LOCK THE GATE ALLIANCE
AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

EIS Submission - Boggabri Coal Mine MOD 8 - Increase in depth of mining (amended project)

31 January 2023

Thank you for the opportunity to make a second submission on Boggabri Coal Mine MOD 8 - Increase in depth of mining (amended project).

Lock the Gate Alliance **objects** to this project to extend mining for an additional three years to 2036. This application should be refused consent.

As an opening comment, we note that global heating will not stabilise at any temperature until the world gets to net zero. Approval of this Project - which would add **62.81 Mt CO2-e** in lifetime emissions - is not consistent with the goals of the Paris Agreement. The amended project seeks permission to **increase Scope 1 and 2 GHGs by ~40% - on average between 2023 and 2036** - compared to existing annual emissions. This is unacceptable.

A project that increases coal mining and GHG emissions by such a large amount should not be dealt with via a modification. This is a new proposal and is essentially a different development that should be subject to full development assessment processes, including review and determination by the NSW Independent Planning Commission. For a development to qualify as a 'modification', the development must remain substantially the same once amended as that which was originally approved. Clearly this will not be substantially the same development. At a time when urgent climate action is required, this development seeks approval for a significantly larger Scope 1 and 2 GHG footprint, with close to no concrete plan to abate these emissions.

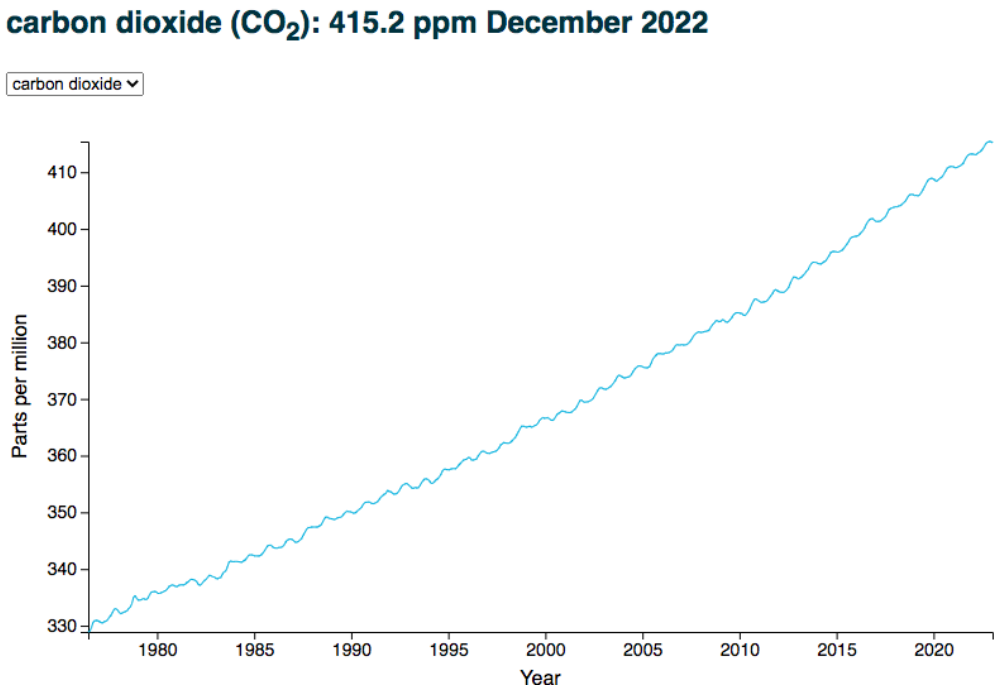
We note that in 2016, the NSW Government endorsed the Paris Agreement and pledged *to "take action that is consistent with the level of effort to achieve Australia's commitments to the Paris Agreement."*[1] Approval of new coal capacity in NSW which adds to NSW and global GHG emissions is consistent with global CO2 emissions continuing to rise, and not with abatement that would halt global temperature rise between 1.5℃ and 2℃.

We understand that the current development consent allows mining until the end of December 2033 and that the original MOD 8 (withdrawn) sought to mine an additional 61.6 Million tonnes (Mt) of ROM coal, and to extend the mine life by six years. The MOD 8 Amendment project plans to mine an additional **20.4** (Mt) of ROM coal and extend the mine

[1] NSW Climate Change Policy Framework, November 2016, https://www.energy.nsw.gov.au/sites/default/files/2022-08/nsw-climate-change-policy-framework-160618.pdf

life by three (3) years.[2] That said, we also note that the Main report and the Economic Impact Assessment contradict this statement, claiming that the project will mine "an additional 28.1 Million tonnes (Mt) of Run of Mine (ROM) coal."[3] The Proponent should clarify the tonnage of ROM coal to be mined.

Please note that due to time and capacity constraints, we are only able to make brief comments on the greenhouse gas issues associated with this development (see summary on page 2 below).



Source: Cape Grim Greenhouse Gas Data, https://capegrim.csiro.au/

Summary of GHG issues and recommendations

1. **The amended project seeks permission to increase Scope 1 and 2 GHGs by ~40% - on average between 2023 and 2036 - compared to existing annual emissions**

   This Project would be a significant additional source of GHG emissions. Current operations at the Boggabri Coal Mine average about 200,000 t CO2-e per annum in Scope 1 and 2 GHG emissions. The October 2022 GHG assessment for this Project states that "[o]ver the lifetime of the project, from 2023 to 2036, the Scope 1 and 2 emissions … are estimated to average 0.28 Mt CO2 -e per year, representing an increment of 0.08 Mt CO2 -e over approved operations."[4] To put that in plain English -

[2] Amendment Report - Appendix B - AQIA and GHG , 31 October 2022
[3] Amendment Report - Appendix G - Economic, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0182-MOD-8%2120221201T002949.663%20GMT, pg 4
[4] Amendment Report - Appendix B - AQIA and GHG , 31 October 2022, pg 54

this ‘increment’ represents a 40% increase in emissions on average for the life of this Project.

At this point of the climate crisis, no responsible authority should be contemplating approval of a new coal project which significantly increases Scope 1 and 2 emissions in NSW.

Data derived from Annual Reviews available here:
https://www.idemitsu.com.au/mining/operations/boggabri-coal/approvals-plans-reports/

2. Idemitsu Australia should be required to explain - in detail - what they will commit to do right now to abate Scope 1 and 2 GHG emissions

Prior to determination, the NSW Government should require Idemitsu Australia to explain - in detail - what they will commit to do right now to abate Scope 1 and 2 emissions both for existing operations and for the amended project. They should explain in detail - prior to determination - if they consider the purchase of renewable energy to power their operations to be a reasonable and feasible abatement measure. They should also be required to explain when they will begin electrifying their mining fleet and the abatement expected to result from this measure between now and the closure of the Project. GHG emissions from the use of diesel fuel on site is the main Scope 1 problem at this mine. Abatement of these emissions should be a priority.

3. Idemitsu Australia should be required to take immediate action to reduce GHG emissions from diesel fuel use

The NSW Minister for Planning confirmed that “Biodiesel is commercially available to

coal mines in New South Wales, particularly as biodiesel blended products"[5] but no coal mine in NSW appears to be using biodiesel. In July 2022, Justin Field MLC asked the NSW Minister for Planning (QON 9324) if "any coal mines in New South Wales use biodiesel to power vehicles used on mine sites?" The Minister was unable to clarify whether any mines are. The same question was put to the Deputy Premier and Minister for Regional NSW. The response was:

> *The Department is unable to answer this question, as the mine safety regulator remit does not extend to tracking the type and availability of diesel fuels used at mines. The Department does not require coal mining businesses to hold this information.*[6]

In June 2021, Hume Coal considered that battery-electric powered vehicles for surface activities and underground personnel transport was a 'reasonable and feasible measure to reduce diesel emissions at their proposed mine. Justin Field MLC asked the NSW Minister for Planning:

> *"Is the use of battery-electric powered vehicles for surface activities and underground personnel transport considered a reasonable and feasible abatement measure?"*

The Minister asked DPE's Climate and Atmospheric Science (CAS) Branch to reply:

> *"The limited use of battery-electric powered vehicles for surface activities was proposed by Hume Coal and considered to be reasonable and feasible for that development. Whether this measure is reasonable and feasible for other sites in NSW needs to be assessed and determined on a case-by-case basis."*[7]

In February 2022, mining engineer and consultant Dr Peter Harrop told the ABC that that miners are moving too slowly, choosing to wait until current equipment wore out

[5] 9324 - Planning - BIO-DIESEL USE IN COAL MINES, https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=92754
[6] https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=92757
[7] Justin Field, QON 9318 - Planning - REASONABLE AND FEASIBLE ACTIONS TO REDUCE GREENHOUSE GAS EMISSION, https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=92748

Caterpillar tests massive battery electric mining truck destined for Australian mine

NOVEMBER 24, 2022

THE DRIVEN
Australia's most-trusted and well-read electric vehicle news site

before upgrading: ”all the equipment is there … just buy it! Hitachi has big battery electric excavators, Liebherr in Germany has concrete trucks that are battery electric, Caterpillar and Komatsu are doing superb work, and Sandvik of Sweden has a complete range for deep mines."

4. NSW DPE should clarify its own position on what it considers to be ‘reasonable and feasible abatement’

See Appendix 1, pg 9 below. In the absence of effective regulation of Scope 1 and 2 emissions from coal mines in NSW, the practice of ‘approve now, require a study of abatement later’ should be ended.

5. Scope 2 emissions - NSW DPE’s failure to require coal mines to buy renewable energy is unacceptable

As a regulator, NSW DPE’s failure to require coal mines to buy renewable energy is unacceptable. The law requires that all ‘reasonable and feasible’ abatement is implemented at coal mines in NSW. The NSW Minister for Planning agrees that “in general” the purchase of renewable energy constitutes a ‘reasonable and feasible’ abatement measure. The onus should be on the Proponent to take immediate action on Scope 2 by implementing this measure.

In July 2022, the NSW Minister for Planning was asked:

> *Does the Government consider the purchase of 100 per cent renewable energy to be a ‘reasonable and feasible’ abatement measure for electricity that coal mine operators' source through the electricity grid?*

In August 2022, this reply was provided:

> *In general, yes, however the reliance on renewable energy needs to be considered on a case-by-case basis. This may not be considered reasonable*

and feasible for all operations and needs to be determined based on the outcomes of a cost-benefit analysis.[8]

6. Immediate action to abate emissions at Boggabri is important

It matters that at present, coal mine emissions in NSW abate either: a) slowly, at a pace driven by coal-industry self interest; or b) not at all.

Former Chief Scientist of Australia, Professor Penny Sackett recently provided expert evidence to the NSW IPC as a submission on the recently approved Mt Pleasant Optimisation Project:

> *"the effects of climate change – which are caused by anthropogenic GHG emissions – are already serious; more than that, they are in fact dangerous. Furthermore, some of these effects are already irreversible and more will become so with even relatively small amounts of additional warming beyond that of 1.5°C, which is already locked in.*
>
> *Every tonne of GHG emission leads to (more) dangerous warming. It is not possible to know which amount, from which source, will precipitate environmental subsystems, including those in NSW, to tip irreversibly. In this context, the Precautionary Principle certainly applies."*[9]

Every viable tonne of GHG abatement of Scope 1 and 2 emissions from coal mining in NSW counts.

7. A steady stream of expert reports over the last two years or so has highlighted the gross irresponsibility of ongoing approvals of any new coal expansions in NSW:

a. The Australian Academy of Science (March 2021) has called for an acceleration of Australia's transition to net zero

b. The International Energy Agency (May 2021) declared that no new oil, coal or gas projects can be developed anywhere in the world if we are to meet the Paris Agreement's 1.5 degree temperature goal

c. UNEP's 'Production Gap Report' (October 2021) - produced in collaboration with the UN Environment Programme (UNEP) – found that global coal production "must start declining immediately and steeply to be consistent with limiting long term warming to 1.5°C"

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[8] QON 9318 - Planning - REASONABLE AND FEASIBLE ACTIONS TO REDUCE GREENHOUSE GAS EMISSIONS, https://www.parliament.nsw.gov.au/lc/papers/pages/qanda-tracking-details.aspx?pk=92748

[9] Dr Penny Sackett, Distinguished Honorary Professor, ANU Institute for Climate, Energy and Disaster Solutions, 14 July 2022, 'Expert Report Regarding the Greenhouse Gas and Climate Implications of the proposed Mt Pleasant Optimisation Project (SSD - 10418)', pg 115

d. NSW EPA's NSW State of the Environment 2021 (December 2021) found that **key trends and indicators are "getting worse"** including annual mean temperature, sea level rise

e. The Australian Government's 'Australia state of the environment 2021' (July 2022) found that "[o]verall, the state and trend of the environment of Australia are poor and **deteriorating as a result of increasing pressures from climate change**, habitat loss, invasive species, pollution and resource extraction."

f. CSIRO released their 'once-in-a-decade report' Our Future World report (July 2022) that identified "seven global megatrends that hold the key to the challenges and opportunities ahead". The CSIRO found that **"[g]lobal emissions have risen sharply over the past few decades and time series data do not yet show indication of decline."**

g. BOM and CSIRO's State of the Climate 2022 (November 2022) found that in 2020 and 2021, atmospheric methane concentration increased by 13 and 20 ppb, respectively. **"Increases of these sizes are unparalleled in three decades of direct atmospheric measurements."**

h. The Climate Council's The Great Deluge: Australia's New Era Of Unnatural Disasters (November 2022) detailed the rapidly increasing costs of extreme weather:

   i. Storms and floods that affected South East QLD and coastal NSW in February and March 2022 caused $5.56 billion in insured losses

   ii. Extreme weather events over the past 12 months cost every Australian household, on average, $1,532. This figure is expected to jump to more than $2,500 a year by 2050.

   iii. The Feb-March 2022 floods in New South Wales badly damaged transport infrastructure costing at least $1.5 billion.

8. The Boggabri Coal Mine MOD 8 - Increase in depth of mining (amended project) would exacerbate the impacts of climate change

This Project - 'Increment of BCM with MOD 8' - would add 790,000 tonnes of Scope 1 emissions, 320,000 tonnes of Scope 2 emissions and 61.7 million tonnes of Scope 3 emissions to the atmosphere we all rely on to regulate a safe climate. As outlined above, it is grossly irresponsible to add to the state's GHG inventory: a) at a time when costs from extreme weather events are rising; b) when urgent and deep

reductions in GHG emissions are required; and c) when there is no effective regulation of Scope 1 and 2 emissions in NSW.[10]

9. Mitigation at the existing mine has FAILED to reduce GHG emissions

Over the last 5 years, Scope 1 emissions increased, Scope 2 emissions increased and the emissions intensity per tonne of coal mined increased.

The data from the last five years of Annual Review reports for this mine reveals **zero progress on Scope 1 and 2 emissions reduction**. In 2021, Scope 1 emissions increased, Scope 2 emissions increased and the emissions intensity per tonne of coal mined increased.

	2016/17	2017/18	2018/19	2019/20	2020-2021
Boggabri Coal Mine					
Scope 1 (tCO2-e)	183,750	177,065	203,082	174,391	184,492
Scope 2 (tCO2-e)	19,190	17,991	18,647	16,865	18,004
Total (Scope 1 and 2)	202,940	195,056	221,729	191,256	202,496
ROM coal production	8,000,000	7,900,000	7,400,000	7,500,000	7,600,000
Emissions intensity per t ROM coal	0.025	0.025	0.030	0.026	0.027

Data from Annual Reviews accessed here: https://www.idemitsu.com.au/mining/operations/boggabri-coal/approvals-plans-reports/

10. Boggabri's latest mitigation proposal is not fit for purpose

The Proponent suggests that the same failed and ineffective measures currently in place at BCM will "reduce the level of future GHG emissions from BCM". This is not a credible claim.

Rather than committing to use biodiesel or electrifying their mining fleet, instead they propose more studies: "[c]onsideration of alternative fuels (e.g. hydrogen, liquified natural gas, biodiesel, solar systems) where economically and practically feasible."[11]

Rather than committing to buy 100% renewable energy - effective immediately - they absolve themselves from taking this reasonable and feasible measure, preferring instead to observe the "progressive transition in the NSW energy mix from coal fired generation to renewables generation". They claim that "BCOPL will actively seek to identify the opportunities to utilise energy from renewable sources where reasonable and feasible", but this is simply a delaying tactic. The purchase of 100% renewable energy to power coal mines has been reasonable and feasible for some time and should be enforced.

[10] Air Quality and Greenhouse Gas Assessment, Table 21 Estimated ROM coal and GHG emissions, pg 54, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0182-MOD-8%2120221201T002950.195%20GMT

[11] Pg 56 of the GHG Assessment

We note that In 2019-20, coal mining in NSW used 3.1% of all of NSW's electricity (3.5 Mt CO2-e was released offsite at power stations to power coal mines)[12], a slight *increase* from 3.0% of total electricity consumption in NSW in 2018-19."[13]

The Clean Energy Council advised in their 'Clean Energy Australia Report 2022' that since "2017, there have been at least 110 corporate power purchase agreements (PPAs) negotiated, contracting over 4 GW of renewable energy generation." This is clearly an option for coal miners in NSW.

Appendix 1: A note on Scope 1 and 2 GHGs in NSW from coal mining

SUMMARY

The process of *mining* coal in NSW releases large amounts of fugitive methane emissions, diesel emissions and emissions from the generation of the electricity used to power coal mines.

According to the NSW Treasurer and Minister for Energy, Scope 1 and 2 GHGs from coal mining in NSW in 2019-20 were **18.6 Mt CO2-e**[14] or ~14% of all of NSW's GHG inventory.

The current regulatory system that purports to minimise Scope 1 and 2 GHGs from coal mines in NSW is not fit for purpose. It features a hands-off, light-touch approach, with patchy reporting of Scope 1 and 2 coal mine emissions to the NSW Government (at least 15 coal mines don't report their GHGs at all to the NSW Government). There is an absence of guidelines and standards for mitigation measures and offsets for coal mines. Conditions of consent are usually vague and legally unenforceable. Over the last five years in NSW, no coal mine in NSW has been prosecuted for breaching GHG conditions of consent.

The Mining SEPP requires that GHG emissions from coal mining in NSW "*are minimised to the greatest extent practicable".* A major problem arises however, when consent authorities translate this into specific language in coal-mine Development Consents. When this occurs, we typically end up with a cookie-cutter condition that reads: *"The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas*

[12] QON 9335, Justin Field, 29/07/2022, ELECTRICITY USE BY MINING, https://www.parliament.nsw.gov.au/lc/papers/Pages/qa-by-member.aspx?pk=2223
[13] Response to Justin Field MLC's QONs, 5 May 2021, https://www.parliament.nsw.gov.au/hp/housepaper/17745/QuestionsAndAnswers-LC-491-20210505-Proof.pdf
[14] NSW Legislative Council, QUESTIONS AND ANSWERS No. 809 FRIDAY 19 AUGUST 2022, pg 16, 9330 ENERGY—GREENHOUSE GAS EMISSIONS FROM COAL MINES—Mr Justin Field to the Minister for Finance, and Minister for Employee Relations representing the Treasurer, and Minister for Energy—, https://www.parliament.nsw.gov.au/hp/housepaper/28717/QuestionsAndAnswers-LC-809-20220819-Revised.pdf

emissions from the site to the satisfaction of the Planning Secretary" (Appin / Bulli Seams Development Consent).

Generic requirements that coal mines implement 'reasonable and feasible' measures to reduce or minimise GHG emissions are failing to produce meaningful emissions reductions. Reasonable and feasible measures such as the use of renewable energy to avoid Scope 2 electricity emissions are routinely dismissed or deferred. Coal mines routinely pass 'Independent Environment Audits' based not on whether they are *reducing* emissions, but instead on whether vaguely defined and ineffective measures are being implemented.

A regulatory mess

In January 2022 - in their whole-of-government assessment of the Narrabri Underground coal mine Stage 3 proposal - NSW DPE assessed the NSW system for regulating direct GHG emissions from coal mining in NSW and found that *"there are still a range of uncertainties about the specific application of the various policies to individual SSD applications under the EP&A Act, including:*

- *Impacts: there is no clear methodology to assess the relative scale (or associated consequences) of emissions in a consistent manner, nor are there any definitions of different levels of emissions (e.g. low, moderate or high);*
- *Standards: there are no performance criteria or limits provided (e.g. maximum annual or total emissions) for any development types (e.g. coal mines, power stations, or industrial facilities), nor is there any clear timeline to measure any ratcheting down (e.g. a plan for staged reductions in fugitive emissions);*
- *Mitigation measures: there is no clear guidance on how to assess potential mitigation or abatement measures (e.g. what measures are considered 'reasonable and feasible' or 'best practice'), both for current and future activities; and*
- *Offsets: there is no guidance on whether offsets should be required for a particular development (e.g. trigger levels based on predicted unabated emissions), nor any methodology to calculate the quantum or type of offsets that may be warranted.*[15]

When Professor Ian Lowe examined conditions of consent for coal and gas projects approved by the NSW IPC, he found it unlikely that they would produce "any significant measurable mitigation" of their Scope 1 and 2 emissions.[16]

70% of facilities in NSW emitting 100,000 t CO2-e or more are coal mines

In 2020-21, 33 facilities in NSW reported emitting more than 100,000 t CO2-e of GHG emissions to the Clean Energy Regulator.[17] These are the largest emitting facilities in NSW (excluding electricity generation). Of these 33 facilities, **24 (~70%) were coal mines,** with

[15] NSW DPE, January 2022, Narrabri Underground Mine Stage 3 Extension Project (SSD 10269) | Assessment Report , pg 55

[16] Emissions from recently approved fossil fuel projects in New South Wales, Emeritus Professor Ian Lowe AO FTSE, July 2021, https://www.lockthegate.org.au/expert_analysis_mining_greenhouse_emissions

[17] The largest Scope 1 GHG emitting facilities in Australia (excluding the electricity sector) are covered by the Australian Government's Safeguard Mechanism. Facilities that emit more than 100,000 t CO2-e per annum are required to report to the Clean Energy Regulator.

remainder being facilities incl. Port Kembla Steelworks, the Tomago Aluminium smelter and Boral's cement works.

Emissions intensity rising at many coal mines despite claims that all 'reasonable and feasible' measures are being implemented

As at October 2022, the GHG emissions intensity per tonne of run-of-mine (ROM) coal mined was rising at at least 14 coal mines in NSW that publicly report their data. This is occurring despite those mines claiming to be implementing all 'reasonable and feasible' measures to reduce or minimise emissions.

26 new or expanded fossil fuel projects approved in NSW since Paris Agreement

New coal and gas approvals in NSW are making the problem worse. **Since the Paris Agreement entered into force in November 2016, the NSW Government has approved 26 new or expanded fossil fuel projects**.[18]

- The single largest new coal development since the Paris Agreement – the massive Mt Pleasant Optimisation Project in the Hunter Valley - was approved in September 2022. This Project will add ~16Mt CO2-e in Scope 1 and 2 emissions to the NSW inventory over its lifetime.

- The Narrabri Underground Stage 3 mine won approval in April 2022 with an abatement plan that promises <1% mitigation of predicted Scope 1 emissions. These emissions - after proposed abatement - are predicted to be huge: Narrabri mine expansion would make it dirtiest thermal coalmine in Australia, environmentalists say.

The total Scope 1, Scope 2 and Scope 3 emissions of the 26 approved projects - if all projects are built and operate until the dates allowed by their development consents - would be approximately **4.5 billion tonnes of CO2-e**.[19]

[18] Calculated by adding Narrabri Underground Stage 3, Mount Pleasant Optimisation and Wongawilli MOD 2 to ACF's analysis: ACF, December 2021, The NSW Independent Planning Commission's contribution to global greenhouse gas emissions, https://d3n8a8pro7vhmx.cloudfront.net/auscon/pages/19889/attachments/original/1643946316/ACF_IPC_research.pdf?1643946316

[19] Calculated by adding Narrabri Underground Stage 3, Mount Pleasant Optimisation and Wongawilli MOD 2 to ACF's analysis: ACF, December 2021, The NSW Independent Planning Commission's contribution to global greenhouse gas emissions, https://d3n8a8pro7vhmx.cloudfront.net/auscon/pages/19889/attachments/original/1643946316/ACF_IPC_research.pdf?1643946316