The Winston Churchill Memorial Trust of Australia

Maximising Investment in Biodiversity in a Changing Climate

Report by
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2011 Churchill Fellow

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Sara Gipton   25 January 2012
1 Acknowledgements

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I acknowledge the Winston Churchill Memorial Trust who has so generously provided me with the opportunity to travel abroad, speak to so many interesting people and enjoy the study experience of a lifetime. My hope is that this report is the beginning of the repayment of that investment.

I pay my respect and appreciation to the Board and staff of Greenfleet who showed how generous, capable and hard working they are whilst I was away.

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And finally to my friends and family who during my trip overseas looked after the house, the farm, the dog, the naughty runaway heifers, well – everything and made me feel so loved on my return. I am very lucky!

This report is dedicated to my father whom I wish was alive to share it... “they also serve who only stand and wait.” (John Milton. On his blindness).
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Men and nature must work hand in hand.  
The throwing out of balance of the resources of nature, throws out of balance also the lives of men.  
(Roosevelt, 1935)
2 Executive Summary

In 1960, in his inaugural address, President John F. Kennedy said “all this will not be finished in the first one hundred days, nor will it be finished in the first one thousand days, nor in the life of this administration, nor even perhaps in our lifetime on this planet. But let us begin”. Though President Kennedy was speaking of a different time, about different issues, his wisdom remains pertinent today.

We have the opportunity, if we choose to take it, to tackle the ‘diabolical’ problem of climate change by vastly expanding the investment in biodiversity in Australia using mechanisms not contemplated before. In particular, channelling carbon market funds for investment in biosequestration in Australia’s National Parks creates public good by taking that action that both mitigates and adapts to climate change and invests in publicly owned national assets. Furthermore, this investment allows action to be taken on a continental landscape scale in areas of priority in a manner the community can both understand and believe in.

Australia’s legal systems on the whole have, either in place or in development, the instruments that allow this investment to happen. Where the instruments are not in place, we have the technical knowledge to resolve these obstacles.

As a nation, we are yet to fully respond to the adaptive challenge of climate change which will manifest itself in ways both predictable and not yet anticipated. This challenge requires us to think and work together in ways not previously contemplated and is a crisis for which current organisational structures and routines are insufficient to cope.

Allowing investment in carbon sequestration projects in our National Parks through the carbon market potentially breaks the cornerstones of disallowing National Parks to be used for commercial purposes. However, this investment is unique as it can be done in a manner that does not disturb or injure but rather enhances the biodiversity values and ecological systems of the National Park.

For this investment to be sustainable and accepted, it demands a cross boundary response whereby people, and the organisations they may represent, become accustomed to working with each other in different ways. In short I propose that we can use capital investment by large emitters and/or their financiers to invest in revegetation projects in National Parks, thereby securing the carbon rights associated with their liabilities but at the same time, enhancing and continuing a National Park’s fundamental purpose.

These cross boundary responses, including frameworks of co-operation and minimum (not low) standards of operation which preserve the integrity of the National Park’s ecological systems, will be needed and can be adapted to build credibility over time. In turn, if successful, this model can
be applied across other states and countries thus creating the scale so needed in addressing the threat of climate change.

So let us begin.....

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3 Programme

The following is a list of people and organisations that generously gave their time during my overseas trip.

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4 Introduction

The purpose of my fellowship is to investigate, understand and subsequently maximise the investment in biodiversity in a changing climate.

The impacts of climate change are already being observed and felt in Australia (IPCC, 2007) (CSIRO, 2011). Australians are feeling the costs of extreme weather events whether directly through the damage wrought by severe storms, the devastation of floods and the destruction of catastrophic bushfires or indirectly by the increased cost of living levied by government charges, insurance premiums or the rising costs of food. These extreme events and impacts are predicted to become more frequent and more intense as global temperatures rise as a result of increases in atmospheric greenhouse gases (CSIRO, 2011).

This paper proposes a way forward for expanding investment in biodiversity especially in National Parks by accessing capital from the emerging compliance carbon market for mitigating and adapting to climate change. My focus was to understand and explore international models to access private and not-for-profit agencies’ capital and expertise together with government that deliver revegetation programs within National Parks or through reserve systems. Then to use this experience to reflect on the opportunity in Australia.

5 Australia’s Fragmented and Vulnerable Landscape

Australia has unique flora and fauna – most of our species: 85% of mammals, 91% flowering plants and 90% of reptiles and frogs are not found anywhere else (CSIRO, 2011). Since European settlement, Australia has cleared vast tracks of woodland and forests. The destruction of this habitat from the pressures of agriculture and urban development combined with competition and destruction caused by introduced species has resulted in more than 384 species of native animals and over 1,300 species of native plants classified as being threatened with extinction (EPBC Act List of Threatened Fauna, 2012).

Shift in climate puts additional pressure on species already classified as threatened and vulnerable. It is highly likely that even more species will become threatened or extinct under a shifting climate. Vulnerability is dependent on the exposure to climate change, the sensitivity of sectors to exposure and their capacity to adapt (IPCC, 2007). Though the scale of the shift depends on the concentration of atmospheric greenhouse gases, experts can reasonably predict likely temperature shifts over the next century which, the diagram below shows, will result in continental scale climate shift (Pearman, 2008).
Reasons that our society should be concerned about the impact of these changes on our natural systems are:

1. They are unprecedented in their nature and (very importantly) rate, hence they may be outside any “evolutionary coping range” of many species,
2. Society has caused many other compounding changes (e.g. habitat fragmentation) which may greatly reduce the ability of biodiversity to naturally respond without considerable loss of species and other values,
3. The changes are human induced, therefore humanity is responsible for any loss, and
4. Species and other aspects of biodiversity have many social values, and widespread changes are likely to lead to considerable and compounding societal losses (Dunlop & Brown, 2008).

In CSIRO’s recently published report ‘Climate Change: Science and Solutions for Australia’ (CSIRO, 2011), scientists note that our natural environment is one of the most sensitive sectors to climate change and as a result, requires strategies that invest in early adaptation. However, water security, coastal communities and agriculture also become vulnerable with relatively low increases in temperature.

Thus, it is in our own interests to mitigate the impacts of climate change, including the loss of our unique ecosystems, whilst expanding the landscape’s capacity to adapt to change, to improve...
its resilience. Expanding revegetation programs within National Parks creates landscape resilience in areas of high priority.

6 Investing in Biosequestration in National Parks

This chapter will explore existing models and proposed models for investment in carbon sequestration projects in National Parks. It will explore the scientific integrity of the approach, and current funding approaches.

6.1 Does Planting Forests Store Carbon And Can It Be Measured?

Existing forests and soils store large amounts of carbon (somewhere around 200 times Australia’s current annual emissions); and investment in Australia's forests and soils has the potential to store up to 20% of Australia’s emissions over the next 20 years (CSIRO, 2011). If we are to hold greenhouse emissions to safe levels, and thus temperature increases to 2 degrees Celsius as agreed by the Conference of the Parties in Cancun in 2010, we not only need to reduce sources of emissions but remove greenhouse emissions already in the atmosphere. As CSIRO reports, forest plantings together with reduced land clearing are the most straightforward way to sequester carbon in Australia’s rural landscape as they provide ‘the most immediate, significant and realisable carbon sequestration opportunity’ which is effective and which can easily be measured and verified (CSIRO, 2011).

Under existing scenarios, the maximum rates of aorestation have been around 100,000 hectares per year which would double our national plantation estate over 20 years. 2 million hectares could sequester around 20 million CO₂-e per year over a 40-year cycle (CSIRO, 2011). However, the current rate of sequestration is unlikely to meet future demand for carbon under a compliance regime (Dept of Climate Change & Energy Efficiency, 2011).

6.2 Existing Australian Models of Investment in Native Vegetation in General

Australia’s biodiverse estate is held between private, leasehold, native title and Crown Land. Australian not-for-profit agencies have engaged the broader and local community in efforts to restore our landscape. These efforts on the whole have been funded by Government such as the now ceased Landcare¹ programme, National Heritage Trust (NHT) Funding and through the Department of Agriculture, Forestry & Fisheries' ‘Caring for Our Country' Programme with some investments by the private sector, largely for corporate sustainability purposes. These programmes are criticised as having too centralised decision making without sufficient focus on

¹ The Australian Government’s Landcare program should not be confused with the community based organization ‘LandCare Australia www.landcareonline.com.au’.

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landscape scale programmes or because they have resulted in local natural resource management groups competing with each other for funds (HC Coombs Policy Forum, 2011).

Necessarily, government funding requires applicants to go through successive funding rounds; and the size of the grants, though collectively substantial, have not had a significant impact on landscape wide restoration as natural resource management outcomes continue to be difficult to achieve because of thinly spread funding to support broad-scale participation (HC Coombs Policy Forum, 2011). However, any funds allocated remain at the whim of government budgetary cycles that do not ensure certainty of long-term funding streams for investment in biodiversity. Moreover, government funding is repeatedly shown to be much less effective than market mechanisms in meeting policy objectives (Grattan Institute, 2011) as market based mechanisms have been proven to be more efficient and importantly effective in surpassing policy objectives across numerous jurisdictions both here and abroad.

It should be noted that the Australian Government recently launched the ‘Biodiversity Fund’ as part of the Clean Energy Future initiative which commits $946m over 4 years to protect and expand investment in biodiversity. The author welcomes the injection of funds into the sector.

6.3 Current Operational Capacity to Expand Reforestation in National Parks

The National Reserve System now accounts for more than 88 million hectares which is more than 11% of Australia’s land mass. Successive governments have expanded the National Park estate reflecting the inherent value that Australians place on its biodiverse assets with National Parks managed under state based law usually delegated through the statutory authorities. Discussions with National Park agencies across Australia reveal that they contain vast areas of land2 which was previously cleared for grazing or cropping, which though now returned to National Park, have not ‘grown back on their own’.

Review of National Park agency annual reports shows that budgets are not dedicated to revegetation services. National Park agencies have to manage broad objectives over extensive asset bases and simply do not have the resources to do everything; revegetation projects often remain in the ‘nice to do’ basket. For example, Parks Victoria manages approximately 4 million hectares of land based, coastal and marine sanctuaries as well as most of Victoria’s coastline. These parks attract nearly 86 million visitors per year. Park Victoria’s Annual Report details areas of focus and they have made remarkable achievements given the size of the challenge (refer Appendix A). Yet despite the goal of ‘Sustaining healthy parks in a time of climate change’, little reforestation of cleared areas occurs at present. Other activities such as monitoring endangered animals or removing the threat of pest species are at this stage of higher priority. This experience is generally replicated across the Australia.

2 Land eligible for replanting within National Parks is in the order of hundreds of thousands of hectares.
Given the size of the national reserve estate, there are few resources available to undertake revegetation of open areas at scale in Parks, even though it will provide additional buffers and connectivity to areas of importance.

7 Creating a Perfect Storm for Collaborative Investment

We need to recognise the need to shift from the strategic challenge of managing an organisation such as Greenfleet3, or a National Park, or a large emitting organisation to managing the problem, namely climate change.

The Australian Government has proposed policy responses to the threat of climate change which are grouped in the ‘Clean Energy Initiative’s’ 4 programmes as:

1. Introducing a carbon price to influence long-term investment decisions and consumer behavior,
2. Promoting innovation and investment in renewable energy,
3. Encouraging energy efficiency, and
4. Creating opportunities in the land sector to cut pollution and improve productivity, sustainability and resilience (either by price signals of emission pricing or by Government funded biodiversity fund).

Pricing carbon requires large greenhouse gas emitters to either pay a fee to the government for every tonne of greenhouse gas they emit, find sources of approved abatement under the Government rules to reduce this liability or avoid generating the emissions. This approach has just become legitimised through passage of legislation by the Australian Government representing the collective aspirations of a democratic process as “politics is the answer that a liberal democratic society has given to the question of what things should be produced for collective purposes with public resources (Moore, 1995)”.

The key issue remains: can private carbon market capital be used to bolster National Park public value? The conclusion of this report is - yes it can.

The following diagram shows the major elements to create public value by carbon revegetation in National Parks, however, it does not contemplate the political complexity that this approach engenders.

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3 Sara Gipton is the Chief Executive Officer of Greenfleet. Greenfleet is an environmental NGO whose mission is to create a low carbon future for Australia.
It is more useful to apply the strategic triangle as an analytic tool to conceptualise and integrate politics, substance and administration of the proposition to better ensure that the purpose is publicly valuable, will be politically and legally supported and operationally feasible (Moore, 1995).

These points will be addressed in more detail below.

7.1 Will Carbon Investments for Revegetation in National Parks Create Public Value?

National Parks exist to conserve and protect biodiversity, maintain ecosystems and to protect geologic and geomorphologic features and natural landscapes. National Parks also conserve places, objects and features of landscape and cultural value. Fundamentally, National Parks preserve the ecological integrity of ecosystems for current and future generations. They are a
key component of the national reserves systems which aim is to strategically protect habitat so that the diversity of all native landscapes, flora and fauna across Australia is conserved (Dunlop & Brown, 2008). Management regimes and laws are implemented to entrench this aim.

Carbon market investment in National Parks creates a new opportunity to expand and broaden these aim by:

- **Creating habitat for Australia's Flora and Fauna** – revegetation projects in National Parks return cleared areas (usually past cropping and grazing) to native forests in areas already recognized as being of national significance.
- **Mitigating climate change** – expanding forested areas is a proven and effective way of removing greenhouse gases from the atmosphere (CSIRO, 2011).
- **Climate change adaptation** – creating landscape scale ecological system resilience by increasing connectivity and buffer zones for priority areas of conservation.
- **Alleviating pressure on agricultural productive land** for carbon forests as various reports create fear that revegetation projects for carbon will be undertaken on prime productive land (Kerr, 2010) and thus place pressure on agricultural communities in Australia.
- **Expanding environmental services** - forests act to protect waterways, soil conservation, reductions in salinity and pollination services as well as create cultural value (Landsberg, Ozment, Stickler, Heninger, & Treweek, 2011).
- **Creating low cost abatement for Australia** – Australia has the highest per capita emissions of any developed country and is in the top 20 emitters worldwide (World Resources Institute, 2011). For the health of our economy, and to ensure that action on climate change can be undertaken at affordable scale, we need to ensure supply of low cost abatement. The author notes that the Department of Climate Change and Energy Efficiency currently predicts relatively low levels of supply of carbon credits from existing sequestration sources (Dept of Climate Change & Energy Efficiency, 2011) in the short to medium term.
- **Promoting investment** by private equity to enhance national assets in a manner that does not undermine the integrity and protection of the national asset.
- **Illustrating a scalable working model** that can be replicated elsewhere whilst creating **public confidence** that action is real – both of which are seen as hurdles to ensure that the scale of actions is linked to the scale of the challenge of climate change (Net Balance, 2008).

In summary, revegetation projects within National Parks are consistent with their mission and can build public value.
7.2 Operational Capacity

Operational capacity refers to the ‘task environment’ – who can do what work in the day to day (Moore, 1995) to deliver successful revegetation projects for carbon in National Parks. Expertise that can deliver these projects already exists and includes but is not limited to:

- Organisations with established expertise in delivering biosequestration projects for carbon across Australia and underpinned by an emerging industry and government regulations to verify the outcomes.
- National Park and other natural resource management agencies manage vast expanses of land that need revegetation and have established expertise and standards in biodiverse revegetation projects.
- Financiers and commodity traders who are experienced in long tail investment and in managing financial risks associated with projects and who have access to capital and statutory liabilities that need to be met. They can develop the business case for making sure that the projects are financeable.
- Governments which have existing biodiversity teams who write and implement public policy to promote and enhance ecological systems.

In summary, significant operational expertise exists to deliver these projects. What is untried is how these agencies work together at scale to fulfil the vision of expanding investment in revegetation projects by accessing carbon market investment. In addition, the contribution other members of the community, media and government, can make to a project’s success is not yet fully understood. This issue is discussed later in Section 7.4.2.

7.3 Legitimacy & Authority to Implement

Can sufficient public value be generated to make efforts to undertake revegetation projects in National Parks politically and legally supported? Can the projects be conducted in line with the National Park’s mission?

Discussions with academics, project originators, standard setters and public advocacy and ‘watchdog’ agencies reinforced common themes which, in their view, are of prime importance to these projects. These are:

1. Protecting the environmental integrity of the National Park and thus the public interest, and
2. The transparency in arrangements.
7.3.1 Protecting the environmental integrity National Parks

As illustrated above, land in Australia is subject to a property right regime that can separate the carbon sequestration property rights from land which, in this case, allows the trade of carbon credits subsequently generated under the Carbon Farming Initiative (CFI) thus creating a return for the investor which is further discussed in Section 7.4.1 – Technical challenges. It should also be noted that the carbon sequestration property right is different in that it can be separated from other property rights that are attached to land without disturbing the performance of the ecosystems which the forests help create.

What are the important and valuable aspects that we need to preserve and protect on any project in a National Park? Could private investors exert influence over the design of a project (eg species planted) and its management (eg fire intervention)?

Discussions with forest ecosystem specialists in Germany and the United States reinforced the fundamental importance that forest ecosystems are managed as systems, not the sum of collective parts. This means implementing integrated management plans that manage the projects as a whole, not merely as a portfolio of property rights, to protect the ecology of the National Park.

So can the integrity of the ecology in the park remain undisturbed if carbon rights are traded?

Any revegetation project within a National Park should be undertaken in partnership between investors, carbon project originators and National Park management within the existing or evolving operating guidelines and policies of the National Park. These policies and protocols will
dictate species planted, density of plantings, water management, pest control, approaches to establishment and ongoing monitoring and maintenance. In turn, they should be complimented but not compromised by carbon forest inspection, monitoring, measurement and verification practice as necessary by any project partner to meet the needs of the investor. Arrangements should be subject to legal agreements that bind the parties and be submitted for independent review.

Furthermore, forestry, water, mining and biodiversity property rights cannot be recognised in National Parks under the law so there is less risk that the ecology of projects will be disrupted compared to freehold land.

In summary, in contrast to investments in other property rights associated with land such as water or mining rights, transfer of carbon rights can be undertaken without disrupting the ecological integrity of the National Park and diluting existing National Park management. On the contrary, investment in reforestation for transferable carbon rights can be done so that it enhances the integrity of the park.

7.3.2 Transparency of arrangements
Two aspects of transparency are discussed below.

- **Accrediting under standards to provide assurance**

  Governments can use market-based trading schemes such as the carbon pricing mechanism legislated by the Australian Government to regulate behavior and to demand consistent and uniform standards of information and communication (Fung, Graham, & Weil, 2007). Accrediting carbon reforestation projects under the CFI provides government assurance to investors and the market that the forest has grown and has been verified, the carbon sequestration property rights are secured, the project is additional and is not double counted\(^4\). Though the CFI provides carbon assurance, it cannot, and does not aspire to provide assurance as to the biodiversity or even native species makeup\(^5\) of the project nor of any community involvement. It does however, demand local catchment management and planning authority approval of the project.

  Carbon Fix and the Verified Carbon Standard (VCS) are recognized carbon standards for verifying carbon for the voluntary market. Project originators in other parts of the world are finding a premium is paid for projects which have additional certification under the Community, Care and Biodiversity Alliance (CCBA) for biodiversity and the social aspects of any project which incorporates multi stakeholder consultation frameworks that can be audited to provide confidence that the work has been done and facilitates acceptance by putting all information into

\(^4\) Double counted occurs when two agencies both count the carbon for their own purposes (eg to offset emissions and also to meet a national target.

\(^5\) The Californian Air Resources only allow forests comprised of local native species to participate in the Californian Emissions Trading Scheme which is due to commence in 2015.
the public domain. CCBA certification was developed to address these aspects of projects with a focus on developing countries where overseas investors may run ‘rough shod’ over local communities. Discussions with CCBA’s CEO, Joanna Durbin revealed that though focused on developing countries, the methodology can be applied in developed countries such as Australia and the author understands that some state government agencies use this standard as a basis for participation in some state funded revegetation projects.

CCBA certification or other equivalent and appropriate standards may evolve combined with appropriate governance of the project to provide high levels of assurance to the community and government. The process of accreditation may generate further questions by community or government that need to be addressed.

b. Consultation, involvement and transparency
To be acceptable to society, investment in carbon biosequestration projects in National Parks must transparently build public value. Targeted transparency policies are designed to change the behaviour of information users and/or disclosures in specified ways. They differ from standards and other government interventions as they create broader choices for response to any issue raised. They may develop where gaps in information create problems for government such as if a carbon sequestration project creates a financial risk to the public or where it may be perceived that private purposes are unduly influencing public decisions (eg management of the National Park) (Fung, Graham, & Weil, 2007). Strategies for information sharing should target citizens rather than governments, but must be underpinned by targeted transparency policies where the responsibilities of organisations for timely delivery specified information and the frequency of its release is understood. It will require disclosure of:

- mandated information from both the participants and citizens perspectives,
- actions taken on feedback received, and finally
- release of information provided by interpretive source in language the community understands.

This approach will require the project participants to identify interested parties at the start, to ensure that expectations are clearly set and their information needs are met, but it must be mindful that only considering those parties that express interest may bias the effectiveness of the transparency policy.

This approach, where information required is understood, developed and disseminated in concurrence with project development, and which can evolve over time, is much more likely to be acceptable than an announcement in a media release from the Minister. It allows users and disclosures of information to make choices about what action they take – they may take no action at all. Furthermore, by demonstrating the public value of the project, it is much more likely to be sustained beyond electoral timeframes. Finally, its effectiveness requires enforcement
of the transparency policy such that those parties that do not meet their obligations are penalized.

7.4 Challengers that Impede Carbon Market Investment in National Parks

For the purpose of the discussion, barriers to implementation have been classified as either ‘technical’ – where a known solution to a problem exists, or ‘adaptive’ – where the responses or solutions to a complex problem will emerge over time from the collective efforts of different players in the response (Heifetz, Grashov, & Linsky, 2009).

7.4.1 Technical challenges
Carbon market investment in revegetation projects in National Parks requires appropriate legislation and regulations to be in place. These requirements include:

1. The capacity to recognise carbon sequestration property rights on Crown Land.
2. The capacity to create carbon credits on Crown Land under carbon trading laws.
3. Regulations that permit carbon projects in National Parks to be treated as additional.

Each of the issues is dealt with separately below.

a. The capacity to recognise carbon sequestration property rights on Crown Land.
In Australia, each State has land property rights legislation enacted which restricts and recognises ownership of land. These laws place restrictions on who can own the land, property rights associated with the land and to what uses the land can be dedicated. These laws usually classify land as freehold, lease hold, native title or crown.

The legislation for recognition of carbon property rights also differs from State to State. Until recently no State in Australia allowed for the recognition of carbon sequestration property rights on Crown Land, however, the State of Victoria has recently passed the Climate Change Act (2011) which permits this to occur. National Parks are Crown Land and by their very nature are owned by the government on behalf of the community. In short, this means that it is now possible for National Parks in Victoria to transfer carbon sequestration property rights under the law.

Other states in Australia currently either do not have the mechanism to create carbon sequestration property rights on Crown Land or explicitly prohibit the creation of carbon sequestration property rights on Crown Land. From discussions with some state government officials, the author understands that several States are currently reviewing this aspect of the legislation.
In summary, the technical challenge of recognising carbon sequestration property rights on Crown Land has been overcome in Victoria but is yet to be resolved in other states but it can be resolved using existing knowhow.

International Perspective

Discussions with officials from the United States Forestry and National Parks Services as well as their equivalents in the United Kingdom revealed that there are currently no mechanisms existing in these jurisdictions that will allow the creation of carbon credits in National Parks. The reasons provided included:

- The political climate in the United States meant that national trading schemes were unlikely to operate in the short term thus there was no imperative to legislate the underlying mechanisms.
- There is an expectation that the management of National Parks predisposes restoration projects or that the trees will grow back on their own regardless (refer Section 6.3).
- In the UK, there is no mechanism for recognition of carbon rights from revegetation projects on private land, let alone Crown Land in National Parks.
- New Zealand law allows for the recognition of carbon rights on privately held land though no examples of transferable carbon sequestration rights held within National Parks are known to the author.

In summary, Australia appears to be unique whereby legal instruments will allow for the recognition of carbon rights within National Parks.

b. The capacity to create carbon credits on Crown Land under carbon trading laws

The Australian Government passed the Carbon Credits (Carbon Farming Initiative) Act 2011 which allows for the creation of tradable carbon credits\(^6\) from approved projects on Crown Land. Under Part 3, Section 27 of the legislation, where the State is not the project originator, the relevant State Crowns Lands Minister must state that the State is not the carbon sequestration rights’ owner and that the State will not deal with the project or allow others to deal with the project in a manner that would disrupt the carbon sequestration right. This means that the Commonwealth legislation allows for the creation of carbon credits for land based sequestration on Crown Land and that those rights can be held by others – a key piece of the puzzle.

c. Regulations that treat carbon projects in National Parks as additional.

The environmental integrity of sequestration projects is embodied in their additionality. The Australian Government has embedded a common practice test for additionality with the CFI legislation: activities are considered additional if they are neither common practice nor activities

\(^6\) Australian Carbon Credit Units (ACCUs) are defined under the CFI legislation as a tradable property right as issued under the legislation that equates to 1(one) CO\(_2\)-e tonne.
which are required by regulation (Department of Climate Change & Energy Efficiency, 2011). As mentioned above, during my trip I was frequently questioned why revegetation projects in National Parks are additional. People generally feel that revegetation projects are conducted by National Park agencies as a matter of course but as shown above in Section 6.3 that is not routinely the case. This was confirmed in discussions with officials both in the United Kingdom and the United States’ National Park services.

It also became apparent during discussions with the project originators in New England (USA) and California that forest carbon sequestration projects in the USA are largely to protect existing vegetation from being cleared. In New England in particular, agricultural land that is abandoned ‘grows back on its own’. This is in significant contrast to the nature of forests in Australia. Greenfleet has undertaken numerous projects in the last 15 years in Australian National Parks where the project land had remained cleared even though stock ceased grazing on the areas many years beforehand; in one case at least 50 years earlier. So neither regrowth of former grazing or cropping land in National Parks, nor the investment in revegetation projects to enhance the revegetation project is, in the author’s view, common practice.

Sadly, the presumption that revegetation projects are core business that routinely occurs has recently been embodied in the Regulation 3.28 of the CFI by the Australian Government. Within the regulations that underpin the operation of CFI, The Department of Climate Change & Energy Efficiency has excluded from the ‘positive list’ plantings on conservation land as they believe that ‘taking action to encourage regeneration is considered to be common practice in these areas’. Inclusion on the ‘positive list’ is a requirement for projects to become eligible for recognition under the CFI. There remains however, the opportunity to submit a methodology or practice for inclusion of the positive list, which, if accepted, will allow revegetation projects in National Parks to become eligible to generate carbon credits under the CFI.

7.4.2 Adaptive challenges
Adaptive leadership is the practice of mobilizing people to tackle tough challenges and thrive (Heifetz, Grashov, & Linsky, 2009). My vision is to mobilize the carbon market to inject funds for biodiverse revegetation projects within Australia’s National Parks. This adaptive challenge requires organizations and people to work together in ways not previously tried. This proposal goes beyond a government outsourcing model and does not dilute the responsibilities to protect those aspects of National Parks and their management that we value. However, allowing private investment in national assets may create suspicion and anger amongst parts of the community. The adaptive challenge is to not merely address those concerns but to ensure that the projects have sufficient bipartisan support to be enduring. It may require experimentation across different projects and management models with careful reflection, learning re-injected into the projects and tactics developed to overcome resistance. To meet the goals of the mission, ‘bitable chunks’ of the tasks can be identified, such as small pilot projects where people learn by doing, so that people remain engaged and feel that the goal can be achieved with persistence.
Some models developed may be found to be unworkable; however adaptive leadership requires experimentation and patience but remains focused on the overall mission.

Finally, people may need to break old loyalties or long held views which impede the success in achieving vision. For example, where a large mining company can invest in biodiverse revegetation projects in National Parks and receive in exchange tradable carbon credits: government officials, park rangers and workers may feel very uncomfortable with this approach. If we can assure these people that the ecology of the park will not be compromised, can they raise further objection to the investment? Or to quote Professor Brad Gentry (Gipton, 2011), “would the objections be the same if the mining company contributed the same amount of money for the same project as an unencumbered donation?” Perhaps these important stakeholders have other valid objections that are not yet understood and these issues need to be fleshed out. So it is that this and other difficult questions can be answered as long as there is commitment to the adaptive challenge: to expand investment in biodiverse revegetation projects within Australia’s National Parks.

8 Conclusions & Recommendations

My vision is to create public value by attracting carbon market investment for biodiverse revegetation projects on cleared areas in Australian National Parks. Scientists confirm that much of our native flora and fauna is already vulnerable to extinction. The impacts of climate change intensify this threat and increased rates of extinction are expected. National Parks are a key pillar of Australia’s natural reserve system for they are ‘safe houses’ that conserve, protect and enhance our natural and cultural values and assets. Many of our National Parks are borne of former grazing and cropping properties which were assumed because they contain large amounts of remnant vegetation with high conservation value. However, there are large areas of land which have been cleared and which have not grown back on their own to date. For example, grazing properties were assumed into the Alpine NP for the Snowy Mountain Hydro Electricity Scheme and though this occurred more than 50 years ago, much of the cleared areas have not grown back on their own. Nor do National Park agencies have the resources for revegetation as this function competes with other important park management objectives including fire management, track and facility maintenance, research and community participation. In summary, Australian native vegetation does routinely not grow back on its own nor are there resources available within existing budgets to allow for this to happen at scale.

Undertaking revegetation projects builds public value in National Parks because they:

• Create habitat for Australia’s flora and fauna in areas already designated as having high ecological value;
• Mitigate climate change by removing greenhouse emissions from the atmosphere;
Create landscape resilience to climate change by improving connectivity and creating buffer zones in areas of high conservation;

- Alleviate fear of transformation of productive agricultural land for carbon forests;
- Expand environmental services as forests help protect waterways, soil, reduce the impacts of salinity and provide pollination and other environmental and cultural services;
- Create low cost abatement for Australia by increasing supply of available carbon;
- Promote investment by private equity in nationally important, public assets;
- Illustrate a scalable working model that can be replicated elsewhere.

Most importantly, recognition of tradable carbon sequestration rights and the subsequent generation of tradeable carbon credit property rights do not, like many other land based property rights, disrupt the ecological performance of the project. In fact, biodiverse revegetation carbon projects can be used to enhance the ecological values of the park.

Tools can be used to explore and understand the political will, capabilities and authority to implement these projects. Existing standards and methodologies applied in management of National Parks and protocols recognised by other community and biodiversity accreditations may also help create greater acceptance. Other approaches, including clear transparency policies which help gain the community’s trust will also be needed to ensure the durability of any project.

As CEO of Greenfleet, I have instigated discussions across National Park agencies, Government Departments, legal consultants, financiers, other industry players and regulators to flesh out an approach. We will continue to explore the opportunity.

There remain technical and adaptive challenges that need to be resolved to ensure the viability and durability of carbon revegetation projects in National Parks. Existing knowhow can be used to address technical issues. The adaptive challenge where the solutions are not well understood, is that this approach is novel in Australia and will bring people and organisations together in ways that they have never worked before. It may break existing loyalties and create anger in parts of the community. Though it is yet uncertain what needs to be done and how it will work, all this can be done. For if the overall vision is clear, and the overall public value generated is consistent with the core mission of National Parks and is seen as worthwhile, then there is the opportunity to tackle the ‘diabolical’ problem of climate change by vastly expanding the investment in biodiversity in Australian National Parks.

So let us begin....
Figure 3 - John F. Kennedy Presidential Library, photo Sara Gipton
Appendix A - Parks Victoria Key Program Objectives 2011

The following list provides an overview of the key program objectives of Parks Victoria in 2011 (Parks Victoria, 2010-11). It shows that little management emphasis is placed on revegetation projects at present giving the significant and competing needs across the parks system.

Natural values management

**Goal:** Sustaining healthy parks in a time of climate change
- Delivering extensive pest plant and animal control programs
- Supporting the delivery of more than 100,000 million litres of environmental water
- Implementing monitoring programs in more than 75 parks
- Collaborating with universities and government research institutions in the Research Partners Program with 29 research projects commencing and 30 continuing.

Visitor services

**Goal:** Providing healthy physical, social and cultural experiences for people
- Improving and developing facilities in parks across the state and around the bay
- Delivering improvements to the Metropolitan Trail Network
- Delivering improvements to the Great Ocean Walk
- Delivering initiatives to encourage ‘at risk’ sections of the community to visit parks.

Cultural values management

**Goals:** Better understanding and working with Traditional Owners to care for Country
- Protecting Victoria’s shared heritage
- Working with Traditional Owners to support co and joint management
- Delivering Cross Cultural Awareness and Learning Exchange programs with Traditional Owners
- Delivering heritage works at various sites across the state
- Restoring the South Channel Fort and re-opening it to visitors and licensed tour operators.

Fire and emergency management

**Goal:** Providing responsive and professional fire and emergency management
- Responding to severe storms that caused significant damage and flooding to 72 parks and reserves and commencing recovery works
- Delivering bushfire protection works on public land on Melbourne’s urban-bushland interface
- Working with DSE to implement an extensive planned burn program across the state
- Delivering the second and final year of bushfire recovery program in areas affected by the Black Saturday bushfires.

Commercial

**Goal:** Growing quality, commercial services to support parks
- Planning for a new chairlift at Arthurs Seat
Working with the Mount Buffalo Community Enterprise regarding the future of the Mount Buffalo Chalet
Redeveloping the Wonthaggi State Coal Mine.

Organisational Performance

Goal: Operating an efficient, effective and sustainable park service

- Improving the information technology network
- Embedding a new finance and people system across the organisation
- Participating in the Resource Smart program to improve the environmental sustainability of operations
- Managing a diverse, skilled and flexible workforce.
10 Glossary

All definitions are taken from the Intergovernmental Panel of Climate Change 4th Assessment Report. (IPCC, 2007)

Adaptation
Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.

Biodiversity is the total diversity of all organisms and ecosystems at various spatial scales (from genes to entire biomes).

Carbon Farming Initiative (CFI) The Carbon Farming Initiative (CFI) allows farmers and land managers to earn carbon credits by storing carbon or reducing greenhouse gas emissions on the land. These credits can then be sold to people and businesses wishing to offset their emissions whether for voluntary or compliance market purposes.

Climate Change ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods’.

Crown Land means land that is the property of the Commonwealth, a State or a Territory; or a statutory authority of the Commonwealth; or a State; or a Territory. For this purpose, it is immaterial whether the land is: subject to a lease or licence; or covered by a reservation, proclamation, dedication, condition, permission or authority, made or conferred by the Commonwealth, the State or the Territory; or covered by the making, amendment or repeal of legislation of the Commonwealth, the State or the Territory under which the whole or a part of the land is to be used for a public purpose or public purposes; or held on trust for the benefit of another person; or subject to native title. Carbon Credits (Carbon Farming Initiative) Act 2011 - Section 5.

Ecosystem is a system of living organisms interacting with each other and their physical environment.

Emission(s) trading is a market-based approach to achieving environmental objectives. It allows those reducing greenhouse gas emissions below their emission cap to use or trade the excess reductions to offset emissions at another source inside or outside the country.

Land-use change refers to a change in the use or management of land by humans, which may lead to a change in land cover.

Mitigation means implementing policies to reduce greenhouse gas emissions and enhance sinks.
**Resilience** is the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.

**Sequestration**
The addition of a substance of concern to a reservoir. The uptake of carbon containing substances, in particular carbon dioxide, is often called (carbon) sequestration.

**Sink** is any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas or aerosol from the atmosphere.

**Standards** Product, technology or performance standards establish minimum requirements for affected products or technologies. Standards impose reductions in greenhouse gas emissions associated with the manufacture or use of the products and/or application of the technology.

**Voluntary Action** Informal programmes, self-commitments and declarations, where the parties (individual companies or groups of companies) entering into the action set their own targets and often do their own monitoring and reporting.

**Vulnerability** is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.
11 Bibliography


