

OIL FROM ROCK

Introduction

Companies are trying to cash in on rising oil prices by investing in polluting projects that make oil from rock. They aren't interested in making petrol cheaper for Australians and would be profiting at the expense of the environment.

If a rock-to-oil industry is established in Australia, our greenhouse pollution will soar and it will be virtually impossible to make the emissions cuts necessary to avoid catastrophic climate change. It would also have devastating impacts on the local environment and communities. Rock-to-oil won't solve the oil crisis and won't deliver petrol price reductions. Australia's federal and state governments should not support it. Instead, they should green the nation's transport systems in order to reduce our reliance on oil and cut our greenhouse emissions.

Squeezing oil from rock

Rock-to-oil plants heat sedimentary rocks that contain an organic matter called kerogen. Kerogen can be found in coal and other rocks commonly called 'oil shale'. When heated, the kerogen can be condensed to make synthetic crude oil which can then be further refined into either diesel or petrol.

Climate disaster

Rock-to-oil projects emit enormous amounts of climate-changing greenhouse pollution. Just one rock-to-oil project currently proposed for the Whitsundays would create up to 40 million tonnes of greenhouse gases each year. This is equivalent to a quarter of Queensland's annual emissions¹.

Rock-to-oil projects emit up to one tonne of greenhouse gas for every barrel of oil they make. The mining,

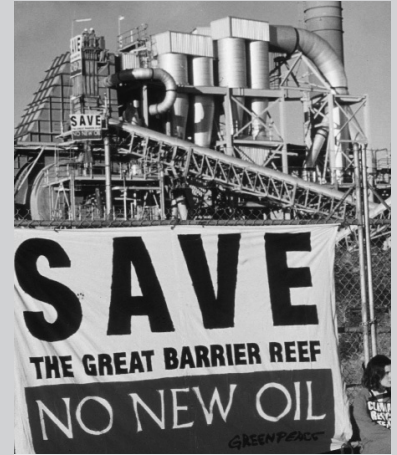
crushing, heating and processing required to make oil from rocks uses massive amounts of energy. A rock-to-oil operation making 30,000 barrels of oil per day would need its own power station. Producing oil from rocks creates between two² to six³ times as much greenhouse pollution as conventional fuels, depending on the rock type and technology used.

Wasting scarce water

As with most mining processes, rock-to-oil projects in Australia would need access to huge supplies of water. Projects making 30,000 barrels of oil per day would on average need at least 30 megalitres of water every day. In addition, toxins leaching from waste rock would create long-term problems for the surrounding environment and possibly threaten local water supplies. It would also be difficult to contain the massive quantities of waste water generated. This new industry can only be successful at the expense of the local environment and industries, such as agriculture, that are dependent on scarce water supplies.

Other pollution

The mining and processing undertaken by rock-to-oil projects creates large amounts of air pollution, including particulate matter and noxious emissions that can have serious health impacts. It also creates expanded and toxin-laden waste rock resulting in an irrevocably transformed landscape. These extractive and polluting projects, if allowed to proceed, will permanently change regional communities.



Greenpeace occupation of the Gladstone Shale Oil Plant, 1999. © Greenpeace / Barry

What we are doing

Greenpeace is campaigning for a Energy [R]evolution. Greenpeace is:

- > calling on the Rudd government to keep its election promise to Australians to tackle climate change. To do this responsibly the government must kick start Australia's energy revolution;
- > using our *Energy [R]evolution* report to show how renewable energy can provide 40 per cent of Australia's electricity by 2020, and coal-fired power stations can be entirely phased out by 2030.

History

Along with local communities, Greenpeace successfully campaigned against the re-emergence of an oil shale industry in Australia between 1998 and 2004. The Stuart Shale Oil project in Gladstone, Queensland, ultimately failed because of environmental and economic concerns and the pressure brought to bear on the project.



Current proposals

Australia first began producing oil from shale in the 1860s and stopped in the 1950s when government funding ended. More serious attempts at making oil from rocks occurred in response to the oil crises of the 1970s; however, the emerging industry collapsed when oil prices fell. Today's proposed coal-to-liquid (CTL) or shale oil (SO) projects in Australia include:

- > Altona's 10 million barrel CTL plant near Coober Pedy, South Australia;
- > QERL's 40 million barrel SO plant in the Whitsundays, Queensland;
- > Monash Energy's 22 million barrel CTL plant in Latrobe Valley, Victoria;
- > Spitfire Oil's 7 million barrel CTL plant in Salmon Gums, Western Australia;
- > Syngas's 10 million barrel CTL plant near Adelaide, South Australia;
- > Blue Ensign's 18 million barrel SO plant in Julia Creek, Queensland.

No short-term fix

Companies investing in rock-to-oil projects are hoping to make money out of ever increasing oil prices. These companies are relying on the cost of conventional oil remaining high. They won't reduce petrol prices as they would sell their product at market rates, which are set globally. They are banking on Australia continuing its dependence to oil.

The Rudd government has no plans to implement long-term solutions to end our current reliance on oil and road transport. It is currently assessing the future of oil supplies and the signals are that it intends to allow the establishment of a national rock-to-oil industry.

The bottom line is that such projects will always be disastrous, not just for the environment and people, but for other segments of the economy as well. The agriculture and tourism industries are already threatened by the impacts of climate change. The priceless Great Barrier Reef, for instance, creates more jobs than

Australia's entire coal industry and generates important tourism dollars. It is already threatened by permanent coral bleaching as a result of climate change. The shale oil project proposed by QERL would sit on the edge of the Whitsundays, just kilometres from the Reef. Any government that allows the dirtiest crude oil production process in existence to go ahead anywhere, let alone in such a pristine environment, is clearly not serious about the environment or tackling our dependence on oil.

At present, most economies rely on fossil fuels for their growth, but because of climate change this can't continue. Fortunately it doesn't need to. Courageous leaders can tackle climate change and implement lasting solutions for the public good.

Long-term solutions

Long-term planning and public investment in an efficient transport system can tackle our reliance on oil and vulnerability to rising petrol prices. A good transport system will also reduce Australia's greenhouse emissions. The installation of a high quality, high-speed rail network between major cities (Brisbane, Sydney, Newcastle, Canberra and Melbourne) can displace air and road travel. Long-distance freight can be shifted from road and air to rail, through the renewal and electrification of national and regional rail networks. A world-class public transport system, which allowed most people to get to work and do their shopping, would reduce Australia's dependence on the car.

Subsidies that encourage the use of private vehicles should be removed, and instead incentives should be offered to increase public transport use. A combination of industry development and phased-in fuel emissions targets would support the conversion and expansion of Australia's car industry to manufacture zero-emission vehicles for public and private transport.

What you can do

Be part of the climate solution. Join the Energy [R]evolution.

- > Sign the Energy [R]evolution petition and call on Prime Minister Rudd to stick to his election promise to tackle climate change. Tell him it's time to kick-start Australia's renewable energy future: www.greenpeace.org.au/energy-revolution

As an Energy [R]evolutionary you will join thousands of Australians who proudly back a positive future vision for an Australia powered by clean and secure renewable energy not polluting fossil fuels.

- > Spread the word. Let everybody know about this campaign and share it with your networks.



A high-speed national rail network would reduce Australia's dependence on oil.

Support GREENPEACE

If you want to help stop climate change, make your voice heard and become a Greenpeace supporter today.

Telephone our supporter relationships team on freephone

1800 815 151

or use our secure online donation form at

www.greenpeace.org.au/donate

1. <http://www.greenhouse.gov.au/inventory/stateinv/index.html>

2. Adam R. Brandt and Alexander E. Farrell, Scraping the Bottom of the Barrel: greenhouse gas emission consequences of a transition to low-quality and synthetic petroleum resources, Springer Netherlands, Volume 84, Numbers 3-4 / October, 2007, pp241-263.

3. Greenpeace, Comments on the Stuart Oil Shale, Stage II Draft Environmental Impact Statement, Sydney, 1999.