



DISCUSSION PAPER

ENVIRONMENTAL OFFSETS

Publication 1202.3* June 2008

EPA VICTORIA HAS A VISION OF THE VICTORIAN COMMUNITY LIVING SUSTAINABLY

The community is concerned about the environment. There are high levels of debate and action around issues including climate change, water scarcity, and resource consumption and waste generation and disposal. EPA Victoria has a vision of the Victorian community living sustainably.

Environmental offsets are a tool for environment protection that encourage innovation and help to address these issues.

WHAT IS THE AIM OF THIS PAPER?

This discussion paper presents EPA's position on the potential use of environmental offsets in protecting the environment. It outlines the activities and approvals to which environmental offsets can be applied.

We encourage you to work with us to improve the use of environmental offsets approaches. Your input to this paper will be very welcome. Some key questions are highlighted through the document, but these are not intended to limit comment. We are particularly interested in suggestions for specific potential uses of offsets.

Refer to page 4 for information regarding how to make comment on this issue.

WHAT ARE ENVIRONMENTAL OFFSETS?

Definition: An environmental offset is an action(s) to address an adverse environmental impact of resource use, a discharge, emission or other activity at another location to deliver net environmental benefit.

Environmental offset approaches can be considered for a wide variety of situations. Examples might include:

- provide an offset for volatile organic chemical emissions at a chemical plant through installing vapor recovery units at petrol stations
-

action to reduce water consumption and trade waste disposal to sewer as an alternative to upgrading a sewage treatment plant to reduce the emission of heavy metals from that plant.

- offset a new source of particle emissions by replacing old wood heaters and open fires with cleaner forms of heating in houses in the region.
- offset a discharge of suspended solids to a river by revegetating and stabilising river banks to prevent erosion and reduce nutrients and other pollutants entering.

Question: Is the definition of an 'environmental offset' clear and appropriate?

Question: Should offsets be limited to 'like for like' (e.g., a nitrogen oxide emission matched with a nitrogen oxide offset), or do 'dissimilar' offsets (e.g., a significant greenhouse emissions offset for a nitrogen oxide emission that does not cause unacceptable local impacts) have a role to play?

The benefits of environmental offsets

Environmental offsets approaches can deliver greater environmental gains in a more cost effective way than on-site action alone. Environmental offset approaches have the potential to:

- **lead to better decision-making:** explicit consideration of offset options that are often overlooked by business because they are either not a core priority or are not identified by traditional accounting or management methods.
- **uncover opportunities:** looking for off-site environmental offset opportunities can reveal ways to reduce costs and deliver greater environmental outcomes.
- **enhance reputation:** efforts to reduce environmental impacts can have positive implications for corporate reputation and profile.
- **improve staff recruitment and retention:** strong environmental performance and reputation can help an organisation attract and retain top quality personnel, and boost staff morale.
- **generate additional community and environmental benefits:** environmental offsets can lead to multiple environmental and social benefits at a lower cost than on-site action to reduce emissions to the environment.

Question: How could the benefits of environmental offsets be maximised?

* This replaces publication 1202.2, issued May 2008.

CONSIDERING THE USE OF ENVIRONMENTAL OFFSETS

Before you can consider the use of environmental offsets, you firstly need to measure or estimate the environmental impacts of your development, and work with EPA and other relevant agencies (eg. local government) to determine the environmental outcomes that are required. Such requirements are set out in the *Environment Protection Act 1970*, its Regulations and State environment protection policies. You are encouraged to talk to EPA early to clarify your obligations in this regard.

It is not anticipated that environmental offsets will be used on a large proportion of sites. In most cases, onsite management strategies will enable the desired outcomes to be achieved. Where they are used, it is expected that environmental offsets will be one component of an overall strategy to ensure the best mix of economic, social and environmental outcomes from a development or activity. Environmental offsets are not intended to be a substitute for good on-site environmental practices.

Question: Would it be appropriate to set out any pre-requisites for on-site environment management before environmental offsets can be considered?

Environmental offset approaches often involve a level of uncertainty as to the environmental outcomes. The proposal that an offset be required to deliver a 'net environmental benefit' compared to what would otherwise be required from the site of the development is a response to this uncertainty.

A number of issues need to be considered before the use of an environmental offset will be approved. The figure below sets out these issues. EPA would expect any firm to consider each of these issues apply as part of the process of developing a proposal for the management of the environmental impacts, and the possible use of environmental offsets as part of the management strategy for a site.

A framework to consider the use of environmental offsets:

1. **Measure/estimate**
 - what is the environmental impact of the site?
2. **Set goals**
 - what environmental outcome is required?
Consult with EPA.
3. **Avoid**
 - how can you design the site to avoid environmental impacts?
4. **Reduce**
 - what practicable options are available to reduce impacts?
5. **Reuse, contain**
 - can emissions be captured and reused or managed on-site?
6. **Assess**
 - have your goals been met? Is any further action needed?
7. **Offset**
 - what options exist for environmental offsets at another site?

**** Working through each step is essential in considering the use of offsets at any site**

Question: Is this proposed decision making framework appropriate?

Question: Does it help you to understand how offsets approaches can deliver environmental outcomes in an efficient manner?

WHAT IS EPA'S ROLE WITH ENVIRONMENTAL OFFSETS?

EPA is a leader in innovative approaches to complex environmental issues. The *Environment Protection Act 1970* allows EPA to use economic measures, including offsets, to avoid or minimise harm to the environment. These measures may range from the application of offsets between point sources within a corporate licence, to offsetting point or diffuse sources via actions to reduce diffuse emissions elsewhere.

The potential also exists to enable an offsets market with buyers and sellers of environmental offset services working to achieve an established environmental outcome (such as a set level of emissions of a pollutant to an airshed or a waterbody).

Environmental offsets approaches are also used in other contexts in Victoria, in particular through Victoria's Native Vegetation Management Framework¹.

This paper applies only to the use of environmental offsets by EPA. This paper in no way affects existing

¹ See www.dse.vic.gov.au

arrangements to use offset approaches under other policies or legislation.

This paper also does not seek to comment on or influence the market for carbon offsets, or the development of a formal greenhouse gas emissions trading scheme. It is expected that guidance on this issue will be available as the Australian Government develops a trading scheme. EPA has developed carbon management principles that are complementary to this discussion and provide a framework through which carbon offsets in particular can be considered (see EPA publication 1154, *Draft Carbon Management Principles*).

Examples of EPA programs to which offsets may be relevant

Environmental offsets approaches might be used in a number of ways to enhance EPA programs. These include:

- Works approval and licensing - EPA can allow environmental offsets as part of the environment protection measures required in a works approval or licence.
- Corporate Licensing - EPA is working with clients to develop the first corporate licenses which will integrate requirements for the management of multiple sites into a single license. Environmental offsets will be considered in this process.
- Carbon Innovators Network - EPA is helping organisations to develop corporate carbon management strategies, including the use of carbon offsets.
- Environment and Resource Efficiency Plans (EREP) - Victoria’s largest commercial and industrial energy and water consumers are required to develop an EREP -environmental offset approaches that deliver greater resource efficiency outcomes at a lower cost are strongly encouraged.

Question: Should environmental offsets be restricted or expanded to any particular EPA programs or activities?

PRINCIPLES FOR ENVIRONMENTAL OFFSETS DECISION MAKING

The following principles are proposed to guide EPA’s consideration of environmental offset proposals.

Offsets should:

1. deliver net environmental benefit compared to actions that would otherwise be required.
2. be cost-effective and in proportion to the significance of the adverse environmental impact being addressed.
3. not facilitate or reward poor environmental management practices that pose significant risk or create inappropriate market distortions.

Offsets must be:

- measurable – the impacts, benefits and outcomes must be reliably measurable, and take account of risks and uncertainty.
- verifiable – using an appropriate standard where available.
- additional – demonstrated to be additional to business as usual operations.
- counted once – the same emissions reduction cannot be counted towards more than one offset or emission reduction scheme.
- reviewed periodically – as technology improves and/or more accurate information becomes available.
- enforceable – through licence conditions, notices, a contract or other means.
- timely – must offset the impact of the adverse environmental impact over an appropriate time scale.
- socially and locally acceptable – taking into account the range of possible local community and environmental impacts.
- located appropriately – they must offset the impact at an appropriate scale and location to effectively offset the environmental impacts being managed.

Question: Do these principles work? Are there any missing issues/considerations? How could they be improved?

‘Case Study: Nitrogen discharge to a waterway

An industrial wastewater treatment plant discharges to a creek. As the creek and the lakes system it flows into have been suffering from high nutrient levels, EPA has commenced a process to amend the treatment plant’s EPA licence to reduce the level of nitrogen discharge allowed. The company has identified two options to deliver the required reduction in nitrogen discharges:

- Upgrade the treatment plant (estimated cost \$2 million).
- Constructing wetlands in a local city to capture and treat urban stormwater - this environmental offset approach is estimated to remove at least an equivalent amount of nitrogen as upgrading the treatment plant at a lower cost (\$1.5 million).

The offset proposal has support from the local community and delivers additional environmental and social benefits by reducing sediment discharges to the creek, providing habitat for migratory birds, and potentially providing a new area for community recreation. However, there is less certainty that the nitrogen reduction will be achieved as the wetland may not function to remove nitrogen as anticipated when it is built.

In this case, it seems that the environmental offset approach is attractive as it offers better environmental outcomes at a lower cost, however EPA and the company will need to put in place monitoring systems to ensure that the environmental outcome is actually achieved through this approach.

Question: Can you see any particular issues or activities for which offsets might be particularly helpful or appropriate?

Question: Should offset approaches always be limited to the same region, or are there situations where a larger environmental benefit might be delivered via an offset project in another region or where location might be irrelevant?

APPLYING TO USE AN ENVIRONMENTAL OFFSET

As a general rule, existing processes for EPA approvals will be followed when EPA considers and environmental offset proposal. For example, if a company proposes to use an environmental offset as part of managing a licensed site, EPA will invite that company to submit a formal application to amend the licence. In this way clear timelines and processes for the possible amendment to allow the use of environmental offsets will be in place.

As for any other formal decision making process under the *Environment Protection Act 1970*, EPA actively encourages a company/person considering an

environmental offset approach to discuss the proposal with EPA as early as possible. This will allow us to work together towards the best possible environmental and economic outcome.

The principles for environmental offset decision making (set out in section 5) will be used to guide consideration of an environmental offset proposal by EPA. These issues should be addressed in making an application to EPA for the use of an environmental offset.

For example, an application to use an environmental offset should provide EPA with advice on issues such as:

- whether the proposed offset measure will be socially and locally acceptable (in many cases this will require consultation with the local community)
- how the outcomes of the proposed offset will be measured, verified and how uncertainty in the environmental outcome has been considered and managed in the proposal
- the legal arrangements proposed to ensure that the offset will be delivered.

WE ARE SEEKING YOUR COMMENTS

This discussion paper aims to describe how environmental offsets approaches can be used to benefit Victoria’s economy and environment. Comment is very welcome to assist EPA to ensure that environmental offsets approaches are used as effectively as possible.

In particular, comment is sought on:

- the definition of ‘environmental offsets’
- the principles for environmental offsets decision-making
- EPA’s proposed process for considering environmental offsets.

Comments or queries can be submitted via email to: environmental.offsets@epa.vic.gov.au

If there is interest, discussion forums will be held on this topic soon. If you would be interested in such an event, please email the address above.

Note that the deadline for receiving comments has been extended to:

Friday, 29 August 2008.

All submissions are subject to EPA’s submissions publication policy and may be made publicly available via the internet during and after the close of the public comment period.