

# Jemena Northern Gas Pipeline Pty Ltd

## Northern Gas Pipeline

Supplement to the Draft Environmental Impact Statement

### APPENDIX A SUBMISSIONS RECEIVED ON DRAFT EIS

Public

NOVEMBER 2016



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# SUBMISSION #1

**From:** [Steve de Kretser](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 11:35:00 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

--

## SUBMISSION #2

**From:** [Anna Boustead](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 9:53:43 PM

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Dear NT EPA,

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Kind regards,

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# SUBMISSION #3

**From:** [Janine Schneider](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 9:37:29 PM

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Dear NT EPA,

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## SUBMISSION #4

**From:** [Vanessa Spinelli](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 8:43:26 PM

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Dear NT EPA,

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## SUBMISSION #5

**From:** [James Gazzard](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 6:20:34 PM

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Dear NT EPA,

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Kind regards,

James Gazzard

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## SUBMISSION #6

**From:** [Simone Mcdean](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 5:45:38 PM

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Dear NT EPA,

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Kind regards,  
Simone mcdean

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Simone Mcdean

## SUBMISSION #7

**From:** [Sue Mathews](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 4:20:25 PM

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## SUBMISSION #8

**From:** [Alexandria Jones](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 4:02:58 PM

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Kind regards,  
Alexandria Jones

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## SUBMISSION #9

**From:** [Phil Brennan](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 3:53:50 PM

---

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Kind regards,  
Phil Brennan

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Phil Brennan

## SUBMISSION #10

**From:** [Robyn Liddle](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 3:34:50 PM

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# SUBMISSION #11

**From:** [Jess Abrahams](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 3:04:34 PM

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## SUBMISSION #12

**From:** [Greg Chapman](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 2:38:41 PM

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9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

Greg Chapman

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## SUBMISSION #13

**From:** [Diana Rickard](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 2:29:37 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

Diana

--

## SUBMISSION #14

**From:** [Melissa Bury](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 1:49:01 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
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12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

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## SUBMISSION #15

**From:** [Ursula Kupfer](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 1:24:26 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

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## SUBMISSION #16

**From:** [Peter Robson](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 1:05:49 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
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12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

Peter Robson

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## SUBMISSION #17

**From:** [Elissa Shuey](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 12:30:48 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
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Kind regards,

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## SUBMISSION #18

**From:** [Liz Howells](#)  
**To:** [eia NTEPA](#)  
**Subject:** Submission to the Draft EIS for the Northern Gas Pipeline  
**Date:** Sunday, 9 October 2016 12:23:23 PM

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Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
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12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

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## SUBMISSION #19

**From:** [GLENN EVANS](#)  
**To:** [eia NTEPA](#); [admin@ecnt.org](mailto:admin@ecnt.org)  
**Subject:** HPRM: Public Comment - Glenn Evans  
**Date:** Friday, 7 October 2016 10:29:30 PM

---

Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
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11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined to be likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

Glenn Evans

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**From:** Dom [[mailto:past\\_pres@hotmail.com](mailto:past_pres@hotmail.com)]

**Sent:** Monday, 10 October 2016 9:17 AM

**To:** eia NTEPA

**Subject:** Jemena Northern Gas Pipeline EIS

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I believe that the overall benefits of this proposed pipeline have not been properly weighed up against the costs, both economic and social. I am also concerned that the impacts on the environment have not had due consideration

I would like to support the following concerns with the EIS and the gas pipeline project that have been raised by ECNT and ask that they be addressed.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
9. The amount of toxic wastewater produced from this same process is too large to be

## SUBMISSION #20

managed or treated appropriately without polluting the surrounding area and groundwater aquifers.

10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,

Dominic Nicholls  
0459032406

\*\*\*\*\*

This is a confidential message intended for the named recipient(s) only. The contents herein are privileged to the sender and the use thereof is restricted to the intended purpose. If you have received this e-mail in error, please do not use, disclose, distribute, copy, print or relay on this email. If receipt is in error, please advise the sender by reply email. Thank you.

\*\*\*\*\*

## SUBMISSION#21

Submission to the Jemena Northern Gas Pipeline

Dear sir/Madam,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS)

Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.

9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
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12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

So in conclusion, I object to the pipeline's unsustainable level of water extraction from groundwater; it increasing the NT's already high climate impact; its future reliance on the unnecessary expansion of unconventional shale gas fracking in the NT; its contravention of the government's commitment to a renewable energy target of 50% by 2030; and its impact on biodiversity and Indigenous culture.

Kind regards,

Pauline Cass

## SUBMISSION #22

Dear NT EPA,

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

Over the last 6 weeks I have been intensively studying Climate Change, renewable energy and what is currently being done around the world. We need to urgently stop mining/drilling for new fossil fuels. Several countries are now carbon neutral, Germany's energy use is close to 100% from renewable, especially solar. We can do it, we don't need the gas. What the citizens of Earth want is a livable world.

The (Australian) Climate Action Health Alliance has just released its report. Public Health Association of Australia's Dr Peter Tait said, "These results make three points abundantly clear. First, Australia is totally unprepared for the health impacts of climate change..."

The Paris Climate talks advise that NO new coal, gas or oil drilling/mining should be allowed. There is 5 to 10 times the amount of potential carbon emissions in stored (already mined) fossil fuels beyond what has been advised can be emitted if we are to stay under 2 degrees raised heating. (Australia agreed to this!)

Is the NT government office that may allow this a climate denier? 'As Bill McKibben recently pointed out, this means that if you still support new fossil fuel projects, you are a climate denier. This is true for governments and corporations alike.' (The Guardian)

Specifically, I wish to raise the following concerns with the EIS and the gas pipeline project.

1. The proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. The NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. In supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. In supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. A thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. The proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. The proponent, Jemena, has made several presumptions in this Draft EIS which pose an

## SUBMISSION #22

unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.

8. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge.
9. The amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000 litres) is sustainable.
11. The project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. The Matters of National Environmental Significance were not properly considered. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. The risk to these species should be properly assessed.

Kind regards,  
Merrilee Baker

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Merrilee Baker  
[mlee2surf@gmail.com](mailto:mlee2surf@gmail.com)  
2/140 Ryland Road  
Rapid Creek, NT 0810  
Australia

Thank you for the opportunity to provide comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

Having read the EIS I wish to raise the following concerns about the proposed gas pipeline project.

1. The proponent, Jemena, has not presented a compelling economic case for this development. They state that 'not proceeding would result in lost economic and social opportunities for the Northern Territory and northern Australia and for the broader economy' (2.18). Elsewhere in the document I could not find adequate details of these benefits and understand that in the operational phase of the pipeline employment is likely to be the equivalent of 10 full time equivalent positions. This will do little to alter the high unemployment and Child Burden Rate in the Tennant Creek area. I expect that a solar plant to similarly supply energy would employ considerably larger numbers of local people.
2. To my knowledge this EIS is the first opportunity the broader Northern Territory community has had to comment on this proposal. The 'competitive, three stage tender process' (2.18) that was followed to appoint a private sector developer for the project should have happened after, not before public consultation about the proposal.
3. In supporting this project to date, the NT Government is in conflict with its own moratorium on shale gas fracking and its own Renewable Energy Target of 50% by 2030. I acknowledge the imperative for economic development of the Northern Territory, however I believe development should be consistent with Government policy and considerate of the long-term welfare of the community.
4. Water is a precious resource, particularly in arid zones such as the Barkly Tableland. The amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers take many decades to recharge. This level of extraction may limit other development in the area and have an adverse impact on pastoralism, the only large economic activity in the region.

5. Rainfall is highly variable in the area where the proposed pipeline will be laid. The EIS noted rainfall of 93mm in 2013 and 1,092mm in 2011 Mt Isa (7-2). The EIS describes the use of evaporation ponds at Phillip Creek. There should be very careful evaluation as this proposal as ponds have a problematic history in the Northern Territory, with spills and leaks causing significant environmental damage to sensitive areas.
6. The Matters of National Environmental Significance were not properly considered. Some of the 'at risk' species likely to be in the area affected by the pipeline have not been detected. Strenuous efforts should be made to firstly determine if they are present and if so to detail plans to conserve them. Two species observed during surveys of the region over a 12 month period, along with three species determined likely to be present, were considered to be at risk from the proposed development. Four species which could be found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass.

Yours sincerely



Deborah Hall

9 October, 2016

28 Gosse St  
Alice Springs NT 0870

7 October 2016

Dear Sir/Madam,

**Re: Submission to the Jemena Northern Gas Pipeline Draft Environmental Impact Statement**  
**Reference number: EPBC 2015/7569**

Thankyou for the opportunity to comment on the Draft Environmental Impact Statement provided by Jemena for the Northern Gas Pipeline Project.

I am concerned that the Environmental Impact Statement as currently drafted does not take into account the fact that the viability of the pipeline is reliant on the development of the unconventional gas industry which will require the widespread use of 'fracking'. Fracking poses a risk to our water resources, air quality and the health of our communities. Fracking is also responsible for significant fugitive emissions of methane, a potent green-house gas which will further exacerbate climate change. I strongly believe that these risks should be addressed in Jemena's Environmental Impact Statement.

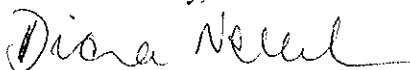
There is no doubt our earth is warming and our seas rising – or that humankind is the cause. The United States National Aeronautics and Space Administration (NASA) stated in a press release in January 2014: *The year 2014 ranks as Earth's warmest since 1880, according to two separate analyses by NASA and National Oceanic and Atmospheric Administration (NOAA) scientists. The 10 warmest years in the instrumental record, with the exception of 1998, have now occurred since 2000. This trend continues a long-term warming of the planet, according to an analysis of surface temperature measurements by scientists at NASA's Goddard Institute of Space Studies (GISS) in New York.* As President Obama has said, the question is whether we will have the courage to act before it's too late.

To my mind, the development of the unconventional gas industry, on which the Northern Gas Pipeline Project depends, is a huge risk and its absence, and the absence of its impacts, from Jemena's draft Environmental Impact Statement, is a fundamental omission. The Environmental Impact Statement must take into account the contribution of this project to facilitating the large-scale extraction of fossil fuels and the broader impacts of this for climate change at a global level.

The Environmental Impact Statement claims that the Northern Gas Pipeline Project is consistent with the principles of inter-generational equity - that *'the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations'*. I would dispute this, given the project is intended to stimulate the development of the onshore gas industry, resulting in considerable methane emissions, and that this will have a significant impact on the environment into the future. The Environmental Impact Statement must address the broader ramifications of the project rather than narrowly maintaining that the impacts are limited to constructing the pipeline.

I sincerely hope the Northern Territory EPA will consider the points I raise in requesting a supplementary EIS from Jemena.

Yours sincerely,



Dianna Newham

## SUBMISSION #25

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - Public Comment - Vicki Gordon  
**Date:** Tuesday, 4 October 2016 10:32:02 AM

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Dear Jonathan and Russell,

Please find below a written comment on the draft Environmental Impact Statement from a member of the public. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
GPO Box 3675, Darwin, NT 0801

P: (08) 8924 4020 | F: (08) 8942 6554  
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-----Original Message-----

**From:** Vicki Gordon [mailto:[vickigor95@bigpond.com](mailto:vickigor95@bigpond.com)]  
**Sent:** Monday, 3 October 2016 7:21 PM  
**To:** eia NTEPA  
**Subject:** Public Comment - Vicki Gordon

I have serious concerns about this project for reasons listed below:

- it will contribute to locking us into a fossils fuel future when we should be moving to

## SUBMISSION #25

renewables -it will drive unconventional fracking which poses a risk to our water and industrialisation of the landscape Thank you Vicki Gordon

Sent from my iPad



# **Submission to the Jemena Northern Gas Pipeline Draft Environmental Impact Statement**

**Reference number: EPBC 2015/7569**

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Northern Gas Pipeline Project provided by Jemena.

The Central Australian Frack Free Alliance (CAFFA) is a group of community members who have serious concerns about the impacts of the unconventional (shale) gas industry in the Northern Territory.

Based in Alice Springs, CAFFA was formed in May 2014 when the community became aware of the extent of licenses for petroleum exploration covering the NT – 90% at that time.

The Central Australian Frack Free Alliance has a particular interest in the Northern Gas Pipeline project given Jemena's stated intent of the project - to drive the development of the NT's onshore gas industry.<sup>1</sup> Developing the NT's onshore gas reserves will require the widespread use of hydraulic fracturing or 'fracking' a controversial process which poses risks to our water resources, air quality as well as human health.

We are greatly disappointed that the Terms of Reference for the Northern Gas Pipeline EIS do not include the requirement for Jemena to address the full environmental, social and economic risks of the project as an enabler for the development of the NT's gas reserves. While assessment of environmental risks will take place for unconventional gas exploration projects on an individual basis, there is no scope under the current NT EPA assessment process to consider the cumulative environmental, social and economic impacts of the advancement of the industry on NT ecosystems or communities.

Our submission below notes our concerns about the lack of inclusion of the full scale of impacts of the project at key points in the EIS, as well as other concerns we have with the detail of the EIS.

We sincerely hope the NT EPA will consider the points we raise in requesting a supplementary EIS from Jemena.

The submission is structured in line with the EIS structure but makes reference to the Terms of Reference for the EIS for the project throughout.

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<sup>1</sup> <http://jemena.com.au/about/newsroom/media-release/2015/jemena-to-build-north-east-gas-interconnector>

## CHAPTER 1 - Introduction

### Section 1.6: Project History & Context

#### *1.6.1 - Justification*

The assumption that there is a need for the Northern Gas Pipeline to meet the demand for gas on the eastern seaboard requires evidence which underpins the entire project. In fact the east coast gas shortage has been proven to be a myth created by the over-forecasting of demand from 2011 to 2014<sup>2</sup>, which has already led to large over investment in infrastructure.

We urge that serious consideration is given to whether the pipeline is necessary to meet 'demand' and that Jemena be required to provide further detail on the modelling for this in a supplementary submission.

Additionally the assumption that stimulating gas exploration will result in economic development opportunities also requires further examination given the experience of Queensland where the gas industry boom has wreaked economic havoc on local communities<sup>3</sup>.

The assumption that the project will provide a new source of competitively priced gas is also unfounded given commentary indicating that fracked gas from the NT won't be competitive on the east coast<sup>4</sup>.

Furthermore there is analysis to indicate that the project itself is not economically viable and will have very limited economic development benefits to the Northern Territory with any profits from gas production flowing offshore due to the unregulated monopoly awarded to Jemena<sup>5</sup>.

These issues should be fully addressed in a supplementary submission on the justification of the project.

The justification for the Northern Gas Pipeline must also be framed in a larger context than supply, demand and economic cost-benefit, to take into account the contribution of this project to facilitating the large scale extraction of fossil fuels and the broader impacts of this for climate change at a global level.

Jemena has enthusiastically claimed that the Northern gas pipeline will drive the development of the onshore gas industry in the Northern Territory which will require the widespread use of hydraulic fracturing. Research is mounting to show the considerable contribution of 'fracking' to methane emissions - a potent green-house gas<sup>6</sup>.

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<sup>2</sup> <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

<sup>3</sup>

<http://www.tai.org.au/sites/default/files/Ogge%202015%20Be%20careful%20what%20you%20wish%20for%20FINAL.pdf>

<sup>4</sup>

[http://www.energynewspremium.net/storyview.asp?storyID=826958390&section=On+the+Record&sectionsource=s121&aspdsc=yes&utm\\_medium=email&utm\\_campaign=ENP+Standard2015-11-25&utm\\_content=ENP+Standard2015-11-25+CID\\_f8da02dc34d653bb8d37d5e2eaa297ef&utm\\_source=Campaign+Monitor&utm\\_term=NEGI+economic+s+based+on+hope+Wood+Mac](http://www.energynewspremium.net/storyview.asp?storyID=826958390&section=On+the+Record&sectionsource=s121&aspdsc=yes&utm_medium=email&utm_campaign=ENP+Standard2015-11-25&utm_content=ENP+Standard2015-11-25+CID_f8da02dc34d653bb8d37d5e2eaa297ef&utm_source=Campaign+Monitor&utm_term=NEGI+economic+s+based+on+hope+Wood+Mac)

<sup>5</sup> <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

<sup>6</sup> [http://www.eeb.cornell.edu/howarth/publications/f\\_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warmin\\_100815\\_27470.pdf](http://www.eeb.cornell.edu/howarth/publications/f_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warmin_100815_27470.pdf)

Given global commitments to reduce green-house gas emissions and fossil fuel consumption to reduce global warming, justification for the project in this broader context must be provided.

### Section 1.9: Ecologically Sustainable Development

#### *1.9.1 Precautionary Principle*

For the project to adhere to the precautionary principle it must demonstrate that the process of unconventional gas extraction, with which the project is inextricably linked, is entirely safe from risk.

However given that the risks of wide spread unconventional gas extraction are not yet fully understood, and in fact a growing body of evidence indicates there is significant risk associated with the process<sup>7</sup>, the project cannot be considered to adhere with the precautionary principle, or to meet the principles of ecologically sustainable development.

#### *1.9.2 Inter-Generational Equity*

The EIS claims that consistent with the principles of inter-generational equity - that '*the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations*', the project is 'unlikely to have any residual significant impacts on the environment'.

However we would argue that given the project is intended to stimulate the development of the onshore gas industry, resulting in considerable methane emissions, that this will have a significant impact on the environment into the future - most notably exacerbating the climate change process. Given this, the project cannot be seen to be consistent with the principle of inter-generational equity.

The EIS must address the broader ramifications of the project rather than narrowly maintaining that the impacts are limited to constructing the pipeline.

#### *1.9.3 Biodiversity Principle*

The 'Valuation principle' noted in this section states that *the costs of environmental externalities should be internalised and that the polluter should bear the costs associated with environmental pollution*'

The EIS notes here that the project's greenhouse gas emissions were calculated for the project. However as noted above, the EIS must consider the full scope of the project and thereby include greenhouse gas emission modelling for development of the unconventional gas industry in the NT.

#### *1.9.4 Integration Principle*

If the principle of integration requires that *decision making processes should effectively integrate both long-term and short term economic, social, environmental, and equitable considerations*, then the EIS for the project must address the long-term economic, social, environmental and equitable considerations associated with climate change.

An intensification of the current climate change situation will have a significant impact on communities across the globe, in most cases inequitably.

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<sup>7</sup> <http://concernedhealthny.org/wp-content/uploads/2012/11/PSR-CHPNY-Compendium-3.0.pdf>

To be in accordance with the principle of Integration, the EIS must demonstrate that the decision to build the Northern Gas Pipeline has integrated the short term and localized justification for the project with the global and long term impacts of further fossil fuel extraction.

## Chapter 2 - Project Description

### Section 2.5 - Geotechnical, Ecological and Pre-clearing Surveys

The EIS notes that ecological surveys of the project footprint have entailed aerial survey's to determine sensitive habitat areas which require ground based assessment.

While this section mentions further ground based ecological survey's to be undertaken, it fails to mention any surveys which would provide a more comprehensive assessment of any sensitive habitat areas. This is despite noting at section 6.1.4 – Sensitive Vegetation Types, that there are two types of sensitive vegetation areas occurring in the project footprint.

This section of the EIS also notes that targeted threatened species surveys for the 9 threatened species listed at Section 6.2.2 – Targeted Habitat Assessment and Field Surveys, were conducted in April and May 2016. However surveys should be conducted at multiple times throughout the year to ascertain if there is a likelihood of occurrence at different times across the year, given the full year build time proposed.

Again there is no mention of any further studies to be undertaken prior to commencement of construction.

### Section 2.11 Water Use

The EIS provides information only on predicted water use for construction and operation of the project. As noted previously the EIS for the project needs to take into account the broader impacts of the project in facilitating the development of the onshore gas industry.

As such the EIS should detail the full extent of water use associated with the gas production necessary to make the pipeline project viable for it's design life of 30 years.

### 2.13 – Construction Process

#### *2.13.5 – Water Course Crossings*

Section 2.2.1 of the Terms of Reference for the Project require that methods and crossing techniques be provided for any watercourse crossing required. However this section of the EIS which refers to watercourse crossings fails to provide adequate detail about the methods for watercourse crossings, excepting to say that they will be undertaken '*in a manner which minimises impacts... and minimises the duration and extent of disturbance*'.

While the EIS provides further detail on watercourses in 'Chapter 7 – Water', as well as in 'Appendix K – Water Course Crossing Survey Report', no further detail about the methods and crossing techniques is provided.

Section 4 of Appendix K, 'Further Work' advises that prior to construction a dry season survey will be undertaken which will locate permanent pools and inform the water course crossing designs and construction methodologies.

Jemena must provide further details on the methods and crossing techniques for all water courses in a supplementary EIS submission, once the dry season surveys have been completed.

### Section 2.18 - Project Alternatives

The EIS fails to address any alternatives to carry out the project which might better comply with the principles of ecologically sustainable development (as specified in Section 2.5 of the Terms of Reference).

Both in Australia and globally the importance of renewable energy sources is being recognised as we respond to the urgent need to mitigate climate change. The EIS for the project should note such alternatives, as part of its core environmental impact assessment.

## **Chapter 5 - Environmental Risk Assessment**

### Section 5.4 - Cumulative Impacts

Section 5.3 of the Terms of Reference for the EIS require the assessment of cumulative impacts 'in the context of existing and foreseeable future developments'.

Given the intent of the project to stimulate the development of onshore gas exploration, a specific concern that should be addressed as a cumulative effect is the impact of wide spread hydraulic fracturing for unconventional gas.

The cumulative risks of unconventional gas development in the Territory should be assessed using the current scenario with 84% of the Northern Territory under application for gas exploration.

## **Chapter 7 – Water**

### Section 7.2 – Existing Environment

#### *7.2.3 Surface Water*

Previous points have been raised at Section 2.13 about the inadequacy of detail provided around the methodology used for water crossings.

Jemena notes in this section that no significant impacts on watercourses are expected as a result of pipeline construction due to construction being undertaken during the dry period of the year. Given the unseasonal rain we are currently experiencing, Jemena must provide further information on the potential impacts on water courses if periods of higher water flow do occur.

### Section 7.6 – Construction Phase Risks

#### *7.6.5 Hydrostatic Test Wastewater Entering Surface Watercourses*

The EIS notes that there is a significant inherent risk of Hydrostatic Test Wastewater Entering Surface Watercourses, as well as a moderate residual risk. It further notes that uncontrolled release

of hydrostatic test water, or release without pre-treatment could have “severe consequence as it could result in temporary impacts on water quality and temporary harm to the environment”

The EIS further notes that due to these risks there is need for the development of a Hydrostatic Test Management Plan.

Jemena should provide a detailed Hydrostatic Test Management Plan before the project can proceed.

### *7.6.6 Drawdown of Ground Water*

The EIS notes that there is a significant inherent risk and moderate residual risk of drawdown on ground water, which could have “a major effect on water resources, other users, and GDEs”. It also notes that options for rectification of groundwater drawdown are limited.

The EIS also notes that water sourcing will be further defined during the detailed planning phase and that further work is required in order to reduce the residual risk. This includes determining the location of groundwater extraction and volumes required from each bore and sustainable yield.

This information should be included in a supplementary submission to be prepared by Jemena so that the risks of drawdown on water can be accurately gauged and mitigated.

Supplementary information should also be provided to address the issue if appropriate sources of water are not found to meet the project needs.

### *7.6.7 Alteration of Surface Water Flows*

This section notes that there is the potential to alter surface water flows which could result in major impacts to aquatic ecosystems.

It notes risk of impacting water flows is higher following rainfall, at the end of the wet season, or when there are flows in watercourses. However while the risk assessment was based on the assumption that watercourse crossings will be undertaken when there is no water present, the EIS still found the inherent risk to be high.

As mentioned above further consideration must be given to if periods of water flow do occur. While the EIS mentions that in times of low flow, water crossings will be constructed in a way that does not impede low flow, again no information is provided on water course crossing construction methodologies, as required by the Terms of Reference for the project.

## Section 7.7 – Operational Phase Risks

### *7.7.4 Drawdown of Groundwater*

The EIS notes that the main operational water requirements will be the Philip Creek Compressor Station which will require 4,800l per day. This is considered a significant inherent risk.

It is noted that an assessment of the flow rates and availability of groundwater in the area is required to inform where this water will be sourced from and that it may be from a new or existing bore.

It is also noted that should a new bore be required an assessment of the sustainability of groundwater resources will be required due to the compressor station being located in the Tennant Creek Water Control District.

The EIS further notes that “Petroleum activities are exempt from the requirement to obtain a water extraction licence”, however in March 2016 the NT Government announced its intention to remove the exemption under the Water Act for Mining and Petroleum activities.

Jemena must undertake an assessment of the sustainability of groundwater resources as part of supplementary submission, and apply for a license for water use for the project under the NT Water Act before the project is approved to proceed.

### *Section 7.7.5 Produced Water Entering Surface Watercourses of Groundwater Aquifers*

The EIS states that approximately 200 L/hr of water will be produced at the Phillip Creek Compressor station as part of the gas treatment process and will be treated and then stored in an on-site evaporation pond for disposal by evaporation. The EIS notes that at the time of writing there was limited information on the specific design of the evaporation ponds or expected quality of produced water, but “it is assumed that the quality of wastewater would result in detrimental impacts to water quality, and aquatic ecosystems”.

Jemena must provide further details on the evaporation ponds design and information on how they would cope with unseasonal rainfall such as we are currently experiencing in Central Australia.

## **CHAPTER 8 – Historic and Cultural Heritage**

Section 5.6.3 of the Terms of Reference for the EIS requires that a Cultural Heritage Management Plan (CHMP) be prepared for the project.

However the EIS includes only a ‘framework’ CHMP at Appendix Q, based on the initial risk assessment regarding the protection of cultural heritage. Appendix Q notes that the CHMP is expected to be finalized in the fourth quarter of 2016.

Jemena must provide a finalised copy of the CHMP, in line with the Terms of Reference, in a supplementary EIS submission.

### Section 8.1.5 – Sacred Site Consultation, Surveys and Management

The EIS notes that Jemena is yet to be granted an Authority Certificate from the Aboriginal Areas Protection Authority and to finalise an agreement with the CLC and NLC about protecting Sacred Sites.

Additionally specialist archaeological heritage reports are still in the process of being prepared and a works approval is yet to be granted under the Heritage Act (NT).

Given the importance of ensuring that cultural heritage matters are adequately addressed in the CHMP and that appropriate approvals are obtained Jemena should address these matters in a supplementary EIS submission.

## **CHAPTER 9 – Socio-Economic Aspects**

### Section 9.8 – Aboriginal Context

#### *Laws, Customs and Culture*

Section 4 of the Terms of Reference requires that a summary of the laws, customs and or culture of the Native Title Holders be provided to establish a baseline for aspects of traditional Aboriginal culture that might be impacted by the project.

However the details provided in this section fail to provide enough detail to establish a baseline for potential impacts. More detail is required further to stating that "Traditional cultural practice is still conducted and Aboriginal languages are still spoken in the region".

### Section 9.10 – Social & Economic Risk Assessment

Section 5.8 of the EIS Terms of Reference requests that an economic and social impact assessment (ESIA) be conducted for the Northern Gas Pipeline project.

However the EIS only provides an economic impact assessment and a social impact assessment *scoping study* at Appendix R. The scoping study is a preliminary analysis which outlines plans for comprehensive consultations around social impacts with a range of stakeholders (detailed in the document). The EIS states that the ESIA will be completed in the second half of 2016 once the social impact assessment (SIA) consultations have occurred.

According to the Social Impact Assessment Scoping Study, the SIA consultations are scheduled for completion in August 2016. However conversations with key stakeholder groups including Aboriginal land owners, Aboriginal communities, and people from family outstations and town camps (refer Volume 7, Appendix R, pg 140-141), indicate they have yet to be involved in consultations about social impacts.

Given the importance of a comprehensive economic and social impact assessment being included in the EIS Jemena should ensure that consultations have been completed and the results incorporated into the ESIA and management plan to be included in a supplementary EIS submission.

Lock the Gate Alliance Northern Territory

**9 Oct 2016**  
**Submission to the**  
**Jemena Northern Gas Pipeline**  
**Draft Environmental Impact**  
**Statement**



**Reference number: EPBC 2015/7569**

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Northern Gas Pipeline Project provided by Jemena.

Lock the Gate Alliance is a national grassroots organisation made up of thousands of individuals and over 160 local groups across Australia, concerned about unsafe mining practices, and particularly unconventional gas extraction.

The mission of the Lock the Gate Alliance is to protect Australia's agricultural, environmental and cultural resources from inappropriate mining and to educate and empower all Australians to demand sustainable solutions to food and energy production.

Lock the Gate Alliance is committed to advocating that community health and rural industries should take priority over the development of the unconventional gas industry in Australia.

With over 80% of the Northern Territory under license or application for onshore oil and gas exploration, Lock the Gate Alliance NT has a strong interest in ensuring the environmental assessment legislation of the Northern Territory is improved to protect communities and the environment.

This submission draws on feedback provided by volunteers and experts. Many of the comments in this submission have also been raised in submission from a supporting organization, the Central Australian Frack Free Alliance.

**A few points of note regarding the process:**

- The fact that Jemena has already ordered the steel pipe for the project, prior to the assessment process being complete, makes a mockery of the robust and independent assessment that should be required under the EPBC process and the NT EPA.
- The EIS fails to present any meaningful alternatives to the project, including the opportunity for the NT Government to utilize excess conventional gas from the Blacktip field in the Northern Territory

## SUBMISSION #27

for manufacturing expansions here, or for the East Coast gas demand to decrease in line with the current international gas glut.

- The EIS fails to reveal the profits Jemena will make on the high priced tariff they are proposing to charge pipeline users. In line with the current market monopoly discussions taking place in COAG, a supplementary report must be provided by Jemena to talk through the expected profit margins from the project, to ascertain if they are fair, or further contributing to the pipeline operator failures outlined in COAG discussions.

- The failure of the proponent and their ecological consultant to complete the assessments required under the Terms of Reference provided by the NT EPA before submitting the EIS is of concern. Examples are provided later in this submission, and include failure to complete: the Cultural Heritage Management Plan and the Final Economic and Social Impact Assessment. Further reading of the EIS also gives insights into a range of reports that have been identified as necessary to complete before the project proceeds, and should therefore be provided and available for public and expert comment prior to the assessment process being completed. This includes and is not limited to: the Hydrostatic Test Management Plan, dry season water crossing plans and the groundwater extraction plan.

Please be in touch to discuss the way in which the supplementary information will be provided and research and management plans developed and available for public comment.

Kind regards,

Naomi Hogan,

Lock the Gate Alliance NT

0401 650 411

### **Re Chapter 6 Biodiversity and Chapter 5 Environmental Risk Assessment**

#### **A supplementary report is required to deal with the following concerns:**

- The biodiversity chapter only considers one species – the Plains Death Adder, an ‘important population’ under NT legislation. The Carpentarian Antechinus is considered under Federal legislation (Section 12) and the remaining threatened species considered highly or moderately likely to occur do not get assessed because they are not ‘important’ or they are only found in Qld, etc. Common, regionally significant and locally significant species are not considered at all. This does not constitute a proper impact assessment or ‘biodiversity’ for that matter, and therefore does not take a precautionary approach by considering all species that are likely to be found in the vicinity.
- Sensitive vegetation types have been identified as riparian vegetation and wetlands on the basis of their ‘uniqueness’ or ‘inherently high biodiversity values’. However, they assessed all the riparian vegetation to be transected by the pipeline as poor. There is no report that discusses the aquatic biodiversity or how it will be impacted.

- Other impacts such as removal of habitat, increased access to introduced fauna, entrapment in trench, edge effects, habitat fragmentation, noise and vibration, water quality, etc. are only assessed with respect to the Death Adder. Whereas in many cases, standard Jemena protocols or EcOz recommendations (e.g. monitoring and removing fauna from uncovered trenches) will mitigate impacts for other species, there is concern in particular about the increased access for introduced predators. A 620 km, 30-m wide pipeline ROW and associated tracks are likely to provide new access to the area by introduced predators (cats, foxes) and dingos and could have a significant impact on small to medium sized mammals (dasyurids, mulgara, bilbies, native rats, wallabies) but also birds and other fauna during construction and operation, for example. However, because the only introduced species of significance to the Death Adder is the Cane Toad, this impact is assessed as being as low (minor) during construction. It is not considered at all as a risk during operation.
- During the operational phase, there is particular concern about the risk of 'failure of rehabilitation', which could also have far-reaching implications for weed proliferation and access to introduced fauna. The inherent risk of this happening was considered high (consequence severe and likelihood likely). The fact that this is considered 'likely' to occur because "poor rehabilitation is evident along the corridors of other linear projects that have been undertaken in Northern Australia" sends warning bells. With application of the APIA code and the DEHP protocols applied routinely to similar projects in Queensland, the residual risk is assessed to be 'unlikely' and 'severe'. If those criteria are applied 'routinely', then why is poor rehabilitation evident along corridors in NT? In particular, there is concern about the tendency of extraction industries walking away from projects without fulfilling their environmental obligations (especially when the economics don't pan out as expected). We would expect much more rigorous standards to be applied in terms of long-term monitoring and obligations.
- Approximately 2470 ha of habitat would be cleared as part of the project, of which 102 ha would be permanent. The Construction Contractor's Reinstatement Management Procedure only aims to reinstate rehabilitated areas to 70% species richness pre-construction. Does this constitute a loss of habitat values for all/some species occupying 2368 ha (that area that may only be rehabilitated to 70% pre-clearing) in the vicinity of the pipeline? There is concern that the guidelines followed seem to be mainly those developed by the industry. The only additional input by the consultants is only for weed management and mitigating trap entrenchment.
- There is also concern about pipeline failure, an operational risk. This is assessed as 'rare' but 'major'. There is an acceptance by the consultants that mitigation is sufficient and that the risk of an accident is so small that it does not have to be considered. As this impact has the potential to be major, there should be an emergency protocol in place that focuses on flora, fauna and aquatic habitats.

**Re Chapter 12 Matters of National Environmental Significance that considers impacts on the Carpentarian Antechinus, and the Biodiversity Management Plan:**

- This impact assessment pretty well mirrors that done for the Plains Death Adder in that most residual impacts are low, except for weed introduction. In the case of introduced fauna, cats and cane toads are considered. The risk (of increased predator access) was not assessed but assumed to be low with controls in place. We do not agree, as this will be an

entirely new access route 622 kms long that transects the known habitat of at least one threatened species vulnerable to predation (Carpentarian Antechinus). It may also be a significant impact for other fauna found in the area (Common Rock Rat, Desert Mouse, Sandy Inland Mouse, Purple-necked Rock Wallaby, Bustards, Bush Stone-Curlew, Long-haired Rat, mulgara, dunnarts, Pseudomys, Spinifex Hopping Mouse, Northern Nailtail Wallaby, Spectacled Hare-wallaby (Near Threatened in NT and yet not assessed). All these records came from trapping, cameras and track analysis but species were not listed or considered anywhere in the reports. This must be rectified in additional assessments before final decisions about the impact of the project can be made.

- Based on the 'biodiversity' studies, it was determined that no additional mitigation outside standard industry ones need be applied to the site, except for weed management and trenching. The Biodiversity Management Plan is a very basic document that outlines the standard mitigation as well as additional mitigation introduced for Carpentarian Antechinus and Plains Adder.

### Further submission points:

## CHAPTER 1 - Introduction

### Section 1.6: Project History & Context

#### *1.6.1 - Justification*

The assumption that there is a need for the Northern Gas Pipeline to meet the demand for gas on the eastern seaboard requires evidence which underpins the entire project. In fact the east coast gas shortage has been proven to be a myth created by the over-forecasting of demand from 2011 to 2014<sup>1</sup>, which has already led to large over investment in infrastructure.

We urge that serious consideration is given to whether the pipeline is necessary to meet 'demand' and that Jemena be required to provide further detail on the modelling for this in a supplementary submission.

Additionally the assumption that stimulating gas exploration will result in economic development opportunities also requires further examination given the experience of Queensland where the gas industry boom has wreaked economic havoc on local communities<sup>2</sup>.

The assumption that the project will provide a new source of competitively priced gas is also unfounded given commentary indicating that fracked gas from the NT won't be competitive on the east coast<sup>3</sup>.

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<sup>1</sup> <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

<sup>2</sup> <http://www.tai.org.au/sites/default/files/Ogge%202015%20Be%20careful%20what%20you%20wish%20for%20FINAL.pdf>

<sup>3</sup> [http://www.energynewspremium.net/storyview.asp?storyID=826958390&section=On+the+Record&sectionsource=s121&aspdsc=yes&utm\\_medium=email&utm\\_campaign=ENP+Standard2015-11-25&utm\\_content=ENP+Standard2015-11-25+CID\\_f8da02dc34d653bb8d37d5e2eaa297ef&utm\\_source=Campaign+Monitor&utm\\_term=NEGI+economic+s+based+on+hope+Wood+Mac](http://www.energynewspremium.net/storyview.asp?storyID=826958390&section=On+the+Record&sectionsource=s121&aspdsc=yes&utm_medium=email&utm_campaign=ENP+Standard2015-11-25&utm_content=ENP+Standard2015-11-25+CID_f8da02dc34d653bb8d37d5e2eaa297ef&utm_source=Campaign+Monitor&utm_term=NEGI+economic+s+based+on+hope+Wood+Mac)

Furthermore there is analysis to indicate that the project itself is not economically viable and will have very limited economic development benefits to the Northern Territory with any profits from gas production flowing offshore due to the unregulated monopoly awarded to Jemena<sup>4</sup>.

These issues should be fully addressed in a supplementary submission on the justification of the project.

The justification for the Northern Gas Pipeline must also be framed in a larger context than supply, demand and economic cost-benefit, to take into account the contribution of this project to facilitating the large scale extraction of fossil fuels and the broader impacts of this for climate change at a global level.

Jemena has enthusiastically claimed that the Northern gas pipeline will drive the development of the onshore gas industry in the Northern Territory which will require the widespread use of hydraulic fracturing. Research is mounting to show the considerable contribution of 'fracking' to methane emissions - a potent green-house gas<sup>5</sup>.

Given global commitments to reduce green-house gas emissions and fossil fuel consumption to reduce global warming, justification for the project in this broader context must be provided.

#### Section 1.9: Ecologically Sustainable Development

##### *1.9.1 Precautionary Principle*

For the project to adhere to the precautionary principle it must demonstrate that the process of unconventional gas extraction, with which the project is inextricably linked, is entirely safe from risk.

However given that the risks of wide spread unconventional gas extraction are not yet fully understood, and in fact a growing body of evidence indicates there is significant risk associated with the process<sup>6</sup>, the project cannot be considered to adhere with the precautionary principle, or to meet the principles of ecologically sustainable development.

##### *1.9.2 Inter-Generational Equity*

The EIS claims that consistent with the principles of inter-generational equity - that '*the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations*', the project is 'unlikely to have any residual significant impacts on the environment'.

However we would argue that given the project is intended to stimulate the development of the onshore gas industry, resulting in considerable methane emissions, that this will have a significant impact on the environment into the future - most notably exacerbating the climate change process. Given this, the project cannot be seen to be consistent with the principle of inter-generational equity.

The EIS must address the broader ramifications of the project rather than narrowly maintaining that the impacts are limited to constructing the pipeline.

##### *1.9.3 Biodiversity Principle*

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<sup>4</sup> <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

<sup>5</sup> [http://www.eeb.cornell.edu/howarth/publications/f\\_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warmin\\_100815\\_27470.pdf](http://www.eeb.cornell.edu/howarth/publications/f_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warmin_100815_27470.pdf)

<sup>6</sup> <http://concernedhealthny.org/wp-content/uploads/2012/11/PSR-CHPNY-Compendium-3.0.pdf>

The 'Valuation principle' noted in this section states that *the costs of environmental externalities should be internalised and that the polluter should bear the costs associated with environmental pollution'*

The EIS notes here that the project's greenhouse gas emissions were calculated for the project. However as noted above, the EIS must consider the full scope of the project and thereby include greenhouse gas emission modelling for development of the unconventional gas industry in the NT.

#### *1.9.4 Integration Principle*

If the principle of integration requires that *decision making processes should effectively integrate both long-term and short term economic, social, environmental, and equitable considerations*, then the EIS for the project must address the long-term economic, social, environmental and equitable considerations associated with the methane leaking from the gasfields required to supply the pipeline.

If increased methane emissions led to a furthering of the heat blanket effect of greenhouse gases in the atmosphere, an intensification of the current climate change situation will have a significant impact on communities across the globe, in most cases inequitably.

To be in accordance with the principle of Integration, the EIS must demonstrate that the decision to build the Northern Gas Pipeline has integrated the short term and localized justification for the project with the global and long term impacts of further fossil fuel extraction.

## **Chapter 2 - Project Description**

### Section 2.5 - Geotechnical, Ecological and Pre-clearing Surveys

The EIS notes that ecological surveys of the project footprint have entailed aerial survey's to determine sensitive habitat areas which require ground based assessment.

While this section mentions further ground based ecological survey's to be undertaken, it fails to mention any surveys which would provide a more comprehensive assessment of any sensitive habitat areas. This is despite noting at section 6.1.4 – Sensitive Vegetation Types, that there are two types of sensitive vegetation areas occurring in the project footprint.

This section of the EIS also notes that targeted threatened species surveys for the 9 threatened species listed at Section 6.2.2 – Targeted Habitat Assessment and Field Surveys, were conducted in April and May 2016. However surveys should be conducted at multiple times throughout the year to ascertain if there is a likelihood of occurrence at different times across the year, given the full year build time proposed.

Again there is no mention of any further studies to be undertaken prior to commencement of construction.

### Section 2.11 Water Use

The EIS provides information only on predicted water use for construction and operation of the project. As noted previously the EIS for the project needs to take into account the broader impacts of the project in facilitating the development of the onshore gas industry.

As such the EIS should detail the full extent of water use associated with the gas production necessary to make the pipeline project viable for its design life of 30 years.

### 2.13 – Construction Process

#### *2.13.5 – Water Course Crossings*

Section 2.2.1 of the Terms of Reference for the Project require that methods and crossing techniques be provided for any watercourse crossing required. However this section of the EIS which refers to watercourse crossings fails to provide adequate detail about the methods for watercourse crossings, excepting to say that they will be undertaken *‘in a manner which minimises impacts... and minimises the duration and extent of disturbance’*.

While the EIS provides further detail on watercourses in ‘Chapter 7 – Water’, as well as in ‘Appendix K – Water Course Crossing Survey Report’, no further detail about the methods and crossing techniques is provided.

Section 4 of Appendix K, ‘Further Work’ advises that prior to construction a dry season survey will be undertaken which will locate permanent pools and inform the water course crossing designs and construction methodologies.

Jemena must provide further details on the methods and crossing techniques for all water courses in a supplementary EIS submission, once the dry season surveys have been completed.

### Section 2.18 - Project Alternatives

The EIS fails to address any alternatives to carry out the project which might better comply with the principles of ecologically sustainable development (as specified in Section 2.5 of the Terms of Reference).

Both in Australia and globally the importance of renewable energy sources is being recognised as world leaders sign onto the Paris Agreement to limit fossil fuel extraction and the opening up of new reserves. The EIS for the project should note alternatives to gas in the East Coast market, including running the export terminals in Gladstone at a lower capacity, as part of its core environmental impact assessment.

## **Chapter 5 - Environmental Risk Assessment**

### Section 5.4 - Cumulative Impacts

Section 5.3 of the Terms of Reference for the EIS require the assessment of cumulative impacts 'in the context of existing and foreseeable future developments'.

Given the intent of the project to stimulate the development of onshore gas exploration, a specific concern that should be addressed as a cumulative effect is the impact of wide spread hydraulic fracturing for unconventional gas.

The cumulative risks of unconventional gas development in the Territory should be assessed using the current scenario with 84% of the Northern Territory under application for gas exploration.

## **Chapter 7 – Water**

### Section 7.2 – Existing Environment

#### *7.2.3 Surface Water*

Previous points have been raised at Section 2.13 about the inadequacy of detail provided around the methodology used for water crossings.

Jemena notes in this section that no significant impacts on watercourses are expected as a result of pipeline construction due to construction being undertaken during the dry period of the year.

Given the unseasonal rain we are currently experiencing, Jemena must provide further information on the potential impacts on water courses if periods of higher water flow do occur.

### Section 7.6 – Construction Phase Risks

#### *7.6.5 Hydrostatic Test Wastewater Entering Surface Watercourses*

The EIS notes that there is a significant inherent risk of Hydrostatic Test Wastewater Entering Surface Watercourses, as well as a moderate residual risk. It further notes that uncontrolled release of hydrostatic test water, or release without pre-treatment could have “severe consequence as it could result in temporary impacts on water quality and temporary harm to the environment”

The EIS further notes that due to these risks there is need for the development of a Hydrostatic Test Management Plan.

Jemena should include in the supplementary EIS submission should a detailed Hydrostatic Test Management Plan.

Feedback from local community members in the district also points to concerns that the water for the hydrostatic testing is being requested from local landholders’ water allocations. Currently that water is being refused, and Jemena must outline a clear plan for where they will get what volume of water, and how that water will impact the surrounding water users and the environment over the long term.

#### *7.6.6 Drawdown of Ground Water*

The EIS notes that there is a significant inherent risk and moderate residual risk of drawdown on ground water, which could have “a major effect on water resources, other users, and GDEs”. It also notes that options for rectification of groundwater drawdown are limited.

The EIS also notes that water sourcing will be further defined during the detailed planning phase and that further work is required in order to reduce the residual risk. This includes determining the location of groundwater extraction and volumes required from each bore and sustainable yield.

This information should be included in a supplementary submission to be prepared by Jemena so that the risks of drawdown on water can be accurately gauged and mitigated.

Supplementary information should also be provided to address the issue if appropriate sources of water are not found to meet the project needs. For example, if Jemena continue to struggle to find suitable freshwater supplies to test the pipeline integrity with water as needed due to local pastoralists saying no to giving up their water, what are Jemena’s plans for sourcing water?

### *7.6.7 Alteration of Surface Water Flows*

This section notes that there is the potential to alter surface water flows, which could result in major impacts to aquatic ecosystems.

This risk of impacting water flows is higher following rainfall, at the end of the wet season, or when there are flows in watercourses. However while the risk assessment was based on the assumption that watercourse crossings will be undertaken when there is no water present, the EIS still found the inherent risk to be high.

As mentioned above further consideration must be given to if periods of water flow do occur. While the EIS mentions that in times of low flow, water crossings will be constructed in a way that does not impede low flow, again no information is provided on water course crossing construction methodologies, as required by the Terms of Reference for the project.

### Section 7.7 – Operational Phase Risks

#### *7.7.4 Drawdown of Groundwater*

The EIS notes that the main operational water requirements will be the Philip Creek Compressor Station which will require 4,800l per day. This is considered a significant inherent risk.

It is noted that an assessment of the flow rates and availability of groundwater in the area is required to inform where this water will be sourced from and that it may be from a new or existing bore.

It is also noted that should a new bore be required an assessment of the sustainability of groundwater resources will be required due to the compressor station being located in the Tennant Creek Water Control District.

The EIS further notes that “Petroleum activities are exempt from the requirement to obtain a water extraction licence”, however in March 2016 the NT Government announced its intention to remove the exemption under the Water Act for Mining and Petroleum activities.

Jemena must undertake an assessment of the sustainability of groundwater resources as part of supplementary submission, and apply for a license for water use for the project under the NT Water Act before the project is approved to proceed.

#### *Section 7.7.5 Produced Water Entering Surface Watercourses of Groundwater Aquifers*

The EIS states that approximately 200 L/hr of water will be produced at the Phillip Creek Compressor station as part of the gas treatment process and will be treated and then stored in an on-site evaporation pond for disposal by evaporation. The EIS notes that at the time of writing there was limited information on the specific design of the evaporation ponds or expected quality of produced water, but “it is assumed that the quality of wastewater would result in detrimental impacts to water quality, and aquatic ecosystems”.

Jemena must provide further details on the evaporation ponds design and information on how they would cope with unseasonal rainfall such as we are currently experiencing.

## **CHAPTER 8 – Historic and Cultural Heritage**

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Section 5.6.3 of the Terms of Reference for the EIS requires that a Cultural Heritage Management Plan (CHMP) be prepared for the project.

However the EIS includes only a 'framework' CHMP at Appendix Q, based on the initial risk assessment regarding the protection of cultural heritage. Appendix Q notes that the CHMP is expected to be finalized in the fourth quarter of 2016.

Jemena must provide a finalised copy of the CHMP, in line with the Terms of Reference, in a supplementary EIS submission.

### Section 8.1.5 – Sacred Site Consultation, Surveys and Management

The EIS notes that Jemena is yet to be granted an Authority Certificate from the Aboriginal Areas Protection Authority and to finalise an agreement with the CLC and NLC about protecting Sacred Sites.

Additionally specialist archaeological heritage reports are still in the process of being prepared and a works approval is yet to be granted under the Heritage Act (NT).

Given the importance of ensuring that cultural heritage matters are adequately addressed in the CHMP and that appropriate approvals are obtained Jemena should address these matters in a supplementary EIS submission.

## CHAPTER 9 – Socio-Economic Aspects

### Section 9.8 – Aboriginal Context

#### *Laws, Customs and Culture*

Section 4 of the Terms of Reference requires that a summary of the laws, customs and or culture of the Native Title Holders be provided to establish a baseline for aspects of traditional Aboriginal culture that might be impacted by the project.

However the details provided in this section fail to provide enough detail to establish a baseline for potential impacts. More detail is required further to stating that "Traditional cultural practice is still conducted and Aboriginal languages are still spoken in the region".

### Section 9.10 – Social & Economic Risk Assessment

Section 5.8 of the EIS Terms of Reference requests that an economic and social impact assessment (ESIA) be conducted for the Northern Gas Pipeline project.

However the EIS only provides an economic impact assessment and a social impact assessment *scoping study* at Appendix R. The scoping study is a preliminary analysis which outlines plans for comprehensive consultations around social impacts with a range of stakeholders (detailed in the document). The EIS states that the ESIA will be completed in the second half of 2016 once the social impact assessment (SIA) consultations have occurred.

According to the Social Impact Assessment Scoping Study, the SIA consultations are scheduled for completion in August 2016. However conversations with key stakeholder groups including Aboriginal land owners, Aboriginal communities, and people from family outstations and town camps (refer

## SUBMISSION #27

Volume 7, Appendix R, pg. 140-141), indicate they have yet to be involved in consultations about social impacts.

Given the importance of a comprehensive economic and social impact assessment being included in the EIS Jemena should ensure that consultations have been completed and the results incorporated into the ESIA and management plan to be included in a supplementary EIS submission.

### General Comments on the Socio Economic Chapter

We note that the project only results in 12 FTE Northern Territory jobs for the operational phase. We do not feel these jobs justify the problems that will result from the pipeline.

During construction, the hundreds of FIFO workers living on remote worker camps along the pipeline route will cause social dysfunction and will not create long-term jobs for locals. Increased use of drugs and alcohol and anti-social behaviour in culturally sensitive areas, which the company acknowledges is impossible to manage. More planning on how to address these realities needs to be presented to the NT EPA before final assessment decision can be made.

# Submission to the Jemena Northern Gas Pipeline Environmental Impact Statement consultation

October 2016



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Healthy planet, healthy people.

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Prof Peter Newman AO  
Prof Lawrie Powell AC  
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Prof Fiona Stanley AC

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to prevent and address the diseases - local, national and global - caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution and climate change.

Based upon our public health expertise DEA has made many submissions into unconventional gas developments including our submission to the Hawke Report in 2014.<sup>1</sup>

We acknowledge the Northern Territory Government for the consultation and education sessions offered in the development of its oil and gas sector, and for **opportunity to contribute to this critical part of NT's economic and energy** development.

We note that the new ALP government is continuing the previous government's response to the development of onshore oil and gas. However we believe that in the current situation of increasing recognition of the short and long term problems arising from oil and gas, it is timely for a new government to question the rationale for such commitment and demonstrate a difference between the major political parties. We have entered a new era. Health, economic, ecological and employment costs and benefits of oil and gas development need to be questioned.

The Terms of Reference of this Inquiry do not address the issues raised by DEA in our submission around the link between the pipeline project and the onshore gas development required to make the project viable. Nonetheless we have responded to this EIS. We are particularly concerned about the impacts of the project in exacerbating climate change by enabling on-going investment in fossil fuel extraction.

### Comment, the need for this development

We question the assumption that there is a need for the Northern Gas Pipeline to meet energy demands in Queensland and New South Wales. This unjustified assumption underpins the entire project. If energy demands on the eastern seaboard can be met more efficiently without this project then the considerable investment involved over decadal time frames could be better used elsewhere, particularly in renewable energy.

The assumption that stimulating gas exploration will result in economic development opportunities also requires further examination. The experience of Queensland is that the gas industry boom has not provided the anticipated long term benefit for rural people, particularly Aboriginal people.

The Institute for Energy Economics and Financial Analysis, a US based think tank, concluded that the project itself is not economically viable, since there is already a glut of gas worldwide, and would be based on government subsidies through PWC (Power and Water Corporation), the only customer for the gas to date. The reduction in proposed pipe diameter is evidence of its dubious economic viability.<sup>2</sup>

These issues should be fully addressed in the justification of the project before it is allowed to proceed further.

### Climate change implications

We raise these concerns in the context of global agreement about the urgent need to respond to climate change. This requires dramatic reductions in fossil fuel extraction, and speedy adaptation to changing climatic conditions, including extreme weather events that can threaten infrastructure built to traditional standards.

Climate change is a serious health issue. It affects health directly through extreme events such as heat waves, floods, bushfires, and indirectly via worsening air quality, changes in the patterns of infectious diseases, threats to food and water supplies, and effects on mental health.<sup>3</sup>

We believe that the justification for the Northern Gas Pipeline must also be framed in a larger context than supply, demand and economic cost-benefit. This project will contribute to facilitating the large scale extraction of fossil fuels and the broader impacts of this for climate change at a global level. It will lead to stranded assets and huge loss of investment, when effective carbon pricing is implemented. We are also concerned about the considerable contribution of unconventional gas extraction to methane emissions from fugitive emissions at the wellheads and leakages from or breakages of pipelines. The minimisation of these requires strict monitoring. Methane is a potent greenhouse gas about 25 times stronger than carbon dioxide.

### Ecologically sustainable development

In relation to ecologically sustainable development, we make the following points in relation to the precautionary principle.

1. When there is uncertainty we should ensure that human health and the environment are protected
2. Those who would like to undertake a potentially damaging project must demonstrate the lack of harm - not those who would face the risk of the damage
3. We should explore many different alternatives to possibly harmful actions
4. The public should participate in decision making about potentially damaging projects

The key issue here is that the proponents must demonstrate that the process of unconventional gas extraction is safe, rather than the community demonstrate the risk. Alternative options, particularly renewable energy development exist, so it needs to be demonstrated that this project is really the best alternative.

The EIS claims that, consistent with the principles of inter-generational equity, 'the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations', and that the project is 'unlikely to have any residual significant impacts on the environment'.

We argue that the relationship between the pipeline and development of the onshore gas industry, with its inherent methane and carbon dioxide emissions will have a significant impact on the environment into the future. The project cannot be seen to be consistent with the principle of inter-generational equity. Alternative investment in solar and wind energy will have a much more equitable impact on Territorians in the future and will be cost effective as a result of progressively falling costs of renewable energy.

The EIS must address the broader ramifications of the project rather than narrowly maintaining that the impacts are limited to constructing the pipeline.

The principle of integration requires that decision making processes should effectively integrate both long-term and short term economic, social, environmental, and equitable considerations. The EIS for the project must address the long-term economic, social, environmental and equitable considerations associated with climate change. An intensification of the current climate change situation will have a significant impact on communities across the globe, in most cases inequitably. Recent unprecedented storms and widespread blackouts in SA are evidence of the vulnerability to extreme weather events which will increase with climate change.

To be in accordance with the Principle of Integration, the EIS must demonstrate that the Northern Gas Pipeline has integrated the short term and localised justification for the project with the global and long term impacts of further fossil fuel extraction.

The EIS fails to address any alternatives to carry out the project which might better comply with the principles of ecologically sustainable development (as specified in Section 2.5 of the Terms of Reference).

Both in Australia and globally the importance of renewable energy sources is being recognised as we respond to the urgent need to mitigate climate change. This EIS should note such alternatives, as part of its core environmental impact assessment. The possibility for stranded assets and associated environmental degradation is a key to comprehensive assessment of alternatives.

## Health impacts

Section 5.3 of the Terms of Reference for the EIS require the assessment of cumulative impacts 'in the context of existing and foreseeable future developments'. Given the intent of the project to stimulate the development of onshore gas exploration, a specific concern that should be addressed as a cumulative effect is the impact of hydraulic fracturing for unconventional gas. The cumulative risks including those to health of unconventional gas development in the Territory should be assessed using the current scenario with 84% of the Northern Territory under application for gas exploration.

In relation to direct health and safety impacts, we note with concern the potential for extensive use of groundwater in very barren environments and the disposal of large amounts of wastewater with contamination potential. It has been noted that with the construction phase there will be an increased risk of traffic accidents causing injury and general increased burdens on local health services. We are not convinced by the evidence presented in the EIS that these risks have been adequately addressed. Furthermore the project needs to be considered as part of the development of unconventional gas in the NT which will impose health burdens on many communities as demonstrated in Chapter 4 of the Interim report of the Parliamentary Enquiry into unconventional gas<sup>4</sup> with inevitable costs to NT health services.

We have recently reviewed the potential health impacts of the unconventional gas industry in evidence given to the Parliamentary Enquiry into unconventional gas mining<sup>5</sup> and we strongly recommend that this evidence is taken into account in the further consideration of the pipeline proposal.

## Conclusion

From the perspective of medical practitioners caring for people of NT, DEA is concerned that this project presents a range of risks that have not been adequately considered and which relate directly or indirectly to health and well-being. The larger view of impacts on the climate from unconventional gas development is one of these risks.

## References

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<sup>1</sup> [http://dea.org.au/images/uploads/submissions/DEA\\_Hydraulic\\_fracturing\\_in\\_NT\\_inquiry\\_final.pdf](http://dea.org.au/images/uploads/submissions/DEA_Hydraulic_fracturing_in_NT_inquiry_final.pdf)

<sup>2</sup> <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

<sup>3</sup> [http://dea.org.au/images/general/DEA\\_Climate\\_Change\\_Health\\_Mini\\_Fact\\_Sheet\\_final.pdf](http://dea.org.au/images/general/DEA_Climate_Change_Health_Mini_Fact_Sheet_final.pdf)

<sup>4</sup> [http://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Gasmining/Gasmining/Interim\\_Report](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Gasmining/Gasmining/Interim_Report)

<sup>5</sup>

<http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;db=COMMITTEES;id=committees%2Fcommsen%2Fb11b69b9-6cc2-4be2-890e-4b4da4eaa521%2F0006;query=Id%3A%22committees%2Fcommsen%2Fb11b69b9-6cc2-4be2-890e-4b4da4eaa521%2F0000%22>

## **Community Group Submission by: Darwin Rural Area Frack Free**

### **Submission to the Jemena Northern Gas Pipeline Draft Environmental Impact Statement**

**Reference number: EPBC 2015/7569**

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Northern Gas Pipeline Project provided by Jemena.

Darwin Rural Area Frack Free is a group of community members who live in the Darwin Rural Area, many of whom are reliant on bore water. We have serious concerns about the impacts of the unconventional (shale) gas industry in the Northern Territory, both in our broader region, our water supplies and across the Territory more broadly.

There are onshore unconventional gas applications just next to our Conservation Reserve Fogg Dam, and across neighbouring wetland areas across the to border of Kakadu National Park. We are acutely aware of the precious nature of our surface and groundwater, and the unique environment of the Northern Territory that we rely on for our lives and livelihoods.

Members of the Darwin Rural Area Frack Free team have been active in working to protect the Territory from unconventional fracking gasfields since 2013.

Our group has a specific interest in expressing concern with the Northern Gas Pipeline project due to the stated basis of the project - to drive the development of the NT's onshore gas industry.<sup>1</sup> Developing the NT's onshore gas reserves will require the widespread use of hydraulic fracturing or 'fracking', a controversial process which poses risks to our water resources, air quality as well as human health.

We are greatly disappointed that the Terms of Reference for the Northern Gas Pipeline EIS does not include the requirement for Jemena to address the full environmental, social and economic risks of the project as an enabler for the development of the NT's onshore unconventional gas reserves.

While assessment of environmental risks will take place for unconventional gas exploration projects on an individual basis, there is no scope under the current NT EPA assessment

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<sup>1</sup> <http://jemena.com.au/about/newsroom/media-release/2015/jemena-to-build-north-east-gas-interconnector>

## SUBMISSION #29

process to consider the cumulative environmental, social and economic impacts of the advancement of the industry on NT ecosystems or communities.

Our submission below notes our concerns about the lack of inclusion of the full scale of impacts of the project at key points in the EIS, as well as other concerns we have with the detail of the EIS. We feel there are numerous points where Jemena has not yet fulfilled the requirements of the Terms of Reference provided by the EPA, and therefore there is a significant body of work to be undertaken before the assessment process can be completed.

We understand this EIS submission will go directly to Jemena in order for the company to address our concerns. We strongly encourage the NT EPA to also take an active role in considering the points we raise and in assessing any future supplementary EIS reports from Jemena.

We are fully aware that Jemena is a 100% Chinese and Singapore Government owned entity. We are aware that they are set to make millions of dollars in building this pipeline, with little regard for where and how the gas is sourced to fill the pipeline. As local Territorians, our only avenue to have our say on this important matter is through the NT EPA. We therefore request the NT EPA takes your role as seriously as possible, and are not rushed into unrealistic timelines or pressures from this multinational company. We need you to represent Territorians.

The submission is structured in line with the EIS structure and makes reference to your NT EPA Terms of Reference for the EIS for the project.

Kind regards,

Louise Becker

Email: becker\_louise@yahoo.com

## **CHAPTER 1 - Introduction**

### Section 1.6: Project History & Context

#### *1.6.1 - Justification*

The assumption that there is a need for the Northern Gas Pipeline to meet the demand for gas on the eastern seaboard requires evidence which underpins the entire project. In fact the east coast gas shortage has been proven to be a myth created by the over-forecasting of demand from 2011 to 2014<sup>2</sup>, which has already led to large over investment in infrastructure.

We urge that serious consideration is given to whether the pipeline is necessary to meet 'demand' and that Jemena be required to provide further detail on the modelling for this in a supplementary submission.

Additionally the assumption that stimulating gas exploration will result in economic development opportunities also requires further examination given the experience of Queensland where the gas industry boom has wreaked economic havoc on local communities<sup>3</sup>.

The assumption that the project will provide a new source of competitively priced gas is also unfounded given commentary indicating that fracked gas from the NT won't be competitive on the east coast<sup>4</sup>.

Furthermore there is analysis to indicate that the project itself is not economically viable and will have very limited economic development benefits to the Northern Territory with any profits from gas production flowing offshore due to the unregulated monopoly awarded to Jemena<sup>5</sup>.

These issues should be fully addressed in a supplementary submission on the justification of the project.

The justification for the Northern Gas Pipeline must also be framed in a larger context than supply, demand and economic cost-benefit, to take into account the contribution of this project to facilitating the large scale extraction of fossil fuels and the broader impacts of this for climate change at a global level.

Jemena has enthusiastically claimed that the Northern gas pipeline will drive the development of the onshore gas industry in the Northern Territory which will require the widespread use of hydraulic fracturing. Research is mounting to show the considerable contribution of 'fracking' to methane emissions - a potent green-house gas<sup>6</sup>.

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Given global commitments to reduce green-house gas emissions and fossil fuel consumption to reduce global warming, justification for the project in this broader context must be provided.

### Section 1.9: Ecologically Sustainable Development

#### *1.9.1 Precautionary Principle*

For the project to adhere to the precautionary principle it must demonstrate that the process of unconventional gas extraction, with which the project is inextricably linked, is entirely safe from risk.

However given that the risks of wide spread unconventional gas extraction are not yet fully understood, and in fact a growing body of evidence indicates there is significant risk associated with the process<sup>7</sup>, the project cannot be considered to adhere with the precautionary principle, or to meet the principles of ecologically sustainable development.

#### *1.9.2 Inter-Generational Equity*

The EIS claims that consistent with the principles of inter-generational equity - that '*the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations*', the project is 'unlikely to have any residual significant impacts on the environment'.

However we would argue that given the project is intended to stimulate the development of the onshore gas industry, resulting in considerable methane emissions, that this will have a significant impact on the environment into the future - most notably exacerbating the climate change process. Given this, the project cannot be seen to be consistent with the principle of inter-generational equity.

The EIS must address the broader ramifications of the project rather than narrowly maintaining that the impacts are limited to constructing the pipeline.

#### *1.9.3 Biodiversity Principle*

The 'Valuation principle' noted in this section states that *the costs of environmental externalities should be internalised and that the polluter should bear the costs associated with environmental pollution*'

The EIS notes here that the project's greenhouse gas emissions were calculated for the project. However as noted above, the EIS must consider the full scope of the project and thereby include greenhouse gas emission modelling for development of the unconventional gas industry in the NT.

#### *1.9.4 Integration Principle*

If the principle of integration requires that *decision making processes should effectively integrate both long-term and short term economic, social, environmental, and equitable considerations*, then the EIS for the project must address the long-term economic, social, environmental and equitable considerations associated with climate change.

An intensification of the current climate change situation will have a significant impact on communities across the globe, in most cases inequitably.

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To be in accordance with the principle of Integration, the EIS must demonstrate that the decision to build the Northern Gas Pipeline has integrated the short term and localized justification for the project with the global and long term impacts of further fossil fuel extraction.

## Chapter 2 - Project Description

### Section 2.5 - Geotechnical, Ecological and Pre-clearing Surveys

The EIS notes that ecological surveys of the project footprint have entailed aerial survey's to determine sensitive habitat areas which require ground based assessment.

While this section mentions further ground based ecological survey's to be undertaken, it fails to mention any surveys which would provide a more comprehensive assessment of any sensitive habitat areas. This is despite noting at section 6.1.4 – Sensitive Vegetation Types, that there are two types of sensitive vegetation areas occurring in the project footprint.

This section of the EIS also notes that targeted threatened species surveys for the 9 threatened species listed at Section 6.2.2 – Targeted Habitat Assessment and Field Surveys, were conducted in April and May 2016. However surveys should be conducted at multiple times throughout the year to ascertain if there is a likelihood of occurrence at different times across the year, given the full year build time proposed.

Again there is no mention of any further studies to be undertaken prior to commencement of construction.

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The EIS provides information only on predicted water use for construction and operation of the project. As noted previously the EIS for the project needs to take into account the broader impacts of the project in facilitating the development of the onshore gas industry.

As such the EIS should detail the full extent of water use associated with the gas production necessary to make the pipeline project viable for it's design life of 30 years.

### 2.13 – Construction Process

#### *2.13.5 – Water Course Crossings*

Section 2.2.1 of the Terms of Reference for the Project require that methods and crossing techniques be provided for any watercourse crossing required. However this section of the EIS which refers to watercourse crossings fails to provide adequate detail about the methods for watercourse crossings, excepting to say that they will be undertaken *'in a manner which minimises impacts... and minimises the duration and extent of disturbance'*.

While the EIS provides further detail on watercourses in 'Chapter 7 – Water', as well as in 'Appendix K – Water Course Crossing Survey Report', no further detail about the methods and crossing techniques is provided.

Section 4 of Appendix K, 'Further Work' advises that prior to construction a dry season survey will be undertaken which will locate permanent pools and inform the water course crossing designs and construction methodologies.

Jemena must provide further details on the methods and crossing techniques for all water courses in a supplementary EIS submission, once the dry season surveys have been completed.

### Section 2.18 - Project Alternatives

The EIS fails to address any alternatives to carry out the project which might better comply with the principles of ecologically sustainable development (as specified in Section 2.5 of the Terms of Reference).

Both in Australia and globally the importance of renewable energy sources is being recognised as we respond to the urgent need to mitigate climate change. The EIS for the project should note such alternatives, as part of its core environmental impact assessment.

## **Chapter 5 - Environmental Risk Assessment**

### Section 5.4 - Cumulative Impacts

Section 5.3 of the Terms of Reference for the EIS require the assessment of cumulative impacts 'in the context of existing and foreseeable future developments'.

Given the intent of the project to stimulate the development of onshore gas exploration, a specific concern that should be addressed as a cumulative effect is the impact of wide spread hydraulic fracturing for unconventional gas.

The cumulative risks of unconventional gas development in the Territory should be assessed using the current scenario with 84% of the Northern Territory under application for gas exploration.

## **Chapter 7 – Water**

### Section 7.2 – Existing Environment

#### *7.2.3 Surface Water*

Previous points have been raised at Section 2.13 about the inadequacy of detail provided around the methodology used for water crossings.

Jemena notes in this section that no significant impacts on watercourses are expected as a result of pipeline construction due to construction being undertaken during the dry period of the year.

Given the unseasonal rain we are currently experiencing, Jemena must provide further information on the potential impacts on water courses if periods of higher water flow do occur.

### Section 7.6 – Construction Phase Risks

#### *7.6.5 Hydrostatic Test Wastewater Entering Surface Watercourses*

The EIS notes that there is a significant inherent risk of Hydrostatic Test Wastewater Entering Surface Watercourses, as well as a moderate residual risk. It further notes that uncontrolled release

of hydrostatic test water, or release without pre-treatment could have “severe consequence as it could result in temporary impacts on water quality and temporary harm to the environment”

The EIS further notes that due to these risks there is need for the development of a Hydrostatic Test Management Plan.

Jemena should include in the supplementary EIS submission should a detailed Hydrostatic Test Management Plan.

Feedback from local community members in the district also points to concerns that the water for the hydrostatic testing is being requested from local landholders’ water allocations. Currently that water is being refused, and Jemena must outline a clear plan for where they will get what volume of water, and how that water will impact the surrounding water users and the environment over the long term.

### *7.6.6 Drawdown of Ground Water*

The EIS notes that there is a significant inherent risk and moderate residual risk of drawdown on ground water, which could have “a major effect on water resources, other users, and GDEs”. It also notes that options for rectification of groundwater drawdown are limited.

The EIS also notes that water sourcing will be further defined during the detailed planning phase and that further work is required in order to reduce the residual risk. This includes determining the location of groundwater extraction and volumes required from each bore and sustainable yield.

This information should be included in a supplementary submission to be prepared by Jemena so that the risks of drawdown on water can be accurately gauged and mitigated.

Supplementary information should also be provided to address the issue if appropriate sources of water are not found to meet the project needs. For example, if Jemena continue to struggle to find suitable freshwater supplies to test the pipeline integrity with water as needed due to local pastoralists saying no to giving up their water, what are Jemena’s plans for sourcing water?

### *7.6.7 Alteration of Surface Water Flows*

This section notes that there is the potential to alter surface water flows which could result in major impacts to aquatic ecosystems.

This risk of impacting water flows is higher following rainfall, at the end of the wet season, or when there are flows in watercourses. However while the risk assessment was based on the assumption that watercourse crossings will be undertaken when there is no water present, the EIS still found the inherent risk to be high.

As mentioned above further consideration must be given to if periods of water flow do occur. While the EIS mentions that in times of low flow, water crossings will be constructed in a way that does not impede low flow, again no information is provided on water course crossing construction methodologies, as required by the Terms of Reference for the project.

## Section 7.7 – Operational Phase Risks

### *7.7.4 Drawdown of Groundwater*

The EIS notes that the main operational water requirements will be the Philip Creek Compressor Station which will require 4,800l per day. This is considered a significant inherent risk.

It is noted that an assessment of the flow rates and availability of groundwater in the area is required to inform where this water will be sourced from and that it may be from a new or existing bore.

It is also noted that should a new bore be required an assessment of the sustainability of groundwater resources will be required due to the compressor station being located in the Tennant Creek Water Control District.

The EIS further notes that "Petroleum activities are exempt from the requirement to obtain a water extraction licence", however in March 2016 the NT Government announced its intention to remove the exemption under the Water Act for Mining and Petroleum activities.

Jemena must undertake an assessment of the sustainability of groundwater resources as part of supplementary submission, and apply for a license for water use for the project under the NT Water Act before the project is approved to proceed.

#### *Section 7.7.5 Produced Water Entering Surface Watercourses of Groundwater Aquifers*

The EIS states that approximately 200 L/hr of water will be produced at the Phillip Creek Compressor station as part of the gas treatment process and will be treated and then stored in an on-site evaporation pond for disposal by evaporation. The EIS notes that at the time of writing there was limited information on the specific design of the evaporation ponds or expected quality of produced water, but "it is assumed that the quality of wastewater would result in detrimental impacts to water quality, and aquatic ecosystems".

Jemena must provide further details on the evaporation ponds design and information on how they would cope with unseasonal rainfall such as we are currently experiencing.

## **CHAPTER 8 – Historic and Cultural Heritage**

Section 5.6.3 of the Terms of Reference for the EIS requires that a Cultural Heritage Management Plan (CHMP) be prepared for the project.

However the EIS includes only a 'framework' CHMP at Appendix Q, based on the initial risk assessment regarding the protection of cultural heritage. Appendix Q notes that the CHMP is expected to be finalized in the fourth quarter of 2016.

Jemena must provide a finalised copy of the CHMP, in line with the Terms of Reference, in a supplementary EIS submission.

#### Section 8.1.5 – Sacred Site Consultation, Surveys and Management

The EIS notes that Jemena is yet to be granted an Authority Certificate from the Aboriginal Areas Protection Authority and to finalise an agreement with the CLC and NLC about protecting Sacred Sites.

Additionally specialist archeological heritage reports are still in the process of being prepared and a works approval is yet to be granted under the Heritage Act (NT).

Given the importance of ensuring that cultural heritage matters are adequately addressed in the CHMP and that appropriate approvals are obtained Jemena should address these matters in a supplementary EIS submission.

## CHAPTER 9 – Socio-Economic Aspects

### Section 9.8 – Aboriginal Context

#### *Laws, Customs and Culture*

Section 4 of the Terms of Reference requires that a summary of the laws, customs and or culture of the Native Title Holders be provided to establish a baseline for aspects of traditional Aboriginal culture that might be impacted by the project.

However the details provided in this section fail to provide enough detail to establish a baseline for potential impacts. More detail is required further to stating that "Traditional cultural practice is still conducted and Aboriginal languages are still spoken in the region".

### Section 9.10 – Social & Economic Risk Assessment

Section 5.8 of the EIS Terms of Reference requests that an economic and social impact assessment (ESIA) be conducted for the Northern Gas Pipeline project.

However the EIS only provides an economic impact assessment and a social impact assessment *scoping study* at Appendix R. The scoping study is a preliminary analysis which outlines plans for comprehensive consultations around social impacts with a range of stakeholders (detailed in the document). The EIS states that the ESIA will be completed in the second half of 2016 once the social impact assessment (SIA) consultations have occurred.

According to the Social Impact Assessment Scoping Study, the SIA consultations are scheduled for completion in August 2016. However conversations with key stakeholder groups including Aboriginal land owners, Aboriginal communities, and people from family outstations and town camps (refer Volume 7, Appendix R, pg 140-141), indicate they have yet to be involved in consultations about social impacts.

Given the importance of a comprehensive economic and social impact assessment being included in the EIS Jemena should ensure that consultations have been completed and the results incorporated into the ESIA and management plan to be included in a supplementary EIS submission.

### General Comments on the Socio Economic Chapter

We note that the project only results in 12 FTE Northern Territory jobs for the operational phase. We do not feel these jobs justify the problems that will result from the pipeline.

During construction, the hundreds of FIFO workers living on remote worker camps along the pipeline route will cause social disfunction and will not create long term jobs for locals. Increased use of drugs and alcohol and anti-social behaviour in culturally sensitive areas, which the company acknowledges is impossible to manage. More planning on how to address these realities needs to be presented to the NT EPA before final assessment decision can be made.

## **Community Group Submission by: Frack Free Darwin**

### **Submission to the Jemena Northern Gas Pipeline Draft Environmental Impact Statement**

**Reference number: EPBC 2015/7569**

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Northern Gas Pipeline Project provided by Jemena.

Frack Free Darwin is a group of community members who live in the Darwin suburbs and contribute to the Territory economy and lifestyle through our professions as teachers, doctors, small business owners, lawyers, tourism operators, hospitality workers and students. We have serious concerns about the impacts of the unconventional (shale) gas industry in the Northern Territory, both across the Top End, through the water recharge areas of our iconic waterways, tourism regions and across the Territory more broadly.

The Frack Free Darwin group and former group Don't Frack the Territory has worked for protections from unconventional gasfields since 2014.

Our group has a specific interest in expressing concern with the Northern Gas Pipeline project due to the stated basis of the project - to drive the development of the NT's onshore gas industry.<sup>1</sup> Developing the NT's onshore gas reserves will require the widespread use of hydraulic fracturing or 'fracking' a controversial process, which poses risks to our water resources, air quality as well as human health.

We are greatly disappointed that the Terms of Reference for the Northern Gas Pipeline EIS does not include the requirement for Jemena to address the full environmental, social and economic risks of the project as an enabler for the development of the NT's onshore unconventional gas reserves.

While assessment of environmental risks will take place for unconventional gas exploration projects on an individual basis, there is no scope under the current NT EPA assessment process to consider the cumulative environmental, social and economic impacts of the advancement of the industry on NT ecosystems or communities.

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<sup>1</sup> <http://jemena.com.au/about/newsroom/media-release/2015/jemena-to-build-north-east-gas-interconnector>

## SUBMISSION #30

Our submission below notes our concerns about the lack of inclusion of the full scale of impacts of the project at key points in the EIS, as well as other concerns we have with the detail of the EIS. We feel there are numerous points where Jemena has not yet fulfilled the requirements of the Terms of Reference provided by the EPA, and therefore there is a significant body of work to be undertaken before the assessment process can be completed.

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The submission is structured in line with the EIS structure and makes reference to your NT EPA Terms of Reference for the EIS for the project.

Kind regards,

Belinda Quinlivan

Email:

On behalf of Frack Free Darwin

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Given the unseasonal rain we are currently experiencing, Jemena must provide further information on the potential impacts on water courses if periods of higher water flow do occur.

### Section 7.6 – Construction Phase Risks

#### *7.6.5 Hydrostatic Test Wastewater Entering Surface Watercourses*

The EIS notes that there is a significant inherent risk of Hydrostatic Test Wastewater Entering Surface Watercourses, as well as a moderate residual risk. It further notes that uncontrolled release

of hydrostatic test water, or release without pre-treatment could have “severe consequence as it could result in temporary impacts on water quality and temporary harm to the environment”

The EIS further notes that due to these risks there is need for the development of a Hydrostatic Test Management Plan.

Jemena should include in the supplementary EIS submission should a detailed Hydrostatic Test Management Plan.

Feedback from local community members in the district also points to concerns that the water for the hydrostatic testing is being requested from local landholders’ water allocations. Currently that water is being refused, and Jemena must outline a clear plan for where they will get what volume of water, and how that water will impact the surrounding water users and the environment over the long term.

### *7.6.6 Drawdown of Ground Water*

The EIS notes that there is a significant inherent risk and moderate residual risk of drawdown on ground water, which could have “a major effect on water resources, other users, and GDEs”. It also notes that options for rectification of groundwater drawdown are limited.

The EIS also notes that water sourcing will be further defined during the detailed planning phase and that further work is required in order to reduce the residual risk. This includes determining the location of groundwater extraction and volumes required from each bore and sustainable yield.

This information should be included in a supplementary submission to be prepared by Jemena so that the risks of drawdown on water can be accurately gauged and mitigated.

Supplementary information should also be provided to address the issue if appropriate sources of water are not found to meet the project needs. For example, if Jemena continue to struggle to find suitable freshwater supplies to test the pipeline integrity with water as needed due to local pastoralists saying no to giving up their water, what are Jemena’s plans for sourcing water?

### *7.6.7 Alteration of Surface Water Flows*

This section notes that there is the potential to alter surface water flows, which could result in major impacts to aquatic ecosystems.

This risk of impacting water flows is higher following rainfall, at the end of the wet season, or when there are flows in watercourses. However while the risk assessment was based on the assumption that watercourse crossings will be undertaken when there is no water present, the EIS still found the inherent risk to be high.

As mentioned above further consideration must be given to if periods of water flow do occur. While the EIS mentions that in times of low flow, water crossings will be constructed in a way that does not impede low flow, again no information is provided on water course crossing construction methodologies, as required by the Terms of Reference for the project.

## Section 7.7 – Operational Phase Risks

### *7.7.4 Drawdown of Groundwater*

The EIS notes that the main operational water requirements will be the Philip Creek Compressor Station which will require 4,800l per day. This is considered a significant inherent risk.

It is noted that an assessment of the flow rates and availability of groundwater in the area is required to inform where this water will be sourced from and that it may be from a new or existing bore.

It is also noted that should a new bore be required an assessment of the sustainability of groundwater resources will be required due to the compressor station being located in the Tennant Creek Water Control District.

The EIS further notes that "Petroleum activities are exempt from the requirement to obtain a water extraction licence", however in March 2016 the NT Government announced its intention to remove the exemption under the Water Act for Mining and Petroleum activities.

Jemena must undertake an assessment of the sustainability of groundwater resources as part of supplementary submission, and apply for a license for water use for the project under the NT Water Act before the project is approved to proceed.

#### *Section 7.7.5 Produced Water Entering Surface Watercourses of Groundwater Aquifers*

The EIS states that approximately 200 L/hr of water will be produced at the Phillip Creek Compressor station as part of the gas treatment process and will be treated and then stored in an on-site evaporation pond for disposal by evaporation. The EIS notes that at the time of writing there was limited information on the specific design of the evaporation ponds or expected quality of produced water, but "it is assumed that the quality of wastewater would result in detrimental impacts to water quality, and aquatic ecosystems".

Jemena must provide further details on the evaporation ponds design and information on how they would cope with unseasonal rainfall such as we are currently experiencing.

## **CHAPTER 8 – Historic and Cultural Heritage**

Section 5.6.3 of the Terms of Reference for the EIS requires that a Cultural Heritage Management Plan (CHMP) be prepared for the project.

However the EIS includes only a 'framework' CHMP at Appendix Q, based on the initial risk assessment regarding the protection of cultural heritage. Appendix Q notes that the CHMP is expected to be finalized in the fourth quarter of 2016.

Jemena must provide a finalised copy of the CHMP, in line with the Terms of Reference, in a supplementary EIS submission.

#### Section 8.1.5 – Sacred Site Consultation, Surveys and Management

The EIS notes that Jemena is yet to be granted an Authority Certificate from the Aboriginal Areas Protection Authority and to finalise an agreement with the CLC and NLC about protecting Sacred Sites.

Additionally specialist archaeological heritage reports are still in the process of being prepared and a works approval is yet to be granted under the Heritage Act (NT).

Given the importance of ensuring that cultural heritage matters are adequately addressed in the CHMP and that appropriate approvals are obtained Jemena should address these matters in a supplementary EIS submission.

## CHAPTER 9 – Socio-Economic Aspects

### Section 9.8 – Aboriginal Context

#### *Laws, Customs and Culture*

Section 4 of the Terms of Reference requires that a summary of the laws, customs and or culture of the Native Title Holders be provided to establish a baseline for aspects of traditional Aboriginal culture that might be impacted by the project.

However the details provided in this section fail to provide enough detail to establish a baseline for potential impacts. More detail is required further to stating that "Traditional cultural practice is still conducted and Aboriginal languages are still spoken in the region".

### Section 9.10 – Social & Economic Risk Assessment

Section 5.8 of the EIS Terms of Reference requests that an economic and social impact assessment (ESIA) be conducted for the Northern Gas Pipeline project.

However the EIS only provides an economic impact assessment and a social impact assessment *scoping study* at Appendix R. The scoping study is a preliminary analysis which outlines plans for comprehensive consultations around social impacts with a range of stakeholders (detailed in the document). The EIS states that the ESIA will be completed in the second half of 2016 once the social impact assessment (SIA) consultations have occurred.

According to the Social Impact Assessment Scoping Study, the SIA consultations are scheduled for completion in August 2016. However conversations with key stakeholder groups including Aboriginal land owners, Aboriginal communities, and people from family outstations and town camps (refer Volume 7, Appendix R, pg. 140-141), indicate they have yet to be involved in consultations about social impacts.

Given the importance of a comprehensive economic and social impact assessment being included in the EIS Jemena should ensure that consultations have been completed and the results incorporated into the ESIA and management plan to be included in a supplementary EIS submission.

### General Comments on the Socio Economic Chapter

We note that the project only results in 12 FTE Northern Territory jobs for the operational phase. We do not feel these jobs justify the problems that will result from the pipeline.

During construction, the hundreds of FIFO workers living on remote worker camps along the pipeline route will cause social dysfunction and will not create long-term jobs for locals. Increased use of drugs and alcohol and anti-social behaviour in culturally sensitive areas, which the company acknowledges is impossible to manage. More planning on how to address these realities needs to be presented to the NT EPA before final assessment decision can be made.

**Arid Lands Environment Centre (ALEC)  
Submission to the Jemena Northern Gas Pipeline  
Draft Environmental Impact Statement (EIS)  
October 2016**

The Arid Lands Environment Centre (ALEC) is the peak regional environmental organisation in Central Australia. For 36 years ALEC has advocated for the wise use of our natural resources, protection of biodiversity and action on climate change.

ALEC's vision is for 'healthy futures for arid lands and people'. ALEC works both on the ground and in the policy space to ensure good environmental outcomes for the long-term benefit of Territorians.

ALEC welcomes the opportunity to comment on this EIS. ALEC has limited resources to draw on to make submissions to individual project EIS's but considers it important to make comment on this particular project.

**'No fracking pipeline'**

ALEC is staunchly opposed to the proposed Northern Gas Pipeline (NGP) due to its enabling effects on the Northern Territory onshore gas industry. Territorians have demonstrated in the August election that hydraulic fracturing (fracking) for onshore shale gas is a serious concern for residents with its impacts on groundwater and the climate.

In December 2015, Australia signed up to the Paris Agreement and is now in the process of ratification. The agreement seeks to limit global temperature rises to 1.5C. This global target requires 80% of all known fossil fuel deposits to remain unburned and in the ground<sup>[1]</sup>. It is pertinent to consider this project in the context of the previous NT Government's failed economic agenda. The Giles/Tollner Government spent millions of taxpayer dollars on promoting the onshore gas industry while significantly weakening the environmental safeguards supposed to regulate the industry. The Giles Government set the timeline and process in motion for this project, which has been described as the 'whitest of white elephants' in an Institute for Energy Economics and Financial Analysis report in May 2016<sup>[2]</sup>.

The stated economic justification of this project 'stimulating the development of the Northern Territory through increased gas exploration and production' and 'providing a new source of competitively-priced clean, reliable energy to eastern Australia' is in direct conflict with Australia's meaningful participation in the Paris Agreement to reduce global emissions and the aspirations of most Territorians. This pipeline represents a fork in the road for environmental assessment and approvals in the Northern Territory due both to its Giles Government prescribed project timeline and its focus to drive investment in shale gas exploration and development. Unfortunately for this project, the situation has changed considerably with both a pro-renewable energy government elected on a fracking moratorium platform.

The cumulative impacts of this enabling project need to be considered as part of its environmental assessment. This is not currently the case. It would be environmentally and economically irresponsible to allow this project to proceed while a moratorium on fracking is in force. Rural, remote and urban residents of the Northern Territory have expressed serious concern about the impact of fracking on groundwater and the environment, and as such only recently elected the current Labor Government on its platform for a moratorium on fracking.

**Project specific EIS shortcomings and concerns**

- The principles of ecological sustainable development cannot apply to this project due to its proposed enabling impacts on the gas fracking industry and the future implications for both groundwater and greenhouse gas emissions.
- The ownership and operation of the pipeline, by Jemena that is a conglomerate of foreign state-owned utilities China State Grid (60%) and Singapore Power (40%) with recent issues raised about the restructuring of the company to reduce its tax liability in Australia [\[3\]](#).
- Only 13 permanent jobs in the NT are forecast.
- The Mines Minister can approve the project, the NTEPA is not even listed as a stakeholder
- The reliance on desktop research and one fly-over to assess biodiversity and bilby habitats.
- Lack of clarity around evaporation ponds at the compressor stations and wastewater management.
- The EcOz Figures Volume 1 (2.2,2.3,2.4, 2.5, 2.6) all have disclaimers of warranty for every part of research they were involved in, yet the EIS is based on their work – who's accountable?
- No Hydrostatic Test Management Plan (Sect 7.6.5)
- No specific details on methods and techniques of crossing watercourses (2.13.5)
- Risks of wildfire spread in construction with only one fire truck in Tennant Creek and one fire trailer proposed
- Water Act – clarity needed as to whether this project is exempted from the Water Act as a petroleum activity
- Groundwater drawdown in a semi-arid areas with a lack of research and knowledge of potential water source. There needs to be a whole of life cycle analysis of the cumulative water impacts this project would have to obtain a viable amount of gas through the 30 year period.
- Construction timeline does not consider the variable and unpredictable climate of the Barkly, the risk of heavy rain impacting on the project is high.
- Weed hygiene and the creation of a weed corridor through 600kms of relatively pristine country.
- Social Impact Assessment is incomplete.
- Air management plans are inadequate.

- Traditional Owners and Native Title Holders have not given consent for this project to proceed.
- Biodiversity surveys, particularly the Bilby surveys were only completed in April, May and June – given the 18 month construction timeline, more seasonal ground surveys need to be conducted to ensure minimal impact on threatened species.

ALEC currently has limited resources to be able to engage in EIS processes. The list above is by no means exhaustive but the best that could be pulled together in a short amount of time.

ALEC recommends that this project not be allowed to proceed based on its expressed justification to stimulate the Northern Territory onshore gas industry. The development of shale gas by fracking is not sustainable and cannot be allowed to proceed if Australia is to honour its commitments under the Paris Agreement. Time, energy and money spent on fossil fuels is wasted money at this stage and ALEC recommends that the proponent instead seek opportunities to invest in renewable energy projects in the NT. Fracking has no social licence in the Northern Territory, something Territorians just resoundingly voted on. This fracking pipeline has no place in a modern democracy committed to climate action and should be confined to the annals of history like the Government that suggested it.

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[1] <http://www.yesmagazine.org/issues/life-after-oil/why-we-need-to-keep-80-percent-of-fossil-fuels-in-the-ground-20160215>

[2] <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>

[3] <http://www.afr.com/news/policy/tax/jemena-funding-arrangements-raised-with-the-ato-20160610-gpgk63>

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# **The Northern Gas Pipeline**

## **A Submission by the Institute for Energy Economics and Financial Analysis**

Author: Bruce Robertson BEc FFin

Date: 4 October 2016

### **Introduction**

In May 2016 the Institute for Energy Economics and Financial Analysis (IEFFA) wrote a report that highlighted that the Northern Gas Pipeline (NGP) was not a commercial venture without substantial government subsidies either in the form of direct grants or inflated tariffs to transport the gas.

The report provided a comprehensive analysis of the global markets for traded liquid natural gas (LNG) and highlights the fact that global markets are currently oversupplied and demand is much weaker than expected from the major importing nations of Japan, Korea and China. There is a large amount of new LNG production that will come on stream between now and 2020 from projects that are already under construction further exacerbating the over supply situation. The glut in global LNG supply is expected to last out until 2030. The outlook for gas prices in such a market is similarly weak.

This submission is a supplement to our report entitled Pipe Dream – A Financial Analysis of the Northern Gas Pipeline

The need to supply manufacturing industry with gas on the East Coast of Australia is a pressing issue for policy makers in the Energy arena. However what is missed in the debate is that this supply must be at a globally competitive price. Without globally competitive gas pricing for manufacturing these downstream businesses will simply go out of business.

The NEGI will not be able to supply either the east coast manufacturers or the export market at a reasonable price.

It will be able to supply some manufacturers in Mt Isa however the gas will not flow further as it is simply uneconomic when high pipeline transportation costs are factored in.

The Northern Territory government (via the wholly owned Power and Water Commission) is paying over twice a commercial rate of return to transport the gas it is proposing to supply to the Northern Gas Pipeline. This is wholly uncommercial and unsustainable.

The monopoly power of Jemena's Northern Gas Pipeline highlights many of the issues that were raised in the ACCC report into the East Coast Gas market that found that Gas transmission pipeline operators were price gouging consumers and charging monopoly prices.

If the Northern Gas Pipeline is built it is the owners of Jemena, the Chinese and Singapore Governments, to which a major portion of the economic benefit of Northern Territory gas will accrue.

### **1. The extent of price gouging by Jemena**

Australia is one of the few countries in the Western world where gas transmission pipelines are not wholly regulated. Gas transmission pipelines are natural monopolies and hence even in the USA, are wholly regulated.

In Australia, however, the government at both State and Federal levels is happy to see gas transmission pipeline operators charge inflated monopoly prices. This embeds in the Australian economy high priced energy where, given our abundance of cheap energy sources, we should pay amongst the lowest prices in the world.

### **2. What Will Jemena charge?**

In their environmental impact statement Jemena have stated that they will charge a base tariff of \$1.40/GJ and an additional \$0.72/GJ for Nitrogen reduction.<sup>1</sup> This submission will concentrate on the \$1.40/GJ charge and will not pass comment on the \$0.72/GJ Nitrogen reduction charge except to say if the price gouging occurring for the pipeline charge is replicated in the Nitrogen charge it is likely that Jemena are using their monopoly position for their own economic advantage and charging an excessive amount.

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<sup>1</sup> Pipeline tariffs have been set to recover the overall investment in the Project and pipeline and allow shareholders to make a return on their investment.

The NGP is currently designed to carry up to 90TJ/d of gas to Mount Isa. Jemena has posted a base tariff for use of the pipeline of \$1.40/GJ for Firm Forward Haulage (FFH). Nitrogen reduction from the natural gas is essential and adds approximately \$0.72 to the tariff bringing the total to around \$2.12/GJ for gas transported.

Source: Page 9-30 Northern Gas Pipeline – Environmental Impact Statement  
[https://ntepa.nt.gov.au/\\_data/assets/pdf\\_file/0004/368122/jemena\\_draft\\_eis\\_ch9.PDF](https://ntepa.nt.gov.au/_data/assets/pdf_file/0004/368122/jemena_draft_eis_ch9.PDF)

### 3. Comparable Pipeline Charges

In February 2015 the Australian Electricity Market Operator commissioned Core Logic to produce a report on Gas Production and Transmission Costs in Eastern and South Eastern Australia.<sup>2</sup> The report summarised the tariffs charged by various gas transmission pipelines in eastern Australia.

## 4. TRANSMISSION COSTS

### 4.1 Summary of Existing Transmission Tariffs

A summary of Core's estimate of transmission tariffs are provided in Table 4.1 below and the location of these pipelines is presented in Figure 4.1.

Table 4.1 Summary of transmission costs – major existing pipelines | AUD/GJ

Basin	Low	Ref	High
Carpentaria Gas Pipeline	1.82	1.48	1.48
Eastern Gas Pipeline	1.33	1.21	1.09
Longford to Melbourne Gas Pipeline	0.29	0.25	0.25
Moomba to Adelaide Pipeline System	0.73	0.67	0.60
Moomba to Sydney Pipeline System	0.99	0.90	0.85
Queensland Gas Pipeline	1.03	0.94	0.94
Roma - Brisbane Pipeline	0.63	0.57	0.57
South East Australia Gas Pipeline	0.88	0.80	0.80
South West Pipeline	0.30	0.28	0.28
South West Queensland Pipeline	1.08	0.98	0.89
Tasmania Gas Pipeline	2.55	2.05	2.05

Source: Core Energy Group with Operator input for a number of areas.

3

This table shows that the NGP is the second most expensive onshore pipeline in the country. However the only pipeline that is more expensive than it is the Carpentaria gas pipeline that is 35% longer than the NGP. The Tasmanian Gas Pipeline is under the Bass Strait so it is not comparable.

<sup>2</sup> [https://aemo.com.au/-/media/Files/Gas/National Planning and Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx](https://aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx)

<sup>3</sup> Source: Page 10 Gas Production and Transmission Costs – Eastern and South Eastern Australia – Core Energy Group  
[https://aemo.com.au/-/media/Files/Gas/National Planning and Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx](https://aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx)

Figure 3.2(1) Major Gas Transmission Pipelines

Pipeline	Location	Length (KM)	Capacity (TJ/D)	Covered?	Owner
<b>EASTERN AUSTRALIA</b>					
<b>Queensland</b>					
North Queensland Gas Pipeline .....	Qld	391	108	No	Victorian Funds Management Corporation
Queensland Gas Pipeline (Wallumbilla to Gladstone) .....	Qld	629	142	No	Jemena (State Grid Corporation 60%, Singapore Power International 40%)( <sup>1</sup> )
Carpentaria Pipeline (Ballera to Mount Isa) .....	Qld	840	119	Yes (light)	APA Group
Berwyndale to Wallumbilla Pipeline .....	Qld	113		No	APA Group
Dawson Valley Pipeline .....	Qld	47	30	No	Westside (51%), Mitsui (49%)
Roma (Wallumbilla) to Brisbane .....	Qld	440	233	Yes (2012 – 2017)	APA Group
Wallumbilla to Darling Downs Pipeline .....	Qld	205	400	No	Origin Energy
South West Queensland Pipeline (Ballera to Wallumbilla) ..	Qld	756	404	No	APA Group
QSN Link (Ballera to Moomba) .....	Qld-SA and NSW	180	404	No	APA Group
Gladstone LNG Pipeline .....	Qld	435	1430	No	Santos, Petronas, Total, KOGAS
Wallumbilla Gladstone Pipeline .....	Qld	334	1530	No	APA Group
Australia Pacific LNG Pipeline .....	Qld	362	1530	No	Origin Energy, ConocoPhillips, Sinopec
<b>New South Wales</b>					
Moomba to Sydney Pipeline .....	SA-NSW	2035	1030	Partial (light)	APA Group
Central West (Marsden to Dubbo) Pipeline .....	NSW	255	10	Yes (light)	APA Group
Central Ranges (Dubbo to Tamworth) Pipeline .....	NSW	300	7	Yes (2015 – 2019)	APA Group
Eastern Gas Pipeline (Longford to Sydney) .....	Vic-NSW	795	291	No	Jemena (State Grid Corporation 60%, Singapore Power International 40%)( <sup>1</sup> )
<b>Victoria</b>					
Victorian Transmission System (GasNet) .....	Vic	2035	1030	Yes (2013 – 2017)	APA Group
South Gippsland Natural Gas Pipeline .....	Vic	250		No	DUET Group
VicHub .....	Vic		126	No	Jemena (State Grid Corporation 60%, Singapore Power International 40%)( <sup>1</sup> )
<b>South Australia</b>					
SEA Gas Pipeline (Port Campbell to Adelaide) .....	Vic-SA	680	314	No	APA Group and REST (equal shares)
Moomba to Adelaide Pipeline .....	SA	1185	241	No	QIC Global Infrastructure
<b>Tasmania</b>					
Tasmanian Gas Pipeline (Longford to Hobart) .....	Vic-Tas	734	129	No	Palisade Investment Partners
<b>NORTHERN TERRITORY</b>					
Bonaparte Pipeline .....	NT	287	80	No	Energy Infrastructure Investments (APA Group 20%, Marubeni 50%, Osaka Gas 30%)
Amadeus Gas Pipeline .....	NT	1512	104	Yes (2011 – 2016)	APA Group
Daly Waters to McArthur River Pipeline .....	NT	330	16	No	Power and Water
Palm Valley to Alice Springs Pipeline .....	NT	140	27	No	Australian Gas Networks (Cheung Kong Infrastructure)

<sup>4</sup> Page 89
<http://jemena.com.au/getattachment/About/investors/investor-information/SGSPAA-Offering-Circular.pdf.aspx>

## 4. Jemena's charges per kilometre

<b>Onshore Australian Pipeline Costs Per Kilometre</b>			
<b>Pipeline</b>	<b>Tariff (\$/GJ)</b>	<b>Distance (Kilometres)</b>	<b>Tariff of 1 GJ/KM (cents/km)</b>
<b>Northern Gas Pipeline</b>	<b>1.40</b>	<b>622</b>	0.23
Carpentaria Gas Pipeline	1.48	840	0.18
Eastern Gas Pipeline	1.21	795	0.15
Queensland Gas Pipeline	0.94	629	0.15
South West Queensland Pipeline	0.98	756	0.13
Roma-Brisbane Pipeline	0.57	440	0.13
South East Australian Gas Pipeline	0.80	680	0.12
Longford to Melbourne Gas Pipeline	0.25	250	0.10
Moomba to Adelaide Pipeline System	0.67	1185	0.06
Moomba to Sydney Pipeline System	0.90	2035	0.04
Average Tariff			0.13

Sources: AEMO and Jemena cited in footnotes 3 and 4

The table above looks at the Northern Gas Pipeline on the basis of the tariff charged per kilometre.

The NGP will charge the highest tariffs in Australia for the transport of gas at 0.23 cents per kilometre. This is almost double than the average 0.13c tariff/km charged in Australia.

The Northern Gas Pipeline will charge the highest tariffs in Australia, a country where, according to the ACCC<sup>5</sup> we pay too much for pipeline services.

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<sup>5</sup> [https://www.accc.gov.au/system/files/1074\\_Gas\\_enquiry\\_report\\_FA\\_21April.pdf](https://www.accc.gov.au/system/files/1074_Gas_enquiry_report_FA_21April.pdf)

5. Determining a reasonable tariff for Jemena to charge.

The Core Logic report on Gas Production and Transmission Costs in Eastern and South Eastern Australia, commissioned by the Australian Energy Market Operator, published a table that summarised the Low to High range of capital costs for pipelines of varying configurations for a 100 km length together with an indicative tariff based on a reasonable real rate of return of 7%.

The following table provides a Low to High range of capital costs for pipelines of varying configuration for a 100km length, together with an indicative tariff based on a real rate of return of 7%.

Table 4.3 Summary

Pipeline configuration	Low AUD Million	Ref. AUD Million	High AUD Million	Ref. Tariff
8 inch Class 600, 5.6mm wall thickness	28.4	31.5	34.7	AUD0.11/GJ
14 inch Class 600, 9.1 mm wall thickness	55.9	62.1	68.3	AUD0.10/GJ

Source: Core Energy Group with Operator input for a number of areas.

6

Post tender win the Northern gas pipeline was reduced in size following a lack of demand from 14 inches to 12 inches. This means that the pipeline falls in between the indicative tariffs of \$0.10/100 km and \$0.11/100 km.

Taking the higher end of the price range indicated \$0.11/ 100 km we can see that a reasonable tariff for Jemena to charge on its 622 km pipeline would be \$0.68/GJ.

Jemena is charging \$1.40/GJ some 105% more than a benchmark tariff based on a reasonable rate of return of 7%.

Essentially, Northern Territory gas producers and the Northern Territory government will be paying over twice the tariff that they should be to get their gas to Mt Isa, effectively a massive proposed subsidy even if the pipeline is used to full proposed capacity.

By any scale this is Jemena exercising its monopoly power to charge an excessive amount.

<sup>6</sup> Source: Page 10 Gas Production and Transmission Costs – Eastern and South Eastern Australia – Core Energy Group

[https://aemo.com.au/-/media/Files/Gas/National\\_Planning\\_and\\_Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx](https://aemo.com.au/-/media/Files/Gas/National_Planning_and_Forecasting/GS00/2015/Core--Gas-Production-and-Transmission-Costs.ashx)

## 6. Is it Economic to transport gas half way across Australia to be then converted and exported as LNG from Gladstone?

In short the answer is definitively no it is not economic to transport gas half way across Australia to export it or indeed for domestic industry to consume it.

The Australian gas pipeline industry is not globally competitive as it charges monopoly prices and unlike its competitors in New Zealand, USA and the EU it is not regulated as to price and availability.

For a fuller explanation of this please refer to the following article

<http://www.michaelwest.com.au/its-a-gas-australian-gas-prices-are-a-bargain-in-japan/>

The table below outlines the pipeline charges that would be incurred by a Northern Territory gas producer to get its gas to the east coast to export it through Gladstone. When evaluating this analysis it must be recognized that this assumes that the gas is at Tennant Creek. Most Northern Territory producers would incur further costs to get the gas to Tennant Creek and hence the \$5.52 price for Nitrogen reduction and transport is the lowest possible cost.

<b>Cost to Transport gas to Gladstone for Export</b>	
Nitrogen reduction charge	\$0.72
Tennant Creek to Mt Isa	\$1.40
Mt Isa to Ballera (Carpentaria pipeline)	\$1.48
Ballera to Wallumbilla (SWQP)	\$0.98
Wallumbilla to Gladstone (QGP)	\$0.94
Total	<u>\$5.52</u>
Source: Jemena and AEMO	

Currently, the spot price for gas in Japan<sup>7</sup> is USD 5.40/ GJ or Australian \$7.05/GJ.

With the glut in global LNG supplies persisting into the foreseeable future it is our contention that the global price for gas will remain depressed well below the rate required for Australian east coast LNG facilities to achieve anything like an economic return.

Likewise for Australian industrial consumers the price offered by the cartel of east coast gas producers must be globally competitive in the long term otherwise the industrial customers will be unable to compete with imported product and will go out of business.

According to Origin Energy<sup>8</sup> it costs at least US\$2.90 or A\$3.80 to liquefy and transport the gas.

<sup>7</sup> <http://www.meti.go.jp/english/statistics/sho/slmg/result/pdf/201608-e.pdf>

This A\$3.80/GJ price does not include the capital cost of the LNG plants or an economic return on investment. All of the LNG plants at Gladstone have large amounts of debt and hence have to make an economic return on their investments in LNG liquefaction facilities in order for them to satisfy their bankers. The A\$3.80/GJ is just the marginal cost of production to liquefy and transport the gas.

At a bare minimum it costs to transport by pipe from Tennant Creek to Gladstone and liquefy and transport the gas to Japan A\$9.32/GJ. This compares to current prices of A\$7.05/GJ making the process uneconomic before we have even taken into account exploration and production costs in the Northern Territory or paying the bankers of the LNG export facilities.

### **Summary and Conclusion**

The Northern Gas pipeline is an ill-conceived proposal.

There is a global gas glut extending out to 2030 as new supply continues to come on line in a market already over supplied. Attempting to open up new expensive onshore gas reserves in such a fiercely competitive global market is not economic.

The rates to transport gas from Tennant Creek to Mt Isa are the highest of any pipeline in Australia. The rate charged is 91% more than the average tariff/km charged in Australia.

Jemena will earn 105% more than a benchmark tariff based on a reasonable rate of return of 7%.

The venture at current prices is wholly uneconomic other than to supply customers in Mt Isa.

The Northern Territory government is paying extortionate rates to transport the Power and Water Commissions excess gas to Mt Isa.

The Northern Gas pipeline will not open new markets on the east coast or export markets through Gladstone as the tariffs charged are simply too high to make it economic in the current global gas market.

The Northern Territory government has gifted the governments of China and Singapore an unregulated monopoly to transport gas from the NT to the east coast. If in the long term the pipeline and gas industry in the Northern Territory is developed it will be to these two foreign governments that a major portion of the economic benefit will accrue.

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<sup>8</sup>[www.asx.com.au](http://www.asx.com.au) - Origin Energy – Presentation to Analysts and Financial Markets 18 August 2016 Page 39

Submission to the NT Environmental Protection Authority:  
Draft Environmental Impact Statement for the proposed  
Northern Gas Pipeline  
Proponent: Jemena

October 2016



Environment Centre NT

protecting nature | living sustainably | creating a climate for change

### Executive Summary

This Draft EIS fails to demonstrate that the benefits of the proposed Northern Gas Pipeline outweigh the significant impacts it would have upon the environment and communities in the NT.

The Draft EIS does outline a number of environmental and social risks, some of which could potentially be managed, others which have been underestimated and could have a lasting detrimental impact.

ECNT has assessed this Draft EIS and determined that the most significant impacts associated with this proposed development include:

- an unsustainable level of water extraction from groundwater in the Barkly region, an arid zone, which could significantly deplete the groundwater aquifers of that region;
- the risk of contamination to surface and groundwater through the generation of large amounts of toxic wastewater during the hydrostatic testing and ongoing compressing of gas at the Phillip Creek site.
- the contribution the entire project will make to Australia's and the Northern Territory's already high climate impact;
- the loss of the opportunity to invest in plentiful clean and renewable energy resources at the expense of dirty fossil fuels, which contravenes the NT's own Renewable Energy Target as well as Australia's global commitments under the Paris Agreement;
- the flow-on effect the project would have in supporting the unnecessary expansion of 'unconventional' shale gas fracking in the NT whilst a moratorium for this activity is in place.

This project was presented by the Northern Territory Government in 2015 and released for tender without consultation with the community. ECNT considers it highly inappropriate that this business was conducted by the government at the same time as many communities throughout Australia and the NT voiced their considerable concerns about the impacts associated with an expanded shale gas industry in the NT.

No economic analysis was presented to members of the public to justify the significant amount of taxpayer funds used to support development of the Northern Gas Pipeline proposal. To date, the NT Government has failed to explain to the community the pressing need for such a pipeline or to listen to the community's significant concerns about the real potential for this project to support a rapid expansion of shale gas fracking in the NT.

Two independent reports released in 2015 and 2016 outline that the idea there is a growing market for gas on the eastern seaboard is a false one, which is likely to be driven by falling demand and increasing uptake of renewable energy sources. Both reports concluded that not only was the Northern Gas Pipeline unnecessary, it could prove to be a costly white elephant for the NT Government.

A third report released by the Climate Council in December 2015 outlined that Australia ranked last in the OECD countries according to its Climate Change Performance Index. The Climate Council again reiterated the ever-pressing need for Australia to immediately shift away from fossil fuels to reduce its greenhouse gas emissions to zero.

It is telling that the proponent, Jemena, does not put forward any real alternative to this development and that renewable energy sources are not explored as an alternative to gas at any point in the Draft EIS.

ECNT contends that there is a real and viable alternative to the proposed gas pipeline which would deliver far-reaching benefits to the NT, QLD and Australia. A large scale renewable energy project could fulfil the energy requirements of industry at Mount Isa, potentially input solar power to the National Electricity Market, generate no pollution and deliver multiple benefits to the environment and communities whilst contributing to the Renewable Energy Targets of NT, QLD and Australia.

Further, the proponent makes several presumptions in this Draft EIS:

- That Traditional Owners of the Wakaya Land Trust and Arruwurra Aboriginal Corporation will grant permission for land access to the proponent to support the Northern Gas Pipeline
- That an Authority Certificate will be granted by the Aboriginal Areas Protection Authority to certify the proponent has put sufficient management measures in place to ensure that it will not damage or disturb any Sacred Sites through this proposed development.
- That without any thorough assessment, assume that sufficient groundwater resources exist long term in the vicinity of the proposed Phillip Creek Compressor Station site to provide for extraction of 1.752ML per year without impacting upon domestic water supply to Tennant Creek, long-term sustainability of groundwater resources or nearby watercourses or springs.
- That evaporation ponds will effectively remove toxins from the 1.752ML of wastewater produced at the site, including during the wet season when large areas of the region are prone to flooding.
- That four threatened species potentially present in the region, but not captured during surveys over a 12 month period, will not be put at risk by this development.

These presumptions present unacceptable risks to the community, that the wishes of Traditional Owners will be ignored, and that the environmental impact of this proposal upon the Phillip Creek site in particular are grossly underestimated.

ECNT wishes to object to the approval of the proposed Northern Gas Pipeline on the following grounds.

1. That the proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. That the NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. That in supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. That in supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. That a thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. That the proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.
7. That the proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.

8. That the amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers may take thousands of years to recharge.
9. That the amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000,000 litres) and construction (69,000,000 litres) as well as drinking water for construction camps (20,000,000 litres), equivalent to a total of 111 megalitres, is sustainable.
11. That the project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. That the Matters of National Environmental Significance were not properly considered as two species observed during surveys of the region over a 12 month period and three species determined to be likely to be present were considered to be at risk from the proposed development. Four species which are found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. Another six species could occur in the region, including the Night Parrot and Princess Parrot which are notoriously rare. The risk of this proposal impacting upon these species should be properly assessed.

### Introduction

Environment Centre NT (Inc) is the Territory's leading community environment group.

The mission of the Environment Centre NT is to

- protect and restore biodiversity, ecosystems and ecological processes,
- foster sustainable living and development, and
- cut greenhouse gas emissions and build renewable energy capacity.

The Environment Centre NT works by

- advocating for the improvement of environmental policies and performance of governments, landholders, business and industry;
- partnering on projects and campaigns with conservation and climate organisations, governments, Indigenous organisations, community groups, businesses, and landholders;
- raising awareness amongst community, government, business and industry about environmental issues and assisting people to reduce their environmental impact;
- supporting community members to participate in decision making processes and action;
- recognising the rights, aspirations, responsibilities and knowledge of the Territory's Indigenous peoples; and,
- acknowledging that environmental issues have a social dimension.

For 35 years, ECNT has positively contributed to the development of environmental laws and policies in the NT, provided a voice for the community on environmental issues, educated community members about how they can reduce their environmental impact and put forward innovative and well-informed projects and policies.

### Analysis of the Draft EIS

#### Project Justification

The following was provided by the proponent as justification for the Northern Gas Pipeline project.

- a) 'Stimulating the development of the NT through increased gas exploration and production'*
- b) 'Providing a new source of competitively-priced clean reliable energy to eastern Australia'*
- c) 'Implementing regional capacity building initiatives'*
- d) 'Contributing to the continued development of a liquid and competitive wholesale gas market'*

ECNT does not accept any of these justifications for reasons outlined below.

- a) Increased gas exploration and production will not necessarily generate benefits to the NT, but it will increase the NT's greenhouse gas emissions and support risky shale gas fracking activities. It will also steer investment away from clean, renewable energy sources and into developing gas resources.
- b) ECNT does not consider gas to be 'clean energy' when renewable, emission free energy sources are available as an alternative. The extraction, transport and burning of gas contributes to global warming through generating greenhouse gas emissions.
- c) Providing additional gas to eastern Australia may cause a flooding of the market, which would drive economic benefits down. Eastern Australia has more than enough gas to meet domestic demand; demand has been artificially created by the over-contracting of gas for

export. It is likely regional development as a result of the project will be negligible and very short-term considering it will only provide for less than 10 FTE jobs post-construction.

- d) This is not in itself a worthy goal considering that this enhances Australia's reliance on fossil fuels at a time when it has committed to shift toward a renewable energy economy. In fact, this contravenes Australia's commitment to the Paris Agreement, and to its Renewable Energy Targets. There is an opportunity instead to generate electricity from a large scale solar plant which could feed into the National Electricity Market via an underground cable.

As evidence of the dubious economic case for the Northern Gas Pipeline (then referred to as the North East Gas Interconnector), an independent report by the Australia Institute concluded the following:

*The North East Gas Interconnector (NEGI) is a proposed gas pipeline between the Northern Territory and the eastern states. The project is strongly endorsed by gas companies, the Territory government and governments in other states, but analysis is lacking as to the actual benefits to Territorians and the rest of Australia. While there is a shortage of analysis, there is no shortage of hyperbole. This paper busts four myths around the NEGI.*

*1. The project is important for solving the east coast gas 'crisis'*

*There is no east coast gas crisis. The eastern states are producing more gas than ever before and this is set to increase in the coming years. This is clearly shown in industry publications and is acknowledged by the Australian Energy Market Operator. Gas demand on the east coast is declining in response to high prices brought on by the recent commencement of exports to the world market.*

*2. The NEGI will reduce household gas prices*

*Australian domestic gas markets are now linked to world prices. Any production facilitated by the NEGI would have a minimal impact on world supply and therefore on Australian domestic gas prices.*

*3. The NEGI is important for NT government revenue*

*The NEGI is likely to make very little difference to the NT government's revenue. At present, royalties from all mining, petroleum and gas extraction makes up only 2.9 per cent of the NT government's revenue, \$164 million out of a total \$5,716 million in 2014-15. Put another way, 97 per cent of services in the NT are paid for by sources other than the mining and gas industries. The potential increase in gas extraction with the NEGI will not make a significant change to this.*

*4. The NEGI will bring jobs and infrastructure to remote areas*

*The gas industry is highly capital intensive and does not make many jobs once infrastructure is constructed. While several thousand people work on constructing the Ichthys project for example, at the time of the last 2011 census just 159 Territorians worked in the oil and gas industry. Nation-wide employment in oil and gas is 28,700, a fraction of one per cent of Australia's 12 million employed people. There is no incentive for gas companies to build any roads that they do not need and beyond the construction period they will not need to use those very often. Government investment in infrastructure around the NEGI must be subject to rigorous assessment and cost benefit analysis. The government should be putting its scarce resources into infrastructure projects that benefit Territorians, not gas companies.*

***Source: 'Passing Gas: Economic myths around the North East Gas Interconnector pipeline', The Australia Institute, August 2015, <http://www.tai.org.au/content/passing-gas-economic-myths-around-northern-territorys-north-east-gas-interconnector-pipeline>***

The NT Government failed to respond to this report with its own economic analysis supporting the need to press ahead with the project, instead citing political messages about the need to support development of the NT's onshore gas resources.

In 2016, the Institute for Energy Economics and Financial Analysis released its economic analysis of the proposed Northern Gas pipeline in an effort to inform policy debate on the issue.

It concluded the following:

- a) Recent downgrades suggest demand for the project is overstated*
- b) The project raises questions over ownership, given the proponent Jemena is effectively owned by the Chinese and Singaporean governments*
- c) The project would most likely be a loss-making enterprise*
- d) The project is informed by official energy market forecasts that are overestimated*
- e) The project is being built into a global glut of LNG*
- f) A breakdown is occurring in how contracts are traditionally priced*
- g) NT production is very high cost*

*For the NEGI to be built, substantial new fossil fuel subsidies from the Northern Territory government (through the PWC) and the federal government (through the Northern Australia Infrastructure Facility) will be required.*

*The NEGI has been conceived to compensate for a poor decision by the PWC to contract to buy too much gas. The commission overestimated demand, a common failing of government agencies, and is attempting now to on sell that gas. The NEGI is likely to fail, however, as it is a bad decision being promoted to cover up another bad decision.*

*Neither the NEGI nor the larger East Coast onshore gas export market has sufficient customers for their high-priced product.*

***Source: 'Pipe Dream: A Financial Analysis of the Northern Gas Pipeline', Institute for Energy Economics and Financial Analysis, May 2016, <http://ieefa.org/wp-content/uploads/2016/05/Pipe-Dream-A-Financial-Analysis-of-the-NEGI-MAY-2016.pdf>***

ECNT is very concerned about the ramifications of Power and Water Corporation over contracting its commitment to buy gas, for this generates unnecessary costs to our economy and locks the NT into further committing to extract and burn fossil fuels for no good reason. It requests that this situation be investigated and rectified as a matter of urgency.

A large investment in a fossil fuel project is in direct conflict with the Northern Territory's agreed Renewable Energy Target of 50% reduction by 2030 and Australia's commitments to mitigate its greenhouse gas emissions under the Kyoto Protocol and Paris Agreement.

Under the Paris Agreement, Australia agreed to implement an economy-wide target to **reduce greenhouse gas emissions by 26 to 28 per cent below 2005 levels by 2030** with a long-term goal to keep the increase in global average temperature to well below 2°C above pre-industrial levels.

Global temperatures have already risen to 1 degree above pre-industrial levels. Given the lag in climatic response to greenhouse gas emissions, the world's largest collaboration of scientists at the Intergovernmental Panel on Climate Change agree that a **rapid reduction in the burning of fossil fuels** is required to keep global warming below a 2 degree rise.

The IPCC made the following conclusions in its 2014 Summary Report for Policymakers:

*Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems. {1}*

*Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are extremely likely to have been the dominant cause of the observed warming since the mid-20th century. {1.2, 1.3.1}*

*Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks. {2}*

*Adaptation and mitigation are complementary strategies for reducing and managing the risks of climate change. Substantial emissions reductions over the next few decades can reduce climate risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term and contribute to climate-resilient pathways for sustainable development. {3.2, 3.3, 3.4}*

*There are multiple mitigation pathways that are likely to limit warming to below 2°C relative to pre-industrial levels. These pathways would require substantial emissions reductions over the next few decades and near zero emissions of CO<sub>2</sub> and other long-lived greenhouse gases by the end of the century. Implementing such reductions poses substantial technological, economic, social and institutional challenges, which increase with delays in additional mitigation and if key technologies are not available. Limiting warming to lower or higher levels involves similar challenges but on different timescales. {3.4}*

**Source: Climate Change 2014 Synthesis Report: Summary for Policymakers (2014), IPCC, [https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5\\_SYR\\_FINAL\\_SPM.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf)**

In December 2015, Australia's most eminent climate scientists at the Climate Council concluded Australia was the worst performing country on climate action in the OECD. It ranked Australia third last of 58 countries following its assessment of each country according to the Climate Change

Performance Index. (Source: 'Australia the bottom of the list for climate action', The Climate Council, December 2015, <https://www.climatecouncil.org.au/australia-bottom-of-the-list-for-climate-action>)

ECNT concludes that, in the face of the urgent need for climate action, there is no reasonable economic, environmental or social justification for the proposed Northern Gas Pipeline project and that on this basis alone, it should be scrapped and renewable energy alternatives explored in its place.

### Access

In its Draft EIS, Jemena presumes it will be granted access to all land tenures. It does not account for any opposition by landholders to its proposed agreement. This raises significant concerns about whether landholders will be heard and respected during the negotiation process.

ECNT is very concerned that no Authority Certificate has been granted by the Aboriginal Area Protection Authority. It is standard procedure for this to accompany a Draft EIS, particularly for a project of this size.

### Environmental Risks

#### *Native vegetation loss*

ECNT is concerned about the large amount of clearing of remnant native vegetation proposed to occur for this project – 2470 hectares. This represents significant disturbance and habitat loss, as well as an increase in carbon emissions. It does not accept that replanting of the site post-construction supports the same habitat values as the existing remnant vegetation.

#### *Water use*

ECNT is very concerned about how, when and where 22 ML of water will be extracted during construction, given that the project occurs within an arid zone where water is scarce.

ECNT is critically concerned about the amount of water proposed to be extracted at the Phillip Creek Compressing Station, in particular. 1.752ML each year represents an unsustainable amount of water to extract from a groundwater aquifer within an arid zone, where aquifers can take thousands of years to recharge.

#### *Production of large amounts of toxic wastewater*

ECNT does not accept that 1.752ML of toxic wastewater can be adequately treated with evaporation ponds at the Phillip Creek site given the very large volume of water and that the region experiences widespread seasonal flooding.

#### *Spread of weeds during construction*

ECNT is concerned that the risk of spread of weeds during construction is too high, and this presents an additional management cost for landholders as well as a threat to the ecological values of the region.

#### *Biodiversity and Matters of National Environmental Significance*

The Draft EIS considers only two threatened species observed during surveys of the region over a 12 month period and three threatened species determined to be very likely to be present were considered to be at risk from the proposed development. Four threatened species which are found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. Another six species could

occur in the region, including the Night Parrot and Princess Parrot which are notoriously rare. The risk of this proposal impacting upon these species should be properly assessed

### Economic and Social Risks

ECNT considers the proposed total benefit of \$1.379billion to Australia (\$213mill to NT) to be marginal given the very high cost of construction, gas extraction and compression, large amounts of groundwater required, risk of contamination, contribution to Australia's greenhouse gas emissions, the risk of steering investment away from developing renewable energy sources, declining fossil fuel markets and the low number of ongoing jobs created (less than 10).

### Employment

ECNT supports the NT to move away from its traditional 'boom-bust' economic cycles which isolate communities and instead support slow growing projects which build community capacity, confidence and participation. It does not consider 10 FTE jobs post-construction to be a viable regional development project.

### Traffic

ECNT contends that the cost of road upgrades resulting from increased traffic along the Barkly Highway should be borne by the proponent, Jemena, rather than the taxpayer.

### Climate impact

ECNT is very concerned that the amount of greenhouse gas emissions generated by this project has not been measured. Furthermore, it is highly concerning that the proponent has not proposed to offset its climate impact in any way.

### Lack of offsets

Jemena has not proposed to offset its significant environmental impact despite the opportunity to purchase carbon credits or to offset native vegetation loss.

### Conclusion

ECNT wishes to object to the approval of the proposed Northern Gas Pipeline on the following grounds.

1. That the proponent, Jemena, has failed to present a compelling case for why this proposed development should go ahead, given that the economic and medium-term employment benefits are at best negligible when weighed up against its costs.
2. That the NT Government has failed to consult the community about this proposal, or to investigate more sustainable alternatives, including a large scale solar plant project.
3. That in supporting this project to date, the NT Government has not taken into consideration the significant level of community opposition to shale gas fracking which it has acknowledged with a moratorium on shale gas fracking.
4. That in supporting this project to date, the NT Government is in conflict with its own Renewable Energy Target of 50% by 2030.
5. That a thorough assessment of the project's potential climate impact was not undertaken as part of the Draft EIS, which contravenes Australia's commitment to mitigate its greenhouse gas emissions under the 2015 Paris Agreement.
6. That the proponent, Jemena, has not attempted to offset this project's climate impact, water use or habitat loss.

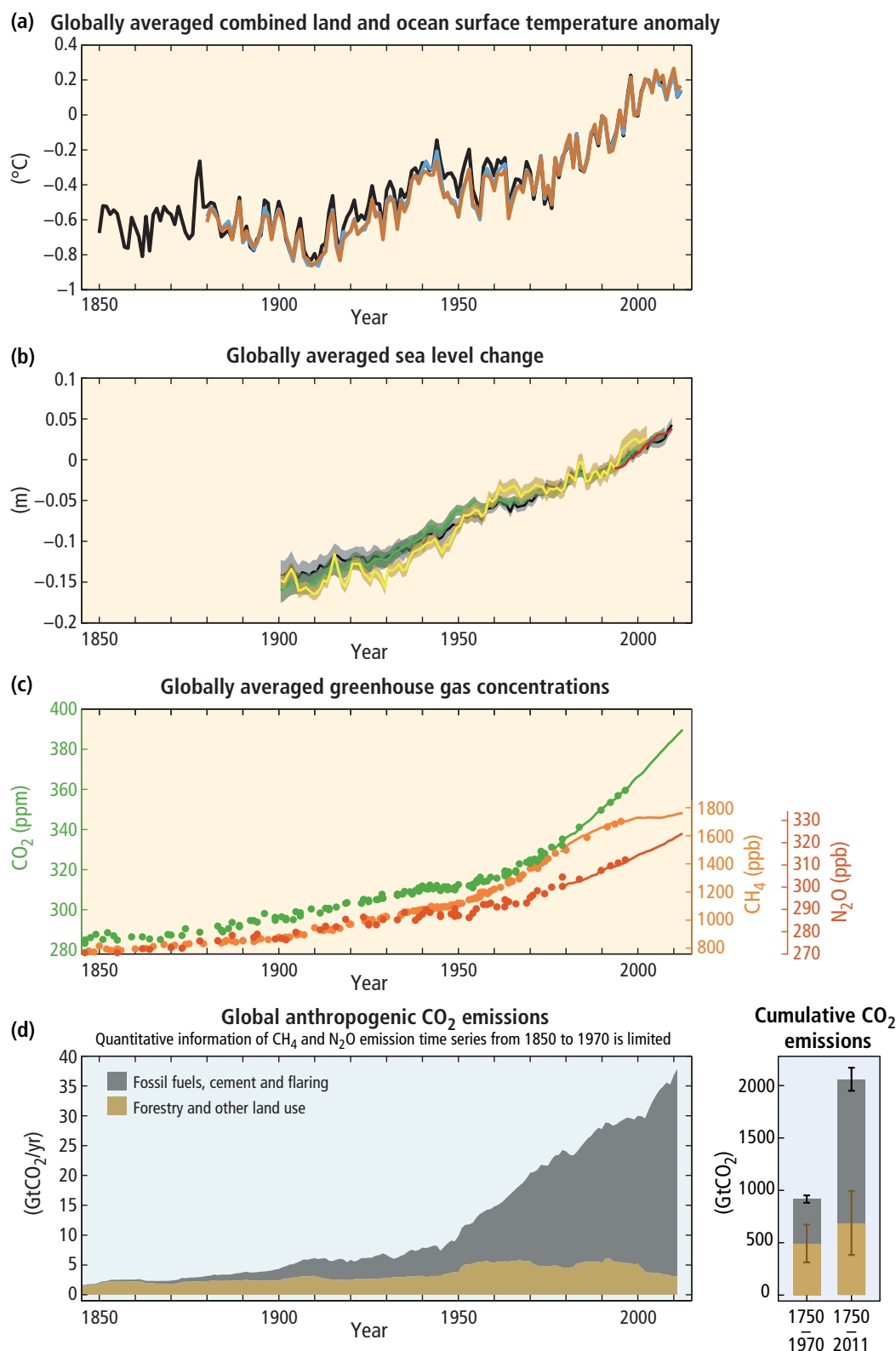
7. That the proponent, Jemena, has made several presumptions in this Draft EIS which pose an unacceptable risk that the wishes of Traditional Owners of lands affected by this proposal will be ignored, and that the environmental impacts of this proposal are grossly underestimated.
8. That the amount of water proposed to be extracted via a Compressing Station at Phillip Creek site (4800 litres/day) is unsustainable, given the site is located in an arid zone where water is scarce and groundwater aquifers may take thousands of years to recharge.
9. That the amount of toxic wastewater produced from this same process is too large to be managed or treated appropriately without polluting the surrounding area and groundwater aquifers.
10. Insufficient information was provided to demonstrate that the amount of groundwater required to allow hydrostatic testing of the pipeline (22,000,000 litres) and construction (69,000,000 litres) as well as drinking water for construction camps (20,000,000 litres), equivalent to 111 megalitres, is sustainable.
11. That the project requires clearing of a significant amount of remnant vegetation (2,470 ha).
12. That the Matters of National Environmental Significance were not properly considered as two species observed during surveys of the region over a 12 month period and three species determined to be likely to be present were considered to be at risk from the proposed development. Four species which are found in the region but were undetected during surveys were not considered to be at risk. These include the Greater Bilby, Brush-tailed Mulgara, Gouldian Finch and Latz's Grass. Another six species could occur in the region, including the Night Parrot and Princess Parrot which are notoriously rare. The risk of this proposal impacting upon these species should be properly assessed.

### Contact

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**Figure SPM.1 | The complex relationship between the observations (panels a, b, c, yellow background) and the emissions (panel d, light blue background) is addressed in Section 1.2 and Topic 1.** Observations and other indicators of a changing global climate system. Observations: **(a)** Annually and globally averaged combined land and ocean surface temperature anomalies relative to the average over the period 1886 to 2005. Colours indicate different data sets. **(b)** Annually and globally averaged sea level change relative to the average over the period 1886 to 2005 in the longest-running dataset. Colours indicate different data sets. All datasets are aligned to have the same value in 1993, the first year of satellite altimetry data (red). Where assessed, uncertainties are indicated by coloured shading. **(c)** Atmospheric concentrations of the greenhouse gases carbon dioxide ( $\text{CO}_2$ , green), methane ( $\text{CH}_4$ , orange) and nitrous oxide ( $\text{N}_2\text{O}$ , red) determined from ice core data (dots) and from direct atmospheric measurements (lines). Indicators: **(d)** Global anthropogenic  $\text{CO}_2$  emissions from forestry and other land use as well as from burning of fossil fuel, cement production and flaring. Cumulative emissions of  $\text{CO}_2$  from these sources and their uncertainties are shown as bars and whiskers, respectively, on the right hand side. The global effects of the accumulation of  $\text{CH}_4$  and  $\text{N}_2\text{O}$  emissions are shown in panel c. Greenhouse gas emission data from 1970 to 2010 are shown in Figure SPM.2. {Figures 1.1, 1.3, 1.5}



# Northern Gas Pipeline

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Northern Land Council and Central Land Council  
Comments on Draft Environmental Impact Statement

10 October 2016

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## 1. INTRODUCTION

Australian infrastructure company Jemena Northern Gas Pipeline Pty Ltd (**Jemena**) propose to construct a high-pressure, buried, natural gas pipeline approximately 622 km in length and associated above-ground facilities including compressor stations, mainline valves and cathodic protection stations. Once constructed, the pipeline would connect the existing Amadeus Gas Pipeline at the proposed Warrego Compressor Station in the Northern Territory to the existing Carpentaria Gas Pipeline at Mount Isa in Queensland. The location, scale and longevity of the Northern Gas Pipeline (**NGP**) Project will result in both direct and indirect environmental and social impacts on local Aboriginal people.

This submission has been prepared by the Central Land Council and Northern Lands Council (together, the **Land Councils**) in response to Jemena's Draft NGP Environmental Impact Statement (**EIS**). The Land Councils are Commonwealth statutory authorities responsible for assisting Aboriginal people to acquire and manage their traditional lands and waters. The Land Councils have functions under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) (**Land Rights Act**) and *Native Title Act 1993* (Cth) (**Native Title Act**) to protect the interests of traditional Aboriginal owners and native title holders of the areas affected by the proposed NGP Project.

## 2. KEY ISSUES

The NGP Project is proposed over traditional lands, including Aboriginal Land Trusts regulated by the *Land Rights Act* and land subject to native title claims under the *Native Title Act*.

Jemena has actively engaged with the Land Councils during the Project's planning phase. The Land Councils are presently negotiating agreements on behalf of traditional Aboriginal owners and native title holders affected by the Project that will contain conditions regarding cultural heritage, environmental heritage and compensation for disturbance. However, the Land Councils feel the NGP EIS could provide greater consideration of how the Project will impact on the lives of Aboriginal people and the measures that will be employed by Jemena and its contractors to avoid or reduce impacts. The Land Councils feel that it would be useful for Jemena to better address the impacts on social and cultural aspects of ecosystems as required under the definition of "environment" under both the *EPBC Act* and *EA Act*.

Key issues identified by the Land Councils in relation to the Draft EIS are:

- the need for more information in respect of land inspections;
- the need for stronger commitments to the intergenerational equity component of 'Ecologically Sustainable Development';
- uncertainty surrounding rehabilitation methodology and commitments;
- no identification of specific watercourse crossings or recognition of the environmental values of these waters to Aboriginal people, particularly permanent water bodies;
- identified levels of Aboriginal employment appear exaggerated and it is unclear how Jemena will support Aboriginal engagement;
- lack of detail surrounding trench management, particularly pertaining to fauna management, including no limit to the amount of open trench at any one time; and
- lack of contingency plans in relation to inclement weather.

## 3. PROJECT DESCRIPTION

### 3.1 Clearing footprint

The Land Councils acknowledge that the proposed detailed clearing footprint for the Project has been provided to the Land Councils in a separate document. However, it would be useful if the draft EIS provided summary information regarding how much of the clearing footprint will be located on Aboriginal and native title land.

### 3.2 Land inspections

For the clearance and grading of the Right of Way (**ROW**), environmental inspections will be undertaken prior to clearing and a 'green tag' system will be established. The Land Councils understand that similar inspections will be

carried out for Aboriginal heritage items or locations. However, it would be useful to include this commitment in the EIS.

The Land Councils are concerned by the lack of detail surrounding environmental inspections and what contingency will be in place should significant species be identified within the ROW. For example, the Land Councils note that there is a moderate chance of bilbies occurring within the region. Should burrows be identified, it would be useful to understand how Jemena will deal with these.

The Land Councils are also concerned that there is no detail on who will be carrying out the environmental inspections. It would be helpful to understand whether a qualified zoologist experienced in identifying significant fauna species will be engaged and how far ahead of clearing the inspections will be conducted.

### **3.3 Ecologically Sustainable Development (ESD)**

Section 2.6 of the EIS Terms of Reference (**ToR**) requires Jemena to demonstrate how it complies with and contributes to the principles and objectives of Ecologically Sustainable Development (**ESD**). ESD is defined in the National Strategy for Ecologically Sustainable Development (ESDSC 1992) as ‘development which aims to meet the needs of Australians today, while conserving ecosystems for the benefit of future generations’. A critical element of the ESD definition is ‘intergenerational equity’.

The Land Councils suggest that one way to encourage intergenerational equity is to:

- commit to supporting long-term community development projects that would benefit future generations;
- compensate the traditional owners of the land affected by the Project for the life of the project; and
- assist the Land Councils and traditional owners to develop frameworks for the investment of compensation such that returns will benefit future generations.

## **4. STAKEHOLDER ENGAGEMENT**

The Land Councils have held consultations with traditional owners regarding the NGP Project since March 2016 in accordance with the *Land Rights Act* and *Native Title Act*.

Chapter 4 of the EIS refers to the International Association of Public Participation 1AP2 Spectrum of Public Participation that outlines different levels of consultation and engagement. However, Jemena has not nominated which level it intends to adopt with each stakeholder.

Table 4.2 of the EIS contains a list of “Private Stakeholders” that includes Aboriginal stakeholders in two categories:

Land Councils	Represent the interests of Traditional owners and Native Title Holders (and claimants) in the Northern Territory
Aboriginal Land Trusts	Own Land on which the Project will traverse

The Land Councils consider this a confused delineation. Aboriginal Land Trusts have no independent function under the *Land Rights Act* and may only act upon the direction of the relevant Land Council. It would be more appropriate for the EIS to identify the “traditional Aboriginal owners” (as defined by the *Land Rights Act*) in the place of the Aboriginal Land Trusts. In these circumstances, it would also be appropriate to include “native title holders” (as defined by the *Native Title Act*).

The Land Councils consider that Chapter 4 could be improved by recognising Aboriginal people as the main stakeholders impacted by the Project.

## **5. ENVIRONMENTAL RISK ASSESSMENT**

The Land Councils are concerned that Jemena has not identified the extent of open trench that will be exposed at any one time. The Land Councils note that in the 2004 Environmental Protection Agency (**EPA**) Bulletin 1127 the Western Australian EPA reduced the amount of permitted open trench from 60km to 20km on the Port Hedland to Telfer Gas Pipeline because in that instance the proponent had been ‘unable to adequately manage the impact

on the biodiversity of the area'. The NGP is proposed to be constructed by McConnell Dowell, the same company that managed the Port Hedland to Telfer Gas Pipeline. For that reason, the amount of open trench, risks associated with open trench, including climate and predation, and how the trench will be managed must be clearly articulated so that fauna can be properly and confidently managed.

### 5.1 Cultural/heritage risk assessment

The EIS could be improved by delineating between Aboriginal and non-Aboriginal cultural or heritage risks.

### 5.2 Cumulative impacts

The NGP EIS ToR requires Jemena to address cumulative environmental impacts in the context of existing and reasonably foreseeable future developments. It is critical that the NGP is not considered in isolation from the broader gas industry.

Petroleum exploration acreage has been granted or is presently under application over the majority of the Barkly region. The NGP will increase the commercial viability of the development of these gas fields into production. However, Jemena has not assessed the potential direct and indirect social and environmental impacts from future gas field developments in the vicinity of the Project Area as a result of the NGP. The Land Councils consider this assessment critical to meet the ToR and broader concerns by local Aboriginal people.

Particular attention should be given to infrastructure required and the cumulative environmental and social effects resulting from access road construction, pipeline development, water extraction, pollution and risks associated with gas field developments.

The EIS would also benefit by an analysis of the cumulative impact of the NGP Project's water use on existing water sources in the Project Area.

### 5.3 Flaring and venting

The EIS should address flaring and venting activities. Specific detail should be provided in relation to the reasons for flaring, frequency of flaring, chemical makeup of emissions, potential impacts on health, amenity and environment.

## 6. BIODIVERSITY

The EIS would be improved by a commitment by Jemena to engage local Aboriginal people and rangers in respect of flora and fauna surveys and to assist with spotter/catcher services during clearing and while trenches are open.

### 6.1 Vegetation communities

Clearing estimates for major vegetation sub-groups in the NT are provided, with total vegetation clearing to be estimated at 1781.5ha. However, no analysis of the significance of this clearing is provided, nor an analysis of options to reduce clearing. Further, there appears to be no analysis of clearing requirements within the two identified sensitive vegetation types (riparian vegetation and wetlands) within the project footprint.

The EIS does not provide detailed analysis of the likelihood of requiring clearing of the TPWC Vulnerable listed *Austrobryonia argillicola* or *Sporobolus latzii*, other than *A. argillicola* which was found in the Project footprint. The EIS should detail actions that will be taken if these are found.

### 6.2 Weeds/Weed Management Plan

Due to the inaccessible nature of many areas the pipeline ROW will traverse, the NGP Project could be the first major risk of introducing weed species to the area. Effective management of weeds is therefore critical. The Weed Management Plan provides some detail regarding how Jemena intends to prevent the introduction of new weeds. However, it did not provide sufficient detail regarding the control measures that will be employed to prevent the proliferation of existing weeds because weed surveys have not yet been completed.

Careful separation and management of weeds during the clearing and grubbing process is vital to ensuring weeds do not proliferate during the reinstatement/rehabilitation processes. Effective control measures will need to be developed in consultation with DLRM. Post-reinstatement monitoring will also be critical. Monitoring of higher risks sites should occur following the wet season.

Greater consideration should be given to the control of common fodder weeds such as buffel grass within the rehabilitated areas of the ROW. Weeds such as buffel grass have the ability to greatly benefit from soil disturbance. It is also not unreasonable to expect that increased livestock grazing may impact on rehabilitation success.

### 6.3 Introduced fauna

The Land Councils understand that feral animals are common throughout the pipeline route. Introduced species such as cats, wild dogs and pigs will prey on fauna trapped within an open trench. The Land Councils would like to see more detail on how predation will be minimised during construction.

### 6.4 Carpentarian Antechinus

While only 1.23ha of habitat is proposed to be cleared, the EIS does not assess whether this could be further reduced.

The EIS does not address the scale of edge effects (increased weeds, predators, changes in physical characteristics) to the habitat because the local habitat has not been mapped or described.

While it is noted that hessian material will be provided to allow trench escape, the EIS does not provide further assessment of the barrier to movement of the species caused by the trench or the reinstated ROW prior to full rehabilitation. It is also important to note that suitable habitat cover must be provided for species at much closer intervals than 1km apart (refer to part 6.10).

The analysis of introduction of invasive species by the ROW is anecdotal. The EIS would be improved by providing evidence that the ROW will not enhance threats such as cane toads and feral cats.

### 6.5 Plains Death Adder

It is acknowledged that 784.5ha of habitat will be cleared and that the risk of mortality is likely to be reduced due to animals retreating into deep soil cracks. However, the EIS does not discuss the likelihood of mortality while in these deep cracks due to clearing and grubbing. The Land Councils are concerned this may be a risk due to the nature of the heavy machinery being used. The EIS does not provide meaningful analysis of the risk of degradation of habitat of the plains death adder through means such as edge effects and introduction of weeds. A more detailed risk analysis would be beneficial. The species is listed as Vulnerable to Extinction under both the TPWC Act and the EPBC Act. The likely population in the Project Area is also considered important under the EPBC Act Significant Impact Guidelines.

### 6.6 *Austrobryonia argillicola*

The EIS states that *A. argillicola* is widespread through the ROW (being found at 7 of 12 sites) and also likely to have suitable habitat across the alignment and access tracks. However, the EIS has not undertaken a risk analysis or identified proposed mitigation measures. This may be prefaced on the species possibly being de-listed under the TPWC Act in the future. The EIS is required to address current legislation and therefore it must demonstrate how this species will be protected. It is considered that regardless of its listing status, efforts should be made to reduce impacts (as described in 6.1 above).

### 6.7 Painted Honeyeater

Despite the finding that the area is not an “important population” for the Painted Honeyeater under the EPBC Act, mitigation measures to reduce impact should still be presented, particularly for riparian woodland areas.

## 6.8 Greater Bilby

The EIS identifies a moderate chance of Bilbies occurring within the project footprint. However, the fauna survey conducted by EcoZ Environmental Services (2016) identified large expanses of potentially suitable habitat for Greater Bilby in the western portion of the project footprint between KP 0 and KP355. The Land Councils note that additional aerial surveys were conducted. However, given the highly mobile nature of this species (especially males) and the time distance from survey to construction, it is not inconceivable that this species may be encountered during construction. It is important Jemena communicate what management actions will be adopted to avoid impacting on this species should it be encountered.

## 6.9 Biodiversity Management Plan

The Biodiversity Management Plan Appendix referred to in this section is very vague and lacks sufficient detail to be a useful implementation document. Further, the vegetation clearing procedure it refers to is still to be developed.

## 6.10 Trench management

The Land Councils are concerned by the lack of detail surrounding trench management. The Land Councils would like to see the adoption of the following measures in trench management procedures:

- Currently Jemena does not specify the length of proposed open trench at any one time. It is imperative that that open trench length is kept to a length that can be managed by fauna recovery crews. An example of a poorly managed pipeline was the Port Hedland to Telfer Pipeline constructed by McConnell Dowell in 2003/4. The regulatory bodies allowed 60km of open trench at any one time and it was demonstrated very publically that the constructor was unable to manage this length, resulting in a high level of native fauna deaths (EPA 2004). The EPA subsequently altered approvals limiting open trench to a maximum of 20km.
- Jemena currently plans to place 45 degree fauna egress slopes at 5km intervals. The length is too great a distance for small fauna to travel. The Land Councils suggest that Jemena adopt the standard used in Western Australia of egress points every 1.2km.
- Jemena currently suggests that fauna shelters be placed every 1km. The length is too great a distance because small native fauna will be exposed to predation by cats and dogs and will also be vulnerable to temperature fluctuations. It is suggest that shelters be placed at intervals of 100m. Shelters can be a simple as hessian bags.
- The clearing of native fauna from trenches usually occur at the commencement of each day. However, inspection should also occur before any night filling. Many native species are active during the day (particularly reptiles) and are vulnerable should night works occur without trench inspection.
- Persons employed to clear the trench of fauna should be qualified and able to identify species captured as this can greatly assist in the known distribution of species.
- Time must be allocated to fauna crews for accurate identification and recording of species.

The EIS states that frogs will not be encountered. However, no detailed consideration has been given to climate variability and should rains occur immediately prior to or during construction, frogs may be a regular occurrence. There also appears to be no consideration to burrowing species.

## 6.11 Injured fauna

The management of injured fauna has not been adequately addressed. The Land Councils would like to see more detail on how injured fauna will be managed on site during construction. Jemena should identify who will assess the particular injuries, what experience/qualifications these individuals will have, and how animal euthanasia should occur should it be required.

### 6.12 Borrow pits

The EIS states that material will be required for sand bagging (sand) and also for pipeline padding in areas where the trench base is rocky. However, the EIS does not identify areas of borrow material. Should it become necessary to open borrow pits then these areas should be nominated and surveyed prior to the commencement of construction.

### 6.13 Clearing for camps

The EIS provides that the required clearance area for each camp is 12ha. It is unclear why such a large area is required for a 300 person camp. Jemena should make it clear if these areas will be used for material storage (e.g. pipe). Clearing such a large area negates the need for separate laydown areas. The EIS also identifies that laydown and turnaround points will be required but does not identify locations of areas to be impacted.

Fauna encounters should be identified and covered in inductions.

In the event that bilby or mulgara burrows are identified in pre-clearing surveys there needs to be a contingency plan clearly articulated as to how impacts on these significant species will be minimised/avoided.

### 6.14 Reinstatement and rehabilitation

Swift reinstatement and rehabilitation is listed as the primary mechanism for reducing impacts on biodiversity. It would be useful for further rehabilitation information to be provided. While the sparse nature of the vegetation for much of the alignment may mean that impacts from the ROW would be minimal, certainty of this issue is difficult in the absence of detail regarding proposed reinstatement and rehabilitation methods. Vegetation will not be allowed to fully regenerate over the 10m corridor for the NGP's entire 30+ year life. It would therefore be useful to have a more quantitative demonstration that there will be no significant impacts such as through edge effects.

The rehabilitation methodologies contained in the EIS rely on the future development of a rehabilitation plan and are extremely vague to the extent of not proposing objectives to be achieved. Proposed methodology of respreading topsoil and cleared material and allowing for natural regeneration will take many years to result in an ecological return to the original community type, structure and biodiversity.

The EIS does not state whether sand dunes will be encountered within the ROW. If sand dunes are present, the EIS should identify how these will be managed to prevent wind-induced erosion, particularly during the rehabilitation phase.

## 7. WATER

### 7.1 Waterway crossings

The draft EIS addresses the significance of permanent or ephemeral waterbodies being crossed to the local Aboriginal people. This is particularly important in relation to permanent bodies of water, which the EIS notes do exist. However, their locations have not yet been identified. This must be addressed.

Little information is available on surface water quality in the region. Exact crossing locations and methodologies to be utilised have not been specified. In the absence of being able to comment on these now, these should at a minimum be developed in consultation with traditional owners.

Little information is available regarding the exact location of crossings. The Land Councils are concerned that Jemena has not given enough attention to minimising impacts on riparian vegetation, especially large eucalyptus trees. Large trees should not be removed without consultation with the traditional owners.

The EIS states that in the event of stream flow, dams will be constructed and water pumped. However, the EIS does not provide detail of where the water will be pumped to and how the dams will be constructed. The EIS also does not indicate where Jemena will source material to construct dams. The EIS would be improved through clarification of this issue.

The EIS does not detail what procedure will be in place in the event of a large rainfall event. The EIS should identify whether the trench will be closed to prevent fauna deaths due to drowning in the event of a forecasted large rainfall event. Further detail regarding trench management in the event of site evacuation should be provided.

### **7.2 Existing water users and beneficial uses**

The EIS does not adequately discuss the importance of water in the Project Area. For example, the EIS states that there are no 'declared beneficial uses for the watercourses traversed by, or within the vicinity of, the construction footprint' in the NT. While this may be true for 'declared' beneficial uses, the EIS does not acknowledge the environmental value of the watercourses.

### **7.3 Erosion and sediment control**

The use of the IECA guidelines is endorsed in forming erosion and sediment control decisions. However, additional mitigation measures may be required near water courses with significance to the local Aboriginal people. This highlights the need for consultation when determining watercourse crossing locations and methodologies.

The Primary ESCP presented as Appendix P highlights the importance of delaying vegetation clearing as long as possible, appropriate separation of dispersive and sub-soils and topsoils and rapid reinstatement and revegetation. The material presented regarding vegetation management and the construction EMP does not provide confidence that this will occur.

The EMP provides that watercourse crossings will be reinstated 'as soon as construction of crossing is complete' but that access across watercourses will not be rehabilitated until they are 'no longer required'. The EIS should provide specific detail on what is meant in relation to both of these matters.

The EIS does not clearly address how erosion will be managed, particularly in relation to slopes and through stream beds and banks. The EIS should identify the contingency plan in the event that there is an unexpected flow immediately following backfill of trench through water courses. The Land Councils would also like to see a clear procedure for how erosion will be controlled within rehabilitation areas, particularly within and adjacent to water courses and slopes with erodible soils.

### **7.4 Hydrostatic test water**

The primary mechanism of controlling releases of hydrostatic test water will be through waste discharge licences (also referred to as Water Discharge Licence in Appendix O of the EIS). However, it is unclear what the trigger for such a licence would be if the hydrostatic test water was not reaching waterways or groundwater, which appears to be the intent of the general control measures provided in the EIS. The EIS provides that water will be treated to guideline values if required, however there will likely be no guideline values for many of the additives in hydrostatic test water, such as biocides and oxygen scavengers (including the list provided in Table 6-5 of Appendix O of the EIS). Jemena should consult the Land Councils during the development of its Hydrostatic Test Water Management Plan and approval process in the event it proposes to discharge on Aboriginal land, native title land or on land proximate to sacred sites or Restricted Work Areas.

### **7.5 Camp wastewater treatment**

Jemena propose to construct up to five camps with up to 300 people. Accordingly, management of associated wastewater could be a major issue if not managed correctly. While the Guidelines for Wastewater Works Design Approval provide minimum requirements, compliance with the guidelines will not guarantee that impacts to areas of cultural importance will not occur. For Camp 3, consultation with the Land Councils and traditional Aboriginal owners in the siting, design and operating requirements of the associated waste treatment infrastructure will be essential. Many recent gas pipeline construction camps have had extensive difficulties with ensuring compliance with discharge limits from off-the-shelf treatment plants. Due diligence and contingency planning is therefore essential.

## **7.6 Water sourcing**

Water use has been consistently raised as an area of substantial concern for traditional owners of the land affected by the proposed NGP Project, particularly in relation to the Project's potential impact on the potable groundwater used by the communities of Pukalki and Purrukuwurru.

Jemena should identify the location and nature of any proposed water access on Aboriginal or native title land and commit to a consultation and consent process of access. Jemena should not take surface water, dig bores or construct dams where doing so may have a material impact on the availability of potable water to the communities of Pukalki and Purrukuwurru or other Aboriginal communities or outstations proximate to the Project.

The EIS provides that 20ML of potable water, 69ML of construction water and 22ML for hydrostatic test water will be required for the development of the Project. The EIS also provides that construction water and hydrostatic test water will be sourced from groundwater bores. While the EIS acknowledges that relevant permits will be required to source this water, an analysis of viable options should be outlined in the EIS. The EIS should demonstrate that there are appropriate water sources available that can supply all the levels sought by Jemena in the required timeframes.

The EIS does not identify the location of existing or proposed bores Jemena intends to use during construction or the anticipated quality and limits of those bores. While the Land Councils understand this assessment is ongoing, Jemena must make clear commitments that over-extraction will not occur. Details should also be provided on ground water management.

In the event only saline water is available, Jemena should identify a contingency plan to secure quality construction and hydrostatic test water.

The EIS states that dams will be constructed to store water. However, these dams need to be lined so that water cannot enter the underlying soils. Each dam should be fenced to restrict livestock and feral animal access. Each dam should also have a fauna ladder in place so that animals can escape if trapped. In the event that these dams are empty, they should be inspected daily and any trapped fauna recovered and released.

## **8. HISTORIC AND CULTURAL HERITAGE**

The Land Councils have facilitated sacred site surveys with traditional owners and custodians of sacred sites in relation to the proposed NGP Project Area. The Land Councils have identified a significant number of sacred sites and other important cultural areas in the vicinity of the Project area where work must be restricted. The Land Councils anticipate that cultural heritage management as it relates to traditional owners will be managed by both contract and the Aboriginal Areas Protection Authority.

## **9. SOCIO-ECONOMIC**

### **9.1 Employment**

Section 9.5.7 of the EIS states 'approximately 56 contracts have been identified that could be undertaken by Indigenous businesses and organisations and at least 162 jobs have been identified that could be filled by Indigenous people.' However, Jemena does not making any binding commitment to Aboriginal employment or business targets. The EIS also contains strong caveats such as 'the achievement of these estimates will be dependent on the competitiveness of individual businesses, individual interest and aspiration.'

Section 9.9.3 of the EIS states Jemena will select 60 people to participate in the Project Ready Training Program, comprised of 30 participants from the Barkly and 30 participants from Queensland. The Land Councils note that 64% of the 8,100 Barkly population is Aboriginal, the majority of whom are economically marginalised. It is critical that the Project Ready Training Program gives preference to local Aboriginal participants and appropriately support their applications and completion.

The EIS makes inconsistent statements regarding Aboriginal employment. Section 9.5.7 provides that 162 jobs could be filled by Aboriginal people. However, section 9.5.10 provides that Jemena hopes that 122 jobs will be filled by Aboriginal people.

The Land Councils are also concerned that potential training and employment opportunities will be primarily made available through the site portal. Many local Aboriginal people do not have access to the Internet. This must not be the only means of communication to local Aboriginal people regarding training, employment and business opportunities. The EIS also does not consider language barriers that may present difficulties within training and employment. Consideration should be given as to how training programmes will be inclusive of non-English speaking people during the recruitment process.

The Land Councils strongly recommend that Jemena provide support to the Central Land Council's Employment Unit to assist Jemena in the engagement of Aboriginal trainees, employees and businesses.

## **9.2 Social Investment Program**

Section 3.6 of Appendix S of the EIS proposes that Jemena will fund a social and economic development program during the construction phase through to the operation phase. Jemena identifies funding of \$200,000. The Land Councils have serious concerns regarding Jemena's capacity and expertise to develop and manage this program. The Land Councils consider it far more appropriate that Jemena support the Land Councils to provide community development outcomes. The Central Land Council has operated a highly successful community development program since 2005.

# **10.HUMAN HEALTH AND SAFETY**

## **10.1Risk Assessment – Community Health and Safety**

This EIS recognises the importance of engaging relevant stakeholders when assessing risks. However, there are a range of unique health and safety considerations for local Aboriginal people and communities. The EIS would be improved by identifying an engagement process which ensures local Aboriginal people's health, safety and amenity are protected.

## **10.2Poor air quality**

Section 10.5.4 of the EIS identifies that the PCCS and MLVs will emit methane during venting activities. The EIS states that the emissions will comply with relevant air quality guidelines. However, the EIS does not provide any information regarding predicted frequency or volumes of gas to be vented. The EIS does not provide an analysis of possible sensitive receptors to the PCCS and MLVs.

## **10.3Traffic**

Safety risks posed by additional traffic do not appear to have been addressed in detail. There are known black spots on the Barkly Highway. Access tracks may be shared by local outstation residents. The EIS would therefore benefit from a formal analysis of these risks.

There is a high probability of livestock, feral animal or native fauna vehicle strikes. The Land Councils understand that this area may be covered under Work Health and Safety procedures however would like to see greater detail on how these potential impacts will be managed. Details on how injured animals will be managed should be included. Jemena would benefit from policies that reduce night-time driving.

## **10.4Camp operations**

There is limited information regarding the operation of workers' camps. Whilst it is noted that these camps will be run as "dry camps", the EIS should consider specific risks to local communities through the non-compliance with internal alcohol policies. The EIS should identify that alcohol will not be permitted on site and the penalties for non-compliance.

## **11.AIR, NOISE AND VIBRATION**

### **11.1Baseline noise monitoring results**

Locations of baseline noise monitoring sites should be provided in order to make meaningful interpretations.

### **11.2Air emission modelling**

Appendix W of the EIS provides emission modelling for construction activities and operation of the end of line facility. However, the EIS does not provide any modelling for PCCS, flaring or venting from the MLVs. These are the two highest risk sites for local Aboriginal people. The EIS does not provide guideline values for methane concentrations.

## **12.MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE**

Figure 12-2 is missing a legend item (blue star).

## **13.ENVIRONMENTAL MANAGEMENT PLAN**

The Environmental Management Plan (**EMP**) for the project is a high-level over-arching document. Comments on each detailed subject matter have been provided under the other relevant sub-headings. The EMP will need to be updated as the project progresses.

## **14.SUMMARY AND CONCLUSION**

Jemena has made good progress in assessing and addressing environmental and social risks associated with the proposed NGP Project through the EIS and its cooperative relationship with the Land Councils. However, further information regarding the issues identified in this submission would improve the ability of stakeholders and Jemena to assess and mitigate risks associated with the NGP Project.

## **15.REFERENCES**

Western Australian Environmental Protection Agency (2004), in EPA Bulletin 1127.

## SUBMISSION #35

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on Draft Environmental Impact Statement - Northern Gas Pipeline - Parks and Wildlife Commission of the Northern Territory  
**Date:** Monday, 29 August 2016 1:12:05 PM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Parks and Wildlife Commission of the Northern Territory. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

**Dr Alana Mackay** | Environmental Assessments  
**Department of Lands, Planning and the Environment**  
p... (08) 8924 4020 | f... (08) 8924 6554 |  
e... [alana.mackay@nt.gov.au](mailto:alana.mackay@nt.gov.au) | [www.ntepa.nt.gov.au](http://www.ntepa.nt.gov.au)

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**From:** Tracey Duldig  
**Sent:** Monday, 29 August 2016 12:36 PM  
**To:** eia NTEPA  
**Cc:** Megan Horner; Andrew Bridges  
**Subject:** FW: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Thank you for the opportunity to comment on the EIS for Jemena Northern Gas Pipeline Pty Ltd.

The Parks and Wildlife Commission is comfortable that this project does not appear to adversely affect the cultural, recreational, natural or tourism values of the parks and reserves estate. The Commission therefore does not have any comments to make in regard to the application.

Cheers

**Tracey Duldig**  
**Assistant Director, Wildlife Operations**  
**Parks and Wildlife Commission of the Northern Territory**

## SUBMISSION #36

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - Power and Water Corporation  
**Date:** Friday, 30 September 2016 8:15:41 AM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Power and Water Corporation. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
GPO Box 3675, Darwin, NT 0801

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**From:** Laura Haycock  
**Sent:** Thursday, 29 September 2016 4:07 PM  
**To:** eia NTEPA  
**Subject:** Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Hi Alana,

The Power and Water Corporation do not have any comments on the above listed project.

Regards

Laura Haycock

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - Department of the Chief Minister  
**Date:** Friday, 30 September 2016 11:42:05 AM  
**Attachments:** [image004.png](#)

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Department of the Chief Minister. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

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**From:** Elisabeth Ewens  
**Sent:** Friday, 30 September 2016 11:30 AM  
**To:** eia NTEPA; Alana Mackay  
**Cc:** Anne Walters  
**Subject:** HPRM: Department of the Chief Minister

Hi Alana,

Thank you for the opportunity to comment on the draft EIS for Jemena's Northern Gas Pipeline

project. This draft EIS is a substantial document and DCM appreciates the proponents efforts.

This project offers the Northern Territory a number of potential benefits for economic activity and employment opportunities. In particular, given the overall importance of gas for the future of the Northern Territory, this is an important development.

The draft EIS discusses the significant community consultation the Proponent has undertaken. The Remote Community Social Investment Program has been developed in consultation with the community and is a positive approach to engage local people with the project.

DCM would like to see the detailed Economic and Social Impact Management Plan, which discusses appropriate monitoring and reporting obligations, included in the Supplement to the EIS.

Should you have any questions in regards to this, please do not hesitate to contact myself or Anne.

Thank you.

Kind regards,  
Libby

**Elisabeth (Libby) Ewens**

Research Officer | Environment Policy  
Economic and Environment Policy  
Department of the Chief Minister  
Northern Territory Government

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SUBMISSION #38

DEPARTMENT OF BUSINESS

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**Strategic Policy and Research**  
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Darwin NT 0800

**Postal address** GPO Box 3200  
Darwin NT 0801  
**Tel** 08 8999 7939  
**Fax** 08 8999 7022

Dr Alana Mackay  
Environmental Protection Agency  
GPO Box 3675  
Darwin NT 0801

Dear Dr Mackay

**Re: Draft EIS for Comment – Jemena Northern Gas Pipeline Pty Ltd –  
Northern Gas Pipeline**

Thank you for your email dated 29 August 2016 and the opportunity to review the EIS for *Northern Gas Pipeline*.

DTBI notes that the strategies outlined in the proposed economic and social impact management plan including *Workers Accommodation Plan* in Tennant Creek, *Regional Employment Plan*, and *Small to Medium Enterprise Business Growth Program*. These positive initiatives would provide greater benefits to the region as well as the broader Territory economy.

The issues relating to worker and public health and safety, and transport of dangerous goods have been assessed and addressed in accordance with recognised processes.

The Department of Trade, Business and Innovation (DTBI) does not have any major issues in relation to the draft EIS.

The agency contact officer for this matter, Mr Shiw Murti, Principal Economist, can be contacted on 8999 5139.

Yours sincerely

Tracy Clark  
Director, Strategic Policy & Research

27 September 2016

## SUBMISSION #39

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on draft Environmental Impact Statement - Heritage Branch  
**Date:** Monday, 3 October 2016 10:31:32 AM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Heritage Branch. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Divison  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
GPO Box 3675, Darwin, NT 0801

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---

**From:** Dianne Bensley  
**Sent:** Monday, 5 September 2016 4:14 PM  
**To:** Planning Coordinator  
**Cc:** Alana Mackay  
**Subject:** RE: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Good afternoon,

I have reviewed the Draft EIS for the Jemena Northern Gas Pipeline and provide the following

heritage comments:

- All heritage and archaeological issues have been adequately addressed for this project, for the time being.
- Comprehensive archaeological surveys have been conducted of all the areas included in the pipeline footprint (including the compressor station sites, construction ROW, camp areas etc) by appropriately qualified archaeologists/heritage consultants.
- The archaeological surveys result in reports that include mitigation and management strategies for specific archaeological places, sites and objects discovered. Mitigation strategies include avoidance of significant sites and realignment where possible.
- Regulatory requirements in relation to work approvals and permits have also been identified and recommendations for the ongoing monitoring of sites are also mentioned in the Draft EIS.
- The correct procedures for the discovery of skeletal remains are also referred to in the Draft EIS.

Heritage Branch considers that there are no further heritage or archaeological issues associated with this Draft EIS for the time being.

Regards,

Di

**Dianne Bensley** | Senior Heritage Officer | Heritage Branch

**Department of Lands, Planning and the Environment**

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## SUBMISSION #40

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on draft Environmental Impact Statement - Lands Planning Division, Department of Infrastructure, Planning and Logistics  
**Date:** Monday, 3 October 2016 10:31:03 AM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Lands Planning Division, Department of Infrastructure, Planning and Logistics (DIPL). Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

The comment makes reference to comments provided by the Heritage Branch. Since the machinery of government changes, comments from the Heritage Branch are no longer provided as part of a collated response from the DIPL. I have a copy of the Heritage Branch comments, which I will forward to you under separate cover this morning.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
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---

**From:** Planning Coordinator  
**Sent:** Friday, 30 September 2016 9:00 AM

## SUBMISSION #40

**To:** Lisa Bradley

**Subject:** RE: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Good morning

Please be advised that Lands Planning Division of DIPL has no further comments in addition to those already provided by Heritage directly.

Kind regards

**Madeleine Joy-Warde**

Planning Coordinator

Department of Infrastructure, Planning and Logistics

Northern Territory Government

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## SUBMISSION #41

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - Department of Infrastructure, Planning and Logistics  
**Date:** Friday, 7 October 2016 4:42:36 PM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Department of Infrastructure, Planning and Logistics. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Alana

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
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**From:** Rebecca Fuller  
**Sent:** Friday, 7 October 2016 3:56 PM  
**To:** eia NTEPA; Alana Mackay  
**Cc:** Cate Schmidt; Jacquelyn Gill  
**Subject:** Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Hi Alana

Infrastructure Planning of the Department of Infrastructure, Planning and Logistics, has a representative on the Project Control Group for this project where some discussions regarding some of the impacts and risks associated with the projects impact on Territory Roads have been discussed.

The Draft EIS and supporting documentation indicates that the proponent has not adequately understood the relevant Northern Territory legislation and policy framework. This includes the lack of reference to Control of Roads Act, Traffic Act, Development Guidelines for Northern Territory Government Roads, Permit to Work within a Northern Territory Government Road.

The road agency welcomes the proponent to meet to assist in navigating the NTG road approvals process well in advance of works to ensure an agreed understanding of the requirements and identify opportunities to streamline requirements where possible. Any realignment of the pipeline will require further consideration under the EIS.

Additional observations and comments of the Draft EIS are:

- Road closures during construction will not be approved, and any impacts onto the public road network managed by the Northern Territory Government(NTG) is subject to approval from the Department of Infrastructure, Planning and Logistics. There is no acknowledgement by the proponent that they will need to meet the Departments requirements and have a legal agreement in place addressing access, crossing and occupation of NTG road reserve prior to works commencing on the NTG road network.
- Whilst the EIS references a construction Traffic Management Plan, it does not include a Traffic Impact Assessment (TIA). A TIA will be required in accordance with AUSTROADS Guide to Traffic Management Part 12: Traffic Impacts of Development
- A TIA is mandatory to assure the road authority can measure the proponents acknowledgement of the risks associated with the works impact on NTG Roads, infrastructure and road safety. The TIA is to include details on access, vehicle types, volumes of existing vehicles and increased traffic and other relevant matters, including a risk assessment as part of the EIS process to reflect how all roads and infrastructure will be affected. This includes impacts on commercial enterprises and tourist attractions and infrastructure.
- Chapter 4 – Stakeholder Engagement fails to reference the road authority (Department of Infrastructure Planning and Logistics). The proponent has indicated that permanent access tracks will be required, some of which will originate from NTG managed roads and will require approval.
- Appendix E – Traffic Management Plan (Construction) is inadequate. The TMP will be required to be developed to meet the requirements of, but not limited to; the Northern Territory Control of Roads Act, Northern Territory Traffic Act, Development Guidelines and Permit to Work within a Northern Territory Government Road. The project will have considerable impacts on the local road network throughout the scope

## SUBMISSION #41

of the project of which this document has not addressed adequately. Further assessment of traffic impacts will be required as detailed under the Development Guidelines for NTG Roads.

- The Heavy Vehicle National Law Act 2012 does not currently apply in the Northern Territory.
- Attached is a link to the developer guidelines which contains further information to inform the proponent of the Northern Territory road approvals and permit requirements.

[https://nt.gov.au/\\_data/assets/pdf\\_file/0003/165351/development-guidelines-for-ntg-controlled-roads.pdf](https://nt.gov.au/_data/assets/pdf_file/0003/165351/development-guidelines-for-ntg-controlled-roads.pdf)

<https://nt.gov.au/driving/management/apply-for-permit-to-work-on-a-road>

Regards

**Rebecca Fuller**

Manager Land Use Management, Transport Infrastructure Planning  
Department of Infrastructure, Planning and Logistics  
Northern Territory Government

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**File Ref:** 2015/0462

Attention: Dr Alana Mackay

**Re: Draft Environmental Impact Statement for Comment – Jemena Northern Gas Pipeline Pty Ltd – Northern Gas Pipeline**

Thank you for the opportunity to comment on the above Draft Environmental Impact Statement (EIS). The Livestock Industries Development Division and the Energy Directorate of this department have examined the proposal and the following comments are offered in relation to the information provided:

***Livestock Industries Development Division***

The introduction and spread of new and existing weed species is a major risk for the pastoral industry in the Barkly region. The EIS discusses weed hygiene, training, monitoring and control in some detail and is satisfactory. However, there does not appear to be reference to the seasonal aspect of weed monitoring and control. Survey and treatment will have to be carried out in the early wet season and continued for two years after the use of construction areas has ceased.

***Energy Directorate***

Comments re: Chapter 2: Approvals, Conditions and Agreements; and Chapter 13: Environmental Management Plan of the EIS for the Northern Gas Pipeline – more specifically Chapters 3.2.1 and 13.

The Energy Directorate of the Department of Primary Industry and Resources (the Department) regulates pipelines such as the proposed Northern Gas Pipeline under the *Energy Pipelines Act*.

If, after taking into consideration all representations and comments from stakeholders and the public, including any assessment by the NT EPA, the Minister for Primary Industry and Resources (the Minister) grants a licence for construction and operation of a pipeline the following processes are in place to ensure that environmental impacts from the project are kept as low as reasonably practicable:

1. After a licence is granted, the licensee must obtain the Minister's consent to construct; and operate the proposed pipeline.
2. The Minister's consent to construct and subsequently consent to operate the proposed pipeline may only be achieved (inter alia) if:

- a. The licensee and the Minister have agreed on the matters about the activities that are to be described in the pipeline management plans required for construction and operation of the proposed pipeline.
  - b. The Minister has accepted the pipeline management plans as being appropriate for the nature and proposed use of the pipeline and in compliance with the *Energy Pipelines Regulations*.
3. Through the formal requirements of the *Energy Pipelines Regulations*, and the matters agreed between the licensee and the Minister, the contents of the pipeline management plans accepted by the Minister may cover one or all of the phases of the life cycle of a pipeline (i.e. design, construction, operation, modification and decommissioning) but will always address protection of health, safety and the environment.
4. The environmental aspects of these pipeline management plans are typically contained in a standalone environmental management plan that sets out:
  - a. the environment in which the pipeline will be constructed and operated;
  - b. the results of any assessment carried out by the NT EPA, along with any other salient environmental considerations;
  - c. the licensee's goals for protecting the environment (taking into account item b above);
  - d. broadly how the licensee will achieve the above goals; and
  - e. through a supporting submission: the whole body of detailed working plans, organizational structures, personnel qualifications, monitoring procedures, validations procedures etc. that give life to the processes noted in d.

The environmental management plans for construction and operation of the pipeline that Jemena will submit to the Department will not be informed solely by the findings of this formal assessment of the project by the NT EPA, but also by the input of independent and expert advisors and NT Government agencies with in-depth knowledge of the country, as well as by the considerable knowledge of pipeline industry and regulatory personnel involved with the project. This knowledge is brought out through a series of consultations, including a series of workshops being held on behalf of Jemena that are aimed at identifying: potential hazards from the proposed pipeline project; the risks posed by them; and appropriate changes (procedures, materials, routes etc.) that will ensure environmental impacts from these hazards are reduced to as low as reasonable practicable.

The Department emphasises that once an environmental management plan is accepted (as part of the overall pipeline management plan) it is not set in concrete but may be revised at any time where deficiencies are identified or significant changes take place in the construction or operational aspects of the pipeline. These changes may take place as a result of licensee initiatives or due to regulatory requirements and could result from such things as: inspections, analysis of data in reports, changes of technology, procedures, or basic understanding of the environment in which the pipeline is operating. Additionally, the *Energy Pipelines Regulations* require the licensee to revisit and revise the pipeline management plan every 5 years, thus ensuring that the environmental management plan remains current.

Finally, the Department and its predecessor departments have followed the above process in one form or another from the commencement of the *Energy Pipelines Act* in 1983 and have worked closely with the NT EPA and Natural Resource Agencies and their predecessors

closely throughout. We remain committed to continuing the good environmental record that that combination has brought to energy pipelines in the NT.

The Department has reviewed the risk assessment carried out by Jemena and is satisfied that the risks associated with the project have been appropriately identified and that the environmental objectives that are defined for the project are acceptable.

In relation to the discussion regarding cumulative impacts the Department notes that the Northern Territory is endowed with sufficient conventional onshore and offshore gas resources to underpin the economic viability of the proposed pipeline. The Blacktip gas field has sufficient gas reserves remaining with further existing gas resources in place from the Amadeus Basin. Other conventional offshore and onshore gas resources are likely to be developed during the lifetime of the project while the future of unconventional gas resources is being investigated through an independent inquiry. Any proposal for the development of unconventional resources and the potential cumulative impacts involved will be assessed through the environmental impact assessment process requiring a full EIS such as this EIS for the Northern Gas Pipeline.

If you require any further information, please contact me in the first instance and I will direct you to the appropriate area within this department.

Yours sincerely



Russell Ball  
for Chief Executive

7 October 2016

## SUBMISSION #43

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - Department of Health  
**Date:** Thursday, 6 October 2016 4:17:50 PM  
**Attachments:** [700 Requirements for Mining and Construction Projects.pdf](#)

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the Department of Health. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Alana

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

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**From:** Peter Rogers  
**Sent:** Thursday, 6 October 2016 4:13 PM  
**To:** eia NTEPA  
**Cc:** envirohealth THS; Chris Monahan  
**Subject:** DOH comment on Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

## SUBMISSION #43

Attn: Alana Mackay

DoH Environmental Health requests that the Construction Contractor makes contact with Environmental Health Coordinator, Christopher Monaghan (ph. 8922 7430) prior to the commencement of the construction of the temporary camps in order to discuss the DoH Requirements for mining and construction camps (refer attached fact sheet). In particular, the registration of food premises, provision of private water supply, solid waste management and on-site wastewater management.

Regards

**Peter Rogers** | Senior Program Development Officer  
Environmental Health Branch | Office of the Chief Health Officer  
Clinical Support, Education and Public Health Services Division | Department of Health



08 8922 7476 |



[http://www.health.nt.gov.au/Environmental\\_Health](http://www.health.nt.gov.au/Environmental_Health)

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## SUBMISSION #44

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [eia NTEPA](#)  
**Subject:** FW: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline  
**Date:** Friday, 7 October 2016 4:47:22 PM

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**From:** Valerie Smith  
**Sent:** Wednesday, 21 September 2016 9:12 PM  
**To:** eia NTEPA  
**Subject:** RE: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Hi Alana,

The EIS has provided sufficient information on most of the tourism concerns raised through the NOI and ToR processes.

We assume the Department of Infrastructure, Transport and Logistics is involved in reviewing the Traffic Guidance Scheme and previous concerns raised by us around tourist/road user safety will be addressed via that mechanism.

From our perspective the draft EIS would be improved by clearly mapping the presence of any regional businesses (i.e. outside townships) within a certain radius (e.g. 10km) of the pipeline corridor. This would include tourism attractions such as 'The Pebbles', and operators such as the Threeways Roadhouse.

Regards, Valerie

**Valerie Smith**  
A/Executive Director Operations

---

**Tourism NT**  
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## SUBMISSION #45

**From:** [Alana Mackay](#) on behalf of [eia NTEPA](#)  
**To:** [Jonathan Spink](#); [Russell Brooks](#)  
**Subject:** Comment on the draft Environmental Impact Statement - NT Police, Fire and Emergency Services  
**Date:** Friday, 30 September 2016 4:18:36 PM

---

Dear Jonathan and Russell,

Please find below the written comment on the draft Environmental Impact Statement from the NT Police, Fire and Emergency Services. Please acknowledge receipt so that I can confirm you have received the written comment in its entirety.

Kind regards

Dr Alana Mackay  
Senior Assessment Officer  
Environment Division  
Department of Environment and Natural Resources

Level 1, Arnhemica House, 16 Parap Road, Parap NT 0820  
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**From:** Melinda Hull  
**Sent:** Friday, 30 September 2016 4:12 PM  
**To:** eia NTEPA  
**Subject:** FW: Draft Environmental Impact Statement for Comment - Jemena Northern Gas Pipeline Pty Ltd - Northern Gas Pipeline

Good afternoon,

The Northern Territory Police, Fire and Emergency Services provide the following comment in

relation to the Draft Environmental Impact Statement for the Jemena Northern Gas Pipeline.

- The Risk for Road Crashes, particularly in the vicinity of Alpurrurulum Community should be further explored. Community members frequently travel to Camooweal and Mt Isa to purchase provisions which includes bulk purchase of alcohol. The addition of another road in the area that will be traversed and or crossed over by residents poses a particular risk. Consideration should be made for facilitating the provisions of Road Safety Education to be delivered to this particular community in addition to the previous comments made.
- Regarding the “Bushfire Incident” section Summary of Controls (in Construction Phase)
  - Regular consultation with emergency services during days of High Fire Danger.
- Worker’s accommodation areas to be constructed with sufficient fire breaks around the perimeter for the protection of workers in the event of a bushfire.

Kind regards,

**Melinda Hull** | Staff Officer to Executive Director

Office of the Commissioner of Police and CEO of Fire and Emergency Services | NT Police, Fire and Emergency Services

6<sup>th</sup> Floor NAB Building, 71 Smith St, Darwin

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**Working in partnership with the community to ensure a safe and resilient Northern Territory.**

-

Alana Mackay  
Environment Protection Authority  
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DARWIN NT 0801

A/Executive Director, Rangelands  
Goyder Centre  
25 Chung Wah Terrace  
PALMERSTON NT 0830

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**File Ref:** DLRM2016/0629  
**Your Ref:**

Dear Dr Mackay

**Re: Draft Environmental Impact Statement (EIS) for comment – Jemena Northern Gas Pipeline Pty Ltd – Northern Gas Pipeline**

The Department of Environment and Natural Resources has assessed the information contained in the above draft EIS and provides the following comments:

- The Draft EIS includes a "Primary Erosion and Sediment Control Plan (August 2016)" at Appendix P which has been prepared based on the proposed pipeline alignment version dated 20 July 2016 and developed in general accordance with IECA and the scope of services outlined in the BNE160565 proposal (dated 2/06/2016). The Primary ESCP includes a risk assessment based on known site conditions and a framework for Erosion and Sediment Control (ESC) associated with pipeline construction, but is intended only as a "preliminary, overarching, conceptual plan for the project and does not include detailed provisions or designs for specific [ESC's]". The Plan states that additional site-specific subsequent, progressive ESCP's will be prepared for construction works and activities associated with areas of high erosion risk, with management practices consistent with the Primary ESCP.

The Department recommends that prior to the commencement of works and to the satisfaction of the Authority, the Primary ESCP and all subsequent progressive site-specific ESCP's be reviewed and approved by an independent third party auditor, suitably qualified and experienced in ESC planning (i.e. CPESC). Evidence of the auditor's knowledge and experience in relation to erosion and sediment control planning, monitoring and management must be provided. The auditor should inspect works during construction and approve in writing that the works were undertaken on site in accordance with the approved plan. Furthermore, the auditor must approve in writing that the associated management and monitoring procedures and remedial actions (if required) are/were undertaken in accordance with the approved plan and effective. Details of any monitoring, sampling, site locations, laboratory results and actions by the proponent should be provided. All works relating to this approval are to be undertaken in accordance with the endorsed ESCP to the requirements of the Authority.

All ESCP's should be prepared should be developed in accordance with the IECA Best Practice Erosion and Sediment Control Guidelines 2008: [www.austieca.com.au](http://www.austieca.com.au) (or higher standard).

- Jemena has appropriately listed the key priority weeds including parthenium and rubber vine (*C.grandiflora*) which are currently not found in the NT, and has referred to the Statutory Management Plans as obligations for relevant species bellyache bush, mesquite and prickly acacia (except reference to draft plan on Px), although it is listed correctly in the References). Jemena have addressed additional species including buffel grass, rat's tail grasses and kapok bush which are not declared weeds in the NT. However, rat's tail grass has been acknowledged by NT land managers as a significant threat to pastoral productivity, and the Department agrees with the proponent's processes to prevent introduction of this species during the Project.

Previous comments made in the NOI (DLRM2015/7481, 19 October 2015) also highlighted the significant threat posed by introduction of new weeds, plus the potential for spread of current infestations due to the soil disturbance and high traffic nature of the development.

The proponent has submitted Weed Management Processes (Planning Phase) incorporating the Minimum Weed hygiene procedure for surveys, and the Construction Weed Management Plan. These documents have acknowledged appropriately the key weed risks associated with this project as the introduction and spread of weeds during survey and subsequent construction and have identified processes to address these.

The proponent has satisfactorily presented weed hygiene processes, including the use of QLD Weed Hygiene Declaration and NT inspection within the survey and construction phases conducted by contractors. Jemena have recognised that if weed introduction and/or spread can be prevented in these two phases, then this will minimise the weed problem they will inherit as the future land managers of the pipeline once handover has been completed.

The proponent has established a process for conducting an audit of the contractor which displays due diligence, and recognition of a 'clean contractor' will result in a 'clean' pipeline and fewer inherited weed problems.

However, there does not appear to be a structured process for treating and subsequent reporting on weed control activities as described in Section 5 of the Weed Management Plan (Appendix J). The Department acknowledges the extent of the processes to ensure weed is not introduced onto site; however, this is not always what occurs on-ground.

For the actions in 5.1 'no new weed species introduced'; it is suggested a performance indicator should include similar to "no weed emerges on site in previously clean areas as identified in the initial survey", and the Corrective Action would include "treat emerged weeds prior to maturity and seed set". A similar Corrective Action is required for Table in 5.2.

The Recording and Reporting section (eg. bottom of table on P21) does not include the formal capture of weed treatments conducted. It is recommended this is included for both 5.1 Introduction of new weeds) and 5.2 Proliferation of existing weeds. This should enable comparison with the environmental auditing reports to ensure weed management is occurring as specified.

A full assessment of the NT Weeds Database for the proposed Project, surrounding areas and adjoining roads has revealed previous data records of the following, but recommended a survey be conducted to verify weeds present in the Project area.

COMMON NAME	BOTANICAL NAME	DECLARED
Rubber vine	<i>Cryptostegia grandiflora</i>	Class A
Parthenium	<i>Parthenium hysterophorus</i>	Class A
Bellyache bush	<i>Jatropha gossypifolia</i>	Class A
Prickly acacia	<i>Acacia nilotica</i>	Class A
Mesquite	<i>Prosopis pallida</i>	Class A
Athel pine	<i>Tamarix aphylla</i>	Class A
Noogoora burr	<i>Xanthium strumarium</i>	Class B
Grader grass	<i>Themeda quadrivalvis</i>	Class B
Star burr	<i>Acanthospermum hispidum</i>	Class B
Caltrop	<i>Tribulus cistoides</i>	Class B
Mexican poppy	<i>Argemone ochroleuca</i>	Class B
Parkinsonia	<i>Parkinsonia aculeata</i>	Class B
Spinyhead sida	<i>Sida acuta</i>	Class B
Mossman River Grass	<i>Cenchrus echinatus</i>	Class B
Hyptis	<i>Hyptis suaveolens</i>	Class B
Rubber bush	<i>Calotropis procera</i>	Class B

- The draft EIS adequately acknowledges the licensing and permit requirements under the *Water Act*, as they apply to this project. Power Water Corporation will provide potable water from Tennant Creek, and it is therefore their responsibility to ensure extraction does not exceed the water entitlement specified in water extraction licences KW4004 and CG4003.

- The draft EIS appropriately assesses the risks and potential impacts to biodiversity presented by the proposed project. No biodiversity issues have been identified as requiring supplementary information.

The multi-stage assessment of threatened species initially identified (from desktop analysis) that eight species had a medium-to-high likelihood of occurrence within the Northern Territory portion of the project footprint. However, further analysis, informed by targeted field surveys in appropriate habitats, reduced this to only four species. Finally, guided by expert advice, it was appropriately concluded that the project poses a risk to a significant population of one species only - Plains Death Adder *Acanthophis hawkei* (Vulnerable, *Environmental Protection and Biodiversity Conservation* (EPBC) Act and *Territory Parks and Wildlife Conservation* (TPWC) Act). Notably, Tobermorey Melon (*Austrobryonia argillicola*, Vulnerable, TPWC Act) was found to occur within the project area; however the risk posed to its regional conservation status is correctly assessed as low, given its widespread occurrence in low-density subpopulations throughout the broader region.

The EIS considers the most likely risks to Plains Death Adder (e.g. trench entrapment, land clearing, fauna strike) and justifiably ranks them as inherently low. Multiple mitigation measures that are appropriate and will likely help maintain the low risk status through all phases of the project are also included.

The risk of land clearing and habitat edge effects/fragmentation to the wider ecosystem is appropriately assessed as low, reflecting the widespread distribution of most of the impacted vegetation types and the linear nature of the project footprint. The recommended measures to maintain a low risk of animal death from trap entrenchment are adequate and in line with best practice. Other potential risks, including bushfire, compromised water quality/availability, dust and noise, and failure of regeneration are likewise properly identified and appropriate mitigation measures are specified.

The project is not likely to have a negative impact on any of the Sites of Conservation Significance that occur regionally.

Should you have any further queries regarding these comments, please contact Kate Rogers by email [kate.rogers@nt.gov.au](mailto:kate.rogers@nt.gov.au) or phone (08) 8999 4446.

Yours sincerely



Luis Da Rocha

11 October 2016

## **SUBMISSION #47 COMBINED SUBMISSIONS FROM LOCK THE GATE ALLIANCE**

### **FORM TEXT SUBMISSION RECEIVED FROM 738 SUBMITTERS**

Dear NT EPA and EPBC Assessments Teams,

Thank you for the opportunity to comment on the Environmental Impact Statement (EIS) Reference number: EPBC 2015/7569 Jemena Northern Gas Pipeline.

I wish to raise the following concerns with the EIS and the gas pipeline project.

#### **1) Cumulative impact risks of unconventional gasfields**

The EIS needs to identify the volume of shale gas development across the NT that would be required to feed the pipeline in the long-term and the cumulative impacts of widespread hydraulic fracturing for unconventional gas, in accordance with section 3.5 of the Terms of Reference.

#### **2) Cultural Heritage risks**

Jemena must be required to complete the Cultural Heritage Management Plan (as required by s5.6.3), and obtain appropriate approvals under the NT Heritage Act and an authority certificate for protecting sacred sites, before the EIS is considered final so that the cultural risks of the project can be fully considered by the assessment team.

#### **3) Socio-economic risks**

Jemena should be required to provide a proper social impact assessment (as required by s5.8 of the ToR) which thoroughly addresses social risks (such as the impacts of fly-in/fly-out workers) rather than the limited scoping study provided, and should also have to conduct consultations with stakeholders, prior to the assessment being considered final.

#### **4) Water risks**

Jemena must provide further details on the methods and crossing techniques for all water courses (as required by s2.2.1 of the ToR), once dry season surveys have been completed, and prior to the assessment of the project being completed.

The EIS should also reveal that Jemena are struggling to find suitable freshwater supplies to test the pipeline integrity with water as needed, as local pastoralists are understandably saying no to giving up their water.

#### **5) Risks to Threatened Species**

I am concerned that the surveys for the Gouldian Finch and Bilby were inadequate as they only took place in April, May and June, and a full year of surveys would be required to properly assess the likelihood of occurrence. This is important because the pipeline will increase the threats to these species by facilitating the spread of feral animals.

Thank you for your time in considering these concerns. I look forward to hearing back from you that the further work required by the Terms of Reference for the EIS will be undertaken before any assessment decision is made.

**END OF FORM TEXT SUBMISSION**

## SUBMISSION #47

### ADDITIONAL COMMENTS RECEIVED FROM 59 SUBMITTERS

- Please consider that we as Australians want to leave this beautiful land to our grandchildren and future generations as the beautiful place that it was NOT as a mined and barren wasteland with a toxic water table and rivers that are devoid of life.
- The greatest risk of all is to our future generations. It is time to look forward to new renewable energy and not make the mistake of allowing a destructive development that has huge potential to become a future stranded asset
- Don't you realise that Bentley has won the fight against CSG once and for all?
- Of course, it's also time to stop investing in fossil fuel infrastructure.
- Did you know there are really good alternative and renewable energy sources we can use in this country?
- Less risk, less mess and work well. Solar and wind should be our main sources. Lets force gas and oil companies to ditch old technology that is detrimental to our environment.
- What are the Chinese and Singaporeans contractual obligations concerning water sources after the relinquishment of their production tenure? Will both the Chinese and Singaporeans be responsible for the polluter-pays principle - the principle that those who damage the environment bear the cost of redressing the harm? This is a fundamental question that must be addressed before this proposal goes ahead.
- The world is waking up to the fact that renewables are the only way forward - unconventional mining is simply not the answer. The Victorian government has realised and acted upon the dangers and shortfalls of unconventional mining by banning it. You, for the future of your state, should follow suit. Be bold and brave and be another leader by example rather than a industry puppet.
- Do what the Victorian Government has done.... banned Coalseam gas throughout Victoria.
- This socio-economic risk should in all fairness consider the situation internationally. I am aware that our 1st world greed and dependence on fossil fuels, now puts us in the situation that our home is being looted for natural resources to support the third world. I beg you to join the many voices calling for a:
  - \*minimal impact lifestyle: #reducereuserecycle
  - \*repair of the landscape using natural methods: #peterandrews; #naturalsequencefarming; #permaculture
  - \*#no borders #bring them here.
- It is not enough for us simply to complain about this continent without considering the other continents and their human and non-human life.
- It is not enough to give in and say ""we'll all be dead in a couple of decades"". If we all work together, there is hope: #tochangeeverythingweneedeverybody
- It is an investment in resources which are, ultimately, non-renewable. Australian money and infrastructures would be better in the long term if they service only renewable energy supply.

- The destruction of the environment has to stop....we really are running out of time...yet the corporate world ploughs on destroying and it's particularly personally galling when our gas is cheaper in Tokyo than it is here at Manly !!! Fracking damages our fragile and modest water resources in Australia, so there's nothing further to discuss. Stop it And see below the further issues that concern me gravely.
- Perhaps instead of pursuing this unsustainable pipeline the company would like to put the money into a supplying sustainable energy. Or a solar powered system that extracts water from the air which supplies a hydroponic aquaponic food production.
- And the overarching concern I have is that fracking is a deadly threat to our planet. It certainly will not help us achieve the objectives of the Paris climate change summit, and will not only serve to enrich a certain few, but also endanger us , our children, and our children's children. Please make the broadest and longest view possible of this project and do not be swayed by political and economic interests.
- As you may know, the Victoria Government has just but in place a full ban on Fracking and Unconventional gas development, due to the many hazards associated with this reckless industry.
- CSG extraction has much greater risk of harming the Artesian Basin than is presently recognised. The geological science recognises the limitations of the knowledge base. CSG means we run the great risk of damaging the one resource that allows the inland regions of the NT and Australia generally to function sustainably.
- I am particularly concerned about the dangers that future fracking may present to ground-water - an already threatened resource in many areas.
- May reaction to this proposal is ""Absolutely not!"" We are on shaky ground here. The harder we resist this insane and insensitive proposal the more the companies concerned will be prepared to offer - after all it is not their territorial integrity that is at stake. What government, and in particular the one we failed to keep out, can resist those blandishments?
- I implore you to look at what fracking has done to communities in America, Queensland and NSW. The short term profits which mostly go overseas to multinationals are not worth the harm and the risks. Please follow Victoria's lead and ban this dirty, greedy industry. Protect our farmers and our children's future. Stop China from raping our Earth.
- I am a Queenslander but I have worked in the Territory in the early 70s and visited the remoter parts several times since. The Territory has still a great many relatively unspoiled places.
- It is time you lot learned to appreciate these places instead of doing your damn best to ruin them in the name of greed and the Growth At Any Cost mentality.
- But I suppose what can one expect of a mob who sell off the Port of Darwin to the Chinese plague.
- "Although I do not live in NT I have travelled within it and I am horrified that this amazing environment is under threat from a Chinese Government owned company. Conservation was doing quite well in Africa until the Chinese moved in and now we have rhinos and elephants threatened with extinction. The Chinese have no connection to our eco systems and environment including the human population. There are too many risks involved hereAnd I wish to raise the following concerns with the EIS and the gas pipeline project.

## SUBMISSION #47

- Risks to health of humans and wildlife: Numerous studies both here and overseas show there are many health risks to both humans and wildlife living in and around gas wells and these risks are certainly not worth taking. The young and the elderly are at far greater risk from the ill effects to health and wellbeing.
- The Northern Territory is a land full of amazing beautiful features and to think the Northern Territory government could take any risk to damaging this land is incomprehensible. The tourism industry will be severely affected and I for one would not want to visit any area that is affected by the gas industry. Sadly the promise of monetary benefits and gains to a select few plays too highly in any decisions around the unconventional gas industry and the loss of tourism, health and wellbeing of the communities affected is sadly forgotten in the race for short term monetary gains.
- The shorter gains are certainly not worth any risk this toxic invasive and ugly industry will bring to the Northern Territory.
- This threatens the tourism industry in the NT.
- Australia should be going with solar options for energy.
- All this gas will be exported, with no great benefit to Australians.
- I object to companies owned by foreign governments increasingly developing and owning Australian infrastructure, and consider this to be a long -term that to Australia's security
- Risk to future tourism: I have been to the exceptional Northern Territory twice in past years, the true treasure is the environment and the people, animals as well as the visitors themselves. Want to destroy a sustainable industry?
- Furthermore, I am concerned for the mass loss of land and the loss of animal habits as well as possible contamination of the Leichhardt River. In addition to this I am concerned for the gallons and gallons of chemicals that will be used to aide the fracturing process. This will also require the use of hugely large volumes of water to run these gas pipelines which is a waste of natural resources to the area.
- I am also highly concerned that a single well can produce more than a million gallons of wastewater, which contains radioactive elements like radium and carcinogenic hydrocarbons like benzene. From my knowledge these pipelines can produce massive amounts of toxic wastewater as well as Producing naturally occurring radioactive materials, this has not been made clear to the public of how these companies are going to properly handle or dispose of this kind of waste.
- After reading up on fracking the information tells me that methane concentrations are 17 times higher in drinking-water wells near fracking sites than in normal wells. Only 30-50 percent of the fracturing fluid is recovered; the rest is left in the ground and is not biodegradable. Furthermore, more than 90 percent of the water used in fracking well never returns to the surface. Since that water is permanently removed from the natural water cycle, this is bad news for drought-afflicted or water-stressed lands.
- Overall, I am apposed to the whole process of fracking on any land as it has a negative effect on the enviroment with very limited benefit. We need to protect future generations and stop fracking and look for more friendly environmental options.
- And on top of that I do not support CSG mining anywhere in the Northern Territory. Victoria has banned it outright across the State. Everyone in Australia who visits the Northern Territory as I have on 2 occasions falls in love with its wildness and relatively undisturbed

landscape. It feel like part of my heritage as a world citizen and Australian citizen and I do not support its surface vegetation or underlying geological structure and hydrology being disturbed, destroyed and exploited. When will we wake up as humans that the land, intact and natural, is our life support system? As soon as possible I hope. I point out that most places of wilderness and naturalness that have been preserved in Australia over generations has become a popular tourist destination for all Australians even though the few who argued sensibly for their protection at the time were marginalised as "extreme" at the time they called for the preservation of these areas. Eco tourism supports communities sustainable and over time whereas mining is a one off.

- Human right issue: The area in question is a living cultural landscape and indigenous people should not be bribed and manipulated into handing over their rights.
- I object to foreign owned companies or corporations being allowed to facilitate projects on Australian soil that will adversely effect the climate and the wishes of our first peoples.
- Risks by expanding fossil fuel use: All fossil fuel use must be reduced from now to prevent adding to the CO2 levels already in the atmosphere. Levels are already higher than at any time in the last 800,000 years as measured in ice cores. The resulting global temperature rise will create multiple risks to human habitation, including water and food security, resulting in massive population movement and consequent geopolitical destabilisation (otherwise know as war). Therefore no additional fossil fuel infrastructure should be built.
- climate Change Impacts: Unconventional gas is another fossil fuel and its combustion will only add to the carbon dioxide in our atmosphere, accelerating the climate changes due to global warming. This increased CO2 also contributes to ocean acidification that further endangers the survival of the world's coral reefs, including the Great Barrier Reef. Now is the time to invest in zero-carbon, renewable energy supply systems not projects that only further endanger the survival of the planets ecosystems"
- Much of our wildlife is threatened all over Australia and it is essential that projects such as this give priority to the protection of local species.
- I am also deeply concerned about the health risks posed by contamination of the water supply through fracking.
- Further, I am concerned by the majority of surveys being undertaken by mining companies with conflict of interest, rather than independent bodies.
- Finally, I am concerned that Australia is being preferentially fracked by International companies over ownership, land holder rights and Against general Australian preference.
- And last but not least - the cumulative impacts of such development will ad to the Climate Change and Global Warming risks here in Australia, and across the Globe.
- Risks to the environment: I am concerned that the long term sustainability of such a fragile natural environment will be severely compromised by this proposed pipeline. Such a development must be capable of guaranteeing a positive long term impact on the immediate environment, the surrounding land, the social, physical, mental and emotional health of the people relying on the land for their future.
- Thank you for your time in considering these concerns. I look forward to hearing back from you that the further work required by the Terms of Reference for the EIS will be undertaken before any assessment decision is made.

- Australia's Great Artesian water basin: The basin will be so affected by fracking that any users will be unable to source from it. This has been shown in the US over years of fracking.
- I have many concerns about the potential long term damage to the environment, particularly the potential for pollution of groundwater resources. The disruptive aspects to flora and fauna in having a network of roads and tracks that will service the wells. The huge increase in human activity with the associated noise, traffic and light at night. The resulting increase in greenhouse gas emissions that the use of this gas will cause is of great concern. The short term nature of the project due to impending obsolescence of fossil fuels as an energy source. The fact that the vast majority of both the gas, and the profit will be sent offshore to foreign corporations. These are some of my concerns that I believe should immediately cause the cessation of all and any onshore gas and oil activity in Australia
- I have great concerns about unforeseen consequences to the underground soil and rock formation over long periods of time. This recent technology is as yet unproven in this regard because it has not been assessed over many many years of fracking.
- In addition to this concern, in overseas countries the practice of fracking for gas has made water undrinkable for local residents and ruined farmlands destroying their livelihoods. You propose to initiate this process in pristine natural areas which are irreplaceable habitats for animals once lost. Please consider these matters carefully before any decisions are made.
- My specific concern in addition to those listed below is the impact that widespread road developments and pad development on the wildlife of the Top End.
- such a network of roads will fragment the habitat of many animals making these areas unsuitable for their existence.
- Habitat fragmentation is a proven issue for wildlife and would be the same as trying to limiting you to your back yard instead of your city or state or whatever area you need to survive.
- AS a business owner in the nature tourism sector such destruction will ultimately end our unique outback tour experiences.
- Please represent the people you were voted in by and not the big end of town.
- There is also a hidden cost to gas exploration and that is that exploratory drilling holes are left spewing out gas that is left uncapped and ignored. This adds massively to the greenhouse gas emissions and making bushfires more probable and dangerous. These holes are all over search areas.
- Please consider the people of the Northern Territory. Climate change is real and we don't need to have more fugitive emissions of methane, 87 time more powerful greenhouse than carbon dioxide on a 20 year timescale. We need to keep the methane in the ground. Electrification of all processes is the way of the future.
- I am really concerned about groundwater contamination from the fracking process. Let's not destroy the ground water just to fill this pipe.
- The NT has a moratorium in fracking so you won't have any gas to put in the pipe. Then it's a big waste of money.
- There are lots of threatened species across the land proposed for the pipeline. Driving roads in further fragments and divides the habitat of these threatened species. The roads brings the threatening processes that are the existential problems for the species.

## SUBMISSION #47

- I'm also concerned about the consultation process with the First Nations people of Australia. These companies put lots of resources in to the negotiations and it seems a very unbalanced scenario.

### SUBMITTER NAMES

Danny Adams	Greg Nash	Jade Baggins
Aruna Manandhar	Ed Trotter	Skye Eagles
Jennifer Gregory	Niribi Sanna	Linda Goupillot-Lindstrom
Catherine Selden	Yvonne Greer	Derek Stubbs
Marion Brownlie	jim turner	Karyn Nelson
Justine Stratton	Christopher Stuart Harrison	Robert Tilley
Roman Suwald	Maree Thomas	Bruce McNicol
Fay Hicks	alice bevans	Alice Beauchamp
Kim Bowman	Jac Pleass	Lori Martin
Erin Maloney	robyn vollweiler	Dale Curtis
Arlee Bryant	Janelle Vaughan	brian thomas
Glennis Whitney	KateInd Griffin	penny mcbride
Zaneta Kosiba-Vargas	Robert Skappel	Greg Wilson
lesley cameron	Stephen Flint	Dianne Shun Wah
Leah Graf	kate macleod	jane gray
Nadine wantz	Bradley Dickie	Barbara Molanus
Gregory North	Kerrie Chandler	John Blyth
Jennifer Gray	John Mester	Elaine Diffey
Manfred Tettweiler	Raymond Mathiesen	Ellen Rubbo
Shannon Minnett	Adam Foley	Emily Berry
Melanie Tognela	Kathy Faldt	Edward Howe
Melinda Rippe	PETER IRELAND	Kirke Godfrey
Glenn Warwick	Melinda Perez	Warren Birkinshaw
Graham Bond	Sharyn Munro	Mark Marusic

## SUBMISSION #47

Jamie Lechner	Ingrid Anderson	Jo Ballantyne
Sue McKinnon	Sue Collings	Carolyn Freitag
michelle georgiou	Anne McAlpine	Jan Roberts
John Irvin	Michele Celler	Russell Kelly
Annabel McClure	Pawel Hanasz	Valerie Hodgson
Helen Corney	Chris Willey	Alison Bremer
Sel Pilgrim	Wanny van Nimwegen	Joanna Hosoya
Heather Matthew	tony judd	John Spira
Mattezhion Campbell	Annie Morris Wieland	Damian Clancey
Adrienne Kalmar	John Millane	Catherine Potter
Julie Braden	Nikko Ruffin	david oldfield
Gary Brooker	Martin Oliver	Lamis Kazak
Sally Fitzgerald	Mike Curtis	JOCELYN OLDFIELD
Emma Briggs	Wendy Davie	Jonathan Milford
Vivien Santer	Neil Denison	Hannah Woolhouse
Mary Mannison	richard Dudley-Smith	Barbara Thomas
Caraline Harrold	Attica Broderick	Brian Thompson
Donella Peters	Anthony Simmons	David and Sheryl Tapp
brian faithfull	Ben Clarke	Suzanne Peel
Lauren Howie	Natalie Newman	Catharine Lampson
Robyn Youlden	Miriam Purkiss	Terri Carfoot
Chris Stiles	Glenn King	Margaret Hilder
Norma Daisley	galigali perkins	Lynn Greig
Kerry Enoka	Alan Hayward	Luke Ford
Mark Gualtier	Kathryn McCallum	Tracie Bleines
jamie blacklaw	Allan McKay	Marcille Cameron
Michael-Richard -Gawn-	Christina Wedd	Deidi Vine

## SUBMISSION #47

Maggie Wheeler	Karl Mortimer-Murphy	Fiona Family
Susan Mot	Elizabeth Wood	sue poulton
Paul May	NED HILL	Sharon Redden
Fabienne Drinkwater	linda kronich	Noel Davis
Clare Chapman	Lee Cheong	Peter Morris
Athena Kontjonis	Jenny Gibbons	Brett Halliday
John Hillcoat	Jon Singleton	Sue Cunningham
Dianne Kramer	Hayley Kingsley	Kate Noble
Ed Wensing	Kirsten Wunderer	Caroline Goosen
Dolores Neilley	Kobie Joyce	Marty Landa
Marney St Clair	Miira Kostava	Bindi Isis
Ian MacDonald	Jim-Margaret Edwards-Seydel	Sean Corrigan
Jen Slaughter	Duncan Reilly	Vicki Lennon
Jon Prince	Diana Tomkins	Philip Higson
Louise Simmons	Kim Imber	Matt Jermyn
Christine Becroft	Pete Bellew	Sally Forsstrom
Dr Eric van Beurden	Pauline Gowing	Gareth Roberts
Anna Ryland	Noel Gilmore	Miriam Cooper
Greg Johnstone	Von Dekker	Jocelyn Lawry
Anthony Poutsma	Sue McLaren	Dinah Hornung
Perri Weeks	Penny Fawkner	Margaret Shipman
Sharon Ladkin	Lucy Mammone	Rick Shulver
Corinna Mills	cathy bruton	Carla Harp
David Palmer	peter orre	Ken Walmsley
Anthony Saba	Alan King	Pamela Shorland-Runge
Xanthos Hatzimihail	Nyssa Nieuwenhuys	Mary-Kay Jones
Dot SPENCE	Sarah Norgrove	Jacqueline Franklin

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Greg Hauser	Nicole Antonini	Chris Kain
Sarah Beddow	Darryl Geisler	Dorothy Clews
Michele Alberth	Kathryn McSwan	Daphne Simpson
Faith Burns	Harvey Green	Heather Gibbons
Jessi Mahler	Pamela Reeves	Jane Minor
Margaret Nowlan	Helga Burry	Isabel Dupuy
Mary O'Byrne	Elisabeth Mortimer	Glen Cuthbert
Steve Romig	Rosemary Gray	Michelle McComb
Kenneth Lapointe	Tim Galli	David Welsh
Sarala Kushwaha	Paul Wilson	Patricia Linha
Christina Metlikovec	Leonie Northfield	Joanna OBrien
Mary Hedges	Glenne Robertson	Katrina Mentis
dan endicott	Dr Fiona McCormick	Eugene Chattelle
katharine midgley	Charlie Ward	Sara Green
Jodi Lennox	Nicole Miller	Susan Phillips
Maynard Heap	katy pickering	Sarah Antill
Burwell Dodd	P W	Lida McCool
Olga Tresz	Mary-Joy Payten	Les Johnston
V Collis	Jane Kelly	Dan Warner
roger sharpe	liz warburton	Anthony Too
naomi coffison	Ana BARNJAK	Maureen Heron
kim hopper	Marion Treasure	Elizabeth Walsh
Gail Mensinga	Lorraine Jones	Wendy Ivanusec
Julianne Reeves	Kate Yanz	Christine Regan
Phil Walcott	Cathy Birchall	Bernadine Kelvy
Dawn Hamilton	Hannah Gash	Robert Nelson
Fiona Sim	Jaymie Mitchell	Leon Hoffmann

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Renee Engl	Petra Kahle	Brian Spears
Steve O'Dell	Aza Saint	Mario Miklavcic
Mark Taylor	Royce White	cody civic
Gerda Hawke	Jack Claff	Mick Young
June Keats	Tammy Warburton	Jen Petinatos
Andrew Cook	Rob Vail	Yvonne Parmenter
Robert Kent	Gazza Kowal	Dominic May
Kirsten Stacey	damian thrum	Glenys Watt
Ani Hart	Hala Bereza	Roderick Bell
Janet Hall	Hugh Cowley	Ivana Janousek
Kay Deaves	Lucy RosÃ©	Leanne Jackson
Ross Battisson	Darren Butler	Carolyn Crossley
Heather Crowe	J b	Rhean Bates
Ben Hellewell	Jenni Dagley	Raylee Rumbel
Cassnadra Peroff	Cheryl O'Connor	Anne Devine
Claire Ward	Sharyn Lacey	Chris Radman
robyn harper	Warwick Tweedie	Cheryl Ferguson
Maureen Curran	Denis Duchesne	Sally Siebring
Sandra Buck	Louise Gladman	Andrew Ruscoe
Mandy Woskett	Fran Bancroft	Del Andersen
Hester Goedhart	Sue Bagust	Ruth Haig
Peter Ridley	andy cianchi	Geraldine Searle
Natasha Stafford	Gilda Davies	Emma O'Rourke
Pamela King	Dianne Corthorne	Anna Povey
Lynne Taylor	Megan Turner	Helen Bedford
Kathy Szwedzinski	Joel Claybrook	Pauline Brooks
simon kindle	Annmaree Grant	Lizz Martin

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Luz Silva	Margaret Guerke	W K
Cliff Burnet	Elizabeth Tetlow	Karen Nisbet
Owen n Priscilla Howden	Graham Warburton	Margaret Genever
Kay Hall	Yvonne Dixon	Karin Wylie
Catherine Pascoe	Tina Crystal	Jim Thomas
Roslyn Hackshaw	Paul Buncle	Patricia kim Horsburgh
Bruce Lynch	Melinda Parkin	Robyn Tinker
paul martin	Elizabeth Herdson	Robert Brooke
Joanna Zylinski	Amber Van Dartel	Denise Lytle
Emma Henderson	Steve Gill	Lyn Butcher
Kerrie Ribergaard	Nicole McGregor	Lesley Goodge
Nerida Johanson	karen Higson	Kristy Barbara
Pia Steele	Margaret Smith-Warren	Mary Massie
Marcia Bodewes	Deborrah Fisher	Annabel Mayo
Joy Green	Melanie Weaver	Simon Fisher
John Thomas	Gavin van Vuuren	Wendy Curtis
Philippa Cutter	Jacqui Dunn	Matilda Sarich
Lyn Muller	Antoinette Charalambous	Ian Borland
Pamela Hawkins	Katie Devenish	David Whistler
Ifeanna Tooth	Philippa Harrison	Shona Hemphill
Eleanor Speed	Amanda Hart	Bastiaan van Dalen
Eugene Blom	Susan Warmuth	Bodil Conroy
Lolita Gunning	Ray North	Ana Correia-simoes
Sean Moody	Janet Cashmore	Murray Ball
Jeneve Tyra	Louella Beale	Helen Masters
Nava Wahl	Nikola Paget	Neale Oxley
Keith Graham	Richard Brenneisen	Carole Thompson

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colin hall	James Cocking	Margaret Conyers
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Janelle Stein	Simone Young	Gareth Merriman
Davina Drinan	Lorraine Rogers	Darren Peacock
Russell Scattergood	Jo Adams	Linda Boydell
Grace Bowen	Karis Muller	Amanda Carroll
Lynden Jacobi	Judith Laverty	Elaine Plummer
Mick Higgins	Rosalind Gerchow	Elsa Martin
Lynette Sinclair	Kelle Faulkner	Sharyon Skontra
Anna Lorcan	Ellen Davison	Eamon O'Connor
Julie Lindsay	Peter Thompson	Jolanta Noj-Matheson
James Brown	Kylie Gillespie	Sharon Phillips
Jacinta Simons	Tim W	Peta Varga
Ross Geaney	carol khan	Mylene Mariette
Stephen Bedding	June Colaudolu	MALCOLM BOTFIELD
Susan Mangion	Conny Farr	Natalie White
Glen Wallaby	Sean Brookes	Katie Everingham
Carole Horgan	Hamish Fairbrother	Brian Dunphy
Christine Craven	Harry Slorach	Karyn Johnston
Lynne Muirhead	Kathy Flanagan	Mary Symons
Barbara Mackie	Angela Dalu	Cheryl Shield
Graeme Batterbury	Revelly Robinson	Amanda Antunes
Andrea Marshall	fleur van der meer	georgina ramsay
Celinda Coleman	Susy Diaz	Kim McIntyre
Victor Ball	Charles Camenzuli	Christopher Pont
William Whitfield	Abigail Humphreys	Elly Graham
Timina Le brocq	Carla Blonde	Susie Forster

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Margarita Escalon	Margaret Scheidler	Tom Ferrier
Cat Miano	Dr Yates	Rocky Henry
Trudy Talbot	Moira Williams	Mishael Jay
David van Kool	Robyn Gilbert	Vivien Langford
graham hough	Michelle Teran	Kathrine Farn
Cyril nerovique	Christopher Cooper	Frances Bell
Aleicia Augustyniak	Karen Allen	Penny Campton
Laraine Redman	Lukas Pecinka	Michael Shaik
Rosie Knott	Jon Graham	Michele Smith
Pam Danson	Kerrie Sullivan	S Ridout
j r	Byron Meyer	Emmanuel Fardoulis
Richard Vaughan	Helen Day	Sue Jackson
Alan Wilson	Kerry McCarthy	Andrew Innes
Miriam Saul	Roger Wong	Jennifer McFarland
Connor Speechley	Judith Whitworth	Jo Trevelyan
Peter Schuback	Rex Faldt	Jan McNicol
Jo Fisher	Gill Ainsworth	Ben Stafford
Yvonne Duffield	Marlene Marinkovic	Richard Bentley
Kieran Lynch	Sue Ganz	Tanya Beard
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Tracey Jennings	Neale Terrill	Heather Boulden
Denise Breit	Julie Rush	Mark Jones
Dylan Worley	Lachlan McKenzie	Jesse Gore
Anthony Klein	Jan Skillen	Laurie Lawrence
lesley Mansfield	Nigel Rice	Jerry Rivers
Bineal Roy	Sandra Reed	Tim Lo Surdo

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Alex Kelly	Jane Harman	Neil Grant
sandy May	David Gibson	Mike Rawnsley
Andrew May	Tria Manley	Kathy Bannister
Anine Cummins	Dirk Peek	Nea Makowski
Michelle Kraatz	Peter Auer	Andrea Jones
Alex Arthur	Tony Poyton	Diana Rankine
David Odling-Smee	Jonathan Peter	Vera Green
Diane Bos	Moira Nelson	Jocelyn Edge
Martina Meyer	Sue Bee	Lolita Gunning
Elena Cutting	Danielle Wilson	Emilie Carey
Peter Sainsbury	Maureen Magee	George Mercier
Mick UIBO	Mia Stone	Beth Canniford
Nicole Read	Mary Pamela Mackay	Brian Jesse Fleay
John Biggs	Felicity Robertson	linda clark
Luke Playford	Sophie Hayat	Robyn Aldrick
Knud Bartels	Mike Bradley	Rick Taylor
Cindy Ryan	Tom Smallman	Elke Wiesmann
Susie Berger	Christine Cox	Jan Robbins
Andrew Fraser	Tom Kingston	Rhonda Green
Melissa Fitzpatrick	Beth Finch	frank happ
Shaun Newman	Elisabeth Rodda	Daniel Grosskopf
Maddy Butler	Martin Watts	David Saunders
Barry Pringle	Finbar O'Donoghue	David Fitzgibbon
Frank Chappell	Heidi Rix	Loraine Keats Keats
Jacqueline Kelly	Joseph grealy	Nick Bowden
Ann Manifold	David Pollock	Liisa Rusanen

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Geoff Saxby	Brian Davies	Simon James
Lou Baxter	Margaret King	Carmen Verne
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Jennifer Kenna	Scott Bell-Ellercamp	Tim Brown
Ri Fraser	Jennifer Shaw	Andrew Bunney
John anderson	freddie hill	Judith Odgaard
Toni Malone	John King	Gabrielle Duigu
julie taylor	Glen Daly	Peter Best
Robert Pulie	Joelene Lyons	John Beaton
Petrena Ariston	Jill Lyons	Cheryl Sharma
Simon Clough	Lesley Jeffreys	Matt Grigg
Lesley Hughes	John Dyer	Kath Irons
Anna-Rosa Baker	Faye Hill	Sonja Sontag
Emma Barrett	Linda Morton	Patricia Rutherford
Robert and Geraldine Johnson	Carol Edwards	Richard Stanford
Cate waldron	Lyn Orrego	Margaret Smith
Sue Luxford	Shaina Russell	Philip Tannock
Julie Ryan	Richard Kinhead	Melinda Tumino
Nicholas Routley	Lauriston Muirhead	Christine Connelly
James Brown	Brynn Mathews	Annette Schneider
Ed Nicholson	Linda Orgill	Christian Kennedy
Julia Marks	Leslie Hilet	
Donna Snashall	Peta Crogan	
Maxwell Campbell	John - Rosie Hayes	
Jen Hunt	Sue Hardy	

6 October 2016

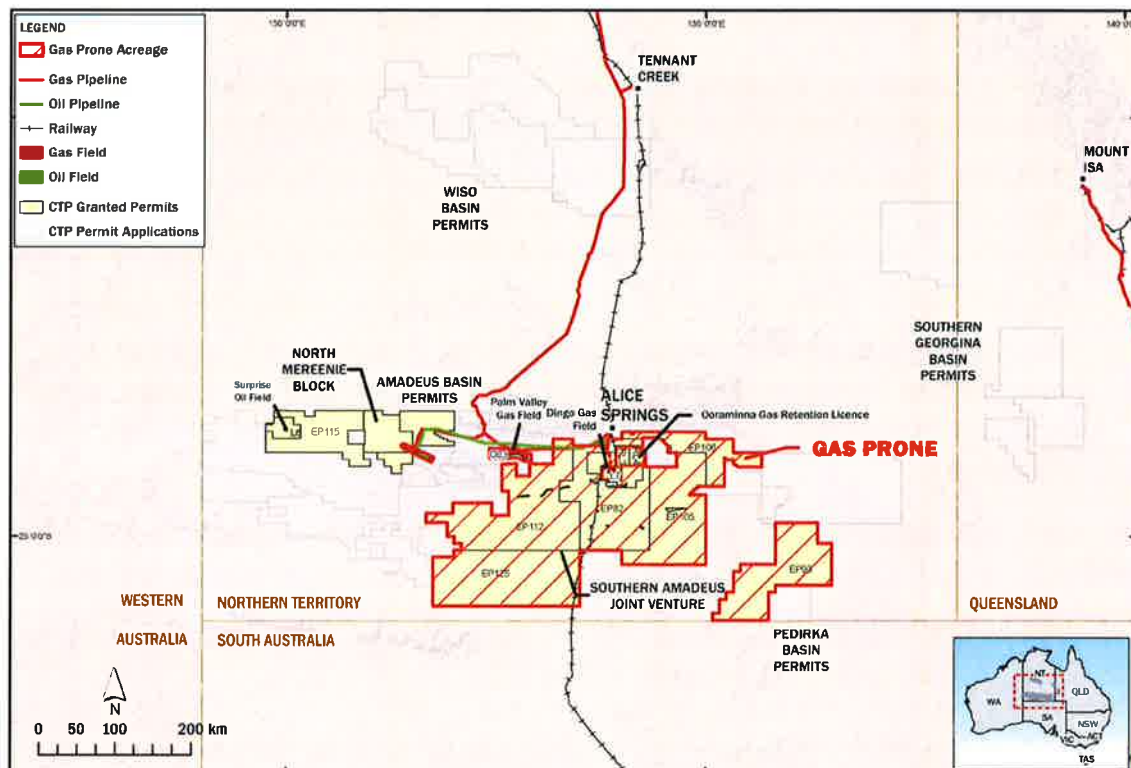
Ms. Alana Mackay  
NT Environment Protection Authority  
GPO Box 3675  
Darwin NT 0801

Dear Ms. Mackay,

### Public Comment - Jemena Northern Gas Pipeline Project

Central Petroleum Limited ("Central") (ASX: "CTP") would like to offer its comments in respect of Jemena Northern Gas Pipeline Pty Ltd's ("Jemena") Draft Environment Impact Statement ("DEIS") which has been submitted to the NT Environment Protection Authority ("NTEPA").

Central is a junior oil and gas explorer and conventional gas producer with a focus on supplying the domestic gas market. Central is the largest onshore gas producer in the Northern Territory and Operator of the only producing onshore gas fields in the Northern Territory located at Mereenie, Palm Valley and Dingo. Central is in a position to pursue several reserve growth programs across what is regarded as the biggest package of proven and prospective oil and gas acreage across Central Australia. Central's onshore acreage covers 75,894 sq kms, 84% of which are gas prone.



The Australian gas industry is in a state of flux and change. The recent ACCC analysis of the Australian gas market confirms the thesis that by 2018 over 250 PJ of domestic demand is uncontracted and that without new capital being invested there will be a major shortfall in supply. The reason is that the eastern seaboard market of 700 PJ now has to compete for supply of gas with the 1400PJ of new annual demand in the form of LNG exports out of Gladstone.

Central aims to become a significant domestic energy player as it has positioned itself to grow from current production of over 11 TJ/d of gas and 340 bopd (equity accounted). In addition, Central has substantial existing uncontracted gas reserves (~175PJs) and identified gas exploration and appraisal targets. Central's existing production and near term appraisal targets are conventional reservoirs that do not require any future fracking and, are therefore, not affected by the current Northern Territory moratorium on unconventional shale fracking.

Central's significant gas resources, as well as the Northern Territory's other significantly underexplored onshore basins prospective for gas, have to date been stranded due to lack of market. By physically connecting the NT to a gas-starved east coast market via the Northern Gas Pipeline ("NGP"), these resources now have an opportunity to attract significant new exploration investment and potential.

**Positive Community Contribution:** Central continues to make a positive contribution to the communities in which we operate. Central's employment philosophy, includes three key employment strategies to sustain its Northern Territory operations:

1. **Family Values for Working Families** – Under this strategy Central maximises the number of employees who can commute daily from their homes in Alice Springs.
2. **Northern Territory for Northern Territorians** – Under this strategy, to the extent that Central needs to employ people at remote locations, to the maximum extent possible, those employees will be based at Alice Springs and "bussed" in from there rather than depending on "Fly In Fly Out" personnel from elsewhere in Australia.
3. **Traditional Values for Traditional Owners** – Under this strategy Central is committed to training and employing people on whose land we operate, indigenous employees generally. Already nearly 30% of our operational employees are indigenous.

This focus on Positive Community Contributions allows our current operations to achieve the following:

- **54%** of Central's current workforce is **locally employed** (if Central sells the available capacity in the NGP, is forecast to rise to 75%)
- **26%** of Central's staff is **indigenous**
- **40%** of **Alice Springs' electricity** is generated using Central's gas
- **\$1.5M annually** contributing to local **economic activity**
- Over **\$3M** in Northern Territory and CLC **Royalties** this financial year (onshore gas pays royalties to the NT rather than Federal)

The growth potential made possible by the NGP can significantly increase Central's community contributions whilst at the same time helping mitigate the gas supply shortage in the east coast market.

Central has reviewed Jemena's DEIS and is confident in Jemena as both a developer and operator. Central is very supportive of this project proceeding, particularly in light of the broader community benefits highlighted above. In short, this is a nation building project that is critical in unlocking the significant and underexplored gas basins in the NT at a time when gas customers need further supply and energy security is becoming increasingly relevant.

Yours Sincerely,



Leon Devaney  
Chief Financial Officer

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