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Sent: Friday, 29 November 2019 4:15 PM
To: Climate
Subject: Climate Change Issues Paper - submission

Hi.

I've tried to submit on the website at <https://consult.dwer.wa.gov.au/climatechange/issues-paper>, however it has taken an inordinate amount of time without putting the emphasis where I would like. All the questions in the website consultation are very good and the issues paper covers the issues and opportunities really well, indeed surprisingly well – there is no attempt to hide them. However, the questions asked are more about asking for innovative ideas on individual actions rather than policy ideas. Many of these questions drive home the need there will be for adapting to climate change and are very worthwhile from the point of view of accepting that climate change is going to get worse, the focus needs to be strongly on structural change to minimise the severity of climate change.

Thus I am thankful to the Conservation Council of WA for their background analysis, too. The Environment Defenders Office has a list of recommended issues to address which are quite different and more about what the government should do to come up with solutions and to address problems. Thus it is more important to me to identify issues not identified or glossed over within the issues paper or to emphasise or prioritise opportunities already identified or missed.

The issues paper does mention LNG emissions, but the casual submitter would not be aware of all the issues around LNG just from the issues paper. The CCWA has addressed that, thankfully, so that I am now aware of fugitive emissions of methane (natural gas) in the process, the presence of carbon dioxide within the case as well as the energy costs of liquification. According to [Wikipedia](#), “the natural gas combustion required to produce and transport LNG to the plants adds 20 to 40 percent more carbon dioxide than burning natural gas alone.”

As is noted in the issues paper, WA's LNG emissions are very significant. They are important in Australia's GHG emissions let alone WA's. As the CCWA points out, no matter what we do as individuals to lower our GHG emissions, a focus of some of the issues paper questions, it is miniscule compared to LNG emissions. Indeed WA's LNG emissions are above the level for all the emissions of New Zealand!

There is also another matter regarding LNG expansion as is planned. They are currently more than a third of WA's total emissions. I understand that a very significant investment has been made into LNG production and there are binding contracts that require its production as opposed to less emitting forms. Ideally the gas would be used directly rather than liquified, to produce electricity and exported via high voltage direct current cable. That must be the way of the future instead of signing more LNG contracts. Admittedly that would increase WA's emissions a bit more and we may need to get permission not to count that as our emissions but rather have them associated with the country we export to.

If WA companies were allowed to sign more LNG contracts then LNG would contribute almost half of WA's GHG emissions. If WA's (and Australia's) total emissions are to go down, according to the Paris Agreement, then other aspect of the WA economy will have to cut their emissions much more significantly than if there was no more LNG produced.

Given the investment and contracts then all we can do is demand that some sequestering be done. The most ready form would be to restore vegetation in the many areas degraded by pastoralism. This could provide thousands of jobs, including for Aboriginal people. As I understand it a lot could be done with a relatively small cost to company profits – especially as some of them don't even pay tax.

In [Norway](#), carbon capture and sequestering has been organised to make it economic. But we don't want agreements like that for Gorgon that have allowed it to continue operation without sequestration. Another form of sequestration I have been made aware of is through the kelp forest idea. There may also be algae or bacteria that could be grown with more carbon dioxide made available to them.

Yesterday, on ABC Radio, a scientist was worried that we may have already passed some tipping points that can't be changed quickly. Thus there is indeed a strong indication that we are in a climate emergency and wartime-like measures need to be put in place to prevent the passing of even more crucial positively reinforcing tipping points. The WA government needs to accept that urgent action is required to lower our emissions. Although small on the world scale, we don't have a leg to stand on when putting the case to the big emitters or even other states of Australia. If New Zealand can have fewer emissions than WA's LNG industry then surely there is a lot of room for improvement in WA?

WA, however has a narrow economic base which needs broadening. We have top class innovators in our universities but no apparent outlet for utilisation or development in WA of those ideas. There needs to be a use of offsets for innovation development – whether by the companies themselves or by university companies. But before the most useful innovation can occur perhaps we need to know where the biggest problems are. The state's public service could make a contribution here. They could also check innovations that have already been used elsewhere – such as in other states. They could also monitor GHG emissions.

The power sector is supposed to represent the low-hanging fruit of reducing emissions. This means more use of renewable energy and hence more production. If this area needs innovation then let's start as we would seem to have significant access to that resource. It may be that risk-averse business cannot be relied on to provide solutions. It may be that governments have to take risks on a variety of options to come up with something they can sell to the private sector eventually. The government may also need to place restrictions on use of some technologies such as personal-use vehicles. Perhaps they can't be used on the freeway in peak periods heading in the peak direction? Doing that might provide room for a lane that can be set aside for single-seat electric bikes. Innovation in the renewable energy sector could lead to clean energy exports, but others have access to renewable energy too so we need to beat them to it.

A factor in transition to renewable energy would be to assist existing workers to transition as well. There may also be room for pastoral workers to move into the renewable energy industry as climate change reduces the profitability of the pastoral industry.

Thanks for the opportunity to comment.

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