



# Review of Environmental Factors

## Addendum

### Malabar Biomethane, Biodome Visual Impacts

#### 1 Determination

This Review of Environmental Factors Addendum (REFA) assesses potential environmental impacts of Malabar Biomethane Project and was prepared under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), with Jemena and Sydney Water joint proponents and Sydney Water the determining authority.

Jemena is accountable to ensure the proposal is carried out as described in this REFA and the Malabar Biomethane REF September 2021 (approved REF). If the scope of work or work methods described in this REFA change significantly following determination, additional environmental impact assessment may be required.

#### Decision Statement

During construction, the main potential environmental impacts of the proposal are typical construction impacts such as noise, vibration and air quality (dust). During operation, the potential impacts are primarily the hazards and risks associated with storage and transfer of raw biogas and biomethane. **There will also be some additional visual impacts associated with the biogas buffer storage, referred to as the 'biodome' compared to the approved REF.**

**A visual impact assessment has been undertaken as part of this REFA and found that some residential receivers, particularly those in elevated dwellings to the south west and south of the proposal may experience up to moderate visual impacts. The assessment noted that the impacts are partially mitigated by existing screening and the green colour of the biodome, which should fade over time, further reducing the impact. The assessment concluded that overall the proposal will have a range in visual impacts, from negligible to low impacts to landscape character, and negligible to moderate visual amenity impacts. While the biodome would be noticeable, it will continue to integrate with the surrounding landscape, and given the benefits of the proposal, the additional visual impacts are considered acceptable and the proposal is recommended to proceed.**

Overall, the proposal will have a beneficial impact towards reduction of greenhouse gas emissions and demonstrate a carbon neutral pathway for the gas network as NSW moves towards net zero carbon emissions target.

The proposal will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats. Accordingly, a Species Impact Statement (SIS) or Biodiversity Development Assessment Report (BDAR) is not required.

It is considered that, given the nature, scale and extent of impacts and implementation of the safeguards outlined in both this REFA and the approved REF, the proposed work is unlikely to have a significant impact on the environment. Accordingly, we do not require an Environmental Impact Statement (EIS) and the proposal may proceed.

## Certification

I certify that I have reviewed and endorsed the contents of this REFA document and, to the best of my knowledge, it is in accordance with the EP&A Act and the Environmental Planning and Assessment Regulations (EP&A Regulation). The proposal has been considered against matters listed in section 171 (Appendix A) and the Guidelines approved under section 170 of the EP&A Regulation and the information it contains is neither false nor misleading.

Prepared by:	Reviewed by:	Reviewed and endorsed by:
		
Kate Murphy REFA author, GHD Date: 08/03/2023	Karl Rosen Technical Director, GHD Date: 08/03/2023	Jarad McInnes Project Manager, Jemena Date: 8/03/23
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## 2 Project Summary

### Project information

**Project location** The project is located at 1 Fishermans Road, Malabar, NSW about 12 kilometers (km) south of the Sydney CBD. It is located within the Randwick Local Government Area on land zoned SP2 Infrastructure (Sewerage System).

**Approved REF** Review of Environmental Factors (REF) Malabar Biomethane, September 2021.

**Project scope** The approved project scope involved the construction and operation of a biomethane upgrader facility at Sydney Water's Malabar Water Resource Recovery Facility (WRRF). Operation of the project would use raw biogas produced at the WRRF that would be upgraded and blended for supply into the NSW Gas Network and used in homes. The project would maximise the use of biogas and reduce the amount of excess biogas being flared through the waste gas burners from the WRRF. The project will help inform a practical approach to using methane from organic waste sources to reduce net carbon emissions.

**Project change** This REFA has been prepared to document the change to the visual impacts described in the approved REF. The biogas buffer storage (biodome) has been identified as having a higher visibility to surrounding residential receivers than initially considered likely during the preparation of the REF. The approved REF noted that the proposal should not be noticeable to the public outside Malabar WRRF. During construction, when the inner liner of the membrane was temporarily inflated, it was apparent that the biodome could potentially have additional impact beyond what was anticipated during the REF process and be noticeable outside the WRRF.

A specialist Visual Impact Assessment (VIA) has been undertaken at key vantage points to assess the potential impacts upon landscape character and visual amenity associated with the proposal. The VIA found that impacts to landscape character and visual amenity would be negligible to low, and negligible to moderate respectively, for different receivers (refer Section 5 of the VIA which provides the visual impact assessment and Appendix C of the VIA which includes the cropped and enlarged/artist impression images).

This REFA is to be read in conjunction with the Approved REF Malabar Biomethane September 2021.

**Justification for project change** The original REF for the project considered that visual amenity would not be impacted based on the location of the proposed facility and consistency of potential visual impacts to existing infrastructure within the WRRF. A specialist VIA was not undertaken as part of the original

REF following the initial screening process for potential environmental impacts associated with the proposal.

Measures to mitigate potential impacts to visual amenity during the design stage included selecting a colour of the buffer storage (biodome) to be similar to the surrounding landscape features of the Malabar Headland National Park and Anzac Rifle Range. Several additional options have since been investigated as part of the specialist VIA to mitigate the visual impact of the proposal, including vegetation screening, use of a different colour membrane material, or altering the size/shape of the biodome. None of these mitigation options are considered suitable to reduce visual impacts, due to the height of receivers compared to the biodome, and limited available area for vegetation, screening or changed project components. Given the surrounding landscape and vegetation, the green colour selection for the biodome material is still considered the most suitable colour available.

While there will be some visual impacts associated with the project (as documented in the specialist VIA), given the benefits of the project, it is recommended that the project proceed as described in the approved REF and this REFA.

### 3 Legislative consideration

There are no additional legislative requirements above those already assessed in Malabar Biomethane REF (September 2021).

The project change is required to facilitate development for the purpose of 'sewerage systems' in land zoned SP2, which is a prescribed zone. The project is permissible without consent in accordance with Section 2.126 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021*. Section 2.126(2) states that development for the purpose of sewerage treatment plants or biosolids treatment facilities may be carried out without consent on land in a prescribed zone in prescribed circumstances. 'Energy generating works' is included in the definition of development for the purposes of sewerage systems under section 2.126(10)(e) of the Transport and Infrastructure SEPP. The purpose of the biomethane upgrader facility is to treat biogas to a quality suitable for blending into the gas network and is an energy generating work.

As such, the proposal is permissible without consent. Accordingly, this REF addendum has been assessed under Division 5.1 of the EP&A Act and Sydney Water can self-determine the project.

Legislation	Additional considerations
State Environmental Planning Policy (Transport and Infrastructure) 2021 (TISEPP)	As of 1 March 2022, a number of State Environmental Planning Policies (SEPPs) were consolidated. The Infrastructure SEPP 2007 was repealed and incorporated in to the new TISEPP.

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy No. 33 - Hazardous and Offensive Development (SEPP 33) and State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) were repealed and incorporated into the new Resilience and Hazards SEPP.

## 4 Consultation

Community and stakeholder consultation is being managed by Jemena in consultation with the key project partners: Sydney Water and ARENA for works associated with the proposal.

A Stakeholder Management Plan (SMP) has been prepared by Jemena for the proposal to identify stakeholders and provide them with clear, accurate and timely information throughout detailed design, construction and commissioning of the proposal. The project’s REF has been made available on Jemena’s project page and Sydney Water Talk. Sydney Water’s Community Reference Group (CRG) for the Malabar WRRF has also been used as an additional communication channel for the project.

During the construction of the biodome in December 2022, Sydney Water and Jemena identified an increased interest in the infrastructure from the local community about its safety measures and potential visual impacts to the environment. As a result, a specialist VIA has been commissioned for the project to provide the community with additional information. The VIA and this AREF will be placed on both Sydney Water and Jemena websites.

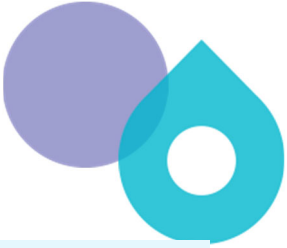

Details of the construction program including the proposed inflation of the biodome have been provided in regular project communication, including in a newsletter distributed on 9<sup>th</sup> February. Details of the biomethane production process have been discussed at the CRG on 23 February, 2023.

Further community engagement will continue in accordance with the SMP for the project and we will continue to welcome comments from the community on the project.

## 5 Additional environmental impacts and mitigation measures

The table below lists the environmental impacts that could result from the proposed change compared to the approved REF and the additional mitigation measures identified. All other environmental impacts and mitigation measures identified in the approved REF (September 2021) remain the same.

Environmental impacts table		
Aspect	Additional impacts	Additional mitigation measures
<b>Social and visual</b>	A Visual Impact Assessment (VIA) (Appendix C) was undertaken to assess the Visual and Landscape Character impacts of the proposal on the surrounding area. The assessment was carried out in accordance with the <i>‘Guidelines for landscape character and visual impact assessment’</i> :	There are no suitable mitigation measures that can be applied that will reduce the level of visual impacts. The visual shininess of the biodome will reduce slightly over time.



*Environmental impact assessment practice note EIA-N04'* (Transport for NSW).

Impacts to landscape character have been assessed as negligible to low when considered in the wider context of the surrounding urban development and the WRRF infrastructure.

Impacts to visual amenity have been assessed as negligible to moderate with views from residential receivers to the south-west of the proposal site having the highest potential for impacts due to the extended viewer times and elevated topography. A moderate-low impact rating has also been assessed at the entry to the Anzac Rifle Range as the biodome is visible and at relatively close proximity.

Negligible impact ratings have been assessed for remaining viewpoints due to a combination of distance and screening vegetation limiting or preventing views of the proposal.

The detailed assessment of potential visual impacts associated with the proposal is provided in Appendix C.

## 6 Conclusion

This REF addendum outlines potential environmental impacts associated with visibility of the biogas buffer storage (biodome) forming part of the Malabar Biomethane Project. The project will have additional visual impacts compared to those assessed in the approved REF. While most of these impacts will be negligible to low, there may be moderate visual impacts for some residential receivers. There are no additional mitigation options available, however the biodome within the WRRF is in keeping with the surrounding infrastructure, and the current moss green colour is considered the most suitable. Sydney Water and Jemena will continue to engage with the community on the project. The proposed works are not likely to significantly impact the environment.

## Appendix A – Section 171 checklist

Requirements in addition to the approved REF are considered in **bold** in the table below.

Section 171 checklist	REF finding
Any environmental impact on a community	The proposal will have limited short-term impacts typical to construction works such as noise and vibration, air quality (dust) and amenity. Once operational, there will be a beneficial environmental impact by enabling the production of biomethane from biogas for use within the natural gas network, thus producing a net zero carbon emission gas supply. <b>There will be some visual impacts (up to a moderate level of impact for some residential receivers) as a result of the project. The elements of the project that will be visible to surrounding community will be in keeping with the existing infrastructure at the WRRF site</b>
Any transformation of a locality	The proposed work will not result in the transformation of a locality, <b>however there will be some additional visual impacts as a result of the project.</b>
Any environmental impact on the ecosystems of the locality	No change from approved REF.
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	<b>The biodome will have limited visibility to the surrounding community. Potential visual impacts have been assessed as negligible to moderate.</b>
Any effect upon a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or any other special value for present or future generations	No change from approved REF.
Any impact on the habitat of any protected animals (within the meaning of the <i>Biodiversity Conservation Act 2016</i> )	No change from approved REF.
Any endangering of any species of animal or plant or other form of life, whether living on land, in water or in the air	No change from approved REF.
Any long-term effects on the environment	<b>Elements of the project (biodome) will remain visible to some receivers, however the colour of the biodome should fade over time and is in keeping with the existing infrastructure at the WRRF.</b> The proposal will have a long-term benefit by demonstrating the technical viability of biomethane production for injection into the natural gas network.
Any degradation of the quality of the environment	<b>The biodome will be visible to some receivers which can impact the visual amenity or quality of the environment. As the proposal is within the WRRF and the colour should fade, it will</b>



Section 171 checklist

REF finding

**mostly blend with the surrounding WRRF infrastructure.** The proposal will contribute to reducing greenhouse gas emissions by supplying a portion of gas in the current natural gas market from biogas.

Any risk to the safety of the environment No change from approved REF.

Any reduction in the range of beneficial uses of the environment No change from approved REF.

Any pollution of the environment No change from approved REF.

Any environmental problems associated with the disposal of waste No change from approved REF.

Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply No change from approved REF.

Any cumulative environmental effect with other existing or likely future activities No change from approved REF.

Any impact on coastal processes and coastal hazards, including those under projected climate change conditions No change from approved REF.



## Appendix B – Consideration of TISEPP consultation

TISEPP section	Yes	No
<b>Section 2.10, council related infrastructure or services – consultation with council</b>		
Will the work:		
Potentially have a substantial impact on stormwater management services provided by council?		✓
Be likely to generate traffic that will strain the capacity of the road system in the LGA?		✓
Involve connection to, and have a substantial impact on, the capacity of a council owned sewerage system?		✓
Involve connection to, and use of a substantial volume of water from a council owned water supply system?		✓
Involve installation of a temporary structure on, or enclosing, a public space under council's control that will cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential?		✓
Involve excavation of the surface of, or a footpath adjacent to, a road for which the council is the roads authority that is not minor or inconsequential?		✓
<b>Section 2.11, local heritage – consultation with council</b>		
Is the work likely to affect the heritage significance of a local heritage item, or of a heritage conservation area (not also a State heritage item) more than a minor or inconsequential amount?		✓
<b>Section 2.12, flood liable land – consultation with council</b>		
Will the work be located on flood liable land (that is land that is susceptible to flooding by the probable maximum flood event) and will they alter flood patterns other than to a minor extent?		✓
<b>Section 2.13, flood liable land – consultation with State Emergency Services</b>		
Will the work be located on flood liable land (ie. land that is susceptible to flooding by the probable maximum flood event) and undertaken under a relevant provision*, but not the carrying out of minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance? * (e) Div.14 (Public admin buildings), (g) Div. 16 (Research/ monitoring stations), (i) Div. 20 (Stormwater systems)?		✓
<b>Section 2.14, development with impacts on certain land within the coastal zone– council consultation</b>		
Is the work on land mapped as coastal vulnerability area and inconsistent with a certified coastal management program?		✓
<b>Section 2.15, consultation with public authorities other than councils</b>		
Will the proposal be located on land adjacent to land reserved under the <i>National Parks and Wildlife Act 1974</i> or to land acquired under Part 11 of that Act? <i>If so, consult with DPIE (NPWS).</i>		✓
Will the proposal be located on land in Zone E1 National Parks and Nature Reserves or in a land use zone that is equivalent to that zone? <i>If so, consult with DPIE (NPWS)</i>		✓
Will the proposal comprise a fixed or floating structure in or over navigable waters? <i>If so, consult TfNSW</i>		✓
Will the proposal be located on land in a mine subsidence district within the meaning of the <i>Coal Mine Subsidence Compensation Act 2017</i> ? <i>If so, consult with Subsidence Advisory NSW.</i>		✓
Will the proposal involve clearing of native vegetation on land that is not subject land (ie non-certified land)? <i>If so, notify DPIE at least 21 days prior to work commencing. (Requirement under s3.24 Chapter 3 Sydney Region Growth Centres - of the SEPP (Precincts – Central River City) 2021.</i>		✓



## Appendix C – Specialist studies (Visual Impact Assessment)