

Quaglino, Pierre – Tuesday, 28 May 2019 – 18:58:42

Subject	Objection to Origin Energy’s Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
From	Pierre Quaglino
Sent	28/05/2019 6:58:42 PM

The money you might make fracking the NT, will be more than offset by the negative fall out on your customer base due to people increased awareness about environment.

pierre quaglino

VIC 3057

Quaill, Miya – Thursday, 30 May 2019 – 22:48:00

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Miya Quaill
Sent	30/05/2019 10:48:00 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018
<http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf>

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[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 <https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286>

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory"
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[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review" <https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf>

Yours sincerely,
Miya Quail
Lennox Head, New South Wales, 2478, Australia

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Please reply to Miya Quail at *****.

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Quartermaine, Daniel – Wednesday, 29 May 2019 – 14:47:11

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
From	Daniel Quartermaine
Sent	29/05/2019 2:47:11 PM

To whom it may concern,

We should not be fracking at all. There are serious health and water quality concerns, and we do not need more fossil fuels at this point. We need more clean energy for the sake of the environment. Please do not go ahead.

Regards,
Daniel Quartermaine
Bunbury - 6230

Daniel Quartermaine

WA 6230

Quicke, Audrey - May 2019

Subject	Submission: Beetaloo Basin Drilling, Stimulation & Well Testing Program Environmental Management Plan
From	Quicke, Audrey
Sent	May 2019

See Next page

Submission: *Beetaloo Basin Drilling, Stimulation & Well Testing Program Environmental Management Plan*

The NT Government accepted the NT Fracking Inquiry finding that greenhouse gas emissions from fracking must be fully offset. Yet the very first proposal to frack in the Territory contains does not propose to offset its 76,000 tonnes of emissions. Proponents Origin should be required to offset these emissions before approval is given. The NT Government should finalise offset arrangements before allowing any fracking.

Audrey Quicke

Tom Swann

May 2019

The Australia Institute is a public policy research organisation based in Canberra. Our dedicated Climate and Energy program conducts a range of research into areas including energy and emissions relating to petroleum exploration and hydraulic fracturing.

The Australia Institute welcomes the opportunity to comment on Origin's Environment Management Plan (EMP) for assessment under the *Petroleum (Environment) Regulations 2016*. Origin proposes the construction of an exploration petroleum well, hydraulic fracturing and well testing in the Beetaloo sub-basin. The EMP covers a number of activities including the drilling, testing and hydraulic fracturing of an exploration well, construction and operation of a temporary camp, installation of up to two water extraction bores and routine maintenance and monitoring activities and minor works.

EMISSIONS

Origin's EMP notes the project will generate 73,478tCO₂e (tonnes of Carbon Dioxide equivalent) of greenhouse gas (GHG) emissions.

However, the EMP claims GHG emissions are not a 'key environmental risk mitigation area'.¹ The EMP dedicates just one page to GHG emissions, comparing emissions from one exploration project to emissions from all of the Northern Territory (NT). The NT has very large emissions given its population, due to the large scale of gas production.

Although the EMP only covers exploration and testing activities, such activities intend to lead to future petroleum production and downstream emissions.

The NT Government's *Scientific Inquiry into Hydraulic Fracturing in the Northern Territory* (Fracking Inquiry) found emissions from fracking could increase Australia's national emissions by 5%, and that this impact was "unacceptable".² For this reason, it recommended that all emissions from fracking and domestic consumption be offset.

Importantly, the EMP includes no provisions for offsetting the emissions.

NT INQUIRY FINAL REPORT

Despite numerous eminent scientists and experts urging that "onshore shale gas and shale oil development ... not go ahead in the Northern Territory under any circumstances",³ the NT government lifted the NT fracking moratorium in April 2018.

The lifting of the moratorium was premised on the conclusion of the Fracking Inquiry that the risks from fracking the NT would be acceptable *only if* the government adopted *all of the recommendations* of the Fracking Inquiry. The NT government subsequently lifted the prohibition and adopted the Fracking Inquiry's 135 recommendations.

The Fracking Inquiry included the finding that emissions of the scale involved in fracking would be "unacceptable". In Recommendation 9.8, the Fracking Inquiry urged:

¹ Origin (2019), Beetaloo Basin Drilling, Stimulation and Well Testing Program: Kyalla 117 NT Environmental Management Plan, p 8

² Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (2018) Final Report, p 230

³ The Australia Institute (2018) An Open Letter to the Scientific Inquiry into Hydraulic Fracturing in the NT and the Northern Territory Government
<http://www.tai.org.au/sites/default/files/NT%20Fracking%20open%20letter%20Feb%202018.pdf>

That the NT and Australian governments seek to ensure that there is no net increase in the life cycle GHG emissions emitted in Australia from any onshore shale gas produced in the NT.⁴

For fracking to meet the “acceptability criteria” and go ahead, the Fracking Inquiry states that ‘the increase in life cycle GHG emissions in Australia from any onshore shale gas produced in the NT ... must be fully offset’.⁵

In committing to the recommendations of the Fracking Inquiry, the NT government has agreed that fracking projects must only go ahead if their lifecycle emissions are fully offset.

BREACH NT GOVERNMENT POLICY

Origin’s EMP claims that it is in compliance with the findings and recommendations of the Fracking Inquiry. The EMP states that:

The approach aligns with the findings of the NT Inquiry Final Report and associated recommendations (as implemented via the Petroleum Codes of Practice or legislation).⁶

This is false.

The EMP does not contain provisions to offset greenhouse gas emissions. It therefore does not align with all recommendations of the Fracking Inquiry. To comply with the Fracking Inquiry’s recommendations, the EMP must contain offsetting provisions.

The EMP notes that the emissions from exploration are relatively low when compared to the total GHG emissions for the NT.⁷ It would follow that fully offsetting those emissions should not be a costly endeavour and could be included within Origin’s EMP.

As the Australia Institute argued in its submission to the NT Government’s climate policy consultation (attached below), offsetting fracking emissions in line with stated policy should be the NT government’s main and urgent priority for climate change.

⁴ Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (2018) Final Report, p 239

⁵ Ibid, table 9.4, p 231

⁶ Origin (2019), Beetaloo Basin Drilling, Stimulation and Well Testing Program: Kyalla 117 NT Environmental Management Plan, p 90

⁷ Origin (2019), Beetaloo Basin Drilling, Stimulation and Well Testing Program: Kyalla 117 NT Environmental Management Plan, p 54

Gas production is pushing up both the NT's and Australia's emissions. In the absence of a fracking moratorium, offsetting lifecycle emissions of fracking projects is an urgent priority. It is also necessary that gas companies, not the taxpayer, pay for these offsets.

Current NT government plans are to finalise the offset policy by the end of 2021. This represents very poor environmental management. As the present EMP shows, significant activity and expenditure will have occurred by then.

The offsets policy should be finalised before approving any fracking activity.

Quigley, Eve – Wednesday, 29 May 2019 – 11:06:33

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Eve Quigley
Sent	29/05/2019 11:06:33 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

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2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

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Yours sincerely,
Eve Quigley
Wahroonga, New South Wales, 2076, Australia

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Please reply to Eve Quigley at *****.

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Quinlivian, Belinda – Monday, 27 May 2019 – 07:36:33

Subject	Objection to Origin's Kyalla frack site in the NT
From	Belinda Quinlivian
Sent	27/05/2019 7:36:33 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely,
Belinda Quinlivian
Darwin City, Northern Territory, 0800, Australia

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Please reply to Belinda Quinlivian at *****.

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Quinn, Ina – Wednesday, 29 May 2019 – 13:22:59

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Ina Quinn
Sent	29/05/2019 1:22:59 PM

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Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

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Ina Quinn
Munno Para, South Australia, 5115, Australia

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Quinn, Merinda – Wednesday, 29 May 2019 – 13:38:38

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Merinda Quinn
Sent	29/05/2019 1:38:38 PM

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Yours sincerely,
Merinda Quinn

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Please reply to Merinda Quinn at *****.

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Quinn, Rosie – Thursday, 30 May 2019 – 18:46:49

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Rosie Quinn
Sent	30/05/2019 6:46:49 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.
2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.
3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.
2. All waste water should be held in enclosed tanks at all times.
3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.
4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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Yours sincerely,
Rosie Quinn
Chelsea, Victoria, 3196, Australia

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Quinn, Steven – Monday, 27 May 2019 – 13:34:37

Subject	Objection to Origin's Kyalla frack site in the NT
From	Steven Quinn
Sent	27/05/2019 1:34:37 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely,
Steven Quinn
Petersham, New South Wales, 2049, Australia

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Quinn, Terry – Wednesday, 29 May 2019 – 21:23:08

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
From	Terry Quinn
Sent	29/05/2019 9:23:08 PM

This fracking project is dangerous and it is a threat to our safe climate future. Fracking processes use dangerous chemicals that threaten human health and our environment. Please, don't let greed be the winner again.

Terry Quinn

NSW 2444

Quinnell, Rob – Saturday, 25 May 2019 – 15:36:51

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Rob Quinnell
Sent	25/05/2019 3:36:51 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

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Yours sincerely,
Rob Quinnell
Palm Beach, Queensland, 4221, Australia

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Please reply to Rob Quinnell at *****.

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Quirk, Cassie – Wednesday, 29 May 2019 – 12:38:51

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Cassie Quirk
Sent	29/05/2019 12:38:51 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

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2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

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Yours sincerely,
Cassie Quirk

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Please reply to Cassie Quirk at *****.

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Quispel, Petronella – Wednesday, 29 May 2019 – 14:06:41

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Petronella Quispel
Sent	29/05/2019 2:06:41 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

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Yours sincerely,
petronella Quispel
Eltham, Victoria, 3095, Australia

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