



Public Submission to Climate Change Summit

By

Victorian Farmers Federation

August 2008

Contents

1	Forward	3
2	Introduction	4
3	Communication.....	4
4	Mitigation.....	5
5	Innovation	5
6	Climate Risk Management	6
6.1	Water resource management.....	6
6.2	Production risk	7
6.3	Fire risk	7
6.4	Emergency management.....	8
6.5	Financial Tools	8
7	Pest and Disease	8
8	Finance.....	8
8.1	Business Structure	9
9	Infrastructure	9
9.1	Land Use Planning	9
10	Offset Trading	10
11	Conclusion	10

1 Forward

The Victorian Farmers Federation (VFF) is Australia's largest state farmer organisation, and the only recognised, consistent voice on issues affecting rural Victoria.

The VFF represents 19,000 farmer members, representing 15,000 farm enterprises. The VFF consists of an elected Board of Directors, a member representative General Council to set policy and seven commodity groups representing dairy, grains, livestock, horticulture, chicken meat, pigs and egg industries.

Each VFF member is represented locally by one of the 240 VFF branches across the state and through their commodity representatives at local, district, state and national levels. The VFF also represents farmers' views on hundreds of industry and government forums.

There are many views on the subject of global warming and the direct influence of human activity on the earth's climate. While many remain sceptical, the body of science supporting the concept of climate change and the impact of greenhouse gases is substantial.

The farm community is split on the issue of climate change. Many farmers agree with the evidence put forward that human activity is causing a heating of the earth's climate. Others believe that the past few years are not indicative of a climate shift, but rather a function of normal variations in the earth's climate. The Federation drought (1895 – 1902) is given as an example of a previous occurrence of the current long dry.

Despite the variation in views, there is no doubt that governments at all levels are developing policies to deal with climate change, and many of these policies will impact on the farm sector. The farm community must engage in the debates or risk being a bystander as policies with significant implications for the competitiveness and sustainability of farm businesses are developed.



Simon Ramsay
President

2 Introduction

The Victorian Farmers Federation (VFF) welcomes the opportunity to comment on the Victorian Climate Change Summit Paper, considered as a first step in the Victorian Government's Climate Change White Paper process. This submission is based on the VFF's policy position on a framework for investment in agriculture under climate change.

Australian agriculture has always been susceptible to climate variation. Through innovation, farmers have generally managed to remain viable and productive. Government support has been an important element in the productivity and sustainability of Victorian agriculture, providing research and development, extension and incentive programs.

The Victorian agriculture sector has evolved and adapted to normal variability by developing industries, and production systems within these industries, to cope with the Victorian climate. Victorian farmers have adapted their production systems as the knowledge base of environmental impacts has grown. This responsible attitude has:

- provided careful and caring stewardship of Victorian land, water, plant and animal resources;
- underpinned the economic base of rural Victoria; and
- provided a boost to Victoria's economy through strong growth in production efficiency, value adding and exports.

However, climate change is expected to alter climatic conditions and expose agriculture and the land management sector to new, and potentially unprecedented pressures. Climate change models predict changes in temperature and rainfall patterns and an increase in both frequency and severity of extreme weather events.

Droughts, storms, floods, fire, hail and frosts can all have short term and significant consequences on Victoria's food and fibre production and on the economic health of local, regional, state and national economies. While agriculture has adapted to manage the risk of these types of events:

- any acceleration in their frequency will reduce the window of opportunity for rural communities to recover before the next event;
- agricultural production itself is very susceptible to increased adverse weather events;
- there is a limit to the capacity of individual farmers to manage those increased risks; and
- long-term planning is complicated by the extreme difficulty in predicting climate outcomes accurately. Rainfall predictions on a regional and seasonal basis are extremely broad, and their (in)accuracy does not enable detailed planning to address potential agricultural, human or environmental impacts.

In these circumstances, successful Government programs will be vital in assisting farmers and their communities to adapt.

A partnership and incentive approach by Government will have the most success in structuring agriculture to deal with the challenges to be faced. A regulatory approach, which may be pursued by some sections of the community, would ultimately prove counter productive by stifling innovation and damaging the economic base of Victoria's rural communities.

3 Communication

Information to assist farmers to make timely decisions on the potential impacts of climate change will be essential to agriculture preparing for, and adapting to changes in climate. Substantial work by large numbers of organizations on climate change is taking place. Keeping informed of the latest and most credible predictions, estimates, or actions is a difficult task for individuals given the volume of reports and comments.

Through the extension services historically provided by departments such as Primary Industries, Government has the resources and expertise to assist individuals to identify and utilise the most relevant information. The better informed the industry, the more likely that appropriate decisions will be made in implementing actions in response to possible impacts.

Invest in a communication strategy to ensure farmers are able to access the most relevant and credible information on climate change.

4 Mitigation

The VFF supports the current national proposal for agriculture to not be a full participant in an emissions scheme. Support for this position is based on the difficult and imprecise ability to measure agriculture's net emissions, and importantly the impact this would have on Victorian agriculture's competitiveness unless similar costs were imposed on producers in countries producing competing products.

Effort should be spent on strategies that reduce agricultural greenhouse gas emissions without affecting international competitiveness. Research into plant species, crops systems, fertiliser application, soil management, animal nutrition etc are just some examples of areas where research may provide low cost solutions with a positive effect on production.

Invest in research and extension of flexible systems and technology that can reduce farm emissions without affecting competitiveness.

5 Innovation

Australian agriculture is primarily a climate zonal production system.¹ In general, industries and their technologies are geared to maximize production from the usable portion of long term average rainfall. Despite factors such as soil types and frequency of frosts, Victorian agriculture is driven primarily by average rainfall and rain patterns.

The recently released CSIRO report² stated:

As with temperature, the report indicates that rainfall projections for later in the century are more dependent on greenhouse gas emissions. Under a low emission scenario in 2070, the best estimate of rainfall decrease is 7.5 per cent. Under a high emission scenario the best estimate is a decrease of 10 per cent.

The report indicates that although there will be more dry days, when it does rain, rainfall is likely to be more intense.

Other findings include;

- *droughts are likely to become more frequent, particularly in the south-west;*
- *evaporation rates are likely to increase, particularly in the north and east;*
- *high-fire-danger weather is likely to increase in the south-east.*

Such changes will put additional pressure on agricultural production systems and rural communities. If innovations in plant varieties, infrastructure and technologies cannot keep pace with changes in climate, whole regional agricultural systems may be forced to adjust. This will pose challenges to farmers and Government assistance will be needed.

The research and development into new plant varieties and production technology is a feature which allowed Australian agriculture to spread and operate across diverse climate zones successfully. An increased focus on adopting and implementing advances in the range of technologies applicable to agriculture is needed. These include:

¹ With the exception of irrigation and some intensive industries where infrastructure development has allowed for the crop and animal systems to be located in areas that would have otherwise been difficult.

² CSIRO (2007) *Climate Change in Australia*

- plant breeding;
- fertilizer use;
- soil;
- animal breeds;
- new crops;
- animal feeding systems;
- irrigation systems; and
- water storage.
- Biofuel production

Invest in, and remove barriers to research and development into technologies and systems that will assist farmers successfully adapt to a changing climate.

6 Climate Risk Management

There seems to be a range of views, some less pessimistic than others, on the changes in average rain and temperature, however most credible authorities suggest a climate of more extremes is being created. The projected changes in average temperature and rainfall patterns are of concern and require an adaptive response to allow agricultural systems and communities to minimise the impacts. While these shifts in average are of great concern the larger threat is an increase in variability away from long term averages, and the unpredictability of these variations.

With increased variability comes increased risk, thus increased risk management strategies must be developed where existing tools are likely to fail, or are not currently feasible. The adoption of these new and existing risk management tools must be facilitated by targeted Government support and action to remove existing barriers.

- Declining terms of trade in agriculture have led to an increase in capital intensive systems which provide a higher return in favourable seasons. With less predictability and more severe and frequent production damaging events, the level of input (capital and operating) a farmer should sensibly risk, will change.
- Similarly, in irrigation industries the threat of low allocations over prolonged periods will necessitate changes to the amount of capital risked.

6.1 Water resource management

Management of water resources is likely to be a critical issue for climate risk management. The current state of water infrastructure leads to significant losses of the total amount of water captured both for domestic and commercial use. The capacity to improve this infrastructure must be explored.

Increased capacity for water trading will not increase total water availability. If rainfall decreases significantly, trade will see a greater level of conflict between competing users of water.

Invest in water infrastructure to minimize losses through seepage and evaporation. Invest in the development of efficient on farm irrigation production systems including exploration of new crops as well as advanced irrigation techniques.

Changes in rainfall patterns may also require a re-analysis of stream and river management. As rainfall becomes concentrated into fewer, more severe events, additional capacity to moderate floods and capture water for release through longer dry periods and more effectively manage stream flows will provide environmental and productive benefits.

Invest in dams where the impact of floods resulting from a increase in severe weather events can be moderated and flows stored for release through drier periods.

Increasing the use of recycled water will be an important action to make the most of a resource that is becoming more scarce. Recycled water has provided opportunities in some areas for the development and security of industries.

The pricing, reliability and quality of recycled water has impeded its use. It is important that all the factors and benefits of increased production and less environmental outfall are considered in the decisions to invest in recycled water projects and in establishing pricing.

Invest in extensive recycled water projects to maximize the benefit obtainable from the use of available water.

Reliable water for stock is crucial. Without a capacity to capture, store and distribute water for stock, production would be impossible in large sections of Victoria's livestock zones.

In areas where catchment dams are the only source of stock water, farms will face an increased risk of running out of water. In areas relying on bore water, changing rainfall patterns may change the capacity for aquifers to recharge.

*Invest in expertise in managing the State's groundwater resources.
Invest in programs that facilitate more efficient use of on farm captured water.
This should include removing the barriers to the construction of the most efficient on farm water storage infrastructure.*

6.2 Production risk

Greater rainfall variability will pose challenges both for extensive and intensive livestock industries. Extensive industries may face significant variability in carrying capacity from year to year, whilst intensive industries may face greater variation in the difficulty and cost of obtaining fodder and grain supplies.

Invest in programs that facilitate the ability of production systems to level out any increase in the variability of carrying capacity and fodder production.

An increase in the frequency and scale of weather events will pose threats to annual and perennial crops through storm, flood, and hail damage. An increase in extreme temperature variations will raise the potential for severe heat or severe cold events causing widespread damage to annual production.

For those crops grown on large land areas the capacity to protect crops from these types of event through physical barriers is small. Insurance products and plant breeding offer the most potential to assist farmers deal with these risks.

In the more intensive production industries where the geographic scale of properties is not as large, systems such as netting have been used to protect crops from weather events. However an increase in intensity of these events may require a redesign of physical protection systems.

Invest in programs to improve the security of crop production in the event of an increase in frequency and intensity of extreme weather events.

6.3 Fire risk

An increase in large and destructive fires is also projected. Farms, particularly those adjacent to State and National parks, will be at increased threat of fire damage in the absence of a concerted effort by land managers to mitigate these fire hazards. It is unreasonable to expect one sector of the community to face a greater risk simply because they live and operate adjacent to public land.

Invest in programs to minimise and mitigate increased fire risk.

6.4 Emergency management

Reasonable response capacity for natural disasters such as storms, floods and fires requires placement of infrastructure near those areas where it will be needed. Factors to be considered include:

- Changes in frequency and severity of such events; and
- Possible or likely changes in population and settlement.

It may be that some areas will have fewer human and physical emergency resources, placing them at greater risk.

Invest in programs that increase the capacity of local communities to prepare for emergency events.
Invest in R&D to maximize the resilience of the built and natural environment.
Invest in programs that allow for an increase in the scale, and rapidity of emergency service response.

6.5 Financial Tools

While farmers will take steps to manage their risks, it is important that Government helps to develop and facilitate risk management strategies. This will include examining the tax treatment of risk management tools and regulations which impede or prevent farmers taking steps to increase their capacity to manage risk.

Invest in review of tax and regulatory impediments to risk management strategies.

7 Pest and Disease

Climate change may also bring an increase in threat with pest plants, animals and diseases including potential introduction of new threats due to the changing climate. These could damage both agricultural production and native flora and fauna. The agricultural sector must be in a position to identify potential threats as well as deal with any increase in problems with established pest and diseases.

An approach that facilitates Government research and development by working with, and supporting community groups and individuals to avoid and/or manage these biosecurity risks will be more successful than each sector working in isolation.

Invest in biosecurity programs to prevent and manage incursions of new and exotic pests and diseases and increase efforts to deal with established pests and diseases.

8 Finance

All industries rely on the financial sector to provide capital and operational finance and the insurance sector to provide risk management tools. The approach taken by financial and insurance institutions to an industry that is exposed more than any other to a changing climate will be of vital importance to the viability of agriculture. A change in the security of agricultural production may lead to a change in the willingness to invest in the sector, or the costs required for any investment and/or service.

Invest in an engagement with these institutions as well as an exploration of possible Government policy to ensure agriculture maintains access to adequate financial and insurance products.

8.1 Business Structure

Changes in farm business structures and ownership of the resource may also be driven by the effects of a changing climate. Some industries have already seen a growth in corporate and non-farmer investment in properties and production. There are also examples where the management expertise of a farm is separate from the ownership of the production resource.

If seasonal production becomes less secure, the capacity to spread risk through new and novel business structure will assist farm enterprises manage these risks. New approaches could also be used to leverage new entrants into agriculture through the provision of management expertise.

However, history would suggest that the majority of farms will continue in the foreseeable future to be family owned and operated and facilitating appropriate businesses structure for these enterprise will be important.

Invest in programs to develop farm business structures that facilitate an ability for farm businesses to manage increased production risk.

9 Infrastructure

Agriculture relies heavily on on-farm and off-farm infrastructure such as buildings, energy supply, telecommunications, water storage, roads, bridges, railways, fencing, ports etc. More severe rainfall events, increased temperatures, and more severe storms will require a design and construction response if infrastructure is to be constructed and maintained at a standard that prevents loss through climate damage and interruptions in the supply chain.

The security of service infrastructure is vital in many agriculture industries. For example prolonged interruption to the electricity supply poses significant challenges for the dairy horticulture and intensive industries. An increase in duration and/or frequency of interruption may require farms implementing expensive back-up systems to protect production.

Invest in infrastructure design and construction that minimizes supply chain, or essential service interruptions.

9.1 Land Use Planning

Protection of valuable agricultural land will increase in importance, particularly if climate change reduces the available area of arable and productive land.

- Possible increases in extreme weather events such as flood, storm and fire should be taken into account in deciding whether land is suitable for subdivision. However, reviews at local levels will be best conducted once climate models can provide more precise projections.
- The risk of reduced arable and productive land suggests that such land should be kept as agricultural land. Changes in rating systems may be required to achieve this.

Planning decisions in the meantime will need to be based on the best information available. The establishment of an effective and timely method of communicating developments in predictive models to planning decision makers will be an important step in managing these risks.

Invest in programs that provide land use planners the best possible information to ensure appropriate development and the protection of valuable arable land.

10 Offset Trading

The establishment of a national offset trading scheme is proposed to commence in 2010. A trading scheme can offer benefits and risk to agricultural production and opens up a potential new revenue sources for farmers.

However, there is also a risk that if the settings in a scheme are set inappropriately a significant shift from food production to an emissions sink may occur. This would have consequences on rural communities and down steam food and fibre processors.

The role at the state level should be to explore the options for emissions offsets, including emission sinks being incorporated into food and fibre production systems as part of an integrated production system, rather than replacing them.

Invest into exploration of efficient and effective emission sinks as an addition to food and fibre production.

11 Conclusion

The extended dry period that has culminated in the drought of the past two seasons has weakened the capacity of the farm sector. Financial reserves have been drained through lost production and the cost of maintaining businesses, perhaps more significant has been the damage to confidence many have in their long term future as farmers.

This is unfortunate as the VFF can see a very positive outlook for agricultural markets and the potential in new and emerging technologies. Climate change, while posing many risks, will also create new opportunities for Victoria's farmers.

Capturing these opportunities and managing the risks will be challenging, and the farm and rural community need to be prepared as best they can to deal with the eventualities. Investments that aim to secure Victoria's food and fibre production industries, and maintain rural populations are necessary for the long term benefit of the Victorian community and economy.

The VFF looks forward to entering into partnerships with Government and industry bodies to prepare Victoria's agriculture sector for the challenges ahead.