

## **The history and future of Australian markets for ecosystem services on farms.**

**Address to the NFF/AFI Annual Conference, Canberra, 15/10/2019.**

**Mick Keogh**

---

The appropriate role for government regulation in agricultural markets has been, and continues to be, one of the most persistent issue of contention in Australian agriculture, and a key focus of my role at the ACCC.

Almost from the inception of European-style agriculture in Australia, there has been a philosophical divide within the sector between free-marketers and interventionists.

This first emerged in the rancorous disputes over land between the squatters and farmers in the early 1800s, with the squatters adopting a radical free-market approach, and the much smaller-scale farmers seeking strong government intervention.

This philosophical divide persisted in agriculture for most of the first two hundred years post European settlement, with industry and governments waxing and waning in their positions, depending on circumstances.

To some degree, both governments and farmers can be accused of 'capitalising gains and socialising losses'.

During the world wars of the twentieth-century and the Korean War, governments intervened to secure food supplies and limit price increases, much to the chagrin of farmers.

During major droughts and commodity price slumps such as the cattle and wool market crashes of the 1970s, farmers sought government intervention, sometimes to the chagrin of governments.

The result of these philosophical differences was that by the 1980s, there was a mish-mash of state and federal agricultural market regulations.

The Hilmer competition reforms of the early 1990s identified this thicket of market regulations across the sector at both a state and federal level, and recommended their removal.

There were mixed views across the sector about the merits of some of these regulations, largely reflecting the philosophical divide I mentioned earlier.

The large cash carrot dangled in front of state governments to reduce regulation as part of national competition reforms meant the outcome of the competition reviews of these regulations was fairly predictable.

As Paul Keating once observed, 'Never get between a state Premier and a bucket of money.'

From 1997 to 2008, most of the more than 100 regulated marketing systems in the Australian agriculture sector were dismantled, with the last major national change being the removal of the wheat single desk in July 2008.

The underlying principle that drove these reforms was that individual farm owners are in a much better position to make decisions about what to grow and when to sell than governments or marketing boards, and that greater exposure to competition would drive innovation and productivity growth in the sector, enhancing international competitiveness and economic growth.

In addition, there was a cap imposed on water extractions in the Murray Darling Basin in 1995, and the amount of land used for

agriculture peaked in about 1975, and has since declined by around 20% or 100 million hectares as land is transferred to conservation areas.

The removal of market regulations meant that decisions by farmers on the use of increasingly scarce land and water use would be driven principally by market forces, enabling higher value uses to emerge and generate greater economic value for the sector.

The continued growth in the value of output for the sector since that time, and the relatively strong productivity performance of the sector (at least in comparison with other sectors of the Australian economy) are confirmation of the benefits associated with removing regulation and allowing markets to fully develop.

That is not to ignore some of the downsides that have also become evident, and which need to be addressed.

Now, by this stage in my talk some in the audience may be starting to think I have misread the program, and have embarked on a philosophical discussion about the role of governments in agricultural markets, rather than addressing the topic of markets for ecosystem services.

Rest assured that is not the case.

My purpose in recounting the history of deregulation in agricultural markets in Australia is to highlight that the logic that has been applied to the evolution of markets for tradeable agricultural commodities should apply equally to the evolution of markets for environmental services provided by farmers.

To optimise output, reduce regulation as much as possible, and use markets to provide strong incentives and to encourage innovation.

Unfortunately, while the development of markets for tradeable agricultural commodities is generally a quite positive story, the development of markets for ecosystem services associated with agriculture in Australia is not.

In fact, my reason for providing the brief history lesson is to highlight the contrast that exists between the logic and thinking driving agricultural market policy, and the logic and thinking driving environmental policy.

At the very time governments were reducing farm commodity regulations to encourage improved agricultural productivity, they were simultaneously increasing environmental regulations, which often had the opposite effect.

Starting from the NSW State Environmental Planning Policy 46, introduced on 10th August 1995 by then NSW Premier Bob Carr to ban tree clearing on agricultural land, there has been a steady progression of new regulations broadly focused on environmental outcomes associated with agricultural land.

This includes the Queensland Vegetation Management Act of 1999, and the Commonwealth Environmental Protection and Biodiversity Conservation Act of the same year. Most other states and territories either had similar legislation and have since broadened its reach, or have implemented similar legislation.

While the initial focus of these regulations was reducing the risk of 'harm' arising from issues such as erosion and dryland salinity, the EPBC Act had a much broader focus on environmental outcomes, including the protection of biodiversity through protection of threatened species and threatened ecological communities.

In more recent times, issues such as protection of the Great Barrier Reef have also become incorporated into, or the subject of separate regulations.

There have been two broad issues that have emerged from this. The first has been the difficulty in designing regulatory measures that actually achieve the desired outcome without unforeseen and often adverse consequences.

The second has been the growing awareness that the desired outcomes are largely public goods, but they are being achieved at a significant private landholder cost, which is inequitable.

The regulatory design difficulty is evidenced by the fact that these regulations have been under almost constant review since their initial implementation, and are constantly the subject of 'reform' promises by each side of politics.

The inequitable impact of these regulatory measures has been repeatedly highlighted in reviews by ABARES, the Productivity Commission, and state and federal parliamentary inquiries.

These reviews have all concluded that public good outcome being sought result in inequitable cost impositions on landholders, and on regional communities.

It has also been repeatedly noted that, due to these regulations, Australia was able to recognise an estimated 80 million tonnes per annum reduction in greenhouse emissions and hence met its Kyoto obligations, but the cost was borne by a small group of impacted landholders.

As was recognised and accepted more generally by governments after Hilmer, regulations are often a clumsy and inexact way of trying to achieve desired outcomes, come with unexpected adverse consequences, and almost inevitably trigger advocacy and attempts to change them through political influence.

A market-based approach has the potential to avoid these deadweight costs, and at the same time allow more responsive and equitable targeting of desired outcomes.

While Australian governments have on occasions flirted with market-based approaches to achieving environmental, it's fair to observe that such initiatives have generally been short-lived and piecemeal, and fall well short of what is needed to achieve desirable and enduring outcomes.

The role of the ACCC in Australia is often summarised as “making markets work”, and while we are generally focused on conventional markets for tradeable goods and services, an important component of our work involves markets such as energy, telecommunications and more recently water.

In all these markets, governments are heavily involved, and the market often involves intangible products that are created by legislation.

This experience provides a useful perspective on what is required to create and maintain competitive and efficient markets.

In the remainder of my talk I will discuss some of these requirements, and conclude with some observations on several market-based initiatives targeting environmental outcomes that have been quite successful.

Markets are said to be working well when they impose relatively low transaction costs, result in resources being allocated to their most valued use, and provide transparent price signals to participants.

This presents a challenge for markets involving ecosystem services, as they typically involve a monopsony buyer (the Government), and involve products that are difficult or extremely expensive to measure or store.

Experience has helped to identify what elements are needed to ensure good outcomes, and these can be grouped under the broad headings of **product, institutions and operations**.

The **products** being exchanged in ecosystem services markets, such as biodiversity, clean water and air, greenhouse emission mitigation or healthy coral reefs, are often difficult to quantify. As a result, the 'product' being transacted typically involves the seller entering into an undertaking to engage in specific activities that are known to result in the desired environmental outcomes.

Ideally, there will be low scientific uncertainty about the link between the specified activity, and the desired environmental outcome. In addition, it is desirable that the required activity can be clearly defined, and is verifiable.

Economists have also identified that it is important the market involves products that have enforceable property rights, and low sovereign risk.

This is necessary to provide sufficient confidence to both buyers and sellers, and to enable each side of the transaction to reach an agreed price, based on mutually understood risks.

An appropriate **institutional framework** is also essential. Experience has shown that such markets should operate free from even the hint of political influence, and that the agency promoting participation in the market should be separate from the agency that regulates it.

Ideally, the regulatory agency should be largely independent, and have adequate investigatory and enforcement powers.

The preferred way in which a market **operates** will necessarily vary, depending on the product and the dynamics of demand or supply.

Electricity bidding markets involve a forward undertaking to supply generation capacity in five minute slots and are subject to considerable volatility, hence requiring a widely accessible active trading platform.

Environmental services markets, in contrast, typically involve a product with a five to ten year contract period, and hence do not require such dynamic marketplaces.

Nevertheless, both require transparent and predictable market procedures and rules to work well.

Against this background, it is instructive to review two examples of what I think can be considered successful ecosystem services markets.

The first is the Conservation Reserve Program which is operated by the US Department of Agriculture, and which has been in operation in one form or other since 1985.

The long-term goal of the program is to re-establish valuable land cover to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat.

It operates on a competitive tender basis, whereby in response to a tender announcement, farmers voluntarily propose a package of activities they are prepared to undertake on specified areas of land, and the per acre price they require to do so.

The USDA evaluates the environmental benefits each proposal will generate (using an index-based evaluation system) and determines which proposals will be accepted on the basis of cost per units of environmental benefit.

Successful farmers are then required to sign contracts which extend for 10-15 years, with annual payments based on continuing compliance.

A total of nine million hectares is enrolled at present at an average price of around \$45 per hectare.

The Bushtender program run by the Victorian government is quite similar in design, although much more limited in scope.

The advantage of this design from a government perspective is that environmental weightings can be adjusted for each tender, and iterative improvements can be made based on landholder responses and advances in knowledge.

There is no need for the government to try and get environmental weightings perfect before implementing the program, as these can be varied in subsequent tenders if desired environmental outcomes are not being offered by farmers.

The bid-based tender system also allows the government to achieve the maximum benefits per dollar, and to only pay the marginal price required to generate the desired activity.

The legal contracts entered into provide certainty farmers will comply with their obligations. This is also reinforced by an annual payments system, and regular compliance reviews.

A further advantage from a government perspective is the ability to report outcomes in a very transparent and quantified manner, to ensure probity and to reassure taxpayers of the benefits they are receiving.

The second market I think that is worthy of consideration is the Australian Government's Emission Reduction Fund, now renamed the Climate Solutions Fund.

I realise this program is subject to considerable criticism from those who would like to see a full emissions trading scheme or some version of a carbon tax implemented in Australia, but I personally think this program has been a quiet success, and has the potential to deliver much broader benefits than just reduced national greenhouse emissions.

I should also disclose I am a member of the Emissions Reduction Fund Advisory Committee, which is the Committee which makes and reviews the Methodologies that participants in the Climate Solutions Fund can agree to adopt and, if compliant, can use to generate tradeable Australian Carbon Credit Units (ACCUs).

The Climate Solutions Fund provides the opportunity for participants to voluntarily enter into contracts to adopt accredited methodologies that are recognised under greenhouse emission accounting rules as generating internationally tradeable carbon credits.

Those wishing to participate submit a project tender in routinely scheduled auctions, with successful tenderers required to enter into legally-binding contracts which protect both sides of the transaction.

Credits are only issued when projects have been successfully audited, and the independent Clean Energy Regulator has the role of ensuring the integrity of the program, which it does using appropriate enforcement powers.

At the present time there are 473 projects under contract that will generate 192 million tonnes of greenhouse emission abatement at an average price of \$12 per tonne.

Around 80% of contracted projects are being carried out on agricultural land, and are estimated to be delivering around \$250 million per year in drought-proof income for the owners of the projects.

The design of the market is such that the government is achieving this abatement at minimum cost, and the integrity of the scheme meets international standards.

There are two additional points worth noting. The first is that the scheme provides an important foundation should government decide to implement a full emissions trading scheme.

The supply-side of a future carbon market has been thoroughly trialled under this scheme, and the safeguard mechanism that is currently in place for Australia's largest emitters could be utilised in future to create the demand side of the market.

In taking this staged approach, Australia has potentially avoided some of the major shortcomings of other international emission trading schemes.

The second point, which is relevant to the discussion here today, is that the Australian community is obtaining a large windfall environmental gain from this program.

The vegetation retention and re-establishment projects carried out under the Climate Reduction Fund, which are a large proportion of the total projects, simultaneously provide habitat and biodiversity protection benefits over substantial areas, which would not have occurred in the absence of the scheme.

In conclusion, I believe there is much to gain from adopting market-based approaches to improve environmental outcomes in Australia, be that in relation to biodiversity, water, the Great Barrier Reef or reduced greenhouse emissions.

Governments recognised in the mid 1990s that agricultural market regulations imposed considerable deadweight costs, and were generally cumbersome, clumsy, inflexible, and deadened innovation.

The reduction in regulation and the development of mature markets that has occurred since is no doubt a significant factor in the dramatic growth in agricultural output over the last two decades.

I think it is now time to apply this same learning to environmental services.

Increasing market-based incentives and minimising regulation has the potential to generate very significant environmental benefits, and of relevance to current discussions, provide farmers with a drought-proof income stream that would have major benefits in relation to farm business viability.

Insights and learnings from existing programs, and from the work of regulators such as the ACCC, provide a sound basis to be confident that, with appropriate design, market-based approaches will deliver dramatic growth in environmental outcomes, without all the downsides associated with heavy-handed regulation.

Making this change happen will be a major policy challenge for the farm sector, but one that is essential for future agricultural prosperity.