

Outer Suburban Interface Services & Development Committee – Inquiry into Agribusiness in Outer Suburban Melbourne

Submission from: The Victorian Eco-Innovation Lab, Faculty of Land and Environments, University of Melbourne

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We welcome the committee's inquiry into Agribusiness in Outer Suburban Melbourne. Please find our submission attached. We look forward to the opportunity to speak before the committee at a public hearing should you seek further detail on the ideas and information contained within.

Regards,

Kirsten Larsen

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Context

This inquiry is taking place in the context of a global food crisis, a global financial crisis and an 'obesity epidemic'. Access to enough of the right foods to meet nutrition requirements is a major concern in many parts of the world, and for many here in Victoria. While these are not mentioned in the terms of reference, this submission is written with these issues in mind, as they signal profound changes to options and responsibilities of the Government, and the rapidly increasing importance of planning and designing settlements and driving food businesses to ensure secure and resilient, healthy and sustainable, food supplies.

This submission outlines VEIL's position that food production in outer suburban (as well as inner urban) Melbourne will be critical to the provision of secure, healthy and sustainable food supplies. Viable and sustainable agribusiness – "the businesses collectively associated with the production, processing, and distribution of agricultural products"¹ – will be critical to meeting these challenges. However, we suggest that in light of the challenges facing our food system, the ability of peri-urban businesses and enterprises to deliver 'sustainable food production' will be the fundamental underpinning to their success, and their ability to provide high quality employment opportunities within their local and regional economies.

The pursuit of 'sustainable food production' and 'healthy, sustainable and prosperous outer suburban areas' will require a broader understanding of the types of businesses / enterprises that are valuable in urban and peri-urban spaces – emerging models of sustainable food production and distribution may also contribute to more resilient communities, cultures and economies in peri-urban Melbourne.

The approach taken to agribusiness development in Victoria, particularly in outer suburban and peri-urban Melbourne will have very significant, long-term impacts on the quality, availability and sustainability of our food. It is important to note that food security, "the state in which all persons obtain nutritionally adequate, culturally acceptable, safe foods regularly through local non-emergency sources",² is already a problem in Victoria.

- There is a strong relationship between food insecurity and hunger, inadequate dietary intakes and ultimately nutrition-related health problems like nutrient deficiencies.³ Paradoxically, reduced access and affordability of food also can lead to obesity through overeating when food is available and increased consumption of energy dense (junk) foods as the cheapest and most accessible way to meet daily energy needs.⁴
- Reduced access / affordability of healthy foods will impact on disadvantaged groups first and to the greatest extent.
- VicRelief Foodbank reports that the number of emergency relief providers seeking food support from grew 99% from **312** in 2006 to **620** in 2008, while supplies of donated food are diminishing (a result of companies getting smarter; the 'food bowl' in Victoria drying up, and the supply of staple products, such as rice, in peril due to the drought and international demand).⁵

¹ www.dictionary.com

² Community Food Security Coalition (1995), cited in VicHealth (2005), *Healthy Eating - Food Security: Investment Plan 2005 - 2010*, Victorian Health Promotion Foundation, accessed 1 February 2008, <http://www.vichealth.vic.gov.au/assets/contentFiles/VicHealth%20Food%20Insecurity%20Investment%20paper.pdf>.

³ World Health Organization (2008), *Closing the gap in a generation: Health equity through action on the social determinants of health*, WHO Commission on the Social Determinants of Health, Geneva.

⁴ Potter, J (2008), *Creating a Healthier Food System: A report exploring the impact of our food system on nutrition and health (DRAFT)*, VicHealth, p18

⁵ VicRelief FoodBank (2008), *Pushing the Boundaries of Hunger in Victoria: A report prepared by VicRelief Foodbank on the growing demand for emergency food relief among vulnerable and marginalised Victorians*, VicRelief Foodbank, December 2008. NB. The data presented in this report occurred before the current financial crisis.

Planning and support for agribusiness around Melbourne must take into account cost and access to food, particularly impacts on lower income communities. We have opportunities now to protect and enhance sustainable and affordable food supplies, here and internationally. To do this, we must accept that incremental changes to a fundamentally unsustainable system will not be sufficient. We will need to explore and create new systems that build resilience for complex and often unpredictable challenges, as well as aspiring for the future we wish to create.

This submission is structured according to the following points in the terms of reference:

1. Impediments faced by industry to its long term growth and sustainability and options to resolve these barriers (the options outline how sustainable food production can help to overcome impediments)
2. The role of agribusiness in enhancing economic growth, increasing jobs and the sector's contribution towards promoting healthy, sustainable and prosperous outer suburban areas; and
3. The role of planning in encouraging the development of agribusiness.

1. Impediments and opportunities for long term growth and sustainability

Terms of Reference: Impediments faced by industry to its long term growth and sustainability and options to resolve these barriers (the options outline how sustainable food production can help to overcome impediments)

A 2004 study of agricultural activities in the Casey and Cardinia regions identified eight major challenges for primary producers in these two peri-urban regions. The major challenges identified were:⁶

- The price of land;
- The 'right to farm';
- Availability of water;
- Sustainability and land management;
- Roads and transport;
- Costs versus returns price squeeze;
- The profile/perception of farming; and
- Business administration and legislative issues.

The map in Figure 1 shows the value of agricultural production from Melbourne's peri-urban areas, suggesting that Casey and Cardinia are among the most productive. It is reasonable to assume that the challenges identified in these areas are similar to those being felt by producers in other peri-urban regions, although they may be felt to a different extent in different places.

Within this submission we will not restate these challenges and refer you to the study itself for more detail. There are however a number of issues which have become considerably more pressing since 2004, and some (eg. oil and input shortages / costs and climate change) whose severity and immediacy were not being recognised at all in 2004.

A detailed analysis of the environmental impacts, and associated vulnerabilities, of our current food system can be found in *Sustainable and Secure Food Systems for Victoria: What do we know? What do we need to know?*⁷ This report, downloadable from <http://ecoinnovationlab.com/publications/46-policy-challenges-reports/18-sustainable-and-secure-food-systems-for-victoria>

⁶ Pickersgill, B (2004), Casey and Cardinia Regional Agricultural Audit and Action Framework, Final Report – February 2004, <http://www.cardinia.vic.gov.au/Files/AgAuditFinalReport.pdf>

⁷ Larsen, L (2008), *Sustainable and Secure Food Systems for Victoria: What do we know? What do we need to know?*, Victorian Eco-Innovation Lab, University of Melbourne, <http://ecoinnovationlab.com/publications/46-policy-challenges-reports/18-sustainable-and-secure-food-systems-for-victoria>

[challenges-reports/18-sustainable-and-secure-food-systems-for-victoria](#), should be considered a part of this submission.

Some rapidly accelerating challenges, of particular relevance to peri-urban production, will be critical to the future viability of peri-urban food production and so further detail is provided below.

a. The Price of Land

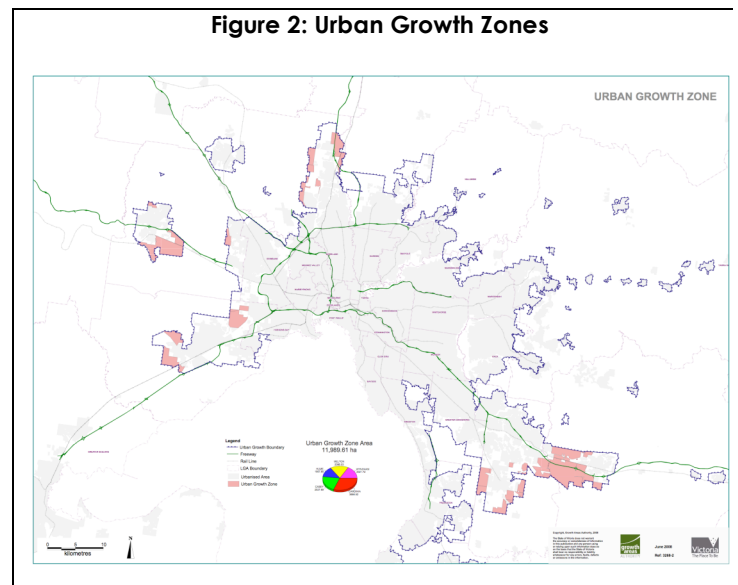
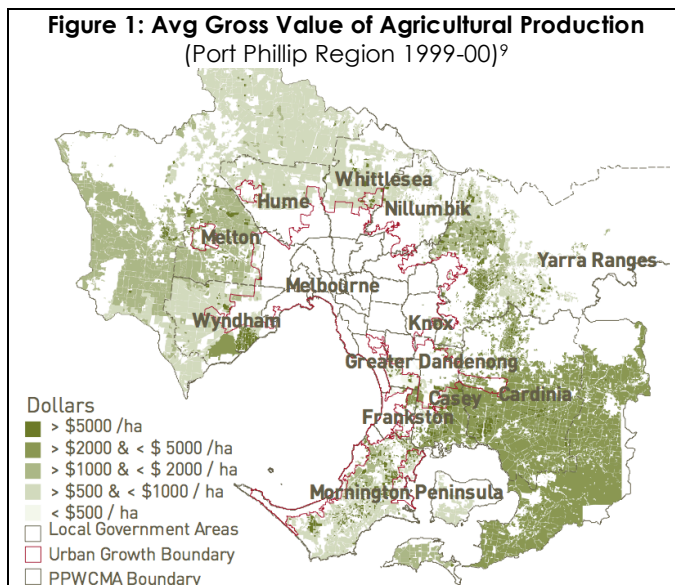
The intent is for enough land to be brought within the Urban Growth Boundary to provide for around 20 years of land supply to meet the new growth projections.⁸

Development pressure around Melbourne has led to policy changes in late 2008 and early 2009, which are intended to increase the supply of greenfield land for residential development. These changes are:

- Creation of 'urban growth zones' that facilitate rezoning of agricultural land into urban land (Figure 2); and
- Forthcoming extension of the urban growth boundary.

These changes will accelerate conversion of high-quality agricultural land to residential development. While the investigation process will be looking at sites of environmental significance (etc) in deciding which land will be opened for development, the importance of food production capability close to the city is still not being considered.

Furthermore, by not explicitly protecting agricultural land for productive purposes, and amending the UGB again, a clear message is sent to the market that the UGB is amendable. This means that even land which remains outside it may hold a higher than productive value due to the possibility that it will eventually be rezoned.



⁸ DPCD (2009), *Factsheet: Investigation areas and the urban growth boundary*, Melbourne @ 5 million, <http://www.dse.vic.gov.au/DSE/nrenpl.nsf/LinkView/57C53DBA1BCC53CDCA25731500201398480C6C9341423338CA257316001ED59C#investigation>

⁹ DSE (2006), *Melbourne Atlas 2006*, Department of Sustainability and Environment, p8.18

This loss of productive land and associated price disincentives to continue agricultural activities in outer suburban / peri-urban Melbourne can be expected to have significant impact on the costs and sustainability of our future food supplies.

Opportunities for outer suburban and peri-urban agribusiness

Strong planning protection of agricultural land (including in green wedges) is critical, in recognition of not only its economic and amenity value, but also the critical contribution it will make to future sustainable and secure food supplies.

VEIL has coined the term '**Food Sensitive Urban Design**' (FSUD) to guide the development of a new approach to outer urban development that could potentially alleviate these pressures and reveal new opportunities for both agribusiness and outer suburban communities. The forthcoming design of new precincts, suburbs and developments in and around Melbourne's outer suburbs offer opportunities to plan and build integrated, sustainable, healthy and prosperous food systems. (NB: We consider Food Sensitive Urban Design to also apply to increased integration of food systems within existing inner urban areas, however this submission focuses on application and opportunities within the terms of the inquiry ie. outer suburban and peri-urban Melbourne).

Our working definition of FSUD is based on that of Water Sensitive Urban Design (WSUD):

Food Sensitive Urban Design contributes to urban sustainability and provides the conditions for attractive, human-scale living environments through integration of urban planning and design with the production, distribution of and equitable access to healthy food. This means:

- *Trying to make use of urban productive capacity and resources to provide secure, healthy and sustainable food*
- *Optimising synergies between food, energy, water and nutrients*
- *Reducing the need to transport food (hence water and energy) by producing it closer to where it will be eaten*

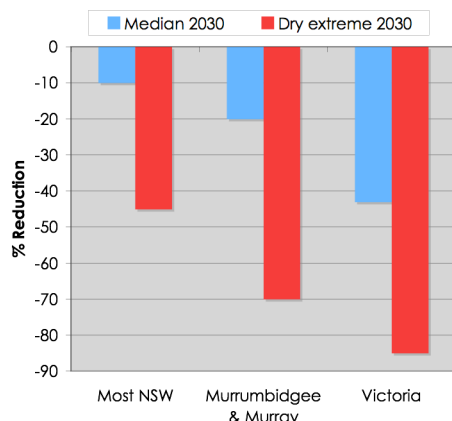
Opportunities for FSUD to increase the viability of existing peri-urban agribusinesses and develop new ones are explained throughout.

b. Availability of Water

No agribusiness can exist without water. Water scarcity and increasing contest will continue to drive water prices up, affecting the viability of Melbourne's peri-urban agribusinesses along with other agriculture across Victoria. However, peri-urban or outer suburban food producers can potentially access other water sources that are not available further away from cities ie. greywater, stormwater and different scales of recycling (eg. distributed gas-fired desalination).

Fig. 3: Less water for irrigation¹⁰

¹⁰ CSIRO(2008), *Water availability in the Murray-Darling Basin: A report from CSIRO to the Australian Government*, October 2008



As Australia's food bowl (the Murray Darling Basin) dries up (Fig. 3), the need for food production from different water sources will become steadily more acute. Victoria simply cannot rely on the irrigation systems we have used for food production in the past, either for our own food or for that we export.

A range of drivers (political, economical and evaporational¹¹) mean that Melbourne is less likely to run out of water than the rest of the State. It therefore becomes of paramount importance that the water in Melbourne is used wisely and well, including water that is currently treated as waste.

Opportunities for outer suburban and peri-urban agribusiness

Food grown in or around urban areas can make use of appropriately managed greywater, as well as rainwater and stormwater that currently runs off impervious surfaces and is wasted. A recent study of water availability and use in the City of Melbourne has found that over 80% of Melbourne's current water use could be met with the rain that falls on the city (if it was captured), and that almost 3GL (approx. 12% of total) water is used to irrigate open spaces (≈ 1 GL) and private gardens (≈ 2 GL).¹² A conservative redistribution of some of this water to food production¹³ could produce between \$5.7 million (Australian average) and \$29.4 million (best practice small-scale) dollars worth of fruit and vegetables. These calculations are based on prices from 2001 and 2005 respectively – the value of that quantity of food would be significantly higher now.¹⁴

Consideration of food production could enable co-siting of water treatment facilities – those in some rural areas (eg. Gippsland and the Grampians) are already recycling 100% of their effluent for local agriculture.¹⁵ For example, Melbourne currently recycles 22.5% of its wastewater (for agricultural as well as other uses).¹⁶ There are issues with reusing wastewater for food production, but with focused research, development and appropriate management Victoria's 448 GL/year of effluent¹⁷ could be a valuable resource for food production.

As new precincts are planned on the urban fringe, detailed consideration should be given to ensuring that their water systems are integrated with neighbouring agricultural needs. This integration could also improve the viability of the agriculture through more secure and affordable water access.

c. Cost versus returns price squeeze – oil and agricultural inputs

¹¹ By 'evaporational' I mean that water falling in catchments, stored in dams and transported to Melbourne is subject to high levels of evaporation by reaching its point of use. Water that falls in Melbourne is generally not subject to such significant evaporation losses.

¹² City of Melbourne (2008), *The City as Catchment: A Strategy for Adaptation*, prepared by EDAW - Ecological Engineering Practice Area, (preliminary draft for comment February 2008, due for release 2008)

¹³ 10% of open space irrigation water, and 25% of private garden water

¹⁴ These estimates are based on figures for average water efficiency of Australian fruit and vegetable production (103L / \$ - from Lenzen & Foran (2001)) and best-practice small-scale permaculture production (20L / \$ - from Holmgren (2005)).

¹⁵ Melbourne Water (2008), *Recycling Water for a Greener Future*, accessed 15 March 2008, http://www.melbournewater.com.au/content/water_recycling/recycling_water_for_a_greener_future/recycling_water_for_a_greener_future.asp

¹⁶ Rood, D. (2008), "Melbourne Hits Water Recycling Targets", *The Age*, 28 February 2008

¹⁷ Radcliffe, J. (2004), "Water Recycling in Australia", *Australian Academy of Technological Sciences and Engineering*.

The 2004 analysis identified the inability to pass costs through the supply chain as a major concern for agricultural producers. At this time (4 years ago), the possibility of oil shortages or price spikes was not identified as a concern to producers at all.

Our food comes from oil

We have now had, as of 2007-08, some strong early warnings of how peak oil might affect us, with rapidly escalating costs of oil and fossil fuel based agricultural inputs having a major impact on the viability of many food businesses from farmers to distribution companies.

If it seems surprising that as little as four years ago people were not concerned about the impact of oil prices, then it is even more astounding that the current (February 2009) low price of oil can so quickly erase concern about the inevitable end to cheap oil. There is no longer a question of whether oil supplies will peak, debate is down to when. The UK Industry Taskforce on Peak Oil & Energy Security (November 2008) stated:

The peaking of oil supplies is imminent and will occur in the window 2011-2013. In planning terms 2011-2013 is effectively tomorrow. This means the crisis is already upon us and companies and individuals need to be planning their response now.

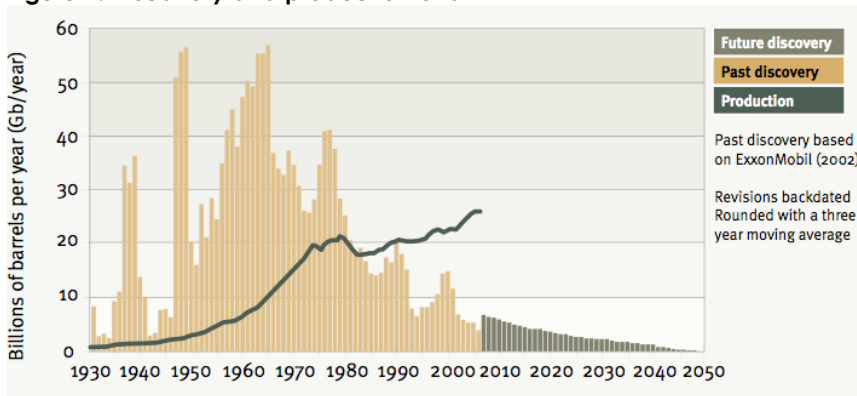
In Australia, the Queensland Government has established an Oil Vulnerability Taskforce in which provided its first report in April 2007. This report concluded that:

The Taskforce concludes that the overwhelming evidence is that world oil production will peak within the next 10 years . . . The Taskforce considers this to be a major risk, with impacts arising not only for transport but for many key parts of Queensland industry and the community.

Current low prices are a reflection of reduced demand in line with the global financial crisis and a general alignment with falling value in stock and investment markets worldwide. Although it is possible that voluntary production reductions that are taking place now will delay the point at which global oil production capability actually starts to fall, it is also possible that reduced investments in new production capacity will balance this.

Our existing food supply systems are highly oil dependent, therefore the peaking and expected rapid decline in oil affordability will have major implications for the production and distribution of food around the world and into our cities, particularly from conventionally long agribusiness supply chains.

Figure 4: Discovery and production of oil¹⁸



In the Information Paper that followed in 2008, the Queensland Government noted that:¹⁹

¹⁸ ExxonMobile data (2002), cited in Queensland Oil Vulnerability Taskforce (2007), *Queensland's Vulnerability to Rising Oil Prices*, http://www.epa.qld.gov.au/publications/p02190aa.pdf/Queenslands_vulnerability_to_rising_oil_prices_taskforce_report.pdf

¹⁹ Queensland Government (2008), *Towards Oil Resilience Community Information Paper*, prepared by the Environmental Protection Agency, http://www.epa.qld.gov.au/publications/p02620aa.pdf/Towards_Oil_Resilience_Community_Information_Paper.pdf

Retaining green space and agricultural land in and around our major population centres is also important. This may provide an avenue for locally grown produce that does not rely on long freight distances and high oil costs

As do lots of our fertilisers

Throughout 2007 and 2008, the cost of agricultural inputs – fertilizers and other farm chemicals – escalated rapidly. There are a number of factors causing these price increases, but it can be summarized as increasing demand meeting constraints on increased supply.

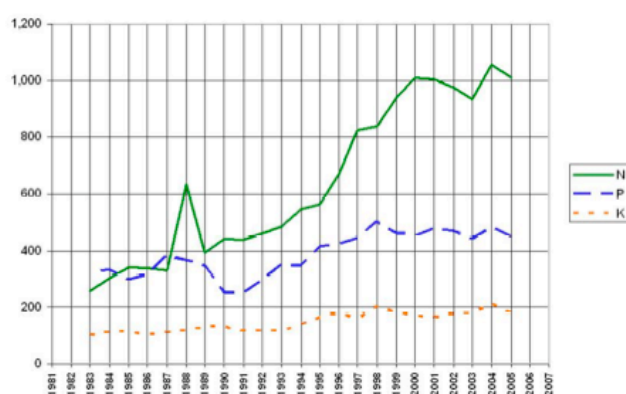
Increased demand was driven by increasing population and consumption (expected to continue), need for inputs to grow biofuels and continued soil degradation – requiring more inputs for the same yield. Increasing demand for nutrients is shown in Figures 5 & 6.

Fig. 5: Increasing demand for food leads to increasing demand for nutrients²⁰

Region / Nutrient	1959/60	1989/90	2020
(million nutrient tons)			
World total	27.4	143.6	208.0
Nitrogen	9.5	79.2	115.3
Phosphate	9.7	37.5	56.0
Potash	8.1	26.9	36.7

Sources: FAO, IFPRI

Fig. 6: Nutrient inputs to Australian agriculture²¹



Fertiliser prices are also linked to their source. Synthetic nitrogen fertilisers are derived from natural gas, a non-renewable resource that is closely linked to the oil price. Phosphate fertilizers are derived from phosphate rock, which is finite. The global production of phosphate rock has already peaked and is falling – in 1988 166 million tonnes of phosphate rock was produced, but by February 2008 it was approximately 125 million tonnes per year.²²

Agricultural methods that reduce reliance on synthetic inputs (including soil restoration) will be needed, as will new sources of nutrient inputs.

Opportunities for outer suburban and peri-urban agribusiness

Outer suburban and peri-urban food businesses that can take advantage of their vicinity to urban areas have the potential to be highly competitive and viable as these challenges intensify. Competitive advantages include:

- Reduced transport requirements due to short distances to markets in urban and peri-urban areas; and
- Reduced oil (and petroleum-based ie. fertiliser) inputs to local food production – including use of the large organic waste streams available from urban areas.

²⁰ FAO & IFPRI, cited in Cribb, J (2008), *Future Famine – Will the world run out of food?*, Young Agribusiness Professionals Breakfast, 25 June 2009

²¹ FFA (2007b), *Industry Statistics*, Fertilizer Industry Federation of Australia, http://www.fifa.asn.au/default.asp?v_DOC_ID=876

²² NSW Farmers Association (2008), *Fertiliser Prices Factsheet*, accessed 10 April 2008, www.nswfarmers.org.au/_data/assets/pdf_file/0003/45732/Fertiliser_Prices_Factsheet_0208b.pdf

The need for nutrients for food production can give value to localised recycling of urban food and green waste (which made up over 47% of municipal waste sent to landfill in 2002/03).²³ Food waste from urban areas will become an increasingly valued resource as the cost of fossil-fuel based fertilisers is making them unviable for many producers, but transporting it long distances to regional and rural Victoria adds a prohibitive cost. Over 80% of the phosphorus and nitrogen in household waste loads that go to sewers could be beneficially used on farmland²⁴ and the use of stockpiled biosolids for agricultural production is already being explored. Organic waste processing facilities can also provide distributed renewable energy.

As new precincts are planned on the urban fringe, detailed consideration should be given to ensuring that their waste and energy systems are integrated with neighbouring agricultural needs and opportunities (including renewable energy production from agricultural wastes). This integration will also improve the viability of the agriculture through secure access to affordable inputs.

d. Climate change – impacts

Climate change is already having a major impact on our ability to produce food, here in Victoria, across Australia and all around the world. While growing conditions in some areas are expected to improve with higher temperatures in the short term, temperature rises, changing rainfall patterns and increasing frequency and intensity of extreme events will undermine consistent and reliable production across much of the world. Agribusinesses in South East Australia (including Victoria) that wish to be viable as the climate changes will need to be substantially different from those that exist today.

Major production declines of wheat and coarse grains due to 'drought and poor weather' between 2004 and 2006 have been estimated at: US - 16 and 12 per cent; EU - 14 and 16 per cent and Australia - 52 and 33 per cent.²⁵

In 2007–08, 84% of Australian agricultural businesses reported that they had experienced adverse seasonal conditions, such as drought, severe frosts, hail, severe storms, flood, or an increase in seasonal variability during the 2007–08 season.²⁶ The impact of extreme weather events on food production and business viability has been starkly demonstrated during Victoria's heatwaves and bushfires of January and February 2009 (Figure 7).

Fig. 7: Agricultural losses from 2009 extreme weather 2009



Climate change is real and it is here. It is having a significant impact on the global food crisis and can be expected to continue doing so. Surplus food supplies can no longer be taken for granted, we are

²³ EcoRecycle Victoria (2005), *Information Sheet 2 - Waste Facts*, last modified March 2005,

<http://www.sustainability.vic.gov.au/www/html/2039-waste-and-recycling-information-sheets.asp>

²⁴ Crockett, J et al. (2002), *Feasibility Study for a Dry Composting Toilet and Urine Separation Demonstration Project*, GHD, [www.ghd.com.au/aptrixpublishing.nsf/AttachmentsByTitle/PP+CompostingToiletStudy+PDF/\\$FILE/e4215.pdf](http://www.ghd.com.au/aptrixpublishing.nsf/AttachmentsByTitle/PP+CompostingToiletStudy+PDF/$FILE/e4215.pdf)

²⁵ Stoeckel, A (2008), *High Food Prices - Causes, implications and solutions*, Rural Industries Research and Development Corporation

²⁶ ABS (2008), *Principle Agricultural Commodities*, Cat. No. 7111.0

becoming more familiar with the range of vulnerabilities and potential disruptions to our food security. Understanding and designing **resilient** food systems is becoming of paramount importance.

Opportunities for outer suburban and peri-urban agribusiness

Maintaining healthy agribusinesses near urban centres will not solve these problems, but it will contribute to a diverse system that can draw on multiple food sources (see *Resilience* below).

More extreme weather conditions under climate change may provide increased opportunities for climate controlled food production facilities. These could range from hydroponic systems to even more intensive vertical farms, potentially producing large amounts of sustainable food from small land areas on the urban fringe.

e. Climate change – emissions

The impacts of climate change that we are already feeling will pale into insignificance if we do not start rapidly reducing emission of greenhouse gases into the atmosphere. As far as humanity is concerned, this is the ultimate non-negotiable. Some recent comments from James Hansen, NASA's most prominent climate science expert, highlight the severity and urgency of our task:²⁷

*If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO₂ will need to be reduced from its current **385 ppm to at most 350 ppm**, but likely less than that.*

Continued growth of greenhouse gas emissions, for just another decade, practically eliminates the possibility of near-term return of atmospheric composition beneath the tipping level for catastrophic effects.

The emissions associated with our current food system are very significant, estimates suggest that between 23%²⁸ and 30%²⁹ of total greenhouse emissions (across the economy) are related to the production and consumption of food. It has been estimated that 28.3% of an Australian household's emissions are from their food, compared to 20% on direct energy use (including for cooking) and 10.5% on transport (including obtaining food).³⁰ Fundamental changes to the way we produce, process and access food will be critical to the transition to a low / zero carbon future.

Current debate on ameliorating climate change in Australia is focused on the potential introduction of the Carbon Pollution Reduction Scheme as a policy instrument for reducing greenhouse gas emissions over the longer term. While the terms and targets of the scheme that will be introduced are still being vigorously contested, some form of price in carbon is inevitable. This will impact on food supply chains, regardless of how or when direct agricultural emissions are included. It will impact on farming, processing, packaging and transport systems, in turn affecting the types of foods that are available and affordable.

Regardless of the detail of Australia's chosen mechanism, or whether targets are sufficient, there are will be major opportunities for food enterprises and businesses that are able to produce and provide food

²⁷ Hansen et. al. October 2008, *Target Atmospheric CO₂: Where Should Humanity Aim?*, www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf

²⁸ Hatfield-Dodds, S. et al. (2007), cited in Garnaut Climate Change Review (2007), *Issues Paper 1 - Climate Change: Land Use - Agriculture and Forestry*, Garnaut Climate Change Review, Melbourne.

²⁹ European Science and Technology Observatory and Institute for Prospective Technological Studies (May 2006), *Environmental Impact of Products (EIPRO): Analysis of the Life Cycle Environmental Impacts Related to the Total Final Consumption of the EU25*, Full Report, <http://ec.europa.eu/environment/ipp/identifying.htm>, p106

³⁰ ACF (2007), *Consuming Australia - Main Findings*, Australian Conservation Foundation.

with low / no emissions. This is not just about a niche market for consumers that will pay more for 'environmentally friendly food' – businesses able to get food to consumers with very low emissions will simply be more competitive than those that can't. Low emissions food will be the best value-add you can get.

Opportunities for outer suburban and peri-urban agribusiness

Peri-urban and outer suburban businesses are in a prime position to develop innovative offerings that meet the low emissions food challenge. This can also contribute to the provision of affordable food in outer suburban areas.

We need to get past a simplistic debate about 'food miles – good or bad'. For some foods, local production and distribution will make sense, for others they won't. Seasonality makes a difference and will be important to low emissions food systems. In Melbourne, seasonality does not indicate severe hardship! "When in season it is generally preferential, on environmental grounds, for UK consumers to buy British produce rather than produce imported from overseas."³¹

Changes to where and how (and what) food is produced will be needed and there are no simple answers, but there are lots of opportunities for innovative models to be explored. Businesses that can eliminate or substantially reduce emissions from transport, storage, packaging etc (all of which may be affected by more direct supply chains) will have a competitive offering, here and into export markets.

There are also many opportunities to integrate renewable energy and food production. Organic waste processing has already been mentioned, which if sited appropriately on the urban fringe could provide affordable fertilisers to producers as well as renewable energy to households. Wastes from food production and processing can also be used for energy production – interest in exploring these opportunities is increasing.

f. Resilience

*Nothing reveals the thin veneer of civilisation like a threat to its food or fuel supply, or the cracks in society like a major climate-related disaster. A cocktail of all three will give cold sweats to the most hardened emergency planner. But that is what we face.*³²

We are facing unpredictable, rapid and complex change. The challenges outlined above will combine in unforeseen ways and we cannot easily anticipate or prepare for them. But we can move towards more resilient systems – those that can maintain their critical functions (ie. providing food) when faced with shocks, or able to rapidly reorganise and find new ways to perform those functions. Diversity and redundancy in systems increases resilience. Resilience in our food system can be enhanced by increased diversity of foods, production systems and distribution points.

Agribusinesses in Victoria (and Australia) are highly exposed to fluctuating global demand and price signals, and competition from international competitors with vastly different operating environments. Many agribusiness producers are 'price-takers' and are not easily able to pass increasing costs up through supply chains to the consumer.

The nature of Australia's retail competition means that food businesses reliant on access to domestic markets are highly dependent on maintaining shelf position in the two major retailers. Suppliers are in a

³¹ Sim S, Barry M, Cliff R, Cowell SJ (2007), 'The Relative Importance of Transport in Determining an Appropriate Sustainability Strategy for Food Sourcing', *Int J LCA* 12 (6) 422–431

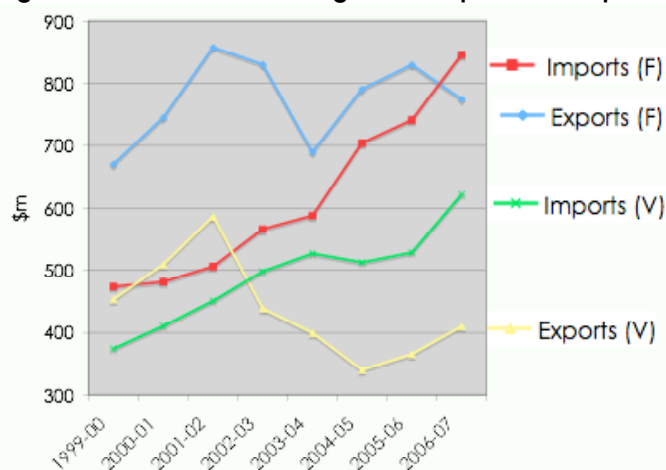
³² Simms, A (2008), *Nine Meals from Anarchy: Oil dependence, climate change and the transition to resilience*, Schumacher Lecture, 2008, Schumacher North, Leeds, UK www.neweconomics.org/gen/uploads/55ksx4awtkarwz55oc4tek5526112008122020.pdf

very poor negotiating position regarding how much they get paid for their products. As of 3 March 2009, reports of a Coles strategy to raise money from its suppliers were again highlighting this issue:³³

In an effort to extract an extra \$500 million from suppliers, the Coles supermarket chain is threatening to remove some products if suppliers refuse to pay higher rebates . . . Already one major supplier of packaged goods has had 11 of its lines removed because it refused to participate, while another food supplier has had a significant number of lines removed.

Smaller suppliers are particularly vulnerable to Coles' new strategy. For some the issue can be fundamental to their survival, putting at risk jobs and local production.

Fig. 8: Australian Fruit and Vegetable Imports and Exports³⁴



A combination of all these factors has seen the value of Australian fruit and vegetable exports drop below the value of our imports – our 'surplus' fruit and vegetable production is now lower than the amount we import into the country (Figure 8).

Access to imported food is an essential component of a resilient food system and can help keep food affordable, particularly as climate impacts can be expected to continue impacting on local supplies. However, continuing degradation of our domestic supply capacity increases our vulnerability to future shock.

Throughout 2008, as the global food crisis intensified, a large number of countries placed export bans and tariffs on food commodities and products, as well as on fertilisers. While these actions do not align with Australian or international aspirations for free trade, they may remain an immediate response for governments with starving citizens rioting in the streets. We can advocate against these actions but we cannot control them, and we would be well advised to ensure that our long-term food security is underpinned by strong local production capability as well as access to imports.

Resilience is about diversity and redundancy – having different ways to secure food, different ways to produce it, and a range of systems that can maintain function in the face of different shocks. Maintaining capacity (land, resources and skills) for food production and provision around our urban centres is a critical part of a resilient food system in the face of the challenges outlined above. Peri-urban (and urban) production of perishable foods has the potential to increase the diversity in the food system, adding new products, producers, techniques and systems that will resist different threats and meet different needs. Production of a significant proportion of fruit and vegetables would reduce reliance on long supply chains, make use of resources in urban areas, and potentially reduce price exposure for these essentials in a healthy diet.

2. Economic Opportunities

³³ Sharp, A (2009), 'Coles turns the screws on suppliers'. *The Age*, 3 March 2009, <http://business.theage.com.au/business/coles-turns-the-screw-on-suppliers-20090302-8mfv.html>

³⁴ ABARE (2008), *Summary of Australian Statistics for Fruit and Vegetables*, Horticulture Statistics, p152

Terms of Reference: Role of agribusiness in enhancing economic growth, increasing jobs and the sector's contribution towards promoting healthy, sustainable and prosperous outer suburban areas

According to research conducted by UBC's Design Centre for Sustainability (2005), "Food is an untapped economic opportunity – it is the fastest growing resource-based sector in British Columbia, employing more people than logging and more than mining and fishing combined, even when labor shortages are the biggest impediment to growth." This BC research states that the average BC household spends \$6,800 on food per year, and that money spent on locally produced food generates nearly twice as much local income as money spent on imported food. It has been estimated that a growing space of only 750 square metres could generate \$425,000 annually and provide employment for up to 8 people³⁵

As the pressure of increasing household costs (eg. food, oil and utilities) combines with economic downturn and increasing risk of unemployment, there will be a need for jobs that don't require much travel and provide a range of opportunities for people with different skills and skill levels. Food related businesses, from food production, processing, distribution, retail, cooking and serving etc, can provide such a range of jobs, potentially contributing to community and local economic development at the same time.

Many of the issues outlined above will have particularly serious ramifications for the inhabitants of outer suburban areas, as many are more reliant on private cars (oil) for transport and may have to travel further for work than those in the inner city. Food businesses in outer suburban and peri-urban Melbourne can potentially provide jobs that are not reliant on long travel distances and strengthen the local economies of these areas.

The development of innovative food production and distribution enterprises in and around urban areas can help to meet many of the challenges we face. Producers, communities and businesses that move early to identify opportunities and develop innovative food systems in and around urban areas are likely to be well-rewarded, both in local markets and through the export of the expertise they develop – over 50% of the world's population live in cities and they all need to eat.

Traditional agribusiness models based on large contiguous swathes of land and economies of scale are likely to be increasingly supplemented by networks of distributed food enterprises. Optimised efficiency through economies of scale and ever-increasing labour productivity are built on assumptions of negligible transport and resource costs, and secure and consistent supply chains. As transport and resource costs become significant factors in business viability, and supply chains are faced with increasingly disrupted, business that can make use of locally accessible space, resources, skills, labour and markets will have a new advantage.

Even with pressure to increase population in urban areas, Australia's urban densities are still much lower than most other places in the world. Space advantages combined with Australian expertise in water management could well be applied to development of sophisticated urban food production systems – particularly in outer suburban areas. It is likely that highly skilled agri-business professionals that can identify and adapt to these changing drivers will be well able to identify new business opportunities and flourish.

³⁵ Hobbs (2002), cited in True Consulting Group (2007), *Best practices in urban agriculture: a background report for the City of Kamloops to support development of a urban agricultural strategy*, True Consulting Group, www.fooddemocracy.org/docs/BestPractices_Urban%20Agriculture.pdf

3. The role of planning

Terms of Reference: Role of planning in encouraging the development of agribusiness / food security

As we have seen, producing food relies on a range of resources that are increasingly contested and increasingly expensive – land, water, oil, fertiliser (nutrients) and energy. Therefore we are faced with either:

- Food production enterprises becoming less viable and increasingly price squeezed as their input costs escalate but they are unable to pass these costs on through the supply chain (both primary producers and food industries are for the most part reliant on a small number of large players in the supply chain);
- Where the costs can be or are passed on food becomes more expensive, exacerbating food security challenges and poor nutrition outcomes for a steadily broadening group of people;

OR

- Develop new farming and food systems that are less reliant on scarce, contested, or environmentally damaging (hence increasingly expensive) resources, and make use of resources where they are available.

Throughout this submission, we have suggested opportunities for outer suburban and peri-urban Melbourne agribusinesses to contribute to the latter. These can be summarised as:

- It is vital to protect existing agricultural land from residential development;
- We can also design new urban developments so that productive opportunities are integrated with residential development; and
- Peri-urban food businesses are uniquely positioned to take advantage of the 'edge' effect, developing food systems that operate in synergy with neighbouring urban areas – reducing emissions and oil vulnerability, accessing water and nutrients that would otherwise be treated as wastes, and with a proximity to market that can underpin viability in challenging times.

Planning plays a critical role in allowing these opportunities to be realised. If planning decisions now do not recognise, value and protect integrated food production and distribution systems, we will undermine the viability of agribusiness and our own ongoing food security. Continued roll-out of 'business as usual' suburbs into agriculturally productive land continues to miss opportunities to build Melbourne's food security, affordability and sustainability, at a time when those opportunities are absolutely critical to our future prosperity and liveability.

Specific recommendations for planning:

Recommendation 1: Protect land for food production

Identify and protect horticultural and other staple food production zones in and around Melbourne. Plan for and invest in the infrastructure that will underpin their viability in coming years: water treatment; waste to energy / fertilizer; efficient and direct market access.

Recommendation 2: Integrating food production and residential development

- a) Develop clear principles and rules for Food and Water Sensitive Urban Design in new developments
- b) Mandate their application in all new Precinct Structure Plans – these communities will not be liveable without access to affordable food, water and energy
- c) Prior to mandated FSUD and WSUD, expedite approval of bold and ambitious proposals that demonstrate new ways of integrating urban / rural resource and food flows

Recommendation 3: Encouraging diverse and resilient food distribution

Identify and address barriers to innovative food distribution systems, particularly those that enable effective direct sales from peri-urban food businesses to peri-urban consumers. Encourage development

of distribution options that underpin producer viability and food security in a carbon and oil constrained world.

Recommendation 4: Overcome barriers to new food enterprises within urban areas

Identify and address barriers within the Planning Act to the development of urban food production in metropolitan Melbourne (including community gardens; productive landscape plantings, expanded school gardens as well as commercial enterprises). For reference see the American Planning Association's program: *The Planner's Role in Urban Food Production* (<https://planning.org/thenewplanner/2008/spr/urbanfoodsystem.htm>.)

Recommendation 5: Drive innovative community and economic development

Support partnership projects with one or more local government authorities to undertake pilot projects that demonstrate the potential of community and local economic development through local food production and distribution. This could include development and evaluation of pilot projects for agricultural/food production in appropriate green wedge areas.

Recommendation 6: Support restoration and management of land through food production

Consider policy options to open up unused or vacant land for enterprising food businesses or community activities. This could include requiring land owners of vacant land to fence; weed; eradicate noxious weeds; maintain landscape value, etc, or, as an alternative, make the sites available for leases for commercial or community food production. (Making land available for community gardens was a 1970's policy in a number of inner-urban Melbourne councils. A similar measure in peri-urban areas could reduce hoarding or deliberate degradation of agricultural lands on the urban fringe)