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THE KEY SUSTAINABILITY CHALLENGES FACING AUSTRALIA'S FOOD INDUSTRY

Australian Conservation Foundation

A Submission to the National Food Industry Council and National Food Industry Strategy

Prepared by:

Corey Watts

Sustainable Agriculture Programme Coordinator

c.watts@acfonline.org.au

and

Suzie Brown

Sustainability Officer

s.brown@acfonline.org.au

Australian Conservation Foundation

Level 1, 60 Leicester Street

Carlton VIC 3053

Tel: 03 9345 1111

Fax: 03 9345 1166

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We all love Australia's broad, striking country; the bush, the coastline, the rivers and plains. Australia is blessed... We all enjoy the environmental benefits that our ancient continent provides like the high quality food and wine that we eat and drink, clean water, holidays and fishing trips. It's our national identity, captured on postcards and in picture books.

From *Repairing the Country: An ACF and NFF Joint Vision*, 2000.

Sustainability is not a hairshirt. There are many ways that we can find enjoyment, and even be extravagant, without undue cost to our natural environment. Australia is ideally suited to this notion of 'sustainable extravagance.' [We] have magnificent areas to enjoy, culture to imbibe, sport to be excited by, and food and wine of the highest quality.

From Michael Krockenberger, Peter Kinrade and Rob Thorman, *Natural Advantage: A Blueprint for a Sustainable Australia*, ACF, 2000.

Preface

The Australian Conservation Foundation (ACF) is the country's premier national environmental non-governmental organisation. ACF is an independent, community-based group that, for nearly forty years, has been working to shape government policy, business conduct, and community behaviour to protect the natural environment and promote a sustainable Australia.

ACF works alongside farmers, corporations, industry leaders, scientists, Indigenous peoples, policy makers and other community groups to develop inspirational and workable solutions to some of Australia's biggest environmental problems, including sustainability in our rural landscapes, protecting natural areas and the environmental modernisation of industry.

This submission has been drafted - at short notice - in response to a request for an environmental perspective on Australia's food sector. It outlines the sustainability challenges facing the industry, namely:

- *Showing vision and leadership* – becoming a part of the solution to Australia's environmental crisis.
- *Environmentally modernising the industry* – doing more with less; doing it smarter and cleaner.
- *Repairing our land and rivers* – matching 'clean and green' talk with action on the ground.
- *Protecting Australia's great natural areas* – Sustaining nature for the future of farming and fisheries.
- *Greening the supply chain* – promoting a conserver society and sustainable living.

ACF would welcome the opportunity for ongoing dialogue to more thoroughly explore a sustainability agenda for the nation's food industry.

Vision and Leadership

Australia's food industry continues to make an outstanding contribution to the nation's prosperity and progress. Every year, Australia's producers consistently feed millions of people beyond our shores. The industry fosters pioneering research and innovative developments in production and processing of high quality food products.

ACF recognises the steps government and the food sector have taken to address environmental and consumer concerns. However, as a whole, the industry's development has come with little consideration given to how it fits into the sustainability puzzle and often at considerable cost to the natural environment and future generations. Overall the food industry's progress towards sustainability is slow and fragmented.

We note the current NFIS vision:

By 2007, the Australian food industry will be a significant global player with a sustainable and profitable role in the global food product system.

And the Vision's 'environmental sustainability' theme, which seeks to:

Ensure long term resource availability and responsible management of the environment, energy and waste support industry growth [sic]¹

These are laudable sentiments and ACF is eager to discuss how they will be achieved. Unfortunately, if the space given over to sustainability in the NFIS document is anything to go by, and noting the absence of an National Food Industry Strategy Council (NFIC) member with strong environmental management experience, it is hard not to conclude that the Strategy takes the environment far less seriously than other its themes and objectives.

The NFIS points out that the industry is at a crossroads, concluding that:

If the food industry is to continue as a key industrial sector in Australia, there needs to be a radical shift in thinking, changes in policies by Government and re-invigorated effort by industry.

The courage and determination to accept the challenge to change is nowhere more urgently needed than on the field of ecologically sustainable development.

ACF invites the NFIS and National Food Industry Council to acknowledge the outstanding environmental challenges facing the industry. We urge the government and industry to give substance to the Strategy's vision, to develop a clear roadmap towards sustainability and to resist the temptation simply to bolt on piecemeal responses to the challenge to change.

Australian governments, industries and consumers have all too often failed to recognise the ecological limits to economic development in this fragile and ancient continent. As a result Australia has:

- One of the world's worst records for biodiversity loss and the most recent data shows we continue to lose species and ecosystems: More than 1,500 native species are listed as endangered and the

¹ Commonwealth of Australia (June 2002), *National Food Industry Strategy*, Agriculture, Fisheries and Forestry – Australia, Canberra. p 21.

health of around 3,000 terrestrial ecosystems is failing.² Similarly, two-thirds of native fish species in the Murray-Darling Basin are threatened.

- One of the highest rates of land clearing on the planet, and the highest in the developed world – the majority of land clearing takes place in northern Australia, mostly for food production. Land clearing is currently the single greatest threat to Australia's biodiversity, is the primary cause of dryland salinity, and the third biggest contributor to greenhouse gas emissions³.
- The dubious distinction of having the world's worst land degradation in terms of arable land affected. An area more than twice the size of Tasmania is thought to be at high risk of salinisation by 2050 unless the spread of salinity can be arrested⁴. Salinity destroys food production areas, built infrastructure, water supplies and biodiversity – both on and off-farm.
- Has a greater level of water consumption per person than almost any other country. The vast bulk of this water is consumed in food and fibre production. As a result, over a quarter of Australia's river systems – including the River Murray - are over-worked to the point of breakdown unless the situation is remedied⁵.
- One of the highest per capita rates of greenhouse gas emissions and one of the lowest rating energy efficiency's in the developed world⁶. Atmospheric scientists believe that the latest drought, one of the worst on record, is partly as a result of global climate change that we are causing. Global warming is already here⁷.

A majority of Australians is deeply concerned about their country's environmental future and consistently support and *expect* strong leadership and effective action from government and industry to protect environmental values⁸. Urban and rural Australians feel that it is just as, if not more, important to ensure the health of the environment for future generations than it is to ensure the health of the economy. Indeed, a healthy economy is dependent on a healthy environment. Moreover, Australians are probably more prepared than ever to lend a hand to governments and industry demonstrating environmental leadership.

ACF wants to see an Australian food industry that is innovative, competitive and ecologically sustainable. We want to know that Australians will be producing wholesome and affordable food from healthy land and seascapes a thousand years into the future and beyond. ACF wants to see people on the land taking caring of our country, for all of its values, including the fragile web of living things – our unique biodiversity - as well as food production. We want to see a food industry that creates meaningful and rewarding employment for millions of Australians and contributes to the growth in health, prosperity and sustainability worldwide for generations to come⁹.

² National Land and Water Resources Audit (2002) *Australian Terrestrial Biodiversity Assessment 2002*, NLWRA, Turner ACT.

³ *Australia – State of the Environment 2001*, CSIRO Publishing, www.ea.gov.au/soe

⁴ National Land and Water Resources Audit (2000) *Australian Dryland Salinity Assessment 2000*, NLWRA, Turner ACT.

⁵ National Land and Water Resources Audit (2000) *Australian Water Resources Assessment 2000*, NLWRA, Turner ACT.

⁶ International Energy Agency (IEA) (1998) *Energy Balances of OECD Countries, 1995-96*, OECD.

⁷ Karoly, et al. (2003) *Global Warming Contributes to Australia's Worst Drought*, World-Wide Fund for Nature.

⁸ Smith, L. (2001). *Rural Australian Environments - Visions & Expectations*. Qualitative research report. Prepared by Motive Market Research, Melbourne, for the Australian Conservation Foundation; Australian Research Group (2003) *Results of Polling done by the ARG for the ACF*, Briefing notes. (Available upon request)

⁹ For more information on ACF's vision for a sustainable Australia, see: Krockenberger, M., et al. (2000) *Natural Advantage: A Blueprint for a Sustainable Australia*, Australian Conservation Foundation, Fitzroy, Vic. Available online at www.acfonline.org.au

ACF does not expect the food industry to become ecologically sustainable overnight. We do expect that the industry, with leadership and action on the part of government, via a process of engagement with non-governmental environmental and consumer groups, will set an example for the rest of industry, and develop a comprehensive strategy and deliver meaningful changes that help pave the way towards a sustainable Australia.

Obviously, the food industry cannot be expected to 'carry the can' with regards to tackling the major environmental issues facing Australia. Nevertheless, the industry has an opportunity to become a world leader in the business of sustainability and to tap into emerging markets for demonstrably 'clean and green' food.

The NFIS can start to become a part of the solution to Australia's environmental crisis by:

- **Assessing and accepting the sustainability challenges confronting the industry and respond with a coherent, concerted and substantive effort to make a real difference.**
- **Putting the principles of sustainability at the core of the NFIS, incorporating targets for environmental actions and outcomes, as well as indicators of the industry's progress towards sustainability.**
- **Developing training, information and financial assistance packages to help businesses 'go green' and prove that they have done so to consumers' satisfaction.**
- **Actively encouraging genuine corporate environmental responsibility and making corporations more accountable for their actions to all stakeholders.**
- **Facilitating industry understanding and acceptance of precautionary legislation, smart regulations and sustainable market solutions that protect consumers and the natural environment.**
- **Working with civil society (ie. environmental and consumer NGOs) to find workable solutions to environmental problems.**

A National Sustainability Policy

Australia's National Strategy for Ecologically Sustainable Development (ESD or sustainability) defines the goal of ESD as:

"...development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes upon which life depends."¹⁰

Just as microeconomic reform, embodied in the National Competition Policy, has been a leading driver of reform over the last decade or so. Now at the beginning of the Twenty-First Century, the time is right for a nationally-coordinated sustainability effort to drive concerted action across all sectors, including the nation's food industry.

- **ACF believes that a national food industry strategy and action plan ought to be developed in the context of a national sustainability policy.** The environmental credibility of

¹⁰ Australian Government Publishing Service (1992), *National Strategy for Ecologically Sustainable Development*, Canberra.

contemporary governments depends on the extent to which they follow a coherent pathway of sustainability reform.

Corporate Environmental Responsibility

Despite the fact that much corporate activity continues to have a detrimental impact on the natural environment, there is potential for the private sector to show genuine leadership and action, and play a key role in moving Australia and the world significantly closer to ecological sustainability. Indeed, some firms are making real in-roads into living up to their environmental and social responsibilities, and their traditional bottom line is benefiting as a result.

ACF agrees that corporate Australia needs to:

...achieve [environmental] standards that go beyond compliance with minimum government regulation.¹¹

Good environmental management can enhance a company's competitive advantage, reduce costs, add to share value and lift public profile. However, market distortions, such as (direct and indirect) subsidies to unsustainable industries, failure to implement the polluter pays principle and failure to address environmental costs associated with production, consumption and disposal discriminate against firms that seek to develop sustainable alternatives.

ACF believes that the NFIS should express that:

- **Given the pace at which national and global environmental pressures are growing, civil society expects corporate Australia to move well beyond minimum regulatory compliance.**
- **Corporate Australia has a duty to the wider community to make meaningful commitments to the principles of sustainability and take prompt action to significantly and speedily reduce its ecological footprint.**
- **Environmental management processes linked to independently verified environmental performance beyond legal compliance, together with comprehensive and clear monitoring and reporting, have an essential role to play underpinning 'clean and green' claims.**
- **Public policies should be shaped so as to reward better environmental performance and innovation, mobilise large-scale private investment in sustainable and commercially viable activities, and financial and legal disincentives to irresponsible and accountable behaviour.**

Environmental Modernisation

Achieving a healthy environment and a high performance economy can go hand in hand. Indeed, the country's increasingly poor environmental performance will limit and weaken the competitiveness of our industry, our shared prosperity and the quality of our lives unless we act now to change direction.

Australian industry has often used the imagery of 'clean and green' food production, with little significant substantiation, to gain market advantage. The environmental credibility of the NFIS rests on the extent to which it matches 'clean and green' rhetoric with reality. The development of a national

¹¹ Commonwealth of Australia (June 2002), *National Food Industry Strategy*, Agriculture, Fisheries and Forestry – Australia, Canberra, P 29.

strategy presents an opportunity for the food industry to help turn around the country's deplorable environmental record by embracing the vision of a sustainable Australia.

Perverse Subsidies and the Environmental Costs of Food Production

Although difficult to quantify with precision, the annual cost of land and water deterioration is estimated to be in excess of \$1.4 billion per annum. This figure does not include the environmental costs, or the costs to Australia's tourism and commercial fishing industries. A 2000 study prepared by independent consultants for the National Farmers' Federation and ACF estimates the total cost of natural resource degradation to be around \$2 billion a year, or more than half the nett annual value of farm production in Australia in 1998-99. These costs are rising¹². (This is not to suggest that food production is the only cause of land and water degradation in Australia.)

At present, it is difficult to precisely gauge Australia's suite of perverse environmental subsidies, let alone those that contribute to unsustainability in the food sector. However, according to a 1996 study by the Commonwealth Environment Department, subsidies to the use of natural resources through government payments and revenue foregone totalled at least \$5.7 billion in 1993-94, equal to 4.4 per cent of the total revenue of all Australian governments.¹³ A more recent research paper found that total subsidies to the use of fossil fuels in Australia were worth almost \$9 billion, and ninety-one per cent of these (or over \$8 billion) were likely to increase greenhouse gas emissions above the subsidised level¹⁴.

There is a common and inaccurate perception that food production in Australia is not subsidised. Yet, there are certainly examples of perverse subsidies operating in the food sector: For instance, concessional valuation of livestock and income tax averaging provision have been identified as encouraging natural resource degradation through overstocking, and the diesel fuel rebates scheme contributes to greenhouse pollution¹⁵.

- **ACF proposes that the NFIS include a commitment to an independent nationwide review of all of Australia's perverse environmental subsidies and the development of strategies to replace them with market drivers and incentives to sustainability as appropriate.**

Cutting Greenhouse Pollution

Climate change is a serious threat to food production in Australia and the food industry needs to come to terms with its responsibility to cut its greenhouse pollution. According to the Australian Greenhouse Office, agriculture is responsible for a third of Australia's greenhouse gas emissions. This is a higher proportion than any other OECD country bar New Zealand¹⁶.

¹² Virtual Consulting Group & Griffin NRM (2000) *National Investment in Rural Landscapes: An Investment Scenario*, Report prepared for the National Farmers' Federation & Australian Conservation, with assistance from land and Water Resources R&D Corporation.

¹³ Department of Environment, Sport & Territories (1996) *Subsidies to the use of natural resources*, Environmental Economics Research Paper No.2, Commonwealth of Australia, Canberra.

¹⁴ Reidy, C. (2003) *Subsidies that encourage fossil fuel use in Australia*, Working Paper CR2003/01, Institute for Sustainable Futures, UTS. Sydney.

¹⁵ Cross, J. & Stafford Smith, D.M. (2000) *Taxation Policy Instruments and Sustainable Grazing Management in the Rangelands*, Australian Rangeland Symposium, Broken Hill, 21-24 August, Australian Rangeland Society, pp225-226;

Reidy, C. & Diesendorf, M. (2002) *Financial subsidies to the Australian fossil fuel industry*, Unpublished Manuscript.

¹⁶ AGO, 'Greenhouse and Agriculture', <http://www.greenhouse.gov.au/agriculture/index.html>

CSIRO projections for climate change impacts in Australia suggest a serious threat to food production and its associated communities and businesses, including tourism¹⁷. The heightened risk stems from:

- the sensitivity of crops to various specific growing conditions;
- increased damage from pests and weeds;
- increased incidence of insect-borne animal diseases;
- disruption of ecosystem services (eg. soil fertility, water quality, etc.) as a result of biodiversity decline;
- a higher frequency of extreme and more severe weather events – such as droughts and storms, and;
- reduced reliability of water resources, including substantially reduced flows in rivers like the Murray.

Perhaps the most serious risk is the synergistic interplay of these individual impacts on our agro-ecosystems and the economy. With climate change already upon us, delaying action is not a serious option.

Many large Australian companies evidently now realise that development and uptake of the clean and green technologies required to combat climate change provide significant economic opportunities. For many companies, climate change will, in the absence of a forward risk management strategy, expose them to massive financial risks. Companies in this category include those with a substantial stake in Australia's food industry.

Unfortunately, as a recent AMP Henderson report reveals, only a minority of companies in the food and beverages sector have even discussed the need to manage the risks associated with climate change, let alone implement company-wide strategies to meet the challenge of reducing carbon emissions, energy and resource use¹⁸.

The Intergovernmental Panel on Climate Change (IPCC) in its Third Assessment Report (2001) states that carbon dioxide levels must drop by sixty to eighty percent below 1990 levels within the next few decades if we are to avert catastrophic warming of atmospheric temperatures. This is a long-range goal towards which the food industry and government can make serious and substantive steps now.

ACF believes that the NFIS should include:

- **A commitment to ratification by Australia of the Kyoto Protocol.** ACF recognises that, in themselves, the greenhouse gas reduction targets set under the Protocol are insufficient to ameliorate the threat of global climate change. Nevertheless, the Protocol is a necessary first step without which further international efforts against climate change will prove extremely difficult.
- **National and industry greenhouse gas reduction targets, together with a commitment to enabling legislation that sees Australia's *per capita* emissions drop well below current levels and achieve emission reductions consistent with, or better than that recommended by the Intergovernmental Panel on Climate Change.** Support greenhouse pollution targets along the supply chain and minimum energy and emission standards for infrastructure in the food industry.
- **A commitment to the polluter-pays principle via a revenue-neutral carbon tax or domestic greenhouse pollution-trading framework** (the former would be less costly to implement). Note

¹⁷ CSIRO (2001) *Climate Change Projections and Impacts for Australia*, Bureau of Meteorology, Melbourne; AGO (2002), *Living with Climate Change: An Overview of the Potential Climate Change Impacts on Australia*, Australian Greenhouse Office, Canberra.

¹⁸ Woods, I. (2003) *Climate Change: Where are Australian companies positioned?* Research Paper – January 2003, AMP Henderson Global Investments.

that ACF believes that the majority of greenhouse pollution cuts should be at the source of the emissions rather than in 'off-sets,' although this does not preclude the limited use of greenhouse pollution off-sets to help re-establish woody vegetation cover across cleared farmland.

- **The need to incorporate projected changes in climate into industry planning.** ACF believes, however, that the focus of government and industry should be on avoiding the worst impacts of climate change by substantially reducing greenhouse pollution and not simply relying on adaptive measures.
- **A commitment to restore environmental flows in Australian rivers and to ensure water allocations industry based on the precautionary principle given the projections for decreased precipitation and flows in southern Australian rivers.** (see below *Land and River Repair*).
- **The need to incorporate greenhouse pollution cuts into performance standards, environmental management systems, whole-farm planning and industry/product life-cycle analysis and costing along the supply chain.**
- **The need to invest in more sustainable transport options for the industry, including rail.**
- **Incentives to encourage eco-design and sustainable energy R,D&I, including embedded generation where appropriate and where supply is close to local demand (eg. cogeneration).** Note that the use of agricultural waste as a biofuel is not automatically sustainable and should be assessed and designed to avoid environmental harm or entrenching an unsustainable production system.

Minimising Food Waste

Each year Australia sends more than twenty-one million tonnes of solid waste to landfill and over forty percent - 8.4 million tonnes - is composed of putrescible organic material, including green organic and food waste. This is a significant and unnecessary burden on landfill sites and contributes significantly to greenhouse gas emissions. Removing this material from the waste stream could reduce Australia's emissions by around three percent¹⁹.

From harvesting and processing to wholesaling and retailing, food industries can reduce waste and increase profits by ensuring maximum efficiency in the use of food products. Cleaner production approaches can be used to analyse food wastage and relatively small investments in improving processes will be offset by significant savings in raw materials. For example, many fine food restaurants have tightened up food preparation to minimise wastage of often costly ingredients, thereby maximising their profit margins. Cadbury Schweppes analysed their Ringwood plant's production process and discovered significant wastage in confectionary raw materials. They then invested \$20,000 in solid ingredient recapture, netting an \$80,000 annual saving²⁰.

Original Orange Juice in Melbourne is an excellent example of maximising the value of their raw materials: Once the juice has been extracted, molasses for animal feed and citrus juice for wholesale are extracted from the orange peel. The only waste product of the process is purified water. The

¹⁹ Environment Australia <http://www.ea.gov.au/industry/waste/ieu/index.html#organics-horticulture>

²⁰ Environment Australia <http://www.ea.gov.au/industry/eecp/case-studies/cadbury.html>

investment in the technology required was returned within two years through sales of the new products²¹.

The NFIS should facilitate the uptake of significant opportunities for the food industry to contribute to reduction and diversion of this waste stream including:

- **The development of organic recycling industries.** Food industries including agricultural wholesalers, food processors and manufacturers, food retailers and hospitality and catering enterprises should opt for their organic waste products to be collected by organic recyclers. The landfill costs of disposal can instead be used for the more sustainable process of recycling. Large food wholesaling or processing companies may find opportunities to recycle their organic waste to create a compost stream to be used by their growers, or to sell to other growers. The reduced landfill and transport costs combined with a new income stream represent a significant financial opportunity for such firms.
- **Strategies to identify opportunities to use by-products of food processing for alternative products rather than sending these to landfill.** In many cases the by-products of food production can be valuable products in themselves yet these materials are often sent to landfill. Competitive firms should look for opportunities to extract products from their current waste stream as a new market opportunity, as well as reducing their landfill costs.
- **Targets for waste minimisation at all stages of the food production process.**

Food packaging waste and recycling

Packaging makes up twenty-five to thirty percent of Australia's domestic waste stream – much of this is food packaging²². While the food industry relies on good packaging design for food hygiene and preservation, ease of transport, and as a means of adding marketing attributes to products, the trend towards resource-intensive packaging is neither environmentally nor economically sustainable.

The key issues with current packaging use include:

- Choice of non-recyclable packaging materials resulting in large amounts of packaging waste going to landfill.
- The threat to wildlife habitat and waterways from waste packaging, and the unsightly littering of our public spaces, roadways and bushland. Packaging makes up about seventy-two percent of the litter stream in Australia²³.
- Overly material-intensive packaging, resulting in greenhouse pollution, water wastage and solid waste issues.
- An industry/consumer trend towards increased material-intensity in food packaging eg small convenience packs, fast food packaging, concerns about tampering and hygiene.
- Pressure from retailers for increased packaging to speed up the sales process.
- Lack of real community discussion about sustainable packaging.

²¹ Environment Australia <http://www.ea.gov.au/industry/eecp/case-studies/oj.html>

²² Stephen Moore and Shin-Yu Tu, "Estimate of Packaging Waste in Australia's Waste Stream", CRC for Waste Management and Pollution Control, University of NSW, <http://www.civeng.unsw.edu.au/water/awdb/Awd%20pubn%20PDFfiles/packgepc.pdf>

²³ KAB National Association Inc. (1993) *The Litter Stream - Content, Sources and Dynamics*. A study in Newfoundland estimated that around 100,000 marine mammals were killed annually by entanglement in plastic packaging in that area alone. (<http://www.ec.gc.ca/marine/debris/ENG/facts.htm#A1>)

The major policy instrument to address packaging issues in Australia is the National Packaging Covenant, introduced in 1999. Although nearly 600 companies have signed the Covenant, it is widely viewed as having been ineffective in reducing packaging waste and resource-intensity. This is because companies set their own goals under their Action Plan and the achievement or otherwise of the goals is largely unreported. The goals may also have limited effect in reducing companies' packaging waste – the Covenant does not set expectations for Action Plan outcomes – and in fact many companies' goals have focused on data collection rather than actions to reduce waste. In addition, the regulatory measures for companies who do not sign up have not been utilised to force non-complying companies to address their packaging waste issues.

The food industry needs to address the packaging issue urgently to arrest the growth in unsustainable use of non-recyclable plastics and other materials, as well as the increasing resource intensity of packaging.

ACF believes that the NFIS should include a commitment to:

- **Develop a National Packaging Strategy that actually addresses the above issues and assists the industry to become more efficient and competitive with respect to its packaging use.**
- **Work towards improving packaging design to make the use of materials substantially more efficient at every stage of the supply change, including by:**
 - **Using less resource-intensive packaging; favouring low-embedded-energy and/or lightweight materials.**
 - **Using recycled, biodegradable and recyclable materials wherever possible.**
 - **Designing packaging for maximum re-use by producers and/or consumers.**
 - **Dispense with unnecessary packaging.**
 - **Encourage consumers to take up the zero-packaging option.**
- **Adopt and support extended producer responsibility (EPR) whereby the manufacturer and/or retailer takes responsibility for end-of-product-life waste.** EPR initiatives available to the food industry include:
 - Container deposit schemes to encourage the collection of recyclable materials.
 - Internalising the cost of collection, recycling and reprocessing of packaging materials in the cost of the product to help finance the expansion of recycling systems (ie. advance disposal fees)
 - Product take-back schemes for re-useable packaging and containers, eg. glass soft drink and wine bottles returned to the point of purchase for re-fill.

Trade

ACF favours an open and accountable rules-based approach to managing international trade and investment, one that is democratic and has ecologically sustainable development as its primary objective. The risk that trade and investment liberalisation will destabilise efforts and progress towards sustainability ought to be seriously considered by Australia in trade negotiations. Traditional economic analyses of increased trade and investment must account for commensurate social and environmental costs and benefits.

ACF believes that trade and investment agreements should²⁴:

- **Be founded on and promote the highest standards of environmental protection and performance, and should not result in the lowering of performance standards.**
- **Allow for the prohibition of trade in certain products that represent a bio-security or other environmental threat and products manufactured according to poor environmental standards.**
- **Be developed openly with provision for independent social and environmental assessment.**
- **Promote only ecologically sustainable development of both treaty and non-treaty countries.**
- **Reduce or eliminate government practices and policies that unduly threaten sustainable development.**
- **Uphold the right and responsibility of Australian legislatures to make laws to protect the natural environment and promote sustainability.**
- **Ensure that where an international trade or investment agreement is in conflict with a pre-existing environment agreement, that the latter takes precedence.**
- **Allow for the use of trade bans to enforce environmental agreements where appropriate.**

Land and River Repair

Across Australia, the health of our rural landscapes is declining²⁵ as excess nutrients and chemicals pollute our inland waters, pests and weeds proliferate, soil fertility falls, rivers and their floodplains are deprived of natural flows, dryland salinity spreads, wildlife habitat is fragmented and degrades, native vegetation is cleared at a staggering rate, native species are driven to extinction, the climate changes, and ecosystem services falter.

Sixty-one percent of this ancient and fragile continent is managed primarily for production. Less than ten percent is managed primarily for conservation – far from enough to stem the biodiversity haemorrhage now underway. Clearly the direction Australia's food industry takes in the Twenty-First Century has an enormous bearing on the natural environment.

In one way or another, all of these degrading processes and trends will touch every aspect of the nation's food industry and the communities it supports:

- Consumer demand for food products of high environmental integrity is set to increase, and environmental health will increasingly bear on market access and international relations, including trade. In the longer term this could affect both the domestic and overseas markets for Australian products.

²⁴ See also for more details: Kerr, M. (2003) *Submission to the Department of Foreign Affairs and Trade on the Proposed US-Australia Free Trade Agreement*, ACF, Carlton. www.acfonline.org.au

²⁵ *Australia – State of the Environment 2001*, CSIRO Publishing, www.ea.gov.au/soe

- The monetary cost of land and water degradation, to production and infrastructure, is currently about half the nett annual value of agriculture. The costs to private industry, the public purse and rural communities continue to mount.
- The CSIRO estimates that the average annual dollar contribution of Australia's biodiversity to agriculture is about \$1,327 billion worth of ecosystem services such as water quality, soil fertility, climate management, pest control, pollination and nutrient cycling²⁶. On this basis alone, sustainability should be a cornerstone of any national strategy for food production in Australia.

Many producers make a genuine effort to leave their land in a better state than they inherited it. Understandably, most of these actions focus on natural resource management issues of direct and obvious relevance to food production within the context of a traditional business cycle, such as conserving soil moisture or stock shelter. Most initiatives are dependent on the good will and ecological literacy of the producer, as well as their access to sound environmental information or the odd government grant. Seldom do these actions go 'beyond the farm gate' to address catchment-scale challenges; and seldom do catchment 'big picture' plans translate to management or land use changes in the 'back paddock.'

Initiatives like Landcare and the Natural Heritage Trust, while raising much-needed social capital and awareness, are too heavily reliant on voluntarism, place too high an expectation on producers' altruism with little support and have produced patchy environmental benefits.

At the outset, Australian food production systems have not been designed with the nature of Australian landscapes in mind. All too often, public policies have left the environment out of the equation. There is an urgent need to find both new ways of managing production land in order to deliver environmental as well as commercial benefits, as well as new land uses where current ones are inappropriate. The spread of dryland salinity, for instance, is caused by the removal of deep-rooted native vegetation and its replacement with shallow-rooted annual crops and pastures across much of southern Australia. We need to learn from our past mistakes. Business as usual is not the way forward.

While consistently high quality produce, continued and new market access and national food security are important national goals, the food industry also has a key role to play in rescuing our damaged landscapes and in helping to manage them for *all* of their values, not just food production. Clearly, most Australians want to see producers taking good care of the environment as well as continuing to produce high quality food²⁷.

All Australians have shared in the produce and prosperity generated by the food industry. Producers have a responsibility to ensure their land management practices do not result in irreversible environmental harm and they should not left on their own to carry the costs of environmental repair. All Australians must share the effort now urgently needed to put the industry and our landscapes onto a sustainable heading. Government must lead the effort, engage the community, introduce smart regulations, raise the level of public investment, and enlist the creativity and resources of the private sector.

In 2001, ACF brought together some of Australia's leading companies to form a Business Leaders' Roundtable - which included Southcorp, CSIRO, Elders and Berri - to discuss ways the private sector could be seriously engaged to restore Australia's damaged landscapes to better health.

²⁶ Quoted by Crass, K and Jones, Australian Museum, http://www.austmus.gov.au/biodiversity/factsheets/fs_ecosy.html

²⁷ See, for example, Meade, K (2003) *City verdict on farmers: get greener*, The Australian, 23/7/03, p4 and Smith, L. (2001) *Rural Australian Environments - Visions & Expectations*. Qualitative research report. Prepared by Motive Market Research, Melbourne, for the Australian Conservation Foundation

Allen Consulting were commissioned by the Roundtable and produced the report, *Repairing the Country: Leveraging Private Investment*, which showed that with strong government leadership and an investment of about \$3.6 billion over a decade (largely in revenue foregone) Australian businesses could be encouraged to invest at least \$12.7 billion in environmental repair and green business ventures²⁸. This potential new source of investment into rural and regional Australia is equivalent to over half the current annual rate of investment in agriculture nation-wide and would greatly augment other government and community-based programmes.

ACF believes that the following key actions are needed to pull Australia's land and water ecosystems back from the brink:

- **Save Australia's stressed rivers and protect our remaining wild water ways:**
 - **Return at least 1,500 gigalitres in annual environmental flows to the River Murray over the next decade – allowing the environment its fair share of water.**
 - **Provide substantial funding to promote water-use efficiency, innovation and to support industry adjustment.**
 - **Protect high conservation value river systems through measures such as the Prime Minister's Science, Engineering and Innovation Council proposal for 'heritage river' designations.**
- **Halt all broad-scale clearing of remnant native vegetation and protecting ecologically important areas of regrowth native vegetation via financial assistance to help those producers - predominantly in the northern beef industry - adversely affected by new regulatory measures.**
- **Tackle salinity and biodiversity loss through financial incentives and information to support large-scale, strategic revegetation of cleared land. Leveraging large-scale private sector investment into profitable environmental repair and sustainable land use ventures through a package of market drivers, sustainable commercial venture accreditation and targeted tax concessions.** (see below)
- **Support strong, targeted catchment management to inform effective farm-level conservation and restorative agriculture through whole-farm plans, environmental management systems and other processes.** Work with regional/catchment agencies to enable food producers to effectively contribute to targets for sustainable natural resource management and biodiversity conservation. (see '*Greening the Supply Chain – Environmental Management Systems*' below)
- **Invest more in R&D aimed at enabling producers to integrate their business activities with environmentally beneficial actions, such as the maintenance of ecosystem services.**
- **Educate industry members, investors and consumers on the sustainability challenges facing Australian rural landscapes, and developing information and assistance packages to enable producers to take ownership of the solutions.**

²⁸ Allen Consulting Group (2001) *Repairing the Country: Leveraging Private Investment*, Report to the Business Leaders' Roundtable, Sydney. See also: Virtual Consulting Group & Griffin NRM (2000) *National Investment in Rural Landscapes: An Investment Scenario*, prepared for the National Farmers' Federation and ACF, with assistance from Land & Water Resources R&D Corp., Melbourne.

Protecting Australia's Natural Areas

Australia's incredible diversity of natural areas protect and produce clean water and air, they sustain livelihoods dependent on fisheries and agriculture, they are a key plank in our growing tourism industry, they inspire artists from around the globe, they provide us with space to rest and reflect, they are the storehouses of new medicines, and are great unread libraries of information - the economic value of which is incalculable.

Our natural sea and land areas are also home to Australia's first peoples – their traditional owners - and potentially the nucleus of a new model of sustainable development which links cultural, social, ecological and economic outcomes.

Sadly, we have already lost large parts of our natural environment - the very landscape that defines us as Australians. Little more than eight percent of the Australian landmass is protected primarily for its natural and cultural heritage values, and conservation management in much of this small area is poorly resourced.

- **ACF believes that the NFIS needs to underscore the importance of natural areas protection to the food industry and to promote sympathetic land and water management on enterprises connected to protected areas.**

ACF notes that the commitments to conservation, community engagement and co-operation with Indigenous Peoples recently made by Australia's two largest pastoral companies – AACo and Stanbroke Pastoral Co. – are good examples for others in the food industry and government to follow²⁹.

Seafood and Marine Ecosystems

Australia's oceans are rich in living wealth, rich in cultural importance to Indigenous and non-Indigenous Australians alike and rich in economic values such as fisheries, tourism and shipping – worth about \$50 billion a year to the national economy³⁰.

Beneath the surface of Australia's oceans is a world of vibrant colours and remarkable diversity – over 5,000 fish species, 48 species of marine mammals, 6 species of turtle and 110 sea bird species. Up to eighty-five percent of the marine plants and animals in Australia's southern seas are found nowhere else in the world. Being unique means they are more vulnerable to extinction.

Health professionals are sensibly encouraging the Australians to eat more fish; our fisheries will need to be sustainable if we are to pass on the health benefits of seafood to future generations. Since 1960, world fishing for human consumption has risen from twenty-seven million tonnes per year to ninety-one million tonnes. The World Resources Institute estimates that by 2010 it could reach 120 million tonnes. A recent report in the scientific journal *Nature* found that commercial fishing has left just ten percent of the large fish in the world's oceans, and suggests that drastic commercial catch reductions of at least fifty percent may be necessary to protect some threatened species³¹.

²⁹ <http://www.stanbroke.com.au/Environment.asp> and <http://www.aaco.com.au/html/environmental.htm>

³⁰ Dr Tony Haymet, Director of CSIRO Marine Research, *CSIRO Press release* 'UN Defines Australia: Mostly underwater' - 15 January 2003 (ref 03/02)

³¹ Myers, R and Worm, B, (2003) 'Worldwide Depletion of Predatory Fish Communities', *Nature*, May 15

Every year, an area of seafloor twice the size of all the world's continental shelves is trawled, destroying benthic communities. Some species of birds like the albatross are showing alarming decreases in number as a result of being caught on long-line fishing hooks and drowning.

While Australia is known for its abundance of quality seafood, marine species are under serious threat of over-fishing. Australia's commercial fishing fleet consists of approximately 10,000 vessels spread across Commonwealth, state and territory fisheries³². Australia has a number of high value export fisheries such as abalone, rock lobsters and prawns. However, most Australian fisheries stocks are fully fished with little room for further development.

Less than four percent of Australia's marine environment is conserved in any type of Marine Protected Area, and most of this allows fishing to continue. Even in these areas, stronger policies are needed if we are to provide our marine wildlife with any real sanctuary and sustain our fisheries.

In Australia, the impact of over-fishing is already being felt in diminishing fish populations. In eastern Australia, for instance, the gemfish has been so overfished that the fishery has been forced to close. The population of Australian Orange Roughy stands at around thirty percent of their original levels. These fish can live for around one hundred and fifty years, meaning that it could be well over a century before adult numbers are replenished. The swordfish, another slow growing species, has had half of its breeding females in the North Atlantic wiped out in the past twenty years.

Although fish are a renewable resource, the productivity of a number of Australian fisheries has been declining since the late 1980's³³. The reasons include: overfishing, use of non-selective fishing gear, loss of habitat, pollution, natural disaster and Australia's marine jurisdictional complexity which hinders management of a fish stocks.

Consumer and retailers' choice of fish can make an impact on whether many Australian and global fish species and their habitats survive. Fish should be sourced from fisheries that are sustainable, that employ non-destructive methods of operation, that have good research and management policies, and that do not take fish faster than they can breed.

In particular, management of Australia's fisheries needs to move from a single species approach, to that of an Ecosystem Based Management approach³⁴. The loss of a few key species has the potential to destroy whole marine ecosystems. For instance, if krill were to decline in number significantly, seals, whales, fish, squid, penguins and seabirds which feed on them would be in serious trouble. Reducing by-catch is also a significant challenge to Australian fisheries.

ACF believes that the NFIS needs to encompass improved protection of coastal and marine ecosystems. We believe that government and industry should commit to the following measures and programmes:

- **A serious commitment to whole ecosystem management involving extra research and incorporating measures to manage fisheries in the face of inevitable scientific uncertainty such as no-take marine protected areas.** ACF believes, consistent with consensus the best marine science that twenty-five percent of Australia's marine environment (including fifty percent

³² Zann, LP (ed), (1996) *Our Sea, Our Future – Major Findings of the State of the Marine Environment Report for Australia*, Great Barrier Reef Marine Park Authority for the Department of Environment, Sport and Territories, Ocean Rescue 2000 Program, Canberra.

³³ ABS (2003) 'Forestry and Fishing – Fishing and the environment', *Year Book of Australia 2003*, Australian Bureau of Statistics.

³⁴ For more information see Ward, et al. (2002) *Policy Proposals and Operational Guidance for Ecosystem Based Management of Marine Capture Fisheries*, World Wide Fund for Nature.

of the Great Barrier Reef) should be fully protected with no-take zones and strict marine wildlife protection zones.

- **A major independent Commonwealth inquiry into the sustainability of commercial and recreational fisheries, covering both domestic and export fisheries.** The inquiry's terms of reference should include:
 - Recommendations on effort reduction measures for fisheries that are overfished or in doubt.
 - The impacts of recreational fishing.
 - A review of fisheries access and property rights based on sustainability principles, community engagement in fisheries management and marine native title.
 - The examination of fisheries with substantial latent effort in the form of non- or under utilised licences/permits to fish. ACF argues that these should be rationalised and latent effort removed. The inquiry should review 'effort creep' as a result of improved technology for all fisheries.
 - A review of the capacity of current state-federal fisheries management arrangements to deliver on ecological sustainability.
 - An investigation of the ecological and economic sustainability of regional fisheries and recommendations for appropriate mechanisms of restructuring regional fisheries that are unsustainable.
- **The removal of legal opposition to marine native title should cease and Indigenous rights to marine resources including fisheries.**
- **Fisheries should be annually assessed against world best practice and principles of adaptive management employed to ensure that emerging information is fed into the management process.** All Australian fisheries should be assessed against peer reviewed ecological sustainability criteria. A major investment in ecosystem research will also be required to enable proper assessment of all Commonwealth, state and territory fisheries.
- **The development of national environmental performance standards for aquaculture/mariculture development and management, including open and transparent processes of site selection, environmental assessment and establishment of uniform monitoring requirements that are subject to peer review and audited by an independent unit within government.** Existing aquaculture operations should be reviewed against sustainability criteria and further research effort directed to developing closed systems that do not discharge waste water in to the environment. Aquaculture of species not native to the region of operations should be strongly discouraged unless they can be shown to be environmentally benign. All aquaculture operations should be required to lodge a bond to contribute toward any environmental impacts they may have or rehabilitation work that may be required.

Appropriate Development in Northern Australia

The great sweep of country from the Kimberley to Cape York remains one of the world's last relatively intact tropical savannahs - a unique and irreplaceable natural asset. A new vision for northern Australia needs to be embraced; one that recognises the area's international significance, its importance to the aspirations of many Indigenous Australians and the opportunity for appropriate economic development.

ACF believes that government and the food industry should commit themselves to:

- **Protecting the outstanding natural and cultural heritage values of northern Australia from the expansion of food production systems that damage the integrity of natural areas or are otherwise unsustainable in the north.**
- **Exploring with Indigenous Peoples and other stakeholders appropriate economic development models in northern Australia.**
- **Preventing broadscale land clearing in northern Australia.**

Greening the Supply Chain*Eco-labelling and Environmental Management Systems³⁵*

ACF believes that environmental management systems have a limited but potentially important role to play in the industry's progress towards sustainability. As a process tool for helping an enterprise manager (eg a farmer) to systematically improve their environmental planning they can be very useful. There are also opportunities to use EMS to gather environmental and operational information to assist public agencies (including regional/catchment authorities) and industry in refining regulations and incentives.

However, EMS alone are no guarantee of improved environmental performance; EMS certification itself provides absolutely no information to enable consumers to differentiate between the environmental integrity of various food products. EMS operators that incorporate minimum standards of verifiable environmental performance into their business activities will be those that can legitimately differentiate themselves in the marketplace.

EMS are therefore no substitute for sound environmental and natural resource management policy. EMS is another voluntary approach that faces the same problems and limitations as other voluntary environmental measures. EMS can play a useful complimentary role in monitoring beyond compliance activities, but will not in and of themselves generate those activities.

Accordingly, ACF believes that:

- **Industry and government should acknowledge the inherently limited capacity of EMS and other voluntary tools to deliver meaningful environmental outcomes, especially in the absence of sound policy, including regulatory, information and incentive measures.**
- **Industry and government support only those eco-labels based on EMS or other tools with comprehensive minimum environmental performance standards linked to regional/catchment standards and targets. Policy tools and scientific information need to be developed that enable linkages between on-farm EMS and detailed regional/catchment plans.** At present, food producers that undertake to use an EMS are responsible for prioritising environmental issues. Up to a point this is not unreasonable, since the ideal situation is one in which a producer takes 'ownership' of their environmental management. However, a production enterprise (eg a farm) does not exist in isolation from the landscape in which it sits and contributes

³⁵ See Alexandra, J. and Urwin, N. (2002) *The Ecovine Project: Linking Agricultural Environmental Management Systems with Regional Outcomes*, Report prepared for Southcorp, Land & Water Australia and the ACF by Griffin NRM and Alexandra & Assoc. Melbourne.

to and is affected by landscape-level environmental processes, eg. salinity, biodiversity loss, habitat restoration, etc. In the interim it is important to assist producers and others in the supply chain to understand and comply with their legal environmental responsibilities. In the longer term, however, only those environmental management systems that deliver environmental benefits beyond compliance, verified by independent third parties, should receive public assistance.

- **The development of national standards for environmental accreditation of food production and eco-labelling of food products through engagement with environmental and consumer groups.**

Food Irradiation

ACF believes that it is neither necessary nor desirable to irradiate food to protect the consumer health. There are serious unresolved scientific, health and environmental issues associated with food irradiation and ACF believes Australians have a right to know what is on our table and the possible health effects of irradiated food.

There are also ongoing security concerns surrounding nuclear facilities in Australia. Irradiation facilities often have less security than other nuclear facilities even though they hold significant amounts of radioactive material.

- **For these reasons, ACF opposes food irradiation.**

Genetic Engineering in Food Production

ACF believes that the hazards of genetically engineered (GE) foods currently far outweigh the presumed benefits - to producers, consumers or Australian ecosystems. Whilst there are doubtless potential benefits from the use of genetic engineering in the food industry, in the vast majority of cases these have yet to be shown to outweigh the risks of irreversible harm to humans and the natural environment. The uncertainties and considerable risks of genetic engineering for Australia's food industry and natural environment justify tight precautionary controls. The onus of proof for the benefits and harmlessness rests with industry proponents.

According to a recent British Independent Science Panel Report³⁶:

- GM crops have failed to deliver the promised benefits of higher yields or significant reduction in the use of agri-chemicals.
- GE cropping has resulted in environmental contamination, including the emergence of transgenic herbicide-resistant weeds and pesticide-resistant pests. The evidence suggests that transgenic contamination is unavoidable and that "there can be no co-existence of GE and non-GE crops." This has extreme consequences for Australia's blossoming organic foods industry as well as for the control of environmental pest and weed, and may lead to *increased* dependence on herbicide applications.
- GE foods have not been proven safe for human or animal consumption. Despite a paucity of credible studies, existing findings are cause for general concern as to the safety of GE foods.

³⁶ Independent Science Panel, *The Case for a GM-Free Sustainable World*, released June 15th, 2003, available on-line at <http://www.indsp.org/>

- There is a history of misrepresentation and suppression of scientific evidence against GE crops and foods, especially as regards horizontal gene transfer.

ACF is also concerned that:

- The use of GE in the food industry could lead to limited food ownership, with commercial food production increasingly centralised in the hands of a few dominant players in agri-business holding patents and seeds for GE food and the chemicals needed to produce it.
- Focusing on a highly expensive line of research with little demonstrable benefits may divert R&D investment away from less expensive alternative and sustainable farming methods and food technologies. ACF strongly supports socially and environmentally responsible R&D, and the use of appropriate technology.
- The serious ethical questions associated with the 'patenting' of life, the manipulation of plant and animal (and human) genes are yet to be fully explored in the public realm through free and properly informed discussion.

ACF believes that the NFIS should include commitments to:

- **A minimum five-year freeze of any release of genetically modified organisms into the environment or the food chain. Maintaining this moratorium until such time as GM products are shown to be environmentally benign.**
- **Application of the precautionary principle to the regulation of genetic engineering technologies and a ban on the patenting of genetically-modified organisms (GMOs).**
- **Mandatory labelling of all GE foods, processing aids, food additives and prepared foods.**
- **A marketing strategy for Australian GE-free produce.**
- **A long-term monitoring and assessment programme to keep track of the impact on native species and ecosystems of any GMOs that are released if a permanent freeze is not maintained.**
- **Government and industry support for community education, awareness and discussion programmes, facilitating all points of view.**

Sustainable Use of Synthetic Chemicals in Food Production

ACF believes that the food industry needs to substantially reduce its chemical dependence overall and the use of certain substances in particular, although we have no in-principle objection to the judicious use of synthetic (or indeed naturally occurring) chemicals given proper public scrutiny and regulation. In all cases a precautionary approach is needed.

We acknowledge that Australia's use of many synthetic chemicals is comparatively low, and that some sectors of the food industry have taken noteworthy steps to reduce chemical dependence and minimise the risks. However, this is no reason for the industry to rest on its laurels given that its current 'addiction' to synthetic chemicals remains unsustainable³⁷.

³⁷ Australian Academy of Technological Sciences and Engineering (2002) *Pesticide Use in Australia, A Review* undertaken by the AATSE, AATSE, Parkville, Victoria.

ACF's concerns with the industry's chemical dependence centre on the:

- Unsustainable consumption of non-renewable resources and energy associated with the manufacture, transport and disposal of extremely large quantities of synthetic chemicals.
- Ecological consequences - largely under-researched and often off-site - of even small exposures of particular chemicals, including environmental persistence, pest, weed and disease resistance, lack of target specificity and the loss of natural predators in the field.
- Ongoing concerns for human and wildlife health (including acute toxicity, sub-lethal, bio-accumulative and 'cocktail' effects) associated with particular chemicals, including some regarded as 'safe' for use by Australian authorities (eg atrazine).
- Potential to undermine the market for 'chemical-free' (eg. organic) foods via off-site contamination.
- Diversion of funds and R&D effort away from safer, more sustainable alternatives, including integrated pest, weed and disease management, as well as fertiliser use that is highly precise and environmentally benign.

ACF believes that the NFIS should include commitments to:

- **Clear, comprehensive and mandatory food product labelling of chemicals used in food production and processing.**
- **A comprehensive and effective national monitoring system for pesticide, etc. use and environmental impacts in Australia. ACF supports the development of an adverse experience reporting system for agri-chemicals.**
- **A national strategy for reducing the food industry's dependence on synthetic chemicals, including targets for the uptake of integrated pest and weed management, pesticide reduction and use of 'soft' chemicals.**
- **An upgrade in the level of monitoring of pesticide residues in food, including adequate sample sizes and annual public reporting.**
- **A national impact assessment programme for endocrine disruptors in line with European and North American initiatives.**
- **Precautionary national regulation of the use of industrial waste as fertiliser, and greater restrictions on the use of particular pesticides (eg. endosulphan and organochlorins) and fertilisers in environmentally sensitive areas.**
- **A greater emphasis on preventive approaches to animal health care, including industry targets for reduced antibiotic use.**
- **Increased support for R,D&E of less chemical reliant, more sustainable farming and food processing systems (including, but not limited to, organic and biodynamic farming methods).**

Promoting a Conserver Society

Australia is one of the highest consuming societies in the world, ranking with Canada and the USA in per capita consumption of major resources such as paper, fossil fuels and water. Lifestyle and consumption are major drivers of environmental degradation. Modifying personal consumption patterns is also one of the most powerful ways consumers can 'vote' for a cleaner and greener supply chain and a sustainable society³⁸.

ACF envisages a conserver society without the mindless pursuit of consumption for consumption's sake but nonetheless a prosperous Australia, with an emphasis on qualitative rather than quantitative economic growth, and the careful and equitable use of the country and the globe's limited natural resources. Promoting a conserver ethos and reducing unsustainable consumption will become more and more important as Australia's population grows.

Admittedly, achieving wholesale changes to the consumption patterns of the Australians community is no easy task. Available evidence suggests that education campaigns and appeals to people to 'do the right thing' are insufficient alone to produce lasting changes in behaviour, except for a minority of people. Instead, the strategy that appears to be most successful in promoting behavioural change is one that combines the provision of real alternatives with disincentives to continue current practices. The clearest example of this in the environmental sphere is domestic recycling. The provision of curb-side recycling by most local councils, combined in some cases with higher waste disposal charges has been very effective in promoting recycling. Strategies of this nature are needed across the board in relation to personal consumption and waste.

Government and industry already play a profound role in shaping consumer behaviour and can play a positive part in encouraging sustainable consumption and conserver behaviour.

ACF believes that the NFIS should include:

- **A commitment by government to work with industry to reduce wasteful and unsustainable consumption, and to develop a comprehensive strategy to that end.** Important aspects of the strategy will include environmental taxation reform, the elimination of perverse environmental subsidies, the promotion of green industry and products, corporate environmental responsibility, indicators of real progress and the provision of environmentally-friendly alternatives to consumers; combined with campaigns to promote 'qualitative consumption' and sustainable consumption.
- **A commitment to better informing consumers and rewarding those who choose to support more sustainable producers and products by various means including developing better eco-labelling and ensuring price parity of accredited 'clean and green' products.**
- **Support for independent community-based environmental and consumer groups seeking to raise community awareness and discussion around sustainability in the food chain.**

³⁸ World Resources Institute (1998), *World Resources 1998-99*, Oxford University Press, New York.