



Australian Government  
Department of Agriculture,  
Water and the Environment

# *Pathway to a National Voluntary Biodiversity Stewardship Market*

Regulation Impact Statement  
Department of Agriculture, Water and the  
Environment



# Contents

## Contents

- Contents ..... 1
- 1. The problem ..... 2
  - Biodiversity is in decline ..... 2
  - Biodiversity is a public good ..... 2
  - Imperfect market information and nationally consistent measurements ..... 3
  - What benefits could biodiversity restoration provide Australia? ..... 4
- 2. Why is government action needed? ..... 4
  - Policy objective..... 5
- 3. Policy options identification and analysis ..... 5
  - Option 1 – Status quo..... 5
  - Option 2 – Government legislates a National Framework ..... 6
  - Option 3 – Government funds restoration ..... 8
- 4. Impact Analysis..... 8
  - Option 1 – Status Quo ..... 8
    - Total cost and benefits of option 1 ..... 9
  - Option 2 – Government legislates a National Framework ..... 9
    - Risks and unintended consequences ..... 15
    - Total costs and benefits for option 2 ..... 16
  - Option 3 – Government funds restoration..... 16
- 5. Consultation ..... 18
  - Key messages ..... 18
  - Stakeholders consulted ..... 19
- 6. Analysis of the best option ..... 20
- 7. Implementation and review ..... 21
  - Implementation challenges..... 21
  - Review ..... 23

# 1. The problem

## Biodiversity is in decline

Nature's annual contribution to the global economy through the provision of services related to biodiversity, as a source of food and shelter; and from clean water, air and healthy soils is estimated to be USD\$125 trillion a year<sup>1</sup>. In Australia, land based (terrestrial) ecosystems provide more than AUD\$325 billion in ecosystem services<sup>2</sup>. Australia is globally renowned for the quality of its agricultural, forestry and fisheries products and biodiversity.

Our agriculture, fisheries/aquaculture and forestry land managers depend directly on the health of their natural resources and actively manage their land for their success, productivity and growth. Agriculture, forestry and tourism industries alone contribute more than \$120 billion to the economy and employ more than 1 million Australians<sup>3</sup>.

However, Australia's biodiversity is declining, with almost 200 million hectares of land degraded or degrading<sup>4</sup>. Successive "State of the Environment" reports, the review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and other independent reviews have highlighted the ongoing decline.

- Approximately 44 per cent of Australia's forests and woodlands have been cleared since European settlement; 39% was cleared before 1972. The three most heavily cleared habitats in these areas together previously covered more than 170,000 square kilometres of Australia, and each has lost more than 80% of its original extent. In temperate ecosystems, less than 2% of original grasslands remain.
- It is estimated that Australia gains around 20 new pests or diseases each year. These invasive species impact native species through a combination of habitat modification and predation.
- There is a high rate of species extinction in Australia. Over 50 Australian animals and 30 plants are known to be extinct. A further 404 animal species and over 1300 plant species are either critically endangered, endangered or vulnerable. In the 2019-20 bushfires, an estimated 65 threatened species had over half of their habitat impacted. A further 49 species had more than 80% of their habitat damaged by the fires.

Further impacts are expected with changes to our climate.

More action is needed.

Despite this need, active land and biodiversity management by private landholders, such as farmers, is not valued by markets. This situation limits the availability of private sector funds for investment in biodiversity improvement.

## Biodiversity is a public good

While governments have been supporting landholders and farmers for biodiversity protection and restoration through grants, public funding is insufficient to support existing biodiversity or sustain the level of restoration required.

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1 Costanza R, de Groot R, Sutton P, Van der Ploeg S, Anderson SJ, Kubiszewski I, Farber S, Turner RK, 2014, Changes in the global value of ecosystem services, *Global environmental change*, 1 26, 152-8.

2 ABS, 2010, Australia's Biodiversity (Year Book Australia, 2009-2010 Feature Article), Available at: <https://www.abs.gov.au/ausstats/abs@.nsf/Previousproducts/1301.0Feature%20Article12009-10?opendocument&tabn>

3 Calculated using Australian Bureau of Statistics National Account data.

4 Bai ZG et al, 2008, Proxy global assessment of land degradation, *Soil, Use and Management*, Figure 2

Farmers manage approximately 60 per cent of Australian land. However, their stewardship of biodiversity on their land is not valued by markets whilst they maintain their agricultural productivity. This means there is no added incentive to protect or enhance biodiversity on farm for those that fall outside of current grant offerings.

Separate to that, businesses and other entities are increasingly wanting to invest directly in landscape restoration and protect or create biodiversity. This may either be for a financial return, or more broadly to support their social licence to operate<sup>5</sup>. These voluntary markets however are not developing.

The public good attribute means biodiversity is not easily appropriated or traded which can disincentivise private investment and farmer participation. There is currently no legal mechanism for landholders to sell the outcomes from farm biodiversity stewardship activities to private buyers. This means philanthropic and financial investors have few options but to buy and lock up land to achieve biodiversity outcomes rather than supporting activities in conjunction with productive farm environments. Furthermore, the opportunity cost of biodiversity conservation on agricultural land is high, meaning that there is limited financial incentive for farmers to deliver biodiversity outcomes on a given parcel of land.

The consequences of this are under-investment from the private sector and under-delivery of biodiversity outcomes – for example lack of increased habitat and ecosystem support for threatened species. This is particularly the case in agricultural regions where land has high value alternative uses. In these areas, there is significant potential for farmers to establish new native habitat through environmental plantings along waterways, hillsides and areas prone to erosion and better manage existing vegetation to improve biodiversity outcomes. These however are not being realised at the scale needed.

## Imperfect market information and nationally consistent measurements

Transparent biodiversity stewardship market information is not currently available to support further investment decisions, for both supply and demand. Private buyers are not engaging in the market despite their interest due to lack of market information and support of biodiversity projects. Imperfect information about the supply, comparability of biodiversity projects, and achievement of the outcomes across projects affects buyers' confidence, increases transaction costs and reduces their ability to efficiently substantiate the 'claims' that underpin their environmental commitments and meet their customers' expectations.

There is limited information for farmers to understand the potential demand for biodiversity stewardship outcomes on their land, understand the value of their project outcomes in the marketplace or support their planning of projects. This is directly impacting on the supply of biodiversity outcomes to the market.

There are currently no consistent or efficient ways of providing independent assurance around whether biodiversity stewardship outcomes are being achieved. This is in a context where biodiversity projects are, by their nature, medium to long term and have a large number of variables (e.g., species, scale, biodiversity outcomes). So, landholders and buyers have significant transaction costs related to ongoing assurance or trust that the project outcomes are being achieved. In addition, it is currently difficult to contract biodiversity stewardship outcomes that cannot be easily or consistently measured and described – there are no national standard methods or processes that allow a prospective buyer to compare projects based on a consistent set of attributes, likelihood of achieving outcomes or their value.

There is also a lack of legal systems that apply nationally for the operation of a national biodiversity stewardship market.

For both buyers and sellers, multiple biodiversity offsets and conservation schemes across the country mean complexity and different processes in each jurisdiction. Engaging in these systems then presents high search and transaction costs.

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<sup>5</sup> RM Consulting Group (RMCG), 2016. Evaluating business investment in biodiversity conservation.

# What benefits could biodiversity restoration provide Australia?

Recent research suggests that when ecosystems have less than 30% coverage of healthy native vegetation, ecosystem services and biodiversity sharply decline.<sup>6</sup> The same research has calculated that 13 million hectares must be restored in Australia to reach the 30% threshold, but that targeted restoration on degraded ecosystems on less profitable agricultural land has enormous potential to alleviate these issues. Some additional benefits of restoration at this scale would be:

- Restoration of habitat and ecosystem services
- Expansion of threatened species habitat
- Re-establish ecosystem functions like pollination and erosion control
- Store carbon dioxide from the atmosphere and tap into a new source of carbon credits
- Create regional jobs
- Building resilience of landscape and consequently livelihoods

## 2. Why is government action needed?

Governments often set up frameworks to enable trade and impart confidence to parties that standards and other mechanisms are in place to protect their rights in the market, especially where the goods and services are merit or public goods; for example, to incentivise the private provision of education or environmental services such as carbon sequestration. National markets often require government intervention to deliver market confidence, e.g. the stock market operates through the support of legislation that specifically outlines the conditions for issuance (i.e., the Corporations Act) and oversight by a regulator (i.e., the Australian Securities and Investment Commission). The Commonwealth Government has previously intervened in similar situations, for example the Carbon Farming Initiative Act which creates assurance over the carbon abatement market, which is now seeing an increase in private demand from corporations choosing to demonstrate their carbon abatement commitments, and this framework would build on that success and model.

Australian Government action in this space could provide further incentive to farmers to create biodiversity outcomes across Australia. Moreover, it would provide a mechanism to increase the level of private sector investment into biodiversity, adding the advantage that Government does not have to be the only one to fund these improvements, as they have been to date. Market research has shown that with the right framework in place, Australia could see an increased level of investment in biodiversity that is needed for the benefit of farmers and the environment. Commonwealth Government action has the potential to deliver a nationally consistent biodiversity stewardship framework that can increase the supply of biodiversity stewardship outcomes as well as addressing information issues that private sector cannot solve alone.

There is currently no nationally accepted way to provide consistent and efficient assurance over claimed biodiversity outcomes in projects undertaken by landholders. The capacity for industry to achieve this outcome is currently limited on

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<sup>6</sup> Mappin, Bonnie & Ward, Adrian & Hughes, Lesley & Watson, James & Cosier, Peter & Possingham, Hugh. (2021). The costs and benefits of restoring a continent's terrestrial ecosystems. *Journal of Applied Ecology*. 10.1111/1365-2664.14008.

what is very much an emerging market. The measurement of biodiversity improvement, and the development of processes for undertaking biodiversity stewardship projects can be complex – they require a high level of scientific and ecological expertise and independent assessment. This can create a substantial information asymmetry in the market. Government intervention can ensure that the right knowledge and expertise are harnessed and available in a consistent way to potential private investors to build market confidence.

## Policy objective

The broad policy objective for this proposal is to identify and implement the best policy approach for supporting farmers to protect and restore Australia’s unique natural environment through revegetation and vegetation enhancement on less productive agricultural land. An effective intervention would deliver tangible improvements to Australian’s natural environment and biodiversity, support corporate sustainability goals, and provide recognition and incentives for farmers for delivering biodiversity outcomes, particularly on parts of a property that are not ideal for agriculture production.

Taking action to deliver on this objective will be complex, and potentially costly, potentially involving the introduction of a new piece of legislation and a new role for the Clean Energy Regulator to administer a new program. There are challenges to setting the right standards and rules for the market such that it will create an attractive product for potential buyers. There are further complexities with balancing any newly introduced system with existing systems at the State or Territory level that would have to be worked through to ensure that any action taken adds to the overall achievement of improvements to the environment and does not subtract from it.

However, the cost of inaction and allowing Australia’s biodiversity to further erode is much higher and more costly in the long run, as outlined in Section 1 of this RIS.

# 3. Policy options identification and analysis

## Option 1 – Status quo

The first option that was considered for this policy problem is for the Australian Government to take no direct action and allow the market to resolve matters on its own. Given that there is both demand and supply side interest in the private biodiversity outcomes, it is possible that over time the market may provide partial solutions to the current problems in the market.

Under this option, the Australian Government would look for ad hoc opportunities to support the emerging market – this could include:

- the development of educational materials and seminars for buyers and sellers,
- engagement with industry bodies such as the National Farmers’ Federation and the Business Council of Australia.

However, it would rely on current approaches to preventing or encouraging protection and/or enhancement of biodiversity through existing legislation and programs at both federal and state level.

## Option 2 – Government legislates a National Framework

A second option is to legislate a voluntary National Biodiversity Stewardship Market such that the Commonwealth Government sets the policy for the biodiversity market as well as administers and regulates it. The legislation would implement the Australian’s Government’s 2030 commitment to ensure that Australian farmers are rewarded for their stewardship of land and water.

Development of a legislative framework for a voluntary national biodiversity stewardship market could build off the success of the regulation of other ecosystem services markets such as carbon.

### **Biodiversity Stewardship markets in Australia<sup>7</sup>**

There is limited publicly available information on the size of Australia’s biodiversity markets<sup>8</sup>. However, it is recognised that it is growing. Demand in the voluntary carbon market is on track to reach 1,000,000 Australian Carbon Credit Units (ACCUs) in 2021, up from 25,000 in 2014-15. There is also an increasing demand for carbon + biodiversity units which deliver both carbon and biodiversity outcomes.

There is a large potential for farmers/landholders to supply into the market.

Participants who supply and demand biodiversity stewardship services currently interact through direct transactions, intermediaries (including market platforms), or even within individual business entities. For example, a firm facing obligations to replace biodiversity may purchase land to provide the biodiversity directly rather than contracting with an existing farmer to supply the service.

#### *Supply*

Farmers can supply biodiversity stewardship services by managing their land in a way that protects, restores or promotes biodiversity. There is a large potential for farmers to supply biodiversity stewardship services, as indicated by the participation of the agricultural sector in the Emissions Reduction Fund. Agricultural related projects make up 65% of the issued ACCUs on the Emissions Reduction Fund, worth around \$450 million since 2012. Most of the uptake has involved the regeneration or protection of native forests on grazing lands, in particular in semi-arid regions of Queensland and New South Wales<sup>9</sup>. There has been less uptake in areas where the opportunity cost of agricultural production forgone is higher per unit of land.

#### *Demand*

The demand for biodiversity stewardship services comes from compliance activities (offsets), philanthropic investments, and commercial decisions to meet biodiversity/environmental commitments or as a public good investment by government.

Increasingly, many large corporations in Australia are interested, or already investing, in projects with biodiversity benefits including BHP, Woodside, Qantas and Woolworths. This is outside their compliance with environmental regulations. In addition, philanthropic demand from environmental NGOs is at least \$100 million a year, which demonstrates the private sector appetite to pay for biodiversity stewardship and that this demand could grow with the appropriate frameworks in place.

Beyond voluntary markets there are several compliance schemes that could also result in a long-term source of demand if permitted by relevant regulators. Some of these schemes involve substantial demand. For example, there were approximately 450 approval decisions under the EPBC Act between 2012 and 2017. Of these, about 80% involved offset conditions, with some projects including multiple offset conditions. The dollar costs associated with these offset conditions is not known. Offset activity in the jurisdictions varies considerably.

A robust legal framework to support biodiversity outcomes would support the emergence of a fully-fledged national voluntary biodiversity market.

<sup>7</sup> Frontier Economics 2020

<sup>8</sup> There are no national or state databases of regulatory offset obligations, or details of third party off-set transactions, other than those involving trade in biodiversity credits. The information on government-led purchasing is also dispersed across different governments and government agencies, and difficult to track through time. Similarly, no data are routinely collected or published on the size of the voluntary biodiversity market and nature of relevant trades.

<sup>9</sup> Macintosh, A; Roberts, G; Buchan, S, 2019, Improving Carbon Markets to Increase Farmer Participation, A report prepared for AgriFutures.

There would be three key objectives of Commonwealth legislation:

- Nationally consistent framework to describe and measure biodiversity outcomes.
- Enable biodiversity certificates describing biodiversity projects to be purchased, transferred, claimed, used and publicly tracked; and
- Establish project assurance and compliance systems to provide certainty to the market.

This would include provision to:

- Establish and issue tradeable certificates corresponding to individual biodiversity stewardship projects
  - Establish property rights for farmers over the project that are separate from the land.
  - The certificates would include a list of project attributes to allow buyers to compare and understand the outcomes being delivered.
- Establish nationally consistent biodiversity stewardship protocols that set out discrete ways in which biodiversity outcomes can be achieved that are informed by science to ensure environmental integrity.
- Establish an integrity and oversight system that provides confidence to investors about the outcomes that a project would deliver, including confirmation that projects are being maintained for relevant permanence periods.
- Develop a public registry of projects and of biodiversity stewardship certificates that provides information to the market on the supply of projects together with a trading platform that allows sellers to find information about the demand.

The legislation would provide for projects to be on agricultural land within Australia and would be designed to facilitate projects on less productive areas of those agricultural lands.

To make it easier for participants to undertake landscape restoration and management projects delivering both carbon and biodiversity benefits, the legislation would be modelled after the *Carbon Credits (Carbon Farming Initiative) Act 2011* (CFI Act) which established a voluntary market for carbon sequestration projects. Other existing environmental market schemes like carbon operate based on ‘credits’ generated for a certain quantum of outcome (i.e., an Australian Carbon Credit Unit which represents one tonne of carbon dioxide equivalent net abatement). However, with biodiversity being a highly heterogenous product and with metrics for creating a single unit still in development or debated, this option is proposing the creation of a ‘Biodiversity Certificate’. The Biodiversity Certificate and the project register would capture the outcome being achieved using standardised attributes of the project such as area and location, but also information on benefit delivered by the project.

This Option would also create a mechanism for the biodiversity outcomes to be ‘owned’ so they can then be exchanged. Regulation and enforcement of property rights is a role for governments and done to underpin many other markets. When you combine this property right with legislated rules around transparency, trade, and enforcement it creates confidence in the market.

#### *Governance structure*

Under this option, there would be a basic governance structure with the Department of Agriculture and Water Resources (DAWE) taking on ongoing responsibility for policy development, including the development of technical protocols that outline the various mechanisms through which biodiversity outcomes are to be achieved (similar to the methods in the carbon farming and reef credits schemes). Protocol determinations would be developed to accommodate the assessment and measure of the various types of biodiversity projects. The protocol determinations would establish specific requirements for how distinct types of projects would be managed and would also be the legal mechanism through which certain rights and obligations are assigned to the project proponent. Prototype protocols are currently being tested through the Agriculture Biodiversity Stewardship Package pilots and the market would likely open with those same two protocols available and build from there over time.

An independent Expert Advisory Committee would be convened to consider these protocols and make recommendations to the responsible minister informed by public consultation. The day-to-day regulation of the scheme and its integrity could be undertaken by the Clean Energy Regulator – this independent statutory agency already regulates comparable land-based



projects under the CFI Act. It is anticipated that a portion of participants in the biodiversity market would also have carbon projects established under that legislation, allowing for some potential efficiencies in the regulation of the two schemes by the same entity.

## Option 3 – Government funds restoration

The third option is that the Australian Government could commit additional funds towards biodiversity, up to an estimated \$2 billion a year for the next 30 years to restore the estimated 13 million hectares of degraded land needed to reach 30% threshold target. This option could contemplate extending out the Agriculture Stewardship pilots across Carbon + Biodiversity (C+B) and Enhancing Remnant Vegetation (ERV) and offering this option Australia-wide. From there, additional methods or methodologies could also be piloted and added to the program.

Under this option, the Australian Government would seek to identify the areas of most need of restoration and tailor the program to incentivise those landholders in that area to undertake the necessary actions to assist with this restoration target. This would be undertaken through voluntary agreements with the relevant landholders.

The bulk of the cost of this option would be to compensate farmers for the cost of retiring those portions of land from farming, although noting that the option would focus on places where the land requires the least revegetation work and is already least profitable to minimise the amount of compensation required. Additional funding would be required to ensure DAWE has sufficient ongoing resources to take the pilot program into an ongoing operation.

There is a possibility under this Option that the Government could establish an entity to fund these restoration projects in exchange for a certain portion of the environmental credits secured by the projects (for example in the form of carbon credits), which the Government could then either on-sell to recover costs or retire to meet other obligations where it would have otherwise needed to purchase credits itself.

## 4. Impact Analysis

In considering the options, DAWE has considered arrangements overseas, but identified no relevant or easily adaptable model for supporting a private biodiversity stewardship market in Australia. While other countries are looking to facilitate market-based approaches, such arrangements have yet to be implemented widely. As such, there is no international model from which data or process lessons could be directly drawn. The environmental market sector is at an early stage of development in Australia and so there are a range of uncertainties in developing this Regulatory Impact Statement.

- *Limited experience in regulating environmental markets* – Australia does not have specific experience in managing a biodiversity market. There is a regulatory regime in place for another type of environmental market, the carbon market, governed primarily by the *Carbon Credits (Carbon Farming Initiative) Act 2011*, which provides a valuable model to draw on for the development of a second and likely complementary regime.
- *Future growth* – As the actual uptake of these options is difficult to determine and would be based on many externalities including the willingness of landholders to participate either in a market or via direct funding by government, the scale of associated environmental, economic, and social benefits is difficult to consider.

The remainder of this section addresses best estimates of the expected impact of each option on stakeholders noting the above uncertainties.

Noting all of the above limitations, DAWE has attempted to describe costs and benefits across government, the environment, landholders and the broader community and economy.

## Option 1 – Status Quo

Option 1 does not require any changes by government or landholders. Under this option, the voluntary restoration of biodiversity would continue to be limited as it currently is. It is challenging to estimate the potential cost of biodiversity

decline beyond what is set out in the introductory sections above, however a broad estimate of the impact of the status quo is provided below.

#### *Government*

The Australian Government has a range of measures already in place to enhance Australia’s unique biodiversity – most particularly the Environmental Protection and Biodiversity Conservation Act, the National Landcare Program<sup>10</sup> and the Environment Restoration Fund.<sup>11</sup> More recently the 2021–22 Budget also delivers \$32.1 million in additional funding for the Agriculture Stewardship Package to develop market approaches to biodiversity stewardship. Building on the initial \$34 million, it will kick start private investment in farm biodiversity and other sustainability opportunities, but there is no further budget set aside to expand this work beyond the pilots. Various States and Territories governments also spend money to protect biodiversity through a variety of local schemes. All these costs are already being incurred with the aim of enhancing biodiversity, but Australia is still experiencing rapid biodiversity decline. The estimates of how underfunded biodiversity is reach into the billions. Therefore, it could be expected that pressure would mount for the Government to take more action in this space to reverse the trend as people continue to feel the effects of the decline in biodiversity.

#### *Environment, landholders, broader community and environment*

While Option 1 would result in no direct changes to our domestic regulatory frameworks, the *status quo* would not be static for all Australian stakeholders because of the ongoing, and in fact escalating, rate of decline of biodiversity under the current system. Over time as our natural resource base continues to decline, so too will our future productivity. So, while the base case (by definition) assumes no additional costs, ongoing degradation of our natural environment would result in increased costs for many stakeholders compared with the current situation. Australian landholders and farmers are grappling with the consequences of declining biodiversity and the accompanying loss of production, natural disasters and reduced ecosystem services. But the biggest loser would be the environment itself, which would continue to suffer from species extinction and increasing occurrences of pests and weeds.

Under current conditions, the outlook for the environment would be as follows: species will continue to be under pressure, new pests and diseases will challenge Australia’s biosecurity system and all of this would contribute to erosion, soil degradation and salinity which would affect production. Reduced production can also lead to reduced food supply and higher prices, which would have an impact on a wider segment of the population.

## Total cost and benefits of option 1

The direct costs for option 1 are minimal to non-existent, as option 1 represents no further funding committed beyond existing programs. The benefits of this option are related to savings from the Government not investing in any new programs to support biodiversity. However, while the costs to the environment are not easily quantifiable in dollar figures, allowing it to decline would cost landholders in terms of quality of the lands they live on and would have flow on costs to consumers as it impacts on production. The cost of inaction will result in less biodiversity for Australia paired with the increasing costs of environmental degradation over time. On this basis, the costs of this option are likely to significantly outweigh the benefits.

## Option 2 – Government legislates a National Framework

Under this option, the proposed national framework would allow landholders to voluntarily protect or enhance biodiversity on the less productive areas of their property and be financially rewarded for these outcomes by private sector agents

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<sup>10</sup> The Australian Government is currently investing \$1.1 billion over six years (from 2017-18 to 2022-23) in the second phase of the National Landcare Program.

<sup>11</sup> Including \$100 million over four years, 2019-20 to 2022-23.

looking to enhance their environmental, social and corporate governance (ESG) credentials in Australia. The only government investment under this option is in the framework to support these transactions to take place, compliance and enforcement and support for potential future participants considering undertaking a biodiversity project. This is an opportunity to take the models tested in the Agriculture Stewardship pilots run by DAWE this year and expand this out to a wider audience but changing the payment model. Under this option, the funding for the projects would initially be fronted by the landholder, who is then compensated by a private sector purchaser who wishes to secure those outcomes. This would mean the ultimate funding for the biodiversity projects is coming from the private sector instead of the Government. The design attributes of this option would enable the issuance of a biodiversity certificate as quickly as possible so that the landholder can receive compensation for the upfront costs of the project, and then to ensure that the outcomes are ultimately delivered and appropriately maintained.

Based on the experience of the Agriculture Stewardship Pilots, it is expected that a market such as this would initially have around 20-30 landholders per region who would be willing to participate, which across the 52 regions in Australia, would mean somewhere in the neighbourhood of 1000-1500 participants, at least in the initial stages. A market such as this would expect to see growth if demand continues to pick up the way that it has for other environmental markets such as carbon and if the price is perceived as adequate by suppliers.

Stakeholder feedback and the experience of the Agriculture Stewardship pilots, have indicated there is both a willingness to supply these types of credits to the market and willingness by certain companies to purchase the resulting outcomes of the project. The pool of available capital interested in ESG investment has grown rapidly over the past decade, with the responsible investment market in Australia in 2018 reaching \$980 billion and sustainability-themed investments accounted for \$70 billion.<sup>12</sup> Option 2 provides an opportunity to further capitalise on the demand for biodiversity enhancements and supply capability of landholders to arrest biodiversity decline outlined in the problem section.

It is anticipated that the first movers in a market such as this would likely be participants offering a mix of carbon and biodiversity outcomes, as there has been considerable interest from buyers in this through the voluntary carbon market to date, especially in the category of indigenous carbon credits and more recently Carbon + Biodiversity pilot. The price of carbon on the voluntary market has increased<sup>13</sup>. However, the price of biodiversity certificates is entirely unknown at this stage. Therefore, a carbon plus biodiversity would give participants some confidence about entering a new market and the price that they might be able to secure for the outcomes that a biodiversity project alone could not provide. Over time the market would set the price for the biodiversity outcomes that it values the most.

It is expected that the introduction of a biodiversity market that could deliver at least 1000 new projects per year would have impacts as described and categorised below.

#### *Government*

Under this option, private sector funds can be leveraged to offset the cost of achieving additional biodiversity outcomes rather than the Government providing the funding.

The work required and areas incurring costs for the Commonwealth Government would include:

- The initial development of the legislative framework – managed by a team of policy, legal and technical advisors in DAWE. Key tasks would include project management, policy work and consultation. The initial few months would be spent developing primary legislation followed by subsequent development of subordinate regulations and rules over the following 12 months.
- Technical drafting and legal advice for the delivery of enabling rules and regulations. DAWE would lead this process through engagement with appropriate experts to design the market in a way that can achieve the desired biodiversity benefits. Many of the rules can and would be based on the carbon market, where appropriate, but recognising that the two are different in important ways and that because of this, some additional rules and

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<sup>12</sup> RIAA (Responsible Investment Association Australasia) (2019) *Responsible Investment Benchmark Report*, Responsible Investment Association Australasia.  
<sup>13</sup> <https://reneweconomy.com.au/australias-de-facto-carbon-price-surges-to-47-on-way-to-60/>

processes would need to be designed from scratch for biodiversity projects. This would be a substantial, foundational piece of work requiring technical expertise to set the protocols appropriately to ensure the market can deliver the expected biodiversity outcomes.

- Advice to buyers and sellers in the market. Potential suppliers would not be sure how to assess their own potential to participate, what is required to develop a project, what it might cost and how to negotiate with a potential buyer. DAWE would develop these materials to support the launch of the market and encourage participation. Likewise, potential purchasers of biodiversity credits would develop Guidelines to support standardisation of certificate claims.
- Ongoing management of the market, including establishment of the regulator and register, and compliance. This type of information is aimed at providing confidence to a market where the item being traded is not easily inspected by the buyer themselves. Suppliers would need clarity on the rules around their project development, application and ongoing reporting requirements and buyers would need confidence around enforcement and confirming that projects are delivering as intended, particularly where land ownership changed. There is no contract between the Government and a supplier of a biodiversity project under this scheme, so these elements are essential to ensuring a project is on track and the biodiversity certificate has meaning. A public register would provide for transparency around who is supplying what types of outcomes and who is buying them. The Clean Energy Regulator would regulate this market and maintain the register. They would also be granted a series of regulatory powers to monitor and track the progress of projects on the register, and a range of compliance mechanisms including civil penalties, to secure the outcomes promised by the projects. Monitoring and assuring compliance with the protocols would be a significant task for the CER and they would need to dedicate adequate resources to this new piece of work to fulfill this role and provide the needed confidence to the market.

The challenge will be getting all these elements right, and to a standard that allows suppliers to deliver a project without too much cost or complexity and yet still provides confidence to buyers to want to purchase the outcomes. Biodiversity is not a heterogenous product and this only adds to the challenge of defining what types of projects should be brought into the market as well as how to appropriately manage their delivery over long time periods. This would also make the enforcement and compliance aspects of the scheme complex so the Government would need to ensure it adds sufficient technical experience and expertise to the CER roster who could be charged with this task.

Option 2 would cost taxpayers approximately \$13.2m over two years from 2021-22 to 2022-23. Further costs of administration of the market over the longer term are estimated at \$10m a year based on the experience of the CER in regulating the carbon market<sup>14</sup>.

#### *States and Territories*

Various States and Territory governments have existing schemes relating to biodiversity. Some are already market-based and offer credits to the private market, such as in New South Wales, while others operate compliance schemes designed to identify or deliver offsets for development where there are unavoidable environmental impacts.

The introduction of a biodiversity market might represent potential competition for supply into the various schemes, given there are only so many land managers in Australia. For instance, a particular landholder might choose to deliver a biodiversity certificate under the national framework, rather than participate in the state-based scheme. This could affect participation in local schemes, including the compliance schemes that seek to identify very specific outcomes to be protected to offset damage done by development projects. However, under Option 2, to the extent that outcomes can be tailored to State-Local based biodiversity priorities and site-specific needs, state or territory budgets would be relieved of obligations, freeing funds for other priorities

Option 2 would represent a new product in the market and potential investment for those who might have otherwise invested in a state-based scheme. There may be some level of uncertainty for investors while the market is being established,

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<sup>14</sup> Based on the current assumption that CER costs are around \$7 - \$8 million a year.

and some may choose to wait and see what the market can offer them before investing. Option 2 would require support to NRM bodies to upskill them as a source of information across regional Australia.

There may also be a new regulatory obligation placed on states and territories, who would be responsible for noting the existence of a biodiversity project on land title. However, as with the carbon scheme, the intention would be for the CER to notify the states of the existence of a project, but not require any action be taken on that notice. If the state or territory chooses to act on it, then it may take on additional responsibility for managing the notification of encumbrances on land title for the purposes of property transactions. During consultation with the various states and territories it was not felt that this burden would have much of an impact beyond what is already created by the carbon market.

State and territory governments may seek to leverage opportunities to facilitate private investment through the scheme. This market would also create a nationally consistent approach to describe and measure biodiversity outcomes and allow coordination between state and national approaches.

### *Environment*

As projects by individual landholders come online at the rate of approximately 1000 per year, spread across the Australian landscape, and offer biodiversity protection or enhancement, there would be an initial slowing of the rate of decline in biodiversity and then potentially an increase in biodiversity.

Environmental gains such as these are challenging to monetise, but with an assumption of 1000 new biodiversity protection or enhancement projects established each year, the option has the potential to enhance significant regions of the Australian landscape. A network of new biodiversity projects that grows year-on-year across Australia would mean significant potential for the following:

- more trees being planted in areas that were formally bare and likely eroded
- water quality improvements from reduced runoff
- added habitat for species that will allow space for them to recover and reproduce
- commitments to protecting unique or endangered existing habitat
- Landholders with additional, diversified income streams may also find it easier to stay on their land and continue their primary agricultural business, allowing more small farmers to stay in business.

Projects are likely to contribute to the reestablishment of ecosystem functions such as pollination and erosion control. The revegetation would also contribute to drawing down and storing carbon dioxide from the atmosphere, generated to provide an additional income stream to landholders.

Increased biodiversity is expected from the creation and existence of this market. The extent to which landscape restoration could be achieved is uncertain and highly dependent on uptake, however there is potential for achieving 30% restored landscapes as a result of Option 2.

### *Landholders*

The existence of a market that supports biodiversity projects in exchange for money from private buyers has the potential to benefit landholders who choose to participate through an additional income stream to their usual activities. This additional income stream, and potential to couple a biodiversity project with a carbon project would provide farmers with the ability to diversify their income, increasing their resilience in challenging times.

In the carbon market there are often concerns about the market creating an opportunity for local landholders to sell their property to a company or larger entity to purchase land for the purpose of creating biodiversity outcomes exclusively. The argument is that this encourages those buyers to just “lock up and leave” the project, which has consequences for the neighbours and the community if their populations continue to decline. But in this market, the intention is for the rules to focus on active management and limit the conversion of entire properties to biodiversity projects.

An ability to trade farm biodiversity goods and services and negotiate the price with private investors would provide farmers the financial incentives to be able to dedicate select portions of their land to biodiversity outcomes. Depending on the circumstances, this could include:

- Portions of land within a larger property that might be less suitable for the primary agricultural activity occurring on the property
- Land that is already dedicated to carbon farming projects where there may be a second source of income available, and
- Land where reforestation or other activities that might enhance biodiversity outcomes could have flow on benefits for the property, such as creating wind breaks or protecting waterways.

Farmers would have limited obligations in the event of a natural disturbance to their project. Generally, farmers would be required to ensure vegetation and species are able to recover. Different requirements may apply to projects involving particular species or eco-systems.

The scheme would have different rules in the event of a significant reversal of biodiversity outcome due to intentional acts or omissions of the proponent that would ensure that any purchaser of the related biodiversity certificate was made whole, through the provision of equivalent biodiversity certificate or otherwise.

#### *Costs to participate*

Choosing to participate in the market would come with two types of costs to a landholder. The first are the upfront or on-ground costs to deliver a biodiversity project, which are not being considered a regulatory burden measurement because they would be costed into the project itself during the development phase. As the scheme is voluntary, farmers would only proceed with the project if the price offered covers the costs of the project and provides a reasonable return. Information from the Agriculture Stewardship pilots indicate that projects meeting the criteria set out for those pilots could range from \$65,000 to \$175,000 on average over 10 years but would vary considerably by region and type of project being implemented. DAWE would put other programs in place to support farmers wishing to participate in the market, such as tools, advice and materials to assist them in assessing their potential costs and benefit of running a project on their property. The farmer could then go into the market and find someone willing to pay that price or more to support the project. The main cost impost on the farmer would be the time involved in assessing the opportunity and determining whether to proceed to develop and price the project.

The second type of costs are the administrative or in-kind costs that each landholder would need to pay to participate in the scheme and which here represent the regulatory burden measurement of the scheme. These costs include application costs, securing consents to establish the project and ongoing monitoring and reporting costs. All scheme participants would have to cover some in-kind costs associated with delivering a project.

These Regulatory burden measurement costs include the following:

- Application process: prospective participants will be required to submit an online application form that includes personal and company details, information about how the project is going to be undertaken including which protocol and accompanying documents.
- Eligible interest holder consent: to support the application process prospective proponents may be required to obtain consent from interest holders on land such as banks and non-exclusive native title holders.
- Reports: project proponents could be required to report on their project. Reporting periods are being considered and would likely vary by protocol but could be every two to five years, meaning there will be up to 5 reports over a 10-year period.
- Crediting application: project proponents could be required to submit one crediting application based on project reports once during the project period.
- Notices: project proponents will be required to notify the Commonwealth where certain events occur. This could include a change in project proponent, a natural disturbance such as bushfire or where the proponent ceases to be a fit and proper person (e.g., bankruptcy). These notice obligations are unlikely to occur for all proponents – and it is assumed that there will be an average of one notification requirement over the life of each project across the scheme.
- Support for Commonwealth audit activity: as part of Commonwealth’s assurance process, the responsible agency would likely conduct an “annual audit program” through which each year a small proportion of projects would be subject to an external audit. While this type of audit would be paid for by the Commonwealth, there may be in kind

costs for proponents relating to answering auditors' questions, providing documents and potentially escorting auditors during site visits. It is estimated that the average number of hours required for each audit would be eight. It should be emphasised that not all projects would be audited, and that many Commonwealth audits would be undertaken on projects where there are known or suspected compliance issues. For the purposes of this exercise this will be further considered during the design phase; it is assumed that around a quarter of all projects will be subject to audits over their project period.

The indicative cost of these in-kind costs is estimated at \$340/year for 10 years of the project, as follows:

*Regulatory Burden Measurement Costs*

Item	Hours	Cost per hour	Number of times	Total cost
Application process	4	\$100.00	1	\$400.00
Eligible interest holder consent issues	4	\$100.00	1	\$400.00
Reports	4	\$100.00	5	\$2,000.00
Crediting applications	3	\$100.00	1	\$300.00
Notice costs	1	\$100.00	1	\$100.00
Support for CER audit	8	\$100.00	0.25	\$200.00
<b>Cost over 10-year life of a single project</b>				<b>\$3,400.00</b>
<b>Cost per project per year</b>				<b>\$340</b>
<b>Annual regulatory burden</b>				<b>\$1,700,000</b>

Consistent with recent regulatory reforms under the CFI scheme, where reasonable, assurance will be supported through mechanisms like information sharing between the CER and other government agencies, and the use of geospatial data. This is the approach that was practicable for farmers participating in the Agricultural Biodiversity Stewardship Package where they are now not required to undertake audits at their own expense, and there is no financial cost for undertaking audits for these participants.

The Commonwealth would also develop online tools that allow participants to upload assurance information as projects are undertaken at marginal cost. For example, allowing time and location stamped photographs of planting to be uploaded at the time it occurs.

Despite this, it is possible that external audits paid for by participants would occur for a small proportion of premium projects that lead to very specific outcomes such as population by specific fauna.

*Implications for land title*

The creation of a tradable personal property that is contemplated under Option 2 would influence the willingness to participate in the market both from the supply and demand side. With farmers being more likely to participate since they would be generating personal property which can then be traded, providing a level of confidence that if they participate in

the scheme, they will have something of value at the other end. It would also positively influence buyers of the certificates, by providing assurance in what they are purchasing and transparency.

The intention of the scheme is that biodiversity stewardship projects would get noted on the title of the land where they occur, but that the person who is registered as the proponent of the project on the Register would be the one with the legal obligation to maintain the project, regardless of ownership of the land. In fact, the scheme would allow people who are not the current owners of the land to register a project on behalf of the landholder with consent as the carbon market does. Any regulatory enforcement actions would be taken against the person registered as the proponent of the project. In the event of a land sale, there would be provisions for the new owner to voluntarily take over as the proponent of the project, but they would not be obligated to do so; this would have to be a matter of negotiation between a buyer and seller of a property and potentially the proponent of the project as well if they are not the same as the seller. The seller of the property would be motivated to ensure this transfer of responsibility, otherwise would remain liable for a project even after selling the land. This could complicate an otherwise more straightforward land transaction and is something that both buyers and sellers of property would need to understand.

#### *Broader community and economy*

Option 2 would focus on public good outcomes to meet existing state and federal biodiversity targets. This would help ensure that the addition of the 1000-1500 new projects a year would provide opportunities to a wide set of stakeholders and add to the achievement of existing biodiversity targets set by individual states. However, the Government can only suggest areas of interest but would not be able to control the type or location of projects in a market.

Australians would enjoy social and environmental benefits from the operation of a scheme that encouraged the voluntary protection or restoration of biodiversity.

The establishment of a market for biodiversity outcomes would support corporate sustainability goals and provide an opportunity for companies looking to improve their social license to operate.

## Risks and unintended consequences

The primary risk of this option is the potential impact of natural disasters on the market and the temporary disturbance this can cause before the systems are able to regenerate. As noted, the scheme would be intended to operate such that, so long as a landholder made reasonable efforts to follow the obligations set out in the biodiversity protocols towards recovery, then there would be no non-compliance. This does not address the loss of biodiversity inflicted by the natural disturbance at that moment and could delay the outcomes that had been achieved by the market or impact the purchaser of the certificate affected by the incident, however the biodiversity risks would be considered as part of the biodiversity protocol development and by the expert advisory group.

Another risk is that participants in the market do not behave in line with the protocols or rules and default on their obligations to maintain their projects. Or that the protocols and rules are not right and end up leading to no outcomes or even perverse environmental outcomes. These risks however would also be considered as part of the biodiversity protocol development and by the expert advisory group.

It is possible the market may result in unanticipated outcomes.

For example, buyer preferences could favour certain types of landholders or certain regions of Australia over others, even if they are not the areas where the greatest biodiversity gains can be achieved or if it leads to too many of one type of project and not enough of others to get true biodiversity gains for Australia.

The legislation makes provision for the rules to specify excluded biodiversity projects. In deciding whether to make rules the Agriculture Minister would have to consider if there is a material risk that the kind of project would have a material adverse impact on one or more of the following:

- the availability of water
- biodiversity (other than the kinds of biodiversity to be addressed by the project)



- employment
- the local community
- land access for agricultural production.

The purpose of this provision would be to enable the Agriculture Minister to ensure that biodiversity projects do not have unintended, adverse impacts.

Other potential risks of a scheme include participants becoming disenchanted with the market or never taking it up in the first instance, some reasons for this might be:

- Perceived as too complex or burdensome
- The price buyers are willing to pay is not high enough to compensate farmers for the costs to deliver their projects
- Uncertainty over price that can be obtained
- No buyers
- Oversupply or undersupply distorts the market

## Total costs and benefits for option 2

A comprehensive cost benefit analysis of this option is challenging because the quantum of potential benefits that can be achieved under any market-based option is dependent on factors that cannot be determined in advance, and which would vary based on market design:

- Ease of implementation to encourage supply
- Uptake by private and public investors to deliver biodiversity outcomes at scale

And these two factors feed on each other in terms of the supply needing to meet the demand to maximise the outcomes for the environment and market participants and in turn the overall benefit to Australians.

However, the benefits for option 2 indicate the potential, significant environmental social and economic returns that could be achieved with a biodiversity market in place. The option would require a relatively minor investment from the Commonwealth for its establishment, enforcement and ongoing administration.

The remaining costs of this option would be borne by the individual participants in the scheme, who would then be compensated by the private buyers in the market when they sell their certificate. The private buyers of these outcomes would bear the costs but earn their reputational boost and social license to operate in exchange. On balance, this indicates that the potential benefits are likely to outweigh the cost of establishing a national biodiversity market for Australia.

## Option 3 – Government funds restoration

Option 3 includes a coordinated Government effort to support biodiversity outcomes on the ground. The option would continue the Agriculture Stewardship pilot model, rolling it out on a broader scale to achieve biodiversity outcomes with ongoing funding from the Government to achieve this.

### *Government*

Option 3 would involve the Australian Government funding the restoration of biodiversity itself. For comparative purposes, Option 3 assumes that 1000 new projects will be funded per year. Based on the experience of the Agriculture Stewardship pilots, it costs up to an average of \$175,000 over ten years to deliver one biodiversity project. Broken down evenly over the 10 years, this is \$17,500 per project per year, or \$17.5 million a year to deliver 1000 projects, plus an additional \$2.5 million in administrative costs per year for DAWE for a total of \$20 million a year. The administrative costs would be to support the design of the program, assessment and selection of projects, and then monitoring and managing the contracts. This would

also include external technical expertise that may be required to support the program on an ongoing basis. This cost estimate does not take into account growth in demand.

Government would be responsible for defining the sets of activities that landholders would be expected to undertake in order to achieve the desired biodiversity outcomes. This would entail maintaining a team in DAWE to continue to refine the requirements for participation, design and take applications, assess them for potential outcomes and contract with the landholders offering the best value for money outcomes in terms of biodiversity for Australia. Ongoing departmental resources would be required to administer the contracts with the landholders and to undertake monitoring, evaluation and reporting of the outcomes.

#### *States and Territories*

States and territories' concerns over the potential impact on their own schemes could be raised, similar to those for Option 2 where this could divert some participants away from state-based schemes. However, like Option 2 this impact could be managed through consultation between governments and alignment between state priorities and the projects selected. This option would not impact on or deter investors into state-based schemes since there is no market component of Option 3. Moreover, federal funding of biodiversity would relieve the states of obligations to fund these projects.

#### *Environment*

Similar benefits for the environment are expected as for Option 2 with Government directly funding the 1000 protection and restoration projects. Option 3 would result in a slowing of the decline in biodiversity followed by an increase in habitats and restoration of ecosystem services. However, would not deliver long term growth in projects as is limited by government funding.

The benefit to the environment could be maximised under Option 3, as the Government could tap into local and national expertise to set a comprehensive nationwide strategy for where the most important biodiversity gains can be found and could implement this strategically across the landscape to obtain better outcomes and connectivity of outcomes. Moreover, the bulk of the funding would go directly to landholders to undertake the necessary activities and there is thereby a level of assurance that the projects would occur once the funding was provided and an agreement in place.

#### *Landholders*

Option 3 would see landholders get funding and support to protect or revegetate the more marginal areas of their productive land. There would be costs to implementing the actions necessary to achieve the biodiversity outcome, but under this option they would be funded by the Government. This would mean a financial benefit to landholders, with project activities paid for and an incentive payment on top to encourage uptake. Not all landholders would be approached under this scheme, as the Government would be identifying the areas where they can get the most outcomes with the least impact on production and focus on the most degraded landscapes. This may leave some willing landholders without an option to receive any financial incentive for protection or enhancement of biodiversity on their properties.

The scheme would operate via contracts with individual landholders, meaning it would operate and provide benefits pursuant to the individual contract. It would not create a new form of personal property. However, some level of assurance that the biodiversity benefits would be maintained on that property in exchange for the funding to execute it would need to be established via a contractual arrangement and would likely include a notation on title to ensure that it runs with the property. This may lead to either real or perceived impacts on the value of a property with this type of project registered against it as there would be obligations to maintain the outcomes for a certain time. Again, this is likely a matter of timing of the sale. If all payments have been made and only a permanence obligation remains, a potential buyer may consider this to be an impediment to use of the property, as they would have an obligation to maintain a portion of their property in a certain way without any compensation. However, if there are still some ongoing payments being made, then the potential purchaser would likely gain additional income through the contract/project.

#### *Broader community and economy*

It is expected that many of the same community, economic, and social impacts described in Option 2 under a market-based scheme could also be realised if the Government were to fund the 1000 restoration projects itself. However, no increase in

projects beyond 1000 would be achieved. 1000 new projects per year would impact the broader community and economy in terms of creating regional jobs to assist with plantings and fencing projects, injecting money into the local supply chain for supplies to undertake the project, putting money into the pockets of local landholders and creating demand for native trees to be planted.

There is no impact on the private sector with this option, and the impacts on them would be the same as under the status quo. This option does not provide any opportunity to support corporate sustainability goals.

## Risks and Unintended Consequences

As with Option 2, the primary risk with this option is the potential impact of natural disasters on the biodiversity secured through these projects. With this option, a natural disaster could potentially wipe out any of the biodiversity gains achieved through the projects and a temporary loss would be suffered as the systems regenerate post disaster.

A further risk is that the activities set by Government do not lead to the expected outcomes in biodiversity gain. This could arise due to incorrect selection of the set of activities for the landholders to undertake, which do not lead to the anticipated outcomes. This could also arise due to poor specification of contract terms such that landholders sought to minimise their obligations and maximise access to funds. There is also a risk that landholders will not want to engage through this type of grant or contracting program directly with the Government, such that projects in certain strategic areas would not actually be delivered. There is also a risk of non-delivery by the contracted landholders, or that they will not maintain the gains once the contract payments have concluded. The Government would be put in a position if that were the case to enforce against the landholders, which can be challenging to manage.

## Total costs and benefits for option 3

The benefits for Option 3 indicate potential significant environmental social and economic returns, albeit at a much higher cost to Government. The ability to control the projects that are selected and funded is a distinct advantage in terms of the biodiversity outcomes that could be achieved due to the ability to strategically select projects.

# 5. Consultation

DAWE has been exploring the potential approaches with stakeholders specifically with the farming, environmental and business sectors. It has also consulted other government departments and discussed with the Clean Energy Regulator to learn about the regulatory functions it performs for the carbon market.

Targeted consultation on a legislative framework to underpin a national voluntary biodiversity stewardship market was undertaken during November and December 2021. Consulted parties had consistent views that there are willing cohorts of both buyers and sellers, but that the high costs of transaction and lack of certainty about the definition and delivery of biodiversity outcomes was the most significant impediment to increased private investment in biodiversity restoration. There were strong views provided by stakeholders that an overarching legislative framework was needed and until that was in place the market and the resulting biodiversity outcomes on farmland will not be realised.

## Key messages

Below is a list of key messages received in the consultation process and the issues that will need to be investigated further in 2022 ahead of implementation.

- There is broad support for Option 2, enabling the Australian Government to intervene and introduce legislation that facilitates the trade of farm biodiversity stewardship projects and establishes an assurance system for outcomes on a voluntary basis. All stakeholder groups interviewed were of the view that government legislation is needed that will give participants confidence and foster investment in farm biodiversity stewardship projects. Specifically:
  - Address legal rights through a tradable certificate

- Deliver transparency specially through a national registry and
- National consistency to measuring the biodiversity outcomes
- Most stakeholders highlighted the potential and importance of streamlining arrangements under various markets and schemes including carbon, and state and territory biodiversity approaches. Bringing on simplicity, transparency and consistency will maximise participation and therefore investment in environmental outcomes.
- State and territory governments broadly supported the concept of an umbrella/national voluntary scheme but indicated their strong interest in working closely with the Australian Government to ensure compatibility and avoid duplication/competition.
  - There is some concern from some state governments that this initiative could impact on their own schemes – either by providing a competing option for landholders or creating uncertainty in the market for buyers. DAWE will be working with these states to ensure as little impact on their schemes as possible.
  - The legislation is intended to provide a pathway for landholders to participate not only at the national level but also in state schemes where the programs are rewarding different activities or outcomes and there has been commitment to work together to maximise the benefit that these schemes provide to landholders.
- Stakeholders indicated the need to keep the scope as broad as possible in terms of the types of projects (protection covenants, restoration and maintenance), the eligible suppliers (farmers and other landholders) and the potential buyers (corporates, philanthropic and compliance buyers).
- Multiple stakeholders were interested in the process for developing protocols that outline the requirements, methods and measurements for different types of projects under the scheme. Some of them were interested in participating in such process in 2022 and offered their expertise in biodiversity, markets and investment and the farming sector.
- A recurring issue was the need for information to assist market participants including guidelines, prices, standard contracts, training of advisers, trading architecture etc. This will be an important aspect in the implementation of the scheme.
- Stakeholders supported the concept of registers that provide information to market participants about key attributes of projects and assist with regulation of claims. Comments were also made in favour of doing so while protecting privacy of project proponents.
- Stakeholders were conscious that information about the market will take some time to build, especially what relates to demand and supply. That is, what buyers are interested in and value the most and what kinds of biodiversity outcomes farmers are willing to offer and at what price. However, there was wide recognition that there is need to make as much information available as soon as possible when implementation kicks off.
- Some stakeholders inquired about periodic assessment and reporting on the scheme outcomes/effectiveness.

DAWE will continue to engage with selected stakeholders in 2022 to work through issues relating to protocol development, land title issues, market development requirements and any others that may arise.

## Stakeholders consulted

Consulted stakeholders include around 60 organisations representing the agriculture, business, finance, research and

conservation sectors as well as other Commonwealth departments<sup>15</sup> and most state and territory governments<sup>16</sup>. DAWE also held individual meetings with various stakeholders who requested a more detailed discussion on the proposal<sup>17</sup>.

Agricultural sector workshop		
Sheep Producers Australia (SPA)	Australian Grape and Wine Inc.	Birchip Cropping Group
Red Meat Advisory (RDA)	AgriFutures Australia	Farmer -Victorian beef producer
Cattle Council Australia (CCA)	Meat and Livestock Australia (MLA)	Grain Growers Australia (GGA)
Council for Rural RDCs	Dairy Australia (DA)	Cotton Australia
Farmers for Climate Action	AusVeg	National Farmers Federation (NFF)
Environmental bodies/NGOs/Research workshop		
Accounting for Nature	National Landcare Network	Australian Land Conservation Alliance
NRM Regions Queensland	NRM Regions	Charles Darwin University (CDU)
Greening Australia	Places You Love	CSIRO
Australian Conservation Foundation (ACF)	The National Trust of Western Australia (NTWA)	Environmental Defenders Office
Green Collar	Humane Society International	Birdlife
The Nature Conservancy	University of New England (UNE)	Wilderness Society
WWF		
Industry workshop		
Australian Farm Institute	Coles	Minerals Council of Australia
Ecomarkets Australia	Woodside	Business Council of Australia
Woolworths	Carbon Market Institute	
Financial sector/market specialists' workshop		
NAB	Marketplace for Nature	Commonwealth Bank
Macquarie	EY	Pollination
Climate Change Authority		

## 6. Analysis of the best option

Both a legislative framework (Option 2) and direct funding of biodiversity outcomes (Option 3) would be more expensive than the status quo, but both also offer the hope of reducing biodiversity decline. Option 1, maintaining the status quo, would result in further significant declines in biodiversity in the future.

Options 2 appears to be a more effective means for achieving biodiversity outcomes. This is primarily due to the costs of Option 2 being considerably lower than Option 3. Option 2 provides opportunities for the private sector to contribute to

<sup>15</sup> Includes Department of Industry, Science, Energy and Resources, Department of the Treasury, Department of Finance, Department of Prime Minister and Cabinet, Department of Foreign Affairs and Trade and the Clean Energy Regulator.

<sup>16</sup> Includes New South Wales, Victoria, Queensland, Tasmania, and Western Australia.

<sup>17</sup> Including National Farmers Federation, The Nature Conservancy, Greening Australia, Places you Love Alliance, Green Collar, Indigenous Desert Alliance, Pollination and Birdlife.

better biodiversity outcomes in Australia by entering the market as purchasers consistent with promoting corporate sustainability goals.

The Australian Government regulatory framework has the capacity to harness scientific knowledge to develop nationally consistent, clearly articulated approaches to undertaking biodiversity stewardship projects for a market, and to conduct assurance and verification activities over the outcomes to lend certainty. The Commonwealth can access academic and specialist advice and provide for increased scrutiny of those protocols by making them disallowable instruments. The Government taking on this role provides buyer confidence that biodiversity outcomes will be achieved. Stakeholder consultation indicated that unless government takes on the regulatory role the private sector is unwilling to participate in the market.

As noted, the cost benefit assessment was challenging to quantify due to the inherent challenges in assigning a monetary value to environmental outcomes, challenges in forecasting the likely participation level and the likely growth of the market. On this basis, a highly qualitative cost benefit assessment was undertaken.

Despite this context, the very significant opportunities presented by the proposed national biodiversity market provide a strong case that option 2 is likely to provide the highest net benefit.

## 7. Implementation and review

A staged implementation is planned, whereby the legislation that is introduced creates a framework for the market to be established and administered and the further detail about its commencement and operation is captured in other legislative instruments that will be drafted and introduced after further consultation. This will allow the Clean Energy Regulator to prepare to take on the administration of the scheme and the Expert Committee to convene. Ongoing consultation will focus on the key elements of the supporting legislative instruments that will allow this market to have the greatest net benefit as identified above: the ease of implementation and aspects which will encourage the widest uptake by the private and public sectors. DAWE will continue to draw on expertise and support provided by stakeholders, consultants, and experts in biodiversity and the lessons learned from the Agriculture Stewardship pilot programs.

The Australian Government will continue to work with the states and territories to ensure compatibility of the scheme with any overlapping programs in their jurisdictions to optimise and streamline the options for landholders.

To mitigate any impacts of the introduction of the market, the Commonwealth has already committed to work with the other governments to ensure as much consistency between the new market and existing schemes as possible and to streamline the information and communication with potential participants. Through a collaborative approach to this, a national legislative framework approach has the potential to provide a pathway for linkages with state-based approaches. The national framework will be designed in a way that would allow for a national approach to emerge over time. This would include engagement on consistent approaches to measuring biodiversity outcomes, approach to land titles and preventing any duplication of on ground assessment and compliance and incorporating this into the scheme design. It will take time to reach to achieve alignment and involve some uncertainty in the interim.

States and territories may need to investment time in to understand how a national scheme might intersect with their existing programs and land title registers. States and territories may face questions from constituents about the scheme and how to participate, so education of other governments will also be necessary to alleviate this potential burden. The Commonwealth will support Natural Resource Management bodies as a source of information across regional Australia.

### Implementation challenges

The implementation of the proposed legislation has several implementation challenges and risks. These are discussed below.

#### Ensuring the best regulatory settings

The first is that as an emerging market, it will be important to establish the correct framework settings for best managing the biodiversity market. In developing draft legislation, DAWE will use the CFI Act as a general model with its core themes of:

- Codified processes for achieving environmental outcomes
- The establishment of projects from willing proponents
- The issuance of certificates for environmental outcomes, and
- The Australian Government taking responsibility for ensuring compliance through the project including over any permanence period.

However, within these broad settings, there are many decisions to be made, and the real risk that some of the initial settings inhibit the healthy development of the biodiversity market. To address this issue, DAWE will undertake three actions:

- engage with experts and state government officials who have expertise and experience in design and operation of environmental markets to develop the scheme
- draft a Bill that has sufficient flexibility to adjust settings through legislative rules – this is an approach that has worked effectively in the CFI, and allows regulatory settings to be adjusted to best meet the needs of a developing market
- the legislation will be subject to internal administrative review 24 months after the scheme opens to applications, and a legislative review will be carried out five years after the scheme opens to applications.

#### Measurement of biodiversity

The cost-effectiveness of the preferred option will be strongly influenced by the transaction costs for participation in the program, and the approach to the measurement of biodiversity will likely represent a large proportion of these costs<sup>18</sup>. This measurement, as far as possible, will be based on a nationally consistent, spatially explicit classification scheme and approach to condition assessment. While there is currently no nationally agreed approach to biodiversity measurement that is ‘fit for purpose’ for the preferred option, the development of the measurement framework will assess, adapt and/or combine a range of existing approaches and datasets to support the implementation of the program, including:

- National Vegetation Information System ([NVIS](#))
- Australia’s Terrestrial Ecosystem Research Network ([TERN](#))
- Ecosystem accounting, under the [Australian Government’s Strategy and Action Plan for Environmental-Economic Accounting](#).
- Other environmental [datasets held by DAWE](#).

Key criteria for the establishment of a measurement approach will be a dataset with spatial and temporal resolution sufficient to discriminate change within the ecosystem targeted by the project. As with other biodiversity programs, remote sensing datasets will need to be complemented by expert-driven field assessment.

### Ensuring effective administration of the legislation

The second challenge relates to ensuring that the legislation establishing the scheme is well administered. Again, as a new area of regulation for the Australian Government, there is a risk of legislation being administered in a way that does not provide ideal market outcomes. This risk is being addressed through the day-to-day regulatory powers and responsibilities being provided to the Clean Energy Regulator.

The Clean Energy Regulator is a well-established environmental regulator that has significant experience in regulating land based environmental projects (in a context where most biodiversity projects are likely to also be registered as eligible offsets projects under the CFI Act), strong compliance and enforcement arrangements, a register of environmental auditors and an annual audit program. Perhaps most significantly, it acts as a “market” regulator (as opposed to simply an environmental regulator) and is very experienced at creating the environment for solid transparent markets supported by mechanisms to encourage competition, and the frequent publication of market data that informs both buyers and sellers of potential business opportunities.

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18 OECD - Paying for Biodiversity (2010)

## Review

DAWE will monitor and review the new legislation on an ongoing basis through the ongoing consultation it has committed to. Careful consideration will be given to the feedback from potential future participants and buyers in the biodiversity market and the states and territories that might be impacted by it.

DAWE will make any necessary changes to the supporting legislative instruments to incorporate this advice and will have ample opportunity to respond and amend accordingly.

Given the uncertainties associated with creating a new property right and market, a Post Implementation Review will be undertaken within 2 years from commencement of the Legislation.