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1st June 2016

Director Regions,
Northern Regions,
Locked Bag 9022
Grafton NSW 2460

Re: Submission for the Draft North Coast Regional Plan

Dear Director of Regions,

Thank you for the invitation to submit comments concerning the **Draft North Coast Regional Plan** (DNCRP). I hereby do so in relation to the inclusion of coal seam gas (CSG) references in various parts of the plan.

This submission is to express my sentiment regarding any proposal to implement unconventional gas mining, or expand the resource extraction sector, on the North Coast, NSW.

By way of review, I wish to draw your attention to the following relevant details in the plan, which concerns me:

The DNCRP plainly states that North Coast CSG reserves are being considered as potential energy resources in the long-term vision for this region, and identifies the Clarence-Moreton Basin as a key location. It furthermore states that the NSW Department of Industry is mapping coal and CSG reserves in the region in order to "inform future regional and local planning by providing updated information on the location of resources". It then states that this information "can support expansion of the sector".

These inclusions are not consistent with the Minister for Planning, Hon. Robert Stokes' mid-March letter (subsequently attached to the plan *after* unfavorable community response) in which he rejects the notion that the NSW government has any plans to "revive coal seam gas extraction on the North Coast".

I submit the following questions for consideration:

- If the NSW government truly has no plans to "revive coal seam gas extraction on the North Coast", then why is CSG featured in the DNCRP? The NSW government has said that they are mapping CSG reserves across NSW, in general. But why, I ask, would the NSW government use taxpayer's money to map an area for an industry that they have no plans to develop?
- If there is no intention of reviving CSG on the North Coast, why is the *NSW Gas Plan* (2014) referred to, directly after identifying the Clarence-Moreton Basin as a potential CSG resource? Why mention the NSW Gas Plan in relation to a region that you do not plan to develop CSG resources in?

To date, I am not aware of any credible explanation as to why CSG has been included in the DNCRP, or an answer for the apparent contradiction between the inclusion, and the party-line denials from Ministers Stokes, and Gulaptis, issued after the release of the plan.

These ministerial denials have been further undermined by recent revelations that the NSW government actively promoted the Northern River's CSG potential to 20,000 mining investors at a 2016 conference in Canada (*Sydney Morning Herald*, May 11, 2016).

I am justifiably troubled by the dissonance between a government commending itself for conferring a gasfield free status to the region (2015), and one that continues to promote and advance plans to develop unconventional gas mining on the North Coast. In releasing the DNCRP, with its inclusions of CSG, the government has again broken trust with the community. It is patently clear that by majority vote, and sustained political action against CSG, North Coast residents have rejected unconventional gas mining as a viable way forward for this region.

With respect to the NSW Government's vision for the North Coast, I wish to highlight that development of the gas extraction industry in this region is in direct conflict with Goals 1, and 4 in the DNCRP, which are identified as core elements of this vision.

1) **Protection of the natural environment, and indigenous heritage**: This goal is not compatible with gas wells, mining infrastructure, potential water contamination and the creation of degraded, industrialised land.

4) **A prosperous regional economy of the future:** This goal will derive from an expedited and expanded renewable energies sector, with investment in new, clean energy resources, as opposed to a regional economy hitched to a fossil fuel industry with serious climate implications and in worldwide economic decline.

In my view, the final version of the North Coast Regional Plan must:

1. Have all references to the development of the unconventional gas industry on the North Coast expunged. All forms of unconventional gas (CSG, shale and tight gas) in this region must be excluded from the final plan.

2. Include a clear statement prohibiting further exploration or mining of gas on the North Coast for the life of the plan.

3. Have energy sources options, as per Appendix attached, added in more details and importance on the NCR Plan.

I call for the North Coast to be declared a permanent no-go area for all forms of unconventional gas exploration and development, and strongly urge the government to ensure that the final plan definitively reflects this.

Yours sincerely,

Carlos Vieira-Silva

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APPENDIX (for DNCRP)

VISION FOR A SUSTAINABLE ENERGY FUTURE FOR THE NORTH COAST

100% reliance on renewable energy cannot be achieved without reducing the energy intensity of our economy and daily lives first – energy efficiency becomes the first step on that path.

This is my suggested pathway:

1. **Energy Efficiency**

Implement all-encompassing energy efficiency in all areas of residential, commercial and industrial life. On average, 40-50% of all energy used today can be saved over the next 10 years.

2. **Energy pricing**

To encourage the uptake of energy efficiency measures, energy prices MUST NOT be reduced but gradually increased. A tiered rate approach, where the basic amount of energy no household or business can do without is cheap and subsequent tiers become more and more expensive, will help to keep cost affordable during the transition process.

Example for households:

a. Base rate 25 cents per kWh for the first 10kWh per day

b. Next 10kWh per day: 30 cents per kWh

c. 20kWh plus: 45 cents per kWh

The present pricing structure does exactly the opposite (discounted rates for higher power consumption).

3. **PV Solar**

Large scale adoption of PV Solar in community and commercial solar farms around the country. Floating solar farms on farm dams, lakes, reservoirs and other suitable water bodies should be used as well – the extra cost of water based infrastructure will be made up by higher system efficiencies and economies of scale if built in a modular, industrial scale way. Most of the regions DAYTIME energy can be created that way.

4. **Wind**

The potential for wind energy is limited within the Northern Rivers; however ranges towards the west offer potential, and off-shore installations can be built. Both options are more costly than PV Solar due to potentially long distances from the site of generation to the end user and the cost of building off-shore. However, the longevity of these installations and the reliable performance over 30-50 years provide excellent long term returns.

5. **Baseload power**

Both wind and solar are exposed to periods of energy non-production. Wind and PV Solar together can cover approximately 80-90% of total energy need, but backup power supply from non-weather dependent sources is required. The following options may be used:

a. **Pumped Hydro:** Dams and reservoirs at higher altitudes can be used together with newly built lower reservoirs. For example, Rocky Creek Dam may release water into a floodplain reservoir (to be built near Lismore). While releasing water, electricity will be produced (typically at night), while daytime solar power will be used to pump the water back into Rocky Creek dam. The lower reservoir will need to be dammed to avoid contamination in flood periods;

b. **Concentrating (Thermal) Solar:** Together with molten salt storage, solar energy can be stored for the following night or longer;

c. **Battery Storage:** Increasingly, battery storage in form of Lithium Ion or Flow battery technology becomes commercially attractive as utility scale short and medium term storage. While still expensive today, the costs need to be seen in the context of avoided cost for fossil fuels and avoided environmental damage. Costs will come down dramatically over the next 5 years.

6. **Biogas**

Anaerobic digestion of organic matter (Bio fermentation) is a viable option for parts of the Northern Rivers and can also be used for baseload power generation. Care must be taken to rely on waste crop products as much as possible. Purpose-grown energy crops may be used if they can be grown without detrimental environmental effects (Biodiversity, competition with food crops, land degradation etc.). Another important consideration is keeping the transport of materials low. Examples of potential bio-energy resources include but are by no means limited to:

a. Sugar cane waste products

b. Animal manure

c. Water based weeds

d. Some types of grasses grown of marginal lands

7. **Virtual net Metering**

The transfer of energy from one generator (e.g. PV Solar) with excess energy to another nearby user of power over the existing grid should be promoted (and not obstructed by network providers!) within the capacity constraints of the existing infrastructure. Compensation for use of the network should be fair and reflect the actual cost for the network provider.

8. **Transitional issues**

For the next 10 years or so, fossil fuel based energy may have to be available until independence has been achieved. Rather than building new gas fired power plants or using diesel generators, I suggest to keep using green (if available) or black power from the existing grid.

9. **Incentives**

Monetary incentives can help to establish innovative technologies until they have achieved economies of scale. I believe incentives should only be made available if the payback periods are longer than 7-10 years, and they need to be reviewed annually.

Incentives that that run longer than required to kick-start an innovative technology only serve to attract fly-by-night businesses hoping to get rich quick and actually prevent prices from dropping in line with technological advances.

Solar feed-in tariffs need to reflect the avoided cost for the network providers and energy retailers. Battery storage is one example where incentives now would be beneficial.

10. **Geothermal Power**

Development of the use of Geothermal power stations, these are similar to other steam turbine thermal power stations – heat from a fuel source (in geothermal's case, the earth's core) is used to heat water or another working fluid. The working fluid is then used to turn a turbine of a generator, thereby producing electricity.

END APPENDIX

Yours sincerely,

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