

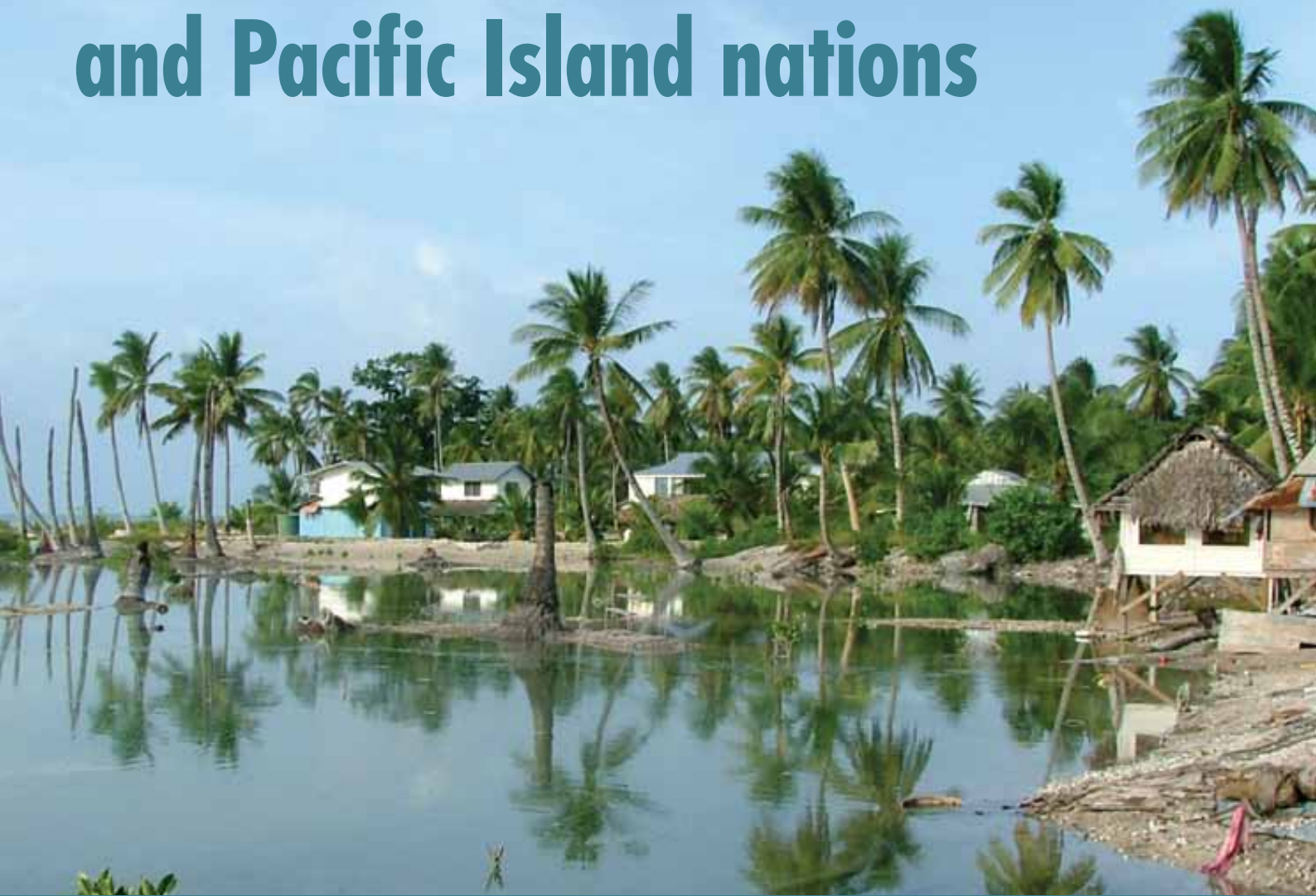
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Issue #120 | March 2014
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The National Magazine of Friends of the Earth Australia

www.foe.org.au

Climate change displacement and Pacific Island nations



- Friends of the Earth at the G20 meeting
- Watershed on Indigenous rights needed in Victoria
- What's the story with nanoparticles in sunscreen?
- Failures in Environmental Impact Assessments
- Connecting with Torres Strait Islanders on climate change
- Great Artesian Basin and Painted Desert under threat
- The struggle for Leard State Forest
- Fukushima apologies and apologists

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Front cover: Land ravaged by the sea during
an extreme weather event in Kiribati in early 2009.

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1

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FoE Australia News

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 www.foe.org.au/local-groups

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

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

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Natural disasters costing Victoria

FoE's report, 'Natural Disasters and a Warming Climate; Understanding the Cumulative Financial Impacts on Victoria', is the first compilation of loss statistics from weather related Victorian disaster events – fires, floods, storms and heatwaves. The research shows a total of \$6.8 billion million in public costs and \$13.2 billion in private costs from 2003 to 2013. Climate change science clearly tells us that, without concerted global action to reduce emissions, Victoria will face hotter summers and extended heatwaves, more erratic rainfall patterns, and longer bushfire seasons.

There are already considerable economic impacts of climate change that are being felt across the state. These costs are directly competing with other demands, such as education and health budgets. What this report seeks to highlight is the fact that the government is 'flying blind' when it comes to tracking the economic and social costs of natural disasters on our state.

The report is posted at:
www.melbourne.foe.org.au/?q=node/1301

Bright spark goes against the current

Friends of the Earth (FoE) member and energy market critic Michael Gunter appeared on ABC TV's *Four Corners* program late last year, in a program on the unresolved dangers of power lines igniting deadly fires. Michael has recently gone off-grid in the Melbourne suburbs with a small solar photovoltaic set-up (SAPS – Stand Alone Power System). He sees it as an effective 'direct action' weapon that any home owner can use against bushfire risk, skyrocketing power bills, fossil fuel emissions, nuclear power, and smart meters. He believes that, with world's best practice energy conservation, it is now possible for small efficient SAPS households to be cost-competitive with mains electricity supply.

More information:

- 'Bright spark goes against the current':
<http://news.domain.com.au/domain/green/bright-spark-goes-against-the-current-20130829-2ssm7.html>
- www.youtube.com/user/voltscmissar
- ABC Four Corners, 'Fire in the Wire', www.abc.net.au/4corners/stories/2013/10/28/3876333.htm

CounterAct

It is looking like a big year for FoE affiliate CounterAct and our activist training work. The interest in climate campaigner training continues and we recently partnered with 350.org and Quit Coal for another nonviolent direct action training in Melbourne by popular demand. We have been supporting the Maules Creek Leard Forest blockade in NSW, coordinating a comprehensive legal guide for climate activists and are supporting the small community of Seaspray in Gippsland who have just pledged civil disobedience action to defend their farmland from unconventional gas mining.

And we only just turned one year old! In the last year we have trained hundreds of people and worked with a huge range of organisations including Lock the Gate, Quit Coal, The Wilderness Society, the Broome community against the gas hub, grassroots forest activists, the campaign against the East West tunnel, and McDonald's in Tecoma, as well as many more. Our recent crowd-funder successfully raised more than \$14,000 to fund our community work, so thanks if you were one of our supporters! To stay up to date with new resources, and training opportunities check out www.counteract.org.au

– Nicola Paris

John Fenton tour

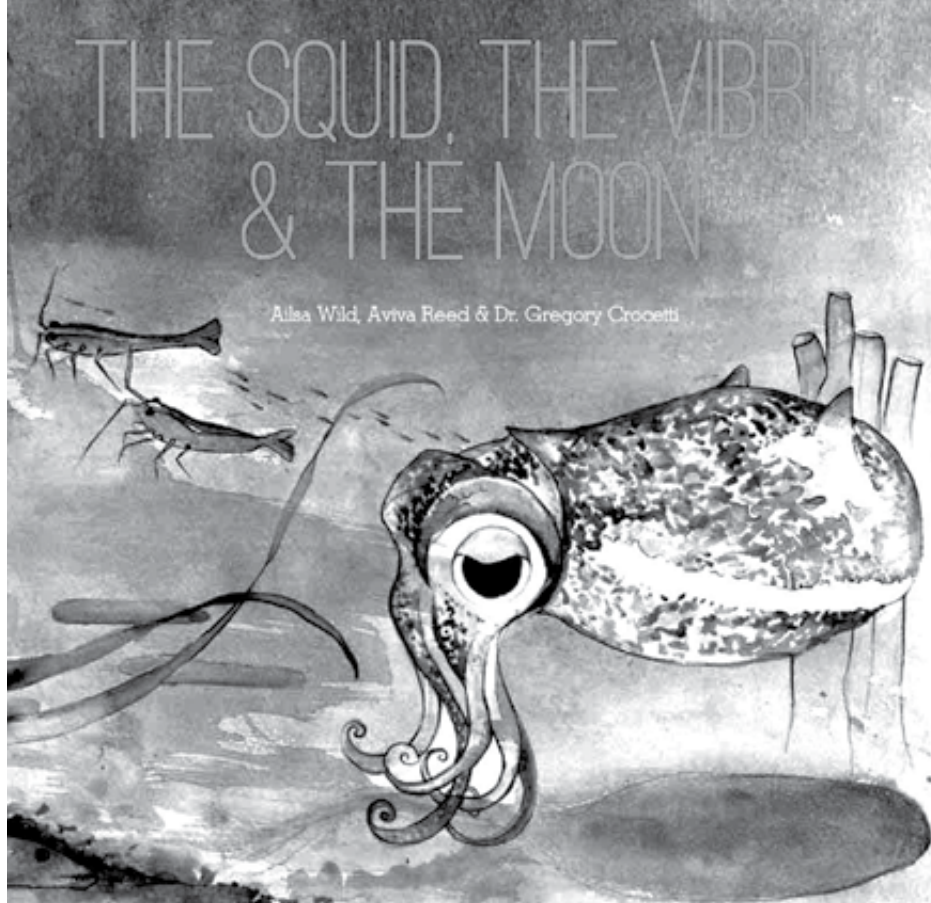
Friends of the Earth supported the recent tour of Wyoming farmer John Fenton. The tour was organised by NSW Greens MP Jeremy Buckingham and the Lock the Gate Alliance.

John is a farmer from Pavillion, Wyoming who has been living with pollution of ground water and air pollution, land use and other effects of the gas industry. John and his wife Catherine have 24 gas wells on their farm. John featured in the 'Gasland' film (now on youtube, and see www.gaslandthemovie.com).

John's Australian tour was a huge success with lots of media interviews, and public meetings in Sydney, Brisbane, Bangalow, Casino, Narrabri, Gloucester, Taree/Wingham, Illawarra, Bowral, Melbourne, and Gippsland. To give an example of the public interest, 600 people showed up in the small NSW town of Narrabri to hear John speak.

In a *Sydney Morning Herald* opinion piece responding to execrable propaganda from Peter Reith, John wrote: "In Wyoming, we have a saying: don't piss on my head and tell me it's raining. ... Well, Mr Reith, come smell and drink the water on my farm, because it has been contaminated by fracking. In 2008, we noticed the water from our wells had turned bad. It changed colour and smelt of diesel. We asked the Environmental Protection Agency to investigate. They drilled monitoring bores and, in 2011, released a report that found the shallow and deep aquifers had been contaminated with chemicals linked to fracking and gas extraction. Benzene was present at 50 times the level that is considered safe for consumption. Phenols – another dangerous carcinogen – acetone toluene, naphthalene, methane and 13 different compounds associated with hydro-fracking were found in the water. Our community was warned not to drink water from our wells and to shower with the windows open, to prevent a build up of explosive gas. My neighbour's water well exploded because of high-pressure gas."

More information, photos and videos are posted at: <http://fentontour.com>



From little things, big things glow

The vast majority of the biological diversity on earth is invisible to the human eye. Tiny, microscopic life forms overwhelmingly build and control every ecosystem on earth, from our oceans and soils, down to our own digestive ecosystem. To overcome the widespread negative misconceptions about microbes, I decided to explore ways to educate and inspire children and adults to better understand and maybe even love our under-appreciated microscopic friends.

Working together with visual artists in the art-science collaborative Scale Free Network (www.scalefreenetwork.com.au), we began to create workshops in which children and families could learn about and explore this hidden world – initially by combining observation through microscopes and drawing. However, after nearly eight years of running workshops and creating interactive installations, we have now begun to use stories to talk about the role of microbes such as bacteria, fungi and viruses and the amazing symbiotic relationships they form with each other, and larger forms of life.

The first storybook to emerge from the Microbial Symbiosis Storytelling Project is titled *The Squid, the Vibrio & the Moon*. The book is about the lifelong symbiosis between the

Hawaiian Bobtail squid, *Euprymna scolopes*, and the bioluminescent bacteria, *Vibrio fischeri*. These two very different organisms work together to survive, with the bacteria helping the squid to glow and hunt in the moonlight, receiving food and protection in return. The storybook is a kind of symbiosis in itself – a collaboration between a visual artist (Aviva Reed), a writer (Ailsa Wild), and a microbiologist (Dr. Gregory Crocetti), who all have connections to Friends of the Earth.

Symbiotic relationships such as the one described in our book are very often cooperative, not competitive. Indeed, another ambition of this storytelling project is to help shift the dominant, attitude of competition (survival of the fittest individuals), towards one of symbiosis (living and working together to their mutual benefit). This is a message that resonates well beyond the microscopic scale.

The book appeals to a younger reader level, but we are certain the story will be enjoyed by children and adults alike. It is available for sale from the Friends of the Earth Melbourne Food Co-Op and Café (312 Smith St, Collingwood), and online at www.pozible.com/project/174419.

– Gregory Crocetti is a member of FoE Australia's Nanotechnology Project.



Phillip Island drinking water

In January, FoE published a report focusing on chlorine disinfection by-products in drinking water in the Phillip Island region of Victoria, supplied by Westernport Water. FoE found that several thousand residents on the island had been exposed to the Trihalomethane, Bromodichloromethane (BDCM) in their drinking water, in some cases for up to seven years, above World Health Organisation Guidelines from 2006–2012.

BDCM has been linked with a number of cancers including bladder cancer. People are not only exposed to BDCM in drinking water, but are also exposed when showering or swimming. Australian guidelines, set by the National Health and Medical Research Council, do not factor in these other exposure routes.

It is likely that millions of Australians could be exposing themselves to high levels of BDCM and are unaware of the consequences. Many of these people would be located in smaller communities whose water supplies can be seriously impacted by low rainfall events. BDCM and other Trihalomethanes increase when water becomes more salty, particularly in times of low reservoir levels. The BDCM levels on Phillip Island appear to have been resolved by Westernport Water using the chloramination water treatment process, where ammonia is added during chlorination. Chloramination however creates a range of other disinfection by-products.

The report, 'Bromodichloromethane Levels in Drinking Water 2005 to 2012', written by Anthony Amis, is posted at: www.foe.org.au/sites/default/files/WesternportWaterDBP.pdf

Dirt Radio – FoE's 3RC radio program

It's hard to know where to start ... so many disturbing developments at all levels – local, regional, national, global – that deserve comment and critique. But, we decided to begin Dirt Radio this year with the local.

Most pressing and perhaps most damaging for activists and protesters of all stripes in the state of Victoria – the Napthine government's amendments to the Summary Offences and Sentencing Acts which give heightened police powers to arrest or move on protesters, increase fines and even pose a two year jail term. Our first show of the year was a discussion of the legal and social justice implications of such laws for FoE campaigns and the environmental movement more generally. This was followed by a show devoted to one group who may be most immediately affected by these new laws – the East-West Link tunnel picket, who have been at test drill sites every day since last September.

There's a state election in November this year, an opportunity to make the political parties accountable and to register that need for transformation. Our third show offered a summary of the crucial issues from a FoE perspective, and this is a theme we will return to regularly throughout the year.

To keep up to date with FoE campaign news, and broader environmental issues, tune in or download:

Mondays 10:30am, 3CR, 855 AM

Podcast: www.3cr.org.au/dirtradio

Facebook:

www.facebook.com/DirtRadio

Our program is run by FoE folk, all of whom are busy working on various campaigns. We're looking for new members to contribute to the Dirt Radio collective and its work in Melbourne – please contact John Langer for more details: johnstan09@gmail.com

Victorian state election

The Victorian election will be held on November 29, 2014. There is a pressing need to make environmental concerns an issue at this election. FoE is not aligned with any political party. Our mission is to gain protection for the environment, and elections present a great opportunity to promote a policy agenda which will help gain these protections.

What are the issues we are working on? FoE Melbourne is lobbying all political parties to get key environmental issues on the agenda:

- a permanent ban on any new coal and gas mining operations in key areas in Victoria;
- ruling out any further coal allocations or development of coal infrastructure;
- we call on the Parties to commit to re-write the Baillieu government's anti-wind-power laws; and
- we believe that a commitment to developing a state-based Renewable Energy Target (VRET) would drive regional employment and investment, and help Victoria start to drive down greenhouse gas emissions.

We are also focusing on the need to get strong, science-based emissions reduction targets back into the Climate Change Act; and the need to re-start negotiations for the phased shut-down of the Hazelwood power station, replacing its capacity with jobs-rich renewable energy.

For further details see the FoE website: www.melbourne.foe.org.au/?q=node/1308

Westpac urged to quit fossil fuels

FoE affiliate Market Forces and 350.org dropped two banners at the Westpac AGM in Melbourne on December 13, bearing the names of the 3,000+ plus people who have so far signed our open letter, calling on the bank to divest from fossil fuels. We were joined by one of the letters' original signatories, Felix Riebl from The Cat Empire. Several people stayed around to ask questions of the Westpac board. Consistent work has put the issue of fossil fuel

investment squarely on the bank's agenda, and the Chairman addressed the issue before any questions were even asked from the floor.

Sign the open letter at <http://openletter.marketforces.org.au>

More information:

www.marketforces.org.au/banks

www.marketforces.org.au/earth-to-westpac-divest



Galilee Road Trip 2014

The Galilee Coal Basin, in the middle of Queensland, is one of the world's largest, untouched coal reserves, and mining barons such as Gina Rinehart and Clive Palmer are desperate to dig it up. In fact, coal companies plan to build nine new mega-mines in the Galilee Coal Basin, five of which would each be larger than any coal mine currently operating in Australia. If the Galilee was unlocked, it would more than double Australia's coal exports, trash the Great Barrier Reef and unleash catastrophic climate change. That's why, in April 2014, we're packing our swags and hitting the road for a 7-day tour of the Basin. We'll visit and stay with local communities to learn and document what's at stake and we'd love you to join us.

More information is posted at:

<http://joinsummerbeat.org/galilee-road-trip-2014/>

Contact: Sbani Tager

sbani.tager@foe.org.au

Tattoo inks

ABC Radio National's Background Briefing program aired a program focusing on tattoo inks. The broadcast was initiated by Friends of the Earth based on work done by South Australian researcher Warren Godson. Tattoo inks can be contaminated with a range of carcinogenic compounds, yet the inks are not properly regulated so people are largely unaware of the potential health consequences.

More information:

www.foe.org.au/sites/default/files/TattooInksScarredForLife2.pdf

<http://nano.foe.org.au/nanoparticles-tattoo-ink-could-cause-cancer>

ABC Background Briefing:

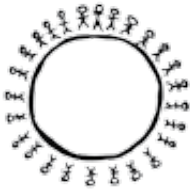
www.abc.net.au/radionational/programs/backgroundbriefing/epidemic-of-ink-v2/5053424

In Memory of Cate Kyne

Cate Kyne was a life long activist who was well known around Melbourne, especially in her home patch in Northcote. Over many decades she remained steadfastly committed to grassroots campaigning and progressive political issues. She was a proud feminist, supported local community sustainability and climate campaigns, and in her later years was active in the Transition Towns movement. She was a member of FoE for many decades.

Cate passed away in 2009. With a generous bequest from her estate, the Cate Kyne Memorial Scholarship Award was established to assist community development practitioners and activists from the Global South to attend events and conferences. A large proportion of the estate was donated to Friends of the Earth. We would like to thank Cate for her ongoing commitment and work towards a more just and sustainable world.

Your passion for the environment and social justice can also last beyond your lifetime. By leaving a bequest to FOE you will help to protect the places you love for future generations and enable others to continue the struggle for a better world. If you would like further information on our bequest program, please contact Sam Cossar-Gilbert in our campaigns office in Melbourne: sam.cossargilbert@foe.org.au, call 9419 8700 or 0435 844 084.



FoE International News

Friends of the Earth International is a federation of autonomous organisations from all over the world. Our members, in 76 countries, campaign on the most urgent environmental and social issues, while working towards sustainable societies.

Say 'no' to water apartheid

FoE Palestine / PENGON, together with the Palestinian BDS National Committee, and the Land Defense Coalition, has launched both local and international campaigns against the Mekorot water company. Mekorot is Israel's state-owned water company responsible for imposing 'water apartheid' on Palestinians, by pillaging natural resources in occupied territory (which is illegal under the Geneva Convention), discriminating against the Palestinian people as an ethnic group, and providing vital support for the illegal settlement process.

FoE International statement on water apartheid in Palestine: www.foei.org/en/what-we-do/land-grabbing/latest-news/foei-statement-on-water-apartheid-in-palestine

Tar sand imports to Europe

FoE Europe, Transport & Environment, and Greenpeace EU published a briefing in January on the potential for exponential growth in the export of tar sands from Canada to Europe due to new pipelines planned or under construction in North America, and refinery developments in Europe. The resulting emissions increase in transport would be the equivalent of adding six million cars to Europe's roads. The 2020 scenario will occur if the EU clean fuel standard, set out in the Fuel Quality Directive, is not comprehensively implemented.

www.foeeurope.org/flood-tar-sands-imports-Europe-240114

www.foeeurope.org/sites/default/files/press_releases/tar_sands_threat_europe_briefing_january2014.pdf

Friends of the Earth International Online

Web: www.foei.org

Youtube channel: www.youtube.com/user/FriendsoftheEarthInt

Action alerts: www.foei.org/en/get-involved/take-action

Subscribe to 'Voices', the bimonthly email newsletter of FoE International, at: www.foei.org/en/get-involved/voices

FoE's web radio station (in five languages): www.radiomundoreal.fm

FoE International online shop: www.foei.org/en/get-involved/shop (calendars, t-shirts, greeting cards, subscriptions to FoE publications, and more)

BHP's coal mining in Indonesian Borneo

Friends of the Earth (FoE) activists have been heavily engaged in countering coal mining activities in Indonesian Borneo by BHP Billiton and other companies. Arie Rompas, executive director of WALHI / FoE Indonesia's Central Kalimantan branch, writes in an opinion piece: "If BHP continues with its plans for open cut mines it will be a disaster for my people and it will be a disaster for these fragile ecosystems. The Barito watershed is a home and source of life for thousands of traditional landowners."^{1,2,3}

Members of WALHI / FoE Indonesia visited Australia for a 10-day speaking tour last November, to raise awareness about local communities impacted by mining.⁴

Meanwhile, Indonesian courts have (hopefully) set a precedent by fining palm oil company PT Kallista Alam 114 billion Rupiah (US\$9 million) for illegally burning forests within the Tripa Peat Swamps, part of the protected Leuser Ecosystem.⁵

1. Arie Rompas, 19 Nov 2013, 'BHP in Indonesian Borneo: the coal disaster waiting to happen', www.abc.net.au/environment/articles/2013/11/19/3893451.htm
2. Oliver Milman, 7 Nov 2013, 'Fears for orangutans: BHP urged to abandon coalmining in central Borneo', www.theguardian.com/environment/2013/nov/07/fears-orangutans-bhp-urged-abandon-coalmine
3. FOE Australia media release, 'BHP and Leighton Holdings to drive deforestation and mining in Indonesian Borneo's rainforests', <http://foe.org.au/articles/2013-11-07/bhp-and-leighton-holdings-drive-deforestation-and-mining-indonesian-borneo%E2%80%99s>
4. <http://foe.org.au/climate-connections-tour>
5. www.sumatranorangan.org/pr-tripa-090114.html

Support new World Alliance Against Gold

The Mesoamerican Movement against the Extractive Mining Model (M4) has launched a new World Alliance Against Gold. The founding statement is available in multiple languages and you are invited to sign up to it as individuals, organisations or networks (a number of FoE groups are participating). Gold extraction is dangerous and devastating work, impacting peoples' health and the environment. Gold extraction contaminates water sources, the air and the earth, preventing agricultural production and causing serious sicknesses and death. It can also be linked to forced eviction, and the assassination of social activists defending human rights.

www.movimientom4.org/2013/10/join-the-global-alliance-against-gold

Meat Atlas

FoE Europe's new 'Meat Atlas' presents a global perspective on the impacts of industrial meat and dairy production, and illustrates its increasingly devastating impact on society and the environment.

www.foeeurope.org/meat-atlas

Friends of the Earth at the G20: a grassroots human response

Friends of the Earth (FoE) defend the rights of people and the environment. We do this by grassroots organising with people affected by threats in their communities: rural farming communities fighting Coal Seam Gas (CSG) and coal mining, indigenous people opposed to the destruction of their traditional homelands for nuclear waste dumps or mines, urban communities concerned about pollution and new technologies (such as food irradiation and nanotechnologies), and where voracious development and economic priorities are allowed to override the basic rights of communities to clean, safe environments and protected areas.

Our activities include on-the ground protests and civil disobedience, community organising and training, lobbying and research. We also start alternative projects to demonstrate better ways of producing the goods and services that communities need, which are not socially and environmentally damaging. In Brisbane we have been behind the now self-sufficient businesses Bicycle Revolution (who repair and renew old bikes and offer a bike workshop); Food Connect (out of our Community supported Agriculture Project, Food Connect has now expanded to Sydney as a model); and Reverse Garbage (reclaiming clean industrial waste for reuse) who FoE Brisbane live with at 20 Burke St, Woolloongabba. We try to lobby for change while creating that change through practical initiatives based on sound evidence.

Globally, FoE has been at the forefront of protests organising against corporate neo-liberalism. As the G20 addresses economic issues that need global cooperation. One of FoE International's enduring lobby issues has been the "Robin Hood Tax": the implementation of a financial transaction tax which favours the poor, a tax on banks and other financial institutions which would bring millions of dollars to fight poverty and climate change. They did this under the banners "Put People First" and "We won't pay for your crisis". (www.putpeoplefirst.org.uk)

In London, FoE UK prioritised the need to take action on climate change. FoE UK's recommendations to the 2009 G20 meeting included a demand to, "Fundamentally change the way the global economy works, lay the foundations for a cleaner, greener future, and stop propping up an economic system addicted to unsustainable growth and dirty fossil fuels".

Similarly, FoE in Australia will participate in G20 protest in Brisbane in November 2014. Our priorities will include the recognition of people displaced by climate change and

more funding for action on climate change prevention and mitigation, increased investment in renewable technology, an end to fossil fuel subsidies and the dismantling of the economic system that prevents real progress towards a clean, green economy. We are opposed to the Australian government committing to any free trade agreements where trade and the needs of corporations will be prioritised over environmental justice.

The influence of the corporate lobby and the lack of social justice concern within the current government can be felt keenly in Australia with the rise in approvals for environmentally and social destructive industrial projects that provide little benefit to local populations, but lasting environmental damage and the infringement of basic human rights to many social groups. This is not a new thing, but is more blatant under the Coalition government. The Abbott government brings its own brand of economic and religious ideology to the business of environmental exploitation and the erosion of human rights:

- Approval of dredging of the iconic Great Barrier Reef to benefit the coal export industry via the Abbot Point port (December 2013). Breeding site for hump-back whales, nesting site for turtles, sea floor will be dredged to deepen water for ships;
- Expanding the uranium mining industry with no regard to the concerns of Traditional Owners, the legacy of contaminated former mine sites, inadequate safeguards and unacceptable WMD proliferation risks, etc.
- Expanding the CSG industry, by approving the Arrow Liquefied Natural Gas Facility on Curtis Island and the Arrow Gas Transmission Pipeline to Curtis Island and with Resources Minister Ian Macfarlane opposing the NSW CSG "no go zones" legislation;
- Continuing fossil fuel subsidies to the tune of \$10 billion per year, despite agreement at the G20 Pittsburgh to phase them out;
- Removing legislation which declared parts of the Murray-Darling Basin as critically endangered, moves to weaken or delist marine protection zones;
- Allowing employment practices in the mining industry to undermine social justice on housing, where the poor are excluded from the rental market in rural areas because of demand driven inflated prices. In the past mining companies provided housing for staff, and the government could levy them to do so;

- Discrediting the gains made by the indigenous movement and women's movement by allowing the Prime Minister (who's politics on race and gender have been found questionable by many) to install himself as minister for those portfolios, effectively stemming real progress there;
- Demonsiation and punishment of refugees fleeing violence by compounding their suffering in offshore detention, including newborns and unaccompanied minors and insisting all public servants refer to them as 'illegals';
- Overriding state legislation by a High Court challenge to LGBT marriage laws;
- The Gonski triple backflip on equity in education funding and the conservative revision of the national curriculum now in development just one year after it was introduced;
- ... and the list goes on.

In concert with the neoliberal agenda that embraces the G20 and corporate hegemony are local moves to suppress dissent to it. Queensland, where the 2014 G20 will be held, has been at the forefront of introducing laws to target dissent:

- The *Vicious Lawless Associates Disestablishment Act* (2013) that prohibits the public gathering of three or more people alleged to be in a group the government declares a risk. This is being tested on bikies, however this not specific in the legislation and it can be used on unions, striking workers and environmental or other protesters;
- Party laws, under the *Police Powers and Responsibilities and Other Legislation Amendment Bill* 2013 that will make it a punishable offence to hold a gathering of more than 12 people where someone nearby (it maybe an attendee of a function, or even someone refused entry) causes a "an uncontrolled event". Fines up to \$12,000 and jail terms apply.

- *The G20 (Safety and Security) Act* (2013) which disallows having banners more than 2m in length, and prohibits the carrying of many items besides the obvious weapons: eggs, reptiles, and other items;
- This new legislation is in addition to the Queensland police's *Move On* powers that enable them to move anyone at an time for any reason and arrest them if they do not comply.

Some of the more 'out there' reforms proposed by Coalition nationally include:

- Boycott reforms in the *Competition and Consumer Act* to outlaw secondary boycotts. For instance when we ask you not to buy timber from Gunns Ltd because of their real and proven destructive forestry practices.
- Mandatory prison sentences and \$10,000 fines for environmental protestors who disrupt the access to and profitability of corporations, advocated by Tasmanian Liberal leader Will Hodgman. Unions also recognise the capacity of such legislation to be used against workers taking industrial action against exploitative and unfair work practices;
- Member for Mermaid Beach (Qld) Ray Stevens' suggestion that the state should force people with tattoos to register them, as part of the reading of the *Criminal Proceeds Confiscation (Unexplained Wealth and Serious Drug Offender Confiscation Order) Amendment Bill* 2013.

Democracy thrives only on the capacity for people affected by unjust laws to be able to oppose them to enact change. These attacks on civil liberties compromise democracy and are not justifiable, except by their capacity to protect the profits of corporations and ensconce the power of the wealthy elite to control and constrain the lives of the rest of us.



Police at the Toronto G20 meeting, 2010.

What are the issues for Australia with the G20?

The role of the G20 has been an opportunity for the political leaders and finance ministers of the 20 richest countries (representing 85% of the world economy) and invited representatives from the UN, the World Bank, the International Monetary Fund, World Trade Organisation, and the OECD to get together to further their agendas. It came about largely because of the failure of previous (WTO Doha Round) attempts to manage the global economy that resulted in the Global Financial Crisis (2007–08).

Not only does the G20 Major Economies Summit exclude the rest of the world not party to these negotiations, it represents an opportunity for representatives of the more powerful economies, including the US and its close allies, to dictate terms and bully developing economies. Indeed Norway, which declined to join the G20 sees it as a “setback” to truly international and representative bodies like the UN, saying, “We no longer live in the 19th century, a time when the major powers met and redrew the map of the world.” (Norwegian Foreign minister Jonas Gahr Støre, 2010).

We cannot expect that the views that our national government take to this international meeting will speak for the majority or the environment. The spin emanating from Tony Abbott and Julie Bishop on the G20 agenda to date has been parochial. But how does the federal Coalition’s record so far measure up against the rhetoric of the G20 agenda for Brisbane? We only need to look at the nebulous collection of buzzwords currently featuring as “agenda items” on the g20.org website (www.g20.org/g20_priorities).

These are the priorities of the G20 meeting – and our thoughts on Australia’s record:

- **Strong, sustainable and balanced growth:** While the strength of coal and iron ore exports have insulated Australia from the GFC, the mining sector’s dominance has undermined other areas of economic activity such as manufacturing and agriculture. Increasingly, coal and CSG have moved into environmentally sensitive areas and populated areas, disrupting people’s lives and health. Growth at any cost seems to be the agenda of Abbott government who have just approved dredging of the World Heritage-listed Great Barrier Reef to facilitate coal exports that will destroy a national icon;
- **Anti-corruption:** questions about politicians’ travel expenditure have haunted the Liberal government in its first few months, while recent spying revelations have exposed the underhanded and corrupt tactics successive Australian governments have used to protect the profits of corporations active in our region;
- **Energy:** Denying the reality of climate change, dismantling any effort to alleviate climate change made by the previous government, the Coalition government is committed to a fossil fuel future, despite the fact that Australia and its neighbours are already affected by extreme weather events
- **Trade:** One thing the Coalition government has in common with other rich economies is the desire to free trade from rules and regulations. But where does the cutting of ‘red tape’ and ‘green tape’ leave the rights of workers, human rights, and the environment?;
- **Employment:** The Queensland LNP government began a campaign of sacking tens of thousands of public servants as soon as it was elected. Similarly, the federal Coalition government sacked thousands of civil servants via the abolition of departments dedicated to human rights and environmental protection like AusAid and the Climate Change Authority in an effort to flush out all the public servants who might contradict policy. While the G20 have an aim of boosting job participation, we have a government that makes it very hard for the young and vulnerable (like single mothers) to get jobs, demoralised as they are by living hand-to-mouth on inadequate emergency welfare;
- **Development:** The government disbanded AusAID and severely reduced Australian aid to developed nations while at the same time vilifying and punishing refugees fleeing nations experiencing unrest. Also on our doorstep, communities are anxious to see that the Torres Strait Coastal Protection Works (Seawalls) Project funding commitments made by the previous government are honoured by the Abbott Government;
- **Investment and infrastructure:** Are we talking about federal support for public housing and mass transit for the poor? Not likely, as well have a national crisis in housing. Infrastructure investment in Australia is targeted at propping up big business and subsidising fossil fuel industries and mining;
- **Tax:** While the G20 want to fight tax evasion, the Tax Justice Network’s latest financial secrecy index, released every two years, which rates countries based on criteria in relation to their ability to promote financial transparency rates Australia 47 out of 100, meaning it must still make “major progress” in offering satisfactory financial transparency. According the Tax Justice Network of Australia, “The ATO has already identified over 100 Australians involved in suspected tax evasion of tens of millions of dollars through the use of ‘shell companies’ and ‘trusts’, largely through secrecy jurisdictions”. The business alliance pushing a corporate wish list at the G20 want to see less “corporate tax, social contribution and personal income tax hikes”, very much in line with the Coalition agenda and an admission that corporations don’t want to be socially responsible if they don’t have to be (B20 ‘White Book’, www.b20australia.info);
- **Reforming global institutions:** Rather than strengthening global institutions like the United Nations, the Coalition government will undermine global cooperation by involvement in the Trans Pacific Partnership Agreement, which effectively sets up a trading bloc where corporations call the shots. It also undermines the democratic rights of citizens everywhere, with its deals done in secret that will turn laws to protect human rights and the environment into trade barriers;
- **Building Global Economic Resilience:** The triple bottom line in the global economy is the Earth itself – it’s resources, clean air and water. The federal and state Coalition governments’ pro-mining stances are eroding sustainability nationwide, while threatening food security

and water resources by opening up farmland, surface water, and groundwater for CSG and coal exploitation and marine ecosystems to LNG and coal export. While Australian corporations may well benefit from the G20, the majority of people in Australia and elsewhere will not. Only a few token organisations will have a say in what happens, through the Civil Society 20 (C20) forum. The C20 is a social and environmental credibility exercise unlikely to deliver real change.

We say NO!

In 2010 FoE released this statement of opposition to the G20 and what it represents.

- We say NO to the G20 and policies that continue to threaten jobs and peoples livelihoods, and erode workers' rights and welfare;
- We say NO to the G20 and policies that cause the expulsion and repatriation of migrants in the name of restrictive and draconian migration policies and rules;
- We say NO to the G20 and policies that use women as safety nets in crisis, and are blind to the differential decision-making powers in the household and economy in general;
- We speak out against the free trade agenda and the push of the G20 governments for more ambitious and comprehensive free trade agreements disguised as economic partnerships but are really instruments of economic domination and control by the rich over the poor within and across countries and regions;
- We speak out against the development agenda of the G20 which threatens peoples' right to food, destroys the environment, and perpetuates unequal access and control over natural resources in support of the profit-driven motives of corporations;
- We say NO to the G20. It does not represent the interests of the peoples of the world and it cannot speak on our behalf.



Anti-G20 Fundamental Freedoms Festival, Toronto, Canada, 2011. Protest t-shirts read: 'I went to the G20 and all I got was ... Arrested, Kettled, Clubbed, Politicized.'

- We call on the peoples of the world to come together against the G20 and to intensify the struggle for a better and more just and peaceful world.

At the end of the September 2013 round of the G20 in St Petersburg, NGOs released a statement calling for "system change" and declaring the G20 unworkable saying: "the G20 ... is the expression of the corporate capture of our governments, a process that has been deepened in the last forty years". (www.ourworldisnotforsale.org/en)

The 2014 G20 Leaders summit will be held on November 15 and 16 in Brisbane, Queensland. We hope you can be there with us.

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Koalas and Blue Gum Plantations



A koala in a bluegum plantation in south-western Victoria.

Anthony Amis

On 27 July 2013, ABC Television's 7.30 Report ran a story called 'Koala's cry at timber's threat'. The report sparked outrage across the world. A petition organised by German group Rainforest Rescue, for instance, was signed by over 85,000 people. Friends of the Earth delivered the petition to Victoria's Environment Minister in November.

The ABC report highlighted the death and horrific injuries to koalas due to logging of bluegum plantations in south-east South Australia and south-west Victoria. Estimates of the numbers of koalas living in the Green Triangle's 170,000 hectare bluegum plantations have ranged from 8,000 to 10,000. But who really knows?

According to an animal carer interviewed by the ABC: "Broken limbs, impact wounds, broken backs, severed arm. Dead mothers with joeys that are still alive, trying to survive. I had one 500 gram joey ... that had two healed broken arms. And so we can only assume from that that the mother had been dropped previous to this incident and she had no obvious breaks, but her intestines were just pulp ... On a recent plantation, we got 28 out and that includes some of them were dead and some of them were alive. There was an original estimate from one of the workers there that were probably over 50 in that plantation. We're not sure what's happened to them."

A follow up report aired on ABC television on 29 October 2013. It revealed that Australia's largest exporter of woodchips, Australian Bluegum Plantations (ABP), owned by Global Forest Partners, had been stripped of its Forest Stewardship Council (FSC) certification, by FSC certifier Rainforest Alliance, and that ABP had to suspend logging in key koala habitat.

One needs to ask the question, why didn't FSC Australia see this coming?

According to the ABC report in October: "The 7.30 report triggered strong denial from the country's largest plantation woodchip exporter, Australian Bluegum Plantations (ABP), which was named in the program. ABP issued its denial via the environmental certification authority, the Forest Stewardship Council of Australia (FSC). FSC ... have been advised by Australian Bluegum Plantations 7.30 showed footage of injured koalas in plantations not owned or managed by them," the FSC statement said. "The footage was old and not involving current processes ... to manage the safety of koalas."

If this was true, then why was ABP stripped of its certification and why was this ever published on the FSC website?

Not reported by the ABC's 7.30 report was the fact that Smartwood/Rainforest Alliance and FSC Australia had been well aware of the controversy regarding plantation companies and koalas for almost a decade prior to the ABP debacle in 2013, but had apparently decided that the issue was not important enough.

Timbercorp and Hancock Victorian Plantations

A 2006 audit of one of ABP's predecessors, Timbercorp, said: "The company does not have a procedure to verify the presence of Koala's prior to commencing harvesting operations. ... The company should establish a monitoring

program to verify the presence of koala's prior to commencing harvesting operations." Why wasn't this done?

Worse still, forest campaigners in the Strzelecki Ranges had also been alerting FSC and the certifier Smartwood/Rainforest Alliance about the destruction of key koala habitat by Hancock Victorian Plantations (HVP) during FSC scoping as early as 2000. Yet by 2008 Smartwood/Rainforest Alliance had effectively washed its hands of the issue, directly undermining local initiatives to protect koalas and habitat by stating in their 2008 audit: "If the koala population requires conserving then it is the State Government's responsibility to list the species accordingly and this has not yet occurred. As such there is no specific reason why HVP as a private land manager should be required to establish conservation measures for a species such as the koala as long as it is not required by the state or federal Government."

With this kind of logic, why have Smartwood/Rainforest Alliance taken action against ABP, when not taking similar action against Hancock? One could assume that a nationally aired television show has far more weight in terms of public relations for FSC certifiers than the long-standing concerns of environmental organisations - even after initial refutations by FSC. Friends of the Earth has learnt of a number of koala deaths and injuries in the Strzelecki region in November 2013 at Willung. Again it appears that these koalas moved into the bluegum plantations from adjacent native forest.

The rapid increase of bluegum plantations planted between 1995-2000, particularly in the Green Triangle region of

South Australia and Victoria, has provided koalas with an additional 170,000 ha of habitat. Existing koala populations have expanded into some of these plantations, as habitat is limited in the region's limited native forests. The plantations provide habitat for a number of years, but once the plantations are felled there is no habitat remaining for the surviving koalas. As a result, up to 10,000 koalas may be killed, either by logging itself, or through starvation once the plantations are logged.

This has created a massive headache for the industry, which is now scrambling for a solution to this intractable problem. The industry announced policy guidelines in October 2013, however these guidelines will not solve the problem of how to manage the thousands of koalas likely to be displaced through logging.

Essentially the policy pledges that before timber harvesting operations, blue gum companies will first assess the number of koalas living in the plantations to be logged, and plan their operations in a sequence that encourages koala populations to move to adjacent reserves or immature plantations. This raises the problem of how does one encourage koala populations to move to adjacent reserves if there are none or if there is limited native forest in the local area.

Friends of the Earth is currently carrying out more research into this issue and is also pushing for the protection of Victoria's only remaining, genetically robust koala population in the Strzelecki Ranges. Donations are always appreciated.



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High ecological value State Forests to be logged in Queensland

Friends of the Earth, Kuranda

The Newman Government has recently announced its intention to log some State forests, including Kuranda State Forest which borders the World Heritage Area. These types of 'ecotone' forests are rich in wildlife and some of the most endangered fauna is dependent on these forest types. It had been the government's policy to merge state forests bordering the World Heritage Area into the World Heritage Area. Logging them before their inclusion is an act of ecological desecration.

The very existence of Queensland's Wet Tropics once hung by a very slender thread. In the 1960s, Australia's very first export woodchip industry was proposed for the Wet Tropics of Far North Queensland (FNQ). The idea was abandoned only after evaluation of the total resource indicated it was inadequate to "service" a woodchip mill for the requisite period. Soon after, the Japanese buyer shifted its attention to Eden in southern NSW.

Nevertheless, a substantial saw-milling industry in FNQ persisted, even though a century of unsustainable logging had already wiped out almost all the old growth forest. By the 1980s, giant trees found throughout the region by European invaders back in the 19th century were almost entirely gone.

After a massive national campaign to "save the rainforests", the Hawke Labor Government declared large areas of the Wet Tropics World Heritage in the late 1980s. It was a popular decision, despite bitter opposition in small pockets where a significant sawmill industry had lingered on. A generous federal compensation package alleviated the economic pain – and tourism received a major lift from the World Heritage declaration.

By the 1990s, the National Party lost power in Queensland. A Labor Government took the far-sighted decision to transition out of native forest logging, state-wide. This spared Queensland some of the fierce environmental conflicts over logging that persist to this day in other states. Some native forest logging continued on private land, but State Forests were managed on the understanding that native forests were no longer viewed as a long-term source of timber.

In centuries to come, as long as we protect the regrowth forests, old growth will slowly be restored in the highly biodiverse Wet Tropics. There are still plenty of environmental concerns, of course – past loss of old growth, fragmentation and the near-complete loss of rare vegetation types means that much of FNQ's unique flora and fauna remains at risk.

The prospect of rapid climate change is an additional factor; studies suggest a continuing loss of species even if we keep all remaining forests intact. However, the absence of a large, entrenched native forest timber industry has given environmentalists in FNQ some sense of optimism that we'd turned the corner on forest protection.

Sadly, that's no longer the case. In 2012, the Liberal-National Party swept back to power with a policy agenda that sets back the clock on some of the hard-won environmental gains of recent times. Whereas Labor was committed to ceasing logging in public native forests, the Newman Government intends to "restore" the industry. This regrettable policy applies to FNQ as well as other parts of the state.

Unfortunately the Hawke Government's World Heritage declaration did not protect all the forests of FNQ. Large areas of private and State-owned forests were left out of the declaration, which was made in a rush without the benefit of modern mapping tools such as GPS. Because the focus of the declaration was protection of rainforests, adjacent areas of wet sclerophyll forest were generally omitted. These are the focus of the Newman Government's new plans to re-start native forest logging in FNQ.

Since there is no longer a timber industry in FNQ reliant of public forests, and given the central importance of tourism to the region's economy, it's hard to understand the rationale for re-starting logging once again.

Friends of the Earth, Kuranda's initial inquiries to the Forestry Department and Parks Service indicated confusion within the bureaucracy over the Newman Government's intentions. Re-starting the native forest logging industry seems to be more a matter of ideology than economics. According to a letter received in 2013 from the Director-General of the Forest Department, "it is expected to be approximately five years before sawlog harvesting commences in Kuranda State Forest and, once started, harvesting operations are likely to be completed in under a year".

If that's really the intention, one wonders why the Government is bothering at all. Why raise employment expectations over a resource that's clearly unsustainable? Why jeopardise the dominant tourism industry for such a trivial and short-term timber grab?

Two State elections are due before the proposed logging of Kuranda State Forest. That's two elections at which we can mobilise opposition and punish offending politicians. If all else fails we will have to call on our friends and supporters around the nation to come visit us in this wonderful area and join us at the front-line.

Watershed on Indigenous rights needed in Victoria

Will Mooney

In February, the Victorian government launched the draft of a new water act at public forums across the state. This new legislation represents a once-in-a-generation opportunity to improve the management of Victoria's rivers and water resources. While public debates about water are often framed as a contest between the rights of irrigators and the needs of the environment, there is a crucial factor that this new draft legislation has all-but ignored: the water rights of Victoria's First Peoples.

Fresh water is vital to the continuity of Indigenous cultures in Australia, the driest inhabited continent on Earth. Victoria's rivers, floodplains, lakes and streams have provided vital economic and spiritual nourishment to diverse Aboriginal nations for at least 30,000 years. Water is the lifeblood of Country. Almost 30% of known Aboriginal cultural heritage places in Victoria exist within 100 metres of a waterway.¹ Traditionally, many Aboriginal people lived alongside waterways and harnessed water resources to develop permanent settlements and sophisticated social and economic systems, such as the elaborate eel farms established by the Gundijmara people at Lake Condah, in Western Victoria.

Today, river-dependent ecosystems provide important food resources, medicinal plants and materials vital for ongoing cultural practices. Waterways connect communities to sacred sites and traditional knowledge. They also sustain totem species, the living, breathing heart of Aboriginal culture. Yet, over-extraction of water for consumptive use and the degradation of river habitats mean that many water-dependent values are in danger. Many Indigenous communities see their river country in a sad state of decline. As waterways suffer, environmental degradation erodes the rich heritage of some of the oldest surviving cultures on Earth.

Water resources are worth big bucks. The estimated gross value of the Victorian water market in 2011-12 was \$519 million.² Aboriginal people have not benefited fairly from the extraction and commercialisation of this resource. Appropriation of land and water resources, discrimination and the forced removal of Indigenous people off country have resulted in serious, ongoing disadvantage. In the Murray Darling Basin, which includes large swathes of Northern Victoria, Indigenous people own less than 1% of water, despite comprising nearly 4% of the population.³

Indigenous people want to build enterprises and employment in their communities, but in many cases, they cannot compete with irrigators and agri-businesses to acquire water on the open market. Yet, with an annual growth rate of 5.8%,⁴ Indigenous communities in Victoria are growing three times faster than the overall population.⁵ This trend is playing out in rural areas across south-eastern Australia. Addressing past inequality and supporting sustainable livelihoods for Indigenous people is integral to the socioeconomic viability of rural Victoria.

Providing water for community development and Indigenous commercial enterprises would create an income stream, helping Indigenous organisations to become self-sufficient and contributing to the overall development and wellbeing of rural areas.

Aboriginal nations across Victoria have articulated the need for water to sustain their cultural traditions and build a viable economic base for their communities. Yet, the new draft water act includes no meaningful changes to meet the needs and aspirations of Traditional Owners and Aboriginal people. Despite a decade of research and advocacy by Indigenous groups, scientists and academics, and sound policy advice from the National Water Commission, the current Victorian Government has left Indigenous rights conspicuously off the water reform agenda.

The expert advisory committee that was appointed by Water Minister Peter Walsh to draft the new legislation could have drawn on a range of innovative approaches already being piloted in other states. Indigenous Water Access Licenses, and Strategic Indigenous Reserves have been government policy in NSW, Queensland and the NT. The National Water Commission, an independent statutory authority that advises COAG on national water issues, has recommended governments consider the creation of a fund to acquire appropriate water rights for Aboriginal people.⁶

In New South Wales, the Water Management Act 2000 mandates inclusion of Indigenous representatives in decision-making bodies and a dedicated Aboriginal Water Initiative advocates for allocations to meet Indigenous needs in Water Sharing Plans. Why don't Victoria's Traditional Owners enjoy the same consideration?

It is high time that the values and aspirations of the First Peoples of Victoria were afforded recognition in the ongoing public conversation about water management. By failing to account for Indigenous water rights in its reformed water act, the Victorian government is missing a crucial opportunity to address past inequality and contribute to sustainable futures for Aboriginal people.

Will Mooney is Community Campaigner with the Barmah-Millewa Collective of Friends of the Earth Melbourne.

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New report shows basic research on nanomaterials is lagging behind commercial developments

Jeremy Tager

A recent US National Research Council (NRC) report on research into environmental, health and safety (EHS) matters relating to nanomaterials provides a disturbing picture of nanomaterials flooding markets all over the world, but EHS work languishing years behind with insufficient funding and priority.

The notion that we can simply release new substances into complex environments without fully understanding the environmental and health impacts of doing so should have died with the cane toad and asbestos. But the power – and absurdity – of the capitalist ethic shouldn't be underestimated. In the world of nanotechnology and extreme free market ideology, a product doesn't need to be assessed for environmental impacts or human safety before being released.

In 2012 the NRC set out an EHS research strategy for beginning to deal with the gigantic gaps in knowledge surrounding the environmental and human health impacts of nanomaterials. That research strategy became part of the National Nanotechnology Initiative in the US, in what was supposed to be an integrated, collaborative effort by many departments to ensure that the development of nanotechnology industries was done well.

A year later, the NRC report, 'Research Progress on EHS Aspects of Engineered Nanomaterials', has analysed progress to date. Of the 20 indicators NRC used to assess progress, there has been little or no progress in 19.

These are not simply arcane research priorities but the basic research and knowledge that are needed both to understand, identify, assess, control and remediate potential impacts. It is the kind of knowledge that is necessary if we are going to have coherent regulation that ensures nanoproducts that aren't safe aren't released and that if unpredicted impacts occur, we have the tools to deal with it.

At a basic research level, the NRC report makes clear that we don't:

- know how to quantify the effects of nanomaterials;
- have instrumentation to measure key properties of nanomaterials ;
- have consistent testing standards and reference materials so test results can be compared and duplicated;
- have the data needed to calibrate and validate models;
- know what critical populations or systems are exposed to nanomaterials.

In trying to assess environmental impacts we don't have:

- basic data relating to impacts on ecologically relevant species;

- data on ecosystem effects of chronic low-dose exposure to various nanomaterials;
- basic information regarding the life cycles of various nanomaterials ;
- information on the complex, synergistic and cumulative interactions of nanomaterials in a variety of complex systems;
- information on exposure potential in different environments such as water, aquifers, soil, air and through wastewater and the food chain.

Our capacity to study impacts of nanomaterials on humans is also limited. For instance, we don't:

- know the toxicity mechanisms of different nanomaterials;
- know which human populations are most exposed to nanomaterials and what levels of exposure are;
- have system-level approaches to understand the impacts of nanomaterials on human health.

And it gets worse. Many of the failings identified by the NRC depend on being able to determine what and where nanomaterials are! It would seem basic that regulators would track what products, what processes, what particles and materials are being used, but industry doesn't like the idea and so Australia has no labelling or disclosure requirements for the nanomaterials in use here.

There are already thousands of consumer products that contain nanomaterials. These include food ingredients, products for toddlers and babies, clothing, materials and appliances – to name just a few. A recent court case in the US found that nano-silver coating on clothing and materials – designated a pesticide in the US – was 'ubiquitous' and that there was no way for consumers to avoid exposure.

While the number of products containing nanomaterials continues to accelerate, there are an increasing number of independent peer reviewed studies indicating that certain nanomaterials may be harmful to both human health and the environment. The lack of basic research identified by the NRC means that studies such as these are more difficult to duplicate, may be given less weight than they deserve and are easier to challenge should they be used as the basis for precautionary regulation.

Despite at least seven agencies having responsibilities relating to nanomaterials, the majority of nanomaterials in Australia remain effectively unregulated. Some agencies keep a watching brief on new developments and new science, but that is very different to filling the gaps in our current research needs or taking a pro-active role in ensuring that the impacts of new nanomaterials are understood before products are released.

For example, Food Standards Australia New Zealand (FSANZ) have indicated that if foods are produced using nanomaterials, they will be subject to regulation. However, FSANZ has apparently undertaken no testing in order to determine if foods in Australia contain nanomaterials - which they almost certainly do. They are apparently waiting for the food companies using nanomaterials in food or packaging to come to them. When they do, FSANZ is unlikely to have the basic knowledge or tools to determine if the foods are safe. So we come back to the NRC report. Sometimes ignorance

is bliss and sometimes it's just stupid. It is critical that governments urgently invest in filling the gaps in knowledge associated with the environmental and human health impacts of nanomaterials. Until that's done there should be a moratorium on any further commercial releases of nanomaterials. In some places that's known as the precautionary principle.

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What's the story with nanoparticles in sunscreen?

Louise Sales

You may have come across recent media reports that “nanoparticles in sunscreen are harmless” on the basis of a recently published study.¹ Sounds good huh? However, unfortunately these reports don't reflect either the study's own conclusions or the current state of the science.

Whilst the results of this lab study are interesting, the study is restricted to zinc oxide and importantly draws no conclusions about the safety of nano-ingredients in sunscreen. It also doesn't look at other nano sunscreen ingredients such as titanium dioxide and cerium oxide. More studies are needed reflecting real life conditions before any conclusions even about the safety of nano zinc oxide in sunscreen can be drawn.

The study found that when white blood cells are exposed to zinc oxide nanoparticles in the lab, they absorb some of them and some of the particles dissolve. Only one white blood cell was looked at for this analysis. It is completely inappropriate to make inferences about safety based on the results of one *in vitro* study.

What do we know about the safety of nano-ingredients in sunscreen?

From the research that has been carried out, we know that surface area plays a key role in the toxicity of nanomaterials. As we reduce the size of particles, the larger relative surface area increases the potential for free radical

production to damage proteins and DNA. Accordingly, the leader of CSIRO's Nanosafety group warned in 2008 that in a worst-case scenario, nano-ingredients in sunscreens could cause skin cancer.²

Our sunscreen regulator, the Therapeutic Goods Administration (TGA), argues that the majority of studies suggest that nanoparticles don't penetrate the skin so there is no reason for concern. However the majority of studies that have been conducted are short term; use excised skin in a lab; fail to consider the role of skin condition (e.g. eczema, acne, sunburn, children with thinner skin); and do not assess the role of penetration enhancers – despite the prevalence of these substances in sunscreens, cosmetics and workplaces.

A 2010 study by Gulson *et al.* found small amounts of zinc from sunscreen in the blood and urine of human trial participants.³ Some scientists have argued that, since the amounts of zinc found in the blood and urine were small there is no cause for concern.

However, one interesting finding reported in a later paper by Gulson *et al.* was that the highest levels of zinc isotope were actually found nine days after the five day application period had ended. The scientists aren't really sure why this was the case. They suggested that the nanoparticles could be accumulating in the skin and acting as a long-term chemical reservoir. This is obviously of concern if they react with sunlight and produce free radicals while they are there. Or they could be accumulating elsewhere in the body – such as the liver or muscle.⁴

The study was not able to show whether the zinc oxide was absorbed in nanoparticle form or whether it dissolved, so this requires further research. Zinc oxide is fairly soluble so it is possible that it dissolves in the body. This may mean that the body's defences will be able to deal with it – since our body has mechanisms to regulate zinc levels. This is why the James *et al.* study¹ is interesting – as it shows that in the lab white blood cells may be able to take up and dissolve zinc oxide nanoparticles. However, further studies are needed before conclusions can be drawn about what really happens in the body.

Furthermore, these findings can't be extrapolated to other nanomaterials used in sunscreen such as titanium dioxide and cerium oxide. Titanium dioxide for example, is less soluble than zinc oxide and not a chemical that our body is naturally exposed to. In fact, the European Commission's Scientific Committee on Consumer Safety recently recommended that certain nano titanium dioxide (TiO₂) ingredients not be used in sunscreen because they strongly react with sunlight to produce free radicals. It also recommended that nano TiO₂ and nano zinc oxide (ZnO) not be used in powder or sprayable products because of the toxicity risk associated with inhalation.

A recent Italian study using pig ear skin found that nano TiO₂ damaged the outer layer of skin. The researchers warned that this could allow nanoparticles and other unwanted chemicals to penetrate the skin – posing a potential human health risk.

The European Chemicals Agency is also currently reviewing the safety of titanium dioxide (including the nano form) because of concerns it may be harmful to the environment and human health. Meanwhile our regulators here have taken no action to remove these ingredients from sunscreen.

Some industry spokespeople have argued there are nanoparticles in everything and that our body does appear to have defences to deal with these. It's true that any finely ground powder will have a small tail end of nanoparticles. However, it can't be assumed that because our body has the defences to deal with occasional nanoparticles that it can deal with products that are entirely comprised of nanoparticles.

It's also important to realise that not all nanomaterials are the same. Their properties, toxicity and the extent to which they penetrate the skin will vary depending on a range of factors including shape, size, surface coating and charge. This illustrates why it is important that all nanomaterials undergo thorough safety testing before they are used in consumer products.

So what can I slip, slop, slap on my skin?

Friends of the Earth recently selected several Australia sunscreens which we hoped were free from untested and unsafe nano-ingredients. We submitted these sunscreens for testing by the Government's National Measurement Institute, with the hope of being able to offer some non-nano sunscreen options to stay sun-safe, while avoiding participating in the nano-experiment. Sadly, all the tested sunscreen products were found to contain a high proportion of nanoparticles. Therefore, we are in the difficult situation of not being able to recommend any non-nano sunscreen products at the moment.

This is not to say we believe all zinc oxide or titanium dioxide based sunscreens are using nano-ingredients. We will continue to research potential options and are hopeful that we will have some brands that we can recommend in the near future.

Unfortunately, many sunscreen products that don't use zinc oxide or titanium dioxide instead rely on endocrine-disrupting chemicals such as 4-methylbenzylidene camphor and octyl methoxycinnamate which we would not recommend using either.

Given the uncertainty over what to slop on your skin, we advise people to closely follow the SunSmart guidelines:

- Slip on sun-protective clothing that covers as much skin as possible;
- Slop on SPF30+ sunscreen – make sure it is broad spectrum and water resistant;
- Slap on a hat that protects your face, head, neck and ears;
- Seek shade;
- Slide on sunglasses – make sure they meet Australian Standards.

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Digging into EIA – Failures in impact assessments

Jeremy Tager

Australia is failing to achieve the objectives of our national environmental law, the *Environment Protection and Biodiversity Conservation Act 1999*, to 'conserve biodiversity' and 'protect the environment'. The latest state of the environment report in 2011 delivered a sobering verdict, with most indicators of environmental health in decline. The verdict has been the same every five years since the first report in 1996.

'When we have a financial crisis we put vast resources into it,' says ecologist Andrew Bennett. 'But we have a biodiversity crisis and nothing happens.' Instead, the current political priority is to increase the pace of development approvals under the EPBC Act by reducing so-called 'green tape'.

Most green critics of the EPBC Act argue that its failings are mechanical, and fixable by amendments, or due to a paucity of political will. I think the failings are more systemic and correctly called 'institutional corruption'. This does not mean that individuals working to administer the EPBC Act are corrupt or that environment ministers take bribes to approve developments. Institutional corruption is the operation of institutional norms and practices that undermine its capacity to achieve its mission. Harvard University researcher Lawrence Lessig likens it to a magnet that pulls a compass needle away from magnetic north.

Let's take a look at the environmental impact assessment (EIA) process under the EPBC Act to consider whether current practices can achieve the Act's objects. It's only one component of the Act, and the EPBC Act is only one of a complex array of state and federal laws, but the federal EIA process is central to environmental protection, intended to ensure that development and other actions don't result in significant harm.

Always say yes

On average, fewer than two projects a year have been refused under the EPBC Act. Over 99% of all developments referred to the federal Environment Minister have been approved or deemed not to be federal matters. In its 13 years of operation, just 12 projects have been rejected following impact assessment and eight as 'clearly unacceptable' at the outset.

An unknown number of projects haven't proceeded because proponents were advised that approval was unlikely. Conservationists have celebrated a few decisions,

such as the refusal to dam the Mary River or extend phosphate mining on Christmas Island, but refusals stand out for their rarity. In effect, assessments under the EPBC Act are rarely to determine whether a project should proceed but rather what conditions to apply.

There has also been an increasing trend to substitute conditions of approval for pre-approval processes. As noted in the 10 year review of the EPBC Act, 'environmental management plans should not be used to gather information that was actually needed before the approval decision was made'. Conditions of approval have included requirements for research and baseline monitoring, which should be part of the EIA. Placing them in the post-approval process removes them from public scrutiny and from the decision process.

Condition 10 of the recently approved Alpha mine and rail line is typical. It requires a post-approval survey of species and habitat in the Ramsar-listed Caley Valley Wetland, through which a rail line has been approved, and for the proponent to develop ways to avoid or mitigate likely impacts and to rehabilitate.

A condition of approval of Queensland's Paradise Dam to limit impacts on the lungfish, a globally-significant species found naturally only in two rivers, was to build fish transfer devices to allow it to move upstream and downstream. Monitoring demonstrated that the devices haven't been effective - they frequently didn't operate, and when they did, many lungfish died. The environment department has ruled out taking action, deeming that building the devices satisfied the condition of approval even if they are ineffective and harmful.

Significant impacts ignored

The EPBC Act requires assessment of actions likely to have a significant impact on designated 'matters of national environmental significance', of which there are nine, including threatened species, ecological communities and world heritage properties. Proponents are required to refer their project to the Commonwealth if they think it is likely to have a significant impact, and the environment minister then determines whether an action needs to be assessed and what level of assessment is required.

Just 50 or so projects a year are deemed significant enough to require federal assessment. This is about one-quarter of the projects referred to the Commonwealth and a fraction of developments and actions impacting the environment.



The Queensland environment department ruled that building lungfish 'transfer devices' satisfied the EIA approval condition even though the devices have been ineffective and harmful.

The matters not referred include some that surely should be. The recent Queensland government decision to allow flooded mines to dump, untreated, their contaminated waters into rivers systems that drain into the Great Barrier Reef Marine Park (GBRMP) wasn't referred and a Freedom of Information request made to the GBRMP Authority uncovered not a single document assessing or discussing the potential impacts.

Many of the actions having the greatest impact on our environment are not considered national matters, including those that contribute to climate change, land clearing, logging, dams and water extraction, invasive species and damage to national parks. In reality, most big dams or mines are referred to the Commonwealth for assessment but usually only for a narrow subset of impacts. The China First coal mine proposal, for instance, is being assessed under the EPBC Act for impacts on a very few threatened species and communities but not for its destruction of a nature refuge property or the climate change consequences of burning the coal produced.

The law of small pieces

Because each 'action' is assessed as a discrete project and a proponent is not generally held responsible for the actions of others, an EIA often occurs in an environmental vacuum, ignoring wider and cumulative consequences of actions. The recent impact assessment of dredging and sea dumping for expansion of the Abbot Point coal terminal didn't consider the impacts of more terminals that will be built to take advantage of the dredged areas. Coal mines are approved separately from port expansions needed to accommodate them.

There are provisions in the EPBC Act for strategic assessments of cumulative impacts, but they are being used to lock in approvals for a suite of developments. The recently announced Strategic Assessment for the Great Barrier Reef recognised that multiple port expansions represent a threat to the health of the Reef, but it will not prevent approvals for mines, rail lines or ports while under way. By the time the assessment is complete, most of the major developments on the books will be under assessment or already approved.

Science for sale

Impact assessments are the basis for decisions, management, implementation, monitoring and enforcement under the EPBC Act. But they are produced by consultants hired by developers, and there is no requirement for peer review, which is standard scientific practice, nor professional standards that consultants must meet.

Researchers across several different fields have found that 'industry-funded studies are several times more likely to produce results favourable to the industry sponsor' (*Nature*, 2005, Vol.435, pp.737-8). In a 2005 survey of US scientists, 15% admitted to altering a study's design, methodology or results in response to pressure from a funding source. There are far fewer constraints on EIAs to limit the influence of funders.

The Ecological Society of Australia says, politely, 'There is much concern over the standard of science during the process of EIA in Australia', and recommends that EIAs be subject to peer review. The peak body for environmental practitioners, the Environment Institute of Australia and New Zealand, criticises the variable quality of EIAs due to the lack of professional standards in the consulting industry and government. No one knows whether predictions of impacts in EIAs are accurate because so little work has been done in assessing their accuracy. Limited compliance audits are undertaken by the environment department but no audits of the predictive accuracy of EIAs.

Information about much of Australia's biodiversity is lacking but EIAs rarely require new scientific studies. The snub fin dolphin was discovered in 2005 but rejected for listing under the EPBC Act because of insufficient data. Although dolphin researchers have said that it may be vulnerable to local extinctions due to habitat modification and increased shipping, no developer is being required to fill knowledge gaps for developments that will destroy its habitat or increase shipping.

Degraded baselines

Fisheries scientist Daniel Pauly coined the term 'shifting baseline' to refer to the tendency of fisheries scientist to accept current stock levels and species composition as the

baseline for sustainability assessments. EIA baselines are almost invariably the current condition of a development site. This masks changes that have occurred over time, reduces the significance of further changes and ignores the potential for recovery. Creeping environmental degradation is accepted as the norm.

When a second attempt at developing Nelly Bay Harbour on Magnetic Island was initiated, the EIA used as a baseline the condition of the site following the previous failed development that had been approved by the same regulators. This included a destroyed headland and a mountain of rock dumped in the Great Barrier Reef Marine Park. In the court case that followed, the regulators argued that the site was already 'degraded'.

This 'degraded site' argument has also been made for massive liquid natural gas developments on World Heritage Curtis Island. Although it has been part of the Marine Park for 40 years, the Great Barrier Reef Marine Park Authority has argued that the southern end of the Island is already degraded, thus justifying additional damage.

Baselines are even being shifted to the future! An approval condition for dredging at Hay Point, a coal port expansion project in North Queensland, is: 'Prior to the commencement of dredging and disposal, *or as soon as possible thereafter*, a baseline survey will be conducted to establish the monitoring sites and collect baseline data' (italics added).

Offsets

Instead of 'unavoidable impacts' being cause for project refusal, offsets for 'unavoidable impacts' are increasingly being used as a condition of approval. This is so even when there is no possibility of a 'like for like' exchange.

Many offsets are simply a sum of money – in effect, biodiversity is for sale. Offsets are promoted as a way of ensuring 'no net loss' of biodiversity, but this is generally not possible, as ecologist Hugh Possingham told ABC Radio: 'Biodiversity is not fungible, it is not possible to trade it from one place to another and hope to retain its value; biodiversity is dependent on where it is in the landscape (place) and when it is (time).'

Possingham explained how biodiversity ultimately loses from offsets: 'I'm going to conserve this 1000 hectares if you let me destroy that 1000 – in the end that just means we destroy half of everything that is left, which isn't at all acceptable. If you were to turn 1000 hectares into bare ground, or urban development, then you should have to

turn bare ground into 1000 hectares of native vegetation. Show me somebody who has done that; show me somebody that reconstructed an ecosystem from scratch. Nobody's done that. Ever!'

Limited public influence

The extent of public influence and public rights under the EPBC Act are limited and diminishing. Conservationists and community groups can challenge only the process of most decision-making rather than the merits of decisions. Some review rights were curtailed and abolished in 2006. The most recent case, which overturned approval for the Shree mine in the Tarkine, was won because the Environment Minister neglected to consider a particular document in his decision. The mine has now been approved because that document has now been 'considered'.

Much goes on in EIA processes that is not subject to public scrutiny. With approvals assumed, the negotiations over what conditions of approval should be imposed excludes affected communities and objectors.

Tinkering is not enough

When a regulatory regime is failing to achieve its objects but government proposes to weaken it, when it green-lights almost all developments referred and covers only a narrow portion of environmental impacts, it suggests the system isn't broken so much as it is fixed – fixed to deliver the interests of corporate Australia. Although, as Janis Birkeland writes, decision-making systems almost invariably 'develop an inherent bias in favour of the powerful', we should not shrug it off as 'the inevitable consequence of democratic processes'. The need for active community resistance never ceases.

The EIA deficiencies canvassed here suggest some obvious reforms – for example, requiring assessment of major impacts such as land clearing and large greenhouse gas emissions and for EIAs to be conducted by independent experts and peer reviewed. But to achieve these and other reforms needed to realise the objects of the EPBC Act will require more fundamental governance reforms to curtail the 'economies of influence' undermining institutional purpose.

Jeremy Tager has spent far too much of his life reading and making submissions on EIAs. With a background in law, he has worked for conservation groups and government, and is currently a campaigner with Friends of the Earth's Nanotechnology Campaign.

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By the time the 'Strategic Assessment' of the Great Barrier Reef is complete, most of the major developments on the books will be under assessment or already approved.



Connecting with Torres Strait Islander communities on climate change

Wendy Flannery

Since early 2013 the Climate Frontlines collective of Friends of the Earth, Brisbane has been involved in developing and implementing a project titled, 'Climate Advocacy with and for the Torres Strait Islands communities'.

Some efforts to highlight the islanders' situation had been made in 2004, in both FoE Australia and FoE International publications on climate justice. Towards the end of 2012 the capacity to engage with these communities in a more focused way became possible through enhanced Climate Frontlines membership following Pacific-focused consultations in September and October of that year, and through the successful application for a grant through the Australian National Committee for UNESCO.

The aim and objectives of the project were framed in this way: The Torres Strait Islands are particularly vulnerable to climate change due to geographic, cultural and socio-demographic factors. Previous research has shown that higher temperatures, rising sea levels and changes in climatic conditions are already having an impact on island communities. Of particular concern are low lying islands of Boigu and Saibai in the northwest and the central coral cay islands of Iama, Masig, Poruma and Warraber.

Protecting island communities from the threat of climate change requires the support of the Australian public. By gathering, documenting and sharing Torres Strait Islanders' stories on climate change, the project aims to educate the



Uncle Thomas Sebasio at a National Day of Climate Action rally in Brisbane.

Australian public about the plight of the islands and to strengthen advocacy efforts to ensure relevant levels of government are responding to the concerns and needs of the communities in the Torres Strait.

The specific objectives of the project are:

To educate and mobilise support from the Australian public on climate change issues in the Torres Strait;

To develop a strong collective voice for advocating on the adaptation needs of Torres Strait Islander communities;

To positively influence government policy and decision making processes to ensure timely and culturally-appropriate responses are delivered to increase the adaptive capacity of the Torres Strait Island communities.

Key to the development of the project were initial efforts to build connections with key elders and leaders in the Torres Strait Islander community in Brisbane, several of whom have become closely involved with the ongoing planning, implementation and evaluation process.

Strategic initiatives undertaken to implement the project include:

- Two visits to the Torres Strait by a two-person project team, Uncle Thomas Sebasio, Brisbane-based elder, originally from Erub (Darnley) Island in the eastern Torres Strait, and Kate Morioka, a key member of the project team;
- Three public events following the first visit, one with the Torres Strait Islander community on the south side of Brisbane, a public event in Brisbane city, and a public event in Cairns on February 28;
- Organising an MOU for the use of a website set up by two Sydney-based researchers to highlight climate change in the Torres Strait www.torresstraitclimate.org;
- Negotiating public screenings of 'Dire Straits', a short film on the impact of combined extreme weather events and king tides on Saibai Island;
- Developing a network of organisational and individual collaboration within the Torres Strait, and in the wider community;
- An online petition on change.org and a parallel postcard campaign to advocate for the release of promised funding from the federal government;
- Efforts to generate mainstream media interest, and on-going contact with the two main media outlets in the Torres Strait, Torres News and Radio 4MW; a recently recorded interview with Uncle Thomas Sebasio can be heard on www.torresstrait.climate.org;
- Establishing a link with the UQ Centre for Communication and Social Change, especially with a view to exploring channels for documenting community experiences of climate change in the Torres Strait.

In support of persistent efforts on the part of the Torres Strait Regional Authority, initial advocacy efforts of the project have focused on infrastructure to protect threatened island coastlines from coastal erosion and flooding, a process that is speeded up with every extreme weather event. At a meeting of the Senate Estimates Committee in November 2013, Senators Christine Milne

and Jan McLucas lobbied hard for promised commitments to the Torres Strait to be honoured. The Abbott Government confirmed on December 4 that it would release from the Regional Development Australia Fund \$5 million of the \$12 million promised for the Torres Strait Coastal Protection Works (Seawalls) Project. The remaining \$7 million from Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs remains in limbo and the project will continue to advocate for this to be released.

With the one-year UNESCO grant period about to finish, the Climate Frontlines collective is faced with the challenge of how to continue the momentum of the project, knowing that it has already gathered significant support from Brisbane-based elders and community members, and increasingly from community leaders within the Torres Strait. Two key funding requirements will be for travel to the islands to maintain connections and documentation of on-the-ground experience as the impacts of climate change gather momentum. In the next stage of the project, the collective anticipates the need to explore the complexity of the impacts on the lives of Torres Strait Islander communities as they face an uncertain future.

Wendy Flannery convenes the Climate Frontlines collective in Friends of the Earth, Brisbane.

Brisbane Symposium: Climate-related displacement and migration

When people have to move: Climate change related displacement and pre-emptive migration pathways in the Australia-Pacific region

Date: Friday 23 May 2014

Cost: Free

Venue: P Block, QUT Gardens Point Campus, Brisbane City

For registration information, contact wendy.flannery@foe.org.au

A one day interdisciplinary symposium hosted by Friends of the Earth and the Faculty of Law, Queensland University of Technology, to explore the potential solutions for addressing the emerging challenge of climate change related displacement in the Australia-Pacific region. The symposium will draw on knowledge and experience from academia, civil society and government in examining existing legal and policy frameworks and envisaging new migration pathways and alternative responses.

Themes to be addressed include:

Setting the Scene: Experiences of Displacement

Overview of International Frameworks

The Pacific and International Negotiations

Migration Pathways: Programs and Experiences

Panel Discussion: The Way Forward

Mock Trial: Climate 'Refugee' Application

Climate change displacement and the need for pre-emptive, managed migration

Claire van Herpen

Awareness of climate change has risen significantly over the past 30 years and while there is still a long way to go in terms of reducing carbon dioxide emissions, global agreements have been established in an attempt to address the problem. Less attention has been paid, however, to the human rights implications and the impacts that climate change is likely have on millions of people in the future, with the biggest concern being human mobility and displacement. From this perspective, climate change related displacement has been referred to as the greatest threat to human security in the 21st century. Despite dire predictions, victims of climate change displacement do not meet the United Nations legal criteria of a refugee and are therefore not protected under existing international refugee law and frameworks.

The effects of climate change are already palpable in many areas across the globe and one only needs to watch or read the news to see that rising sea-levels, desertification, resource depletion and increasingly frequent and severe natural disasters – something that climate scientists have been warning for many years now – are adversely impacting communities all over the world. Over the last three months alone, we have seen record flooding in Indonesia, snowstorms throughout North America, severe storms and flooding in the UK and record heat-waves and bushfires in Australia. The most deadly disaster, Typhoon Haiyan, the strongest storm on record to ever make land fall, killed over 6,000 people in the Philippines in November last year and left millions displaced.

According to the UN High Commissioner for Refugees (UNHCR), more people are now displaced by natural disasters than conflict and the organisation warns that environmentally induced displacement and migration could take on unprecedented dimensions, with predictions about the potential scale of such movement ranging from 25 million to one billion people by 2050.¹ The International Organisation on Migration (IOM) projects that the number of people that will be displaced by climate change could reach 250 million by 2050.² If these predictions eventuate, the number of people who will be displaced by climate change will dwarf that of traditional refugees.

Climate change displacement is not some far away, abstract threat – not least for Australia's neighbours in low-lying Pacific Island nations, including Tuvalu, Kiribati, the Marshall Islands, and island groups in many of the larger

nations such as Papua New Guinea, Solomon Islands, Fiji and Tonga. Several low lying “coral cay” islands in the Torres Strait are also under serious threat. According to a recent report released by the London School of Economics, by 2050, Pacific nations could be grappling with up to 1.7 million climate migrants.³

At present, there is no internationally recognised term which defines those who are forced to migrate as a result of climate change impacts. Under the 1951 United Nations Convention Relating to the Status of Refugees, or the Refugee Convention as it's more commonly referred to, a refugee is legally defined as someone who has been forced to flee outside the country of his/her nationality, on the grounds of “a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion”. Under this definition, no provisions for climate-induced displacement exist. While the terms “climate change refugee” and “environmental refugee” are used and preferred by many environmental human rights advocates, these definitions remain contentious and have no legitimate basis in international law. For the purpose of this article, the term “climate change displaced person” (CCDP) has been used to identify those who are displaced due to the effects of climate change.

While the UNHCR is legally required to assist refugees fleeing conflict or persecution, it has no mandate to assist trans-border CCDPs. It has, however, recognised the increasing number of people displaced by climate change and acknowledged some minor involvement in assisting those who have been internally displaced as a result of environmental issues. Despite this acknowledgement, the organisation is already struggling to provide assistance to over 15 million existing refugees across the globe and one must question its capacity to provide adequate protection to this new class of displaced persons without undermining its current core obligations.

Paradoxically, developing countries, who are amongst the lowest carbon dioxide emitters, are the most vulnerable to the impacts of climate change and displacement and this raises serious ethical implications.

Nations and perhaps even multi-national corporations, who have contributed the most to (and have economically benefited from) carbon dioxide emissions have an undeniable moral obligation to play a lead role in establishing, implementing and financing a framework that

encompasses climate change mitigation, adaptation and pre-emptive managed migration systems.

In 2008, Mary Robinson, the former UN High Commissioner for Human Rights stressed the need for developed countries to realise this ethical responsibility, declaring that: “we must not lose sight of existing human rights principles in the tug and push of international climate change negotiations. A human rights lens reminds us there are reasons behind economics and enlightened self-interest for states to act on climate change.”⁴ In 2012, Robinson, went on to establish ‘The Mary Robinson Foundation – Climate Justice’ as a centre for leadership, education and advocacy for justice for those particularly vulnerable to the impacts of climate change.

Climate change displacement is an extremely complex and multi-faceted issue. It is often inextricably linked with other major contributing displacement factors such as development projects, population, socio-economic pressures and political instability. According to Jane McAdam, one of Australia’s leading authorities on climate change displacement, it is virtually impossible to say that climate change will be a sole reason why people migrate. Rather, climate change acts a “threat multiplier” in that “it impacts on pre-existing vulnerabilities or stresses and exacerbates existing socio-economic factors”.

Kiribati

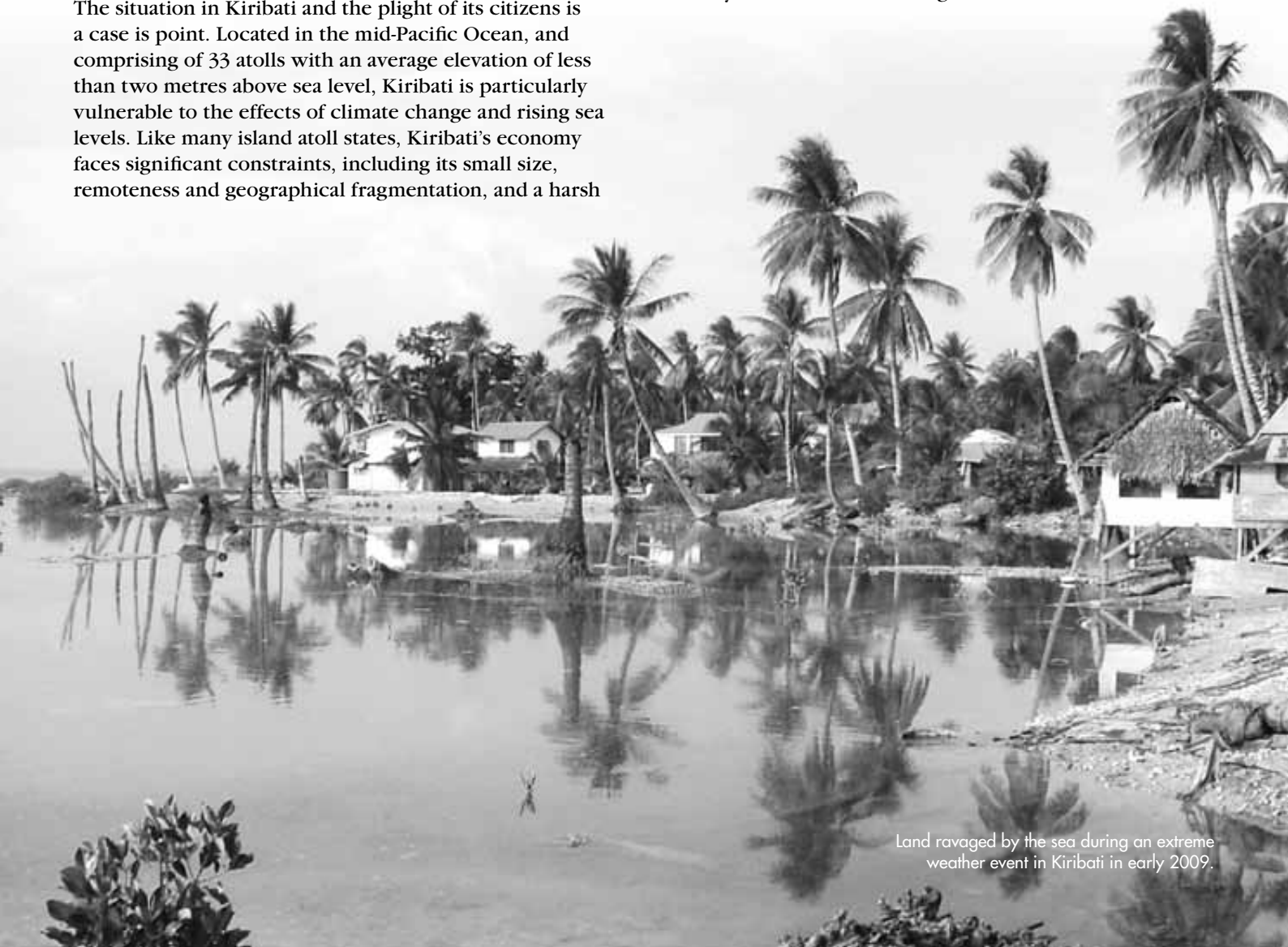
The situation in Kiribati and the plight of its citizens is a case in point. Located in the mid-Pacific Ocean, and comprising of 33 atolls with an average elevation of less than two metres above sea level, Kiribati is particularly vulnerable to the effects of climate change and rising sea levels. Like many island atoll states, Kiribati’s economy faces significant constraints, including its small size, remoteness and geographical fragmentation, and a harsh

natural environment with infertile soils. Kiribati’s economy relies heavily on fishing licence fees and remittances from Kiribati citizens employed abroad, mainly as seamen on foreign ships.

Kiribati’s 100,000 inhabitants live a subsistence lifestyle and the country is already experiencing severe population and socio-economic pressures and growing unemployment. On top of this, for several decades, rising sea-levels have led to the inundation and erosion of key areas of land and storm surges have (and continue to) contaminated the fresh groundwater lens. Thousands have already been forced to relocate further inland and urbanisation is rapidly increasing. According to McAdam, some areas of the main island, Tarawa, now have “an average population density of 135.1 people per sq km – greater than that of Hong Kong, but without high rise buildings”. Inevitably, it is very likely that the entire population of Kiribati will eventually have no other option but to relocate.

Perhaps most striking is the sad irony and injustice regarding cause and effect. Kiribati’s per capita carbon dioxide emissions are a mere 0.3 tonnes – minute when compared to Australia’s per capita emissions of 28 tonnes.⁵

Can this crisis be effectively addressed by expanding the mandate of the Refugee Convention to include “climate change refugees”? The short answer is no. This option tends to be the “default” policy response to the situation and may seem like the most logical course of action.



Land ravaged by the sea during an extreme weather event in Kiribati in early 2009.

The overwhelming consensus of human rights scholars and experts in the field, however, is that an expansion of the existing refugee regime would be a counter-productive response for several key reasons.

Firstly, the vast majority of CCDP's affected will be *internally* displaced, thereby falling outside the scope of the Refugee Convention. The Guiding Principles of Internal Displacement, established in 1994, provides an advocacy and monitoring framework to assist and protect these victims, although, as is often the case with international environmental and human rights law, it is not legally binding. Secondly, such a move would compromise the protection of existing refugees and potentially undermine the protection of CCDPs. The UNHCR already struggles to protect roughly 15 million refugees whose status is clearly defined. In addition, the Refugee Convention deals only with adaptation and does not have the capacity to establish and incorporate long-term pre-emptive, managed migration. This is really what it all boils down to: acknowledging the problem and planning so that victims of climate change displacement don't become "refugees" in the first place. The sheer scale and complex nature of climate change displacement requires a specialised solution. A "one size fits all" policy response is not going to be effective.

The most effective way for the international community to protect victims of climate change displacement is through the establishment of a specifically designed, stand-alone and legally-binding convention which incorporates mitigation – in cooperation with the United Nations Framework Convention on Climate Change (UNFCCC) – adaptation, regional and international cooperation and forward-planning.

Longer-term solutions

While adaptation efforts may go a long way in helping to ease the impacts of climate change and delay the forced migration of civilians, longer-term solutions must also be established. McAdam, who has spent a considerable amount of time on the ground in Kiribati consulting with members of government and civilians, believes managed migration could potentially be the most effective mechanism to address displacement in Pacific Island nations where slow-onset change will inevitably lead to trans-border displacement. She notes that the President of Kiribati, Anote Tong, has been very vocal in promoting "merit-based migration" or "migration with dignity", in which citizens (particularly the young) could apply for overseas working visas in advance.

Tong is keen to skill up the population of Kiribati as a means of providing citizens with labour skills to be of use abroad and contribute at home in the meantime if they are unable to migrate. At the World Environment Conference in New Zealand in June 2007, Tong outlined this plan and highlighted the importance of taking pre-emptive action, stating: "[W]e want to begin that [migration] now, and do it over the next 20, 30 or 40 years, rather than merely, in 50 to 60 years time, simply come looking for somewhere to settle our 100,000 people because they can no longer live in Kiribati, because they will either be dead or drown.

We begin the process now, it's a win-win for all and very painless, but I think if we come as refugees, in 50 to 60 years time, I think they would become a football to be kicked around."

There are many benefits of a managed migration system: population pressures can be alleviated, more citizens can remain for longer than if everyone were forced to stay put (a common desire amongst many older civilians), remittances from migrants could contribute to further adaptation funding in Kiribati and perhaps, most importantly, McAdam explains, "it would allow younger people to move to other countries, earn a living, send remittances back home and be seen as valued contributors to their new country, rather than being seen as charity cases".

Claire van Herpen is a Melbourne-based member of Friends of the Earth's Climate Frontlines Collective who, in 2012 completed her Masters dissertation on climate change displacement and the need for a new international framework. For more information on FoE's climate justice campaign or to read Claire's dissertation in full, visit <http://foe.org.au/forced-climate-migrants>. The author welcome queries or feedback and can be contacted at cvanherpen@hotmail.com

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Friends of the Earth, Australia has been working with Pacific Island communities to raise awareness of the effects of climate change on Australia's nearest neighbours. We have been heavily involved in a Climate Justice campaign which began in 2002 and focuses on vulnerable communities, particularly in the Pacific Islands region. We are also supporting the Tulele Peisa ("sailing the waves on our own"), a local community organisation in Papua New Guinea that is implementing a "pre-emptive, managed" relocation of Carteret Islanders to mainland Bougainville in response to the impacts of climate change.

Seaspray residents vow to do whatever it takes to protect land

Phil Evans and Noah Beecher Kelk

In a show of determination and courage, residents of coastal Victorian town Seaspray have taken a pledge to “do whatever it takes to protect water, soil and air, even if it means taking part in peaceful direct action and risking arrest”. Residents took the pledge near the site of the Wombat 5 drill site which Lakes Oil, a company backed by Gina Rinehart, has earmarked for further exploration for ‘tight gas’.

Growing pressure from community groups across the state, Friends of the Earth, Lock the Gate and Quit Coal saw the moratorium on the hydraulic fracturing (‘fracking’) process extended until 2015. However the current moratorium does not cover all exploration activities, including drilling techniques that involve similar risks to the fracking process. Lakes Oil has applied to explore further for tight gas in the area using a ‘horizontal drilling’ technique, which will not be covered by the moratorium.

Lakes Oil’s Rob Annells said in *The LaTrobe Valley Express* last year that the process “would involve a horizontal drill at 1500 metres below the surface. As you drill vertically down, the rock gets tighter and tighter. The rock that we’ll be accessing was on the surface millions of years ago, so the permeability is better than what you’re looking at another 1000m deeper ... by keeping ourselves within that top weathered zone and going horizontal within it, we believe we’ll get that (gas) flow naturally, without any artificial stimulation, which hopefully will be commercial.”

The company wants to proceed with the project despite 98% of the Seaspray community opting to declare their town gasfield-free last year, and in direct contradiction to Premier Napthine’s assurance in November that: “We will never, ever allow onshore gas, if it jeopardises our underground water, if it jeopardises our environment, and if it jeopardises our food and agricultural production”.

The process Lakes Oil wants to use is dangerous because a shallow aquifer near the well could easily become contaminated by fugitive methane emissions. There are also fears that the casing of the well may fail and contaminate the water, which is extremely likely after several years

Lock the Gate’s Victorian co-ordinator, Ursula Alquier, laid down an election-year ultimatum to the government and their junior coalition partners: “Without assurance from [Victorian National Party leader] Mr Ryan and the Premier to protect rural communities like Seaspray as promised in November, we will be left with no other option but to commence peaceful direct action and blockade Lakes Oil if they attempt to drill here again.”

Quit Coal and CounterAct, campaigns running out of Friends of the Earth, have been working to train and support the local community in developing skills that they will require to successfully deploy peaceful direct action tactics and have also promised to actively support the community should the need for such non-violent direct action arise.

The community’s pledge is even more courageous in light of the current push by the Napthine government to make changes to the Summary Offences and Sentencing Act. The changes to the laws will mean that police will have increased powers to issue move-on notices to demonstrations, pickets, and blockades, and to issue on-the-spot fines of approximately \$700. Furthermore, the new police powers will mean that individuals may be barred from areas like the Melbourne CBD or Seaspray for up to 12 months, and face prison sentences of up to two years if they do not comply.

Residents of Seaspray, along with Quit Coal and Friends of the Earth activists were amongst the 3000 strong, union-led group that rallied in Melbourne city on Tuesday February 18. They called for an end to Napthine’s ‘Silencing Act’ and demanded that the government uphold the right to demonstrate.

More Information

quitcoal.org.au
counteract.org.au
lockthegate.org.au



The lies about renewable energy's cost

Ben Courtice

The Abbott government is conducting a review of Australia's Renewable Energy Target, which is for 20% of projected energy generation to be from renewable sources by 2020.

Recent commentary has focused on the scandalous appointment of prominent climate change deniers and fossil fuel industry heavies making the review panel look more like a lynch mob for renewable energy. Dick Warburton, who will head the review, is on the public record denying climate science.

Underlying such scandalous appointments, however, is something simpler and less absurd than flat-earth climate change denial. The big energy generators – private and state entities, who run the big power stations – are finding their profits squeezed by the growth in renewable energy.

Last August, the head of the giant generator and retailer AGL, Michael Fraser claimed that there was around 9000 megawatts of oversupply in the national electricity generation sector. That is more than the entire generation capacity of Victoria, almost a third of the national baseload generation capacity.

Fraser made the comments in relation to constructing a solar power station in western NSW. RenewEconomy reported that to agree to proceed, "AGL Energy sought extra funding from the Australian Renewable Energy Agency to make up for equivalent estimated falls in wholesale electricity prices." ¹

Adding extra capacity when there is already overcapacity drags down the wholesale price. The Renewable Energy Target (RET) mandates that by 2020, 41000 gigawatt-hours of electricity must be generated by renewables. In order to meet this target, extra renewable energy generators have to be built.

That's why big generators and business associations have been calling for the Renewable Energy Target to be lowered, delayed, or both – it is making their existing investments less profitable.

Australian Chamber of Commerce and Industry economist Burchell Wilson told the ABC 7:30 report that the Renewable Energy Target "is high-cost, it's inefficient as a means of abating carbon" and that "we should scrap it altogether".²

In fact, the RET has been the most effective driver of abating carbon: without it, all those gigawatts would be coming from burning coal and gas, generating a lot more pollution, with or without the carbon price.

But on one point, Wilson is partially correct. The RET is "high-cost" – but only if you own a big fossil fuel power station.

Of course, household electricity consumers have seen massive rises in electricity bills in recent years. That's why conservatives like Abbott and Wilson talk about "high costs" in the hope of gaining their audience's sympathy. Prime Minister Tony Abbott, speaking with radio shock-

jock Alan Jones about renewable energy, said that "if it goes too far it becomes very, very costly."

If the economics were as simple as they make out, politicians would never get away with lying. Common wisdom has it that you can tell when politicians are lying because their lips are moving. So we need to look at the facts, not just the words that come out when Abbott's lips move.

The RET has not been a significant cost to household energy prices. As Melbourne University researcher Dylan McConnell explains, "According to the last national review of the Renewable Energy Target, \$15 a year from now to 2031 is all that an average Australian household would save" if the RET were scrapped.³

What's really driven up electricity prices, if not climate action? It can seem complicated, because the electricity markets have been set up with a complicated structure, but the main cost is quite simple: the distribution network (power lines and substations) has been heavily upgraded to cater to rising peak power use.

That peak power use is in turn driven by such things as the massive increase in air-conditioning over the past 10 years. Instead of investment going into government programs that reduce demand and peak demand (like the abandoned Home Insulation Program), big energy corporations (and state government bodies) have invested in upgrading the distribution network to accommodate growing peak demand. And why wouldn't they, when peak demand is such a money-spinner for them?

As well as insulation, rooftop solar panels massively reduce the super-profits that power generators receive when demand peaks: houses are drawing power from their solar panels, instead of buying at high peak prices from the grid.

Solving this problem for the big electricity generators means scrapping the RET. It might also mean seeking big handouts to close down some large coal power stations. While the latter may sound partly good, its only significant effect would be to make the remaining coal generators more profitable, as there will be less of them competing to supply the market with the same amount of coal power.

For ordinary households, who do not care so much about share prices in coal power generation, high pollution is a concern as well as high bills. Renewable energy remains very popular, despite years of efforts to paint it as inefficient and expensive. Energy efficiency is gaining in popularity too.

To act to stop climate change, a revolution in our energy supply is unavoidable. And there is no such thing as a "win-win" revolution: the old industry must lose out to make way for the new.

Those who want more renewable energy have to challenge the foundation of the current system: a market in electricity, that rewards those who sell a lot of it, not those who conserve energy; a market that gives great power to large,

incumbent businesses with near-monopoly control, against dispersed, less concentrated renewable energy generation. The appointments to the RET review panel confirm that the narrow, short-term, and unscientific interests of fossil fuel investments are being put ahead of a scientific approach to energy security and environmental protection. All there is to sweeten it is a fresh brace of politicians' lies about keeping costs down for families.

When you look at it that way, the attack on renewable energy is by no means guaranteed to succeed – if the truth gets out.

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Electricity privatisation – a record of failure

Australian economist Prof. John Quiggin has launched a scathing attack on energy sector privatisation, concluding that it has failed to deliver promised benefits for consumers. Quiggin's report, titled 'Electricity Privatisation in Australia: A Record of Failure', was commissioned by the Victorian branch of the Electrical Trades Union and launched at Parliament House in Brisbane on February 20.

The report draws on Quiggin's 20 years of work on this topic and includes case studies of the various states where privatisation proposals have been put forward. The report also considers the market reform process which gave rise to the National Electricity Market. Quiggin views the reforms as having been fundamentally misconceived, relying on prices to perform a range of incompatible functions, while leaving retail prices largely unrelated to the actual cost of electricity generation and distribution.

Key findings include:

- price rises have been highest in states with privatised electricity networks;
- customer dissatisfaction jumped, with complaints to the energy ombudsman in privatised states leaping from 500 to over 50,000 per annum;
- resources have been diverted away from operational functions to management and marketing, resulting in higher costs and poorer service;
- reliability has declined across a wide range of measures in Victoria;
- promised increases to investment efficiency have not occurred;
- real labour productivity has reduced as employment and training of tradespeople was gutted and numbers of managerial and sales staff exploded;
- private owners are receiving unjustifiably high rates of return based on the low investment risk; and
- consumers in privatised states bear the cost of approximately 10% per annum interest on private owners' debt, compared to substantially lower government borrowing costs of 3%.

Quiggin said: "Privatisation, corporatisation and the creation of competitive electricity markets were supposed to give consumers lower prices and more choice, promote



efficiency and reliability, and drive better investment decisions. But after twenty years the evidence is that none of these promised improvements have been delivered.

"After a marked fall in real electricity prices across Australia from the 1950s until the mid-1990s under public ownership, privatisation and the introduction of the National Electricity Market led to a reversal of that trend. Prices have risen dramatically. A secure low-cost supply has been replaced with a bewildering array of offers, all at costs inflated by a huge expansion in marketing.

"My research comprehensively finds that the free market based reform process in energy has been a failure. Reforms have failed to deliver a competitive market that benefits consumers. The evidence is there that public ownership of critical energy infrastructure is the only sensible response."

The report is posted at: <http://tinyurl.com/quiggin-etu>

Abbott government's wind energy health review unnecessary



Leigh Ewbank

The Abbott government has ignored all previous evidence on the matter to announce yet another review of wind energy and human health. Is another review needed? Here are a few points to consider.

1. Independent studies already conclude wind energy is clean, safe

There's already a wealth of independent knowledge on wind energy and health. There are now 19 reviews by credible health bodies which show wind farms are clean and safe.

In 2010, Australia's authority on medical health research, the NHMRC, published a rapid review of wind energy and health. It concluded: "The health effects of many forms of renewable energy generation, such as wind farms, have not been assessed to the same extent as those from traditional sources. However, renewable energy generation is associated with few adverse health effects compared with the well documented health burdens of polluting forms of electricity generation. ... There are no direct pathological effects from wind farms and that any potential impact on humans can be minimised by following existing planning guidelines."

In May 2013, the Victorian Department of Health released a review on the subject, concluding: "There is no evidence that [wind turbine] sound which is at inaudible levels can have a physiological effect on the human body. This is the case for sound at any frequency, including infrasound." (Victorian Premier Dennis Napthine's decision to chip in \$100,000 to fund the Abbott review suggests he doesn't have confidence in the Victorian Department of Health.)

State planning bodies have joined these public health authorities with the assessment that wind energy is clean and safe. In 2013, the NSW Planning Assessment Commission and Victorian Civil and Administrative Tribunal dismissed wind energy health scare claims when they approved the Bodangora and Cherry Tree Range wind farms.

2. Abbott's posturing on wind / health – favours for friends?

The Abbott government's announcement satisfies the wishes of the anti-wind farm Liberals who are ideologically opposed to renewable energy.

The Prime Minister's hand-picked business advisor Maurice Newman is staunchly opposed to wind energy. Newman has threatened to take legal action against farmers who install wind turbines near his rural property in Crookwell, NSW. Newman is well-known for tirades against wind farms and against the Renewable Energy Target, and for denying the science of climate change.

Australia's most active wind farm opposition group, the Waubra Foundation, has links to the Liberal party. Former Liberal politicians Michael Wooldridge and Alby Schultz hold positions with the organisation. The foundation frequently argues for more research on the subject. And that is what the Abbott government is delivering.

3. Anti-wind strategy of doubt and delay

Anti-wind activists have a track record urging more research, while ignoring the 19 reviews which show wind energy is clean and safe. High-calibre research conducted by the NHMRC and Victorian Department of Health costs hundreds of thousands of dollars out of the public purse. It also diverts limited public resources from investigating real public health issues. Why waste more taxpayer money on another study when wind farm opponents have already made up their mind?

4. Australians have made up their minds on wind energy

All available public polling shows wind energy enjoys strong public support. Wind energy is the cheapest form of generation. It creates jobs and drought-proof income for farmers while addressing climate change.

Polling by Essential Research conducted in June 2013 found that 76% of Australians support building more wind farms. Wind energy is popular among Coalition voters, with 71% supporting more wind farms.

It's puzzling that a Prime Minister who has suffered a significant drop in support in the polls would stall the popular wind energy sector. It's in the interest of Prime Minister Abbott to pursue policies that reflect mainstream public opinion. Yes 2 Renewables urge the PM to listen to the Australian public, rather than kow-towing to radical fringe opinion.

Leigh Ewbank is a campaigner with Yes 2 Renewables, Friends of the Earth Melbourne's renewable energy campaign. <http://yes2renewables.org>

A longer, referenced version of this article is posted at <http://tinyurl.com/y2r-wind>

Climate change: the situation is hopeless – let's take the next step

Peter Burdon

Imagine that you woke up tomorrow with complete trust in climate science. By trust I do not just mean a kind of dispassionate intellectual understanding, evidenced in people such as Al Gore, I mean a trust that combines that intellect with emotional and psychological acceptance. How would such a trust change your life?

Considered in this way, I wonder how many of us have *really* accepted and come to terms with the reality of climate change. Why is it that despite the overwhelming scientific evidence¹ and even personal experience² of climate change, many of us are not reacting? Why aren't we responding to the emergency?

Clive Hamilton offers some insight into this question in his book *Requiem for a Species*. Here he taps into the psychological dimensions of denial and in particular the concept of 'cognitive dissonance' developed by Dr Leon Festinger in 1957.

Cognitive dissonance

Cognitive dissonance is the term given to the uncomfortable feeling that we experience when something we believe to be true is contrasted by evidence to the contrary. Festinger suggested that those who hold firm views which are contradicted by evidence often begin to defend their views even more fervently after the facts become incontrovertible.

The implications of this for understanding climate scepticism and denial are obvious. If human beings were rational creatures we would expect that as scientific evidence solidifies, those with a disposition toward scepticism would adjust their beliefs to accommodate the facts. "Yet", Hamilton suggests, "they have become more vehement in their attacks on climate scientists, environmentalists and anyone who accepts the evidence of global warming."

Obviously this only explains part of the picture and yet it provides an important insight into the emergence of the climate lobby (the so-called 'Green House Mafia'), 'scientific' think-tanks funded to spread public doubt about climate science³ and the more recent emergence of cyber bullying and intimidation of climate scientists. Professor Donald Brown captures the cumulative effect of climate scepticism: "Unfortunately there are consequences — we've lost 25 years. This is not disinformation. I think we should encourage a conversation whether this is some kind of new crime against humanity. It is really evil stuff. It is nasty." ⁴

Part of the reason why climate scepticism has been so effective is that we all *want* the science to be false. We all want to forget about climate change and, in fact, remove

that term from our lexicon altogether. Many do not want to think about radically altering their lives and the uncertainty that comes with change. Even for those who do, there is no obvious path for surviving (let alone flourishing) outside of the market society which has come to order all aspects of our lives.

Facts and projections

And yet, consider the following facts and projections. First, climate change is real and human beings are causing it.⁵ In fact, between November 2012 to December 2013, 2,258 peer reviewed articles were published on climate change by 9,136 authors.⁶ Of these, only one author rejected that humans are the cause of global warming.

Second, we can emit a total of approximately 565 gigatons of carbon dioxide into the atmosphere and stay below 2°C of warming: anything more than this risks catastrophe for life on earth. We are currently approaching 400 gigatons and corporations have in their reserves 2,795 gigatons of carbon dioxide⁷ – five times the safe amount.

Fossil fuel companies are planning to burn all of this carbon and in fact have borrowed money and issued share projections against this amount.⁸ As a result, many climate scientists are publically stating that restricting climate to a 2°C increase is optimistic, verging on unattainable. Many now regard three to four degrees as a realistic projection.

Third, to have any chance of limiting warming to 2°C, global emissions must peak in 2015, with rich countries starting to cut their emissions right now and pushing them to 25–40% below 1990 levels by 2020. Compare this to the Australian Government's current (non-binding) commitment to reduce carbon emissions by 5% by 2020.⁹ Such a reduction simply *cannot* be met with the array of modest carbon pricing or green-tech solutions usually advocated by big green groups. The drop in emissions that is required is virtually unprecedented since the industrial revolution and cuts above 1% a year have historically been associated with recession or massive social upheaval.

Naomi Klein notes that even after the collapse of the Soviet Union or the Wall Street Crash of 2008, emission cuts at the depth required now did not occur.¹⁰ In fact, the only historical example of comparable reductions occurred in the immediate aftermath of the Great Depression in 1929. That was the worst economic crisis of modern times.

Fourth (and this might be the most difficult to accept) our elected leaders *simply are not going to act with anything like the urgency required* to cut emissions. In fact, unless you live in the buffered 'first world', climate change may not be a theory, but a daily reality and survival challenge.¹¹ Consider what it would be like struggling in the recent heat

'Our elected leaders simply are not going to act with anything like the urgency required to cut emissions.'

wave in Australia without air-conditioning, fans or liberal amounts of water to keep people cool and gardens surviving. Arguably, these four points represent a dark projection for human civilization. But what I am interested in exploring in the remainder of this essay is what awaits us once we mentally and emotionally accept these facts and projections. To return to my opening paragraph, what would you do?

Would you quit your job or become an environmental activist? Have children or have a vasectomy? Write more or write less? Talk to your neighbours or build a survival bunker in the hills? Plant a vegetable garden or chain yourself to a coal fired power plant? Phone your parents? Hug your children? Go inward spiritually and bear witness to the devastation or make a cup of tea and cry?

Perhaps surprisingly, my own immediate reaction was relief. Relief that I could finally articulate what my rational brain had been telling me and that I could let go of the false hope that industrial society would voluntarily transition to a sustainable way of living.

And yet following this relief was a wave of despair that stayed with me for a very long time. While no two people will react in exactly the same way I think that anyone who is willing (and able) to reconcile their inner experience with the external reality of climate science is embarking on a long and perhaps painful emotional journey.

Transition tools

What then, are some tools that can assist others in making this transition? This is not the place to offer a complete prescription but I would like to offer a few ideas and perhaps some hope for those grappling with climate science and the future scenarios that it presents.

To begin, I want to validate the emotion of grief. How we grieve will be influenced by how our society and those around us are responding to the loss. For some it manifests not in sadness but in humour or the vast proliferation of post-apocalyptic novels. For others it feels like a cocktail of emotions ranging from anger, anxiety, longing, depression and emptiness. These 'early mourners' often feel lonely and keep their thoughts to themselves for fear of social alienation.

There is no 'one right way' to grieve but if you have strong networks of support the experience can be liberating and even enriching. Grieving can help us detach from our old vision and expectations for the future and adjust to a new reality. We all have capacity to readjust and, in fact, many of us have experienced something similar after a loved one dies or a relationship unexpectedly ends.

Following this, it is well documented that a healthy and effective response to grief is to join with others and act.

Isolation is disempowering and I do not think there is anything to be gained by capitulating. As the cellist Pablo Casals said: "The situation is hopeless; we must now take the next step." Finding meaning in adverse circumstances is an enduring human quality and one that we need to collectively summon again.

Even though it is too late to prevent a 2°C rise in temperature there is still much we can do and any success in reducing emissions will greatly improve the survival odds of communities around the world.

One essential task is to prepare for the inevitable impacts of climate disruption or 'adaptation'. There is no shortage of opportunities in this space. For example, we need to think about how to strengthen our communities so that they are open, resilient, democratic and can accommodate and support the poor and most vulnerable members of our society.

Groups like Transition Towns are facilitating the most exciting movements toward these goals. Other initiatives like Intersection Repair focus on community building by converting private property into public space on a neighbourhood street. While other organisations such as Post Growth or the Simplicity Institute remind us that much of the social and community infrastructure for the post-carbon world already exists and is being implemented by communities around the world.

Transitional projects like these need to be nurtured and expanded. However, without collective and targeted political action to avert the climate catastrophe all of our communities are vulnerable. This point was made by Bill McKibben in his recent book, *Oil and Honey*: "You can have the most resilient communities you want, but if temperatures rise above 4°C, there will be no communities left." ¹²

Political action

To have even a modest chance of avoiding this scenario *all of us* need to become politically active. Our actions should be collaborative, work to our strengths and concentrated in areas over which we have some agency or influence.

More concretely, our actions might involve raising awareness about climate change; speaking to politicians in your electorate; campaigning to stop carbon intensive developments; supporting sustainable technology such as solar thermal energy; joining a campaign group to encourage banks and other businesses to divest from the fossil fuel industry; or joining an international push to prevent the construction of the Keystone XL pipeline or oil drilling in the Arctic.

Finally, I want to say something about hope. Many prominent activists have abandoned this emotion on the basis that it represents a 'longing for a future condition

over which you have no agency'. According to this interpretation, 'hope' renders you powerless. I do not accept this perspective and maintain that hope is a useful emotion *if* it is connected to something generative and real.

What gives me hope today is not our political leaders who are wedded to the strictures of State-capitalism. Nor the big environmental NGOs, many of whom have traded their integrity for the opportunity to become insiders and walk the corridors of power. Rather, I place my hope in ordinary people who throughout history have shown an incredible ability, even in brief flashes, to resist, to join together and occasionally to win.

Significant social advancements have always depended on ordinary people who came together to do extraordinary things. Whatever gains we have made toward human progress were not given, they were demanded. And I believe that the key to gaining whatever ground we can in the climate movement also lies with ordinary people – with us.

I end with a quote from historian Howard Zinn:

"To be hopeful in bad times is not just foolishly romantic. It is based on the fact that human history is a history not only of cruelty, but also of compassion, sacrifice, courage [and] kindness."

Peter Burdon is a senior lecturer at the Adelaide Law School and a member of Friends of the Earth, Adelaide.

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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. You can cancel this pledge at any time by contacting the FoE office. All Active Friends donations are fully tax deductible.

Great Artesian Basin and Painted Desert under threat from Altona's proposed Arckaringa Coal Mine

David Noonan

The Great Artesian Basin (GAB) and South Australia's spectacular Painted Desert are threatened by one of the most destructive mining projects planned for Australia.

Rogue fossil fuel mining company Altona Energy PLC plans to exploit a coal deposit that lies beneath the aquifer of the GAB, north of Coober Pedy in the Painted Desert region. The Painted Desert is a national treasure, an artist's dream come to life in nature.

The British junior company Altona wants to dig a 20 square kilometre open-cut mine right through this spectacular landscape and Outback Australia's most important water source, effectively destroying the natural pressurised containment of the GAB aquifer.

Altona's coal mine would be a massive scar imposed on the landscape – some eight times the size of the Adelaide CBD. This is the sort of damage that can't be undone.

Mining water and threatening springs

Altona's coal mine would drain Australia's Great Artesian Basin and damage Outback bores for a century. Altona plans to 'de-water' the GAB – to pump out on average 320 million litres of groundwater every day throughout 30 years of mining – so that the natural flows of GAB groundwater will not 'interfere' with their proposed open pit coal mining operations.

This is an unprecedented water grab eight times higher than the maximum 42 million litres a day that the controversial and contested BHP Billiton Olympic Dam uranium and copper mine at Roxby Downs is licensed to extract from the GAB.

Altona intends to sell much of this public water resource to other proposed mining projects in the region – even

proposing on its website "to open up the vast northern tracts of South Australia to industry and agriculture".

Mining water to this extraordinary extent would cause a significant regional drawdown effect and loss of pressure across the Western GAB. This represents a serious long term threat to the ecological viability and survival of these unique and fragile Springs – all of which are listed as Endangered Ecological Communities under Commonwealth environment laws.

Springs groups that are expected to be under threat across the north of SA include:

- Mt Toondina Springs – the closest group of springs, some 50 km east of the coal pit;
- Lake Cadbarrawirracanna Springs to the south east of the coal pit;
- The northern String of Springs along the Oodnadatta Track (not the Lake Eyre Group further south);
- Potentially the world famous Dalhousie Spring Group in Witjira National Park.

Altona's water grab has a 'cover story' in claiming a capacity to 're-inject' some treated water in to the GAB. This is a plan to compromise vital natural groundwater flows and then put the Springs on an experimental corporate life support system. That should not happen.

The Wilderness Society respects water in the Outback and aims to protect the Painted Desert region from fossil fuel industrialisation and coal mining impacts.

A safe climate means keeping Arckaringa Basin coal in the ground

The Arckaringa Basin is a carbon bomb with 20 billion tonnes

of low grade coal beneath the GAB, equivalent to some 20% of Australia's current coal reserves. Altona's Exploration Leases for the Arckaringa Coal Project hold some 7.8 billion tonnes.

Given the science and the urgency of climate change over 80% of existing fossil fuel reserves must stay in the ground and not be burnt if we are to stabilise the climate. We must not allow mining companies to exploit new fossil fuel basins to add to the problem.

The Wilderness Society has joined with the Conservation Council of SA to call on all political parties in the 2014 South Australian state election to:

- Manage our resources sustainably, accelerate the transition away from fossil fuels to renewable energy, and stop issuing licenses to explore and extract coal.
- Protect South Australia's water resources from environmental harm, particularly from mining exploration and exploitation, and reduce water extraction from the GAB.

Stopping coal and protecting water are key issues for community across Australia to engage.

Testing damaging technology in the Outback

Opening up the Arckaringa Basin for fossil fuel exploitation features Altona's proposed guinea-pig trial of high risk unconventional 'coal to diesel' technologies.

Altona's plans threaten to blow out our carbon budget and any real chance of averting dangerous climate change by staying below the internationally agreed 2 degrees C rise in global average temperatures.

Processing coal to diesel is a risky polluting technology that will cause high levels of greenhouse pollution, combining coal gasification, refinery and petrochemical facilities, and leaving hundreds of millions of tonnes of coal slag and other wastes in the Painted Desert.

Millions of litres a day of 'black water' waste from coal gasification would also be produced.

Arckaringa Basin is a coal rebranding exercise with claims of 'clean coal' and 'clean diesel' to exploit high risk unconventional coal deposits. According to the World Health Organisation, diesel fuel is a carcinogen - there is no 'clean diesel'.

Altona also claims an Arckaringa coal gasification facility will be Carbon Capture and Storage (CCS) 'ready' with a proposed storage site in the region. But all CCS trials have failed to prove economic and CCS risks future greenhouse pollution leaks and disasters - potentially long after the proponents have left the scene. CCS is part of Altona's public relations sales pitch to promote the myth of clean coal to try and get away with their highly polluting coal to diesel plans.

Altona also plans a major new coal gasification fired power station in the Painted Desert that could displace sustainable new renewable energy projects across South Australia.

Selling water and electricity to other mining projects are key tactics in Altona's coal plans.

Altona targets the Painted Desert for multiple open pit coal mines

The first coal mine targets Arckaringa Station, 150 kms north of Coober Pedy to exploit the Wintinna coal deposit and trial a coal to diesel processing facility. This is to be followed by two further open-cut coal mines that Altona plans across the Painted Desert.

A second coal mine targets Evelyn Downs Station to exploit the Murloocoppie coal deposit. The recently proclaimed Mount Willoughby Indigenous Protected Area on the western side of the Stuart Highway is also targeted as a third potential open pit coal mine to exploit the Westfield coal deposit.

The natural character of the Painted Desert would be irrevocably transformed by mining companies turning country into a fossil fuel industrial zone causing harm across the region.

In each case, country will be scarred and vast piles of coal slag waste and pit overburden are to be dumped over decades of mining.

The Painted Desert is a national treasure

The stunning Painted Desert hills burst out of the surrounding flatlands in a spectacular array of colours: red, brown, orange, yellow, white, purple and blue. The Painted Desert is home to Australia's largest monitor lizard, the Perentie, and a number of rare plants.

Altona's coal mine is to be imposed at the foot of the Arckaringa Hills in the Painted Desert.

An ancient landscape sculpted by water and a unique example of Breakaway Country, the natural values of this extremely fragile area were recognised for unique and significant aspects of the State's natural heritage and as a natural area of scenic and geological importance and listed as the Arckaringa Hills State Heritage Area in 1985.

The area features the ephemeral Arckaringa Creek that floods to 2 km wide and flows into the Neales River and on occasion on to Lake Eyre itself. And a tributary Perentie Creek that is named after Australia's largest monitor lizard, the Perentie, that is known to visit the Arckaringa Hills, foraging rocky outcrops and surrounding areas.

The proposed open-cut coal mine would wipe out part of this State Heritage Area, including part of Arckaringa Creek and its 2 km wide floodplain and Perentie Creek, that are to be torn up and 'diverted' around the coal pit and forced to flow in artificial bunds.

The mine would butt against the former Arckaringa Hills National Estate area, registered for its "outstanding scenic value" and "biological significance due to the presence of rare plant species". Prime Minister Howard delisted this area in 2007 as part of his 'culture wars'.

The Arckaringa Hills State Heritage Area and these fine ephemeral Creeks should be protected from Altona's coal mining operations and allowed to continue to express their extraordinary natural diversity in the Painted Desert.

We are yet to see if the next SA state government will protect these areas.

Altona is about to resubmit an "Application for Exploration Works Approval" to the SA State government for a proposed exploration drilling program of some 31 boreholes. This is to further prove up the Wintinna coal deposit, to take 'bulk coal samples' for evaluation of coal processing options, and advance the company's plans to cut a hole through the aquifer of the GAB. This drilling program should not go ahead.

The Wilderness Society is campaigning to end the threat from this coal mining project.

*David Noonan is a campaigner with
The Wilderness Society (SA)*

www.wilderness.org.au/campaigns/fossil-fuels

The struggle for the Leard State Forest

From a farming community and a small base camp, the campaign to save Maules Creek and the Leard State Forest in north-west NSW has grown into an issue of national importance; it is one of the frontlines for the climate movement in resisting new coal expansion.

The proposed expansion of Whitehaven coal is projected to destroy 2,000 hectares of Leard State Forest and dump thousands of tonnes of coal dust on surrounding communities. It is both a local and a global campaign, with local farmers and Traditional Owners leading the resistance.

The climate impacts could be extreme. To quote Ian Lowe: "To put the potential impacts into a global perspective, if the Maules Creek mine were a nation, it would rank 75th in the world for total emissions, ahead of the greenhouse gas emissions of 140 entire countries ... So the proposals really are of global significance."

And there is a critical forest on the line, which is already being impacted by other mines in the area – Boggabri Coal operated by Idemitsu and Tarrawonga, operated by Whitehaven. Leard State Forest includes the most extensive and intact stands of the nationally-listed and critically endangered Box-Gum Woodland remaining on the Australian continent. The forest is home to 396 species of plants and

animals and includes habitat for 34 threatened species.

The project has been dogged by controversy, with legal challenges, a federal investigation into allegedly false and misleading statements made by Whitehaven coal, contention over supposed carbon offsets, and ongoing widespread opposition from environmentalists, local farmers, Gomeroi traditional custodians, and growing resistance in the cities.

The success of the growing campaign – and the direct action which has been running for over 500 days, including a series of running actions for the past two months – can be measured in part by the increasing attacks in the media and efforts to shut down the protest camp.

With headlines in *The Australian* like 'Whitehaven under pressure as Maules brawl steps up' (Feb 26, 2014), and a public campaign seeking to vilify the protesters, as well as pressure being put on the local shire to move protesters on a second time from their new camp location, Whitehaven coal is certainly feeling the heat. However, with 33 peaceful civil disobedience arrests to date, there is no sign of the campaign slowing down.

One of the strengths of the campaign is successful alliance building. A remarkable coalition of environmental

Protest near Leard State Forest.



organisations are taking the struggle seriously including Greenpeace, 350.org, Nature Conservation Council, The Wilderness Society, Frontline Action on Coal, Northern Inland Council for the Environment, and the Quit Coal collective at Friends of the Earth.

As with the Lock the Gate movement, we are seeing Traditional Owners standing with environmentalists, students standing with farmers, country and city folk working together with a shared vision of clean air, water, farmland, protected forest and a liveable climate.

In a moving ceremony on survival day (Australia Day), the Gomeroi people were joined by local farmers. Fifth generation local farmer Phil Laird paid tribute to the ongoing resistance of the local Traditional Owners and talked about his fears of having farming land destroyed.

Heads of environmental nongovernment organisations joined the Gomeroi people in February to sign a historic 'Aboriginal Cultural Heritage and Environmental Protection Agreement' for the area threatened by the Maules Creek and Boggabri mines. The agreement sets out the protocols for protecting cultural heritage, lands and water and it formalises the ways in which Gomeroi Elders and community will come together to protect what is jointly important to them.

Gomeroi Elder Dick Talbot said: "The common threat of open cut mining in a culturally and environmentally significant area such as the Leard State Forest has brought our communities together – we are coming full circle."

The campaign is continuing with another major convergence planned, and people are needed at camp all the time. You can find out how to help and get more information at: <http://leardstateforest.tumblr.com>



shop.foe.org.au/merchandise

Stand with Jono Moylan

The struggle for Maules Creek and Leard State Forest gained national prominence in January 2013 after an action by Jonathan (Jono) Moylan, who sent a press release purportedly from ANZ bank, announcing its withdrawal from funding the Whitehaven project on ethical grounds.

In a phenomenal over-reaction the Australian Securities and Investments Commission charged Jonathan with a section of the Corporations Act, which sees him a fine of up to \$765,000 and 10 years jail. Meanwhile corporate criminals and profiteers walk free.

Jono will face the Supreme Court in June 2014, and a growing solidarity campaign is standing with him, for peaceful civil disobedience actions, against big coal and government decisions that prioritise profits over people and calling for widespread divestment from fossil fuel industries. Find out more, donate and get involved at www.standwithjono.org



Two 'Act Ups' were held at the site of the proposed Maules Creek expansion in December 2013 and January 2014. More than 120 people travelled from as far as Brisbane, Melbourne, Sydney and Adelaide to learn new skills, train for non-violent action and put their bodies on the line to resist the coal industry. Members of the Quit Coal collective from Friends of the Earth, Melbourne made the trip both times.

Legal personality for Great Barrier Reef

Environmental Defenders Office of Northern Queensland

As concern for the health of the Great Barrier Reef grows, the Environmental Defenders Office of Northern Queensland (EDO NQ) is launching a campaign aimed at bestowing legal personality on the Great Barrier Reef World Heritage Area. This campaign comes as the World Heritage Committee assesses whether to list the Great Barrier Reef as 'in danger'. The decision to dump millions of tonnes of dredge spoil within the boundaries of the Marine Park Area has recently been announced – and as a consequence the world community is becoming increasingly worried about the extent of port and shipping expansion in the area.

'Legal personality' means that a person or entity has rights and duties in law. These rights commonly include the right to be free from unlawful interference, and the rights to exist, persist and reproduce. Where the rights of a legal person or entity are breached, they have the right to seek enforcement and a remedy through the legal system. The most common example of an entity other than a natural person having legal personality is that of a corporation. Corporations are allowed to enforce their legal rights in court, in their own name, through representatives acting on their behalf.

In granting legal personality to the Great Barrier Reef, Australia would give the Reef a certain set of rights and the ability to uphold these rights in court.

The concept of rights for the environment rests on the idea that a property-based approach to the environment has failed. Western property law regards the environment as a resource for us to exploit as we please. Any value placed on the environment is measured in terms of the value that we can derive from its use. Giving the environment rights is about recognising that these resources aren't endless and that we are part of (and dependent upon) our environment. EDO NQ is not proposing to determine what rights should be given to the Great Barrier Reef – this is a matter for the community, to be decided after extensive consultation.

So far in Australia there have as yet been no instances of natural systems being granted legal personality. However, the New Zealand Government has agreed that the Whanganui River will be given legal personality, and there is a Bill currently before Parliament to bestow legal personality on Te Urewera National Park. In 2007–08, Ecuador rewrote its Constitution to include the rights of nature to 'exist, persist, maintain itself and regenerate', as well as to be restored where it is damaged. In 2010, Bolivia passed a law recognising the rights of Mother Earth.

Australia now has the opportunity to build on the rights that have been granted to the environment in other countries. Australia might consider granting the Reef the right to exist and flourish, as well as the right to restoration. This is a non-exhaustive list, and the Australian public can (and should) be creative in incorporating rights to suit the specific challenges and unique situation of the Great Barrier Reef World Heritage Area.

Just as corporations are represented by Directors, EDO NQ suggests that the Reef could be represented by a board of trustees, legally required to act in the best interests of the Reef. A board of trustees might be made up of members appointed by a variety of groups and organisations with an interest in the ongoing wellbeing of the Reef. These may include trustees nominated by the World Heritage Committee, Traditional Owners, the Queensland and Commonwealth governments, as well as appointees from tourism industry, environment and conservation bodies.

Granting legal personality to the Great Barrier Reef would have little effect on the way the Reef is run day-to-day. The Great Barrier Reef Marine Park Authority would still oversee everyday activities on the reef, tourist operators would continue their business as usual and tourists would continue to enjoy the beauty of the Reef. The major difference is that the Reef would have representation for its interests in major decisions, ensuring that relevant Commonwealth and State agencies perform their environmental protection functions consistently and effectively. The trustees would also have power to enforce the Reef's rights if these were not respected by Government.

EDO NQ proposes that the best way to show Australia's support for rights for the Great Barrier Reef is through a non-binding, nation-wide referendum (also called a plebiscite). To this end, we have started a petition, available at www.change.org (search for the phrase 'legal personality'). A direct link to the petition is also available on our website (www.edonq.org.au).

For more information on the processes and reasons for obtaining legal personality for the Reef, please visit www.edonq.org.au/Campaign.html. And remember, you can immediately help this process by signing the petition to hold a national vote on legal personality for the Reef and by donating to EDO NQ (www.edonq.org.au/Donate.html).

Australian yellowcake fuels Ukrainian fires

Dave Sweeney

As the deeply disturbing events unfolding in the Ukraine highlight, troop mobilisations, sabre-rattling and suppression of civilian critics are becoming the hallmarks of President Vladimir Putin's Russia.

Australia, along with most Western nations, has condemned the Russian escalation and called for restraint and dialogue. Such a call is important but needs to be accompanied by action to ensure it penetrates the thick walls of the Kremlin.

One clear and potent action that Australia could take to amplify our diplomatic dissent would be to halt our fledgling yellowcake trade with Russia. Uranium is a dual use fuel: it provides the power fuel for nuclear reactors and the bomb fuel for nuclear weapons – and the distinction between the two sectors is more one of political convenience than practical effect.

Russia's arsenal of over 14,000 nuclear weapons has an explosive yield equivalent to 200,000 Hiroshima bombs and President Putin has stated that any reduction in these numbers would only serve make its nuclear arsenal "more compact but more effective". Putin has declared that a nuclear arsenal "remains one of the top priorities of Russian Federation policy" and that Russia will develop "completely new strategic [nuclear] complexes."

In both 2007 and 2008 Russia threatened Poland with nuclear strikes from missiles it would base at its enclave of Kaliningrad following Polish approval for US missile defence bases in Poland.

Australia's connection with the Russian nuclear industry escalated in 2007 when Prime Minister John Howard and President Putin inked a uranium supply agreement at the APEC summit in Sydney.

The deal was widely criticised by environment, proliferation and human rights groups, delayed by the political fallout from Russia's 2008 invasion of Georgia and subject to detailed assessment from the Joint Standing Committee on Treaties (JSCOT), the Federal Parliament's watchdog of Australian treaty deals and international agreements.

JSCOT heard evidence highlighting concerns and deficiencies within the Russian nuclear industry, including an International Atomic Energy Agency (IAEA) estimate that only half of Russia's nuclear materials have been reasonably secured. Informed by these real world concerns and evidence, JSCOT recommended a mix of caution and action in relation to planned Australian uranium sales.

The majority JSCOT report argued that the government should not advance any sales until a series of essential pre-conditions were met. These included a detailed analysis

of Russia's nuclear non-proliferation status, the complete separation of Russia's civil and military nuclear sectors, reductions in industry secrecy, independent safety and security assessments of Russian nuclear facilities and action on nuclear theft and smuggling concerns.

Importantly JSCOT urged that "actual physical inspection by the IAEA occurs" at any Russian sites that may handle Australian uranium and recommended that "the supply of uranium to Russia should be contingent upon such inspections being carried out."

Despite these concerns successive Australian governments have furthered the fiction that the Russian nuclear sector is secure and safe. And put undue and unproven confidence in the myth that nuclear safeguards – meant to stop the cross-pollination of the military and civil nuclear sectors – actually work. International inspections and scrutiny are limited or absent and perceived commercial interests have been given precedence over proven safety and security concerns.

In late December 2010 the first shipment of Australian uranium, sourced from Energy Resources of Australia's troubled Ranger mine in Kakadu – itself the site of a spectacular and severe contamination event last December – arrived in Russia.

The former Chair of JSCOT, Labor MP Kelvin Thompson, has made an urgent call for the uranium sales deal to be reviewed in the light of current tensions between Russia and Ukraine. And it would appear most Australians agree with this common sense proposition. A 2008 survey found 62% of Australians opposed uranium exports to nuclear weapons states compared to 31% in favour. An International Atomic Energy Agency survey of 1,000 Australians in 2005 found 56% believed the IAEA safeguards system was ineffective – nearly double the 29% who considered it effective.

Putting the promises of an under-performing resource sector ahead of evidence-based assessment has seen Australia squander a real chance to advance nuclear non-proliferation – however, we still have the ability and the responsibility to make a difference. Foreign Minister Bishop must stop wringing hands and act decisively to halt any chance of fuelling arms.

President Putin's civil atomic aspirations exceed the capacity of Russia's nuclear sector while his military ones have no place on a habitable planet. Neither should be fuelled by Australian uranium.

Dave Sweeney is nuclear free campaigner for the Australian Conservation Foundation

The People's Movement Against Nuclear Energy in India

Gem Romuld

Idinthakarai is a beautiful fishing village flanked by coconut and banana trees on one side and ocean on the other. Chooks, goats and cows roam the streets or stand tethered out the front of colourful houses whose front walls proudly proclaim who married who.

Festival music blares across the town of 15,000 people, fish are laid out to dry and women sit in doorways rolling beedis. Among the banana and coconut trees, slender wind turbines catch the breeze while on the flipside, perched on the ocean's edge is the Koodankulam Nuclear Power Plant (KKNPP). While the Indian Government insists it is a measure of progress and power, viewed from Idinthakarai the KKNPP's distinctive white and orange domes symbolise a long and anguished struggle.

I first heard about the KKNPP in 2012, when news reached Australia of over two thousand fisherfolk taking to the sea in their boats in protest, blocking the access channel to the plant. Situated near the southernmost tip of India in the state of Tamil Nadu, the KKNPP stares down the beach at the heart of the movement, the People's Movement Against Nuclear Energy based in their proudly dubbed "Republic of Idinthakarai". The KKNPP was first planned and agreed between the Indian Government and the Soviet Union in 1988. The subsequent dissolution of the Soviet Union held up the project for a decade, before its revival in the late 1990s and the beginning of construction in 2002.

Opposition has always existed, flaring up in the aftermath of Fukushima and with the spread of information about radiation contamination and its effect on health. The effects of radiation on health are well documented in India, courtesy of existing nuclear projects and in particular the uranium mine at Jadugoda, in the northern state of Jharkhand. Jadugoda has been mining uranium for over 40 years, enough time for radiation to damage genetic codes and work its way up the food chain via leaking tailings dams and the unlucky river into which they flow.

The people living around the KKNPP are acutely aware of their vulnerability. Ziggy Switkowski's absurdist words ring in my ears, spoken three days after the Fukushima disaster: "the best place to be whenever there's an earthquake is at the perimeter of a nuclear plant because they are designed so well" ... but it's not just the fear of disaster that enrages the local community; it's also the quality of the construction itself and the effect of the plant's discharge on fish. The fisherfolk are worried about the effect of the hot water discharge from the plant on the reproductive cycles of the fish that form the basis of their livelihoods.

Another catalyst for concern is the prosecution in Russia of the procurement director of ZiO-Podolsk, a Russian company supplying crucial components to nuclear power plants including the KKNPP, for corruption and fraud.

Shutov, the procurement director, has been charged for purchasing low-grade materials and selling them as high-grade materials for components and parts. Even the official story of the plant is littered with defects and flaws and its "immediate commissioning" has been announced and re-announced so many times that it's become a running joke with Idinthakarai residents.

The KKNPP has claimed several times to be generating power, but the locals beg to differ. The 'tsunami colony', a settlement of people displaced by the Asian tsunami of 2004, sits 500m from the plant. They keep a vigilant watch for steam, noise and any of the signs that they observed when it was running tests: nothing. The KKNPP is obviously troubled but the real concern is the determination of the Nuclear Power Corporation of India Ltd to get it working.

Repression

The full force of the government, the media and the police are behind the effort to stifle resistance. Bedazzling in its complexity and sophistication, nuclear energy has become a tool for the Indian establishment to demonstrate its modernity and progress. Nuclear energy is apparently vital to the national project and anyone opposed to it is therefore classified as "anti-national".

But, despite suffering repression and slander, resistance to the KKNPP is alive and well. If the church bells ring in Idinthakarai, the fisherfolk come in from the sea and all the townspeople gather for a meeting or to take their grievances down the beach towards the nuclear plant. The protests against the KKNPP are strictly non-violent but police have responded with full force to intimidate and suppress the movement. There in the so-called "world's largest democracy", fisherfolk defending their livelihoods in peaceful opposition to a nuclear power plant are charged with "sedition" and "war against the Indian state" among many other political offences.

The local authorities have failed to comply with the Supreme Court verdict to drop thousands of false charges laid on protesters. So they are flies stuck in legalistic honey, some with as many as 190 charges against them, unable to leave the "Republic of Idinthakarai" for fear of arrest beyond the safe haven of the town. One of the movement leaders, Pushparayan, was not even permitted to travel to another village to attend his father's funeral. He hadn't seen his father for two years as he was under 'village arrest', and was denied a proper farewell.

People's Movement Against Nuclear Energy

The People's Movement Against Nuclear Energy headquarters sit opposite a majestic Catholic church with a large sheltered space for protest meetings. The thatched

shelter is hung with info-sheets and photos, graphically depicting the victims of Hiroshima, Nagasaki and Chernobyl and the deformed children of Jadugoda town, which hosts India's 45-year-old uranium mine. Banners also line the space, bearing signatures and faces pledging solidarity and commitment to shutting down the KKNPP. There's a board showing the number of days the relay protest fast has been running. It reached 900 days on January 31. Behind that board is a gold-framed picture bearing four faces – the people that have paid for dissent with their lives. Two people died during protests and two while held in police custody for protest charges because they were denied their medications. Alongside these horrific events of state repression runs the multi-faceted war of attrition, including the confiscation of passports, and the police harassment of the women of Idinthakarai.

The communities around the KKNPP have empowered several men, including S.P. Udayakumar and M. Pushparayan, to act as leaders and public spokespeople for the People's Movement Against Nuclear Energy, however it is generally acknowledged that the steely determination of the women is what keeps the movement going. Sundari, an Idinthakarai local, spoke of the abuses she suffered in prison, and the openness with which the police admitted that they were making her an example with the intention of deterring other women from taking a stand against the KKNPP. The war of attrition led by the police will not stifle the battle of the women of Idinthakarai to defend their community and to reach out in solidarity to the other communities in India facing nuclear projects.

An open letter by the women and children of Idinthakarai states: "We realise more than ever that our struggle is not against nuclear energy alone. Our demand is to be allowed to pursue a life style based on truth, justice and hard work.

Our adherence to this has made us raise crucial questions about democracy and governance, about the way decisions are being taken in our country and how the well being of the marginalised are neglected and trampled upon."

The Australian and Indian governments are currently arranging a uranium export deal. In 2011, the Labor Party reversed its policy against uranium exports to countries that haven't signed the Nuclear Non-Proliferation Treaty, specifically to allow exports to India. The Coalition government is now carrying the project forward, despite popular opposition at mine sites, along the transport routes, at the sites of nuclear power stations and in places flagged for radioactive waste dumps in Australia and worldwide. Selling uranium to India makes Australia an accomplice in risky nuclear projects and cruel repression of the communities surrounding nuclear power plants. It also facilitates the expansion of India's nuclear weapons arsenal – if not directly, then certainly indirectly: imported uranium frees up India's domestic sources for use in weapons production.

In three days of conversations, impressions, shared walks and meals, we began to sense what life is like living a peoples' movement against a nuclear power station. We recorded interviews and tried to act as conduits between anti-nuclear movements in Australia and this gorgeous town where we hope Australian uranium never lands.

It doesn't really matter where the uranium comes from; the people of Idinthakarai are adamant that no uranium should fuel the KKNPP and that 2014 is the year to shut it down, completely.

Gem Romuld is co-ordinator of the Anti-nuclear & Clean Energy (ACE) collective at Friends of the Earth, Melbourne.



V. Rajalingam, Neyveli Maran, R. Mildred and Gem Romuld, with the Koodankulam Nuclear Power Plant in the distant background.

Fukushima apologies and apologists

Jim Green

It has been a sad and sorry year in Japan's Fukushima Prefecture. Three years after the March 2011 nuclear disaster at the TEPCO plant and Japan is nowhere near recovering.

ABC journalist Mark Willacy neatly described the recurring pattern: "At first TEPCO denies there's a problem at the crippled Fukushima plant. Then it becomes obvious to everyone that there is a problem, so the company then acknowledges the problem and makes it public. And finally one of its hapless officials is sent out to apologise to the cameras."

In February 2013, TEPCO President Naomi Hirose apologised for false information which led a parliamentary panel to cancel an on-site inspection of the Fukushima plant. TEPCO even managed to lie in its website apology according to the *Asahi Shimbun* newspaper.

In March 2013, a rat found its way into an electrical switchbox resulting in a power outage that left 8,800 nuclear fuel assemblies without fresh cooling water for 21–29 hours. TEPCO delayed notifying the Nuclear Regulation Authority and local municipal officials about the incident. "We sincerely apologise. We are deeply regretful over the delay in reporting the incident and for causing anxiety to residents," said TEPCO representative Yoshiyuki Ishizaki.

On March 29, TEPCO belatedly acknowledged that the company's failings were responsible for the Fukushima disaster. Hirose apologised: "Our safety culture, skills, and ability were all insufficient. We must humbly accept our failure to prevent the accident, which we should have avoided by using our wisdom and human resources to be better prepared."

In April, TEPCO discovered that at least three of seven underground storage pools were seeping thousands of litres of radioactive water into the soil. Hirose travelled to Fukushima to apologise for the leaks.

TEPCO acknowledged a further five leaks and spills of contaminated water in April, including a spill of around 110,000 litres from a polyethylene-lined tank (TEPCO waited two days before informing the Nuclear Regulation Authority about this spill). Some of the leaks were continuing because TEPCO was unable to locate their source. Hirose apologised for the fiasco: "We have been causing tremendous trouble. We are very sorry."

After finding high levels of tritium and strontium in an observation well in June, TEPCO withheld the information for nearly three weeks. TEPCO executive Akio Komori visited the Fukushima prefectural government office on June 19 to apologise.

In July, it was revealed that TEPCO knew about radioactive groundwater leaks into the ocean a month before it publicly

disclosed the problem. TEPCO's general manager Masayuki Ono apologised: "We would like to offer our deep apology for causing grave worries for many people, especially for people in Fukushima." TEPCO President Naomi Hirose also apologised: "We've been trying to reform, but we repeated the same mistake. Obviously, our effort is not enough. We are really sorry."

Also in July, Hirose apologised to two local mayors for seeking permission from the Nuclear Regulation Agency to restart reactors at the Kashiwazaki-Kariwa nuclear plant without first consulting local officials: "We sincerely apologise for your having had cause to criticise us for making hasty and sloppy decisions without giving considerations to local opinions." In October, Niigata Prefecture Governor Hirohiko Izumida – who effectively holds a veto over reactor restarts at Kashiwazaki-Kariwa – said TEPCO must address its "institutionalised lying" before it can expect to restart reactors.

In early August, TEPCO apologised to residents in Fukushima prefecture, the surrounding region and the larger public for causing inconveniences, worries and trouble arising from contaminated water leaks.

At an August 21 media conference, TEPCO executive Zengo Aizawa apologised for the latest tank leak and said: "The problem of contaminated water is the largest crisis facing management and we will place priority on dealing with the issue." At an August 26 media conference, Hirose apologised: "Contaminated water has been leaking from tanks. What should never happen, has been happening, and we deeply apologise for the repeated worries that we have caused. We are very sorry."

On August 29, Hirose apologised to fishermen whose livelihoods have been affected by radioactive pollution from the Fukushima plant. But Hiroshi Kishi, head of a federation of more than 1,000 fisheries cooperatives nationwide, said his members had no faith in TEPCO's ability to fix the mess it had created. "We think your company's management of contaminated water has collapsed," he said. "We are extremely worried as it's creating an immeasurable impact on our country's fishing industry and will continue to do so in the future."

In September, Hirose offered a blanket apology: "We deeply apologise for the greater anxiety caused by the accident at Fukushima Daiichi nuclear power station."

Also in September, Dale Klein, former head of the US Nuclear Regulatory Commission and current chair of TEPCO's 'Nuclear Reform Monitoring Committee', told TEPCO that it was stumbling from "crisis to crisis" and that: "It appears that you are not keeping the people of Japan informed. These actions indicate that you don't know what



Fukushima commemoration and protest in Tokyo.

you are doing ... you do not have a plan and that you are not doing all you can to protect the environment and the people." Hirose apologised: "I apologise for not being able to live up to your expectations."

In October, Hirose apologised to the Nuclear Regulation Authority (NRA) for sloppy standards at Fukushima, as yet another problem with radiation-polluted water emerged. "The problems have been caused by a lack of basic checks," NRA secretary general Katsuhiko Ikeda told Hirose. "I can't help but say that standards of on-site management are extremely low at Fukushima Daiichi."

In November, Hirose apologised to the estimated 150,000 local residents who have been forced to leave their homes due to radiation levels, and may in some cases never be able to return: "I have visited Fukushima many times, met the evacuees, the fishing union, the farmers, many people whose businesses have been damaged very much. I feel very sorry for them."

In December, secretary-general of the ruling Liberal Democratic Party Shigeru Ishiba apologised after describing citizens participating in anti-nuclear protests outside the Japanese parliament as "engaging in an act of terrorism by causing excessive noise". People were protesting against disgraceful new secrecy legislation which will deter nuclear whistleblowers from coming forward and deter journalists from reporting such information.

In December, another blanket apology from TEPCO President Naomi Hirose: "We deeply apologise to all residents around the Fukushima Daiichi Nuclear Power Station, as well as the broader society, for the concern and anxiety that has arisen on account of the accident at the power station."

Hirose began 2014 with a New Year's speech in which he acknowledged that TEPCO was incapable of adequately dealing with problems in 2013, and was continually responding late to issues as they arose.

Hirose said TEPCO will do its best "not to have any problems" in 2014. Fat chance.

Nuclear apologists

Sadly, nuclear apologists have been slow to apologise for peddling misinformation. Adelaide-based nuclear advocate and conspiracy theorist Geoff Russell and Adelaide University's Barry Brook insist that the Fukushima disaster was "deathless" despite a growing number of scientific studies giving the lie to that claim.

Last year the World Health Organisation released a report which concluded that for people in the most contaminated areas in Fukushima Prefecture, the estimated increased risk for all solid cancers will be around 4% in females exposed

as infants; a 6% increased risk of breast cancer for females exposed as infants; a 7% increased risk of leukaemia for males exposed as infants; and for thyroid cancer among females exposed as infants, an increased risk of up to 70% (from a 0.75% lifetime risk up to 1.25%).

Estimates of the long-term cancer death toll include:

- a Stanford University study that estimates "an additional 130 (15-1100) cancer-related mortalities and 180 (24-1800) cancer-related morbidities";
- an estimate of 1,000-3,000 cancer deaths by physicist Ed Lyman (based on an estimated collective whole-body radiation dose of 3.2 million person-rem to the population of Japan); and
- an estimate of around 3,000 cancer deaths from radiation biologist and independent consultant Dr Ian Fairlie.

Indirect deaths must also be considered, especially those resulting from the failure of TEPCO and government authorities to develop and implement adequate emergency response procedures. A September 2012 Editorial in Japan Times noted that 1,632 deaths occurred during or after evacuation from the triple-disaster; and nearly half (160,000) of the 343,000 evacuees were dislocated specifically because of the nuclear disaster. A January 2013 article in The Lancet notes that "the fact that 47% of disaster-related deaths were recognised in Fukushima prefecture alone indicates that the earthquake-triggered nuclear crisis at the Fukushima power plant caused extreme hardship for local residents."

In Fukushima Prefecture, 1,656 people have died as a result of stress and other illnesses caused by the 2011 disaster according to information compiled by police and local governments and reported in February 2014. That number exceeds the 1,607 people in Fukushima Prefecture who were drowned by the tsunami or killed by the preceding earthquake.

"The biggest problem is the fact that people have been living in temporary conditions for so long," said Hiroyuki Harada, a Fukushima official dealing with victim assistance, "People have gone through dramatic changes of their environment. As a result, people who would not have died are dying."

The claim by Barry Brook and Geoff Russell that Fukushima was "deathless" has no basis in truth. They ought to take a leaf from Naomi Hirose's book, bow deeply and apologise.

Jim Green is the national nuclear campaigner with Friends of the Earth, Australia. A referenced version of this article is available from jim.green@foe.org.au

Queensland campaign against uranium mining

Adam Sharah

In October 2012, Queensland's Liberal-National Party (LNP) government broke a commitment made repeatedly before and after the state election by overturning the ban on uranium mining. The Newman government set up an independent Uranium Mining Implementation Committee (UMIC) to investigate and implement a plan to open a uranium industry in Queensland.

The areas most likely to be mined are Westmoreland near the NT border, Valhalla and other sites near Mt Isa, and Ben Lomond located 50kms from Townsville, though evidence exists there are plans for exploration at numerous other sites throughout Queensland.

Unless Queensland ports are opened up to uranium shipments, yellowcake will be trucked over vast distances by road-trains across Queensland to ports in the Northern Territory and South Australia. In recent submissions the UMIC confirmed North Queensland Bulk Port's capacity to manage the transportation, storage and shipping of radioactive yellowcake. If these submissions are successful radioactive yellowcake may be trucked through Queensland communities and shipped over the Great Barrier Reef via Mackay Port, Townsville Port or Abbott Point.

In a submission dated 17 December 2012, the Acting Deputy Chief Executive Officer of North Queensland Bulk Port Corporation, Gary Riches, stated: "The Port of Mackay is capable of handling the break bulk cargo typically associated with the development and maintenance of mining and associated infrastructure. The uranium industry is seen as an opportunity to utilise existing terminal capacity delivering economies of scale and improving economic activity in Central and Regional Queensland."

Barry Holden, CEO of Townsville Port, told the ABC the port was capable of resuming uranium export: "It's just another product, it's handled in containers as we understand it. If it's a legal trade in Queensland, given that we're a government-owned corporation, then I'd expect it would be handled through the port, yes indeed."

In an interview with the ABC in response to the submissions, Mark Bailey from Keep Queensland Nuclear Free stated: "The Ports have made it very clear in writing that they want to export radioactive uranium through the Port and across the Great Barrier Reef. This means radioactive yellowcake being regularly transported through the streets of either Mackay or Townsville. To protect tourism jobs, local residents and the reef we call upon the Newman government to rule out exporting uranium

through the Ports. A very real risk is if there is a fiery accident involving a uranium truck, the local area could be contaminated with radioactivity."

In early 2013, Queensland graziers expressed their concerns about Queensland resuming uranium mining. Due to inadequate clean-up efforts and the lack of containment of radioactive dust, to this day the former Mary Kathleen mine located on the Selwyn Range between Concurry and Mt Isa remains a toxic legacy. In 1984, over a million litres of saline, metal and radionuclide rich water was released from Mary Kathleen's evaporation ponds during a wet season. Thirty years later, toxic waste water is still being drained via purposely-built seepage systems. At the Cameron River, due to the use of mined rocks sourced from the site for the construction of bridges, apart from weeds, plant species are unable to grow. Though it is common knowledge amongst locals that the creeks are not safe for swimming or fishing, there are no signs in place to warn of the dangers.

In December 2013, Mark Bailey and myself campaigned in Mackay, Cairns and Townsville to raise awareness about the dangers associated with uranium mining. Although Townsville's burgeoning economy is entirely reliant on mining, the community response has been encouraging. In Townsville a local action group called CAMBL – Citizens Against Mining Ben Lomond – has formed. Due to a toxic spill in Townsville in the 1980's, local residents are concerned about the transportation of uranium through a primary source of Townsville's water, the Burdekin River catchment – the second largest catchment draining into the Great Barrier Reef after the Fitzroy River catchment.

A toxic spill in the Burdekin catchment could be catastrophic for the largest living structure on Earth, the Great Barrier Reef Marine Park, a unique ecosystem already under threat due to dredging to accommodate proposed port and shipping lane expansions. In April 2013, Tim Badman from the International Union for Conservation of Nature told the ABC that shipping yellowcake would be a "new threat to the Great Barrier Reef" and a "surprising activity to find in any natural world heritage site". Russell Reichelt from the Great Barrier Reef Marine Park Authority agrees it would be a concern.

CAMBL is using a report issued by the Swiss Federal Institute of Technology to boost their objection to the Ben Lomond uranium mine: "With only six months to go until uranium mine applications are lodged in Queensland, we are deeply



Survival Day, Brisbane, 2014

concerned that this isn't enough time for proper peer reviewing of this new study and for any new knowledge to be applied to assessing any North Queensland uranium mines," CAMBL spokesperson Mark Harrison said. "One of the aspects from this study is that in areas with high rainfall it spreads even further. We have that here. These mining companies are going to tell us that they're going to do everything by the book, but they can't guarantee 100 per cent that this can't happen and that's the main issue."

French company Minatome undertook trial mining at Ben Lomond in the early 1980s. Federal MP Bob Katter spoke at length about Ben Lomond in Parliament on 1 November 2005. He noted that Minatome initially denied reports of a radioactive spill, but then changed its story and claimed that the spill posed no risk and did not reach the water system from which 210,000 people drank.

Katter continued the story: "For the next two or three weeks they held out with that story. Further evidence was produced in which they admitted that it had been a dangerous level. Yes, it was about 10,000 times higher than what the health agencies in Australia regarded as an acceptable level. After six weeks, we got rid of lie number two. I think it was at about week 8 or week 12 when, as a state member of parliament, I insisted upon going up to the site. Just before I went up to the site, the company admitted – remember, it was not just the company but also the agency set up by the government to protect us who were telling lies – that the spill had reached the creek which ran into the Burdekin River, which provided the drinking water for 210,000 people. We had been told three sets of lies over a period of three months."

In 2014, the Australian Nuclear Free Alliance, Friends of the Earth and Keep Queensland Nuclear Free will extend the campaign to include central and far north west and central Queensland. The pro-mining right-wing political landscape, the economic apartheid and desperation experienced by remote Aboriginal communities, the geographical isolation of the proposed uranium mine sites and the sheer vastness of the areas threatened by mining exploration, combine to present a unique set of challenges for the campaign.

Many of the same Aboriginal family groups whose Traditional Lands are already mined for uranium in the NT, or are under threat due to the proposed national nuclear waste dump at Tennant Creek, have close cultural and family ties to groups in the regional towns located near the sites earmarked for uranium mining and exploration

in Queensland. Providing a platform for resistance for Aboriginal groups opposed to uranium mining on their Country will require intensive and careful strategic planning and commitment and consistent funding.

Adam Sbarab is an anti-nuclear campaigner with the Australian Nuclear Free Alliance.

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Australian Nuclear Free Alliance: www.anfa.org.au

Keep Queensland Nuclear Free: <https://www.facebook.com/KeepQLdNuclearFree>

Citizens Against Mining Ben Lomond: <https://www.facebook.com/>

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The nuclear renaissance that never was

Jim Green

The figures are in: 2013 was another bad year for the nuclear power industry – its third in a row – and it's time to call shenanigans on the nuclear 'renaissance' that never was.

The most that could be said for the 2013 figures – four reactors connected to grids, four permanently shut down – is that they weren't as bad as the previous year, and the industry can take some comfort from 10 reactor construction starts.

In 2012, nuclear power generation fell by 7% from the 2011 figure – its biggest ever one-year fall. Nuclear generation fell in no less than 17 countries, including all of the top five nuclear-generating countries.

Nuclear power accounted for 17% of global electrical generation capacity in 1993 but has steadily declined to 10% now and will account for just 4.5–6.2% of electrical generation capacity in 2030 according to the latest International Atomic Energy Agency (IAEA) forecasts.

The IAEA has downwardly revised its projections repeatedly since the Fukushima disaster. Its latest forecast is for growth from 373 gigawatts (GWe) of global nuclear capacity (in September 2013) to 435–722 GWe by 2030; that is, growth of 17–94%. As if to soften the blow of its latest downward revision, the IAEA noted that the latest reduction "is less than in the two previous years."

Historically, the IAEA's high estimates have been fanciful, while its low estimates also tend to be too high (by 13% on average) but provide a reasonable guide nonetheless. So growth of 17% by 2030 – annual growth of 1% – is about as much as the industry can realistically hope for.

The IAEA will further reduce its projections when it fully accounts for last year's developments. Perhaps the most striking developments were in the United States, where the industry is finding it increasingly difficult to profitably operate existing reactors – especially ageing reactors requiring refurbishments – let alone build new ones. Almost half of the world's reactors have operated for 30 years or more, so the problem of ageing reactors is starting to come into sharp focus.

Peter Bradford, a former member of the US Nuclear Regulatory Commission, noted in July 2013 that applications for 31 new reactors in the US were pending by 2009. "The 31 proposed reactors are down to four actually being built and a few others lingering on in search of a licence, which is good for 20 years," Bradford wrote. "Those four are hopelessly uneconomic but proceed because their state legislatures have committed to finish them as long as a dollar remains to be taken from any

electric customer's pocket. Operating reactors are being closed as uneconomic for the first time in 15 years."

Last year alone, US utilities closed or announced plans to close five reactors in addition to cancelled plans for new reactors and cancelled plans to increase the power of existing reactors; Forbes recently listed another six nuclear plants that could be next for the chopping block; and academic Mark Cooper has identified 38 US reactors in a similar situation to those that have recently been shut down. Small comfort for the industry that the number of reactors listed as under construction has risen to five.

Europe

The UK has finally made some movement towards replacing its fleet of ageing reactors. The capital cost for two planned large reactors (totalling 3.2 GW) at Hinkley Point in Somerset: a staggering £16 billion (US\$26.4 billion). Utilities can't raise the capital, so the UK government is offering loan guarantees of £10 billion. And the UK government is guaranteeing French utility EDF a staggering £89.50 for every megawatt-hour generated by the Hinkley Point reactors, fully indexed for inflation, for a staggering 35 years.

Economic consulting firm Liberum Capital said "we are flabbergasted that the UK government has committed future generations of consumers to the costs that will flow from this deal" and that Hinkley Point will be "both the most expensive power station in the world and also the plant with the longest construction period."

EDF plans to build European Pressurized Reactors (EPRs) at Hinkley Point. Two other EPR projects – in Finland and France – have been disastrous. The estimated capital cost for the EPR in Finland has ballooned from \$4.5 billion to \$12 billion. The estimated cost for the EPR in France has ballooned from \$5 billion to \$12.8 billion. Thus we have a rule-of-thumb for estimating the true capital costs of nuclear power: double the initial estimate and add a few billion for good measure.

While the costs of renewables are falling – and in the case of solar PV, plummeting – nuclear power is subject to a 'negative learning curve'. Economic boffins at Citigroup explain: "The capital cost of nuclear build has actually risen in recent decades in some developed markets, partly due to increased safety expenditure, and due to smaller construction programmes (i.e. lower economies of scale). Moreover the 'fixed cost' nature of nuclear generation in combination with its relatively high price (when back end liabilities are taken into account) also places the technology

at a significant disadvantage; utilities are reluctant to enter into a very long term (20+ years of operation, and decades of aftercare provisioning) investment with almost no control over costs post commissioning, with the uncertainty and rates of change currently occurring in the energy mix.”

The French President has pledged to reduce reliance on nuclear power from 75% to 50% of total electricity generation (though his plan faces significant opposition). Belgium, Germany, and Switzerland plan to phase out their existing nuclear power programs.

The European Commission forecast that EU nuclear generating capacity of 131 GWe in 2010 will decline to 97 GWe in 2025. The Commission forecasts that nuclear’s share of EU electricity generation will decline from 27% in 2010 to 21% in 2050, while the share held by renewables will increase from 21% to 51.6%, and fossil fuels’ share will decline from 52% to 27%.

Asia

Academic Richard Tanter noted that 2012 was a “busy year for nuclear corruption”. The same could be said for 2013. South Korea is one of four countries that is supposedly driving the nuclear renaissance (along with China, India and Russia). But plans to expand nuclear power to 41% of electricity supply by 2035 have been reduced to a 29% target in the wake of a major scandal involving bribery and faked safety certificates for thousands of reactor parts, and another scandal involving the cover-up of an accident that sent the temperature of a reactor core soaring. One hundred people have been arrested including a former chief executive of Korea Hydro and Nuclear Power (KHNP), a vice president of Korea Electric Power Corp., and a former deputy minister in charge of energy.

In September, the chief executive of KHNP issued a public apology, saying “our domestic nuclear project is facing the utmost crisis” and noting that public trust has “hit the ground” because of the Fukushima disaster and the corruption. The proportion of South Koreans who consider nuclear power safe fell from 71% in 2010 to 35% in 2012, while a 2011 survey found 68% opposition to new reactors in South Korea (and 69% opposition across 24 countries).

No reactors are operating in Japan – some will restart in the coming years but plans to add at least 15 reactors to Japan’s fleet of 50 reactors are dead and buried. The Fukushima disaster will be with us for decades and the economic costs are being counted in the hundreds of billions of dollars.

Plans for a new nuclear power plant in Taiwan motivated 200,000 people to participate in protests in March 2013, led to a physical brawl in Parliament in August, and both major parties are promising an eventual phase-out of nuclear power.

Other countries

Russia and China have reduced their projections for nuclear power growth (though significant growth in China, where 28 reactors are under construction, still has the potential to mask patterns of stagnation and slow decline elsewhere). Public opposition forced the cancellation last year of a planned nuclear fuel processing plant in China and contributed to the cancellation of a planned power reactor near Kaliningrad in Russia – the first time in both countries that public opposition has stopped nuclear projects.

Canada has abandoned plans for new reactors. The government of Brazil, the world’s fifth most populous country, recently announced that apart from one reactor already under construction, plans for new reactors have been put on hold indefinitely. The head of Brazil’s energy planning agency, Mauricio Tolmasquim, said: “This is wind power’s moment. There’s been a revolution in terms of cost.”

South Africa – the only country in Africa with power reactors – abandoned plans for new reactors in 2008, revived them, then abandoned them again in December 2013.

In the Middle East, only Iran has a nuclear power reactor, while Jordan, the United Arab Emirates, Turkey and Saudi Arabia are pursuing nuclear power programs with greater or lesser intent. Meanwhile a swag of countries in the Middle East and North Africa have put nuclear power on the back-burner, including Kuwait, Oman, Qatar, Bahrain, Egypt, Syria, Tunisia, Israel, Morocco, Algeria and Libya.

Any number of other countries have decided since the Fukushima disaster not to engage or re-engage in nuclear programs, including Singapore, Greece, Italy, Peru, Portugal, Thailand, Venezuela, and many others.

The nuclear renaissance is dead ... stone cold dead. If there is any growth at all, it will fall well short of the significant, sustained growth implied in the term renaissance.

A longer, referenced version of this article was published in Nuclear Monitor #776, 24 January 2014, www.wiseinternational.org/nuclear-monitors

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

The humanitarian impact of nuclear weapons

Gem Romuld

Who can argue in favour of the most destructive and indiscriminate weapons of mass destruction ever invented, which have only increased in power and sophistication since they were used in war against Japan in 1945? Who can advocate for a weapon that flattens cities, creates a fire-storm that steals oxygen and stays dangerous for decades? Who can remain aloof to the stories of hibakusha – atomic bomb survivors – from Japan and all of the countries used for atomic testing?

Well, some people can and do. It seems like a no-brainer, but banning nuclear weapons is a controversial task. Nine countries possess nuclear weapons: US, Russia, France, UK, Israel, India, North Korea, China and Pakistan. At least another 33 countries are defence allies with the nuclear weapons possessors, making them complicit in nuclear weapons programs and hijacking their ability and inclination to act autonomously on the topic. Australia is one such “umbrella state”, claiming to rely on US nuclear weapons, even though the US has never explicitly confirmed that they even would use nuclear weapons to defend Australia. Another term is “bullseye state”. Australia hosts two extremely important joint defence facilities at Pine Gap, NT, and North West Cape, WA. The highly secretive bases are important for weapons targeting, intelligence gathering and no doubt much more, making them an effective target or “bullseye” for injuring the US war-machine.

Regardless of the various justifications some countries come up with for supporting nuclear weapons, many more countries are staunchly outspoken against them. While it’s easy for states to trot out their admiration for the “ultimate goal” of nuclear abolition, some are actually forging a path to get there. That path is called the “humanitarian initiative”, by which examination of the real-world effects of nuclear weapons on humans and the environment makes the case for their abolition like no defence paper ever could.

For two days in February 2014, 146 states gathered in Nayarit, Mexico, to discuss the humanitarian impact of nuclear weapons. The other half of the room was packed with academics, UN agencies, journalists and civil society generally, coordinated by the International Campaign to Abolish Nuclear Weapons (ICAN). The discussions built upon the first conference on the topic in Oslo, Norway in 2013 and marked, according to the Chair Summary, a “point of no return”. They’re talking about a ban, a convention, a nuclear weapons treaty – an international, legally-binding instrument that clearly prohibits the manufacture, possession, and use of nuclear weapons under any circumstances.

Nuclear weapons are the only weapons of mass destruction not clearly prohibited under international law. There are nuclear free zones, prohibitions on testing, treaties on non-proliferation and numerous other international instruments and fora dedicated to non-proliferation and disarmament. But the disarmament part too often gets left behind. A nuclear weapons treaty would work to further implement the existing frameworks, and is a necessary tool to bring about the total elimination of nuclear weapons – something the Nuclear Non-Proliferation Treaty will never do.

The Australian government remains embarrassingly trapped in its own circular and cold-war-era logic that while ever nuclear weapons exist, this country will rely on them. But as the Mexican Foreign Minister argued, “the security of the world cannot depend on the threat of its own destruction”. As the Mexico Conference progressed, more and more countries joined the speaking list to call for a ban and welcome the Austrian Foreign Minister’s announcement that Austria will host a follow-up conference before the end of 2014, which we hope will lay out the framework for treaty negotiations.

In the meantime, the Australian government needs to ask whether the people want complicity with nuclear weapons, or whether we can do better and reject them. Australia has a lived history of the atomic testing of British bombs in the 1950s and ‘60s. Radioactive fallout from these tests spread death and illness across Aboriginal lands, affecting whole communities and the servicemen and women through the generations. With this lived history and the volumes of evidence telling of the catastrophic consequences of these weapons of mass destruction, there are simply no excuses.

For more information and to partake in the efforts of nuclear abolition, visit: www.icanw.org.au

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