

All It's Fracked Up to Be

Government documents released under FOI show annual emissions from fracking for gas in the NT could be as large as 22% of Australia's current annual emissions, larger than from all coal stations expected to be then running in the NEM, and require more offsets every year than have ever been issued in Australia to date.

**Tom Swann
February 2020**

The NT's Scientific Inquiry into Hydraulic Fracturing found that fracking for gas in the NT threatens greenhouse gas emissions on a very large scale and would cause climate impacts that would be "unacceptable". It found that fracking should not be allowed unless all lifecycle emissions, including combustion of the gas, are fully offset. The NT Government accepted this recommendation. It removed the moratorium on fracking for gas, on the condition that all emissions should be offset.

Documents released under Freedom of Information (FOI) show NT and Commonwealth officials warning that emissions from NT fracking could threaten Australia's ability to meet international obligations. They reiterated the need to stop the projects if offsetting does not occur.¹ The documents support Australia Institute research showing the scale of potential NT fracking emissions.

In the released documents, officials state that emissions from fracking (direct and from burning the gas) could reach 39 million tonnes of carbon dioxide equivalent (MtCO₂e) per year under one production scenario, and up to 117 MtCO₂e per year under larger scale production.

¹ Bardon (2020) *How fracking could threaten Australia's Paris target*
<https://www.abc.net.au/radionational/programs/backgroundbriefing/fracking-could-threaten-australias-paris-target/12006532> Documents on FOI disclosure log, references 191111, 191110,
<http://www.environment.gov.au/about-us/freedom-information/foi-disclosure-log>,

To put in context the vast scale of these emissions, this is **7% to 22% of Australia's current domestic emissions** (532 Mt CO₂e year to June 2019).²

At their peak, NT fracking emissions would be:

- comparable to annual emissions from all currently operating coal power stations in the NEM (144 MtCO₂e).³
- larger than annual emissions all currently operating black coal power stations (101 MtCO₂e) and,
- larger than annual emissions from **all coal fired power stations in the National Electricity Market (NEM)** expected to be operating in the NEM when fracking occurs (estimated at 107 MtCO₂e),

The smaller fracking emissions figure is comparable **to annual emissions from all the old brown coal fired generators in Victoria** (estimated at 43 MtCO₂e).⁴

The offsets required to offset NT fracking lifecycle emissions under the larger production scenario would be larger **every year than all Australian Carbon Credit Units (ACCUs) ever issued by the Australian Government** (74 MtCO₂e).⁵

At the smaller figure, annual offsets required **four times the offsets delivered each year under the Emissions Reduction Fund** (historically ~10 MtCO₂e per year).⁶

STILL NO OFFSETS POLICY

Nearly two years after the Fracking Inquiry issued its final report, there is still no credible offsets policy. The NT Government plans to have such a policy in place by the end of 2021. In the meantime, the NT Government has approved numerous fracking exploration operations with significant emissions but no offsets, a substantive breach of its commitment.

² Department of the Environment (2020) *Quarterly Update of Australia's National Greenhouse Gas Inventory: June 2019* <http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/publications/quarterly-update-australias-nggi-jun-2019>

³ These calculations are set out in an appendix.

⁴ These calculations are set out in an appendix.

⁵ CER (2020) *ERF Projects* <http://www.cleanenergyregulator.gov.au/maps/Pages/erf-projects/index.html>

⁶ CER (2020) <http://www.cleanenergyregulator.gov.au/ERF/project-and-contracts-registers/carbon-abatement-contract-register>

A recent 'Offsets Policy' document put out by the NT Government gives no further clarity. The Australia Institute's submission regarding the Offsets Policy (attached in an appendix) recommends the policy be amended so that:

- 1. fracking companies will be required to provide offsets for all domestic scope 1, 2 and 3 emissions, as recommended by the Fracking Inquiry;**
- 2. only ACCUs will be accepted as allowed offsets;**
- 3. the fracking companies pays for these offsets, not the NT Government; and**
- 4. the NT Government maximise benefits accruing to the NT by allowing mandatory minimum requirements for offsets based in the NT.**

Given the NT Government's decision to allow fracking, the commitment to require full offsetting is by far the single most important thing the NT Government has promised to do on climate change – and this is required *simply to stop emissions from increasing*.

While offsetting is a NT government commitment, the Commonwealth has already agreed to assist with implementation. The Commonwealth should ensure the offsetting policy is rigorous and secured *prior* to any further fracking. As the FOI documents confirm, failure to offset threatens international obligations to further reduce emissions.

APPENDIX 1: CALCULATION OF COAL EMISSIONS

No data set was found outlining emissions from Australian coal fired power stations.

The list of NEM power stations, their nameplate capacity (MW) and emissions factors (tCO₂e / MWh) were sourced from AEMO.⁷

This was used to derive emissions assuming all power stations were running all year at full capacity.

Actual generation for 2017-18 for brown coal and for black coal in relevant NEM states (NSW, Victoria, Queensland) was sourced from the Australian Energy Statistics.⁸

This was used to derive the capacity factors (% of maximum generation) for black and brown coal power stations on the NEM.

This in turn was used to estimate actual emissions from black and brown coal generators.

Power stations were then removed if they are due to close by 2030, according to the Australian Energy Council, the peak lobby group for power generators.⁹

Table 1: Emissions estimates for NEM coal power stations

	Total	brown coal	black coal
Capacity MW	23,109	4,690	18,419
hours in year	8,766		
MWh at 100%	202,573,494	41,112,540	161,460,954
Actual generation '17-18		36,008,406	110,670,439
capacity factor		88%	69%
tCO ₂ e at 100% capacity	196,385,712	49,295,048	147,090,664
Mt tCO ₂ e at actual capacity	144	43.2	100.8
Mt CO ₂ e at actual capacity, expected operating 2030	107	37.8	69.1

Source: described above

⁷ AEMO (2020) *Carbon Dioxide Equivalent Intensity Index*

<https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/market-operations/settlements-and-payments/settlements/carbon-dioxide-equivalent-intensity-index>

⁸ Department of Energy (2019) *Australian Energy Update 2019* - Table O

<https://www.energy.gov.au/publications/australian-energy-update-2019>

⁹ AEC (2019) *Where do we need a new dispatchable power station*

<https://www.energycouncil.com.au/analysis/where-do-we-need-a-new-dispatchable-power-station/>

APPENDIX 2: SUBMISSION RE NT OFFSET POLICY

21 February 2020

To Whom it Concerns,

The Australia Institute welcomes the opportunity to make this submission regarding the NT Government's Draft Offsets Policy. Our comments relate specifically to offsets for greenhouse gases (GHG). We have attached a previous submission to the NT Climate Policy consultation as it remains directly relevant to this policy.¹⁰

The NT's Scientific Inquiry into Hydraulic Fracturing found the GHG emissions from fracking would cause climate impacts that would be "unacceptable" and so that it should not be allowed unless all lifecycle emissions, including domestic combustion of the gas, are fully offset.

The NT Government accepted this recommendation.

In light of this, the NT Offsets Policy should be revised so that

- 1. it confirms that fracking companies will be required to provide offsets for all domestic scope 1, 2 and 3 emissions, as recommended by the Fracking Inquiry,**
- 2. only ACCUs will be accepted as allowed offsets,**
- 3. the fracking companies will pay for these offsets, not the NT Government, and**
- 4. the NT Government can maximise benefits accruing to the NT by allowing mandatory minimum requires for offsets to be delivered from projects based in the NT.**

Given the NT Government's decision to allow fracking, the commitment to require full offsetting is by far the single most important thing the NT Government has promised to do on climate change – and this is required simply to stop emissions from increasing.

To be clear the scale of emissions from one field would be many times greater than proposed emissions savings from the NT government's 50% renewable energy target.

The NT Government has a laudable 2050 target of net zero emissions and it is encouraging to see actions towards that goal. However if the fracking offset requirement is not implemented in rigorous way, upfront and in full, then it will make it virtually impossible for the NT to make progress towards that goal.

It is deeply concerning that the NT Government has put off resolving the substance of this commitment until the end of 2021, after which point the fracking industry will have begun substantial operations.

¹⁰ Online: Swann (2018) *Getting Offset* <https://www.tai.org.au/content/getting-offset-submission-re-nt-climate-change-discussion-paper>

The risk of broken promises and backsliding is clear. Indeed in the meantime, the NT Government has approved a number of exploration fracking operations, allowing additional GHG emissions without any offsetting required, a breach of the commitment to require full offsetting of all emissions from fracking.

The offsets policy contains entirely laudable general principles regarding the use of offsets. But it gives little clarity regarding how offsets will be required.

This can and should be resolved very quickly.

As per the clear recommendation of the Fracking Inquiry, all domestic scope 1, 2 and 3 emissions should be offset. These are easy to calculate from Commonwealth government emissions factors.

(Note the scope 1 factors for fugitives are problematically low, with new research frequently demonstrating high fugitive methane emissions are not properly accounted for. But the existence of national factors nonetheless allows easy calculation.)

The offsets required should be credible, certified under the National Carbon Offsets Scheme as Accredited Carbon Credit Units (ACCU). Methodologies for accrediting ACCUs are developed and approved by a statutory Commonwealth agency. Gas companies, or indeed the NT government, can apply to have new methods considered.

The draft Offsets policy only mentions ACCUs and does not mention other, less credible forms of offsets. This is welcome and suggests that the NT government will only allow ACCUs.

However the suggestion is not a clear commitment. This is easily fixed. The policy should state that only ACCUs will be accepted.

The NT Government could readily impose a minimum mandated requirement for a share of ACCUs sourced from activities in the NT.

All of these proposed revisions to the NT Draft Offsets policy represent the existing substantive commitment of the NT Government and are easily implemented within existing federal government carbon governance frameworks.

For the NT Government not to make such revisions, or to make them explicit in some other policy document, will only further heighten concerns about the NT Government's commitment to this very important policy commitment.

We would welcome the opportunity to discuss further with the Department.

Sincerely,

Tom Swann
Senior Researcher
The Australia Institute