



# **Biodiversity Offsets Guideline**

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# Acknowledgements

This Biodiversity Offsets Guideline has been prepared on behalf of the Australian Pipelines and Gas Association (APGA) by representatives of the APGA Environment Subcommittee: Thomas Wright and David Francis (Cardno); David Coleman (Kleinfelder) with review by members of the APGA Environmental Risk and Compliance Subcommittee.

## Disclaimer

The content of this document is a guide only.

This guideline does not represent a minimum acceptable standard for Australian Pipelines and Gas Association (APGA) members or other participants in the planning, construction, operation or decommissioning of gas, water or slurry pipelines.

Commonwealth, State and Territory legislation and regulation set out the relevant standards and obligations that must be met by a pipeline throughout its lifecycle. Contractual agreements setting out responsibilities, obligations and liabilities between counter-parties should appropriately reference the relevant legal and regulatory requirements.

Legislation and regulation relevant to the management and procurement of biodiversity offsets can be frequently amended by State and Territory Governments. To ensure currency and consistency with existing legislation, APGA advises its members to undertake a review prior to commencement of planning each new project. APGA advises its members to seek clarification on approvals from personnel with experience in these processes and from the relevant Commonwealth, State/Territory or local government regulatory authorities.

All care has been taken in the research and collation of this guideline, but this publication is provided on the understanding that the authors and editors are not responsible for any errors or omissions or the results of any actions taken on the basis of information in this work.

# Contents

1	Scope.....	4
2	What are offsets?.....	4
2.1	Overview.....	4
2.2	Common principles and processes.....	4
2.3	Relevance to industry.....	5
3	Offsets in Australia.....	5
3.1	Why the need for offsets.....	5
3.2	Where are offsets required.....	5
3.3	Federal (EPBC Act) environmental offset policy.....	10
4	Planning for offsets.....	11
4.1	Costs of offsets.....	11
4.2	Timing.....	12
4.3	Other considerations.....	12
5	Conclusion.....	13
6	References.....	14

# 1 Scope

This document has been prepared for gas and pipeline industry stakeholders to provide information on biodiversity offsets within Australia. It provides both an overview of what offsets are and when they apply, as well as a comparison of biodiversity offset policies across Australia.

This document does not provide any information on exemptions for biodiversity offsets that may be applicable to pipeline or gas projects for clearing native vegetation or threatened species habitat.

This document has been prepared as a guide and should not replace the need to seek project- or site-specific advice from regulators and industry experts. While the information is applicable in a general sense, every situation is different and the requirement for biodiversity offsets must be considered within the context of the applicable environmental legislation and the project activity.

## 2 What are offsets?

### 2.1 Overview

Biodiversity offsets (also known as 'environmental offsets') are a mechanism used by environmental regulatory authorities to compensate for residual impacts to biodiversity as a result of a proposed project or activity. Offsets are considered the final stage in the 'impact mitigation hierarchy', where proponents must first look to avoid and minimise potential impacts before offsets are considered.

All Australian States and Territories, as well as the Commonwealth, have legislation or policy that implement biodiversity offsets. While the mechanism for implementing offsets varies across jurisdictions, the aim is similar and that is to achieve 'no net loss' in overall biodiversity value.

For the purpose of this guideline, 'biodiversity offsets' means any legislative mechanism that is intended to compensate for impacts or losses of biodiversity values (inclusive of flora and fauna). These mechanisms are sometimes known by other names such as 'environmental offsets' or 'vegetation offsets'. Members should note that 'carbon offsets' are a distinctly different type of mechanism that are unrelated to biodiversity offsets and are out of scope of this guideline.

### 2.2 Common principles and processes

Biodiversity offset policies in Australia are typically based on the following principles:

- Offsets are required to compensate for residual impacts to biodiversity, such as native vegetation or threatened species' habitat.
- Offsets are considered during the environmental assessment and approval phase of a project.
- When an offset is required, it usually must be secured prior to a project commencing.
- Offsets typically involve protecting, securing and managing 'like-for-like' biodiversity values on land that is not already protected or managed for environmental purposes (i.e. provides an additional benefit).
- Offset sites require protection for perpetuity under a covenant or similar legal instrument.
- Offsets and their actions must be enforceable through appropriate legal mechanisms.

## 2.3 Relevance to industry

The Australian pipeline and gas industries undertake projects that are likely to require biodiversity offsets. It is therefore important for these industries to understand the rationale for biodiversity offsets and the environmental objectives that are trying to be achieved by government and environmental regulators. In addition, the industry needs to be aware of the implications offsets can have on a project in terms of costs and timelines, and how to plan accordingly.

# 3 Offsets in Australia

## 3.1 Why the need for offsets

Compared with many other countries in the world, Australia still retains a relatively high proportion of native vegetation and fauna habitat across both public and private land. It is widely regarded for its biological diversity, being home to an estimated half a million different species, with strong public support for the conservation and preservation of the natural environment. Despite this, Australia has some of the highest rates of species extinction and native vegetation clearance in the world.

Government regulators acknowledge that, as part of development, impacts to biodiversity can be unavoidable and some degree of 'offsetting' is required to achieve a balance between economic growth and environmental conservation. As a result, many governments now employ offset mechanisms as part of the environmental approvals process to ensure that there is no 'net loss' in biodiversity.

## 3.2 Where are offsets required

Biodiversity offset policies exist in every Australian State and Territory and is also applied at the Commonwealth level. The offset policies which could be relevant to a project include:

- Commonwealth of Australia
  - EPBC Act Environmental Offset Policy
- Victoria
  - Guidelines for the removal, destruction or lopping of native vegetation
  - Biodiversity Conservation Strategy for Melbourne's Growth Corridors
- New South Wales
  - Biodiversity Offset Scheme
- Queensland
  - Queensland Environmental Offsets Policy
- South Australia
  - Policy for a Significant Environmental Benefit
- ACT
  - ACT Environmental Offsets Policy
- Western Australian
  - WA Environmental Offsets Policy
- Tasmania
  - General Principles for Biodiversity Offsets
  - Guidelines for Establishing Offsets for Impacts on Natural Values within the Dam Assessment Framework
  - Guidelines for the use of Biodiversity Offsets in the local planning approval process – Southern Tasmanian Councils Authority
  - The use of offsets to compensate for the loss of significant biodiversity values within forest practices plans
- Northern Territory

- Guidelines on Environmental Offsets and Associated Approval Conditions (*under review*).

Offset policies operate differently in each jurisdiction, and so understanding the nuances in detail of how each policy operates can be confusing. Adding to the complexity are recent changes to offset policies in Victoria and New South Wales, while the Northern Territory offset policy is currently under review. Ongoing changes to offset policy can be expected as clearing of native vegetation, and the approval conditions that allow clearing to occur, have become increasingly politicised.

Table 1 summarises the key details of Commonwealth and State/Territory biodiversity offset policies.

The key areas in which offset policies vary include:

- Presence of an established offset market to purchase offsets through, allowing for efficient securing of offsets.
- How offsets are calculated and what offsets are required for. For instance, most jurisdictions require offsets for the removal of native vegetation, whereas the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), requires only a residual significant impact to Matters of National Environmental Significance, which includes listed threatened species and ecological communities, listed migratory shorebirds, and Wetlands of International Significance.
- The list of activities, development-types and planning zones that are exempt from offsets (not discussed in this policy document).
- Scope for a negotiated outcome where offset requirements cannot be achieved, for instance due to lack of a landowner willing to enter into an offset agreement.

These differences can have a material impact on cost and timelines associated with assessing and securing offsets. For instance:

- If a project requires assessment under two different policies with different calculation methods and offset triggers, then more resources and effort is required to undertake baseline assessments and the impact assessment.
- Offset policies that are more prescriptive (e.g. Victoria, New South Wales, South Australia, Australian Capital Territory and Queensland) provide limited scope to negotiate an outcome for an alternative offset arrangement that may be more beneficial to the proponent or the project, particularly where there are limited offsets available. However, more prescriptive policies do provide greater confidence in the accuracy of offset estimates during a project feasibility phase.
- Offset policies that allow for a negotiated outcome (e.g. Western Australia, Northern Territory, and the Commonwealth) do not provide a clear indication of what a suitable offset arrangement would be, potentially leading to many iterations of an offset proposal before it achieves the regulator's approval. Furthermore, in these jurisdictions, several referral authorities or stakeholder groups can be involved in the offset process, further adding to delays.
- Where there are mature offset markets, there should be accurate data on offset prices, providing greater confidence in the accuracy of estimating offsets costs during the feasibility phase of a project.

**Table 1. Comparison of offset policies across Australia (correct at time of writing, September 2019)**

	Commonwealth		Victoria		NSW		Qld		WA		NT		ACT		SA		TAS		
Policy	EPBC Act Environmental Offsets Policy		Guidelines for the removal, destruction or lopping of native vegetation		Biodiversity Conservation Strategy for Melbourne's Growth Corridors		Biodiversity Offset Scheme		Queensland Environmental Offsets Policy		WA Environmental Offsets Policy and Guidelines		Guidelines on environmental approvals and associated approval conditions		ACT Environmental Offsets Policy		Policy for a Significant Environmental Benefit		General offset policy for offsets under the Resource Management and Planning System
Legislation	<i>Environment Protection and Biodiversity Conservation Act 1999</i>		<i>Planning and Environment Act 1987</i> <i>Mineral Resources (Sustainable Development) Act 1990</i> <i>Environment Effects Act 1978</i>		<i>Planning and Environment Act 1987</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>		<i>Biodiversity Conservation Act 2016</i>		<i>Environmental Offsets Act 2014</i>		<i>Environmental Protection Act 1986</i> <i>Planning and Development Act 2005</i> <i>Mining Act 1978</i>		<i>Mining Management Act</i> <i>Aboriginal Land Rights (Northern Territory) Act</i> <i>Native Title Act</i>		<i>Planning and Development Act 2007</i>		<i>Native Vegetation Act 1991 and Native Vegetation Regulations 2017</i>		Resource Management and Planning System <i>Land Use Planning and Approvals Act 1993</i> <i>Forest Practices Act</i> <i>Water Management Act 1999</i> Local Council Planning Schemes
Relevant Authority	Commonwealth Department of the Environment and Energy		Department of Environment, Land, Water and Planning Local Council Commonwealth Department of the Environment and Energy		Department of Environment, Land, Water and Planning Department of Planning, Industry and Environment Local Council		Department of Environment and Science		Department of Environment and Science		Western Australian Environment Protection Authority Department of Water and Environmental Regulation Department of Mines, Industry Regulation and Safety		NT Environment Protection Authority Traditional Owners/Native Title Holders Local Council		Environment and Planning Directorate		Native Vegetation Council Department for Environment and Water		Department of Primary Industries, Parks, Water and Environment Forest Practices Authority Local Councils



Offset triggers	Residual significant impact to Matters of National Environmental Significance (e.g. listed threatened species and ecological communities).	Removal of a patch of native vegetation or a native scattered tree.	Removal of habitat for threatened species or native vegetation	Removal of native vegetation above the thresholds. Also, whether the impacts occur on an area mapped on the Biodiversity Values map	Residual significant impact to a 'prescribed environmental matter' including Matters of State Environmental Significance (e.g. listed threatened species and regulated vegetation).	Residual significant impacts to the environment which includes rare flora, threatened ecological communities, remnant vegetation, wetlands and waterways, conservation areas, high biological diversity and habitat for fauna.	Proponents may be required to prepare an environmental offset package as part of approval conditions under the Act listed above.	Unavoidable significant adverse environmental impacts of development on ACT listed threatened species.	Removal of native vegetation	Native vegetation removal, impacts to threatened species, wetlands.
Calculation method	Offsets Assessment Guide using field-collected data.	NVIM Tool. Combination of habitat hectares score and site and landscape modelled information (e.g. Strategic Biodiversity Value Score, Location Map)	Based on time-stamped data available through the NVIM tool.	Biodiversity Assessment Method (BAM). Combination of plot data and landscape context	Financial settlement through use of an online financial settlement calculator  Land-based offset by undertaking a habitat quality analysis of the impact site and offset site through use of The Guide to Determining Terrestrial Habitat Quality.	Residual impact significance model	None	Environmental Offsets Calculator (EOC) and Offset Assessment Methodology (OAM)	Guide for calculating a Significant Environment Method	Varies depending on jurisdiction (e.g. multiplier of area under Forest Practices Authority,
Site Assessment Required	Yes	Yes to determine location of native vegetation, although habitat hectares assessment only required for Detailed Assessment Pathway.	No. Time-stamped data provided for all of BCS.	Yes, to determine the Plant Community Type (PCT), integrity condition of the vegetation and presence of threatened species.	Financial settlement – not for determining the settlement, only to determine the extent of impacts on some prescribed environmental matters.  Land-based offset - yes.	Yes	Yes	Yes	Yes	Yes
Offset market established	No, although some offset brokers will have information on limited number of suitable sites	Yes. Several offset brokers established.	Yes. Over-the-counter payment to DELWP to manage Western Grassland Reserve.	Yes. Biodiversity Conservation Trust (BCT).	Financial settlement – payments made directly to the State.  Land-based offset – yes, in part. A small number of brokers can assist.	No	No	No	Yes. Biodiversity Credit Exchange.	Yes, but only in certain jurisdictions (e.g. Kingborough Council, Forest Practices Authority,

Negotiated outcome	Possible provided that 90 per cent of offsets can be achieved through direct offsets (e.g. protection and management of habitat on private land), or in areas where direct offsets cannot be achieved, e.g. all suitable sites are Crown land.	Highly unlikely. There is a process in place to challenge modelled data, although very difficult to convince DELWP to change.	Highly unlikely. Time-stamped data is in place and DELWP have no formal process to consider site survey data if modelled data is inaccurate.	Low potential. Would require strong justification.	Moderate potential. A proponent-driven offset may take the form of a traditional land-based offset, be undertaken through actions under a Direct Benefit Management Plan (DBMP) or a combination of both. A DBMP is a pre-approved packaged investment that outlines priority actions to address threats to, and provide substantial benefits for, particular prescribed environmental matters. A DBMP is negotiated with the State.	Yes. There is scope to negotiate one of three types of offsets (land acquisition, on-ground management and research) provided it meets the objectives of the policy.	Yes. Any offset requirement will need to be negotiated with a range of stakeholders including native title owners, traditional owners, local Councils and Government agencies.	Low potential. The offset requirements and suitability of offset sites are determined by the EOC and OAM.	Low potential. The assessment and offsetting process is well defined with limited scope to alter. Four offset options exist including managing native vegetation, protecting native vegetation, entering into a Heritage Agreement and payments into the Native Vegetation Fund.	Low-moderate potential. Most jurisdictions specify how offsets are calculated. There are several options for how offsets will be secured, including on-site offset, off-site offset and monetary transfer.
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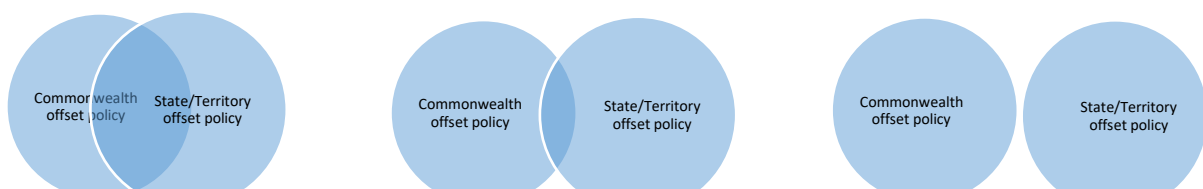
### 3.3 Federal (EPBC Act) environmental offset policy

Large-scale pipeline projects can have impacts across multiple jurisdictions potentially triggering biodiversity offsets under different policies. It is more common though if a project triggers offset requirements under two different policies, that the Commonwealth EPBC Act Environmental Offset Policy is also triggered. Therefore, understanding how the Commonwealth EPBC Act Environmental Offset Policy interacts with other policies is important.

The Commonwealth EPBC Act Environmental Offset Policy recognises the potential for interaction with State and Territory offset policies. One of the principles of the EPBC Act policy is that suitable offsets must “be additional to what is already required, determined by lower planning regulations or agreed to under other schemes (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action)” (DSEWPaC 2012). Essentially, an offset can be used to achieve both Commonwealth and State/Territory offset requirements for the same action, provided that it meets the objectives of both policies.

The degree of overlap between the Commonwealth and State/Territory offset policies varies. Where there is limited overlap, this can create frustration as there can be conflicting outcomes. For instance, a project in Victoria could trigger offsets for the nationally significant Golden Sun Moth under the State system but not the Commonwealth system, or both policies may trigger an offset for the same threatened species. However, two different offsets must be secured to achieve the objectives of both policies. Conflicts with the Commonwealth offset policy most commonly occur with policies which rely heavily on modelled data (e.g. Victoria and New South Wales) or are heavily prescriptive.

The ACT Environmental Offset Policy has been developed with the EPBC Act Environmental Offset Policy in mind, ensuring that offsets are triggered under the local system only when offsets would not be already triggered under the Commonwealth system. No other State/Territory policy has been developed in such a manner to integrate with the Commonwealth environmental policy.



**Figure 1. The overlap of the Commonwealth EPBC Act Environmental Offset Policy with State/Territory environmental offsets policy varies depending on the policy and the project.**

## 4 Planning for offsets

### 4.1 Costs of offsets

Offset can be a significant component of project cost, and it is important to understand as early as possible in the project development phase what the likely offset cost for a project is. Proponents and contractors within the industry should engage at the earliest opportunity to develop and identify the optimised project disturbance requirements to inform offset strategies.

The offset cost is comprised of multiple factors. For instance, a direct offset focussing on habitat restoration works would typically include the following costs:

- Regulatory fees.
- Legal fees associated with transferring title to a conservation covenant (or similar).
- Constructability advice to identify optimised disturbance and targeted site assessment.
- Site assessment to establish the presence of 'like-for-like' values.
- Ongoing management including preparation of a management plan, weeding, revegetation, fencing and pest control.
- Ongoing monitoring and reporting.
- Opportunity costs for loss of productive land.

In jurisdictions where there are no established offset markets, or that the offset market cannot provide the required offsets, there are likely to be additional costs (e.g. consultant fees) for undertaking preliminary searches to identify a short-list of potential suitable sites that would then need to be followed up with field surveys to confirm presence of 'like-for-like' biodiversity values.

Survey costs are also more expensive in jurisdictions where targeted surveys for threatened species are required to inform offset requirements (e.g. Commonwealth, ACT, Northern Territory and Western Australia). In comparison, jurisdictions such as Victoria and New South Wales base offset requirements for threatened species on modelled data and therefore survey requirements are less.

The cost of offsets will also vary depending on the size, quality and landscape context (e.g. surrounded by heavily cleared land or contiguous native vegetation) of the clearing site.

Due to the variability of all these factors, it is not possible to provide approximate estimates of offsets fees across all offset policies. However, it can be stated that offset costs can be substantial and often exceed \$1,000,000 (see Box 1).

#### Box 1.

#### ***"Western Sydney Airport's environmental budget blowout"***

Published in *The Australian*, 26 February 2018

The federal government's planned second commercial passenger airport at Badgerys Creek in Sydney's west will require nearly half a billion dollars of public expenditure to address issues not to do with infrastructure construction but environmental correctness and compensation for noise.

Senators gasped when told by officers of the recently established Western Sydney Airport Corporation at a Senate estimates hearing today there was an allocation for a basket of non-construction matters set down at \$444.9 million, out of a total budget estimated at \$5 billion to \$6 billion.

Within this, the Senate Rural and Regional Affairs and Transport Legislation Committee heard, \$75 million had been allocated for a “noise amelioration package”, while other elements included “flight path delivery” and environmental offsets.

As previously revealed by *The Australian*, [the plan includes a \\$180 million “biodiversity offset package”](#) to make up for clearing “small pockets of open eucalypt woodland and shrub land” that the government had identified as being in “generally poor condition”.

WSA Co’s chairman, Paul O’Sullivan, told the hearing “we do not see this as building a piece of infrastructure and that’s it.”

Rather, Mr O’Sullivan told the senators, WSA wanted to address environmental and other community concerns and needs...

## 4.2 Timing

Biodiversity offsets can have a significant impact on project scheduling. Under most policies, offset requirements are to be met before construction can commence and therefore if there are any issues in obtaining the necessary offsets, project commencement will be delayed.

In jurisdictions where offset markets exist the risk of a delay is less as, typically, offset requirements can be achieved through an over-the-counter payment that generally takes less than two weeks to facilitate. However, where an offset market does not exist, or the market cannot provide the required offsets, then timelines quickly increase due to:

- Searching for a suitable offset site.
- Detailed site surveys on selected site.
- Registration of offset site and preparation of a management plan.
- Negotiations with landowner on fee.
- Discussions with regulatory authorities to facilitate approval.

In this instance, it can up to one to two years to meet offset requirements for a project. This does not include time during the initial environmental impact assessment to determine the presence of biodiversity values, project impacts and offset requirements, which can add an additional year to the process.

## 4.3 Other considerations

There are a range of other factors that need to be taken into consideration when addressing biodiversity offset requirements for a project.

Of particular note is how biodiversity offsets can contribute to the social licence for a project, and what additional actions could be undertaken to further enhance the environmental and social perceptions of a project. It may be necessary to go above and beyond the offset policy requirements to garner the support of the community and other stakeholders, to ensure the project can achieve a social licence.

Any biodiversity offset program should consider opportunities to increase the benefits to the environment and the community, through:

- Engaging with Traditional Owner groups to deliver the offset including preparing the management plan and delivering the on-ground works.
- Involving local school groups or other community organisations to assist with works, e.g. seed collection, weeding, planting.
- Increasing carbon sequestration, reducing erosion potential, improving the quality and quantity of water run-off.

- Improving fauna habitat by relocating trees felled as part of the project to the offset site.
- Using the offset site as an area of public open space for the local community (provided it does not compromise the environmental objectives of the offset site).
- Working alongside or in conjunction with other conservation programs to provide compounding biodiversity benefits.

## 5 Conclusion

Projects that require the removal of native vegetation or habitat for threatened species are likely to require a biodiversity offset. The Commonwealth Government and all State and Territory governments have biodiversity offset legislation and/or policies, which have been developed separately, but typically have the following common principles:

- Offsets are the third and final stage of the mitigation hierarchy, after avoiding and minimising impacts to biodiversity.
- Offsets are considered during the impact assessment phase and must be secured prior to a project commencing.
- Offsets must be 'like-for-like' with the cleared values.
- Offsets typically involve on site protection and restoration of native vegetation and/or habitat but can also include indirect offsets such as payment to a government agency or research institution.
- Offsets are enforceable under law.

Offset policies vary in the flexibility to negotiate an outcome. For instance, Victoria, New South Wales, Queensland, South Australia, ACT, and to some extent the Commonwealth, have very prescriptive policies, with limited scope to negotiate an offset package that maybe more favourable for a project. In comparison, policies that are less prescriptive (e.g. Tasmania, Northern Territory and Western Australia), typically require more negotiation with regulatory authorities and stakeholders.

Victoria, South Australia, New South Wales, Queensland and parts of Tasmania are the only jurisdictions to have established offset markets that allow over-the-counter payments to meet offset requirements. This process is more efficient than having to search, survey and register offset sites on a project-by-project basis which can take-up to two years or longer.

Pipeline projects that have a large footprint can potentially trigger offset requirements under multiple jurisdictions, including offsets under the Commonwealth EPBC Act environmental offset policy. Except for the ACT, no local offset policy aligns entirely with the Commonwealth policy. There is also no alignment between State and Territory policies. As such, any project that triggers offsets under more than one offset policy is likely to require multiple offsets.

As biodiversity offsets can be expensive and lead to project delays, proponents should consider the risks of biodiversity offsets to project costs and timelines as early as possible, preferably during the project feasibility stage. Proponents should seek constructability advice through early contractor involvement to optimise likely impacts and offset requirements.

Given increased politicisation of native vegetation clearing and environmental approvals, it is likely that there will be ongoing changes to biodiversity offset policy across Australia. This document will therefore need to be continually reviewed in light of expected policy change.

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