent chimneys, and their associated biological communities, would be destroyed. It is likely that species yet to be identified may become extinct. And that raises some very serious ethical concerns."

A 2011 report, again authored by Helen Rosenbaum, titled *Out of Our Depth*, noted that even before last year's Earth Economics' report, the "government of Papua New Guinea has granted a 20-year license for Solwara 1 based on a flawed Environmental Impact Statement and a superficial understanding of social and economic impacts." The report added: "It may be concluded that in the case of Solwara 1, Papua New Guinea's environmental approvals process has failed to protect the health of the marine environment, the livelihoods and well-being of coastal communities, and fisheries of national and regional economic importance."

Aside from the unpredictability of the operation, there are more practical risks associated with

*"These are poorly understood deep sea communities, and we are unclear what the full immediate and long-term impacts of mining disturbance would be,"*

the endeavour. Janet Tokupep, the Alliance of Solwara Warriors, a community group that opposes deep sea mining, said in a 2015 statement that since the proposed mine site lies only 30 km from the mainland, it will greatly impact on the coastal communities, especially the fishermen who earn their living in the area daily. "The serious liabilities associated with the risks of Solwara 1 make it a disastrous investment," Tokupep said.

### Why is Papua New Guinea risking so much?

"Papua New Guinea undoubtedly is a mining state." So reads the homepage of the country's Mineral Resources Authority. Indeed, PNG relies on its natural resources, including oil and gas, copper, gold and other valuable minerals. The Asian Development Bank estimates that from a high of 30% of GDP in the 1990s, the mining and petroleum sectors now amount to around 20% of the country's GDP. However, there is reason to believe this is significantly higher. For example, a report by PricewaterhouseCoopers suggested that gold alone contributed 15% of the country's GDP in 2012, the highest contribution to a gold-mining country's economy in the world.

In 1988, then-prime minister Pias Wingti announced his 'look north' policy, intended to court investment from China and Japan. In recent years, Chinese companies have invested heavily in mining in PNG. In May, the firm PanAust Ltd announced a \$3.6 billion investment to expand the Frieda River copper-mining project, though this may take another two years for approval.

So far, the growth of the extractive sector has rarely translated into tangible improvements for the majority of the country's inhabitants. In 2013, the Center for Global Development released its Millennium Development Goals Progress Index, which tracked progress toward reducing hunger, poverty, child mortality and improving health and education. PNG came second from bottom, only beating the Democratic Republic of Congo.

Mineral rich PNG has also suffered greatly from the extractive industry. In 1988, civil war broke out on the islands of Bougainville following protests over the Panguna copper mine. Sabotage and attacks were carried out by the Bougainville Revolutionary Army, which led to the closure of the mine and the call for independence. The civil war came to an end in 1998, costing the lives of between 15,000 and 20,000 people, and led to Bougainville being made an autonomous region of PNG.



While this was the most serious of the crises, it was not the only problem caused by mineral extraction. Protests are common throughout the country as many of the country's poor feel they have been left out from reaping the benefits, only to suffer from the process.

### Global concerns

Solwara 1 is the beginning in a new trend in deep-sea mining. Using software developed by Deep Sea Mining Watch that allows internet users to track vessels engaged in deep sea mining activities from anywhere in the world, researchers found that five Russian-flagged vessels were charting waters belonging to the Polynesian kingdom of Tonga, and another vessel has been scouting areas near the Mariana Trench.

As of 2015, the Center for Biological Diversity estimates there to be 26 permits in operation for deep-sea mining. For example, an estimated 1.5 million sq km of ocean floor in the Pacific Islands Region is now believed to be under exploration by private companies and state-owned firms.

"Deep Sea Mining is a highly experimental and untested activity. At present, there are no viable deep-sea mining operations - and there are no enforceable regulations governing such exploitation," said Payal Sampat from Earthworks. "It's hard to imagine that DSM will be commercially viable in the next few years given the many uncertainties and risks involved."

Steiner argues there should be a 10-year moratorium on issuing any permits for deep-sea mining. "We simply do not have the understanding of these deep ocean biological systems to feel comfortable with moving forward with this scale of industrial development," he said.

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*More information: Deep Sea Mining Campaign [www.deepseaminingoutofourdepth.org](http://www.deepseaminingoutofourdepth.org)*

*Reprinted with light editing from <https://news.mongabay.com/2016/11/deep-sea-mining-plans-for-papua-new-guinea-raise-alarm/>*

*The civil war came to an end in 1998, costing the lives of between 15,000 and 20,000 people*



# The troubling evolution of corporate greenwashing

Bruce Watson

In the mid-1980s, oil company Chevron commissioned a series of expensive television and print ads to convince the public of its environmental *bona fides*. Titled ‘People Do’, the campaign showed Chevron employees protecting bears, butterflies, sea turtles and all manner of cute and cuddly animals.

The commercials were very effective – in 1990, they won an Effie advertising award<sup>1</sup>, and subsequently became a case study at Harvard Business school. They also became notorious among environmentalists, who have proclaimed them the gold standard of greenwashing – the corporate practice of making diverting sustainability claims to cover a questionable environmental record.

The term greenwashing was coined by environmentalist Jay Westerveld in 1986, back when most consumers received their news from television, radio and print media – the same outlets that corporations regularly flooded with a wave of high-priced, slickly-produced commercials and print ads. The combination of limited public access to information and seemingly unlimited advertising enabled companies to present themselves as caring environmental stewards, even as they were engaging in environmentally unsustainable practices.

But greenwashing dates back even earlier. American electrical behemoth Westinghouse’s nuclear power division was a greenwashing pioneer. Threatened by the 1960’s anti-nuclear movement, which raised questions about its safety and environmental impact, it fought back with a series of ads proclaiming the cleanliness and safety of nuclear power plants. One, featuring a photograph of a nuclear plant nestled by a pristine lake, proclaimed that “We’re building nuclear power plants to give you more electricity,” and went on to say that nuclear plants were “odorless ... neat, clean, and safe”.<sup>2</sup>

Some of these claims were true: in 1969, Westinghouse nuclear plants were producing large amounts of cheap electricity with far less air pollution than competing coal plants. However, given that the ads appeared after nuclear meltdowns had already occurred in Michigan<sup>3</sup> and Idaho<sup>4</sup>, the word “safe” was arguable. Westinghouse’s ads also ignored concerns about the environmental impact of nuclear waste<sup>5</sup>, which has continued to be a problem.<sup>6</sup>

## The mysterious case of the stolen towels

In 1983, when Jay Westerveld first got the idea for the term greenwashing, he wasn’t thinking about nuclear power – he was thinking about towels. An undergraduate student on a research trip to

Samoa, he stopped off in Fiji to surf. At the sprawling Beachcomber Resort, he saw a note asking customers to pick up their towels.<sup>7</sup> “It basically said that the oceans and reefs are an important resource, and that reusing the towels would reduce ecological damage,” Westerveld recalls. “They finished by saying something like, ‘Help us to help our environment.’”

Westerveld wasn’t actually staying at the resort – he was lodging at a “grubby” guesthouse nearby, and had just snuck in to steal some clean towels. Even so, he was struck by the note’s irony: while it claimed to be protecting the island’s ecosystem, he says, the Beachcomber – which, today, describes itself as “the most sought-after destination in the South Pacific” – was expanding.<sup>8</sup> “I don’t think they really cared all that much about the coral reefs,” he says. “They were in the middle of expanding at the time, and were building more bungalows.”

Three years later, in 1986, when he was writing a term paper on multiculturalism, Westerveld remembered the note. “I finally wrote something like, ‘It all comes out in the greenwash.’ A guy in the class with me worked for a literary magazine and had me write an essay about it.” And, as the magazine had a large readership in nearby New York City, it wasn’t long before the term caught on in the wider media.

Westerveld’s essay came out a year after the launch of Chevron’s ‘People Do’ campaign. As critics later pointed out, many of the environmental programs that Chevron promoted in its campaign were mandated by law.<sup>9</sup> They were also relatively inexpensive when compared with the cost of Chevron’s ad budget: environmental activist Joshua Karliner estimated that Chevron’s butterfly preserve cost it US\$5,000 per year to run, while the ads promoting it cost millions of dollars to produce and broadcast.

The ‘People Do’ campaign also ignored Chevron’s spotty environmental record: while it was running the ads, it was also violating the clean air act<sup>10</sup>, the clean water act and spilling oil into wildlife refuges.<sup>11</sup> But Chevron was far from the only company digging deep into the greenwashing cesspool. In 1989, chemical company DuPont announced its new double-hulled oil tankers with ads featuring marine animals clapping their flippers and wings in chorus to Beethoven’s Ode to Joy.<sup>12</sup> However, as environmental nonprofit Friends of the Earth pointed out in its report *Hold the Applause*, the company was the single largest corporate polluter in the US.<sup>13</sup>

Other corporate claims were equally outrageous: forestry giant Weyerhaeuser ran ads claiming that it was “serious” about caring for fish<sup>14</sup> – even as it was cutting down trees in some of its forests<sup>15</sup> and destabilising salmon habitats.<sup>16</sup>

## Muddying the waters

By the early 1990s, consumers were wising up to sustainability concerns: polls showed that companies’ environmental records influenced the majority of consumer purchases.<sup>17,18</sup> This interest in the environment brought an increased awareness of the greenwashing; by the end of the decade, the word had officially entered the English language with its inclusion in the Oxford English Dictionary.<sup>19</sup> Since then, the trend has only increased: a 2015 Nielsen poll showed that 66% of global consumers are willing to pay more for environmentally sustainable products.<sup>20</sup> Among millennials, that number jumps to 72%.<sup>21</sup>

“People are getting more aware of the rarity of the Earth and the ways that our actions impact it,” says Jason Ballard, CEO of sustainable home improvement retailer TreeHouse.<sup>22</sup> At the same time, he notes, greenwashing has become more complex. “It’s the dark side of a very positive development,” he says.

One shift has been outreach. Many companies are now working to engage customers in their sustainability efforts, even as their core business model remains environmentally unsustainable. The Home Depot and Lowes, for

example, both encourage customers to do their part by offering onsite recycling for several products, including compact fluorescent lights and plastic bags. Meanwhile, they continue to sell billions of dollars<sup>23</sup> per year worth of environmentally damaging products, such as paints that are loaded with toxic ingredients and which release noxious fumes.<sup>24</sup>

“It’s misdirection, and it’s intended to shift the customer’s focus from a company’s appalling behaviors to something that’s peripheral,” Ballard says.

## The bottled water conundrum

Another trend, says Jonah Sachs, CEO of branding agency Free Range Studios<sup>25</sup>, is linking sustainability claims to other issues, such as personal health. “There’s this perception that personal health and environmental sustainability are two sides of the same coin,” he says.

“Sometimes this is true, but many times it isn’t. Bottled water is a great example: in terms of health, it’s much better than soda or other drinks, but in terms of the environment and sustainability, it’s ridiculous.”

The water industry trades heavily on images of rugged mountains and pristine lakes to sell its products.<sup>26</sup> And many companies – Nestle, in particular – spend millions of dollars trying to convince the public that their bottled water isn’t only good to drink, but is also good for the planet. Over the past few years, the bottled water giant has claimed that its Eco-Shape bottle<sup>27</sup> is more efficient, that its Resource recycled plastic bottle<sup>28</sup> is more environmentally responsible and that its use of plant-based plastics<sup>29</sup> is less damaging to the planet.

In 2008, Nestle Waters Canada even ran an ad claiming: “Bottled water is the most

environmentally responsible consumer product in the world.” Several Canadian groups quickly filed a complaint against the company.<sup>30</sup> Five years later, during Earth Day 2013, the International Bottled Water Association doubled down on the sustainability claims, announcing that bottled water was “the face of positive change” because the industry was using less plastic in its bottles and relying more on recycled plastic.<sup>31</sup>

Sustainability promises aside, only about 31% of plastic bottles end up getting recycled<sup>32</sup>, which means that “the face of positive change” creates millions of tons of garbage every year<sup>33</sup>, much of which ends up in landfills or the ocean.

And the water that goes in the bottles is often equally unsustainable. Nestle’s Arrowhead water claims that “Mother Nature is our muse” and boasts that it “has a team of experts dedicated to watching over each one of our 13 spring sources” to ensure responsible water stewardship.<sup>34</sup> This sounds promising until one considers that those springs are in California, which has been in a state of drought for five years.<sup>35</sup> The company also bottles water in Arizona and Oregon, both of which are also experiencing droughts.

## A golden oldie

Some of the classic greenwashers are also taking cues from the new greenwashing playbook. In 2013, amid worries about unemployment and continued concerns about energy sustainability, Westinghouse put a fresh face on its old claims with a brand new commercial. “Did you know that nuclear energy is the largest source of clean air energy in the world?” the ad asked viewers right before claiming that its nuclear power plants “provide cleaner air, create jobs, and help sustain the communities where they operate”.<sup>36</sup>

What the commercial failed to mention was that, two years earlier, Westinghouse was cited by the Nuclear Regulatory Commission for concealing flaws in its reactor designs and submitting false information to regulators.<sup>37</sup> And, in February 2016, another plant that uses Westinghouse reactors, New York’s Indian Point, leaked radioactive material into the surrounding area’s groundwater.<sup>38</sup>

Greenwashing may have taken on a new shape in the last decade, but it’s still as murky as ever.

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# Famine doesn't just 'happen' – and those who cause it must be held to account

Justa Hopma

The relationship between food insecurity and conflict is almost so logical that it appears to state the obvious: conditions of food insecurity contribute to the outbreak of social, political and military conflict, which in turn produces further food insecurity.

Many studies concerned with making sense of food insecurity and conflict focus on these causal linkages blaming one or the other in an attempt to identify ways of breaking through the vicious cycle.<sup>1</sup> But it's more helpful to view the creation of conditions of food insecurity (or food security) as a broader social and political process, by which food and agriculture are controlled by a powerful group – whether that is the state or private interests.

In this way, food has long been used as an instrument of power – and a quick glance at the historical record shows that the ability to control food production, distribution and consumption constitutes a form of power that lets populations live or die.

History throws up countless examples of this. Take the way that, in the Middle Ages, walled cities under siege could be starved out to force their capitulation. More recent history gives us the systematic deprivation of food, including the well-known German Hungerplan of World War II, which involved a deliberate policy decision to rob millions of Soviet citizens of their food.<sup>2</sup> Or

the lesser-known, long-term British occupation of the port of Aden from 1839 to 1963, which allowed it to control Middle Eastern food distribution channels, with sometimes devastating consequences that weakened independent forces in the Arab region.<sup>3</sup>

So creating or exploiting different kinds of what we now describe as “food insecurity” have long been an integral part of conflict.

The case of north-eastern Nigeria is a harrowing present-day example that clearly shows how food security is implicated in longer-standing social and political conflict. In explaining the rise of religious extremism both today and in the 1980s, Nigerian scholars Abimbola Adesoji and Elizabeth Isichei stress the links between poverty, a lack of educational opportunities, widespread corruption and receptiveness to militant Islam in Nigeria's northern region.<sup>4</sup>

Since 2012, however, the conflict between government forces and the jihadist organisation Boko Haram has escalated into widespread violence.<sup>5</sup> Agriculture has often been a direct target in the infliction of violence and Boko Haram has attacked farmers and farm resources, including land and livestock.<sup>6</sup> Large numbers of livestock have been killed and farmers murdered. Crops have been destroyed and land mines have rendered land unusable.

The resulting shortfall in food production has not only contributed to scarcity in the north-eastern region, but is also linked to price rises for food in southern Nigeria and neighbouring countries Niger and Cameroon.<sup>7</sup>

In January 2017, the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) reported that: “More than 4.8m people are in urgent need of food assistance and 5.1m are predicted to be food insecure if not supported by the humanitarian community.”<sup>8</sup>

Regional humanitarian coordinator Toby Lanzer appears somewhat reluctant to use the word “famine”, but warns that such extreme prolonged and general scarcity of food is but one step away in northern Nigeria.<sup>9</sup>



## Language matters

In spite of the clear indications that it's almost always a combination of social, political and environmental factors that leads to situations of widespread hunger, many news outlets continue to represent famine through language that uses natural metaphors.

The *Huffington Post*, for example, speaks of a "perfect storm" of contributing factors<sup>10</sup> while other publications outline how drought and war "spark" famine or contribute to its "outbreak".<sup>11</sup>

The consistent use of such language suggests that the onset of famine is rapid and calamitous, like a fire or infectious disease. But the reality is very different. As the cases of both Nigeria<sup>12</sup> and South Sudan<sup>13</sup> make clear, the development of famine is a dynamic social and political process with a long build-up.

The continued representation of famines as disastrous events largely sprung upon populations by the forces of nature, prevents us from understanding famine – and food insecurity – as a socio-political process, even though doing so is especially important for realising its future prevention.

## Famine as a war crime

South Sudan is in a similar situation to north-eastern Nigeria. A lengthy conflict has produced a situation

in which 4.8 million people are facing "severe" food insecurity and more than 8 million people "face some degree of food insecurity".<sup>14</sup> Referring to the situation there, Leslie Lefkow, deputy director at the Africa division of Human Rights Watch, has written that creating some mechanism of accountability is one of the only hopes of resolving the conflict there.<sup>15</sup> Lefkow recognises that: "There is no offence of 'creating a famine' under international law but in a conflict – civil or international – 'objects indispensable to the survival of the civilian population' may not be attacked."<sup>16</sup> They have a protected status as civilian objects and because their protection goes hand in hand with the prohibition on using starvation of the civilian population as a weapon of war."

Put this way, willingly contributing to the increased food insecurity of populations can be linked to war crimes. Importantly, recognising that famine – but also various other conditions of food insecurity and food security – results from socio-political processes is a prerequisite for developing such legal accountability.

Once we do this, we'll be in a better position to acknowledge the power embedded within the ability to organise and control food production as well as the multiple ways in which food products circulate the planet. And this is as true during times of war as it is in times of peace.

*For more on understanding famine as a socio-political process, see 'Whose Hunger? Concepts of Famine, Practices of Aid' by Jenny Edkins, and 'Famine Crimes: Politics and the Disaster Relief Industry in Africa' by Alex de Waal.*

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# A new deal with capitalism requires a revolution in politics and markets

George Feiger

*This article was published on 17 January 2017 to coincide with the World Economic Forum's annual meeting in Davos, Switzerland.*

Many people feel that the capitalist economic system delivers wealth to a few and somehow cheats the rest of opportunity. I agree: our market

system is being looted by a small minority and the only real solutions call for courageous measures.

It has been all too easy for things to slide to excess. Traders in financial markets manipulate prices to obtain higher bonuses. They and their managers take massive gambles with shareholders' money because these are essentially one-way bets – governments and central banks will bail them out if things go

awry.<sup>1</sup> The management teams of large companies reward themselves with larger and larger compensation packages virtually independent of the performance of their enterprises.<sup>2</sup>

In a more subtle strategy, and without perhaps considering the effects, business leaders can end up looting the future by investing insufficiently for the longer term. They are playing a game skewed towards the pursuit of short-term profits in order to achieve higher personal payouts.

In industry we see increasing forms of cartel-like behaviour everywhere. The big banks offer essentially similar services on similar terms and extract monopoly rents, often in egregious forms such as massive charges for late payments or unauthorised overdrafts for retail clients.<sup>3</sup> Large pharma companies actively work to extend patent protection on drugs and to limit the ability of generic drug makers to compete effectively.<sup>4</sup>

## Underdone oversight

But how can all this happen when the institutions of the market system are supposed to prevent them?

Companies are overseen by boards of directors who represent the shareholders and determine management compensation. Investors control the capital base of enterprises and have the power to replace the boards of directors. Market activity is undertaken within a framework of laws and regulations overseen by central banks and by regulatory agencies staffed by civil servants and, over them, sit the elected representatives of the people. In theory, it should work flawlessly, but too often the structure fails, and it's not all that hard to explain why.

Let's start with publicly traded companies. Many are actually controlled by their management rather than by independent directors. In the US it is still common for the CEO to also be the chair of the board and so play a major role in choosing those supposed to provide oversight.<sup>5</sup> In any case, we typically see the same people serve on multiple boards while the CEO of one company sits on the board of another. No wonder boards endorse egregious compensation schemes.

But shouldn't the shareholders throw out all the rascals on the boards? If by a shareholder we mean someone with deep knowledge of a company and a commitment to enhance its long-term performance, then many large companies have no shareholders at all.

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The investment logic of diversification and the rise of passive investing (where investors only track the performance of a share index like the S&P 500) drives individuals to spread holdings out on a global basis.<sup>6</sup> Large investing institutions, often largely passive themselves, hold positions in too many enterprises to either understand or care about individual cases.

And a situation has emerged where a handful of giant funds own a large share of the total value of listed companies so that their executives become part of the same pattern of behaviour.<sup>7</sup> The ultimate shareholders – pension plan holders like you and I – are often too busy, don't care, or don't understand.

## Revolving door

Now let's turn to the regulators. They have deep problems which we don't like to acknowledge. First, they struggle to hire talent which can match the companies they are regulating. The ambitious and clever graduate can choose US\$100,000 a year at a Central Bank or US\$1m at the investment bank of their choice. This is made worse by the revolving door problem.<sup>8</sup> If you know that, in a few years time, you will be seeking a job at a bank, just how tough on them are you going to be now?

What of their political masters? Well, former politicians, ex-presidents<sup>9</sup> and ex-prime Ministers<sup>10</sup> perform the revolving door trick very well.

More important, it takes money to win elections. Who has the money to donate? The companies and their key executives. The US offers the extreme of this situation.<sup>11</sup> And the more regulated an industry is, usually the more concentrated it is among a handful of companies, meaning the reward for influencing regulation are concentrated in the enterprises that can do the most harm. The benign term for all this is "regulatory capture".<sup>12</sup>

## Fishy business

Enough said. As world leaders from business and politics prepare to meet at the World Economic Forum<sup>13</sup> in Davos, what should be done? Two cautions. Because the money and power in the system is controlled by the looters, every ameliorating action will be fought tooth and nail. And, there is no magic cure; the most we can aspire to is to make things incrementally, but materially better.

The fish stinks from the head so we should start there. We must dramatically curtail the role of money and patronage in politics. Only if this is done will it be feasible to rebuild the regulatory apparatus and break the cartels.

Now consider the comprehensive failure of corporate governance at large public companies. I suggest that the large public company has had its day. Public listing is not needed to raise essential capital, as was the case in its 19th and early 20th-century heyday. The stock markets today are for speculation, for games by competing algorithms and profit-taking for insiders. We should discourage "public" ownership in favour of private ownership and partnerships.<sup>14</sup> Then, more people with the power to control will also have an incentive to think long term and to contain risk.

*George Feiger is Executive Dean, Aston Business School, Aston University, UK*  
*Reprinted from The Conversation (UK), <https://theconversation.com/a-new-deal-with-capitalism-requires-a-revolution-in-politics-and-markets-71180>*

# Melbourne's air warfare convention: 'The ultimate family adventure'?

Dave Sweeney

Australians are generally lucky when it comes to the air. We have big skies, easy breathing and safe planes. Our planes take off and land, and routinely relocate us for holidays, family re-unions and commerce. Our airborne images are red kangaroos, flying doctors and grainy newsreels of early aviators breaking new records in old planes.

It is a world away from many other peoples' experience of the sky as a hostile space that threatens rapid and remote destruction, and death. For most of us, the closest we get to this all too common global reality is TV news footage of wailing sirens and survivors amid the rubble. But such vision was unlikely to be on the big screen at Avalon, near Geelong, in early March as it hosted the Australian International Aerospace and Defence Exposition.<sup>1</sup>

Avalon enthusiastically positions itself as Melbourne's 'other' airport. In reality, it's a place where not a lot happens. Every day, there are roughly equal numbers of Jetstar services and bewildered backpackers wondering how far they are from the MCG (about 60 kilometres). Except for every second year, when the windswept paddocks between the Werribee zoo and the prison complex hosts a truly perverse family feel-good celebration of the technology that makes many families feel bad – or not at all – in other parts of the world.

The Aerospace and Defence Exposition is an industry focused jaw jaw about war war that runs for three days before merging with the co-located and more public Australian International Airshow for a further three days of 'the ultimate family adventure'.

If websites could get breathless, this event's would need a respirator: "Airshow 2017 will feature the raw potency and power of modern military aviation. The thrust and grunt of the latest military heavy metal will take centre stage. The stars of the show will be state-of-the-art jet fighters, bombers and giant heavy lift leviathans

from home and abroad. See them so close you could almost touch them. Shudder to the roar of their mighty jet turbines as they perform high octane routines and simulated combat manoeuvres. Marvel as swarms of attack helicopters join in the fray."

Oh, and it's free for the under fives and there's plenty of parking!

Avalon airport has a long-standing military connection. Currently owned by the Linfox group, the strip was first used by federal agencies 65 years ago as the site for the development of the RAAF's Canberra bomber.

Over the course of the week-long event, around 200,000 people joined air force representatives from Australia, France, Japan, Singapore, the UK, Canada, New Zealand and, of course, the US to 'feel the power'.

Behind the disturbing images exhorting civilian families to bring their loved ones to the new Colosseum is a far more deeply disturbing trend towards uncontested war planning, spending and legitimising. The sponsors of the event include the federal and state governments, along with a who's who of arms corporations.

BAE and Raytheon gave away show-bags, while nuclear weapons heavyweight Lockheed Martin no doubt spruiked its controversial new relationship with Melbourne University.<sup>2</sup> General Atomics, a shadowy group that has a finger in poisoned pies from drones to uranium mining in South Australia, hosted the reception at the U.S. pavilion. Northrop Grumman, which has a cyber division that boasts of being able to "project force" globally, was another of the cash-splashers.

And these corporations have cash to splash. In 2015, the leading U.S. arms corporations generated more than \$US200 billion.<sup>3</sup> A recent analysis by the International Institute for Strategic Studies shows with an annual spend of around \$600 billion, the U.S. is home to 40% of the entire globe's annual military outlay. And with the new U.S. President planning a "massive" military budget increase and trumpeting "peace through strength"<sup>4</sup>, these are good times for the MBA heavy masters of war.

But there are big questions that should be ventilated, along with the jet fuel and av-gas. With the state governments of South Australia, Victoria and Queensland all touting for contracts, what is the role of the defence sector? Should Australian academic institutions enter into commercial-in-confidence research arrangements with corporations that trade in weapons, including nuclear weapons? Why is Australian defence spending growing and who are we protecting – and from what threat – with our \$20 billion plus annual spend?<sup>5</sup> And how can the event's organiser, Aerospace Australia Ltd, be a registered charity?

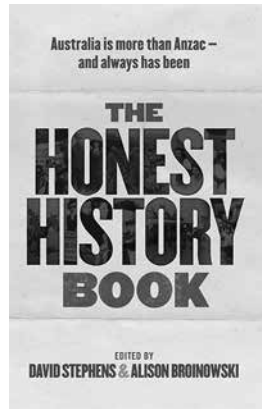
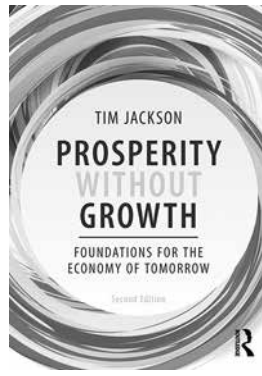
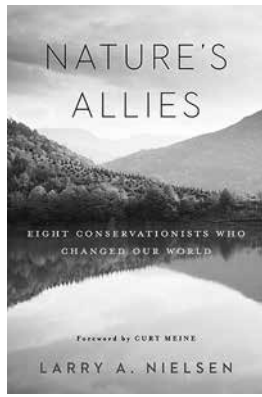
Alongside the warplanes, it's time for some plain truths and some "full throttle" answers.

*Dave Sweeney is the nuclear free campaigner with the Australian Conservation Foundation.*

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## Prosperity Without Growth

*Prosperity Without Growth: Foundations for the Economy of Tomorrow*

2nd Edition

Tim Jackson

December 2016

Taylor & Francis Group

ISBN 9781138935419

Available from Routledge

<http://bit.ly/2grJpkY>

What can prosperity possibly mean in a world of environmental and social limits? Tim Jackson's challenge to conventional economics openly questioned the most highly prized goal of politicians and economists alike: the continued pursuit of economic growth. Its findings provoked controversy, inspired debate and led to a new wave of research building on its arguments and conclusions.

This substantially revised and re-written edition updates those arguments and expands upon them. Jackson demonstrates that building a 'post-growth' economy is a precise, definable and meaningful task. Starting from clear first principles, he sets out the dimensions of that task: the nature of enterprise; the quality of our working lives; the structure of investment; and the role of the money supply. He shows how the economy of tomorrow may be transformed in ways that protect employment, facilitate social investment, reduce inequality and deliver both ecological and financial stability.

Seven years after it was first published, *Prosperity without Growth* is no longer a radical narrative whispered by a marginal fringe, but an essential vision of social progress in a post-crisis world. Fulfilling that vision is simply the most urgent task of our times.

Evidence is mounting to suggest that ever-increasing consumption adds little to human happiness and may even impede it. More urgently, it is now clear that the ecosystems that sustain our economies are collapsing under the impacts of rising consumption. Unless we can radically lower the environmental impact of economic activity - and there is no evidence to suggest that we can - we will have to devise a path to prosperity that does not rely on continued growth.

Tim Jackson is Professor of Sustainable Development at the University of Surrey, UK, and Director of the Centre for the Understanding of Sustainable Prosperity. For seven years, he was Economics Commissioner on the UK Sustainable Development Commission where his work culminated in the publication of the first edition of *Prosperity Without Growth*.

## Stop Fixing Women

*Stop Fixing Women: Why Building Fairer Workplaces is Everybody's Business*

Catherine Fox

April 2017

NewSouth Publishing

[www.newsouthbooks.com.au/books/stop-fixing-women/](http://www.newsouthbooks.com.au/books/stop-fixing-women/)

Millions of words have been spent in our quest to explain men's seemingly never-ending dominance in boardrooms, in parliaments, in the bureaucracy and in almost every workplace. So why is gender inequality still such a pressing issue? Wage inequality between men and women seems one of the intractables of our age. Women are told they need to back themselves more, stop marginalising themselves, negotiate better, speak up, support each other, strike a balance between work and home. This book argues that insisting that women fix themselves won't fix the system, the system built by men.

Catherine Fox does more than identify and analyse the nature of the problem. Her book is an important tool for male leaders who say they want to make a difference. She throws down the gauntlet, showing how business, defence, public service and community leaders might do it, rather than just talk about it. She shows that not only will this be better for women but for productivity as well, not to mention men and women's health and happiness at home and at work.

Catherine Fox wrote the 'Corporate Woman' column for the Australian Financial Review for many years and has written three previous books, including *Seven Myths about Women and Work* (NewSouth), which was shortlisted for the 2013 Ashurst Business Literature Prize. She helped establish the annual Westpac/Financial Review 100 Women of Influence Awards and is on several advisory boards, including the Australian Defence Force Gender Equality Advisory Board.

# Eight Conservationists Who Changed Our World

*Nature's Allies: Eight Conservationists Who Changed Our World*

Larry Nielsen

February 2017

Island Press

Hardcover and ebook

<https://islandpress.org/book/natures-allies>

It's easy to feel small and powerless in the face of big environmental challenges. When climate change forces species to fight for their very survival and the planet's last places of wilderness are growing smaller and smaller, what can a single person do? In *Nature's Allies*, Larry Nielsen, a fisheries biologist and dean of the College of Natural Resources at N.C. State University, uses the inspiring stories of conservation pioneers to show that through passion and perseverance we can each make a difference.

Some famous and some little known to readers, they spoke out to protect wilderness, wildlife, fisheries, rainforests, and wetlands. They fought for social justice and exposed polluting practices. They marched, wrote books, testified, performed acts of civil disobedience, and, in one case, were martyred for their defense of nature. *Nature's Allies* pays tribute to them all as it rallies a new generation of conservationists to follow in their footsteps.

The chapter subjects are:

John Muir, Scottish-American naturalist, author, philosopher, glaciologist and early advocate for the preservation of wilderness in the US

Jay Norwood "Ding" Darling, a cartoonist who helped to form and lead the US National Wildlife Federation

Aldo Leopold - US author, philosopher, scientist, ecologist, forester

Rachel Carson, author of the 1962 book *Silent Spring*

Chico Mendes - Brazilian rainforest advocate and union leader

Billy Frank, Jr., - arrested more than 50 times in his battle for Native American treaty rights and salmon conservation

Wangari Maathai - awarded the 2004 Nobel Peace Prize for her work on sustainable development, democracy, human rights, and women's rights in Kenya.

Gro Harlem Brundtland - Norway's former prime minister, the 'godmother of sustainability'

# The Rise of Environmental Crime

*The Rise of Environmental Crime: A Growing Threat to Natural Resources, Peace, Development and Security*

UN Environment Programme

December 2016

102 pages

Sales number: 17.III.D.3

Paperback US\$30, PDF US\$15

<https://shop.un.org/books/rise-environmental-crime-57687>

The environment provides the very foundation of sustainable development, our health, food security and our economies. Ecosystems provide clean water supply, clean air and secure food and ultimately both physical and mental wellbeing. Natural resources also provide livelihoods, jobs and revenues to governments that can be used for education, health care, development and sustainable business models. The role of the environment is recognised across the internationally agreed 17 sustainable development goals adopted in 2015.

However, the environment as the very foundation of sustainable development, peace and security is now at risk. Environmental crime is vastly expanding and increasingly endangering not only wildlife populations but entire ecosystems, sustainable livelihoods and revenue streams to governments. This publication examines these crimes and its effects, and makes recommendations for efforts to be put forward so that peace and sustainable development can prevail.

# The Honest History Book

*The Honest History Book*

Edited by David Stephens and Alison Broinowski

April 2017

NewSouth Books

ISBN 9781742235264

[www.newsouthbooks.com.au/books/honest-history](http://www.newsouthbooks.com.au/books/honest-history)

In Australia's rush to commemorate all things Anzac, have we lost our ability to look beyond war as the central pillar of Australia's history and identity? The historians of the Honest History group argue that while war has been important to Australia - mostly for its impact on our citizens and our ideas of nationhood - we must question the stories we tell ourselves about our history. In this collection, writers including Paul Daley, Mark McKenna, Peter Stanley, Carolyn Holbrook, Mark Dapin, Carmen Lawrence, Stuart Macintyre, Frank Bongiorno and Larissa Behrendt explore not only militarisation but also alternative, overshadowed narratives- Indigenous history, frontier conflict, multiculturalism, the myth of egalitarianism, economics and the environment. Michelle Arrow writes: "The Honest History group announced its arrival in 2013 with a clear, urgent purpose: to challenge the dominance of the Anzac legend in Australian popular memory. The group also took as its mission to remind Australians of the diversity of our history. The Honest History Book distills this approach in a series of compelling, highly readable essays by some of Australia's most distinguished historians."

# The Assassination of Alexander Litvinenko and Putin's War with the West

*A Very Expensive Poison: The Assassination of Alexander Litvinenko and Putin's War with the West*

Luke Harding

2017

ISBN 9781101973998

Published by Vintage

Paperback and ebook available from [www.penguinrandomhouse.com](http://www.penguinrandomhouse.com)

A true story of murder and conspiracy that points directly to Vladimir Putin, *A Very Expensive Poison* is written by Luke Harding, *The Guardian's* former Moscow bureau chief. Harding is the author of books such as *Mafia State* and co-author of *WikiLeaks: Inside Julian Assange's War on Secrecy*.

In November 2006, journalist and Russian dissident Alexander Litvinenko was poisoned in London. He died 22 days later. The cause of death? Polonium – a rare, lethal, radioactive substance. Harding details this assassination story – complete with KGB, CIA, MI6, and Russian mobsters. He shows how Litvinenko's murder foreshadowed the killings of other Kremlin critics, from Washington DC to Moscow, and how these are tied to Russia's current misadventures in Ukraine and Syria.

In so doing, Harding becomes a target himself and unearths a chain of corruption and death leading straight to Vladimir Putin. From his investigations of the downing of flight MH17 to the Panama Papers, Harding sheds a terrifying light on Russia's fracturing relationship with the West.

From the prologue:

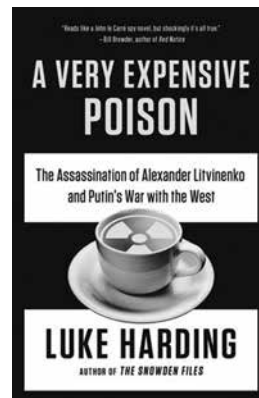
*Passport control, Gatwick Airport, Sussex – 16 October 2006:*

*That morning, [Andrei] Lugovoi and [Dmitry] Kovtun were bringing something into Britain that customs had failed to detect. Not drugs, or large sums of cash. Something so rare and strange and otherworldly, it had never been seen before in this form in Europe or America. It was, as Kovtun put it, talking in confidence to a friend in Hamburg, 'a very expensive poison'. A toxin which had started its surreptitious journey to London from a secret nuclear complex in south-west Siberia. An invisible hi-tech murder weapon.*

*Lugovoi and Kovtun were to use it to kill a man named Alexander Litvinenko. Litvinenko was a Russian émigré who had fled to Britain six years previously. He'd become a persistent pain for the Russian government. He was a remorseless critic of Vladimir Putin, Russia's secret policeman turned president. By 2006, Litvinenko was increasingly anomalous: back in Russia many sources of opposition has been squashed.*

*There was a particular reason why Putin might want Litvinenko dead. Before escaping in 2000, Litvinenko had worked for the FSB, Russia's intelligence service, and the main successor agency to the KGB. Putin himself had been, briefly, his boss. But Litvinenko now had another employer: Britain's secret intelligence service, MI6.*

*Her Majesty's Government had given Litvinenko a fake British passport, an encrypted phone and a salary of £2,000 a month, paid anonymously into his HSBC account and appearing on his bank statement incongruously next to his groceries from Waitrose. He had an MI6 case officer, codenamed 'Martin'.*



*Litvinenko wasn't exactly James Bond. But he was passing to British intelligence sensitive information about the links between Russian mafia gangs active in Europe and powerful people at the very top of Russian power – including Putin. According to Litvinenko, Russian ministers and their mobster friends were, in effect, part of the same sprawling crime syndicate. A mafia state. It was his contention that a criminal code had replaced the defunct ideology of communism. Litvinenko knew about this mafia's activities in Spain; he was, in the words of one friend, a walking encyclopedia on organised crime. So much so that MI6 loaned him out to colleagues from Spanish intelligence in Madrid. All of this made Litvinenko a traitor, and the KGB's punishment for spies who betrayed their country was understood. ...*

*Russia's poisoning project, when finally accomplished, would prompt a British public inquiry costing millions of pounds. One that examined the masses of evidence collected by the Metropolitan Police, from hotels, restaurants, car seats – even from a bronze phallus at a nightclub visited by the assassins in Soho. Scotland Yard was able to reconstruct minute by minute the events leading up to the murder. Its investigation – made public more than eight years later – was one of the most extensive in criminal history.*

*Yet despite this exposure there were soon to be other victims – opponents felled in murky circumstances abroad or, like the opposition leader Boris Nemtsov, killed outside the very gates of the Kremlin. Moscow would send tanks across borders, start a war in Europe, and annex a large chunk of neighbouring territory. Its proxies – or possibly Russian servicemen – would blow a civilian plane out of the sky.*

*The common theme here was contempt: a poisonous disregard for human life. For Vladimir Putin's critics have an uncanny habit of turning up dead.*



# Why 'green-black' alliances are less simple than they seem

*Unstable Relations: Indigenous people and environmentalism in contemporary Australia*

Editors: Timothy Neale and Eve Vincent

December 2016

ISBN: 9781742588780

UWA Publishing

<http://uwap.uwa.edu.au/>

Timothy Neale, a Research Fellow at Deakin Uni, and Eve Vincent, a Lecturer at Macquarie Uni, discuss key themes in the new book they have edited:

In Australia and across the world, Indigenous people are resisting developments that threaten their lands. Wangan and Jagalingou people stand in opposition to the planned Carmichael coalmine in Queensland<sup>1</sup>, while the Sioux people are holding firm in their struggle against the Dakota Access Pipeline at Standing Rock.<sup>2</sup>

As these contests intensify, they reveal that Indigenous peoples often have limited say over what happens on their country. When pitted against powerful state and corporate actors, Indigenous people may seek assistance from others, such as environmentalists, to protect their interests and further their aspirations.

In Australia, these arrangements have sometimes been called "green-black alliances". However, as we argue in our new book *Unstable Relations*, it is misleading to contend that Indigenous people and environmentalists necessarily share (or don't share) the same ends and motives.

They are neither natural allies nor enemies. Instead, we suggest, close attention to the past and present of "green-black" meetings in Australia reveals that their relationships are surprisingly unstable, and are shaped by shifting legal and social contexts.

To understand how and why these collaborations occur, and how and why they can fall apart, we need a better comprehension of the particular processes and people involved, rather than treating them all as uniform.

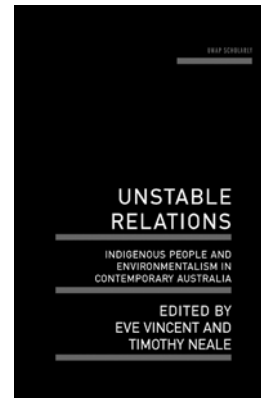
## Understanding land rights today

Since 1966, governments in Australia have progressively recognised different forms of Indigenous land rights. Perhaps the most well-known is "native title", which was first recognised in the High Court's 1992 Mabo decision.<sup>3</sup>

Native title applies only to Crown lands and pastoral leases, only authorises limited land use rights, and is proven through condescending tests of cultural "continuity". Because of the history of colonial dispossession, some groups fail to meet these tests; others refuse to do so. These problems notwithstanding, multiple forms of Indigenous land rights together cover more than a third of the continent, much of it in remote Australia.

As we have recently seen, mining companies and others often greet changes to land rights regimes with dire warnings about economic impacts.<sup>4</sup> The "Mabo madness" of the 1990s proved overblown. By and large, Australia's various land rights regimes have been highly accommodating to miners and mineral extraction.

In violation of United Nations principles, Australia's native title laws do not recognise Indigenous peoples' rights to consent over what happens on their country. Rather, they simply allow a right to be consulted for six months. This gives rise to contractual agreements, such as Indigenous Land Use Agreements, which effectively grant mining companies and others a "social licence to operate" in exchange for a mixture of cash and in-kind benefits.



Indigenous academic Marcia Langton and others have argued that this era of "agreement-making" has the potential to lift Indigenous people in remote areas out of poverty.<sup>5</sup> According to this argument, environmental groups that raise concerns about industrial activity do so at Indigenous peoples' expense.

A simplified version of this story is often found in the mainstream media, casting environmentalists as out-of-touch urbanites and portraying Indigenous groups who work with them as dupes or somehow illegitimate.<sup>6</sup>

Meanwhile, many Australians seem to accept that extractive developments are both inevitable and beneficial, despite complex evidence to the contrary.<sup>7</sup>

The alternative view is depicted in a painting by Garawa artist Jacky Green, in which a road train covered with dollar signs represents "the wealth being taken away from us, from our country".<sup>8</sup>

## Unstable relations

The anthropological and historical research presented in our book highlights that, far from being manipulated, Indigenous people who are opposed to a particular development often seek to enter into strategic partnerships with environmentalists. Crucially, these are not inevitable alliances but negotiated collaborations, which can run into problems if circumstances change.

The controversy that erupted in recent years over Queensland's Wild Rivers Act was shaped by collaborative relationships established between the Australian Conservation Foundation, The Wilderness Society, and Cape York Land Council and its former chairman Noel Pearson decades earlier.<sup>9</sup> Whereas these groups had formalised an alliance in the mid-1990s, which successfully lobbied for land rights and the return of country to traditional owners in Cape York, they split in the late 2000s over how to regulate planning on that country.<sup>10</sup>

Nonetheless, while a public controversy raged, together these groups continued to privately negotiate further outcomes over jointly managed national parks.

Another quite different example is the campaign against a major liquid-gas processing plant and port at Walmadany (James Price Point) in Western Australia.<sup>11</sup> The ethnographer Stephen Muecke has characterised the relationship between those Goolarabooloo people who sought to halt the project and their green supporters as the most successful such collaboration in Australia's history.<sup>12</sup>

This was based on long-term personal relationships between some of those involved and, crucially, the media and scientific resources that environmentalists were able to bring to the campaign.<sup>13</sup> "Citizen scientists" took their cue from Goolarabooloo people's firsthand knowledge of local environs, conducting highly successful surveys of turtle nests and billies.

In our book, we and other contributors point to many other productive but nonetheless unstable relationships in South Australia, the Northern Territory, Victoria and elsewhere.

## The 'green-black' future

Environmentalists often seem oblivious to the contractual landscape in which they are acting. They mistake their relationships with particular Indigenous groups as a natural alliance, based on received ideas of Indigenous connection to country.

But as Yorta Yorta activist Monica Morgan has pointed out, Indigenous people have a holistic relationship with their country, which doesn't always fit with the specific goals of environmentalists. When green groups assume that Indigenous peoples' "traditional culture" is necessarily conservationist, this can lead them to denigrate Indigenous people who pursue economic opportunities.

Relationships between Indigenous people and environmental interests continue to change. Both are now landholders of significant conservation areas in remote Australia, while Indigenous people are increasingly employed as rangers through state-funded conservation projects.

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Again, specific case studies show how these arrangements are far from simple. At the former pastoral property of Pungalina in Queensland's Gulf Country, Garawa people return to "Emu Dreaming" places now managed by non-Indigenous conservationists.<sup>14</sup> There they negotiate an ambiguous field of responses to their presence, ranging from interest and respect to anxiety.

In Arnhem Land, Kuninju people express ambivalence about the problem of the environmentally destructive buffalo in an Indigenous Protected Area.<sup>15</sup> The buffalo are simultaneously recognised as companions, an environmental problem, and a crucial source of meat in hungry times.

As long as Indigenous people have limited capacity to decide what happens on their country, and as long as environmentalists continue to oppose destructive developments, their interests will sometimes intersect. However, as these situations arise and alliances form, we should be careful to avoid essentialising or conflating those involved. "Green-black" alliances will certainly be productive at times, but they will always be unstable.

*Reprinted from The Conversation: <https://theconversation.com/why-green-black-alliances-are-less-simple-than-they-seem-73203>*

*A book extract is posted at: <http://tinyurl.com/neale-vincent>*

## The story of protest in Australia

*What Do We Want? The story of protest in Australia*  
Clive Hamilton

November 2016

\$39.99, 220 pages

ISBN: 9780642278913

NLA Publishing (National Library of Australia)

<http://bookshop.nla.gov.au>

In *What Do We Want?*, academic Clive Hamilton explores the forms of protest used in the big social movements that defined modern Australia. Chapters are dedicated to the peace movement, women's



liberation, Indigenous rights, gay rights and the environmental movement (the trade union movement isn't much discussed).

Hamilton looks at the creativity of protestors: marching or sitting down in the streets of capital cities; singing at bulldozers in Australia's forests; chaining bodies to buildings; using technology to disrupt stock markets; coming out on television; taking part in vigils, leafleting, street theatre, occupations and many other forms of protest. The book is illustrated with many iconic images of protest in Australia.

Clive Hamilton is Professor of Public Ethics at Charles Sturt University in Canberra and the author of a number of books including *Growth Fetish*, *Requiem for a Species: Why We Resist the Truth about Climate Change* and *Earthmasters: Playing God with the Climate*.

Hamilton summarised some of the book's themes in a piece for *The Conversation*, reproduced here:

## Charting the rise and fall of protest in Australia

In 1965, when a few hundred anti-Vietnam War protesters in Sydney, Melbourne and Canberra staged Australia's first ever sit-down demonstrations, the authorities were apoplectic. How dare these agitators block the traffic and defy authority?

At the 1970 Vietnam Moratorium rallies around Australia, 200,000 marched against the war. Even the police were afraid. It was seen as a turning point in our history. The game was up. Our troops would have to be withdrawn from Vietnam, and across the nation people came to believe that taking to the streets could change the world.

In 2003, when the government under John Howard deployed troops to fight in Iraq, 600,000 Australians marched in protest. It was a number never approached before and in all likelihood will never be exceeded. But despite their massive size, the protests were simply ignored.

Many of those who had joined the rallies became disillusioned. In Australia and other places where similar protests proved futile, demonstrators could no longer believe that marching in the streets could make a difference.

Today protests have become a commonplace, even banal, part of political life. Back then the tabloids screamed "Mob rule!" and so did the politicians. So debased has the act of protest become that in response to the mining tax in 2010 Australia's then second-richest person, Gina Rinehart, could mount a flatbed truck and bellow "axe the tax" to an assembly of well-dressed company employees sent along for the cameras.

For those whose understanding of the act of protest was formed in the decades when every demonstration was greeted by the authorities as a threat to the stability of the social order, the protests of some of Australia's richest left a sick feeling. What had happened since the glory days of protest in the 1960s and 1970s?

## Old left, new left

This is just one of the conundrums I came up against while writing my new book, *What Do We Want?* The story of protest in Australia,



left: Protest against the Vietnam War. right: Anti-dam protest in Tasmania.

commissioned and published by the National Library of Australia as part of its program of making better use of its rich archives of photos and images.

When we think about the story of protest in Australia we are naturally drawn to the upheavals of the late 1960s and 1970s because it was then that powerful waves of dissent broke over Australia. Australians who entered the 1960s feeling comfortable and relaxed soon discovered they were sitting on a volcano.

Compared to the worldview of the Old Left, the new social movements – for peace, women's liberation, gay rights and Aboriginal justice – understood power and oppression in new and more complex ways. The New Left that grew out of these protest movements focused less on economic inequality and exploitation, and more on forms of oppression embedded in social structures and the broader culture. The target was conservatism rather than capitalism.

Still, the Old Left, tied to the trade union movement, played a vital mobilising role in the rise of the new social movements. The Communist Party of Australia (CPA) had long been active in the peace movement and it was natural for it to oppose American and Australian military intervention in Vietnam. Members of its youth wing, the Eureka Youth League, staged perhaps the first demonstration against the Vietnam War as early as 1963.

Women members of the Party were also prominent as the second-wave of feminism took shape. Arguably, the first tremor of the new phase of the women's movement was felt in 1967 when Zelda D'Aprano – a party member and clerk at the Meatworkers Union – chained herself to the Commonwealth Building in Melbourne in support of equal pay. Three years later she and a friend famously boarded a tram and insisted on paying only 75% of the fare because they were paid only 75% of men's wages.

## Red to green?

Even in the early years of gay liberation, activists who were also members of the CPA had a prominent role, working to radicalise the emerging movement. They argued (wrongly as it turned out) that discrimination against homosexuals was part of the broader pattern of capitalist oppression.

It was this implied solidarity that in 1974 saw the communist-led Builders Labourers Federation place a black ban on work at Macquarie University after the University excluded trainee teacher Penny Short because she had come out as a lesbian.

But ironically, given the hysterical claims of today's conservatives that environmentalism is little more than socialism dressed in a green disguise, the Old Left played no role in the formation of the modern environment movement. In fact, it was often hostile to what appeared to be a middle-class indulgence.

There were exceptions – notably the "green bans" of the early 1970s staged by the Builders Labourers Federation – but, as any climate activist will attest, the battle for a safe climate has until recently been as much with unions as with the "greenhouse mafia" – the group of industry lobbyists who played a key role in climate policy under John Howard.

So the activism of the new social movements of the 1960s challenged the traditional left as well as conservatives. The New Left's emerging agenda of social change began to eclipse the Old Left, locked as it was into the belief that only organised labour could create a new social order. When economic change and the rise of the New Right in the 1980s saw the collapse of union power, the Old Left was history.

*Clive Hamilton*, 17 Nov 2016, 'What do we want? Charting the rise and fall of protest in Australia', <https://theconversation.com/what-do-we-want-charting-the-rise-and-fall-of-protest-in-australia-68436>



# Rad Women Worldwide

*Rad Women Worldwide: Artists and Athletes, Pirates and Punks, and Other Revolutionaries Who Shaped History*

By Kate Schatz

Illustrated by Miriam Klein Stahl

September 2016

Ten Speed Press.

Hardcover and ebook available from  
[www.penguinrandomhouse.com](http://www.penguinrandomhouse.com)

*Rad Women Worldwide* - from the authors of *Rad American Women A-Z* - is an illustrated collection of 40 biographical profiles showcasing extraordinary women from across the globe. Written for children aged 10 and up, the book tells stories of perseverance and radical success by pairing short biographies with powerful and expressive cut-paper portraits.

The book features an array of diverse figures from 430 BC to 2016, spanning 31 countries around the world, from Hatshepsut (who ruled Egypt peacefully for two decades) and Malala Yousafzai (the youngest person to win the Nobel Peace Prize) to Poly Styrene (legendary teenage punk and lead singer of X-Ray Spex) to Liv Arnesen and Ann Bancroft (polar explorers and the first women to cross Antarctica) and Sophie Scholl (anti-Nazi activist executed in Munich in 1943). An additional 250 names of international rad women are also included as a reference for readers to continue their own research.

Kirkus Reviews writes: "An international array of badass women through the ages and up to the present and a happy contrast to so many Eurocentric "world" surveys."

Andrea Beaty, author of *Rosie Revere Engineer* and *Iggy Peck Architect*, writes: "How do you help young girls change the universe? Show them the women who have already done it! This beautiful book shows girls (and boys) the power and importance of each person who decides to make a difference. A celebration of smart, brave, tough, creative, kind, beautiful, hopeful, and wise women!"

Here is the entry for Frida Kahlo:

## Frida Kahlo

1907-1954, Coyoacán, Mexico

*"I am happy to be alive as long as I can paint."*

*It seems like everyone today knows who Frida Kahlo is, but that wasn't always the case. Like so many women artists throughout history, Frida didn't gain the recognition she deserved until many years after her death. When she died in 1954, the New York Times obituary headline read "Frida Kahlo, Artist, Diego Rivera's Wife." This was how she was known for a long time: as the strange wife of famous muralist Diego Rivera. She's now considered one of the greatest artists of the 20th century.*

*Magdalena Carmen Frieda Kahlo y Calderón was born just before the outbreak of the Mexican Revolution. She lived in La Casa Azul, a small house that her father painted blue. When she was six she came down with polio, which left her right leg permanently disfigured. To help it heal, her father encouraged her to exercise and play sports, but she always had a prominent limp.*

*Frida didn't plan to be an artist - she wanted to be a doctor, and she studied medicine at one of Mexico's finest schools. Everything changed when she was in a bus accident at age 18. She was severely injured and spent months in a full-body cast. Isolated and in pain, she began to paint. Her mother made her an easel she could use while lying down, and her father shared his oil paints. She experimented with bright colors that reminded her of traditional Mexican folk art. The small self-portraits that she created helped her process her traumatic accident.*

*Frida eventually showed four of her pieces to the artist Diego Rivera, whom she adored. "You've got talent," he told her, and it was true. Her paintings*

# The Aboriginal people of coastal Sydney

*Hidden in Plain View: The Aboriginal People of Coastal Sydney*

Paul Irish

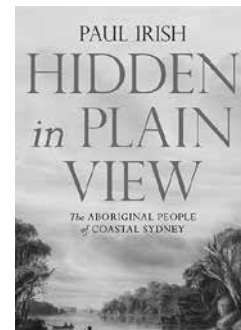
May 2017

NewSouth Books

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[www.newsouthbooks.com.au/books/hidden-plain-view/](http://www.newsouthbooks.com.au/books/hidden-plain-view/)

Aboriginal people are prominent in accounts of early colonial Sydney, yet we seem to skip a century as they disappear from the historical record, re-emerging early in the twentieth century. What happened to Sydney's indigenous people between the devastating impact of white settlement and increased government intervention a century later? *Hidden in Plain View* shows that Aboriginal people did not disappear. They may have been ignored in colonial narratives but maintained a strong bond with the coast and its resources and tried to live on their own terms. This original and important book tells this powerful story through individuals, and brings a poorly understood period of Sydney's shared history back into view. Its readers will never look at Sydney in the same way.



*were deeply personal, yet they combined elements of Mexican art, classical European painting, and newer Surrealist works. She and Diego eventually married and became part of a thriving Mexican art scene. It was a male-dominated scene but Frida also encountered women like singer Chavela Vargas, muralist Fanny Rabel, and photographer Lola Alvarez Bravo (the first and only person to exhibit Frida's paintings in Mexico during her lifetime).*

*Frida remained relatively obscure until the 1980s, when a biography about her got people's attention. Feminist and Latina artists began to celebrate her work, and she became a cultural icon, now more well known than Diego. Frida's life was painful, and she created over 140 paintings that reflected it. Unlike many other artists at the time, Frida didn't paint landscapes or abstract shapes: she painted her real, pained self. She celebrated her flaws, her fears, her country, and her desires and she did it beautifully.*



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*"Aboriginal people have known and cared for these lands continuously. We are the oldest living culture on the planet and despite attempts to annihilate, assimilate or suppress our culture we remain committed to looking after our families, community, heritage and knowledge.*

*We won't accept the risk of being told everything will be OK when our first hand experience shows otherwise.*

*We now know that even though we are in remote Australia we must speak to the world, and also listen. To hear how nuclear weapons have impacted other people and other lands.*

*Together we need to make the connections between the past, the present and the future; and work towards a treaty to ban all nuclear weapons, so there will be no new victims under a mushroom cloud"*



*- Sue Coleman-Haseldine  
Kokatha nuclear test survivor, speaking at the UN negotiations  
on a treaty to ban nuclear weapons.  
27th March 2017.*

*#nuclearban  
International Campaign to Abolish Nuclear Weapons*