

2017 - 18

Annual Report



Contents

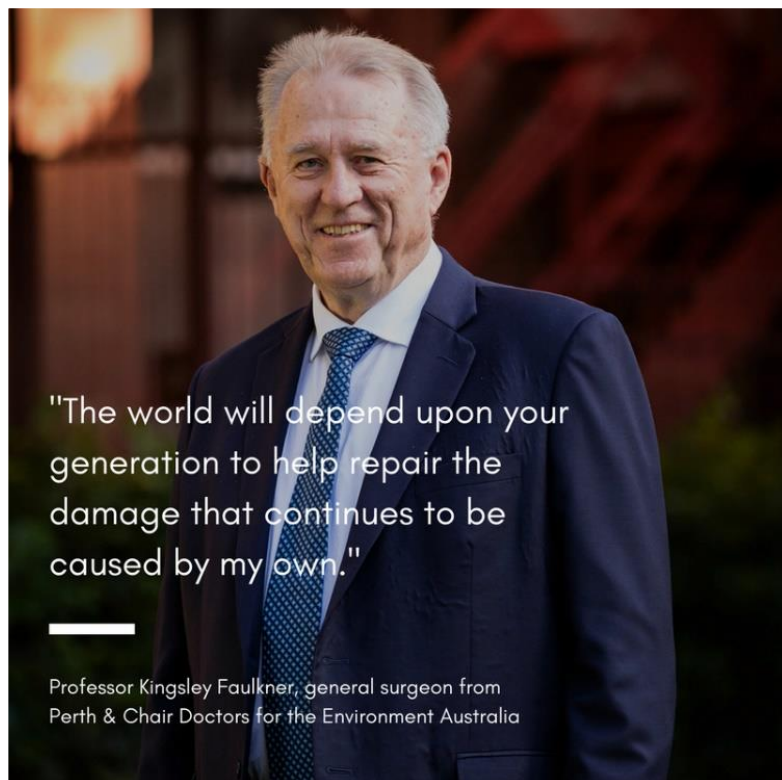
A message from the Chair	4
Areas of action –	
Climate change	8
Association with AMA	10
Air pollution	
Industry	11
Vehicles	13
Fossil fuels	
Coal	16
Unconventional gas	19
Energy and health	20
Agriculture and climate change	21
Biodiversity and natural ecosystems	23
New generation of environmental laws	25
Environmentally sustainable healthcare	26
Education	28
iDEA18 Conference	29
Submissions	31
Media and communications	33
Media releases	34
Social media	37
Students in action	38
The state of affairs	42
Behind the scenes	46
Treasurer's report	48
DEA	
Publications	49
Conferences, talks and lectures	53
Media press and interviews	54
References	56



Day Dream Silver Mine near Silverton, outback NSW - Timothy Kennaway
DEA photographic competition entry

Chair's message

Professor Kingsley Faulkner AM



Preamble

It requires an enormous level of self-delusion to deny the increasing evidence of climate change being unleashed across Australia and throughout the lands and oceans of our fragile and increasingly wounded planet.

No continent or country on Earth is immune. Record temperatures in multiple countries, deadly heat waves, devastating bush fires over extended periods, typhoons, floods and land-slides claiming thousands of lives, storm surges and rising sea levels.

And droughts and famines in vulnerable countries already bearing the brunt of forced migration through hunger and thirst, leading to widespread social dislocation and wars, swamping other countries and challenging their civil societies. Our Pacific Island neighbouring countries are also feeling the consequences of rising sea levels. Their pleas for concern and action are being heard on the global stage but have been largely ignored by our own country.

Australian examples of climate change abound. Falling rainfall in New South Wales and Queensland leading to an entrenched drought, with livestock dying or being sacrificed in their thousands, bringing financial ruin and

psychological stress to many families. Their pleas for assistance from state and federal governments have yielded inadequate responses because those governments are still paralysed by denial of the underlying science.

Rays of hope

The outlook is dismal but new rays of hope are appearing. There are an increasing number of people and some politicians across the political spectrum in the state and federal spheres who do understand the gravity of the situation and are willing to act.

At the local government level there is a growing movement to introduce sustainable practices, to use electrical power more efficiently and to source it increasingly from renewable technologies, to reduce waste, plant trees, preserve green spaces, encourage physical activity and design cities and towns to achieve all of these objectives.

Around eight million of Australia's population now live in communities where local governments are moving ahead with these positive initiatives and young leaders are in the vanguard of these actions.

The carbon footprint of the healthcare sector and its responsibility towards climate change mitigation and adaptation are now being addressed much more seriously.

Corporate leaders, who are well aware of the demands of sound corporate governance, have been making it clear that executive and non-executive directors of companies and institutions that do not factor in the reputational and fiduciary risks of predictable climate change will be held to account. Directors may well be proven to have failed in their responsibilities and be harshly penalised for this dereliction of duty.

Initiatives by DEA and other organisations to encourage banks, superannuation funds, other corporations and universities to divest from fossil fuels have resulted in multiple successes.

Insurance companies are now acutely aware of the rising problems caused by climate change and will be factoring in increasingly high premiums to keep pace with the damage to infrastructure, production and the health of people. Agricultural production in many regions is becoming even more precarious with great economic, social and mental health consequences. State and federal governments struggle to keep pace with compensation demands on the public purse.

The enormous financial costs associated with damage to coastal infrastructure in capital cities and towns throughout the nation will have to be factored into future economic modelling. This aspect alone will stretch financial reserves and the added complexity and costs of health provision to the limit.

Historical reflections

The Industrial Revolution, commencing around 170 years ago, has raised the standard of living and health of billions. The resources of the planet are finite, and many millions are not sharing in those benefits. The disparity between rich and poor is glaringly obvious.

The impact of emissions causing great harm through climate change was not appreciated until the 1970s, but countries have had almost 50 years to address the problem and many nations, including Australia, have been negligent in responding to these existential threats. They are stumbling towards the cliff edge as the nations of Europe did prior to 1914.

Technological advances have now demolished the economic arguments against transitioning to renewable energy production of electricity and they are rapidly overcoming the barriers to substantially phasing out fossil fuels for transportation as well. A visionary approach to hasten the adoption of renewable energy technologies, conscious of dislocation to livelihoods of the workforces involved yet creating more jobs than would be lost, should be of a top priority for all governments.

Proponents of fossil fuels persist in ignoring the external health costs, the costs of propping up old coal burning power plants and dealing with their residues, and the foolishness of building new ones. Inadequate ideologically constrained political leadership is preventing genuine solutions that are desperately needed right now. Three thousand people die annually from air-pollution in Australia and around seven million die globally from it as well. Millions will predicably die from the impacts of climate change because of political stagnation.

DEA's mandate

DEA's mandate is to assimilate the wealth of evidence linking climate change, environmental degradation and air pollution to ill-health, to educate the profession and the public about that evidence, and to inform and persuade the policy makers of the urgent need to address them.

DEA members have been active through the Management Committee and through State and Territory branches in writing to and speaking with AMA (Australian Medical Association) leaders, and to the leaders of several medical colleges encouraging them to become better informed and far more vocal about climate change and its impact upon the people that the medical profession serves.

DEA has continued to research and present multiple major submissions to Senate inquiries and elsewhere. These may not have a significant effect in the short term, but they remain on the public record, can be quoted when the issue surfaces later, add to the wealth of literature that DEA has accumulated and inform our policy development.

iDEA18 Conference, Newcastle

The iDEA18 conference in Newcastle, NSW in April 2018 was an outstanding success and great credit goes to those who organised it, delivered the papers and participated in the discussions that followed. It was wonderful having many fine presentations including those by Dr Anne Poelina, an Indigenous woman from the Mardoowara (Fitzroy River) in the Kimberley region and by Karrina Nolan from the NT, both speaking with knowledge, understanding and passion, about the meaning of country and the broader environmental concerns that are encompassed by it.

Hearing the Hon Mark Butler, Shadow Minister for Energy and author of *Climate Wars*, and former Senator Bob Brown speak with deep understanding of the issues and the political difficulties of adequately addressing them was disturbing but also motivating. The three contenders for the leadership of the Federal AMA were invited to the Conference, and the subsequently successful candidate, Dr Tony Bartone from Victoria attended.

Executive Officer initiative

At the AGM in Adelaide in October 2017, it was resolved to raise, if possible, sufficient funds to employ an Executive Officer to help place DEA on a more stable foundation and assist with its multiple objectives and operational challenges. Subsequently DEA has now received a very generous grant from the Lord Mayors Charitable Foundation (Melbourne). This was added to funds raised from many generous DEA members, enabling us to advertise for and select an Executive Officer. Dr Selina Lo, who had worked with the Lancet and in other roles, was appointed and served DEA for the following six months.

The task is not an easy one. Selina was active during the iDEA Conference and subsequently but has now moved on to other pursuits. DEA advertised among its own members for an interim replacement at 0.6 FTE for the next three months and Dr Catherine (Cate) Ealing has been appointed.

Scope of DEA activities

DEA is addressing multiple demanding issues in addition to climate change and air pollution yet often clearly linked to them. Reports on many of those activities are included in this Annual Report. Many members of DEA have contributed towards these activities on a totally volunteer basis and thanks are extended to them all. Especial thanks are extended again to David Shearman, Eugenie Kayak and Hakan Yaman but many others could readily be named.

Appreciation of staff

Long-standing Administrative Officer Joy Oddy has worked in tandem with Rebecca Osborne who has been an invaluable assistant, including covering periods of leave in the office.

Carmela Ferraro continues to provide expertise in accessing and facilitating media opportunities. This professional assistance is essential for educating and influencing the profession, the community and policy makers. The level of media coverage received is testament to her professionalism. Additional challenges have been to expand DEA's expertise in web site design and social media engagement.

The future

Continuing education of the profession, the public and the policy makers about the major environmental hazards to health, especially climate change, is DEA's task. The challenge to meet the Paris Agreement, as an absolute minimum, is being addressed nationally with insufficient urgency. Australia ought to be leading but it is failing to do so.

Increased membership overall and increasing participation and influence from all members is vital. The highest degree of efficiency and effectiveness remains an ongoing challenge for the entire organisation.



Kingsley Faulkner AM
Chair

Healthy planet, healthy people

Climate change

Lack of acceptance of climate change and minimal efforts for mitigation by Australia's Federal law-makers continue as a major frustration for DEA. However, with the majority of states and a multitude of cities and communities adopting ambitious aims and actions, DEA's determination to make a difference is strengthened.



A warming world means more heat waves with their attendant risks to health and life. David Shearman described the adverse physiological effects of heat waves¹ reminding us that mitigation of global warming is the preferred option.

Development of a climate change policy² has given DEA a direction in which to concentrate educational and advocacy efforts.

"Because progressive climate change presents such a significant threat and bleak future for Australia and the world, we must recognise the need for secure and decisive action unimpeded by the vicissitudes of successive governments, their political needs, budgets, ideologies and lack of public service expertise. The issue is a key national one like monetary regulation and policy and must be directed by a national statutory authority to assess information and deliver outcomes backed by law".²

Clearly the Federal Government must take urgent action through establishment of new independent statutory Environmental Authorities which would link environmental and health portfolios. See section on new environmental laws ([page 25](#)).

The new laws would also help progress Australia through measures to adhere to the United Nations Sustainable Development Goals, all of which will be further challenged by climate change impacts.³ These goals form part of a 'planetary health' approach⁴ but have been largely left to languish by the Federal Government, although some states are making a valiant effort to redress this neglect.

Victoria in particular has shown commendable ambition for developing a stronger Environmental Protection Authority (EPA) and further ambition on reducing carbon emissions, to which DEA has submitted recommendations.^{5, 6} In our submission, DEA urged strong emission reduction targets as an extension of the current target of 15-20% below 2005 levels by 2020. Based on an earlier report by the Climate Change Authority⁷ our recommendations for subsequent periods were 40% below 2005 levels by 2025, and then 50-60% below 2005 levels by 2030. These targets are far greater than those being promulgated for the National Energy Guarantee (NEG) for electricity generation, which DEA considers to be grossly inadequate. With continuous debate on targets and the lack of a mechanism to meet them, DEA has recommended *"A national carbon price offers a preferable regulatory option for achieving absolute, economy-wide emissions reductions than the current Emissions Reduction Fund (ERF) Policy. In designing domestic emissions reduction policies, Australia should consider the full carbon footprint of local activities including their offshore (Scope 3) emissions".²*

After President Macron of France reminded the world and our next generations in April this year that there is no other planet, DEA reminded Australia that its effort has been lamentable.⁸ Fortunately the youth vote may have more chance of shaping our outcome.⁹ Dr Kim Loo of NSW¹⁰ exemplifies the persistence of DEA in seeking action through advocacy, with timely advice that we must always be respectful and polite in our dealings with politicians. However, when it comes to comments by ill-informed and conflicted journalists, DEA has a right to be more forthright and re-direct readers to accurate information.¹¹

A project which DEA has been developing is to update and refresh a 2015 publication *No Time for Games*,¹² which is a comprehensive review of the predicted effects of climate change on children. The revised report and accompanying information flyer will be launched amongst medical and health professionals, who can then disseminate interest through their wide exposure to members of the community.

Mitigating climate change and reducing toxic air pollution are the rationales for our advocacy for cleaner fuel and better engines for cars, as a prelude to conversion to electrical energy for all forms of surface transport. Submissions on these transport recommendations are covered in more detail elsewhere in this report.

DEA has also contributed to a Senate Inquiry into Current and future impacts of climate change on housing, buildings and infrastructure.¹³ In this comprehensive submission we pointed out the far-reaching impacts that climate change will have on all aspects of infrastructure, which will create huge repair costs. However, many economists agree that costs of mitigation will be less than those of reparation. *"Cost has to be put into the context that efficient and appropriate expenditure leading to action and resilience will prevent much greater costs. There is a now significant international literature making this point and most importantly it is recognised in a report commissioned by the US President (Obama)".*¹³

Once again, we urged for a Statutory Authority and a national EPA to be established under strong national leadership. If 'health' was accepted as a determinant in all policies, it would simplify the guidelines and narrow the focus for dealing with the huge number of complex issues generated by climate change.



Association with AMA

The last year has continued to see the building of DEA's relationship with the AMA at numerous levels.

Leading into the AMA's Federal presidential election, DEA wrote to all three candidates asking them for their position on climate change and health, the need for greater advocacy and inviting them to DEA's conference, iDEA18, in Newcastle. Dr Tony Bartone accepted this invitation, resulting in his attendance at iDEA18 in Newcastle for a day, allowing the opportunity to mix with our delegates.

DEA representatives also met with state presidents in Western Australia, South Australia and Victoria raising the topic of climate change advocacy and DEA encouraged our members who are AMA members to consider climate change advocacy when voting for AMA representation. The following month, Dr Bartone was elected AMA Federal President.



(L-R: Dr Tony Bartone, Federal AMA President; DEA representative's Dr Eugenie Kayak and Dr John Iser at the AMA hosted Environmental Sustainability in Healthcare event.)

The Victorian AMA Women in Medicine committee hosted an evening focusing on Environmental Sustainability in Healthcare on 21st May. This very successful meeting featured both visiting Dr David Pencheon (founding director of the UK NHS's

Sustainable Development Unit) and DEA's Dr Eugenie Kayak as speakers.

Following the AMA federal election, DEA wrote to the new Federal President Dr Tony Bartone. We offered our congratulations whilst also seeking further collaboration on climate change advocacy (highlighting the health and cost impacts of extreme weather events and co-benefits of climate change mitigation) and sustainability in the healthcare sector. The second encouraging AMA fossil fuel divestment following on from the American Medical Association's announcement to work towards the transfer of their investments from fossil fuel companies.

Further AMA engagement, particularly involving environmentally sustainable healthcare, climate change and divestment, are planned for the next year at both federal and state levels.



Dr Lorraine Baker (past AMA Vic President) Dr David Pencheon with AMA Victoria Women in Medicine Committee members and Dr Eugenie Kayak.

Air pollution - Industry

Air pollution continues to be a major focus of activity for DEA, in line with evolving scientific understanding of the links and mechanisms between exposure and health impacts as well as growing community awareness and concern about it.

There is considerable overlap with other DEA topics such as work on climate change, coal mining and combustion, and gas extraction. Consequently, there have been numerous articles published in the general and social media on air pollution by DEA members, as well as submissions and other representations.

Coal related air pollution

Australia's operating coal fired power stations are some of the oldest and most polluting in the world and their emissions are poorly regulated. The health implications of this were explained in the Saturday Paper article *Our unhealthy Power Stations*.¹⁴

The related health costs from coal fired power stations¹⁵ have been estimated at \$2.6 billion (2009) and these could be significantly reduced through the use of pollution reduction measures currently not fitted to Australian plants. Our power stations are not currently being licensed to account for these health impacts¹⁶.



The New South Wales EPA has failed to adequately regulate air quality in the Hunter Valley. Exceedances are too common despite Government assurances, and little is done when they occur¹⁷. DEAs Ben Ewald on Life Matters¹⁸, and John Van Der Kallen on Newcastle ABC radio were interviewed to discuss this and related issues.

Fine particulate pollution in the Hunter valley area has worsened since, prompting DEA to respond in the local media in April,¹⁹ reiterating the established health benefits of reducing coal combustion. Currently tax payers bear the costs of this pollution whereas DEA argues²⁰ it should be passed on to the polluter and reflected in the price of electricity. Evidence regarding links to increased illness in the Upper Hunter²¹ region from poor air quality were delivered to a Planning Assessment Committee.

As well as particulate air pollutants, coal combustion results in the release of other toxic products. New South Wales coal plants are currently licensed to release many times more mercury into the atmosphere than China and the US would allow²².

DEA's Victorian brown coal-fired power stations licence submission (January 2018)²³ called for licensing changes that: restrict air pollutant emissions in line with international standards; require more consistent and continuous emission monitoring; include limits on CO₂ emissions; and that cost of pollution reduction technologies should not be deferred due to cost. The Age²⁴ then raised the issue in an article *Environment watchdog could slap tougher emissions caps on power plants* followed by an article indicating that the Minister would act.

Coal dust is released along rail transport routes. These emissions are not being adequately monitored or regulated. DEA has previously argued that coal wagons should be covered to minimise release of dust and thereby protect health. Dr Sujata Allen explained this in the Blue Mountains Gazette (November 2017)²⁵.

Dr Ben Ewald explained in the Newcastle Herald that 'HELE' (high efficiency, low emissions) coal plants, proposed by the Minerals Council of Australia as a solution to emissions, would only marginally reduce greenhouse gasses and air pollution compared to existing plants and therefore confer negligible health benefit.²⁶

DEA has also responded to the statements made by our current federal government's proposal to keep the aging Liddell coal fired power station operating, despite its owner's plan to close it. DEA issued a media release²⁷ urging the closure of Liddell on health grounds and arguing that the health consequences of this decision would constitute negligence.²⁸

Bushfires

Smoke from bushfires is increasingly recognised as a health hazard. Dr Liz Bashford detailed some of the health effects experienced in communities as a result of these fires and highlighted the likelihood of worsening impacts from failure to mitigate climate change (in the Courier and online).^{29, 30}



Air pollution - vehicles

Transport is a looming battleground for DEA because transport emissions are rising,³¹ government appears blind to the problem, cultural attitudes are moving in the wrong direction and most importantly vehicle emissions are a significant health hazard.³²



Background

Until about a decade ago, vehicle emissions of greenhouse gases and noxious substances were gradually improving, due largely to improvements in engine efficiency and some regulation of emissions under the Australian Design Rules (ADR). However, in this decade we have seen a deterioration of air quality in our cities as a result of population growth, traffic congestion and the adoption of a higher proportion of diesel motors.

In 2015 the Ministerial Forum on Vehicle Emissions was established. In 2016 the Forum released a discussion paper seeking public feedback. Later that year it released three consultation papers: A Regulation Impact Statement on improving the efficiency of new light vehicles; one on strengthening noxious emissions standards for light and heavy vehicles; and a discussion paper on improving fuel quality standards.

DEA has responded to these annually, with the following submissions:

Submission to the Ministerial Forum on the Vehicle Emissions Discussion Paper 30th April 2016³³

Submission to the Better Fuel for Cleaner Air Discussion Paper 9th March 2017³⁴

Submission to the Better Fuel for Cleaner Air draft regulation impact statement. 9th March 2018³⁵

Recently DEA has submitted to the Senate Inquiry into electric vehicles.³⁶

Progress

The 2017-18 year has seen no progress for Australia in improving poor air quality caused by transport pollution or reducing greenhouse emissions from transport. In fact, both are getting worse and government action appears to have come to a standstill.

Energy expert Hugh Saddler, from The Australia Institute has warned that:

- Transport emissions are rising due to a significant increase in diesel usage
- Diesel now accounts for half of all petroleum emissions
- Australia is an outlier globally, with no mandatory emissions or fuel economy standards for vehicles,
- Unless the Australian Government takes action on emission standards, we will continue to drive up emissions in the transport sector with one of the least efficient, highest emission motor vehicle fleets in the world.³⁷

Transport and diesel

Actions being taken by a number in a number of countries to reduce and even phase out diesel vehicles in urban areas. Australia is falling behind in this regard. An article entitled *Air pollution: a silent killer we must urgently act on*³⁸ explaining the health implications related to our poor fuel and vehicles standards was published in online opinion.³⁹

DEA produced a transport position paper⁴⁰ highlighting the health costs from vehicle related pollution and also health co-benefits of switching to electric cars and published in Medical Republic⁴¹ detailing Australia's lack of planning to reduce diesel traffic, poor vehicle and fuel standards.

Many countries are now committed to phasing out internal combustion engines or banning diesels from their cities because of growing concern about air quality. Growth of electric vehicles is now exponential with most major manufacturers now producing EVs or Hybrid EVs and some fuel cell vehicles. China is leading the way as both the biggest market and biggest producer. Uptake of low emission vehicles in Australia has been minimal to date because of a lack of government support and a negative attitude in the motoring press.⁴²

A triple revolution is under way in transport: electrification, autonomous vehicles, and 'transport as a service'. How these changes are managed is important because increased car use could be the unwanted outcome.



Getting out of the car

DEA recommends improved public transport, prioritising pedestrians, and encouraging active transport in walking and cycling. There is a correlation between car use, lack of exercise and obesity, hypertension, diabetes and heart disease. The converse is also true.⁴³ Unfortunately, government response to motor vehicle congestion, with few exceptions, has been to prioritise road infrastructure over public transport and city planning. Small companies producing electric buses have received little support despite their clear advantage in improving air quality.

A cultural problem

The biggest selling 'car' in Australia is now the Toyota Hilux, a vehicle weighing over two tonnes, and producing around 190gms CO₂/km, about double the emissions from a Toyota Corolla. There has been a trend towards large, usually diesel, SUVs, as the family car, despite their worse emissions. No judgement of their drivers is intended (they may be tradespeople or need towing power) but a sudden upsurge in their numbers can only be explained by marketing power.

Public transport use in Australia is low. This reflects a car culture and poor public transport infrastructure. Urban sprawl exacerbates the problem.

In conclusion transport is neglected in government policy. Australia's transport emissions are rising, and congestion is exacerbating a public health hazard caused by toxic tailpipe emissions.⁴⁴

Australia has the worst vehicle emission and fuel standards in the OECD and is at risk of receiving a dumping of vehicles with low standards not accepted by other countries.

Nationwide policies to encourage uptake of fuel efficient, cleaner vehicles and zero emission vehicles are non-existent, therefore DEA calls for a radical change in policy and priorities.



Fossil fuels and health - Coal

Doctors for the Environment Australia opposes any new coal mines and recommends a rapid transition from coal to renewable energy. This year has seen much attention on coal and its health consequences, with big projects such as the Adani coal mine dominating attention. There has been important progress in delaying or stopping some mines, as the following examples outline.

Rocky Hill coal mine - New South Wales

For the town of Gloucester, the last year has been a roller coaster of fossil fuel dramas. The proposal for the Rocky Hill coal mine – just 5km from town – was rejected by the Planning Assessment Commission (PAC). After that decision the proponent decided to take the NSW Government to court to challenge this rejection, with both the NSW Government and community groups fighting this mine. DEA has been supporting the Gloucester community throughout their ordeal, with a written submission against the mine, a representation to the PAC, letters and media throughout the process and Newcastle rheumatologist Dr John Van Der Kallen supporting the community group in their upcoming court case.



In the PAC process, the mine was rejected because it was not in the public interest and that it changed the land use from rural to industrial. The public interest argument included the long-term impact on health. In particular the PAC was concerned about increase in asthma and toxic gases from blast plumes, which were highlighted by DEA. Congratulations to Steve Robinson and Garry Lyford for their work. The PAC also recognised the significant impact on mental health with, “elevated levels of stress, angst, anxiety, depression and solastalgia” in the community.

The Rocky Hill coal mine proposal carries unacceptable risks to health, including impacts on air quality especially with the risk of blast plumes carrying toxic gases to the town located just 5km away.

Liddell coal fired power station - New South Wales

Liddell coal-fired power station in the Hunter Valley, NSW, was a subject of controversy – with AGL making plans for its closure in 2022 and the Liberal Federal Government adamant that they keep it open. DEA highlighted the health effects from its pollution with a question on the ABC “Q & A” program and many other media articles. DEA also engaged with AGL CEO Andy Vesey, supporting his

decision to close Liddell on time. It's estimated that if Liddell stayed open for another 5 years it would result in an additional 80 deaths in New South Wales from air pollution.⁴⁵ Liddell is currently licenced to emit NO₂ pollution above local and international standards.

New South Wales – EIA improvement process

DEA made a submission to the New South Wales government's Environmental Impact Assessment Improvement Project, which reviewed the process and standards for environmental impact assessments of major coal and mining projects. The rapid expansion of the coal and unconventional gas industries has not only created widespread community concern over health and environmental issues, but it has exposed the inadequate processes whereby the New South Wales government is acting as proponent in their perceived interest of economic development whereas they should be acting as arbiter.

In the submission, DEA urges that health should always be a priority in assessing major mining projects.⁴⁶

Adani coal mine - Queensland

This year saw an escalation in the battle surrounding the proposed massive Adani Carmichael coal mine, which would be Australia's largest coal mine, in the Galilee Basin in central Queensland. On one side, the #StopAdani network of community groups, DEA and other NGOs – and on the other side the Queensland Labor Government and federal Liberal Government pushing for the mine to proceed. Indigenous Traditional Owners, the Wangan and Jagalingou Family Council, have meanwhile been fighting their own court cases to save their traditional lands from destruction from this mine and to defend Native Title.

In 2017-2018 the focus was to encourage the major Australian banks to rule out funding for the mine, and DEA together with other health professionals rallied outside Commonwealth bank, talking to staff



and handing out factsheets on the Adani coal mine and health. An official letter was also sent to the Commonwealth Bank CEO and Board detailing the health concerns with the mine. Subsequently, after pressure from a range of other community groups and NGOs, the Commonwealth Bank announced that they would not fund the project – joining the other big 3 Australian banks to rule out funding Adani.

DEA organised a well-attended forum on Adani and health in Townsville Qld on Aug 30th, 2017 – with speakers including local doctor Dr Owens, emergency nurse Rike Wolf and Central Queensland grazier Bruce Currie. Film screenings of the documentary '*Guarding the Galilee*' were also organised by students and others around the country.

DEA, as well as many individual doctors, made submissions⁴⁷ to the Senate Inquiry into the Northern Australia Infrastructure Facility (NAIF) funding body. The NAIF was considering awarding the Adani mine a taxpayer-funded loan of around \$900 million. This loan was subsequently vetoed by the newly re-elected Queensland Labor government, after much community pressure during the election campaign. Adani tried to access yet more water for its mine with an associated project – the North Galilee Water Scheme and tried to get away without a full environmental impact statement. DEA made a submission against this.⁴⁸

Port Augusta - South Australia

After a 6-year campaign to replace their coal-fired power stations with concentrated solar thermal – the Port Augusta community can celebrate a victory. DEA has worked closely with the community during this time in various ways, such as visiting SA politicians, producing health information leaflets and visiting the community.

Port Augusta will soon host a 150MW Concentrated Solar Thermal plant. The Port Augusta coal fired power stations 300m from the edge of the town had polluted its 15,000 citizens for decades; every day they saw, smelled and breathed the pollutants. Port Augusta's late mayor Joy Baluch said there was scarcely a family that had not been touched by illness. Her child had severe asthma and her husband a non-smoker died from lung cancer. Both diseases had an increased incidence in the town. The power stations closed last year.



Unconventional gas

It has been difficult to have state and Federal governments accept that unconventional gas has a lifecycle of greenhouse emissions only slightly less than that of coal and that there is accumulating evidence of effects on community health in the gas fields. The perceived economic need for mining suppresses political concerns and both major parties favour development.

The concerns about gas development in Western Australia and the likely increases in domestic and international emissions were expressed in our article in the Guardian by Fiona Stanley, Richard Yin and Graeme Pearman.⁴⁹ Of major concern is the fact that Western Australia's gas reserves (conventional and unconventional) is equivalent to 36.4bn tonnes of CO₂⁵⁰, that is eight times more than the planned Adani coal mine⁵¹ would produce in its lifetime.

A report from Climate Analytics: Western Australia's Gas Gamble - Implications of natural gas extraction in WA,⁵⁰ demonstrates the domestic carbon

footprint from Western Australia's unconventional gas resources is about three times what Australia is allowed to emit in order to comply with the Paris Agreement. The proposal for a gas hub and the outcome of the Enquiry into fracking in WA, to which DEA made a submission,⁵² suggests almost certain development approval.

Proposed unconventional gas development in the Northern Territory is also of great concern to DEA, again because of emissions and health risk but also because of the prodigious use of water and lack of aboriginal agreement. A NT enquiry, to which DEA made two further submissions^{53, 54} to our main submission in March 2017, has unfortunately favoured development.

Further unconventional gas development in Queensland and the development in Narrabri NSW to which DEA made an extensive submission in May 2017.



Energy and health

The Health & Energy subcommittee was formed at the 2017 AGM, just around the time that the National Energy Guarantee (NEG) was first released on 13th October 2017.

Therefore, it's not surprising that analysis and discussion of the NEG has been the dominating activity for this committee. From the beginning it was clear that NEG was complicated and seriously inadequate. Its emphasis on "baseload" rather than "dispatchable" and its confused discussions on reliability made it clear that despite claiming to be "technology neutral" it was skewed in favour of fossil fuels, especially coal, and disadvantaged renewable energy sources.

Worst of all, the target of a 26% reduction of 2005 emission levels by 2030 for the electricity generation sector only, ensured that Australia would not meet its COP21 Paris Targets, since there were no clear or coupled plans to reduce emissions across other sectors making up two thirds of the economy: transport, agriculture and manufacturing.

The Committee wrote to a wide range of state, territory and federal politicians, focusing on those States and Territories where there were sensible and often ambitious state-based emission reduction targets, and clear plans to achieve emission reduction, usually by renewables with, increasingly, the addition of storage. We therefore wrote repeatedly to Energy, Environment, Health and Chief Ministers/Premiers of the ACT, SA, VIC and QLD. We emphasised the well-established health harms of both pollution associated with fossil fuels and climate change.

We also wrote Opinion articles and letters to editors and responded to every submission opportunity that was offered to media and to new developments.

When the Weatherill Government was defeated in South Australia the strength of the forces opposing the NEG were obviously reduced, but VIC and ACT remained firm, and QLD came on board.

By the end of June 2018, it was far from clear what would happen to the NEG. Minister Frydenberg was resolute in rejecting any amendments which would have made it possible for the resisting states to agree to the NEG. He was insisting on legislating the 26% target, rather than setting it by regulation (which would have made future changes easier to implement).

Renewable energy

The mitigation of climate change requires a rapid reduction in the use of fossil fuels and a transition to renewable energy sources. Accordingly, renewable energy is advocated in many of DEAs submissions and articles because, unlike fossil fuels, it does not cause death and illness and the electricity it produces is cheaper. Unfortunately the transition to renewable sources of energy has been delayed by competition with gas masquerading as a "necessary transitional fuel".

Agriculture and climate change

DEA has always recognised that the ways in which humans produce and consume food have significant environmental and health implications. Making personal dietary changes and helping others to make the same changes as part of our medical practice, are some of the most powerful and immediate things we can do for human and environmental health.



Kim Loo
NSW DEA member



George Crisp
WA DEA member

In recognition of the importance of diet in achieving our aims of Healthy planet, healthy people, a DEA Diet and Agriculture Subcommittee was established in late 2017.

A DEA policy on Diet and Agriculture has been published⁵⁵, and a new section of the DEA website devoted to the theme of diet and agriculture is being developed.

The subcommittee is also developing DEA pamphlets for doctors and for patients which discuss the links between diet, health and the environment, and intend for these to be available through the website soon.

Subcommittee secretary Dr Michael Schien presented on agriculture, diet and health at the iDEA 2018 General Practice pre-conference workshop in Newcastle.

As part of this work, DEA wrote a submission to the independent review undertaken by the department of Environment and Energy: Exploring ways to improve farmers' interaction with the Environment Protection and Biodiversity Conservation Act 1999.

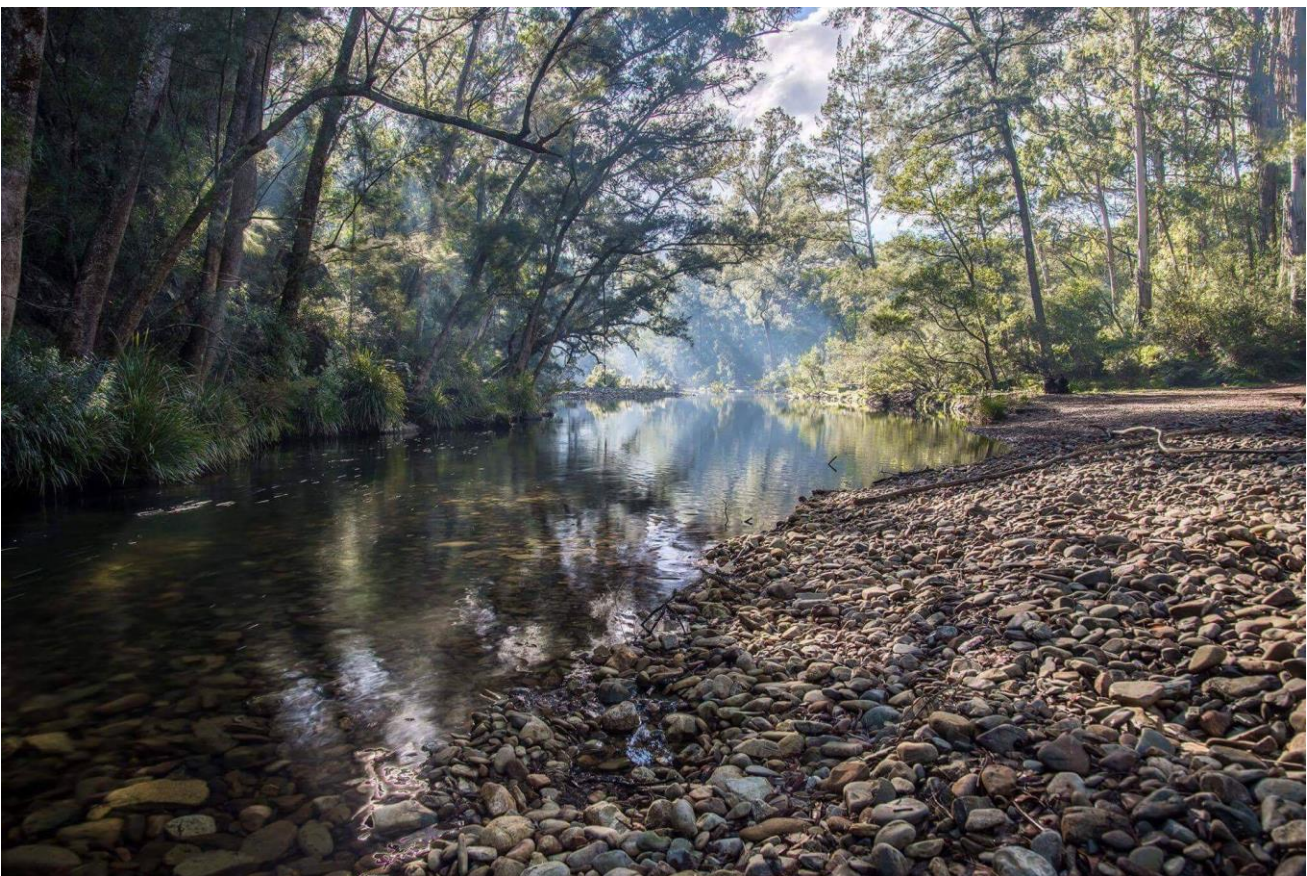
The submission⁵⁶ highlighted the crucial role of farmers in managing our environment and contributing to our health and economy, demanding that farmers are given professional status and consistent financial support to enable them to fulfil their roles, and asking for the reform of environmental laws nationally to provide clarity for farmers.

Members of the Subcommittee have also established links with Farmers for Climate Action and believe that the combined voices of Farmers for Climate Action and DEA will present a powerful argument for change in a number of areas.



Biodiversity and natural ecosystems

The Biodiversity Committee with Dimity Williams as Convenor works to highlight the inter-relationship between our health and the diverse natural ecosystems we live within. We do this by writing in medical and other publications, creating resources on biodiversity and health for DEA members and presenting at conferences. We also actively collaborate with other organisations who seek to highlight the value of nature for wellbeing.



Bandethra Caves, NSW - Aidan Watters
DEA photographic competition entry

DEA was pleased to contribute to a book by the Australian Marine Conservation Society outlining the value of the Great Barrier Reef. It is called 'The Reef- a love story' and was presented to the Minister for the Environment & Energy, Josh Frydenberg and also shared widely at the World Heritage Committee meeting in Poland.



Maui, USA - George Joseph
DEA photographic competition entry

Dimity Williams represented DEA at a workshop to help the Victorian government progress its Biodiversity 2037 plan. It was attended by over 40 people from health and environment departments, research institutions, community groups and even a couple of advocacy groups - with the Victorian National Parks Association and DEA present. It was interesting to see how bureaucracy works and good to see the push for action throughout the room.

DEA submitted to the Federal Government's draft revision of a 'Strategy for Nature 2018-2030' which revealed an appalling ignorance of the critical state of biodiversity in Australia and the urgent need for a clearly articulated approach to improve the situation. Members of our committee, along with David Shearman, provided a submission⁵⁷.

"Protecting Our Future" public meeting

This community event organised by the Bob Brown Foundation, the Wilderness Society and DEA was held at Newcastle Town Hall the night before the iDEA meeting in Newcastle. Bob Brown highlighted the need to protect forests especially the Tarkine and to stop coal seam gas development in the Pilliga. Uncle Bill Smith gave a brilliant welcome to country. Dimity Williams spoke about the health benefits of forests. Naomi Crystal-Hodgson from the Wilderness society highlighted the risk of unconventional gas mining particularly in the Pilliga. However, it was Bob Brown who stole the show, highlighting the important role that doctors have to protect the health of our patients by protecting the environment.

Healthy planet, healthy people

New generation of environmental laws

In 2018 DEA became a member of Places You Love (PYL)⁵⁸ an alliance of over 50 environmental groups formed to drive national reform of environmental laws based on the deliberations of Australian Panel of Experts on Environmental Law.⁵⁹

The proposals are wide ranging and essentially provide a means of correcting the environmental destruction occurring in all states and territories.⁶⁰

The proposal will establish an independent National Sustainability Commission to set national environmental standards and undertake strategic regional planning and report on national environmental performance. An independent National Environmental Protection Authority that operates at arm's-length from government will conduct transparent environmental assessments and inquiries as well as undertake monitoring, compliance and enforcement actions.

These proposals have crucial health applications which were detailed by DEA in articles published in The Conversation.^{61, 62}

In very broad terms, the new agencies would do for environmental policy what the Reserve Bank currently does for economic decisions. That is, they would have the power to make calls on crucial issues (whether they be interest rates or air pollution limits) that cannot be vetoed by the government. Importantly the new laws will offer a scientific basis and certainty for the implementation of action to address climate change.

All members of the PYL are committed to education, the public and briefing federal parliamentarians for the need to introduce these new laws.



Brinkley's Bluff, NT – Rosalie Schultz
DEA photographic competition entry

Environmentally sustainable healthcare

The last year has seen increasing interest in the environment footprint of Australia's healthcare, as well as related action, discourse and materials.

2018 began with DEA member Dr Forbes McGain leading the research behind a paper published in The Lancet Planetary Health journal⁶³ outlining modelling which estimates that over 7% of Australia's greenhouse gas emissions stem from our healthcare system – that is more than the emissions from the entire state of South Australia. A subsequent DEA media release⁶⁴ 'Doctors alarmed, but not surprised, at data estimating significant carbon footprint of our healthcare system' followed, as well as Dr McGain's The Conversation article 'Five ways hospitals can reduce their environmental footprint'⁶⁵

The timing to shine the spotlight on our healthcare's environmental footprint could not have been better, with DEA then releasing its long-awaited related documents *An Australian Healthcare Sustainability Unit (HSU) – DEA Proposal*⁶⁶ and *Improving a hospital's environmental impact: what can a doctor do?*⁶⁷ and DEA's students producing a wonderful video clip *The story of Green Hospitals*⁶⁸. DEA's documents (including the yet to be published DEA Discussion Paper Improving the environmental sustainability of Australia's health sector: cost, quality and environmental benefits) were also presented by Dr Eugenie Kayak at iDEA18⁶⁹ and can be found on the DEA homepage under *Environmentally Sustainable Healthcare: Doctor's Bag*. iDEA18's GP workshops also incorporated environmental sustainability topics.



Dr David Pencheon OBE – Director, NHS Sustainability Development Unit

Fortuitously DEA's increased activity coincided with the visit to Australia by the founding director of the UK's NHS Sustainability Development Unit (SDU), Dr David Pencheon OBE, as a guest of Sydney University's Planetary Health Platform and Wiser Healthcare. Dr Pencheon spent May travelling to different cities along the East coast of Australia (including Canberra and Hobart) presenting at multiple events and to countless policy makers, emphasising the environmental and financial progress made in the UK over the last 10 years since their SDU was set up. Of particular note he presented the keynote address at the 2018 RACP Congress in Sydney in May, where DEA member Dr Sujata Allan also gave an excellent presentation as part of the 'Climate Change – is the health sector taking it seriously?' session.

In Victoria, the AMA hosted a well-attended *Environmental Sustainability in Healthcare* event with Dr Pencheon and Dr Eugenie Kayak presenting and taking questions. Dr Forbes McGain helped coordinate the Department of Health and Human Services *Sustainability learnings from the NHS* meeting, featuring Dr Pencheon. This continues momentum generated from several meetings over the year between DEA members and Victoria's Sustainability in Healthcare Unit aiming to increase state led environmental improvements within the sector.

Whilst in Hobart, Dr Pencheon spoke at a Royal Hobart Hospital (RHH) Grand Round session - organised by the Green Health Tas committee (a newly formed sustainability committee that DEA members along with other doctors, nurses and allied health professionals have recently successfully petitioned the Tasmanian System Executive to form). The Green Health Tas committee also attended a Sustainability Round Table with Dr Pencheon and representatives from the Tasmanian DHHS and is progressing an application for RHH to join Global Green and Healthy Hospitals and to develop a Sustainability Officer employment business case.

In South Australia the Carbon Neutral Adelaide initiative has produced a renewable energy/sustainability incentive package for businesses in the Adelaide City Council area. DEA members have formed a team to promote this package among medical practices and hospitals in the city, using resources from DEA and Carbon Neutral Adelaide, whilst also advocating for other local governments to adopt similar incentive schemes in their areas.

The new Royal Adelaide Hospital (RAH) opened on 4 September 2017 in the middle of the worst flu season we've had for many years! The hospital has impressive "green" credentials and DEA members in SA have been working to promote membership of the 'Global Green and Healthy Hospitals' initiative for the RAH and further sustainability initiatives.

The middle of last year saw the WA government instigate a Sustainable Health Review, to which DEA submitted in October 2017. The review continues, following on from an interim report at the beginning of 2018. A Climate and Sustainability Forum was held as part of the Review process, for which members of DEA were key organisers, presenters and attendees. At the AGM of the Public Health

Physicians WA meeting in April 2018, DEA member Dr Sue Taylor presented on sustainability within the hospitals, and WA DEA has convened working groups throughout the year working specifically on sustainability at Osborne Park and Fiona Stanley Hospitals.

Within DEA's extensive student cohort *Greening Hospitals* was the principle campaign of focus for the 2018 period – as an accessible campaign for all medical students to become involved in planetary health. The National Student Committee created a Student's Guide to Greening Hospitals⁷⁰ along with a collection of educational and promotional resources to assist students undertaking action. In addition, a community of engaged students has been fostered, the growth of which is intended to continue in the coming years. Thus far, work by the DEA student body has included information nights, documentary viewings and meetings with sustainability officers and other relevant positions of clinical school hospitals.

Finally, DEA members have also been working with their specialty colleges to further advance sustainability within our practices, with several developments underway following on from the RACP Position Statement in 2015⁷¹. DEA members were part of the team who developed ANZCA's Professional standard draft document *Statement on Environmental Sustainability in Anaesthesia and Pain Medicine Practice*⁷² and background paper⁷³.



Education

Education is central to our Constitutional remit.⁷⁴

DEA recognises that elected representatives have to cope with increasingly complex issues when many former resources in the public services have been reduced and replaced by advisory personnel. Since making a submission to the Standing Committee on Procedure Inquiry into the effectiveness of the House Committees in 2009 ⁷⁵ DEA has expressed concern about this problem and has attempted to provide sound evidence to Federal and State governments by all means available.

In the case of public health advocacy, knowledge in the spheres of medicine, climate change, biodiversity, air quality, water resources and sustainability must be explained during our interactions with elected representatives or in the course of education to members of the medical profession and the public.

As in previous years we have pursued these goals by meeting with elected representatives, submissions to, state and federal governments, and reports and articles in the media. Our media contributions are extensive (ref to publication list). In addition, we have continued to develop Fact Sheets⁷⁶ to be used at meetings, as a basis of education and writing submissions and as evidence-based resources valued by many other organisations.

Specific examples of educational activities follow, and this Annual Report also includes a report on our annual conference iDEA18, and a complete list of Conferences, Talks and Presentations, on [page 53](#). Media publications, including Op-eds, and social media are other avenues to provide scientific educational information, whether it be in depth or "bite-sized".

In February 2018, the Tasmanian committee hosted a screening of the movie "Before the Flood". In March 2018, two DEA committee members spoke to Adelaide University's Insight Global Health Group as part of an Upskilling Night, including information about divestment from fossil fuels, outlining the rationale and specific strategies that individuals can take.

In April 2018, Graeme McLeay gave a talk to the SA Medical Heritage Society on "Climate Change and Health: Australia's climate, past, present and future". In May 2018, two DEA members deliver the "Health Impacts of Climate Change" presentation to University of Adelaide Medical School students. Dr Laura Beaton in Victoria organised a workshop to provide skills for members wishing to plan for effective interactions with politicians and election candidates.



Fact Sheet: **Bushfires and health in a changing environment** ⁷⁶

iDEA18 Conference

iDEA18 was held at The Hunter Medical Research Institute in Newcastle in April 2018. It was the first time iDEA was held in a regional centre. 'Health In A Changing Environment' was a great success with workshops, community events, academic program, networking and discussion panels. There were many highlights.

The conference began with workshops regarding climate change, greening healthcare, air pollution and how to organise advocacy for the environment. Excellent sessions were run by Nicole Sleeman, Kim Loo, Sujata Allen, Darshini Jayaratnam, Elanor Evans, Rosalie Schultz, Ben Ewald, Michael Schien, Edward Stoios, Ike Schwartz and Shaun Murray.

Bob Brown presented the inaugural award to recognise outstanding efforts by a DEA member in advocacy for the environment. This award went to Steve Robinson for his many years of advocacy. Well done Steve.



Dr Steve Robinson – DEA member



L to R - Professor Tony Capon, Dr Selina Lo, Hon Mark Butler and Dr Bob Brown

The academic program began with presentations⁷⁷ by Professor Tony Capon, the inaugural Professor of Planetary Health at the University of Sydney who gave an excellent overview of the impacts of humans on the global environment. followed by the Hon Mark Butler, Shadow Minister for Climate Change and Energy and the Dr Bob Brown, who needs no introduction. The three speakers participated in a combined discussion into the urgent need to act on climate change and why the current government is so slow to act.

Thereafter the session "Greening Healthcare" was chaired by Eugenie Kayak and began with an overview by Professor Ben Marais who highlighted the concept of "Intergenerational Equity". Our actions have impacts on future generations. The health sector contributes 7% of Australia's greenhouse gas emissions and needs to reduce its own emissions to protect future generations. Megan Shaw, sustainability officer at Westmead Hospital and Matt Hanrahan, CEO of Little Company of Mary Health Care Ltd spoke on initiatives and challenges to achieve this outcome. Finally, Ingo Weber gave us a quick overview of the "No Time For Games" initiative by DEA.



"Australia in a Global Context – moving from threat to opportunity" began with an update on the Lancet Commission's work by Nick Watts, "Placing Australia in a Global Context". Clearly the world is moving faster than Australia when it comes to dealing with climate change. Joanne McCarthy, recipient of multiple journalist awards, gave an overview of the media situation in Australia and the importance of doctors in getting messages across to the public. Doctors are uniquely placed to understand the science of complicated issues such as climate change and can present it in a way for people to understand (it's what we do every day). Julie Lyford, chair of Groundswell Gloucester, spoke about the Gloucester experience in stopping coal seam gas development in the region. This was the first-time coal seam gas was halted in Australia and set a precedent for other areas such as Northern Rivers. Finally, Linda Selvey spoke of her actions in stopping fossil fuel developments and the importance of doctors and other health care professionals being involved.

Sunday morning began with a special session chaired by Emeritus Professor John Boulton who pointed out that Aboriginal peoples need support to be able to protect their lands from fossil fuel developments as well as from the effects of climate change. Dr Anne Poelina, Managing Director of Madjulla Incorporated, spoke of the advocacy to protect the Fitzroy river (Mardoowarra's "Right to Life") in Northern Western Australia and how we can work together to improve the health of indigenous people as well as protect the environment. Then Karrina Nolan, founder and director of Original Power, provided an insight into the proposed Shale gas developments in the Northern Territory which would be devastating for indigenous Peoples. Rosalie Schultz gave us further insights into the

importance of land for indigenous cultures and how we must recognise past injustices to be able to improve the health of indigenous people.

In the next session "Beyond Fossil Fuels" Susan Miles gave an overview of the health impacts of coal and coal mining, and Ben Ewald spoke on the health externality costs of electricity generation from coal fired power stations. Greg Bourne, a Climate Council Councillor, reviewed the difficulties in getting people to take action to deal with climate change and Glen Klatovsky, Deputy CEO of 350.org, highlighted 350.org's advocacy around the world against climate change.

The final session of the conference, "Agriculture and Food Sustainability" was chaired by Kristen Barnden and began with Gerrard Wedderburn-Bisshop from the World Preservation Society who presented a world overview of food production and the difficulties we will soon face. Dennis Ward from Farmers for Climate Action (FCA), spoke of the impacts climate change is having on farming and food production. Southern Cross University's Prof Garry Egger, epidemiologist, reviewed diets and the need to move towards a more plant-based diet for our health as well as the health of the planet.

Many of the presentations can still be viewed via links to Armchairmedical on DEA's website.⁷⁸

DEA thanks the organising team for the excellent conference and thanks also to our sponsors Reposit and Bendigo Bank and to our caterers Hot Rocks catering.



John Van der Kallen (co-convenor), Clancy Read (co-convenor), Henness Wong (secretary), Jeffery Wang (IT director), Georgia Brown (Academic Convenor), Nicole Sleeman (Workshop co-ordinator), Anthea Katelaris (Publicity manager), Gail Curby (Speaker liaison), Kim Loo (Speaker liaison and sponsorship), Jacquie Hall (Sponsorship), Vienna Tran (Treasurer), Sujata Allan (workshop co-ordinator) Manprit Kaur (handbook) Amanda Zhou and Sophia Hill.

Submissions

A total of 23 submissions were made during the 2017/18 financial year.

Governance and operation of Northern Australia Infrastructure Facility, July 2017

<https://www.dea.org.au/wp-content/uploads/2017/08/Governance-and-operation-of-NAIF-Submission-07-17.pdf>

Tax Deductible Gift Recipient Reform Opportunities, August 2017

Current and future impacts of climate change on housing, buildings and infrastructure, August 2017

<https://www.dea.org.au/wp-content/uploads/2017/08/Current-and-future-impacts-of-climate-change-on-housing-buildings-and-infrastructure-08-17.pdf>

NSW EIA Improvement Project – 1: Overview of the EIA Improvement Project, September 2017

<https://www.dea.org.au/wp-content/uploads/2017/09/NSW-EIA-Improvement-Project-Overview-of-the-EIA-Improvement-Project-Submission-09-17.pdf>

Scientific Inquiry into Hydraulic fracturing in the Northern Territory in response to the draft final report - supplementary submission, October 2017

<https://www.dea.org.au/wp-content/uploads/2017/10/Supplementary-Submission-to-the-Scientific-Inquiry-into-Hydraulic-Fracturing-in-the-NT-10-17.pdf>

NSW Rocky Hill Mine supplementary submission, November 2017

<https://www.dea.org.au/wp-content/uploads/2017/12/Supplementary-submission-to-Rocky-Hill-PAC-11-17.pdf>

SA State Commission Assessment Panel: Alinta Energy Reeves Plains Power Station and AGL Energy Grand Trunkway Torrens Island, November 2017

<https://www.dea.org.au/wp-content/uploads/2017/12/Submission-to-the-State-Commission-Assessment-Panel-SCAP-11-17.pdf>

Proposed amendment to prohibit open cut mining at Drayton South, December 2017

<https://www.dea.org.au/wp-content/uploads/2017/12/Submission-to-the-open-cut-mining-prohibition-for-Drayton-South-12-17.pdf>

EIS - Proposed Central Queensland (Styx) Coal Project, December 2017

<https://www.dea.org.au/wp-content/uploads/2017/12/Submission-to-the-EIS-Central-Queensland-Coal-Project-Styx-12-17.pdf>

VIC brown coal-fired power stations licence reviews, February 2018

<https://www.dea.org.au/wp-content/uploads/2018/02/VIC-Brown-coal-fired-power-stations-licence-reviews-submission---02-18.pdf>

SA Health – Review of the State Public Health Plan *South Australia: A better place to live*, February 2018

<https://www.dea.org.au/wp-content/uploads/2018/02/SA-Health-Review-of-the-State-Public-Health-Plan-submission---2-18.pdf>

Vehicle Emissions - Better Fuel for Cleaner Air - Draft Regulation Impact Statement, March 2018

<https://www.dea.org.au/wp-content/uploads/2018/03/Better-fuel-for-cleaner-air-draft-regulation-impact-statement-submission-03-18.pdf>

Energy Security Board National Energy Guarantee Consultation Paper, March 2018

<https://www.dea.org.au/wp-content/uploads/2018/03/Energy-Security-Board-National-Energy-Guarantee-submission-03-18.pdf>

Australia's strategy for nature 2018-2030 Australia's biodiversity conservation strategy and action inventory, March 2018

<https://www.dea.org.au/wp-content/uploads/2018/03/Strategy-for-Nature-2018-2030-Submission-03-18.pdf>

Independent Experts Scientific Committee Information Guidelines, March 2018

<https://www.dea.org.au/wp-content/uploads/2018/05/Draft-update-of-the-IESC-Information-Guidelines-submission-03-18.pdf>

Inquiry into Hydraulic Fracture Stimulation in Western Australia 2017, March 2018

<https://www.dea.org.au/wp-content/uploads/2018/03/Inquiry-into-Hydraulic-Fracture-Stimulation-in-Western-Australia-2017-Submission-03-18.pdf>

Inquiry into the United Nations Sustainable Development Goals (SDGs), March 2018

<https://www.dea.org.au/wp-content/uploads/2018/04/United-Nations-Sustainable-Development-Goals-SDG-Submission-03-18.pdf>

Gregadoo Solar Farm Project (NSW)

Interim Emissions Reduction Targets for Victoria (2021–2030) Issues Paper, May 2018

<https://www.dea.org.au/wp-content/uploads/2018/05/Interim-Emissions-Reduction-Targets-for-Victoria-2021-2030-Submission-05-18.pdf>

SA Draft State Public Health Plan 2019-2024, June 2018

<https://www.dea.org.au/wp-content/uploads/2018/06/DEA-Comment-SA-public-health-plan-summary-framework-for-consultation-06-18.pdf>

Exploring ways to improve farmers' interaction with the Environment Protection and Biodiversity Conservation Act 1999, June 2018

<https://www.dea.org.au/wp-content/uploads/2018/06/Exploring-ways-to-improve-farmers'-interaction-with-the-EPBC-Act-06-18.pdf>

Response to Central Queensland Coal Project (Styx) Supplementary EIS, June 2018

<https://www.dea.org.au/wp-content/uploads/2018/06/Response-to-Styx-Coal-Project-06-18.pdf>

North Galilee Water Scheme (NGWS) Project; EPBC 2018/8191, June 2018

[https://www.dea.org.au/wp-content/uploads/2018/06/EPBC-2018-8191_North-Galilee-Water-Scheme-\(NGWS\)-Project-06-18.pdf](https://www.dea.org.au/wp-content/uploads/2018/06/EPBC-2018-8191_North-Galilee-Water-Scheme-(NGWS)-Project-06-18.pdf)

Clean Air for all Victorians: Victoria's Air Quality Statement, June 2018

<https://www.dea.org.au/wp-content/uploads/2018/07/Victorias-Air-Quality-Statement-Submission-06-18.pdf>

Communications

As the natural world is being greatly challenged by human activity, the public's ability to critically evaluate the voluminous amounts of information is being undermined.

The public discourse on environment and health (as well as other important issues) over the past 12 months has been characterised by alternative facts, lies, manipulation and distortions, some of which have originated from powerful interest groups. A recent survey of online news consumption in Australia⁷⁹ revealed that three quarters of people have experienced one or more types of fake news, and they are concerned about it.

While it behoves the Fourth Estate to define fact from fiction, the seismic changes in the media have resulted in the loss of specialist health and science journalists, and many media professionals do not have the skills and time to maintain quality health and science reporting.

Against this background, DEA's expert, trusted and independent voice whose number one priority is public health above and beyond anything else is vital to all Australians.

DEA has in the past 12 months informed, educated, advocated and offered sensible solutions about the enormous challenges facing human health from growing environmental degradation.

Many passionate members have spoken out at public forums, government hearings, face-to-face meetings with community groups, politicians and other leaders, and in the media.

This past year, increasing numbers of journalists have contacted DEA for comment— for press articles, and for radio and television interviews in

major mastheads. This included a major Four Corners segment *Weather Alert*⁸⁰ on how Australia's changing climate is altering the way we live and work.

DEA has also been active in spreading its message far and wide: in opinion pieces, in the news, in various medical publications and on social media.

The many topics can be seen from the publication and media lists starting on [page 49](#).

DEA has punched well above its weight with

- Our submission on the Latrobe Valley and its higher than average incidence of lower birth weight attracted much media coverage which led the Victorian Health Minister promising to look into the issue.
- DEA's submission into coalmine expansion in NSW was highlighted in an editorial in the Newcastle Herald calling for action.
- A presentation by DEA, about a spike in Upper Hunter hospital admissions coinciding with poor air quality, prompted a series of articles in the media that has resulted in locals calling for an urgent review.
- DEA was a major driver of the Port Augusta solar thermal plant—one of Australia's most exciting renewables energy projects.

Media releases

DEA media releases play an important role in publicising our work, as well as offering our response to major policy announcements and local and global events.

While the statements are aimed at the media, they have proven to be valuable material for those who visit our website and on social media.

Our media releases for the past 12 months have been:

DEA welcomes Victoria's tougher EPA laws, 25 June 2018

<https://www.dea.org.au/dea-welcomes-victorias-tougher-epa-laws>

A joint statement addressed to energy ministers meeting at COAG by 150 concerned medical doctors: No NEG, Dr Graeme McLeay, 14 April 2018

<https://www.dea.org.au/a-joint-statement-addressed-to-energy-ministers-meeting-at-coag-by-150-concerned-medical-doctors/>

iDEA18: Why your doctor is talking climate change, Dr John Van Der Kallen, Dr Sujata Allan, 12 April 2018

<https://www.dea.org.au/idea18-why-your-doctor-is-talking-climate-change/>

Health experts call for "Reserve Bank" like authority to reform failing environmental laws, Dr David Shearman, 27 March 2018

<https://www.dea.org.au/media-release-health-experts-call-for-reserve-bank-like-authority-to-reform-failing-environmental-laws/>

Health warning: WA fracking could blow away Australia's carbon budget, Dr George Crisp, 20 March 2018

<https://www.dea.org.au/health-warning-wa-fracking-could-blow-away-australias-carbon-budget>

Doctors call for urgent review of a spike in Upper Hunter hospital admissions, Dr John Van Der Kallen, 21 February 2018

<https://www.dea.org.au/media-release-doctors-call-for-urgent-review-of-a-spike-in-upper-hunter-hospital-admissions/>

Doctors applaud decision to reject New Acland Coal mine extension, Dr David Shearman, 14 February 2018

<https://www.dea.org.au/media-release-doctors-applaud-decision-to-reject-new-acland-coal-mine-extension/>

Doctors alarmed, but not surprised, at data estimating the significant carbon footprint of our health care system, Dr Forbes McGain, 9 January 2018

<https://www.dea.org.au/media-releasedoctors-alarmed-but-not-surprised-at-carbon-footprint-of-our-health-care-system/>

Doctors welcome Rocky Hill mine decision Dr John Van Der Kallen, 15 December 2017

<https://www.dea.org.au/media-release-doctors-welcome-rocky-hill-mine-decision/>

COAG- Modelling confirms NEG will fail the health of Australians, Dr Chris Juttner, 23 November 2017
<https://www.dea.org.au/coag-modelling-confirms-neg-will-fail-the-health-of-australians/>

Doctors call on states to reject the NEG at this week's COAG meeting, Dr Chris Juttner, 20 November 2017
<https://www.dea.org.au/media-release-doctors-call-on-states-to-reject-the-neg-at-this-weeks-coag-meeting/>

Doctors take a firm stand on Rocky Hill mine, Dr John Van Der Kallen, 15 November 2017
<https://www.dea.org.au/doctors-take-a-firm-stand-on-rocky-hill-mine/>

Doctors slam Australia's poor ranking in climate change performance, Dr John Iser, 15 November 2017
<https://www.dea.org.au/media-release-doctors-slam-australias-poor-ranking-in-climate-change-performance/>

DEA welcomes the divestment announcement of Medibank Private Health Insurance, Dr Helen Redmond, 13 November 2017
<https://www.dea.org.au/18270-2/>

Doctors join AAA's call for real world testing of cars, Dr Graeme McLeay, 22 October 2017
<https://www.dea.org.au/media-release-doctors-join-aaas-call-for-real-world-testing-of-cars/>

Australia's eminent health experts call on BHP's shareholders to reject coal interests and put health first, Professor Kingsley Faulkner, 18 October 2017
<https://www.dea.org.au/media-release-australias-eminant-health-experts-call-on-bhps-shareholders-to-reject-coal-interests-and-put-health-first/>

Medics – We must better prepare health services for heatwaves, Dr Mark Monaghan and Dr David Shearman, 4 October 2017
<https://www.dea.org.au/media-release-medics-we-must-better-prepare-health-services-for-heatwaves/>

Doctors demand protection for Sydney's drinking water, Dr John Van Der Kallen and Dr Richard Stiles, 19 September 2017
<https://www.dea.org.au/media-release-doctors-demand-protection-for-sydneys-drinking-water/>

Unseasonal weather prompts eminent health professional to call for heatwave preparedness
Professor Fiona Stanley and Dr Mark Monaghan, 17 September 2017
<https://www.dea.org.au/media-release-unseasonal-weather-prompts-eminant-health-professional-to-call-for-heatwave-preparedness/>

Doctors urge closure of Liddell coal-fired power station before 2022 to save lives, Dr John Van Der Kallen and Dr David Shearman, 6 September 2017
<https://www.dea.org.au/media-release-doctors-urge-closure-of-liddell-coal-fired-power-station-before-2022-to-save-lives/>

Public Forum-Townsville doctors and nurses speak out on the health effects of Adani's coalmine, Dr Lucy Owen and Dr David King, 29 August 2017
<https://www.dea.org.au/media-release-public-forum-townsville-doctors-and-nurses-speak-out-on-the-health-effects-of-adanis-coalmine/>

Medics end date for Australia's coal-fired power plants, Dr David Shearman, 14 August 2017
<https://www.dea.org.au/media-release-medics-end-date-for-australias-coal-fired-power-plants/>

Doctors give Port Augusta's solar thermal plant a big tick of approval, Dr David Shearman and Dr Ingo Weber, 14 August 2017
<https://www.dea.org.au/media-release-doctors-give-port-augustas-solar-thermal-plant-a-big-tick-of-approval/>

Health experts say NAIF fails the health test if it funds Adani, Professor Kingsley Faulkner, 3 August 2017
<https://www.dea.org.au/media-release-health-experts-say-naif-fails-the-health-test-if-it-funds-adani/>

Joint media release: Health professionals call for inquiry into major hospital's links with the coal industry, Dr David King and Climate and Health Alliance representatives Dr Liz Hanna and sue Cooke, 20 July 2017
<https://www.dea.org.au/joint-media-release-health-professionals-call-for-inquiry-into-major-hospitals-links-with-the-coal-industry/>



Dr Richard Yin

Healthy planet, healthy people

Social media



5,413 followers



3,112 followers

Facebook and twitter have continued to be the major focus of DEA's social media strategy. The platforms are managed by DEA communications staff as well as energetic DEA members with an interest in social media.

We have continued to build a solid, engaged following that includes other health professionals, the broader public and similarly - minded organisations. Content is mainly around sharing DEA news and events, educational resources, topical local and global news item of interest and sharing and engaging with other similar organisations.

The main topics of interest to our followers have been wide-ranging, however of special interest have been biodiversity loss, plastics in the environment, food and diet, greening healthcare, the rise of atmospheric CO₂ and fossil fuels—coal, fracking and coal seam gas. Sharing opinion pieces authored by our medical student members in the mainstream news has been very positively received.

With so many people in Australia and beyond using social media platforms such as Facebook and twitter, and the hunger for measured, timely and expert voices on the big issues such as the environment and health, social media will continue to be an important platform for DEA to promote its powerful message of Healthy Planet, Healthy People.



Kakadu National Park, NT - Lauren Fehlberg
DEA photographic competition entry

Students in action

The DEA National Student Committee (NSC) has been active during the 2017-2018 period, coordinating new projects and campaigns, arranging a host of events across Australian universities and promoting DEA through a range of activities.

The student committee met in September 2017 to set a number of goals for the 2017-2018 period across 4 main domains:

- Environmental: To support student projects and events in line with DEA's vision and mission, which are engaging, inspirational and educational.
- Political: To increase student engagement with local political advocacy through meetings with Members of Parliament and with submission of articles to the media.
- Social: To continue to expand and integrate DEA within Australian medical schools by increasing student membership and engagement through campaigns, projects and events at a local and national level.

Additionally, to increase collaboration with doctor members of DEA.

- Economic: To continue to use student funds to incentivise and support university representatives' organisation of events.

Campaigns and University Based Events

DEA student representatives from campuses across Australia participated in three main campaigns during the year:

1. Greening Hospitals
2. Meeting Members of Parliaments
3. DEA Promotional Activities



Greening Hospitals was the principle campaign of focus for the 2018 period – as an accessible campaign for all medical students to become involved in planetary health. The National Student Committee created a Student's Guide to Greening Hospitals⁷⁰, along with a collection of educational and promotional resources to assist students

undertaking action. In addition, a community of engaged students has been fostered, the growth of which is intended to continue in the coming years. Thus far work by the DEA student body has included information nights, documentary viewings and meetings with sustainability officers and other relevant positions of clinical school hospitals.

Greening Hospitals was the principle campaign of focus for the 2018 period – as an accessible campaign for all medical students



Further, the NSC has worked to increase the number of students meeting their Members of Parliament through promoting its importance at universities and organising upskilling workshops aimed to prepare students for this opportunity. Most recently, a short step-by-step video⁸¹ featuring National Student Committee members has been created to demystify the process of meeting your MP, providing a framework for organising and attending a meeting and encouraging students to partner with DEA Doctor members for support and cohesion.

Articles in the media on climate change and related topics have been published by Kaiya Ferguson⁸² and Edward Stoiois^{9, 83}.

DEA student university representatives have been actively involved in continuing to build awareness about the impact of climate change on health and medicine. Some of the highlights have included the following:

- QLD DEA trip to Moreton Island to undertake conservation work
- The growth of DEA within universities in NSW, with everyone coming together for the incredible iDEA conference in Newcastle
- ACT's working bee at ANU creating "nudge cards" outlining the impacts of climate change on specific health conditions for students to use during tutorials and lectures
- Events in Victoria promoting doctor and student engagement including Doctors vs Students trivia night and an upskilling workshop on Politics and Media

- Seeing an incredible turnout at DEA's inaugural stall at the University of Adelaide O'Week, featuring a petition, vegan bake sale and an activism collage, with numerous new students signing up as DEA members
- WA's expanding DEA Students presence with reconnection with Doctor members
- Tasmanian doctor members (including recently graduated DEA Student members) creating the Green Health Tasmania Committee, which now has official representation in the Tasmanian Health Service. Plus, incredible student engagement at the movie night and winning the bid to host iDEA19!



Student Member Recruitment

Student member recruitment has continued to increase over the financial year, with the work of university representatives, the NSC, and DEA's increasing presence in universities and social media. Both the recruitment competition leading up to iDEA'18 and the annual 'Make-a-Meme' competition brought a surge in membership, with over 240 students signing up and renewing membership over the financial year. Also of significance, the advent of free DEA Student membership for students already affiliated with their university's global health group has resulted in increased student sign-ups and engagement, accounting for one quarter of memberships.



iDEA18

DEA students had a significant role in the iDEA 18 conference ([see page 29](#)).

The NSC students participated in the Community Organising Workshop. Overall, approximately half of the conference attendees were students.

The Conference would not have been possible without the many volunteers and student volunteers from the iDEA18 Organising Committee and NSC. With this help, every detail and aspect were considered to make for a fun and conversation-provoking conference.





2018 National Student Committee

National Student Representative: Kaiya Ferguson, University of Queensland

National Student Representative-Elect: Clancy Read, University of New South Wales

Secretary: Vivien Lai, Monash University

Projects Manager: Shannon Lovegrove, University of Queensland

State Representatives:

QLD: Edward Stojs, University of Queensland

NSW: Ike Schwartz & Stephanie Hopkins,
University of New South Wales and University of Newcastle

ACT: Pip Knowler, Australian National University

VIC: Monika Coxa, Deakin University

SA: Vienna Tran, University of Adelaide

WA: Demi Vlachos, University of Western Australia

TAS: Chris Harvey, University of Tasmania

Media Editor: Manasa Sarapalli, University of Melbourne

Graphic design/Merchandise co-ordinator: Cecilia Xu, Monash University

The state of affairs

The DEA state committees and members play an important role in delivering DEA policy nationally.

In Tasmania

In the past year the Tasmanian state committee held regular meetings in Hobart with a range of guest speakers, with videoconference links to the rest of the state.

Successes from the year have included:

Green Health Tasmania

After the concerted efforts of several DEA members, the Tasmanian Health Service has sanctioned and provided support for 'Green Health Tasmania' to exist as an official committee, tasked with providing advice to hospital executives on ways to improve the environmental sustainability of our hospital and healthcare system.

Fossil Free University of Tasmania (UTAS)

Several of DEA's medical student members have continued their work in campaigning for UTAS to divest itself of fossil fuel investments. Whilst this goal is still yet to be realised, some significant progress was made with UTAS committing to become a carbon neutral institution.



iDEA 2019

Tasmanian members of DEA are now absorbed in organising the 10th edition of DEA's annual national conference, *iDEA*. With strong historical significance in the environment movement in Australia, as well as growing scientific and cultural landmarks, Tasmania makes an ideal destination to inspire the current and coming generations of medical professionals to create a legacy of advocacy for the future of our planet and its people. With a program drawing on Tasmania's unique environment, we look forward to welcoming members from around the nation to our state on April 5-7, 2019.

In memoriam

DEA Tasmania gives thanks for the life of medical student member Peter Donkersley, who passed away in February 2018. As one of our most focused and successful activists, Pete's passion for human health and the environment was an inspiration to our community. We look forward to continuing to honour Pete's life and legacy by continuing his work to create a safer and healthier future for our planet and its people.

Across Western Australia

In our submission to the state's Sustainable Health Review (SHR) in October we called on the need for environmental and social determinants to be included in planning and future health policy. We have further input into this review within the Climate and Sustainability Forum 2018.

In March we made a submission to the Independent Scientific Panel Inquiry into the effects of Hydraulic Fracture Stimulation in Western Australia. Several DEA members also attended the public round table meeting in Perth. The inquiry follows the election of the Labor government with a ban on “fracking” in



the Perth metropolitan area and the south-west, and a moratorium over the rest of the state until 2020.

May saw our annual HBF Run for a Reason with the DEA team raising over \$3,000 through the event.

DEA members continue with their involvement in teaching 3rd year medical students at UWA medical school introducing climate change as a major public health issue within a lecture and small group workshop setting. There has also been engagement with Notre Dame University through their annual advocacy workshop.



Within the Osborne Park and Fiona Stanley Hospitals and at WA Country Health Services, we

have progressed engagement with their executives to introduce sustainability within the hospitals.

SA Action

Carbon Neutral Adelaide

The committee’s most sustained activity has been in supporting the move by the Adelaide City Council and State Government to make Adelaide a carbon-neutral city. DEA has set up visiting teams to educate medical practices in the CBD on sustainability and provides the council and government teams with medical evidence backing up its proposed actions.



L-R: Dr Graeme McLeay, Hon Ian Hunter (Sustainability, Environment and Conservation Minister – SA 2013-18), Dr Ingo Weber and Adelaide Lord Mayor Martin Haese

Oil and Gas in the South East of South Australia

The committee has provided strong support for local environmental advocates who have denied the industry a social licence for fracking – there is now a 10-year moratorium. This is by no means sufficient to protect the South-east from damage to its environment because conventional drilling and extraction continues apace.

Underground Coal Gasification at Leigh Creek

Industry continues to make progress on trialling this process in the Leigh Creek area. There have been few opportunities to input into governmental decisions on this, but our input on these occasions has been vigorous – to no avail. We battle on.

SA Public Health Plan

We have made significant contributions to the development of the SA plan, emphasising the importance of both mitigation (public transport,

efficient buildings) and adaptation (emergency preparedness, cool refuges etc).

The SA Election

The committee addressed a scoresheet of questions to contending parties. The Liberal Party failed to respond at all.

Up in Queensland



DEA Queensland saw a significant increase in action in 2017-2018, because of the re-establishment of an official committee, now comprising 16 doctor and student members.

Biodiversity was, and continues to be, a large focus of the work done in Queensland with restoration projects taking place on Moreton island, the Indooroopilly embankment and Mt Mee.

The Adani Carmichael Coal Mine project was a large focus with DEA members participating in letter writing sessions, rallies, and submissions to parliament focused on halting the advancement of the project and to pressure government to keep Adani accountable for its impact to local communities and the environment.

The Greening hospitals initiative has been embraced with planning sessions coordinated by student members across a wide variety of hospital networks to begin planning for advocacy in this area. The Princess Alexandra Hospital has a dedicated group of 10+ doctors who have begun the process campaigning for greater education regarding the hospital's impact to the environment and how a change in practice can mitigate this impact.



Ten DEA Qld members raised funds and ran in the Gold Coast Running Festival in July 2017.

Victoria

DEA observes that Victoria, over the last couple of years, represents a case study of how health and environmental advocacy can come to fruition, resulting in positive action. DEA has been able to work constructively with the state government, particularly the Department of Environment, Land, Water and Planning (DELWP); the Environment Protection Authority (EPA) and the Department of Health and Human Services (DHHS). DEA has been involved via submissions; invitations to consultations and advisory groups; face to face meetings with ministers and public servants; and attendance at hearings/inquiries.



Some significant achievements of the current Victorian government which help to protect health and environment include: legislative changes including a world-leading Climate Change Act;



renewable energy targets and support for regional wind and solar projects; emissions reduction

targets. The EPA has undergone substantial reform, much of it in line with recommendations DEA made in our submission to the initial Inquiry into the EPA. Now the EPA has explicit scope and authority and to provide the science-first advice and leadership to protect health and environment and the official purpose of the EPA is stated “We protect the environment and people by preventing and reducing harm from pollution and waste.” The DHHS has created a new role for a Deputy Chief Health Officer (Environment), whose remit includes liaison with DELWP and the EPA, which DEA feels is a positive step to enable policy and planning connections between health and environment.

DEA has in the past 12 months informed, educated, advocated and offered sensible solutions about the enormous challenges facing human health from growing environmental degradation.

Behind the scenes

Scientific Committee Advisory Committee

A distinguished number of scientists provide evidence-based support for the work we do:

- Professor Stephen Boyden AM
- Professor Chris Burrell AO
- Professor Peter Doherty AC
Nobel Prize (1996), Australian of the Year (1997)
- Professor Michael Kidd AM
- Professor David de Kretser AC
- Professor Steve Leeder AO
- Professor Ian Lowe AO
- Professor Robyn McDermott
- Professor Lidia Morawska
- Professor Peter Newman AO
- Sir Gustav Nossal AC
- Professor Hugh Possingham FAA
- Professor Lawrie Powell AC
- Professor Fiona Stanley AC
Australian of the Year (2003)
- Rosemary Stanton OAM
- Dr Norman Swan
Award-winning producer and presenter of ABC Radio National's Health Report

Management Committee

Chair - Professor Kingsley Faulkner, AM

Professor within the School of Medicine, Fremantle of the University of Notre Dame Australia.
Professor Kingsley was President of the Royal Australasian College of Surgeons 2001-2003 and formerly Chairman, Australian Council on Smoking and Health.

Secretary - Professor David Shearman, AM

Emeritus Professor of Medicine, University of Adelaide.
Professor Shearman has contributed to reports Three and Four of the Intergovernmental Panel on Climate Change. He is a former President of the Conservation Council of South Australia.

Treasurer - Dr Hakan Yaman

Emergency Physician and General Practitioner
Master of Public Health

Deputy Chair - Dr Eugenie Kayak
Anaesthetist

National Student Representative - Kaiya Ferguson
Medical student at the University of Queensland

Dr Kristine Barnden, Obstetrician
Dr Liz Bashford, Anaesthetist
Dr Marion Carey, Public Health Physician
Dr David King, Academic GP
Dr John Van Der Kallen, Rheumatologist
Dr John Willoughby, Neurologist
Dr Richard Yin, GP

Corresponding members to the above Committee:

Dr Sujata Allan, GP
Dr George Crisp, GP
Dr Ben Ewald, Epidemiologist
Dr Beau Frigault, RMO
Dr Arnagretta Hunter, Cardiologist
Dr John Iser, Gastroenterologist
Dr Graeme McLeay, Anaesthetist
Dr Kristen Pearson, Geriatrician
Dr Helen Redmond, Rehabilitation Physician
Dr Dimity Williams, GP

National Student Representative - Elect
Clancy Read, medical student at the University of New South Wales.

State Chairs and representatives:

Dr John Van Der Kallen, NSW
Dr John Iser, VIC
Dr David King, QLD
Dr Doug Shaw, SA
Dr Richard Yin, WA
Dr Kristine Barnden, TAS
Dr Arnagretta Hunter, ACT
Dr Rosalie Schultz, NT

Sub-committee:

Agriculture and diet - Chair, Dr Kristine Barnden
Biodiversity and natural ecosystems – Chair, Dr Dimity Williams
Climate change – Chair, Dr Liz Bashford and Dr John Iser
Divestment – Chair, Dr Helen Redmond
Environmentally sustainable healthcare – Chair, Dr Eugenie Kayak
Gas and unconventional gas – Chair, Dr David Shearman
Health and Energy – Chair, Dr Chris Juttner

Treasurer's report

I am pleased to report that the financial position of DEA is stable with an income stream slightly greater than anticipated in our budget, largely due to a welcome increase in our member base. Though our overall equity movement was negative, this was expected due to the planned spending of monies raised from fundraising efforts in the previous financial year. This fundraising included support from the Lord Mayor's Charitable Foundation, for which we are deeply grateful for.

The largest proportion of DEA expenditure was spent on a small group of paid staff that supported and maximised the effectiveness of the work of our large member base. However, as you would rightly expect, all members of our Management Committee are volunteers. They self-fund their DEA expenses and have no pecuniary interest in DEA finances.

Further detailed information can be obtained by viewing our full audited financial statement. This will be uploaded as a public document on the Australian Charities and Not for Profit Commission website <http://www.acnc.gov.au/>.⁸⁴ Any questions regarding the financial statement are welcome and I am confident that all funds have been used to pursue the primary environmental purpose of DEA.

There are many to thank for their assistance over the last year. Our hard-working staff members have consistently worked well beyond their job description, reflecting their passion for the organisation. These include Joy Oddy who runs our Adelaide base office, our media consultant Carmela Ferraro and our administrative assistant Rebecca Osborne.

Our deepest gratitude extends also to our accountant Cameron Batterham from Batterham & Associates whose support has now continued for over a decade. He has again generously donated his time and expertise to independently prepare and audit the DEA Annual Financial Statement.

A special mention must also be made to Mr Mark White of Panama Software who has been instrumental in the development and maintenance of our website and database. His prompt and patient responses to our countless queries and requests have been invaluable.

Finally, our thanks to all our members for their vital contributions, the spectrum of which is from simply maintaining membership to extensive involvement with our State and National committees. Many of our members have been alongside us for over a decade and are now being joined by an expanding cohort of student members and new graduates.

We look forward to your continued support in 2019 and beyond in our efforts to protect what is precious to us all.



Hakan Yakan
Treasurer

Publications

- Allan, S., and Stiles, R. *Keeping a lid on coal dust*, Blue Mountains Gazette, 25 April 2018
- Barnden, K. *Why the way we eat is making us sick*, Doctor Portal, 11 April 2018
<https://www.doctorportal.com.au/why-the-way-we-eat-is-making-us-sick/>
- Barnden, K. *Heat on health to cut costs and boost well-being*, The Mercury, 16 Feb 2018
<https://www.dea.org.au/the-mercury-talking-point--heat-on-health-to-cut-costs-and-boost-wellbeing/>
- Barnden, K. *Our future: meeting the challenge one plate at a time*, The Illawarra Mercury, 11 February 2018
<https://www.illawarramercury.com.au/story/5220497/livestock-meating-the-challenge-one-plate-at-a-time/>
- Barraclough, K. *Protection of marine ecosystems risks being watered down*, The Courier Mail, 17 April 2018
<https://www.dea.org.au/the-courier-mail-protection-of-marine-ecosystems-risks-being-watered-down/>
- Barraclough, K. *We must avoid the final cut*, Online Opinion, 29 November 2017
<https://www.dea.org.au/on-line-opinion-we-must-avoid-the-final-cut/>
- Barraclough, KA., Gleeson, A., Holt SG., Agar JW. *The Green Dialysis Survey: Establishing a Baseline for Environmental Sustainability across Dialysis Facilities in Victoria, Australia*, Nephrology, 2 November 2017
<https://www.ncbi.nlm.nih.gov/pubmed/29094785>
- Barraclough, KA., Blashki, GA., Holt, SG., Agar, JWM. *Climate change and kidney disease-threats and opportunities*, Kidney Int. September 2017
<https://www.ncbi.nlm.nih.gov/pubmed/28807256>
- Bashford, L. *COP23: Fiji leads global efforts to leap forward on climate action*, Croakey online, 9 November 2017
<https://croakey.org/cop23-fiji-leads-global-efforts-to-leap-forward-on-climate-action/>
- Church, R. *All not well in the greenhouse*, The Mercury, 11 May 2018
<https://www.themercury.com.au/news/opinion/talking-point-all-not-well-in-the-greenhouse/news-story/a954658d2077a1a7a40a5bb02e960b44>
- Church, R., O'Donnell, E., *Doctors alarmed by new Tarkine Destruction*, Tasmanian Times, 20 April 2018
<http://www.tasmaniantimes.com.au/index.php/article/doctors-alarmed-by-renewed-tarkine-destruction->
- Church, R. *State climate policy has stagnated in Australia in the last four years*, The Mercury, 3 March 2018
<https://www.themercury.com.au/news/opinion/state-climate-policy-has-stagnated-in-tasmania-in-the-last-four-years/news-story/9625933f56c9a2e4d40fe540cf285e2a>
- Crisp, G. and Yin, R. *Why Greening Healthcare is Essential for Health*, Medical Republic, 30 April 2018
<http://medicalrepublic.com.au/greening-healthcare-essential-health/14220>
- Crisp, G. *Environmental health v power from coal*, The Post, Letter to the Editor, date unspecified

Ferguson, K. *New Hope Coal expansion: Governments stand aside as temperatures rise*, Independent Australia, 27 June 2018
<https://independentaustalia.net/environment/environment-display/new-hope-coal-expansion-governments-stand-aside-as-temperatures-rise,11633>

Ferguson, K. *Acland mine expansion versus human health*, Renew Economy, 14 June 2018
<https://reneweconomy.com.au/acland-mine-expansion-versus-human-health-36519/>

Frigault, B. *As #QLDVotes, where is the conversation around this health emergency?* Croakey.org, 24 November 2017
<https://croakey.org/as-qldvotes-where-is-the-conversation-around-this-health-emergency/>

Iser, J. *Let's end the propaganda war on coal*, Online Opinion, 22 May 2018 <https://www.dea.org.au/lets-end-the-propaganda-war-on-coal/>

Iser, J. *What in Health's name is an ERT?* Renew Economy, 11 May 2018
<https://reneweconomy.com.au/healths-name-ert-98194/>

Iser, J. *Australia comes bottom of the class in climate action*, Open Forum, 24 November 2017
<http://www.openforum.com.au/australia-comes-bottom-of-the-class-on-climate-action/>

Iser, J. *Comment to Vic government on recently announced statement on Future Uses of Brown Coal*, 19 October 2017
<https://www.dea.org.au/comment-to-vic-government-on-recently-announced-statement-on-future-uses-of-brown-coal/>

Iser, J. *Stop clinging to coal*, letter to the Editor, Herald Sun, 11 September 2017

Iser, J. *Further evidence that coal-fired power has reached its use-by date*, Open Forum, 18 August 2017
<http://www.openforum.com.au/Further-evidence-that-coal-fired-power-has-reached-its-use-by-date>

Juttner, C. *Health implications of Coalition's energy policy*. OpEd, Independent Australia, 13 March 2018
<https://independentaustalia.net/environment/environment-display/health-implications-of-coalitions-energy-policy,11292>

King, D and Brooks, P. *Doctors demand Brisbane Mater Hospital review its coal links*, Croakey.org, 2 August 2017
<https://croakey.org/doctors-demand-brisbanes-mater-hospital-review-coal-links/>

King, D *Mater Hospital pulls logo from Queensland coalmine ad campaign*, The Guardian 28 July 2017
<https://www.theguardian.com/australia-news/2017/jul/28/mater-hospital-pulls-logo-regretsqueensland-acland-coalmine-ad-campaign-new-hope>

King, D *Doctor furious at hospital's support for coal mine*, The Australian Doctor, 27 July 2017
<https://www.australiandoctor.com.au/news/doctors-furious-their-hospitals-support-coal-mine>

King, D *Brisbane's Mater Hospital defends backing coal mine ad campaign*, The Guardian, 22 July 2017
<https://www.theguardian.com/australia-news/2017/jul/22/brisbanes-mater-hospital-defends-backingcoalmine-advertising-campaign>

McGain, F., Arunima, M., Lenzen, M., McAlister, S. *The carbon footprint of Australian health care*, Lancet Planetary Health, February 2018
[https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(17\)30180-8/abstract](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30180-8/abstract)

McGain, F. *Five ways hospitals can reduce their environmental footprint*, The Conversation, 24 May 2018
<https://theconversation.com/five-ways-hospitals-can-reduce-their-environmental-footprint-90390>

McCarron, G. *published research on air pollution in Darling Downs*
<https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F00207233.2017.1413221>

McLeay, G. *Why electric cars should be powering Aussie roads*. Stock Journal, 17 June 2018
<https://www.dea.org.au/stock-journal-why-electric-cars-should-be-powering-aussie-roads/> and also

McLeay, G. *Why electric cars should be powering Aussie roads*. The Examiner, 17 June 2018
<https://www.examiner.com.au/story/5470285/why-electric-cars-should-be-powering-aussie-roads/>

McLeay, G. *Electric cars threaten oil but are a boon for health*. Independent Australia, 24 May 2018
<https://independentaustralia.net/politics/politics-display/electric-vehicles-threaten-oil-but-are-a-boon-for-health,11528>

McLeay, G. *The burning question for Australia's politicians*. OpEd, Open Forum, 24 March 2018.
<http://www.openforum.com.au/a-burning-question-for-australias-politicians/>

McLeay, G. *Exhaust fumes are as harmful as smoking, we need electric cars for healthier air*. Adelaide Advertiser, 30 January 2018
<https://www.dea.org.au/the-advertiser-opinion-exhaust-fumes-are-as-harmful-as-smoking-we-need-electric-cars-for-healthier-air/>

McLeay, G. *How the Turnbull government stole Christmas*, Online Opinion, 27 December 2017
<http://onlineopinion.com.au/view.asp?article=19489&page=0>

McLeay, G. *Our driving choices can help us breathe easier*, The Medical Republic, 26 October 2017
<http://medicalrepublic.com.au/driving-choices-can-help-us-breathe-easier/11590>

McLeay, G. *Experts warn lab testing vehicle emissions just isn't enough*, Gizmodo, 23 October 2017
<https://www.gizmodo.com.au/2017/10/experts-warn-lab-testing-of-vehicle-emissions-just-isnt-enough/>

McLeay, G. *Coalition talk of rejecting Alan Finkel's Clean Energy Target leaves Australia's climate policy in tatters*, Online Opinion, 12 September 2017
<http://www.onlineopinion.com.au/view.asp?article=19298>

Montgomery, B. *Our asthma puffer is probably contributing to climate change, but there's a better alternative*, The Conversation, 26 March 2018
<https://theconversation.com/your-asthma-puffer-is-probably-contributing-to-climate-change-but-theres-a-better-alternative-92874>

Morgan, E. *Coal Mining, climate change and the global impacts on health: examining Adani's proposed Carmichael mine*, Vector.amsa.org.au, 26 October 2017.
<https://vector.amsa.org.au/2017/10/26/coal-mining-climate-change-and-the-global-impacts-on-healthexamining-adanis-proposed-carmichael-coal-mine/>

Muller, K. *Public Forum in Townsville hears of health concerns about Adani mine*, Croakey.org, 5 September 2017
<https://croakey.org/public-forum-in-townsville-hears-of-health-concerns-about-adani-mine/>

Schultz R. *Land clearing: a health threat requiring action and leadership – in the NT, and elsewhere*, Croakey, 20 Dec 2017
<https://croakey.org/land-clearing-a-health-threat-requiring-action-and-leadership-in-the-nt-and-elsewhere/>

Shearman, D. *And here is the Budget reply speech that Bill Shorten should have given*, Croakey, 18 May 2018
<https://croakey.org/and-here-is-the-budget-reply-speech-that-bill-shorten-should-have-given/>

Shearman, D. *Climate change: Australia's position is unconscionable for a wealthy country*, ABC Online, 29 April 2018
<http://www.abc.net.au/news/2018-04-29/climate-change-health-impacts-who-adani-nt-fracking-australia/9702386>

Shearman, D. *The ACCC and Liddell: Just opinion and no facts*, Independent Australia, 10 April 2018
<https://independentaustralia.net/environment/environment-display/the-accs-and-liddell-just-opinion-and-no-facts,11383>

Shearman, D. *The planet's health is no place for politics, and new laws for Australia might just make it so*, Croakey, 3 April 2018
<https://croakey.org/the-planets-health-is-no-place-for-politics-and-new-laws-for-australia-might-just-make-it-so/>

Shearman, D. *Government climate policy: Do Australians need to be protected from it?* Independent Australia, 28 March 2018 (republished)
<https://independentaustralia.net/life/life-display/government-climate-policy-do-australians-need-to-be-protected-from-it,11339>

Shearman, D. *Why Australians need a national environment protection agency to safeguard their health*, The Conversation, 27 March 2018
<https://theconversation.com/why-australians-need-a-national-environment-protection-agency-to-safeguard-their-health-93861>

Shearman, D., Monaghan, M., and Bashford, L. *Health Check: How can extreme heat lead to death?*, The Conversation, 9 February 2018
<https://theconversation.com/health-check-how-can-extreme-heat-lead-to-death-91480>

Shearman, D. *Coal – the inconvenient truth*, Open Forum, 26 September 2017
<http://www.openforum.com.au/coal-the-inconvenient-truth/>

Shearman, D. *AGL's Liddell power station and the Turnbull Government's 'clean coal' lies*, Independent Australia, 12 September 2017
<https://independentaustralia.net/environment/environment-display/agls-liddell-power-station-and-the-turnbull-governments-clean-coal-lies,10709>

Shearman, D. *Liddell: Climate change and air pollution medical negligence*, Renew Economy, 6 September 2017
<http://reneweconomy.com.au/liddell-climate-change-air-pollution-medical-negligence-87204/>

Shearman, D. *COAG confirms States need to act alone as Coalition's climate failure continues*, Independent Australia, 25 July 2017
<https://independentaustralia.net/politics/politics-display/coag-confirms-states-need-to-act-alone-as-coalitions-climate-failure-continues,10534>

Shearman, D. *Revelations from the New Acland coal mine case*, Renew Economy, 25 July 2017
<http://reneweconomy.com.au/revelations-new-acland-coal-mine-case-82775/>

Shearman, D. *COAG: Can democracy weed out climate deniers?*, Renew Economy, 19 July 2017
<http://reneweconomy.com.au/coag-can-democracy-weed-climate-deniers-38234/>

Shearman, D. *Why fracking the South-East threatens more than agriculture*, InDaily, 14 July 2017
<http://indaily.com.au/opinion/2017/07/14/why-fracking-the-south-east-threatens-more-than-agriculture/>

Stanley, F., Pearlman, G. and Yin, R., *Don't believe the hype on natural gas. It's a fossil fuel just like coal*, The Guardian, 17 April 2018
<https://www.theguardian.com/commentisfree/2018/apr/17/dont-believe-the-hype-on-natural-gas-its-a-fossil-fuel-just-like-coal>

Stoiois, E. *Why Australia's Youth Vote is key to Climate Action*, Open Forum, 8 June 2018
<http://www.openforum.com.au/why-australias-youth-vote-is-the-key-to-climate-action/>

Stoiois, E. *Dirty jobs come up trumps in the Queensland election*, Brisbane Times, 22 November 2017
<https://www.brisbanetimes.com.au/national/queensland/dirty-jobs-come-up-trumps-in-the-queensland-election-20171121-p4yx4s.html>

Watt L-J. *Queensland's land clearing laws: a victory for health*, Croakey.org, 4 June 2018
<https://croakey.org/queenslands-land-clearing-laws-a-victory-for-health/>

Weber, I. and Moy, C. *A win for health and the environment*, MedicSA, December 2017
<https://www.dea.org.au/a-win-for-health-and-the-environment-in-ptaugusta/>

Williams, D. *Protecting Victoria's forests is good for our health*, VicDoc, 8 February 2018
<https://www.dea.org.au/vicdoc-protecting-victorias-forests-is-good-for-our-health/>

Williams, D. *Health and Economic benefits of Biodiversity*, Letter to the Editor, The Age, 28 December 2017

Williams, D. *Green is good*, Letter to the Editor, The Age, 27 December 2017
<https://www.theage.com.au/national/victoria/market-forces-capitalism-is-not-altruistic-20171227-h0akbh.html>

Williams D. *Why would a doctor care about nature?* Park Watch, Victorian National Parks Association publication, December 2017
<https://vnpa.org.au/publications/park-watch-december-2017/>

Williams, D. *Nature's medicine* Parkwatch, December 2017

<https://vnpa.org.au/natures-medicine/>

Dimity also writes in the December edition of Park Watch, the magazine of the Victorian National Parks Association on the relationship between health and nature and how steps by the Victorian Government to support biodiversity and this nature/health connection are encouraging.

Williams, D. *This GP is dedicated to helping kids break free from screens*, Medical Observer, 15 November 2017

Williams, D. *Protecting Victoria's forests is good for our health*, VicDoc- Publication of Victoria

Willoughby, J., Lyne, K. and Shaw, D. *Warming threats*, Letter to the Editor, The Advertiser, 1 May 2018

Willoughby, J., McLeay, G. and Juttner, C. *Leadership failure*, The Advertiser, Letter to the Editor, 21 October 2017

<http://www.adelaidenow.com.au/news/opinion/the-advertiser-letters-to-the-editor-october-21/news-story/18fa92acb3c093e07adaeab512275aff>

Yin, R. *Investing in Health*, Medical Forum, Guest Opinion and Editorial, 2 February 2018

<https://www.medicalhub.com.au/investing-in-health/>

Yin, R. *Fracking is Unsafe*, The West Australian, Letters to the Editor, 29 September 2017

Yin, R. *Multiple Hazards in Fracking*, The West Australian, Letters to the Editor, 22 September 2017

Yin, R. *We need to do more to reduce medical waste*, Medical Observer, 3 August 2017

<https://www.medicalobserver.com.au/professional-news/we-need-to-do-more-to-reduce-medical-waste>

Conferences, talks and lectures

Allan S, Sleeman N, Jennens H. *Coal, gas and your community's health*. Workshop at Beyond Coal and Gas Jamboree, Sunshine coast, 31 May – 3 June 2018

Allan S. *Sustainable Clinical Practice*. Talk at RACP congress, Sydney, NSW. 14 May 2018

Allan S. *Climate change and health in Western Sydney*. Talk at David Pencheon forum, Blacktown, NSW. 2 May 2018

Allan S, Read C, Shwartz I, Stoios E. *Introduction to community organizing*. Workshop at iDEA18, Newcastle, 13 April 2018

Allan S. *Climate change and health advocacy*. Talk at Australasian Society of Lifestyle Medicine conference. 15-17 September 2017

Allan S, Stiles R. *Air pollution and health*. Talk at Politics in the Pub, organized by the Blue Mountains Unions and Community Group. Katoomba, 2 September 2017

Allan S. *Air pollution and health*. Talk and panel discussion, AYCC Powershift conference, Melbourne, Vic. 22-23 July 2017

Barnden, K. *The health benefits of responding to climate change*, Politics in the Pub (Tasmanian Greens) 1 February 2018

Barnden, K. *DEA and DOHaD: The importance of environment to health: Climate change and the first 1000 days*. North Hobart Rotary Club 10 October 2017

Barnden, K. *DEA and DOHaD: The importance of environment to health: Climate change and the first 1000 days*. Salamanca Rotary Club (Hobart) 19 September 2017

Beaton L. *Media and meeting politicians*, Workshop held at Queens College, Melbourne, 19 May 2018

Iser, J. *Health effects of the Adani coal mine*, Stop Adani, Bendigo, 23 November 2017

Kayak, E. *Healthcare Sustainability*, AMA Victoria Women in Medicine event, Melbourne, 21 May 2018

Kayak, E. *Health benefits of mitigating anthropogenic climate change*, Preventative Medicine Course, Monash MBBS, 13 September 2017 and 27 April 2018

Kiang, K. *Climate change and health*, Warrandyte Climate Action Network, 22 September 2017

McLeay, G. Probus Meeting Burnside: Climate Change and Health

McLeay, G. SA Medical Heritage Society: Climate Change and Health-past, present and future of climate in Australia, 26 April 2018

Winkel, K. *Nurturing your Ecology*, Australian College of Nutrition and Environmental Medicine Annual Conference, Pullman Hotel, Melbourne, 6 May 2018

Winkel, K. *A part of Nature, not Apart from Nature: Medicine, Natural History and the Design of Life*, University of Melbourne undergraduate subject, Melbourne School of Design, 25 August 2017

Winkel, K. *Environmental Health and Human Wellbeing*, Sustainability Governance and Leadership subject for MEnvirSc students, Office for Environmental Programs, School of Ecosystem and Forest Sciences, University of Melbourne, 18 August 2017

Media press and interviews

Barnden, K., Church, R., Nolan, S. *Meeting with MLC's Sarah Lovell and Craig Farrell (Tas ALP)*. 16 February 2018

Coha, M. and Iser, J. *Bypassing the Carbon Paralysis*, Radio interview, The Sustainable Hour, The Pulse 94.7FM, 6 May 2018
www.climatesafety.info/thesustainablehour (show number 215)

Glogovska, K. and Jersmann, H. *Divestment*, Presentation to University of Adelaide: Global Health Group Upskilling Night, 28 March 2018

Iser, J. Radio interviews with ABC and 3AW on *DEA's submission to EPA regarding Victorian brown coal-fired power stations* 26 February 2018

Kayak, E. Featured in *Our Power* documentary (movie about the Hazelwood coal mine fire, pollution and health effects). Iser, J also involved in production. June 2018

Interview with Dr David King by Finnish Broadcasting Corporation about melanoma rates in QLD.
<https://yle.fi/uutiset/3-10052804>

King, D. and Shearman, D. *Brisbane's Mater hospital defends backing coal mine advertising campaign*, The Guardian, 22 July 2017

<https://www.theguardian.com/australia-news/2017/jul/22/brisbanes-mater-hospital-defends-backing-coalmine-advertising-campaign>

McGain, F. *Anaesthetics contributing to hospital greenhouse gas emissions: study*. Radio interview, ABC Radio National, 8 December 2017

McGain, F. *Sustainable Hospitals*, Radio National, 8 December 2017

McLeay, G. *3000 deaths – mainly from vehicle emissions*. The Wire, 23 October 2017

<http://thewire.org.au/story/3000-deaths-mainly-vehicle-emissions/>

McLeay, G. *Climate Change and Health: Australia's climate, past, present and future*. Presentation to the South Australian Medical Heritage Society, 26 April 2018

McLeay, G. *Interview on radio 5AA Adelaide*. Reported in DEA national newsletter 1 March 2018

Shearman, D. Discussion on DEA, the Port Augusta campaign and the impacts of climate change on health, Beyond Zero Emissions 3CR's Drivetime Radio Station, 28 May 2018

http://bze.org.au/180528_community/

Shearman, D. Discussion on DEA and the NT's decision to frack, Beyond Zero Emissions 3CR's Drivetime Radio Station, 21 May 2018

http://bze.org.au/180528_community/

Shearman, D. *Why Australians need a national environment protection agency to safeguard their health*, Melbourne Community Radio 3CR, 28 March 2018

Shearman, D. *New Clive Palmer mine could 'gas' drivers on Bruce Highway, doctors warn*, Techbee Press, 22 January 2018

<http://www.techbeepress.com/new-clive-palmer-mine-could-gas-drivers-on-bruce-highway-doctors-warn/>

Shearman, D. *Clive Palmer's proposed coalmine could 'gas' drivers on Bruce Highway, doctors group warns*, ABC Online, 23 December 2017

<http://www.abc.net.au/news/2017-12-22/clive-palmer-new-coal-mine-could-pose-health-risk-doctors-group/9277646>

Shearman, D. *Clive Palmer's proposed Styx coalmine in central Queensland poses a potentially toxic health risk*. ABC radio and TV, 20 December 2017

Shearman, D. Interview on the need for PM Turnbull to consider his position if he's not prepared to consider an emission intensity scheme, ABC Radio, 8 December 2017

Shearman, D. *"Coal wash"*, ABC Illawarra NSW, 11 October 2017

Shearman, D. *Australia's health services must start preparing for 50-degree days*, Huffington Post, 5 October 2017

http://www.huffingtonpost.com.au/2017/10/04/australias-health-services-must-start-preparing-for-50-degree-days_a_23233091/

Shearman, D. *Coal communities lead march to clean energy*, Renew Economy, 15 August 2017

<http://reneweconomy.com.au/coal-communities-lead-march-to-clean-energy-12803/>

Willoughby J.O. and Jersmann H. *Health Impacts of Climate Change*. Presentation to Flinders University medical students, 31 January 2018

Wylie, K. *DEA and health and the environment* Adelaide radio station, Three D Radio, August 2017

References

- ¹ <https://theconversation.com/health-check-how-can-extreme-heat-lead-to-death-91480>
- ² <https://www.dea.org.au/wp-content/uploads/2018/03/DEA-Policy---Action-on-Climate-Change-and-Health-Governance-and-Strategy-02-18.pdf>
- ³ <https://www.dea.org.au/wp-content/uploads/2018/04/United-Nations-Sustainable-Development-Goals-SDG-Submission-03-18.pdf>
- ⁴ <https://www.medicalobserver.com.au/views/shouldnt-planetary-health-be-our-bread-and-butter-primary-care-physicians>
- ⁵ <https://www.dea.org.au/wp-content/uploads/2018/05/Interim-Emissions-Reduction-Targets-for-Victoria-2021-2030-Submission-05-18.pdf>
- ⁶ <https://reneweconomy.com.au/healths-name-ert-98194/>
- ⁷ [http://climatechangeauthority.gov.au/files/files/Target-Progress-Review/Targets%20and%20Progress%20Review%20Final%20Report Chapter%209.pdf](http://climatechangeauthority.gov.au/files/files/Target-Progress-Review/Targets%20and%20Progress%20Review%20Final%20Report%20Chapter%209.pdf)
- ⁸ <http://www.abc.net.au/news/2018-04-29/climate-change-health-impacts-who-adani-nt-fracking-australia/9702386>
- ⁹ <http://www.openforum.com.au/why-australias-youth-vote-is-the-key-to-climate-action/>
- ¹⁰ <https://womensagenda.com.au/latest/how-persistent-and-respectful-advocacy-is-getting-this-doctor-heard-on-climate-change/>
- ¹¹ <https://www.dea.org.au/the-australian-did-not-wish-to-publish-this-letter/>
- ¹² https://www.dea.org.au/wp-content/uploads/Children_and_climate_change_report- No Time for Games web.pdf
- ¹³ <https://www.dea.org.au/wp-content/uploads/2017/08/Current-and-future-impacts-of-climate-change-on-housing-buildings-and-infrastructure-08-17.pdf>
- ¹⁴ <https://www.thesaturdaypaper.com.au/news/environment/2017/08/26/our-unhealthy-power-stations/15036696005125>
- ¹⁵ https://www.dea.org.au/wp-content/uploads/2017/07/DEA-Health-Toll-of-Coal-Fact-Sheet_final.pdf
- ¹⁶ <https://www.sbs.com.au/news/coal-power-comes-with-2-6b-health-bill> (SBS August 2017)
- ¹⁷ <https://www.theherald.com.au/story/5182041/doctors-say-hunter-air-pollution-regime-trivial-ineffective/>
- ¹⁸ <http://www.abc.net.au/radionational/programs/lifematters/life-amongst-coal-mines-and-power-stations/8740272>
- ¹⁹ <https://www.singletonargus.com.au/story/5317536/significant-decline-in-air-quality/>
- ²⁰ <https://www.theherald.com.au/story/5338661/doctors-put-a-price-on-toxic-power-station-emissions/>
- ²¹ <https://www.theherald.com.au/story/5467789/last-gasp-village-abandoned-as-residents-struggle-to-breathe/?cs=305>
- ²² <https://www.cessnockadvertiser.com.au/story/4852022/gasping-for-air/?cs=12>
- ²³ <https://www.dea.org.au/wp-content/uploads/2018/02/VIC-Brown-coal-fired-power-stations-licence-reviews-submission---02-18.pdf>
- ²⁴ <https://www.theage.com.au/politics/victoria/environment-watchdog-could-slap-tougher-emissions-caps-on-power-plants-20180223-p4z1is.html>
- ²⁵ <https://www.bluemountaingazette.com.au/story/5052093/cover-those-coal-wagons-bmuc/>
- ²⁶ <https://www.theherald.com.au/story/4794431/hele-power-plants-still-cause-air-pollution/>

-
- ²⁷ <https://www.dea.org.au/media-release-doctors-urge-closure-of-liddell-coal-fired-power-station-before-2022-to-save-lives/>
- ²⁸ <https://reneweconomy.com.au/liddell-climate-change-air-pollution-medical-negligence-87204/>
- ²⁹ <https://www.thecourier.com.au/story/5153510/bushfire-smoke-silent-deadly-danger-to-our-health/>
- ³⁰ <https://tech2.org/aus/bushfire-smoke-in-silence-mortal-danger-to-our-health/>
- ³¹ <https://www.dea.org.au/huffington-post-cars-are-the-problem-and-the-solution-to-our-highest-emissions-level-ever/>
- ³² <https://www.dea.org.au/the-medical-republic-our-driving-choices-can-help-us-breathe-easier/>
- ³³ <https://www.dea.org.au/submission-to-the-ministerial-forum-on-the-vehicle-emissions-discussion-paper-healthy-planet-healthy-people-dea/>
- ³⁴ <https://www.dea.org.au/submission-to-the-better-fuel-for-cleaner-air-discussion-paper/>
- ³⁵ <https://www.dea.org.au/better-fuel-for-cleaner-air-draft-regulation-impact-statement/>
- ³⁶ <https://www.dea.org.au/senate-select-committeenspon-electric-vehicles-submission/>
- ³⁷ www.tai.org.au/content/diesel-fuelled-emissions-national-energy-emissions-audit
- ³⁸ <http://www.onlineopinion.com.au/view.asp?article=19166&page=0>
- ³⁹ <https://www.dea.org.au/online-opinion-air-pollution-a-silent-killer-we-must-urgently-act-on/>
- ⁴⁰ <https://www.dea.org.au/transport-position-statement/>
- ⁴¹ <http://medicalrepublic.com.au/driving-choices-can-help-us-breathe-easier/11590>
- ⁴² <https://www.examiner.com.au/story/5470285/why-electric-cars-should-be-powering-aussie-roads/>
- ⁴³ <https://www.dea.org.au/study-walking-can-save-lives-and-money/>
- ⁴⁴ <https://www.dea.org.au/the-advertiser-opinion-exhaust-fumes-are-as-harmful-as-smoking-we-need-electric-cars-for-healthier-air/>
- ⁴⁵ <https://independentaustralia.net/environment/environment-display/the-accc-and-liddell-just-opinion-and-no-facts,11383>
- ⁴⁶ <https://www.dea.org.au/nsw-eia-improvement-project-1-overview-of-the-eia-improvement-project-submission/>
- ⁴⁷ <https://www.dea.org.au/17376-2/>
- ⁴⁸ <https://www.dea.org.au/adani-infrastructures-north-galilee-water-scheme-ngws-project-submission/>
- ⁴⁹ <https://www.theguardian.com/commentisfree/2018/apr/17/dont-believe-the-hype-on-natural-gas-its-a-fossil-fuel-just-like-coal>
- ⁵⁰ <https://climateanalytics.org/media/climateanalytics-report-westernaustraliasgasmamble-2018.pdf>
- ⁵¹ <http://envlaw.com.au/wp-content/uploads/carmichael14.pdf>
- ⁵² <https://www.dea.org.au/wp-content/uploads/2018/03/Inquiry-into-Hydraulic-Fracture-Stimulation-in-Western-Australia-2017-Submission-03-18.pdf>
- ⁵³ <https://www.dea.org.au/scientific-inquiry-into-hydraulic-fracturing-in-the-nt-response-to-the-draft-final-report/>
- ⁵⁴ <https://www.dea.org.au/further-information-to-the-scientific-inquiry-into-hydraulic-fracturing-in-the-northern-territory/>
- ⁵⁵ <https://www.dea.org.au/health-sustainable-diet-and-agriculture-policy/>
- ⁵⁶ <https://www.dea.org.au/wp-content/uploads/2018/06/Exploring-ways-to-improve-farmers'-interaction-with-the-EPBC-Act-06-18.pdf>
- ⁵⁷ <https://www.dea.org.au/australias-strategy-for-nature-2018-2030-australias-biodiversity-conservation-strategy-and-action-inventory-submission/>
- ⁵⁸ <http://www.placesyoulove.org/australiawelove/naturelaws/>
- ⁵⁹ <http://apeel.org.au/papers>
- ⁶⁰ http://www.placesyoulove.org/wp-content/uploads/2018/05/HSI-EDO-Next-Generation-Report_SEARCHABLE.pdf
- ⁶¹ <https://theconversation.com/climate-policy-is-a-fiendish-problem-for-governments-time-for-an-independent-authority-with-real-powers-93853>

-
- ⁶² <https://theconversation.com/why-australians-need-a-national-environment-protection-agency-to-safeguard-their-health-93861>
- ⁶³ [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(17\)30180-8/fulltext?code=lancet-site](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30180-8/fulltext?code=lancet-site)
- ⁶⁴ <https://www.dea.org.au/media-releases/bspdoctors-alarmed-but-not-surprised-at-carbon-footprint-of-our-health-care-system/>
- ⁶⁵ <https://www.dea.org.au/the-conversation-five-ways-hospitals-can-reduce-their-environmental-footprint/>
- ⁶⁶ <https://www.dea.org.au/sustainable-hospitals-draft-page-for-document-uploads/>
- ⁶⁷ <https://www.dea.org.au/wp-content/uploads/2018/05/DEA-Sustainable-Hospitals---Practical-Assistance---05-18.pdf>
- ⁶⁸ <https://www.dea.org.au/video-the-story-of-green-hospitals/>
- ⁶⁹ <https://www.armchairmedical.tv/idea/videos/australia-s-health-sector-improving-the-environmental-sustainability-doctors-for-the-environment-australia-dr-eugenie-kayak>
- ⁷⁰ <https://www.dea.org.au/dea-students-greening-hospitals-guide/>
- ⁷¹ <https://networks.sustainablehealthcare.org.uk/sites/default/files/resources/environmentally-sustainable-healthcare-position-statement.pdf>
- ⁷² <http://www.anzca.edu.au/documents/ps64-statement-on-environmental-sustainability-in.pdf>
- ⁷³ [http://www.anzca.edu.au/documents/ps64-statement-on-environmental-sustainability-\(1\).pdf](http://www.anzca.edu.au/documents/ps64-statement-on-environmental-sustainability-(1).pdf)
- ⁷⁴ <https://www.dea.org.au/constitution/>
- ⁷⁵ <https://www.dea.org.au/wp-content/uploads/2017/03/Inquiry-into-the-Effectiveness-of-House-Committees-Submission-09-09.pdf>
- ⁷⁶ <https://www.dea.org.au/fact-sheets/>
- ⁷⁷ <https://www.dea.org.au/idea-conference-videos/>
- ⁷⁸ <https://www.armchairmedical.tv/idea>
- ⁷⁹ <http://apo.org.au/node/174861>
- ⁸⁰ <http://www.abc.net.au/4corners/weather-alert/9511070>
- ⁸¹ <https://www.youtube.com/watch?v=waBOXCd2A4M>
- ⁸² <https://independentaustralia.net/environment/environment-display/new-hope-coal-expansion-governments-stand-aside-as-temperatures-rise,11633>
- ⁸³ <https://www.brisbanetimes.com.au/national/queensland/dirty-jobs-come-up-trumps-in-the-queensland-election-20171121-p4yx4s.html>
- ⁸⁴ <http://www.acnc.gov.au/>