

ADANI'S CARMICHAEL COAL MINE AND HEALTH

FACT SHEET



FOREWORD

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Coal is hazardous to health. It pollutes our land, water and air, and contributes to further climate change – the biggest threat to health this century.

The vastness of the proposed Adani Carmichael coal mine in Queensland beggars description. At more than five times the size of Sydney Harbour, it would be the biggest coal mine in Australia and one of the biggest in the world. Covering 28,000 hectares of land on Wangan and Jagalingou country, the mine would produce up to 60 million tonnes of coal every year and have an expected lifespan of up to 60 years (*Australian Government, 2015*).

These massive quantities of coal would be shipped overseas through the Great Barrier Reef Marine Park and World Heritage Area, which has already been damaged from back-to-back bleaching on a mass scale.

Incredibly, there have been no independent health impact assessments carried out on the mine, despite recommendations by Doctors for the Environment Australia during the planning process (*DEA, 2013a; DEA, 2013b*).

The coal shipments are destined for India, and will be used for electricity generation. The shipments come at a time when India, along with major economies such as China, plans to phase out thermal coal imports (*Froome C, 2015; Buckley T, 2014*).

Given the potentially serious risks to our health and to the planet on which we depend for survival, proceeding with this mine is unconscionable.

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WHY THIS MINE IS BAD NEWS FOR HEALTH

CLIMATE CHANGE AND HEALTH

Our changing climate is driven predominantly by greenhouse gas emissions from burning coal, gas and oil.

Climate change is already affecting human health in Australia – with increased frequency and intensity of droughts and extreme weather events such as heatwaves, storms and flooding and the immediate and long term associated health impacts that these events cause.

Globally, ecosystem disruption from extreme weather events caused by climate change threatens some of the most fundamental determinants of health, as described by the WHO. These include access to clean air and water, sufficient nutrition, freedom from disease (with increased and altered ranges of some diseases) and adequate shelter.

Climate change is widely recognised as the biggest public health threat of our time (*Costello A, 2009*), and *The Lancet* medical journal condemned the Adani Carmichael mine as a 'public health disaster' (*McCall C, 2017*).

Climate change is also an international security risk for it will worsen hunger, drought and global conflict and migration.

To avoid dangerous climate change and increased risks to human health, we must keep the global temperature rise within 2°C.

This means more than 90% of known Australian coal reserves need to stay in the ground (*Steffen W, 2015*).

THE ADANI CARMICHAEL COAL MINE AND CLIMATE CHANGE

There is no "carbon budget" left for new coal mines in Australia, and even existing ones will need to be retired before being fully exploited (*Steffen W, 2015*).

The Adani Carmichael mine will significantly increase Australia's contribution to international carbon emissions.



Healthy planet, healthy people

The mining and burning of coal from this project is likely to generate an estimated 4.7 billion tonnes of greenhouse gas emissions. This will be more than 0.5% of the remaining global carbon budget for limiting warming to 2°C (*Environmental Law Australia, 2016*).

Estimated average annual emissions of 79 million tonnes of carbon equivalent (CO₂-e) from the Adani project are comparable to annual emissions from many countries, including Sri Lanka (57 MT CO₂-e); Malaysia (75 MT CO₂-e); Austria (76 MT CO₂-e); and Vietnam (104 MT CO₂-e) (*The Australia Institute, 2015*).

The land clearing associated with the Adani mine will add to the climate impacts. The 20,200 hectares of land that would be cleared for the project are equivalent to 28,000 soccer fields. Over half that land is mature woodland and bushland (*AMCS, 2017*).

The Adani mine would also assist opening up the Galilee Basin to a potential nine additional coal mines. Burning coal from these proposed mines would cumulatively emit an estimated 705 million tonnes of carbon dioxide (CO₂) every year. This equates to more than 1.3 times Australia's current annual emissions (*Steffen W, 2015*).

If the Galilee Basin were a country, once developed it would rank in the top 15 greenhouse gas emitting countries in the world (*Steffen W, 2015*).

WORSENING AIR POLLUTION

Mining and combustion of coal are significant sources of fine particle pollution, which contributes to heart disease, lung disease and lung cancer.

Air pollution will be a significant risk associated with coal transport at the Australian port terminal and along the rail corridor.

Recently Black Lung disease (coal workers pneumoconiosis) has been diagnosed in at least 20 coal workers in Queensland.

The re-emergence of this entirely preventable disease, which was thought to be a condition of the past, highlights the occupational hazards and lack of appropriate health protection of coal workers in Queensland (*Parliamentary Committees, 2017*).

In India, where the Adani coal is destined to be burnt, coal-fired

power stations contribute to the air pollution that kills an estimated 1.1 million Indians per year (*Health Effects Institute, 2017*).

A MAJOR DRAIN ON OUR WATER

The Adani Carmichael project has been granted a water licence for the use of 12 million litres per year from local river systems in a region susceptible to drought.

It has also been granted unlimited groundwater use, drawn from the Great Artesian Basin, with the law changed to allow this (*EDO, 2017*).

The Great Artesian Basin is a groundwater system covering 22% of Australia, and supplying around 200 towns and settlements, natural ecosystems and springs, and industries such as agriculture.

The use of Great Artesian Basin water is likely to further reduce already declining water pressure, potentially impacting on existing users including the agriculture industry, and leading to the drying up of bores and natural springs.

The Adani mine would use an equivalent of 13 Olympic swimming pools of groundwater per day at peak production, or 12,000 million litres per year – making it one of the largest water users of the Great Artesian Basin (*Moon E, 2017*).

"In Queensland, mining and industry hold just over 1% (by number) of the water licences linked to the Great Artesian Basin but account for 10% of the water extracted" (*Moon E, 2017*). The Adani Carmichael project will increase this by 4% and will potentially open the Basin to more water extraction when other mines follow.

In granting licences, 270 conditions have been imposed. It is unlikely that Queensland, with its poor record of monitoring and regulation, can manage this project without significant consequences.

DAMAGE TO THE GREAT BARRIER REEF

The Adani Carmichael project risks adding to the harming of the Great Barrier Reef – one of our most important ecological support systems and a great natural wonder of the world.

The Great Barrier Reef has already suffered two back-to-back severe

bleaching events in 2016 and 2017, caused by warming water. Scientific assessment of recurrent bleaching events on the reef identified climate change as a significant contributor – which if not mitigated will bring its demise (*Hughes et al., 2017*).

Approximately 69,000 jobs are generated by reef industries (*Deloitte Access Economics 2013*) and according to Tourism Queensland, more than 860,000 people visited the Great Barrier Reef in North Queensland in the 2013-14 financial year (*Tourism, Tropical North Queensland 2014*). Hence further damage or even loss of the Reef would lead to significant unemployment and the subsequent poor health and social outcomes on those affected and their families.

Urgent action to limit climate change is necessary to ensure the Great Barrier Reef's survival (*Climate Council, 2017*).

In addition the Adani project alone could result in an increase of up to 520 ships travelling through the Great Barrier Reef each year, with associated risk of impacts from chemical and oil spills, and grounding incidents in the Reef (*Adani Abbot Point Terminal EIS, 2013*).

ALLEGATIONS OF ENVIRONMENTAL DESTRUCTION

In 2011 an Adani coal ship sank off the coast of Mumbai causing oil and coal to spill into the ocean, damaging mangroves, beaches and the tourism industry. The Adani company was found guilty of chartering an unseaworthy vessel that caused the spill and of failing to clean up the spill. It was fined almost AU\$1 million (*EJA, 2017*).

A similar spill in Australia would risk irreparable damage to the Great Barrier Reef.

The Indian National Green Tribunal, a specialised body handling environmental disputes, has criticised the company for having an "irresponsible attitude" and for failing to care about any "adverse impact [of its development] on [the] environment." (*EJA, 2017*).

WHAT IS OUR FEDERAL GOVERNMENT DOING?

Australia has signed up to the Paris Agreement aimed at containing global warming to below 2°C.

Despite this commitment, the Federal

government is proposing to partially fund the Adani Carmichael with a nearly \$1billion concessional loan (tax payer funds) towards a rail line to transport the coal between the Galilee Basin and Abbot Port.

This money could be used for better health outcomes for Australians. Or for renewable energy to provide a healthier environment and to enhance Australia's economic transition through the energy revolution.

STOP THE ADANI COAL MINE

If the Adani Carmichael mine – potentially Australia's biggest coal mine – goes ahead, it will significantly threaten the health of millions of people in Australia and around the world.

DOCTORS FOR THE ENVIRONMENT AUSTRALIA CALLS FOR:

- Potential funders of this mine to rule out any financial involvement.
- Politicians to reverse the approval of this mine.
- A ban on all new coal mines.

'WHAT CAN I DO?'

- Talk to your MP about your concerns regarding the Adani Carmichael mine.
- Join an action group.
- If you are a doctor or medical student join DEA and get involved.
- For others, go to stopadani.com to find your local action group.
- Spread the word – tell your family, friends and colleagues.

RELATED DEA FACT SHEETS

- The Human Health Tolls of Coal
https://www.dea.org.au/wp-content/uploads/The_human_health_tolls_of_coal_fact_sheet_06-15.pdf
- Climate Change and Health in Australia
https://www.dea.org.au/wp-content/uploads/2017/02/DEA_Climate_Change_Health_Fact_Sheet_final.pdf

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