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Disputes over Coal Mining and Gas Drilling in an Australian Country Town

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Abstract

This paper explores the repatterning of civil society, the social technologies of persuasion and information, and the role of socio-political contexts in Narrabri (an Australian country town, in Western New South Wales), and its surrounding region between 2018 and 2020. In Narrabri the consequences of Carbon Oligarchy are observed, as the oligarchy promoted new gas fields and expansions of a coal mine in the region. This expansion is justified by supposedly offering a solution to Narrabri's apparent economic, agricultural and population decline problems, but for many local people, it worsens those problems. Conflict has been generated as a result, and the town has suffered painful fractures making the problems seem harder to solve because of the resulting disunity. The paper explores how the contest to justify the extraction also reduces the legitimacy of that extraction.

Keywords

Energy Transition; Coal; Gas; Rural NSW; Community Dispute

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The 'New' Extractivism and Civil Society

The conflict being described centres on 'extractivism' in Narrabri in New South Wales (NSW), Australia. Extractivism involves removal of materials or life forms for largely external profit. It produces eco-destruction and pollution as part of its normal processes, and these rarely deduct from the profits being made. Extractivism is rarely limited by anything other than the availability of the substances being extracted. With oil this may soon happen, but not in time to prevent destructive climate change (Bardi 2014). In extractivism, Nature appears to be conceived as a set of commodifiable and removable 'resources', or as a potential sink for pollution. In extractivism resources become private property, appropriated, or enclosed, by the extractor, often with little compensation for the local people and their loss. This situation is often intensified as the extractors usually have no permanent connection to the area being extracted from. As Kröger et al. compactly argue 'Extractivism ... may be understood as embodying the antithesis of sustainability' (2021, 240). The destruction requires State approval, legalisation, and often assistance, towards the privatisation of these resources. For the State, the reward is the promise of 'development' (Canterbury 2018), with the usual reduction of unenthusiastic people to 'obstacles' (Hirschman 1965). Extractivism organises a mutual reinforcement of State and corporate power (Nygren et al. 2022, p. 741) to overwhelm local resistance, and to persuade, or force, some local people and local authorities to support the extraction. The consequences (intended and unintended) of this process in Narrabri is the main subject of this paper.

It seems quite difficult to distinguish 'new extractivism' from the old 'imperial extractivism'. The destruction of ecology and people to transfer wealth elsewhere, was marked in the New World in the Spanish extraction of silver and gold, as it was in the Irish Famine and in Congo under the Belgians. However, the situation seems to have been intensified by the increasing global demand for resources since 2000 to enable standard practices of development (Nygren et al. 2022, p. 734). Since 2000, the scale and universality of the activities and their 'accidental' destructiveness has increased. Even in Europe, people are still being dispossessed to expand lignite (brown coal) mines, despite traditions of rural conservation (del Mármol & Vaccaro 2020; Schuetze 2023). Extractivism can affect people almost everywhere; in the US fracking can occur inside relatively large towns (Briggle 2015).

The major differences between older extractivisms and more recent ones are that the world seem to be reaching the limits of what can be extracted without breaking planetary boundaries, taking more energy than can be released, and causing cascading harmful consequences: 'Extractivisms today, whether "local" or "global", are among the key causes of global climate change and... ecological breakdown' (Kröger et al. 2021). We might wonder if extractivism also promotes social breakdown, as societies are tied into their ecologies and face challenges with ecological breakdown. A secondary front is that the new extractivism promotes the claim of local benefits as a justification for the potential destruction, rather than using simple force (Nygren et al. 2022, p. 740); although something similar may, perhaps, be seen in previous ideas that colonisation civilises. However, promotion of local benefits opens further possibility of contestation over why the compensation does not arrive (or has not arrived in previous ventures), and whether compensation is enough for the foreshadowed destruction. Processes of 'selling' the venture and pretending locals have choice, may make it seem that civil society discussion forums appear structured in favour of extractors and hence lose legitimacy (Valencia 2022). However, unless locals (people, land and ecologies) are capable of effective protest, they still seem expendable, or it is assumed that extraction will be good for general development.

This mixture of persuasion and force seemed present in Narrabri as did the threat of ecological destruction, particularly of water, which could end the town, no matter what prosperity was involved. This led to considerable 'hurtful' fracture among locals, and indeed helped generate social dynamics and the forms of argument and perhaps some level of breakdown. Information rarely cross boundaries between pro and anti-groups, becoming a further cause of fracture and building of loyalties against the other. For example, reasonable fears of destruction of water and farming, largely come to be ignored by those in favour of gas extraction.

Research in Narrabri

Narrabri, and its surrounds, lie in generally dry farming country in North Western NSW Australia – as usual the land was originally stolen with force from the local Aboriginal people, in this case the Kamilaroi people. We did not manage to interview any Aboriginal people at this time, so that is a lack in the paper. The research reported here took place between 2017 and 2020, although research continues up to the present, and this later research also informs the paper. Other aspects of the research project have been published in Goodman et al. (2022) and Marshall (2022). Narrabri was selected for research as it has been the focus of large-scale proposals to newly mine coal-seam gas, and extend coal mining. Both of these proposals have now been approved by the governments. The town demonstrates the problems of what has become an existential and unnerving contestation.

While the paper studies what is often called 'civil society' it does not define 'civil society,' or even use the term much, as the reality is too fluid (Dalton 2014). 'Civil Society' can be taken as a process which intersects with the state, but is largely separate and can be informal. Consequently, public action against the combined force of fossil fuel companies and governments (Federal, State and Local Council) – what I've called 'Carbon Oligarchy' – may not be conducted through formal organisations, although they are present, and organisation can increase effectiveness, conflict and connections. Local solidarity seems 'fluid', although people may be pushed into temporary solidarity or faction by external threats (Bamyeh 2009). Conflict can extend to attempts to gain external support from other people – although ideas of externality can shift. In this situation, informational disorder based in power differentials seems heightened, leading to further complications, disputes and confusions. The Carbon Oligarchy's motivations seems to be to increase government support through promises of development, lock-in the regional infrastructure, and boost sales of fossil fuels before opportunities end.

The struggle in Narrabri centres on a viable future for rural society. This makes the issue 'existential' and adds to the potency. Rural towns in Australia have been perceived as depopulating for decades, due to droughts and ageing populations. A general desperation for new jobs to prevent young people leaving makes these towns susceptible to mining sector promises of a prosperous future (cf Coffey et al. 2018). However, while it is disputable how many new jobs will arise, coal and gas mines potentially heavily impact on agricultural lands and water, thus changing the region and its capacity for survival, especially given agriculture was previously recognised as driving the local economy. The very existence of Narrabri seems to be at stake, whatever is done.

The paper reports on a series of local-level interviews, street surveys, informal focus groups and background reading, by a group of researchers and students in a research experience program. The research continued by the academics over a couple of years, into a new project on transition to renewable sources of energy in Narrabri, which will be reported upon in later paper. The number of people surveyed and met-with is small compared to the general population, and hence this report constitutes a provisional and uncertain narration. Uncertainties are an inherent part of social research which have to be acknowledged rather than ignored, as social processes cannot be seen as a whole, and much remains hidden. Interpretation of data is central, and statements from members of the society are not necessarily accurate, or even representative, no matter how often they are replicated. Hence the use of provisional statements pointing to this uncertainty.

This paper could not exist without the generosity of local people freely giving us their time and considered opinions, and I hope that people from Narrabri will respond with new interpretations and further information, to help expand the complexities of their situation.

Before visiting Narrabri the research team expected that the relevant social antagonism would be between those who supported renewables and those who supported fossil fuels, under the conditions of climate change. This was not the case. The main conflict was over fossil fuels themselves: between affected farmers and mining companies; between town and country; and between activists and miners. During this initial

phase of research, renewables or climate change, were rarely brought up in conversation, unless prompted, although long-term drought made climate change a significant context. This has now changed, with both renewables and climate change appearing to have become more significant in the local discourse.

The paper begins by describing the social context of the Carbon Oligarchy, its fight for more fossil fuels, and its uncertainties. The field section begins with farmers doubting the benefits of mining (Section I); points to the importance of water (Section II); analyses the role of 'sustainability' and economic growth in local perceptions of crisis (Section III); reports the deep and painful fracturing of regional social life (Sections IV and V), and the disorders of information (Section VI). The final section (VII) addresses the issue of renewable energy: the extent to which it did, or did not, figure in the local contest at the time of study. A further paper will be required to deal with the more recent activity around renewables in greater depth.

Context: Carbon Oligarchy

The modern world came into being through the harnessing of cheap, easily available, fossil fuel energy. Fossil fuels are perhaps the most efficient, and portable, sources of energy. They enabled the rapid deployment of military action, long global supply lines, large scale appropriation and global trade. Coal is also important for steel manufacture, which is important to much of modern life. The ownership and control of fossil fuels has generated riches which accumulated in very few organisations and people, together with massive pollution and ecological damage (Kenner 2019). This control over riches, together with the dependence of States and corporations on fossil fuels for 'development,' has led to what we can call a 'Carbon Oligarchy' (Marshall 2022) in which State encouragement and protection of fossil fuels and their extraction is routine and privatised.

The Oligarchy faces a paradox, as the processes which generated modern global life are also destroying it. The mining and burning of fossil fuels are major causes of climate change; and governments across the globe are supposedly committed to diminishing fossil fuel emissions under UN climate agreements. As the International Institute for Sustainable Development (IISD) reports:

> **According to a large consensus across multiple modelled climate and energy pathways, *developing any new oil and gas fields is incompatible with limiting warming to 1.5°C*. Global oil and gas production and consumption must decrease by at least 65% by 2050 (IISD 2022, p. iv, emphasis added).**

However, many governments and businesses seem equally committed to supporting conventional development and growth through increasing emissions, undervaluing the costs of destruction, claiming emissions can be stored, or by claiming emissions from the fuels they provide, but which are burned elsewhere, are not their responsibility. Support extends to increasing subsidy. Authors for the IMF write:

> **Globally, fossil fuel subsidies were $5.9 trillion or about 6.8 percent of GDP in 2020 and are expected to rise to 7.4 percent of GDP in 2025…. Just 8 percent of the 2020 subsidy reflects undercharging for supply costs (explicit subsidies) and 92 percent for undercharging for environmental costs and foregone consumption taxes (implicit subsidies) (Parry et al. 2021, p. 3).**

Research from the OECD and International Energy Agency (IEA) (IEA 2022), states that

> **overall government support for fossil fuels in 51 countries worldwide almost doubled to 697.2 USD billion in 2021, from 362.4 USD billion in 2020.**

The more dangerous the situation the more support for the cause of danger.

In Australia, all major political parties support fossil fuel extraction. Australia is one of the largest coal and gas exporters in the world with substantial unaccessed fossil fuel reserves (Geoscience Australia 2021a,

2021b). The Coalition government (Liberal and National), who were voted out in 2022, moved from a 'Technology Neutral Approach' (designed not to penalise fossil fuels) to a 'gas-led recovery' from Covid (designed to benefit fossil fuels), which led to the approvals for mining in Narrabri. The new (Labor) Federal government, despite being friendlier towards renewables, continues to open paths for more fossil fuels.

Narrabri

During this research period, the Narrabri region had both an operating coal mine (with an extension to be decided) and potential gas fields. It was unclear at the time whether more mining would be allowed, but the Coalition governments' support for gas (at both State and Federal level) made it extremely likely.

FARMERS AND FOSSIL FUELS

Farming has historically been the main driver of the local economy. However, farming is possibly in decline as a mass activity. Farmers suffer the brunt of problems arising from fossil fuel mining, along with sustained droughts and more recently floods (probably intensified by climate change). This adds to rural suicides and the difficulties of intensive farming in Australia (CSIRO 2022; Hanigan & Chaston 2022). Farmers can experience fossil fuel mining as destroying their capacity to live and farm, through concerns about coal dust, risks to bore water, noise and health effects. Alternatively, monetary income, from gas wells on their property, could help them in times of difficulty while potentially risking land and water (cf Hunjan 2018).

People often worry farmers are leaving the area:

> **Our business group is made up of a considerable number of the farming population and they're all young people and they don't want to be forced into a position where they've got to pack up and go[1].**

We were told several times that 60-70 farming families had left the area of one neighbouring town. Due to economic pressures, farms have increased in size forcing other farmers out. Sherval et al., while discussing these pressures in the Narrabri region, and how these pressures have 'diminished farmers' ability to work together' quote a local farmer as saying 'the family farm has stopped be[ing] the traditional family farm. It's now either a corporate farm, so it's owned by a corporate-type structure, or it is a corporate family farm.' (2018, pp. 105, 106).

All these losses, increased technology, and reduced farming incomes have apparently affected farmers' use of local labour, services and goods, breaking interdependence and connection with local towns, which seems important to the dynamics of opposition to mining.

BORES AND WATER

Water allocations are, as implied, allocations of water to plots of land, which can be sold on (NSW Government nda, ndb). People can also buy and sell excess water, and mining companies can out-bid local farmers for this excess water. We were told that the coal company would buy-out farmers near the mine, establishing a buffer zone and acquiring water allocations. People also claimed that miners could legally 'accidentally' open water sources in their mines, gaining water without charge and further depleting water available to farmers. To farmers, water seems to be lost to the mines. The threat of future mine expansion also reduces land value and ease of farming. Some people assumed that the mines would continue to expand at the expense of farmers, as in the nearby Hunter Valley region which is all-but sacrificed to mining interests (Cottle 2014; McManus & Connor 2013). This threat adds to inducements for farmers to leave.

1 All indented quotations, unless given a source, are from the interview material. These quotations have been made anonymous, which is important given the previous fractures in the town.

Potential loss of water is significant to the area, given the long drought, later followed by heavy flooding, which adds to the stress of agricultural life: 'people just can't live here, that's all there is to it'. One person explained that the region does not have mountains or snow melts, and relies almost entirely on rain and bore water. Some farmers said that water levels and quality have declined since mining started, although this was denied by other people. It is clear there are frictions over water, and hence over existence.

The local gas deposits are primarily coal-seam gas, which is often found together with water in the seams. It requires drilling many wells, spread across the region due to limited productivity of each single well. An activist from a nearby town explained:

> Coal-seam gas is trapped in fairly horizontal seams and so it's not naturally moving up, it's just sitting there. So you've got to drill many, many wells to get [to it] - because this one will collect from a small area and their lifespan's five years or something like that and then you have got to sink another one and then another one all over the place. That's one of the reasons [people oppose it] and the other reason is because… [the gas and mixed-in water] has all this toxic stuff in it and you're going through the water tables.

Gas is brought up through the water-table to the surface, which plausibly creates a toxic risk at the surface, and in the water-table, even if the gas is a long way beneath the table. Concrete and metal tubing should seal off the well from the water-table, but as an activist who is also a small farmer, said:

> they're thinking that oh the science is proving that it's alright; they'll look after us; those well casings will last. They won't last! How about 500 years down the track, you know… The precautionary principle is not being used for this industry.

This farmer elaborated:

> We're going to have 850 holes right through the [good] aquifer-bearing rock into the poisonous [gas filled] aquifer that's below, connecting the two, indefinitely into the future…. we should be asking 'What's the half-life of concrete'.

There were supposedly micro-organisms in the area that could eat concrete (Anon 2012).

> the coal-seam is… an ecosystem, even though it's anaerobic, it's full of all these... we're talking proto-cyanobacteria... they can actually tolerate anaerobic conditions a little bit, you know? But they will sit on the outside of the well casing and eat the steel. They eat the steel and the concrete.

Proto-cyanobacteria do not eat concrete as far as I know, but the bacteria problem is recognised by the industry (Lines et al. 2021). The large numbers of bores add to the risks of mixing the levels of gas and water, and also make it harder to check for breakdowns.

One prominent business supporter of coal-seam gas, directly contested claims about contamination:

> Contamination of water. Absolute lie…. The coal-seam gas bores are at 1000 meters…., nothing to do with the alluvials….. They're putting… high grade marine concrete steel all the way… The water that's coming off the coal-seam here is saline… that's all. It's not poison, it's saline water.

He continued, dismissing claims that gas could pollute bore water:

> [There's one farmer] complaining about his water being contaminated by the gas company…. I have a friend who lives next door to that bloke…. It's really brilliant water out there, it's really sweet water…. He tests it all the time the water content has not changed.

Another local person told me that good bore water sources can be close to bad ones. But it's clear there is a problem here, not only with conflicting information but with risk. Without bore water Narrabri is also likely

to suffer, and it risks polluting the major underground source water in inland Australia – the Great Artesian Basin (Sherval et al. 2018, p. 108-9).

ECONOMIC GROWTH AND SUSTAINABILITY

For many people, including Local Councillors, the most obvious and pressing concern was a perceived decline in population. However, this does not seem entirely borne out by census figures. The population of the local government area in 2011 was 12,925, 13,084 in 2016 and 12,703 in 2021 (ABS 2012, 2017, 2022). Obviously if a claimed population decline continued, Narrabri would die. This topic arose in casual conversations, street surveying and interviews, so whether accurate or not, it seems deeply felt. For many local people 'growth' and 'sustainability' meant more jobs, with education and training, to keep their children and grandchildren in the region. This emphasis on retaining local young people, was expressed in a number of ways by the councillors:

> **it's really up to us as a council along with the rest of the community to ensure that we have that growth and expansion in the future as an end result to keep our children here.**

And another:

> **the core to achieving results in a country town like ours is retaining our children.**

This led some to conclude that the region needed to diversify away from farming:

> **We need to grow the town in an industrial way, so that we are able to retain our youth and give them a future….**

This kind of argument helped justify gas project, in terms of finance. In 2020 the local newspaper reported 'Narrabri Shire Council is preparing for a massive $7 billion investment by businesses and government across the shire over the next seven years.' The gas project would make a 'significant chunk' of this investment (Courier 2020).

Some local business people and local councillors tended to be supportive of the shift to an industrial growth strategy centred on fossil fuels, given the difficulties faced by agriculture and the apparent need to retain youth. One business person said:

> **The most important thing is survival... economical [sic?] survival. Agriculture now doesn't employ the largest amount of people here anymore, because [people are] mining. That's good, but not good. Shires like ours lose around two full coach loads of their best quality young people every February.**

Given the focus on young people, our student volunteers talked to a group of final year high school students. Despite varied family backgrounds, all students were adamant they would not stay in the town after finishing high school 'There's no future here'. One student blamed the defensiveness of local business for the town's decline:

> **The town is just not growing at all, like all the businesses, they're not letting any other businesses come into the town because they know they're going to lose money to them… So many [businesses] have come up and then they just stop, it's sad.**

While the school had arranged for local fossil fuel companies to deliver presentations on prospects for employment, these students were not generally enthused.

Overall, mining and drilling, while giving hope, exploit and exacerbate an already-existing sense of marginality and decline in rural areas. Clearly, gas wells, including exploratory wells, can bring royalties

for farmers and employment for towns and thus appear beneficial. However, the community risks water quality in return for this temporary subsidy. Agricultural precarity deriving from climate change and mining, produces self-reinforcing feedback loops pushing people away from the region, making these towns, potentially unviable in the future whether they accept mining or not.

Claims that mining always brings jobs for local people were also open to dispute. While we met few local coal workers, coal mines seem to be becoming highly mechanised and staffed by temporary 'fly-in' workers housed in out-of-town villages closer to the mines. The villages are self-contained for supplies and may not employ local people to provide services. Officially workers are encouraged to move into the town by the mine companies, which can benefit local people who can rent out properties but displace lower income renters from accommodation, causing more dislocation. The high levels of vacancy in miners' villages is offered as evidence for workers moving into town, but this could also indicate lack of jobs in particular phases of mining.

Some people claimed that temporary workers are counted as 'locals' for employment statistics purposes if they are in town on census night, or hold a local PO Box, irrespective of how much time they spend in the area. As one interviewee said in this context, the companies 'exploit all of the loopholes and no one regulates and checks'. Adding to the confusion, there are allegations that mining companies inflate the number of jobs they promise and provide. A councillor claimed: 'If they have one job and that job is filled by 5 people in a year, they say that's 5 jobs.' There may be fewer local mine workers than generally believed.

Local businesses can find it difficult to attract and retain staff; as one councillor outlined:

> **staff left to work in the mines because they were getting better money. Which means that our businesses and community lacked the tradies and the skilled people just to service us.**

Many mines only operate for relatively short periods of time, and thus do not give long term prosperity. A councillor recognised this dilemma:

> **Even though it only lasts 20 to 30 years, you use that time to take advantage of that circumstance and build your community so that at the end of the day, you have got something that's sustainable…**

> **[Other towns] are suffering dreadfully. Businesses closing down, and… the foreseeable future isn't great either. We are sustained by these opportunities that have landed on our lap in reality. What do you do?**

This whole process appears likely to generate a cyclical economy with an influx of well-paid workers forcing up the cost of housing locally, boosting some businesses but causing hardship for others and for some local residents. After the construction, the employment may fall leaving economic damage. If the workers leave, or do not bring families, then the population declines again. These employment and residency effects produce instability, which disrupts an already fragile local community. Some farmers emphasised that the Council's local survival strategy was setting-up the region for destruction, accelerating the loss of farmers and farm labour, although providing short-term work for people who would not stay in the region when the mines closed.

Another possible harmful feedback loop is that as the locality becomes increasingly defined as a mining region, it may be designated as suitable for more mining, which facilitates the expansion of mining well beyond the limits that locals assumed were in place. Expansions require new forms of infrastructure, in transport, piping, land use, training and education, all correlated with the miners' demands, and perhaps promoting more destruction of other industries, such as farming and tourism, which rely on clean air and water. The mining companies have little local loyalty and will move out when the mines are exhausted.

SOCIAL BACKGROUND TO THE DISPUTE

People in Narrabri seem bitterly split both over the mines and over relevant information. There was no apparent way of clarifying the informational dispute within 'civil society' under Carbon Oligarchy. Initially local people seem to have been accommodating to fossil fuel interests. A number of interviewees stated that, as late as 2008, many people who became environmental activists (primarily through protecting forests) viewed gas as a viable 'transition fuel' beyond coal. Some of these people supported the Pilliga Forest being declared a State Forest rather than a National Park, so that gas prospecting could proceed, and others apparently bought shares in the original gas company that took the mining rights. This implies a relatively recent unity in the town, with support for gas. Perhaps there was less conflict about mining, and less sizable extraction, as a few people claimed the original coal mine owners were much more considerate of farming interests. More recently, with the experience of gas fields in Queensland, with international concerns about the impacts of gas extraction on water supplies and with expansion of extraction, gas has become more problematic. Members of a national activist organisation (later gaining members in Narrabri), Lock the Gate (LTG), focused on encouraging farmers to lock out gas exploration in their areas. Several State Governments adopted moratoria on coal-seam gas, and in NSW several proposed gas projects (such in the Northern Rivers area), and one near central Sydney (St Peters), were successfully blocked by local campaigners.

Disquiet in Narrabri also appeared to grow following experiences with exploration and pilot wells.

> **A leaking pond that contaminated an aquifer with uranium at levels 20 times safe drinking guidelines is still being used, despite coal-seam gas operator Santos knowing it was faulty more than two years ago (Hasham 2014).**

Activists and conservationists pointed to local areas they claimed were damaged by leaks from gas wells. People suggested the contamination, even on a small scale, had long-term destructive impacts. As one local farmer put it:

> **Up on the north side of the forest everything died… And it's pretty much dead, just a few hectares…. But if you have a look there now, and see the rehabilitation, all there is, is about three or four-year-old re-growth - nothing on the ground, no big trees, no nothing.**

When this spill was pointed out to the government, the apparent response was to tell the activists to send the information to the company.

> **That's standard procedure I think for government departments, they're very reluctant to take on issues that they haven't themselves already raised. They don't want to take on community issues that they haven't identified. I think it puts them in questionable legal position too.**

This is also a way of the government avoiding conflict with the mining companies, which is one indirect way of supporting the companies.

While shire councillors were aware that other rural towns had been destroyed by mining, they suggested their town was smarter and would solve the problems. While clearly towns can learn from the bad experiences of others, and the Council may have conducted studies of this form of the 'resources curse', no one mentioned long term plans; the engagement seems to remain founded on hope.

Mining companies seem to make their pitches most directly to town dwellers, counter-posing the presumed interests of town-dwellers against the interests of farmers. Disputes over mining thereby exploit and exacerbate pre-existing antagonisms, deepening the 'rift' between town and country. The distribution of gains and losses is presented as if some gain and some lose. But ultimately, though, the entire community suffers from land degradation: mining is a negative sum game. Another problem, emphasised by a number

of people about the gas, was the social consequences of the dispute, and the lack of benefit from gas so far. One person remarked:

> **We've seen a lot of fracturing of the community. We've seen… both environmental impacts and social impacts, but we haven't seen the economic promises delivered.**

FRACTURE

Country towns are often quite small in population, and characterised by long-term relationships between people. Any proposal for large-scale structural change in a region will potentially disrupt existing social relationships and imaginings of futures, and plans for how the region should be organised, especially if it has potentially harmful consequences.

Several brief encounters can only offer limited insights. However, we were struck and surprised at the depth and pain of division that were aired in our discussions. We heard of long-term friendships being lost, and people needing to leave the region for their own well-being. One interviewee would not meet us in a public place for fear of being seen talking with researchers. We did not witness any active dispute (although people did criticise other people to us), so I can only report on what people said had occurred, without knowing how accurate these reports are, although the distress in these narrations was obvious.

One councillor said:

> **CSG [coal seam gas] in our area has been very divisive… It's putting friends against friends, siblings against siblings. Socially it has really taken a toll in our community….**
>
> **we [as councillors] don't have a social licence to speak on [the communities'] behalf in terms of this issue, because there are so many differing opinions. It effects a hell of a lot of people.**

Another councillor said:

> **I have had people who are good friends of mine that have actually come up to me and said … this other person, he is now no longer a friend of mine.... when it comes to severing friendships that have been there since childhood or whatever, that's just absolutely ridiculous.**

Another person said the problem had come close to destroying their long-term friendships and could not be discussed if one was to preserve those friendships.

> **You don't bring up a topic with someone you've known for forty years... you don't want to make waves.**

Fracture also threatened voluntary organisations. Members of a bush walking club proposed that the NSW Premier be invited to see the Pilliga Forest threatened by gas exploration. Some members fiercely denounced the idea and this diminished the club's membership.

Both sides said there had been intimidation from the other side and gave anecdotes of such behaviour. These anecdotes, while possibly magnified, seemed to be based on real events, but involved radically different interpretations and narrations – sometimes so different that I initially thought I was hearing different stories.

People were reported to be in stress from the mining developments and its effect on farms. As one farmer recounted:

> **some people have been just really, really destroyed. It's been very, very bad on their mental health they've been physically ill… because they are so distressed about what they see as… the consequences or potential consequences of having a coal mine or a gas mine nearby.**

People who supported gas could argue that the sicknesses attributed to gas were psychosomatic, resulting from stress and imagination, in a similar way to the way 'wind farm syndrome' is rejected by supporters of renewables (Marshall 2018).

The gas company cultivates its presence in the town with a shop front, constant promotion and largesse for local organisations. This largesse could be seen as bribery, and so increased the fracture. For example, money was given to a local sports club, with team members required to wear the company logo on their sports T-shirts and shorts. Some parents removed their children from local teams as they did not want them promoting the mining company. The largesse can also be resented:

> **our previously self-sufficient community sports groups are now reliant on handouts. We've lost that social capacity within the community, so that's a real negative.**

The largesse is also reputedly used to curtail local opponents' activities and the information they can spread:

> **The anti-gas meeting was at the golf club and then we found out that apparently what happened is that the gas company rang the golf club and said that if they let us have our meeting there, then they were going to pull all the sponsorship.**

Someone else commented:

> **[a local farmers' organisation] tried to go into the high school to talk and I think it was like the principal said 'yes' initially but… within 24 hours got back and said 'Oh, actually, no, really sorry'. So this person pursued it higher and higher up and was told at every level, 'No, no, it's the rules, it's the rules.' They were never told what the rule is, but the gas company was let in the next week to talk.**

Regular full-page advertisements paid-for by mining companies, alongside positive reporting from local journalists, can be viewed as an exercise in community engagement, but for opponents it's manipulation. As one person stated, it had turned a viable local news outlet into the 'Mining Company Courier':

> **[Advertising] has been a windfall for the local newspaper. So all the information that comes through what should be an independent publication is actually quite biased.**

More broadly, repeated allegations were made that the fossil fuel companies distorted information: refused to answer questions, presented evidence in the most favourable manner, emphasised certainty when there was inherent uncertainty, and stopped affected farmers from speaking through the confidentiality agreements required for compensation payments or land purchase agreements. Whether all these reports are accurate or not is irrelevant: the company can be seen as using its largesse to monopolise and constrain information, and hence attempting to constrain and guide civil behaviour away from positions hostile to it.

Pro-gas supporters, while sometimes admitting there were well-known problems with mining in Queensland, could state these problems would not arise in NSW, because of more stringent regulation, or that the problems were exaggerated. One councillor said:

> **There's horror stories that are coming out of Queensland about certain circumstances but when you talk to the Queensland government, the CSIRO base down at Queensland, they seem to have predicted the issues in and around coal-seam gas [and they] weren't as bad as they expected.**

However, regulations and fines after the event, will not remediate water table damage, if it occurs.

The Council appears to present itself as overcoming these fractures and as bringing people together by restating local unity, despite disagreement, stating that disagreement was more intense in the past, and restating the importance of prosperity and sustainability for the town, and repeatedly pushing the fracture

away. This peacemaking action indirectly supports the established fossil fuel presence, whatever people might feel about it, thus leading to a general sense that events are out of their hands. This helplessness is reinforced as approval or refusal of development depends on the pro-fossil-fuel State government, not the local Council.

INFORMATION DISORDER

A key issue was suspicion of corporate obfuscation, misinformation and meaningless consultation. As one person complained:

> they say, you know, 'community consultation' – well we're consulted out… Processes are so opaque.… they just keep obfuscating. They just keep putting up obstacles in front of us... Like we get a document and most of it's redacted. You know they're just these black documents kind of stuff.

Information opacity, and apparently foreclosed consultation, is *not* just a problem specific to the mining industry, or to Narrabri, but to capitalism in general. Business inherently hype their products, through PR and advertising, and downplay any problems, or objections to protect sales, so their information is often unreliable. There is no capitalist cause in claiming the information you are presenting is ambiguous or uncertain, unless that adds to persuasion. However, in a small country town, the possibility of ordinary people having the capacity, or time, to become fully informed, on highly technical matters, from independent sources, is unlikely. For example, people repeatedly told us they had a mere 42 days to go through the gas project's 7,000 pages of Environmental Impact Statement. It was 'almost impossible' or 'nothing short of ridiculous', to read in the time, never mind analyse, or check-up. This kind of mass of information can be seen as a screen, for hiding information. Nevertheless:

> 23,000 people wrote in about that EIS. That's the biggest amount of, not just objections, but submissions, to an EIS ever in the State and… 21,900 or something opposed it.

Pro-gas advocates dismissed this large-scale opposition to the EIS as coming from outsiders, given the regional population is much smaller than 23,000. Obviously, the gas and coal companies could also be seen as outsiders, although rarely by pro-gas people. Protestors against the project were likewise demonised as violent and dirty 'ferals'. They were, by definition, not respectable local people. For example:

> one of the things that we were hearing from some of the pro-CSG people in Town was that 'These bloody protesters getting paid to come in from Byron Bay to riot in the streets'.

Another person demonstrated this blame:

> a lot of people who are against coal-seam gas don't even live in the shire... People supporting it, except for gas company representatives, all live within the Shire…If you come over from Byron Bay to damn straight up and down my main street I'm going to tell you to bugger off.... Regardless of whether I'm pro, whether I support what you are on about or not. Don't come here.

And another:

> The Wilderness Society pays a lot of them protestors, 400 bucks a day, they didn't come for nothing... the Wilderness Society paid for all the accommodation out there…. And when they get locked up they pay for their fines. There's no one from the Shire that's ever been fined or locked up, no one.

These claims may be an attempt to situate being anti-gas as marginal to Narrabri identity, while portraying the local area as more unified, and more in favour of fossil fuels than it may be. It also delegitimises protestors as paid for their presence.

Pro-gas people claimed to have science on their side. A business-oriented councillor said:

> science is the only thing we can go on when it comes to controversial things like this.… In Queensland… coal-seams [are] close to water tables…. But out here you've got two hundred metres of the rock down, then you go through the aquifer, 150-200m water there, then you have got 600m rock to get to the coal seam. So…. from the scientific point of view, the risks are very low…..
>
> I just go with science, and if the science is there, I support it. And equally if the science wasn't there, I wouldn't support it.

Another business person claimed:

> the pro coal-seam gas people will only work on facts. It's all you've got…. You blokes said that we were going to have contaminated water 5 years ago. Where is it?

People might claim that you had to trust the science and go with the gas, but it appeared that the science available was largely provided by the gas company, and did not include climate science or reference to the need to cut greenhouse gas emissions. Other people complained the corporate science was not neutral:

> We've seen things like the developer of a model is the same person that peer reviews that model. You know, that's really poor practice.

Despite claims of official allegiance to science, pollution monitoring was difficult because much of the pollution could occur underground, or be invisible (as with methane emissions) but even above ground, with the coal mine, it was difficult, partly because of lack of support:

> we've been lobbying government, we've been lobbying mines for 3, 3½ years, for an independent dust monitor here [in a small town near a coal mine] which no-one will agree to and, when the figures come out, they always point the blame at… the farming community… and neatly sidestep everything.

In this case, the coal mining company was alleged to have 'have broken heaps of their limits to air quality', but again there seemed little publicly available data.

It is unclear to what extent legal issues also control information flow, but one of our informants had a confidentiality agreement with a company and had to interrupt themselves, to think about what it was possible to say without breaking that agreement. This indicates that many difficulties faced by farmers may not be in public circulation, also helping the cause on both sides, namely suspicion, and ignorance. This undermines peoples' capacity to assess the risks when it comes to decision making. It is difficult not to think that this is the purpose of such agreements.

People also complained that companies broke their promises. For example, in the small town near the coal mine:

> there was going to be… a mining presence in the main street, and that would therefore attract personnel to the main street immediately.... We were supposed to see a 10 to 15 per cent population spin-off….
>
> [They were] going to build 12 houses in town but the problem was that they bought the blocks of land and they knocked 12 houses down. And they're not built yet.

The same person pointed out that the coal company had promised 450 jobs and yet were now talking about a fully automated mine… 'if it's an automated mine, where are the 450 jobs going to go?' Later the Council rescinded its support for the coal mine expansion. A report prepared for the Council stated:

> **The figures used to calculate these [job] figures appear flawed and the purported economic benefits to the community… seem unlikely to materialise…** (Murphy, 2019).

Broken promises on job creation is a critical concern; another person commented:

> **they tell us we'll have 1,300 jobs during construction [of the gas fields], and 200 ongoing jobs.… But… the Shire doesn't have the workforce that are skilled enough to work in large numbers in the construction site phase of the gas industry, so only 200 jobs are going to go to local people.**

This inability to gain informational clarity meant that people tended to define truth by group loyalties, connections and group allocated interests. Both sides claimed that their group's position was clearly supported by the facts, and that the other 'side' were mistaken, lying, corrupt, or under the thrall of outsiders who did not have Narrabri's best interests at heart. There does not seem to have been much real dialogue across divisions, and that may be an intentional consequence of the lobbying.

There is no external, generally recognised, reference point for valid knowledge, that 'stands above the fray', and no generally respected experts who were defined as neutral; partly because only desired responses were acceptable. External bodies themselves are drawn into the conflict and positioned as on one side or another. For example, the Commonwealth scientific body, the CSIRO, was funded by the gas industry (the Gas Industry Social and Environmental Research Alliance - GISERA cf GISERA 2018) to do local research and, as a result, seems to have lost its local reputation for impartiality amongst anti-gas campaigners (LTG 2020).

RENEWABLES: GROUNDS FOR CONSENSUS?

Renewables appeared to play little part in the struggle over fossil fuel extraction in the region. Within the framework of jobs and survival, energy was evaluated almost completely in terms of jobs, with fossil fuels seen to be as useful as renewables. When prompted, advocates of fossil fuels would generally state they supported all energy production, emphasising that fossil fuels and renewable energy could both help support the region and provide jobs. There was some scepticism about renewables-based jobs, as they appeared few and low paying, with one interviewee stating: 'They might be locals employed to build it. But maintenance afterwards is just not visible.' Another local business person and gas supporter claimed: 'There's less than 20 jobs in the whole of the New England despite all those wind farms'. Critics of mining could claim that renewable energy offered a more viable and sustainable alternative, but in practice focused on the impacts of mining on agriculture, community health, and conservation values. Some of these concerns could also apply to renewables. Renewables was at this time unopposed but apparently often seen as irrelevant.

There seemed very little enthusiasm about wind or solar farms, despite the *potential* installation of 264MW of solar panels in three farms in the area, and despite frequent claims the region had one of the highest uptake of solar panels in the State. For example, a councillor said: 'I am pretty sure the Shire is one of the top shires as far as household solar.' The formal household uptake on the Australian Photovoltaic Institute map is 61.8% (API 2022).

For the supporters of mining, renewable energy was simply another form of energy, and as such was to be welcomed. As one mining advocate put it:

> **Renewables have benefits. Australia is crazy if it doesn't go renewables. No one is going to argue that. But don't use that to knock the other energy source… fossil fuels… are more efficient. They're instant, they're 24 hours, and they provide that much employment it's not funny.**

The most common response, when pressed, was to be in favour of both fossil fuels and renewables to the extent that each brought jobs.

People in the street of the main town, who were approached for a general survey by our students were often reluctant to declare a preference for either fossil fuels or renewables: they did not necessarily see a conflict between them, tending to favour both. For example, 85% of the 70 respondents, supported renewables based on anticipated jobs, low environmental impact, and low cost, while having issues with reliability. Simultaneously, 70% supported coal and 66% supported coal-seam gas. Few in any age group opposed renewables while younger respondents were more likely to oppose coal and gas than older people. When people were asked about future preferences there is much more clarity about not depending on fossil fuels for everything. Specifically, 69% stated that Narrabri should develop over the next decade on the basis of 'local farming and food culture'; 42% favoured 'community-owned renewables' and 'locally-owned tourism'; 31% cited 'large-scale renewable energy'; 29% favoured 'large-scale coal and gas'. This may demonstrate people's aspirations for the region, as against what they believe they have to accept. Again, there was inter-generational variation, with support for coal and gas falling from 32% for the over 55's, 15% for those aged 35-55 and almost zero for the under 35's.

The Lock the Gate organisation conducted a much more thorough house to house survey around the same time, declaring that:

- 97% of people supported renewable energy as a way to provide long-term jobs.
- Only 28% of people were in favour of the coal-seam gas-field in the Pilliga Forest,
- 52%, of people opposed the gas-field and 20% were unsure
- 55% said they were very, or somewhat, concerned about the gas-field and only 24% said they were unconcerned (LTG 2018).

None of the Council members we talked with expressed the levels of enthusiasm for solar or wind that some expressed for fossil fuels. Installation of solar seemed almost irrelevant to Council. The Council has little input into solar farms as they are proposed by external corporations and approved by the State government. The proposed energy farms operate independently of the town and generate little local interest. When asked, no one at the Council saw renewables as an alternative to fossil fuels that could boost the town without threatening agriculture and ecology.

Approval for the Narrabri South Solar Farm, to be built by Canadian Solar came through in December 2018 -January 2019 (NSW Government 2018; Vorrath 2019a). The Silverleaf farm was approved in April 2022 (NSW Government 2022). These companies appear unconcerned about local engagement, making no observable claims about local jobs, or supplying local energy. Connection between the renewable industries and the town was marginal. Even those people who provided household solar, were out of town until late 2020. Perhaps, consequently, some activists seemed more concerned about conserving forest land, than in supporting renewable operations which might have some impact on land and land use. In late 2020, a not-for-profit organisation, Geni.Energy, began a push to set up community renewable energy in the region, and this may well focus attention on different ways of action, which I hope to discuss in a later paper.

Conclusions

The struggles in Narrabri centre on fossil fuels and exist within the contexts of the 'Carbon Oligarchy', the effects of climate change (long scale droughts, followed by massive flooding) and the apparent decline of agriculture. Agricultural decline seems to be arising partly through climate change and partly through displacement, or fear of displacement and loss of bore water, through mining. The importance of long-term

drinkable, and useable, bore water supplies for agriculture and life is obvious. As well as long-term risks to bore water, there are also risks of surface and air pollution through coal dust and water-mineral leaks at the gas mine heads. Pollution seems largely unmonitored. Burning these new fossil fuels (wherever they are burnt in the world) will also increase the effects of climate change in Narrabri.

The situation for the region at the end of this research appeared incredibly difficult. People are caught between demands for developmental survival and demands for physical survival. Civil society was fractured by dispute, perhaps largely generated by the interventions of the mining companies, whether intentional or not. It seems hard to repair the fracturing, although new local organisations may be appearing, because of the strong reaction to the mining companies' apparent attempts to shut down and ignore opposition. Fracturing also helps to give the companies more power, as they can work with one side and essentially ignore the other, as well as work with the State, which provides the frameworks in which extraction and approved ecological destruction, or risks of ecological destruction, exist.

Fossil fuels are supported by the State and by some local business interests. The mine expansions and the new coal-seam gas fields have been approved, although there are still some delaying court challenges. The NSW government has also recently begun a process which they hope will lead to an energy intensive manufacturing site in Narrabri, powered by gas from the gas fields (again ostensibly boosting local jobs and development), but also supporting gas company profit (NSW Government 2021). The gas-fields are being given an artificial sales-point as we might expect in a Carbon Oligarchy.

These contexts make the disputes in Narrabri existential. There is a threat that the town could decline, a perception which is exacerbated by fossil fuel company claims to be Narrabri's saviour. Perceived decline is a direct threat to the residents' existence and likely to heighten and polarise responses. The Oligarchy-approved solution of fossil fuels, may bring some jobs and finance to the town although it is unclear how many of those jobs will eventuate, or how many may go to existing locals or to temporary workers from elsewhere. It is also unclear how long these jobs and the gas industry itself will last.

There will likely be many jobs during construction of the gas fields, but they will be temporary, and largely go to outsiders, as the local population is small, and does not necessarily have the required skills. We have also seen how, probably due to the population size, the high-paying jobs in the mines can lower the workforce available for the town, and the loss of farmers can increase dislocations between town and country as interdependence is broken, and it would not be unreasonable to suggest that Narrabri is further weakened as a result.

The mining in Narrabri is short term, and likely to lead to boom and bust. The gas fields are limited even if the company is permitted to expand its operations into agricultural lands nearby. Fossil fuel mining is also under pressure from the possible resolution of ambiguities of State policy, through States taking serious climate action against climate change and phasing out fossil fuels. This adds to the possibilities that fossil fuel mining may not guarantee a good future for Narrabri, and indeed may help destroy that future both in terms of the town's economy, and the local ecology. In other words extractivism can possibly cause social breakdown.

The existential nature of the dispute, and its polarisation, is encouraged by the Oligarchy, as it frames the dispute not only in terms of town vs country, with objectors as outsiders, but by framing fossil fuel mining as the only, and inevitable, way forward. In the fracture, normal civil society processes collapse and people rarely cross the 'ideas divide'. Mining companies also appear to control, or promote, most of the information that local people will find easily, for instance, through the local newspaper growing dependent on their advertising. This mining company information accelerates the polarities. The companies also have the ability to fund the community and community events and clubs, and this can appear to obstruct the presentation of counter knowledges and counter proposals, fuelling suspicion and heightening the polarity. The whole

of what we might call civil society, is inhibited and changed by this fracturing and the fear of speaking. The pain of the dispute does not seem beneficial for local problem-solving. It may be worth investigating whether the dispute has hampered the region's response to the crises of climate change, or whether those crises lowered the friction as people 'pulled together'.

In contrast with the fossil fuel industry, the renewable industry has, until 2020, appeared to distance itself from the area. Its plans are not well known, seem covered in unintentional secrecy, and seem unintegrated with local business. This has rendered renewables marginal to the debate, and until recently there has been little locally organised support for renewables. Arguably the only way forward for a renewable alternative locally is through local organisation, and local support – not so much as a way to attack fossil fuels but as a way of promoting autonomy, resilience and cooperation through renewables. This will be the subject of a future paper.

It can be suggested that it is important to heal the town/country disjunction, connect the country with the town's workforce again, connect with independent information, and build increased communication, and opposition to the Oligarchy. However, this is much easier said than done, as the sides are not equal in their abilities to influence events, or in their external connections. The Carbon Oligarchy will push the mining approval process, and easily available information is likely to support the Oligarchy and its requirements. However, climate change threatens the Oligarchy as much as it threatens everyone else and its future position is ambiguous and uncertain. This ambiguity would seem to be common across the world, as it becomes more obvious that the Oligarchy is causing not only local but global destruction through its extractivism and its commodities. This is worldwide. Therefore, it is possible that local people, joined with others (perhaps experiencing the same kind of fragmentation and existential fear), can persuade the State to take its obligations seriously, even despite the better funded campaigns against climate reality.

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References

Australian Bureau of Statistics (ABS) 2012, 'Narrabri (A). 2011 Census All persons QuickStats. Geography type Local Government Areas. Area code LGA15750'. https://www.abs.gov.au/census/find-census-data/quickstats/2011/LGA15750

ABS 2017, 'Narrabri (A). 2016 Census All persons QuickStats. Geography type Local Government Areas. Area code LGA15750'. https://www.abs.gov.au/census/find-census-data/quickstats/2016/LGA15750

ABS 2022, 'Narrabri. Latest release. 2021 Census All persons QuickStats. Geography type Local Government Areas. Area code LGA15750.'https://abs.gov.au/census/find-census-data/quickstats/2021/LGA15750

Anon. 2012, 'CSG and Sulphate-Reducing Bacteria', *Save our Recharge Environment*. http://sore.net.au/articles/csg-and-sulphate-reducing-bacteria/

API 2022, 'Mapping Australian Photovoltaic installations', Australian Photovoltaic Institute. https://pv-map.apvi.org.au/historical#9/-30.6353/149.9368

Bamyeh, M.A. 2009, *Anarchy as Order: The History and Future of Civic Humanity*, Rowman & Littlefield, Lanham, Md.

Bardi, U. 2014, *Extracted. How the Quest for Mineral Wealth is Plundering the Future*, Chelsea Green Publishing, White River Junction, VT.

Briggle, A. 2015, *A Field Philosopher's Guide to Fracking: How One Texas Town Stood Up to Big Oil and Gas*, Liveright Publishing, New York.

Canterbury, D.C. 2018. *Neoextractivism and Capitalist Development*, Routledge, London. https://doi.org/10.4324/9781351127349

Coffey, J., Threadgold, S., Farrugia, D., Sherval, M., Hanley, J., Askew, M. and Askland, H. 2018, "If you lose your youth, you lose your heart and your future': Affective figures of youth in community tensions surrounding a proposed coal seam gas project', *Sociologia Ruralis*, vol. 58, no. 3, pp. 665-83. https://doi.org/10.1111/soru.12204

Cottle, D. 2014, 'Land, life and labour in the sacrifice zone: The socio-economic dynamics of open-cut coal mining in the Upper Hunter Valley, New South Wales', *Rural Society*, vol. 22, no. 3, pp. 208-16. https://doi.org/10.5172/rsj.2013.22.3.208

Courier 2020, '$7 billion in seven years', *The Courier* 13 February. https://narrabricourier.com.au/2020/02/13/7-billion-in-seven-years/

CSIRO 2022, 'State of the Climate 2022', CSIRO website. https://www.csiro.au/en/news/news-releases/2022/state-of-the-climate-report-2022

Dalton, B. 2014, 'Civil society: Overlapping frames', *Cosmopolitan Civil Societies Journal*, vol. 6, no. 2, pp. 40-68. https://doi.org/10.5130/ccs.v6i2.3918

del Mármol, C. & Vaccaro, I. 2020, 'New extractivism in European rural areas: How twentieth first century mining returned to disturb the rural transition', *Geoforum*, vol. 116, pp. 42-49. https://doi.org/10.1016/j.geoforum.2020.07.012

Geoscience Australia 2021a, 'Coal.' https://www.ga.gov.au/digital-publication/aecr2021/coal

Geoscience Australia 2021b, 'Gas.' https://www.ga.gov.au/digital-publication/aecr2021/gas

GISERA 2018, *Social Baseline Assessment: Narrabri project – Final Report.* https://gisera.csiro.au/wp-content/uploads/2018/05/Social-7-Final-Report-correct.pdf

Goodman, J., Heikkinen, R. & Knobloch, B. 2022, 'Not resource curse nor resource benefit, but 'resource negation'? Communities against coal seam gas on the fossil frontier', *Journal of Australian Political Economy*, no. 89, pp. 136-57. https://www.ppesydney.net/content/uploads/2022/07/7-Goodman-Heikkinen-Knobloch.pdf

Hanigan, I.C. & Chaston, T.B. 2022, 'Climate change, drought and rural suicide in New South Wales, Australia: Future impact scenario projections to 2099', *International Journal of Environmental Research into Public Health*, vol. 19, no. (13), article no. 7855. https://doi.org/10.3390/ijerph19137855

Hasham, N. 2014, 'Santos coal seam gas project contaminating aquifer in use after two years', *Sydney Morning Herald* 10 March. https://www.smh.com.au/environment/santos-coal-seam-gas-project-contaminating-aquifer-in-use-after-two-years-20140310-34h9f.html

Hirschman, A. 1965, 'Obstacles to development: A classification and a quasi-vanishing act', *Economic Development and Cultural Change*, vol. 13, no. 4, pp. 385-393. https://doi.org/10.1086/450122

Hunjan, R. 2018, 'When coal seam gas comes knocking', *SBS Insight*, 28 May 2018. https://www.sbs.com.au/news/feature/when-coal-seam-gas-comes-knocking

IEA 2022, 'Support for fossil fuels almost doubled in 2021, slowing progress toward international climate goals, according to new analysis from OECD and IEA', *IEA News* 29 August 2022. https://www.iea.org/news/support-for-fossil-fuels-almost-doubled-in-2021-slowing-progress-toward-international-climate-goals-according-to-new-analysis-from-oecd-and-iea

IISD 2022, *Navigating Energy Transitions: Mapping the Road to 1.5°C*, International Institute for Sustainable Development, Manitoba. https://www.iisd.org/system/files/2022-10/navigating-energy-transitions-mapping-road-to-1.5.pdf

Kenner, D. 2019, *Carbon Inequality*, Routledge, Oxford. https://doi.org/10.4324/9781351171328

Kröger, M., Hagolani-Albov, S. & Gills, B. 2021, 'Extractivisms', In Krieg, C.P. & Toivanen, R. (eds.) *Situating Sustainability: A Handbook of Contexts and Concepts*. Helsinki University Press, Helsinki, pp. 239-252. https://doi.org/10.33134/HUP-14-17

Lines, S.J., Rothstein, D.A., Rollins, B. & Alt, C. 2021, 'Microbially Induced Corrosion of Concrete', *Concrete International*, vol. 43, no. 5, pp. 28-32.

Lock The Gate (LTG) 2018, 'The results are in: Narrabri wants renewable energy, not CSG,' *Lock the Gate*, 11 October. https://www.lockthegate.org.au/narrabri_wants_renewable_energy

LTG 2020, 'Gas company-funded GISERA at it again with unreliable report', *Lock the Gate*, 30 April. https://www.lockthegate.org.au/gas_company_funded_gisera_at_it_again_with_unreliable_report

McManus, P. & Connor, L. 2013, 'What's Mine Is Mine(D)': Contests over marginalisation of rural life in the Upper Hunter, NSW', *Rural Society*, vol. 22, no. 2, pp. 166-183. https://doi.org/10.5172/rsj.2013.22.2.166

Marshall, J.P. 2018, 'Psycho-social disruption, information disorder, and the politics of wind farming', *Energy Research & Social Science*, vol. 45, pp. 120-133. https://doi.org/10.1016/j.erss.2018.07.006

Marshall, J.P. 2022, 'Comparing local energy conflicts in NSW Australia: moving to climate generosity', *Globalizations*, Advance Publication. https://doi.org/10.1080/14747731.2022.2073067

Murphy, J. 2019, 'Narrabri council pulls support for Vickery coal mine, due to "inflated job figures"', *Northern Daily Leader*, 30 December. https://www.northerndailyleader.com.au/story/6552401/council-pulls-support-for-vickery-mine-due-to-inflated-job-figures/

NSW Government nda, Allocations. NSW Department of Planning and Environment. https://www.industry.nsw.gov.au/water/allocations-availability/allocations

NSW Government ndb, Water licensing Ensuring water is shared equitably. Water NSW. https://www.waternsw.com.au/customer-service/water-licensing

NSW Government 2018, *Narrabri South Solar Farm State Significant Development Assessment (SSD 8387)*. https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-8387%2120190226T091221.290%20GMT

NSW Government 2021, *Narrabri Special Activation Precinct*, 19 July 2021. https://www.nsw.gov.au/snowy-hydro-legacy-fund/special-activation-precincts/narrabri

NSW Government 2022, *Notice of Decision. Section 2.22 and clause 20 of Schedule 1 of the Environmental Planning and Assessment Act 1979: Silverleaf Solar Farm*. https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-9358%2120220421T224814.341%20GMT

Nygren, A., Kröger, M. & Gills, B 2022, 'Global extractivisms and transformative alternatives', *The Journal of Peasant Studies*, vol. 49, no. 4, pp. 734-759. https://doi.org/10.1080/03066150.2022.2069495

Parry, I., Black, S. & Vernon, N. 2021, 'Still not getting energy prices right: A global and country update of fossil fuel subsidies', *IMF Working Papers, WP/21/236*. September. https://doi.org/10.5089/9781513595405.001

Schuetze, C.F. 2023, 'German village at center of a fight over coal and climate is cleared out', *New York Times*, 15, January 2023. https://www.nytimes.com/2023/01/14/world/europe/germany-village-coal-activists.html

Sherval, M., Askland, H.H., Askew, M., Hanley, J., Farrugia, D., Threadgold, S. & Coffey, J. 2018, 'Farmers as modern-day stewards and the rise of new rural citizenship in the battle over land use', *Local Environment*, vol. 23, no. 1, pp. 100-116. https://doi.org/10.1080/13549839.2017.1389868

Valencia, A. 2022, 'New extractivism, foreign investment and inclusive development: reclaiming participatory gender equality in Perú', *Globalizations*, vol. 19, no. 6, pp. 876-886. https://doi.org/10.1080/14747731.2022.2047258

Vorrath, S 2019, 'NSW approves 60MW solar farm for Narrabri South', *RenewEconomy*, 22 January. https://reneweconomy.com.au/nsw-approves-60mw-solar-farm-for-narrabri-south-39826/