

# Blueprint for a Healthy Environment and a Productive Economy

---

## 2: Using Markets to Conserve Natural Capital

---

WENTWORTH GROUP OF CONCERNED SCIENTISTS

---

June 2015

## THE WENTWORTH GROUP OF CONCERNED SCIENTISTS

**Mr Peter Cosier**, Director, Wentworth Group of Concerned Scientists, former Policy Advisor to the Australian Environment Minister.

**Dr Richard Davis**, hydrologist, former Chief Science Advisor, Australian National Water Commission, former Research Scientist CSIRO Land and Water.

**Prof Tim Flannery FAA**, palaeontologist and writer, Chief Councillor Australian Climate Council, 2007 Australian of the Year.

**Dr Ronnie Harding FEIANZ**, zoologist, Senior Visiting Fellow, Institute of Environmental Studies, University of NSW.

**Dr Terry Hillman AM**, ecologist, Adjunct Professor La Trobe University, former Member Murray-Darling Basin Sustainable Rivers Audit.

**Prof Lesley Hughes**, ecologist, Macquarie University, Councillor Australian Climate Council, Lead Author, Intergovernmental Panel on Climate Change, Working Group II.

**Prof David Karoly**, Professor of Atmospheric Science, University of Melbourne, Member Australian Climate Change Authority, Lead Author Intergovernmental Panel on Climate Change.

**Prof Hugh Possingham FAA**, Professor of Mathematics and Zoology, Centre for Australian Environmental Decision Analysis, University of Queensland.

**Mr Robert Purves AM**, businessman, Director Purves Environmental Fund, President WWF Australia.

**Dr Denis Saunders AM**, ecologist, Editor Pacific Conservation Biology, former Chief Research Scientist, CSIRO.

**Prof Bruce Thom AM, FAIG, FTSE**, geographer, Chair 2001 Australian State of the Environment, former Chair Australian Coast and Climate Change Council.

**Dr John Williams FTSE**, agricultural scientist, former NSW Natural Resources Commissioner, former Chief CSIRO Land and Water.

## IN CONSULTATION WITH

**Dr Guy Fitzhardinge AM**, farmer, Chair Karrkad-Kanjdi Trust, former Member Commonwealth Threatened Species Scientific Committee, former Chair Australian Sustainable Beef Roundtable.

**Prof Quentin Grafton FASSA**, economist, Crawford School of Public Policy, The Australian National University.

**Dr Ken Henry AC, FASSA**, economist, Chair Australian National Institute of Public Policy, former Secretary of The Australian Treasury.

**Mr Max Kitchell**, agricultural scientist, former Director, National Oceans Office, former Director, Tasmanian Parks and Wildlife Service.

**Prof Darryl Low Choy AM, MBE, RFD, FEIANZ**, Professor of Environmental and Landscape Planning, Griffith University.

**Ms Ilona Millar**, environmental lawyer, Special Counsel, Baker and McKenzie Global Environmental Markets.

**Dr Jamie Pittock**, environmental scientist, Fenner School of Environment and Society, The Australian National University.

**The Hon Paul Stein AM, QC**, former Judge, NSW Court of Appeal and NSW Land and Environment Court; former Chair, NSW Environment Protection Authority.

**Mr Martijn Wilder AM**, Partner, Baker and McKenzie, Adjunct Professor Law, ANU, Director Clean Energy Finance Corporation, Director NSW Climate Change Council, Director WWF (Australia), Director The Climate Council.

## ACKNOWLEDGEMENTS

The Wentworth Group of Concerned Scientists gratefully acknowledges the contributions of Paula Steyer, Brad Tucker, Celine Steinfeld and Rachel Walmsley. We also thank the *Purves Environmental Fund* and *The Ian Potter Foundation* for their financial support.

# Five transformative institutional and economic reforms for a healthy environment and a productive economy

Over the next 12 months, the Commonwealth government will be developing major reforms to Australia's federation and taxation system.

The outcomes of these reforms, individually and collectively, will have long-term implications for the way we manage the economy and protect the environment.

These inquiries into Australia's federation and the taxation system present a rare, golden opportunity to restructure the way Australia manages its environment and finances the repair and maintenance of its natural capital.

In November 2014, the Wentworth Group of Concerned Scientists released ***Blueprint for a Healthy Environment and a Productive Economy*** in consultation with experts in economics, land use planning, natural resource management and law.

We describe the magnitude of the environmental challenges Australia faces, we establish the case that it is possible to grow the economy and protect the environment, and we set out five long-term institutional and economic reforms that we believe are essential to achieve this outcome:

## 1. Fix land and water use planning

Develop regional scale land and water use plans that address the cumulative impacts of development on the environment and long-term costs to the economy.

## 2. Use markets

Eliminate fossil fuel subsidies, set a long-term emissions reduction target and introduce an equitable, broad-based land tax to pay farmers, indigenous communities and other landholders to transform the way we manage the Australian landscape.

## 3. Conserve natural capital

Close gaps in our national system of public and private reserves, and commit resources to a long-term plan to conserve our threatened native plants, animals and ecosystems.

## 4. Regionalise management

Embed and give prominence to natural resource management at the regional scale to reconnect people to the land, so that investment decisions are underpinned by an understanding of how landscapes function.

## 5. Create environmental accounts

Establish regional scale, national environmental accounts that monitor the condition of our environmental assets, so that people can make better decisions to support a healthy and productive Australia.

This paper, ***#2 Using markets to conserve natural capital***, is the second in a series of five papers that describe the long-term benefits of these reforms and how each of these reforms can contribute to a healthy environment and a productive economy.

Australia does have a choice.

We can leave our world in a better condition than the one we inherited, and in doing so make Australia a more secure place for future generations.

# Using Markets to Conserve Natural Capital

Many market activities damage the environment, but this is often not reflected in the market price of the goods or services these activities produce.<sup>1</sup> For example, industries will continue to emit excessive greenhouse gases if there is no market value placed on a stable climate system, and farming may cause land degradation if there is no market value placed on ecosystem services provided to society.

Cumulative impacts of individual decisions are often masked within the production of goods and services that people consume, and as a consequence, people are not fully aware of the long-term impact of their actions.

Often these problems arise because many aspects of the environment have public good values – that is, because no individual or company owns them, these values are not priced by the market, and are often used without regard to the costs that may be imposed on others as a consequence.

It is therefore in the public interest for governments to create the economic conditions for these impacts to be incorporated into the cost of doing business, as it already does in the case of environmental pollution.<sup>2</sup>

The only systematic attempt to cost the repair to Australia's degraded natural resources was commissioned over a decade ago by the Australian Conservation Foundation and National Farmers' Federation.<sup>3</sup>

This work estimated that a capital investment in excess of \$100 billion (in 2014 dollars) was required to achieve a range of natural resource management targets.<sup>4</sup>

These targets included direct investments to improve the health of rivers, native vegetation and soil, as well as indirect investments in improved planning, better information systems and extension services for landholders.

This equates to an investment in the order of \$5 billion a year for at least twenty years. By comparison, Commonwealth environmental programs have traditionally invested around \$400 million a year in private and public land conservation, and recent budget cuts have almost halved this investment.<sup>5</sup>

Even if funding is restored to historical levels, the reality is that there is not, and most likely never will be, sufficient funding from governments to repair past damage and maintain Australia's natural capital in a healthy condition (Figure 1).



*Figure 1. A national asset: historic Callyamurra waterhole, Coopers Creek in outback Australia.*

**The Wentworth Group identifies four opportunities to mobilise people and markets at the scale needed to create healthy and productive landscapes:**

- 1. Applying a duty of care, on both private and public land, so that future actions of individuals, businesses and government result in no net long-term harm to the nations' environmental assets;**
- 2. Setting an effective long-term emissions reduction target with a price on carbon to encourage carbon farming to transform the way we farm and manage the Australian landscape;**
- 3. Eliminating fossil fuel subsidies that cause pollution and their replacement with a broad-based land tax to provide a long-term, equitable funding base to pay farmers, indigenous communities and other landholders to restore and maintain environmental assets in a healthy condition to benefit society; and**
- 4. Developing a voluntary, industry-based farm certification, supported by strong and effective regulation based on international standards, so that suppliers, retailers and consumers can have confidence, and farmers can receive financial benefits for managing their farms sustainably.**

# 1. A duty of care to prevent further damage

The Review into Australia's Future Tax System in 2010 (the Henry Tax Review) recognised that significant changes in land management practices are needed to avoid passing irreversible environmental damage onto future generations.

This Review recommended that a central element of this change should be a legislated 'duty of care' on landholders to protect the environment, as proposed by the then Industry Commission in 1998 and House of Representatives in 2001.

This reflects the principle that the community's right to a clean and sustainable environment overrides the rights of individuals to unrestricted use of their private property.<sup>1</sup>

Regulating a duty of care to not damage to land and water resources dates back to the early days of European settlement, when in 1817 Governor Macquarie first legislated to control clearing of native vegetation to protect waterways around Sydney.

Duty of care arrangements which impose obligations on land owners to achieve social objectives also have a long history in Australia's urban areas, such as tree preservation orders and arrangements to preserve architectural heritage.

The arrangements applied to rural and urban areas can also be used to protect other natural resource assets such as soil, native vegetation and fresh water.

Several states have already moved in this direction in relation to specific land management problems, for example by legislating for a duty of care not to clear native vegetation or to control agricultural weeds.

A recent example is the Queensland government's initiative to limit agricultural runoff pollution into the Great Barrier Reef, where commercial sugar cane growers and cattle graziers in priority catchments are obliged to adopt practices that limit the risk of environmental harm and runoff from their farms.<sup>6</sup>

The objective of introducing a statutory environmental duty of care is to prevent future environmental harm. It would not demand remediation of past environmental damage, but it would require land managers, on both private and public land, to take all reasonable and practical steps to prevent further damage.

Some states and territories (Queensland, Victoria, South Australia and the Australian Capital Territory)<sup>7</sup> have already legislated for a general environmental duty of care, though these provisions do not appear to have been operationalised to any great extent due to uncertainty about what standard of care the duty actually imposes on landholders.

The main challenge is to define the standard of care required precisely enough to give land managers clarity and certainty about their obligations. This could be achieved with codes of practice where the applicable standards are developed at a regional scale to reflect environmental and geographical differences.

An environmental duty of care may impose some additional costs on landholders. While this would better reflect the true cost of production, a phased approach to its introduction should be complemented by other instruments, such as farm certification schemes to provide market access and competitive advantage benefits to farmers, and public funding to help landholders transition to the required standard.

Under this approach, services of high environmental value that are beyond the standard of care required (such as remediation of past damage) could be purchased from private landholders by governments through programs that use cost-effective market based instruments such as *BushTender* in Victoria, the Commonwealth Environmental Stewardship program, and the NSW Property Vegetation Plan incentives programs.

The benefit to taxpayers is targeted investment to areas of high conservation significance. The benefit to landholders is that they receive a financial benefit based on the service they offer to the public.

## Actions:

- 1. Communities and businesses should support a statutory duty of care to prevent further damage that would apply to all landholders, on both private and public land, to do no net long-term harm to the nation's land, water, marine and biodiversity assets;**
- 2. Where there are public benefits from improving the condition of other environmental assets, such as salinity mitigation or biodiversity conservation, governments should compensate landholders for those additional costs.**

## 2. Healthy landscapes store more carbon

One of the benefits of a small population living on a large continent is that we have more opportunities to store carbon in vegetation and soils as part of our response to climate change. This also presents Australia with an opportunity to transform the way we manage the Australian landscape - repairing degraded landscapes, restoring river corridors, improving the condition of agricultural soils, and conserving Australia's biodiversity. Healthy landscapes store vast quantities of carbon.

CSIRO has estimated the biophysical potential of the Australian landscape to store carbon.<sup>8</sup> While only a proportion of the total potential is practically achievable, if Australia were to capture 15% of the biophysical potential of our landscape to store carbon, it would offset the equivalent of 25% of Australia's current annual greenhouse gas emissions, every year for the next 40 years.<sup>9</sup>

Capturing carbon and realising multiple benefits requires Australia to commit to a long-term cap on emissions, to provide long-term investment security to landholders, and to create a sufficient carbon price that covers the substantial cost of landscape restoration.<sup>4</sup>

In December 2011, the Australian government introduced a project-based carbon offset certification scheme, the Carbon Farming Initiative. It is one of the broadest and most comprehensive schemes of its type anywhere in the world. Its objectives are to assist in the achievement in Australia's greenhouse gas mitigation obligations in a manner that will protect the environment and improve resilience to the effects of climate change.<sup>10</sup>

Since its introduction, uptake has been low because of the ongoing political uncertainty in Australia's climate change policy, and because carbon in vegetation and soils involves significant establishment costs.<sup>11</sup> This would change if Australia committed to the long-term emissions reduction targets recommended by the Australian Climate Change Authority.<sup>12</sup>

Even when adjusted downwards due to the recent weakening of international carbon permits, a price on carbon in Australia linked to international prices is likely to be close to \$30/tCO<sub>2</sub> in 2020 and over \$50/tCO<sub>2</sub> in 2030.<sup>13</sup> Analysis by the Australian Treasury in 2011 and the Garnaut Review in 2008, and Australia's own experience over the past two decades, shows it is possible to reduce emissions and grow the economy at the same time.



*Figure 2. Carbon farming on the New England tablelands in NSW. Carbon farming benefits production, stores carbon and conserves biodiversity.<sup>14</sup>*

Since 1990, the Australian economy has approximately doubled, while emissions have remained relatively stable, because the emissions intensity of the economy (emissions per dollar of GDP) has halved.<sup>15</sup>

While the first auction of permits under the governments Direct Action plan produced a price of around \$14 per tonne, modeling undertaken by the Australian Climate Change Authority suggests that if Australia were to adopt emissions targets consistent with a commitment to limit global warming to 2 degrees, the price on carbon is likely to range between \$30 and \$100 per tonne within 10 years.<sup>16</sup>

Once a price on carbon exceeds \$30 per tonne, the gross investment potential could be in the order of \$4 billion per annum if Australia were to capture 15% of the biophysical potential of our landscape to store carbon.<sup>9, 11</sup>

While many issues affect whether this potential is converted into reality, the implications are that a price on carbon presents an economic opportunity to use the new carbon economy to stimulate investment and innovation in business, and address a range of other great environmental challenges confronting Australia.

This scale of investment would not only make a significant contribution to Australia's greenhouse emission reductions, it would transform the way we manage the Australian landscape and bring substantial benefits to rural Australia.

The landscape benefits that can be achieved from carbon farming are particularly attractive to landholders in the over-cleared woodlands of southern, south eastern, and south western Australia (Figure 2), the vast rangelands of the outback, as well as indigenous people who manage much of northern Australia for cultural, economic and environmental benefit.

If we use a carbon farming to create conditions where sustainable grazing is economically viable, we will go a long way to restoring the health of the Australian landscape (Figure 3).

There are also risks from an unregulated carbon offsets market. Without complementary land use controls and water accounting arrangements in place, carbon forests could take over large areas of high quality agricultural land and affect water availability. This could create adverse impacts on food and fibre production, and affect regional jobs that are dependent on these industries.

The most effective way to promote the benefits and manage risks of carbon farming is for regional catchment plans to identify where carbon offset projects might be strategically located in a region to deliver multiple benefits. The plans would also identify where carbon forestry might cause adverse impacts on the environment or regional communities.

Commonwealth funding has already been provided to Australia's 54 regional NRM bodies to upgrade their regional plans specifically for this purpose. Once complete, state, territory and local governments could then integrate these priorities into land use planning schemes to zone land according to its suitability for carbon farming.<sup>9</sup>

Governments can also encourage greater private sector and philanthropic investments in achieving multiple benefits, by supporting a 'gold standard' for carbon offsets for those consumers who wish to invest in biodiverse carbon farming.

A gold standard not only provides a framework for the verification of emission reductions and issuance of carbon offsets, it also assesses projects against a set of indicators for multiple benefits including non-climate, environmental and socio-economic benefits.

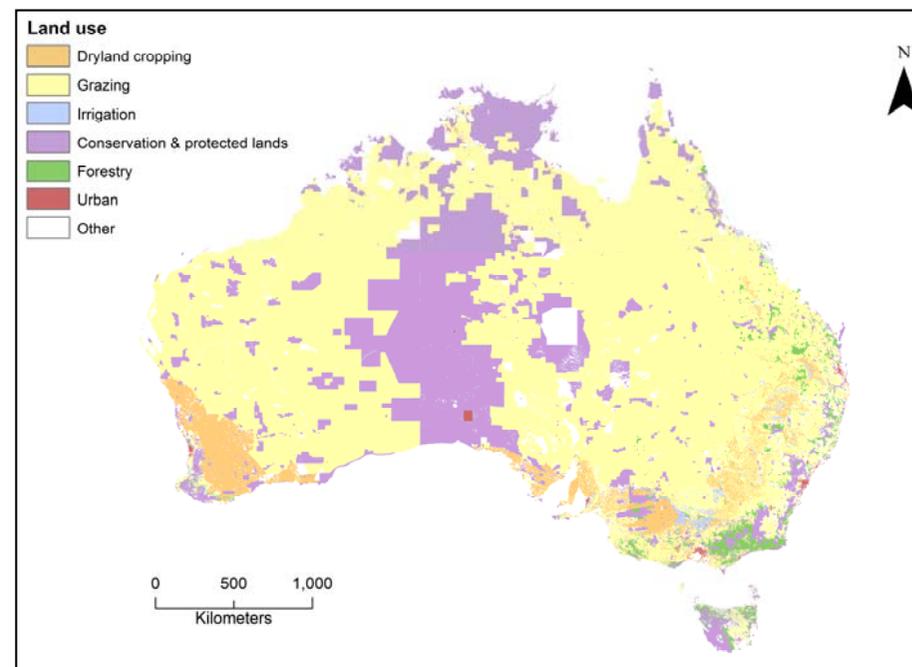


Figure 3. Grazing dominates land use across Australia.<sup>17</sup>

Internationally, Gold Standard credits have consistently traded at an average price of more than double that of the Verified Carbon Units (VCUs) that have been traded on international markets.<sup>18</sup>

#### Actions:

- 1. The Commonwealth government should use a price on carbon to contribute to global efforts to reduce climate change and use carbon farming as a means of financing the restoration of degraded Australian landscapes;**
- 2. Regional catchment plans should be made carbon ready, by identifying where carbon farming will deliver multiple benefits and where activities that might cause adverse impacts on the environment or communities should be restricted; and**
- 3. Governments should encourage greater private sector and philanthropic investments in conservation, by supporting a 'gold standard' for carbon offsets for those consumers who wish to invest in biodiverse carbon farming.**

### 3. Financing the restoration of degraded assets

It is not reasonable to expect landholders to fund the restoration of natural resources that have been degraded by past practices, often with the encouragement of government policies such as over clearing of land (Figure 4), nor is it practical to do so because of the difficulties producers have in passing these costs through the supply chain to consumers.

Where we expect Australian farmers to restore and maintain land in a certain way that is beyond their duty of care, we need to make it profitable for them to provide these services on behalf of the rest of Australia.<sup>19</sup>

People in cities and towns benefit from healthy landscapes. Everyone therefore needs to contribute.

#### A tax system that conserves natural capital

The key to a sustainable economy is removing economic incentives that result in the degradation of environmental assets and instead use markets to make the long-term conservation of natural capital profitable.

The forthcoming Commonwealth review of Australia's taxation system presents such an opportunity.

The Henry Tax Review was the first major review of Australia's tax system since 1975. This review assessed the Australian tax system as a whole, including Commonwealth, state and local taxes, and identified a broad set of taxation arrangements that would best position Australia to deal with the social, economic and environmental challenges for the next forty years.

The Review identified six major challenges and opportunities for designing a future tax system for Australia:<sup>20</sup>

- Demographic change;
- Social expectations;
- The health of our natural environment;
- Increased factor mobility;
- Addressing system weaknesses; and
- The growth of Asia.



*Figure 4. Soil degradation caused by land clearing and salinity.<sup>21</sup>*

An important conclusion of the Review was that economic, social, technological and environmental changes would profoundly affect Australia's tax system in the future, but that these changes would evolve slowly.

The Review did not conclude that the tax system was broken or in crisis, but it did recommend that reform is needed in order to position Australia's tax system for the future.

This will require a number of aspects of the current tax system to be addressed:

- Australia's overall tax levels;
- The distribution of taxes between the Commonwealth, state and territories and local government;
- Improving the efficiency of the tax system;
- Minimising the effects on economic growth; and
- Ensuring that tax settings do not work against environmental goals.

Australia's overall revenue from taxes as a proportion of GDP has declined in recent years making it more difficult to finance the needs of government today and into the future, including public funding for the environment (Figure 5).

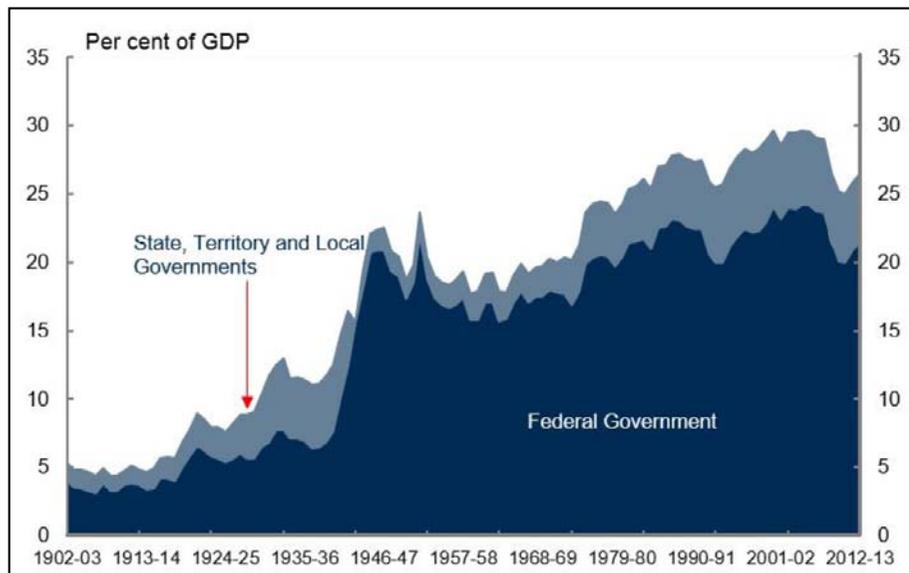


Figure 5. Commonwealth, state, territory and local government taxes since Federation.<sup>22</sup>

Today Australia's total taxation, across all levels of government, is 27 per cent of GDP. This is significantly lower than the OECD average (34 per cent), Canada (44 per cent), the UK (34 per cent) or New Zealand (33 per cent).<sup>22</sup>

There is also a significant disparity between the responsibilities of states, and their limited tax revenues compared to the Commonwealth. This is because the Commonwealth raises around 80 per cent of all tax revenues (Figure 5).

To support economic growth and fund the range of public services that people desire, the tax system should be as efficient as possible. An efficient tax system is one that meets revenue needs while minimising the distorting effects of taxes on private decisions to work, save, consume and invest. These issues were addressed in the 2010 Henry Tax Review.<sup>20</sup>

The current mix of tax collection is not as efficient or effective as it could be. The most efficient taxes are land and resource taxes because they apply to an immobile source of return. The next most efficient taxes are broad-based taxes on consumption, such as the GST, because they do not distort the decision to save or consume, and finally, personal income tax and other taxes on labour. Our tax system is heavily reliant on less efficient taxes such as personal income tax, which

comprises about 40 per cent of all tax revenues and company tax. Even though land taxes are considered to be the most efficient taxes, land taxes including council rates, raise under 3 per cent of GDP across all governments.

Tax reform should also minimise negative effects on economic growth, accepting that almost all taxes distort economic behaviour in one way or another.<sup>23</sup> The Henry Tax Review recommended the most effective way of doing this was reducing company and income tax in the long term, by a commensurate increase in taxation of non-renewable resources and land.

If the tax system is to contribute to the long-term wellbeing of people it should also minimise negative effects on the long-term conservation of natural capital. This requires adopting tax settings that to conserve natural capital and eliminating those that work against environmental goals or generate perverse incentives that undermine environmental policies or regulation.

This can be achieved in two ways:

1. Eliminating fossil fuel subsidies and tax expenditures that cause or fail to mitigate pollution; and
2. Establishing a broad-based land tax to provide a long-term, equitable funding base to pay farmers, indigenous communities and other landholders to restore and maintain environmental assets in a healthy condition to benefit society.

### Eliminating Fossil Fuel Subsidies

No business is immune from the economic impacts of climate change.<sup>24</sup> This is because of the physical reality of climate change impacts, the introduction of regulatory regimes across many countries to limit greenhouse gas emissions to manage these risks, and the consequent changes in international capital flows and investment decision-making.

Subsidising or providing economic incentives for fossil fuels makes no sense because it results in increased costs to the environment, costs we will all have to bear sooner or later.

In Australia, policy reviews intending to map out Australia's economic development, including the Energy White Paper and the Agricultural Competitiveness White Paper make no mention of climate change or its associated risks. But the reality is that Australian business and Australian investors operate in a global business environment exposed to such risks.

The 2006 Stern Review into *The Economics of Climate Change* was the first major international economic report that described how climate change creates the risk of “major disruption to economic and social activity, on a scale similar to those associated with the great wars” and “it will be difficult or impossible to reverse these changes”.<sup>25</sup>

This landmark report estimated that climate change will have an economic impact equivalent to losing at least “five per cent of global gross domestic product each year, now and forever” in a business as usual approach.

Despite warnings that date back a decade, investors and financiers have not until recently taken climate change risk into account in their decision-making. There are a number of reasons for this behaviour. Climate change occurs over decades and investors have much shorter investment timeframes. In addition, political uncertainty and the lack of a stable carbon market has reduced investor confidence in carbon trading.<sup>26</sup>

This is now changing as global institutions, in response to the increasing certainty of the science of climate change,<sup>27</sup> are now signaling the need for economic reform:

- the Secretary-General of the Organisation for Economic Co-operation and Development (OECD) has called for the “complete elimination of emissions to the atmosphere from the combustion of fossil fuels in the second half of the century”;<sup>28</sup>
- the CEO of the International Monetary Fund (IMF) has called on governments to phase out energy subsidies and spur investment in low carbon technologies of the future;<sup>29</sup>
- at the 2014 World Economic Forum, the President of the World Bank publicly supported divestment from carbon intensive assets and put pressure on pension funds to “recognise their fiduciary responsibility to future pension holders who will be affected by decisions made today”;<sup>30</sup> and
- the US Treasury now requires the US to use its votes in international lending institutions such as the World Bank and the Asian Development Bank to block funding for coal projects that are not fitted with carbon capture storage technology.<sup>31</sup>

The Norwegian Sovereign Wealth Fund, which grew by \$200 billion in 2013 alone and owns about one per cent of all global stocks, has now exited investments in 27 gold and coal mines and cut its stakes in others.<sup>32</sup>

As a result of these and other economic forces that are driving change, renewable energy generation technologies are now commercially viable and reaching a point where they can, or will shortly, displace coal and gas power stations. These changes now mean that countries at all levels of income now have the opportunity to build lasting economic growth through low emission development pathways. The capital for these investments is available, and the potential for innovation is vast.<sup>33</sup>

The global investment banking giant Citigroup has called the rapid advancement of these technologies the start of the “age of renewables”, claiming that renewable energy is becoming increasingly cost competitive with natural gas peaking and baseload plants.<sup>34</sup>

The starting point for such a transformation is to phase out subsidies and tax expenditures to fossil fuels that create an economic incentive to pollute, in favour of incentives that reward investments in technologies that contribute to protecting the environment.

The WTO Agreement on Subsidies and Countervailing Measures defines a subsidy as a financial contribution by a government that confers a benefit. A financial contribution arises where for example, a practice involves a direct transfer of funds, or where government revenue that is otherwise due is foregone or not collected (e.g. fiscal incentives such as tax credits). A benefit is conferred when the financial contribution is provided to the recipient on terms that are more favourable than those that could have been obtained from the market.<sup>35</sup>

On the basis of this definition, fossil fuel subsidies and tax expenditures amount to in excess of \$8 billion per annum in Australia, primarily from exemptions that have been provided to some industry sectors through fuel tax credits and reductions to the Commonwealth fuel excise, accelerated depreciation for fossil fuel assets, and the failure to index fuel excise against inflation since 2001.

In the 2010–11 financial year, fuel tax credits benefitted the fossil fuel sector in excess of \$5 billion.<sup>36</sup> The main industry sectors to receive these tax concessions were the mining industry (\$2 billion), transport, postal and warehousing (around \$1 billion), and agriculture, forestry and fishing (around \$600 million).<sup>37</sup>

Since 2001, the indexation of fossil fuels was abolished amidst public concern about high fuel prices and the impact of the GST. This decision has cost tax revenue an estimated \$47 billion (in \$2014).<sup>38</sup>

In June 2014, the Commonwealth Government introduced the Excise Tariff Amendment (Fuel Indexation) Bill which seeks to reintroduce the biannual indexation of fuel excise to changes in the consumer price index (CPI) for all fuels except aviation fuel, crude oil and condensate. If these bills are successful they will generate additional revenue estimated at almost \$1 billion per annum from 2017.<sup>39</sup>

A common criticism about the removal of these subsidies is that they are not subsidies because they are inputs into production. There is no case however, in principle, for taxing something more lightly simply because it is a business input. Land is a business input and yet land taxes are the most efficient of all taxes. Labour is the principal input to business, and yet labour is subject to personal income tax.

A second criticism is that the elimination of these subsidies will cost jobs. Tax subsidies on fossil fuels don't create jobs, they simply mean that there are more jobs in businesses that use a lot of fossil fuels and fewer jobs in businesses that don't use fossil fuels.

The third criticism is that removing the diesel fuel rebate for agriculture is not fair to farmers. It is a common mistake to analyse a single component of the tax system for its impact on various types of business (or families) when what really matters is the impact of the tax system as a whole. Therefore while this may increase the cost of fuel for some farmers, overall this will more than offset by incentives to the farming community to assist them restore degraded land.

Australian governments should commit to designing and implementing a more environmentally friendly tax system that doesn't leave most farmers worse off overall, once opportunities for restoring degraded assets such as carbon farming are taken into account.

Subsidies have supported the development of key industries which are considered to be in the national interest, often to assist their transition to competitiveness and to enable their effective contribution to the national economy. Where subsidies are utilised, they should support those industries that will assist in our transition to a low carbon economy, many of which will become industries of the future, and also help with reducing environmental impacts. This provides a natural economic hedge as our economy transforms. Nowhere is this more obvious than in the support for clean energy, which, by taking advantage of our ability to harness the sun and wind, is now a key part of the global economy and our energy future, bringing with it significant employment growth.

### **A broad-based land tax to finance the restoration of degraded assets**

The Henry tax review described the multiple economic benefits of shifting away from inefficient taxes such as payroll taxes, towards more efficient and effective taxes such as land tax, and the opportunity this provides as a reliable source of revenue to the state and local governments.<sup>40</sup>

Shifting taxes away from mobile taxes towards immobile bases increases efficiency and supports the achievement of higher long-term economic growth. For example, an OECD report found that a 1 per cent switch away from income tax to land tax would improve long-run GDP per capita by 2.5 per cent.<sup>41</sup>

Land tax is already levied by all states and territories (except the Northern Territory) and provides a primary source of revenue for local government. It is an effective mechanism for addressing at least in part, the vertical fiscal imbalance between Commonwealth, state, territory and local government revenue and expenditure that has plagued the federation for decades.

Land taxes are levied according to a progressive rate scale and many states also apply substantial minimum thresholds before any tax is levied.

A land tax is efficient because it should not affect how much land is used because taxes are paid by those who own land regardless of its use. Land is a highly visible and immobile base and the tax is difficult to evade. It is one of the few taxes that if levied on foreigners is not shifted to domestic factors of production.

Land values tend to be correlated with growth in the economy and population, and as such land tax is also well suited to future demographic pressures.

The Henry Tax Review recommended that, given the efficiency benefits of land tax, it should be levied on as broad a base as possible, and for efficiency and equity reasons the rate determined on a per-square-metre basis with a minimum value per square metre threshold below which no land tax would be paid. Thus, a large parcel of land worth \$10 million, but with a low value per square metre might incur no land tax while a small parcel of land also worth \$10 million with a high value per square meter could be liable for a land tax.

As part of broad-based land tax reform, the tax payable with such a land tax would depend entirely on the average value per square metre of land rather than on the aggregate value of the landholdings of owners.

This area-based method for applying land tax presents an opportunity to increase the revenue base from land taxes to finance the repair and maintenance of its natural capital in a manner that efficiently and equitably shares these costs.

It is equitable because the burden to restore degraded land, water, coastal and biodiversity assets is borne more by consumers of those resources rather than producers.

It provides a stable revenue base, opening the possibility for sustainable, cost-effective long-term investments in landscape conservation, rather than relying on ineffective short term grants. Such stability will encourage more landholders to invest in long-term landscape conservation because they will have greater confidence in the security of that revenue source.

The result of the application of this marginal rate scale on a per-square-metre basis with a minimum threshold, is that it would likely result in no tax being paid for land used for primary production.

Tax rate variations could also be scaled according to the environmental damage associated with the particular use of land. This would provide an economic incentive to manage land for both production and environmental conservation, and discourage degradation.

One way to achieve this would be to vary the land tax with the degree of environmental damage associated with the particular form of land use. Rehabilitation of land would attract a negative land tax rate (i.e. a grant); covenanted land would attract a zero land tax rate; and a breach of a statutory duty of care would attract a high tax rate.

There are currently three taxes on land or land transactions in Australia, which combined raise approximately \$30 billion per annum (2007-08 figures<sup>40</sup>):

- stamp duties levied on the transfer of land and buildings, which raise about \$15 billion for State governments;
- local government rates, which raise about \$10 billion; and
- State government land taxes which raise around \$5 billion per annum.

Efficient land tax reform would result in the abolishment of inefficient stamp duties and their replacement with a land tax, as is currently underway in the ACT. A broad-based land tax determined on the average value per square metre of assessed land

that replaced all existing stamp duties could potentially raise additional revenues while improving overall economic efficiency – a win-win situation.

If we suppose that a broad-based land tax replaced existing land taxes and stamp duties and raised a modest 10% more per year in revenues then the additional revenues for states and territories would be at least \$3 billion per annum. This is less than half the amount taxpayers currently pay in subsidies and tax expenditures to the fossil fuel industry, which are estimated to be in the order of \$8 billion per annum.

When combined with a price on carbon and carbon farming, this amount should be sufficient to transform the way we manage the Australian landscape. In combination, this equates to an investment, by both government and the private sector, of between 0.5 and 1.0 per cent of GDP to restore Australia's degraded environmental assets to a healthy condition.

Fossil fuel subsidies and their equivalent belong in the past and are not suited to the needs of a modern economy. It makes no sense to pay for something that will make us worse off, when for less than half the cost we can pay for something that generates benefits for generations.

**Actions: To reduce pollution and drive the significant changes in land management practices at the scale that will lead to a healthy and productive landscape, we propose that:**

- 1. The Commonwealth government should eliminate fossil fuel subsidies and tax expenditures that damage the environment and use part of these savings to provide a financial base to pay farmers and other landholders to repair the environment.**
- 2. A comprehensive and broad-based land tax levied on a per square metre basis rather than on the aggregate holdings of landowners and with a tax-free threshold, should be used to provide a secure and equitable funding base to remediate past damage; and**
- 3. Additional revenue raised by a broad-based land tax would be used to eliminate inefficient stamp duties and also pay farmers and other landholders the costs of remediating past damage to Australia's land, water, coastal and biodiversity assets.**

## 4. Sustainable farming and consumer choice

Markets are inefficient if they are not properly informed or supported by effective public regulation. The transformation to a sustainable economy requires a concerted effort from all sectors to be conscious of our consumption and the impact this consumption is having on our environment. For this transition to occur we need information, delivered in a way that allows consumers to make more effective purchasing decisions, and for farmers to receive a financial reward for managing their land sustainably.

The more people that change their purchasing decisions to sustainable products the greater impact they will have. Life Cycle Assessment and product labelling are assisting consumers make greener choices. We have energy and water efficiency measures for many household consumables (e.g. star energy ratings for electrical appliances and buildings). We need to adopt the same approach to the conservation of natural assets.

A major hurdle that must be overcome is the lack of internalisation of all costs into the price of food production. The fact that the cost of our food rarely includes the cost of maintaining and improving the natural resource base from which it is produced is a clear indicator of market failure. The negative impact on the environment is not costed and, thus, the cost of this damage represents a subsidy as consequence of this market failure. This failure must be addressed to provide agriculture with the market pull for sustainably produced food and fibre. While ecosystem service payments may assist, on their own they will not change the flawed foundations in our food production system.

To assist farmers to farm sustainably and profitably in this country, we must incorporate into the cost of food, fibre and water the hidden subsidies currently borne by the environment.<sup>19</sup> As it stands today, most Australian farmers are unable to capture that added value in the sales of their products.

Despite a huge push at the production end of agriculture to deliver sustainably produced food, there is currently only weak market pull for sustainably produced products.<sup>42</sup> Farmers respond relatively rapidly to price signals either input prices or the prices received for goods produced. In the livestock industry for example, this can affect product mix, product type or the condition in which products are sold. However, with sales other than direct consignment, these price/value signals are lost when buyers seek to minimise the average price of livestock prices.

### Sustainable Farming

Farmers need to receive a financial reward for managing their farms sustainably and suppliers, retailers and consumers need to have confidence that those products satisfy appropriate scientific standards.

A farm is sustainable when environmental assets that are located on the farm are being maintained in a condition that contributes to the overall health and resilience of its surrounding catchment or bioregion.

**Environmental assets** include soil, native vegetation, native fauna, water resources (rivers, aquifers, wetlands, estuaries), and carbon.

Inferior quality livestock fail to be discounted sufficiently while superior quality livestock do not earn the premiums that the product attracts further down the supply chain. The result is that the price signals that producers respond to are distorted and hence the incentive to produce more efficient animals that are more closely aligned to market requirements is lost.

The overall result is that the key drivers that lead to the most efficient uses of environmental resources and allocation of capital are marginalised leading to inefficiencies in production and resource allocation.

Considerable efforts have been undertaken to build food and farm certification systems over the last 20 years, but they have not yet delivered on the aspirations of increased financial rewards or improved market access.

This is a global problem, with producers of sustainably certified products everywhere faced with higher production and escalating costs and complexity of compliance, with marginal economic benefit and little evidence of positive outcomes for land water and biodiversity.<sup>42-44</sup>

Another problem to be resolved is the proliferation of Australian certification schemes that have confused buyers and generated suspicion and a general lack of trust.<sup>45</sup> As a result, these schemes are poorly recognised by international buyers of Australian farm produce, and Australian-only certification schemes cannot be used for compliance in product sourcing without risk of contravening international trade laws.

For private voluntary farm and food certification to have an influential role in the future, it is important that Australians engage in developing international standards to ensure that they accommodate Australian conditions, and that Australian produce meets such requirements as the sourcing standards of multi-national companies and to access emerging Asian markets for high quality produce. The Australian Government could provide funding for peak non-government organisations to participate (e.g. Australian commodity councils of growers, development and environmental organisations).

While private certification has a constructive role, it is only the first element in a strategy to ensure the costs of sustainable production are reflected in the market prices. Certifications which seek to raise ecological and social expectations are more likely to be challenged by those that seek to simply uphold current standards.<sup>44, 46</sup>

The vulnerability of these initiatives to market pressures highlights the need for private regulation to work in tandem with public regulation in enhancing social and environmental sustainability. Public regulations are increasingly seen as essential to reinforce and extend environmental sustainability in production, trade, and consumption arenas around the world.<sup>46</sup>

While voluntary markets, particularly those incorporating concepts of producer-driven 'landscape labeling', have an important role, we believe that a stronger regulatory framework is required that supports these markets so that all food reaching consumers in Australia is produced in ways that minimise damage to the natural resources and environment.<sup>44</sup>

Nationally-consistent and government-approved certification would provide Australian consumers a level of confidence that the food and fibre they consume does minimal damage to ecosystems, in the same way that current regulation provides protection against consuming food contaminated with chemicals, pesticides and harmful organisms.

We propose an Australian standard for sustainable agriculture. This '*Australian Sustainable Agriculture Standard*' would include whole lifecycle analyses of energy, water, land and biodiversity inputs. As with voluntary food and farm certification, both private voluntary systems and a regulatory system would be best built as part of international standards that were consistent with the biophysical nature of food and fibre production in Australia.

Such a standard would apply to both Australian grown and imported products. While it is currently difficult to market food and fibre commodities on world markets where costs to the environment are included in part of the price, this is changing and Australia needs to be at the forefront and a driver of that change. We can do this by building on Australia's reputation for providing high-quality, safe and nutritious food. A first step could be addressing the inconsistencies in food safety regulations between Australian jurisdictions and the barriers faced by domestic producers compared to imports.

While 90% of fresh food is still locally grown, an increasing proportion of processed food is being imported, particularly fruit, vegetables and seafood.<sup>47</sup> Imposing greater domestic regulations without changing the overall foundations of the food system, simply penalises our own 'clean and green' producers while consumers shop elsewhere.

We are not arguing for greater subsidisation of the Australian agricultural industry. We propose, instead, that we continue the evolution with an integrated approach to food where we close the feedback loop with a strong market signal and economic pull for sustainable food and fibre production.

We do not assume it will be simple, but despite the difficulties, we need such an approach if we are to change the trajectory of our food and agricultural systems.

#### **Actions:**

- 1. The Commonwealth government should support the development of voluntary, industry-based sustainable farm certification, so that suppliers, retailers and consumers can have confidence that products satisfy environmental standards, and so that farmers can receive financial benefits for managing their farms sustainably.**
- 2. To be effective there must be greater engagement by Australian agricultural and other non-government organisations in the processes for developing international sustainability standards covering commodities produced in Australia. Government support to build the international standards and facilitate consistent national standards is essential.**
- 3. To complement sustainability standards, it will be essential to build strong and effective public regulation. Public regulations are essential to reinforce and extend environmental sustainability in production, trade, and consumption arenas around the world.**

## Notes and References

1. Australian Treasury, *Australia's future tax system: Report to the Treasurer. Part Two, Volume 2: Detailed Analysis*. 2010: Canberra, ACT.
2. Australian Treasury, *Australia's future tax system: Report to the Treasurer. Part One: Overview*. 2010: Canberra, ACT.
3. Australian Conservation Foundation and National Farmers Federation *Repairing the Country: A National Scenario for Strategic Investment*. 2000: Melbourne and Canberra.
4. The Allen Consulting Group, *Repairing the Country: Leveraging Private Investment. Report prepared for the Business Leaders Roundtable*. 2001.
5. *Portfolio Budget Statements 2014-15. Budget Related Paper No. 1.7. Environment Portfolio*.
6. Queensland Government, *Environmental Protection Act 1994*.
7. *Queensland Environmental Protection Act 1994, Division 1, section 319; Victorian Catchment and Land Protection Act 1994, Part 3, section 20; South Australian Environmental Protection Act 1993, Part 4, section 25; and the ACT Environment Protection Act 1997, Part 3, section 22*.
8. CSIRO, *An Analysis of Greenhouse Gas Mitigation and Carbon Biosequestration Opportunities from Rural Land Use*, S. Eady, et al., Editors. 2009: St Lucia, Queensland.
9. Wentworth Group of Concerned Scientists, *Optimising Carbon in the Australian Landscape*. 2009, [www.wentworthgroup.org/wp-content/uploads/2013/10/Optimising-Carbon-in-the-Australian-Landscape.pdf](http://www.wentworthgroup.org/wp-content/uploads/2013/10/Optimising-Carbon-in-the-Australian-Landscape.pdf).
10. Macintosh, A. and L. Waugh, *An Introduction to the Carbon Farming Initiative: Key Principles and Concepts*, in *CCLP Working Paper Series*. 2012, ANU Centre for Climate Law and Policy.
11. Polglase, P.J., et al., *Potential for forest carbon plantings to offset greenhouse emissions in Australia: economics and constraints to implementation*. *Climatic Change*, 2013: p. 15.
12. Climate Change Authority, *Special review draft report: Australia's future emissions reduction targets*. 2015, Climate Change Authority.
13. Graham, P.W., Brinsmead, T.S., Marendy, P, *efuture sensitivity analysis 2013*. 2013, CSIRO.
14. Photograph courtesy of Southern New England Landcare.
15. Climate Change Authority, *Reducing Australia's Greenhouse Gas Emissions - Targets and Progress review. Final Report*. 2014, Australian Government. p. 128.
16. Climate Change Authority, *Reducing Australia's Greenhouse Gas Emissions - Targets and Progress review. Final Report*. 2014, Australian Government. Fig. 10.1 on page 131.
17. Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), *Catchment Scale Land Use of Australia 2014*, Australian Bureau of Agricultural and Resource Economics and Sciences: Canberra.
18. Peters-Stanley, M. and D. Yin, *Maneuvering the Mosaic: State of the Voluntary Carbon Markets 2013*. 2013, Forest Trends' Ecosystem Marketplace & Bloomberg New Energy Finance. p. 106.
19. Wentworth Group of Concerned Scientists, *Blueprint for a Living Continent*. 2002, [www.wentworthgroup.org/wp-content/uploads/2013/10/Blueprint-for-a-Living-Continent.pdf](http://www.wentworthgroup.org/wp-content/uploads/2013/10/Blueprint-for-a-Living-Continent.pdf).
20. Australian Treasury, *Australia's future tax system: Report to the Treasurer*. 2010: Canberra, ACT.
21. Photograph by Robert Kenton CSIRO.
22. Stewart, M., et al., *A stocktake of the tax system and directions for reform: Five years after the Henry Review*. Australian National University, 2015.
23. Abelson, P., *Public Economics, Principles and Practice*. Vol. 2nd edition. 2008, Sydney: McGraw-Hill.
24. Wilder, M., *The global economic environment and climate change*, in *The economics of climate change*, CEDA, Editor. 2014, Committee for Economic Development of Australia: Melbourne. p. 65.
25. Stern, N., *The economics of climate change: the Stern review*. 2007, Cambridge University Press: Cambridge, UK.
26. Peltz, M., *Climate change and the years of investing dangerously*. Institutional Investor, 7 April, 2014.
27. IPCC, *Summary for Policymakers*, in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, C.B. Field, et al., Editors. 2014, Cambridge University Press: Cambridge, United Kingdom and New York, NY, USA.
28. Gurria, A., *The Climate Challenge: Achieving zero emissions. Lecture by the OECD Secretary-General, London, 9 October 2013*. 2013.
29. Lagarde, C. 'A New Multilateralism for the 21st Century' the Richard Dimpleby Lecture. 3 February 2014; Available from: <https://www.imf.org/external/np/speeches/2014/020314.htm>.
30. Yong Kim, J., *World Bank group President Jim Yong Kim remarks at Davos press conference*, in *The World Economic Forum*. 23 January 2014: Davos.
31. US Department of Treasury, *Guidance for U.S. Positions on Multilateral Development Banks Engaging with Developing Countries on Coal-fired Power Generation*. 2013.
32. Knudsen, C. and G. Fouche, *Norway's sovereign fund halves coal exposure*. Reuters, 28 January, 2014.
33. Calderon, F., J. Oppenheim, and N. Stern, *Better Growth, Better Climate: The New Climate Economy Report: Synthesis Report*. 2014: Washington, DC.
34. Citi Research, *Shale & renewables: a symbiotic relationship*. 2012. p. 88.
35. IEA OPEC OECD and the World Bank, *Analysis of the scope of energy subsidies and suggestions for the G-20 initiative*, in *Joint report prepared for the G-20 Summit Meeting Toronto (Canada), 26-27 June 2010*. 2010: Seoul, Republic of Korea.
36. Colmar Brunton, *Fuel tax credit rate changes, Final report*. 2013, prepared for the Australian Taxation Office. p. 295.

37. ATO. *Fuel tax credits*. Research and statistics 2015; Available from:  
<https://www.ato.gov.au/About-ATO/research-and-statistics/in-detail/general-statistics/compliance-in-focus-2013-14/?page=22#FTC>.
38. Clark, J. and A. Hollis, *Tax-to-GDP ratio - Past and prospective developments*. Economic Roundup, 2013(2).
39. Commonwealth of Australia, *Explanatory Memorandum, Excise Tariff Amendment (Fuel Indexation) Bill 2014 [and associated Bills]*. 2014.
40. Australian Treasury, *Australia's future tax system: Report to the Treasurer. Part Two, Volume 1: Detailed Analysis*. 2010: Canberra, ACT.
41. Johansson, Å., et al., *Tax and Economic Growth*. OECD Economics Working Paper no. 620. 2008, OECD: Paris.
42. Schmidt, C., A. Mussell, and J. Sweetland, *Evaluation of Agri-Food Sustainability Certification Systems*. 2013, George Morris Centre: Guelph, Ontario, Canada.
43. Bhaskaran, S., et al., *Environmentally sustainable food production and marketing*. British Food Journal, 2006. **108**(8): p. 677-690.
44. Williams, J. and F. McKenzie, *Australian Agriculture: Redesigning for Resilience*, in *Ten Commitments: Reshaping the Lucky Country's Environment*, D. Lindenmayer, et al., Editors. 2008, CSIRO Publishing: Melbourne.
45. Buckley, R., *Sustainability: Three reasons for eco-label failure*. Nature, 2013. **500**(7461): p. 151-151.
46. Reynolds, L.T., D. Murray, and A. Heller, *Regulating sustainability in the coffee sector: A comparative analysis of third-party environmental and social certification initiatives*. Agriculture and Human Values, 2007. **24**(2): p. 147-163.
47. DAFF, *Australian Food Statistics 2011-12*. 2013, Department of Agriculture, Fisheries and Forestry: Canberra.