

## **Submission to the Senate Inquiry into the Middle Arm Industrial Precinct (MAIP)**

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From

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His website is [www.davidshearman.org](http://www.davidshearman.org) which links to many articles of relevance to this submission

### **Introduction**

This submission addresses TOR (c). "any climate, environmental, health or cultural heritage impacts as a result of developing the harbour and the industries seeking to establish themselves at Middle Arm.

This submission will embrace many aspects of the harms to human health and the environment that will be caused by toxic pollution for gas and industries at MAIP."

In examining the environmental and medical aspects of resource projects over many years, I can say unequivocally that the MAIP is by far the most inadequate and confusing I have ever encountered. The available documents which are presumably the basis for an EIS, display misinformation and disinformation and I suspect some deliberate omissions particularly in the sphere of human health.

### **Recommendation 1**

**A reformed EPBC Act with water trigger which includes shale gas should be available before further consideration of MAIP is made.**

Graeme Samuels' final report on the EPBC makes the point that there is often insufficient expertise in the States to prepare an accurate EIS. Health

impacts were not in his remit but it is a fact that Health Impact Assessment (HIA) is part of an EIA and has been available to use for 20 years, the most recently amended document in 2017 ref

The Environment Centre NT has "Writing guide for the Middle Arm Industrial Hub Senate Inquiry" and no doubt much of it will be quoted in hundreds of submissions to the Senate. I hope it will be read by all Members and Senators for it is to be highly commended for its accuracy.  
[https://assets.nationbuilder.com/ecnt/pages/912/attachments/original/1696312716/ECNT\\_Middle\\_Arm\\_Submission\\_Writing\\_Guide.pdf?1696312716](https://assets.nationbuilder.com/ecnt/pages/912/attachments/original/1696312716/ECNT_Middle_Arm_Submission_Writing_Guide.pdf?1696312716)

## **Health Impact Assessment**

This Commonwealth Government document says "Human health and development are inextricably linked through an array of environmental, social, cultural and economic determinants of health. In order for development to capitalise on opportunities to improve health as well as effectively manage any risks to health, it is critical that these links are identified and understood. This requires knowledge about both the type of health impacts that may occur and the distribution of those impacts in the affected community. While understanding these links is a relatively straightforward principle, in practice the task of achieving this is a challenge. This challenge can be assisted by the application of Health Impact Assessment (HIA). HIA is an internationally recognised process that provides a systematic approach to address the potential health costs and benefits of projects, plans or policies. These Health Impact Assessment Guidelines focus primarily on the application of HIA to new development projects or upgrades to existing developments, in sectors such as transport, environment, mining and resources, agriculture, energy, waste, housing and planning".

The process pays particular attention to the accommodation of Aboriginal cultural needs as part of their health and need for involvement  
<https://www.health.gov.au/sites/default/files/documents/2022/07/enhealth-guidance-health-impact-assessment-guidelines.pdf>

In a search of several documents relevant to the proposal from 2020 onward, the word health was scarcely mentioned except in relation to health services for example;-

### **Middle Arm Sustainable Development Precinct Draft Program**

[https://ntepa.nt.gov.au/\\_data/assets/pdf\\_file/0007/1092463/masdp-draft-program.pdf](https://ntepa.nt.gov.au/_data/assets/pdf_file/0007/1092463/masdp-draft-program.pdf)

It details the arguments that a Strategic Environmental Assessment (SEA) be adopted for the MASDP, providing environmental assessment and approvals' processes under both the NT Environment Protection Act 2019 (EP Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). 'Human health' is not mentioned in this 47 page development document and the word 'health' only once –in relation to trees.

It recommends that the SEA process should develop an Environmental Impact Statement (EIS) which assesses the impact of implementing the

Program of environmental factors, including Matters of National Environmental Significance (MNES). It demonstrates how negative impacts will be avoided, mitigated and offset (as appropriate) and where beneficial outcomes can be enhanced. The EIS allows stakeholders to understand and assess the acceptability of impacts. It fails to mention that HIA is part of EIS in most major projects such as Middle Arm.

Furthermore in the Strategic Environmental Assessment process, health impact assessments for the proposed industries are conducted at the discretion of the NT Chief Health Officer, which can then be dismissed by the NT Chief Minister. Clearly SEA is inappropriate when a government has already committed itself to the project come what may.

**Recommendation 2 Health Impact Assessment (HIA) should be conducted instead of SEA by independent experts from the PHAA and by University environmental experts according to the governments own process.**

<https://www.health.gov.au/sites/default/files/documents/2022/07/enhealth-guidance-health-impact-assessment-guidelines.pdf>

**Middle Arm Sustainable Development Precinct Referral Report 2022**

[https://ntepa.nt.gov.au/\\_data/assets/pdf\\_file/0009/1092465/masdp-referral-report.pdf](https://ntepa.nt.gov.au/_data/assets/pdf_file/0009/1092465/masdp-referral-report.pdf)

This report says

“The NT EPA’s objective for Human health is to: Protect the health of the Northern Territory population. The human health values are based on the sensitive receptors identified in Section 5.12.2. A preliminary listing of the values that have the potential to indirectly impact human health values are provided below and form the basis of the impact to human health:

Safety-- distance from a hazardous facility to sensitive receptors (i.e. spills, explosions); toxicity levels in fish and crustaceans; and biting insects to construction and operational personnel.” This list is totally inadequate.

**Report on the Development of the Beetaloo Sub-basin. For the Commonwealth Department of Industry, Science, Energy and Resources November 2020**

At this point in the discussion, it is relevant to consider advice provided to the Commonwealth Government two years earlier by Deloitte in relation to gas fracking. At that time there were hundreds of scientific papers in the literature about toxic chemicals which cause human harms. These were documented in earlier versions of the <https://apo.org.au/node/313370> and the Compendium of Scientific, Medical, and Media Findings. Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure <https://concernedhealthny.org/wp-content/uploads/2022/04/CHPNY-Compendium-8-FINAL.pdf>

Was not Deloitte aware of them? The only mention of health in the entire document "Need to address health, safety and environmental concerns as early as possible and where possible over and above government standards. Historically, in Australia successful environmental campaigns have 'locked the gate' on many unconventional resources and made it more difficult to access reserves required to meet contract demand".

As you would expect their concern was financial and perhaps the Commonwealth Department of Industry should have been concerned by the huge health impact that could arise from Beetaloo and from industries likely to be in the Precinct. This impact has now been made available in a comprehensive report commissioned by ECNT [https://assets.nationbuilder.com/ecnt/pages/652/attachments/original/1660190794/MASDP\\_Expert\\_Report\\_Michael\\_Petroni\\_%28003%29.pdf?1660190794](https://assets.nationbuilder.com/ecnt/pages/652/attachments/original/1660190794/MASDP_Expert_Report_Michael_Petroni_%28003%29.pdf?1660190794) The Petroni report provides information on pollution from all industries including petrochemical which may or may not occur according to statements from different Ministers and reports.

The basis for recommendation 3 relates to the huge range of toxic substances which occur in gas fields which will also occur around gas terminal hubs- see a report published under the auspices of Sydney University, *The risks of oil and gas development for human health and wellbeing: A synthesis of evidence and implications for Australia*, which cited over 300 scientific and medical studies, including many new publications in 2022 and 2023 <https://www.sydney.edu.au/news-opinion/news/2023/09/04/health-evidence-against-oil-gas-piling-up-usyd-report-fracking-coal-shale.html>

**Recommendation 3. The Middle arm development proposal must be linked to that of fracking at Beetaloo in the NT –a common strategy is necessary in proposals to alleviate air pollution in the Darwin regional area.**

The processing of gas in hubs, leakage of gas from pipelines, LNG processing, and transfer to ships is universal. It forms part of 'fugitive emissions'. Generally they are dismissed when large income from exports can be 'in the national income'. Some US studies have costed the diseases occurring in inhabitants of gas fields and they amount to billions of dollars. <https://iopscience.iop.org/article/10.1088/2752-5309/acc886> This is not to suggest Darwin is a gas field but its population will be subject to air pollution with some of these toxic substances from fracking.

### **Greenhouse emission reduction by CCUS**

The carbon capture and storage (CCUS) will be within geological formations under the sea. This process is detailed for the 'Middle Arm Sustainable Development Precinct' <https://middlearmprecinct.nt.gov.au/Industries/carbon-capture,-utilisation-and-storage>

The reasoning for the use of the word "sustainable" is detailed in this NT government document <https://middlearmprecinct.nt.gov.au/Sustainability>  
The above documents and [https://middlearmprecinct.nt.gov.au/\\_data/assets/pdf\\_file/0009/1204749/middle-arm-carbon-capture.pdf](https://middlearmprecinct.nt.gov.au/_data/assets/pdf_file/0009/1204749/middle-arm-carbon-capture.pdf) carry much misinformation

"The precinct will be home to a world class carbon capture and storage facility that will capture at least 90% of emissions at the source and to provide an option for other states and countries to provide....

"Carbon capture, utilisation and storage (CCUS) is a proven process that captures carbon dioxide emissions, preventing entry into the atmosphere. Broadly the process covers the following".....

The facts are that analysis of the world's major CCUS projects reductions are limited at most to 50% success including the major Gorgon Project in WA <https://johnmenadue.com/con-job-australian-sea-dumping-bill-facilitates-fossil-fuel-mining/file:///C:/Users/User/Downloads/Sub25%20Shearman.pdf>

CCUS is part of the government's strategy for the project to be emission neutral and is deeply flawed, along with some other reduction of emissions proposals.

#### **Recommendation 4 Expected greenhouse emissions, domestic and scope 3, be reassessed using scientific data**

#### **Increase in flooding from sea level rise; Mangrove protection**

Sea level rise in the NT coast is already higher than the rest of Australia and the consequences of future sea level rise do not appear to have been adequately addressed.

The melting of West Antarctica's ice shelves is likely to substantially accelerate in coming decades even if the world meets current ambitions to limit global warming of 1.5 degrees. These ice shelves hold back the flow of glaciers into the ocean and their loss could lift ocean levels by several meters. Currently rise in sea level of a meter has been accepted as the likely outcome this century with the 1.5 degree limit but lack of action in addressing climate change could lead to a 2.7 rise.

The NT coastline and adjacent MAIP are heavily protected by mangrove forests. As sea level rises and is enhanced by more violent storms and flooding, mangrove protection will deteriorate as is the case worldwide.

In this situation sediment deposition from violent storms increase the mangrove inability to breathe through their above ground roots (pneumatophores) and this leads to their death. Mangroves are also susceptible to pollutants many of which arise from industries foreshadowed for MAIP.

Mangroves have several important roles apart from coastal protection. They store a large amount of carbon in roots and branches and provide a crucial diverse ecology for coastal plants, birds, animals and provision of fish breeding sites.

There has been a lack of consideration not only of the loss of biodiversity from the wide land clearance needed for the proposed industries but also of the loss of protective mechanisms for the proposed facilities and parts of the greater Darwin area.

Similar developments around the world impact their adjacent regions with loss of amenity, various health impacts from pollution, need for greater medical and hospital services and migration of those with the finance to move landward. Poorer people remain to fill the promised jobs and "progress".

**Recommendation 5. The question of sea level rise must be further investigated using the current scientific trajectories. The related issues, amenities and health for surrounding populated areas require discussion for they will involve loss of amenity and acceptance of several determinants for good health**

### **Summary**

As one with medical and environmental expertise, I am shocked by the inaccuracy and inadequacy of the information on the MAIP particularly on human health even to the possibility that some omissions may be intentional.

**I make five recommendations in the text** together with the reasoning for them. As from now the process of assessment must be guided by a revised EPBC with water trigger and health impact assessment; this will correct errors and introduce a Commonwealth Health Impact Assessment. The human health aspects of fracking at Beetaloo need to be considered because toxic substances will be released into the environment of MAIP. Finally, I introduce the health need for reexamination of the effectiveness of CCUS and the suitability of the chosen site for MAIP industries.