

REGIONAL COASTAL PLANS

Submission To: The Western Coastal Board

Organisation: Sustainable Agriculture & Communities Alliance Inc.

The members of SACA thank the Western Coastal Board for the opportunity to comment on the priority issues and potential management responses that could be pursued over the next five years.

Values:

Whilst the draft plan does set out important values affecting the coast, there are some factors that have been omitted.

The factors not dealt with may have significant impacts on what is valued in the area, including *estuaries, benthic health, fish breeding areas, aquifers, rivers, air quality, soils, beauty of the landscape, and fauna and flora.*

At risk are the economic health of the area, including *dairying, fishing, tourism and other industries, as well as the health of local people and visitors.*

What will affect the above values?

Large portions of the Western District are now under exploration licences to fossil fuel companies. It is now on the public record that the land-based extraction of gas and oil using the method known as fracking have had serious effects on the health of people and the environment, both in Australia and elsewhere in the world. This submission will briefly explain how this is not only a threat to land and water supplies inland from the coast, but also to coastal areas and ecosystems dependent upon them.

The fracking process involves drilling down up to four or five kilometers, and then drilling horizontally and fracturing deep rocks by the injection of enormous amounts of water under high pressure, along with sand and chemicals. Companies using these methods can choose from around one thousand chemicals, the identity of which they try to keep secret, but many of which are known to be carcinogens and hormone disruptors. Bores can go through aquifers, and can cause leakage from saline aquifers or chemically polluted aquifers into fresh water aquifers.

It is important to bear in mind that water cycles are known as such because water comes from deep within the earth, as well as going from

the surface into aquifers. In between the water is taken up by everything in the biosphere, transpires into clouds, and comes back as rain to feed surface water reserves and deep aquifers. We now know that rain, surface waters and aquifers have been polluted with thousands of chemicals over the last seventy years. Extraction of gas is certain to add to the pollution, and the sort of pollution left by this industry will remain in water systems for generations, as we do not have the technology to effectively remove all these chemicals and radioactive wastes. Some scientists now say there is evidence to show that this pollution of the biosphere has been responsible for the fact that there has been a decline of fifty per cent in the viability of sperm in men in industrialized countries.

Even just the drilling process, such as with exploratory wells, or boring down prior to fracking can cause problems and contamination of aquifers. Fracking can release carcinogenic heavy metals and radioactive nuclides from rocks deep below the surface.

As an example of this, in New South Wales in 2014 an aquifer was contaminated with uranium at twenty times the allowable limit, and the energy company involved did not report this for a year.

Disused bores in gas and oil fields can also be a source of bacterial and chemical contamination from the surface. (1)

Another cause of concern is the extremely large amounts of water used each time a gas well is fracked. At a forum at Melbourne University in December 2014, a representative of the gas industry informed the audience that they should not be worried about the depletion of water because of the activities of the gas industry, as this water would be "re-injected" into the aquifer. The practice of reinjection into the aquifer of water that has been contaminated with chemicals and possibly also with radioactive elements is a severe health and environmental risk.

One gas company representative recently stated to council representatives that water and chemicals will not be used when his company drills down for gas, and that "air fracking" will be used. However the fact that deep drilling through aquifers and fracturing of the rocks will be involved, still poses a threat to aquifers and health of people and the environment. It is now a proven fact that some drill casings fail immediately after installation, and some recent studies show between a 2 per cent and sixty per cent failure over thirty years. This can lead to loss of water and/or water contamination by migration of water from one aquifer into another, or from polluted groundwater into aquifers via bores. (2)

Why coastal health will be threatened by the gas industry:

The effects of mining for methane gas using the method known as fracking are a threat to both land and coastal environments for the following reasons:

- Methane gas is a much more powerful greenhouse gas than carbon, and mining for methane gas will exacerbate climate change and change coastal conditions.
- Ecosystems are not separate; they interact both across the landscape and up and down through the soil, rocks, and aquifers. What affects soils, air and water in areas inland will eventually affect the ecosystems of the coast. For example, there is not just a continual movement of fresh water surface run-off into rivers and estuaries, but also a flow of fresh water from aquifers via underground flows into the sea.
- Due to limitations of science and technology, there is no guarantee that there will not be leakage of toxic chemicals, heavy metals and radionuclides into coastal waters from fractured, damaged and leaking aquifers.
- Not only are agriculture and people's health threatened by the short-term activities of the gas industry, but also fish breeding areas and marine environments that are visited by divers because of their beauty. Victoria has underwater attractions that rival those of the Great Barrier Reef.
- There is also the issue that fish and plankton are now more and more polluted with chemical toxins from leachate from the land. Scientific studies are regularly showing that water supplies, soils, marine environments and seafood are contaminated. We cannot afford to add to this toxic load.

What are our choices and what should we be asking of government?

If we are to protect our land, water, and marine environments, as well as the health of present and future generations, then we must prevent the development of the gas industry. Fifty percent of Australia is now under exploration licences to fossil fuel companies. This is insanity, as there are much better alternatives that would be both ecologically and economically superior.

All levels of government and planning organizations should be examining where humanity is heading and asking for a better, healthier future. It is our responsibility that we cannot shirk merely because nobody has given us official permission. Government is elected by us to do our will. If we do not make our desires clear, then government will support industries that spell death to ecosystems and people.

Economic Disadvantages of Gas Mining:

The Australia Institute issued a report in 2014 that exposed the fact that the gas industry has a negative effect on both the national and local economies. There are several aspects to this: the price of gas to

Australian consumers will RISE as a result of the mining and export of gas from land-based unconventional extraction. This is because the companies involved plan to recoup the expense of building infrastructure and port facilities.

As far as employment is concerned, the gas mining industry has a negative effect on that also, according to the studies of the Australia Institute.

Not only that, but rents rise as a result of the fly-in fly-out workers, whilst the value of farms and housing goes down because nobody wants to live in a noisy, smelly industrial zone with heavy traffic and community health problems from industrial air pollution.

Gas mining will also have a detrimental effect on tourism, as the clean and green countryside will be changed into a cluttered and ugly industrial zone. As the Western District and its beautiful coast is visited by thousands of tourists each year, there would be a drastic downturn of tourism if gas mining were to go ahead.

Alternative Technology Report:

In 2014 the ATA put out a report on the economics of gas versus electricity. The ATA said that gas prices will rise as a result of the industry bringing the price of gas into line with international prices that they can get from overseas customers. There is fast growth of the solar and wind industry world wide. The increasing efficiency of both solar panels and storage batteries that are coming onto the market place, are leading many countries to phase out fossil fuels such as coal and gas. We are at the beginning of a consumer-led change in energy generation. In the next few years it will be cheaper for people to buy batteries and solar panels and become self-sufficient in energy generation, in the same way that consumers have disconnected from telephone systems connected by phone lines and have purchased mobile phones.

It makes economic and environmental sense that Australia takes heed of this coming change and instead of putting its environment at risk from coal and gas mining, it should develop its environmentally friendly green power system.

Fire and Water:

In H. G. Wells's "Outline of History" (Wells, 1924, p. 21) the author states:

No creature can breathe, can digest its food without water. We talk of breathing air, but what all living things do really is breathe oxygen dissolved in water. The air we ourselves breathe must first be dissolved in the moisture of our lungs: and all our food must be liquefied before it can be assimilated. Water-living creatures which are always under water wave the freely exposed gills by which they breathe in that water, and extract the air dissolved in it. But a creature that is exposed for any time out of

water must have its body and its breathing apparatus protected from drying up. The lower plants are still the prisoner attendants of water. The lower mosses must live in damp, and even the development of the spore of the fern demands at certain stages extreme wetness. And after the plants came the animal life."

We need to preserve both surface waters and aquifers.

Over-extraction of water in the Otways region by water authorities who ignored the advice of scientific experts has resulted in diminution of river and stream flows and natural springs. The drying up of the ground to deep levels has also resulted in a slowly smouldering fire in peat beds under the ground. These peat beds underlie the Otways forest. If even more water is taken by the gas industry for fracking purposes, then this could result in a forest fire that will make Black Saturday look like a teddy-bears' picnic.

Over-extraction of water by the gas industry could also result in a phenomenon seen elsewhere, where the amount and pressure of water under the land is less than the pressure from the sea surrounding the land. Such a situation results in the ingress of sea water into aquifers, and is not possible to rectify.

Another phenomenon caused by over-extraction is the collapse of aquifers, which makes them unable to be recharged.

We cannot allow the government to even consider allowing the gas industry to go ahead in Victoria, as climate change and long-term weather forecasts indicate that there will be less rain and drier soils.

Depletion and pollution of aquifers will be the result if all local government and community bodies responsible for environmental and community health do not stand up to government and express their strong opposition to development of the gas industry.


20th March, 2015.

References:

(1) *Contamination, Sources & Hydrology, Chester D. Rail, CRC Press, pg. 28.*

(2) <http://www.foe.co.uk/blog/drilling-without-fail>