

# Chapter 4

## Future challenges

4.1 As noted in previous chapters, with high fertiliser prices in 2007 and 2008 and the prospect of further price increases in the future, evidence to the inquiry emphasised the importance of meeting the challenges this poses for the farming community in pro-active ways. Responses to these challenges include improving fertiliser use efficiency, developing alternatives to chemical fertilisers and developing further domestic sources of supply. These issues are discussed below.

### Improving fertiliser use efficiency

4.2 Submissions and other evidence noted that there is a need to encourage greater efficiency in the use of fertiliser. WAFarmers noted that:

The majority of fertiliser used around the world is wasted. Due to climatic and soil conditions plants do not take up the nutrients that the fertiliser is meant to deliver.<sup>1</sup>

4.3 The Rabobank study noted that as farm input costs have increased to represent a greater proportion of farm costs, agricultural practices which improve productivity but reduce costs are important. The uptake of techniques such as no-till or minimum till is widespread in broadacre cropping. Increasingly, precision application methods are becoming common across all sectors of agriculture as producers seek to maximise yields through better techniques rather than higher input application rates.

4.4 The study noted that to date, improvements in fertiliser use efficiency have come about through some of the farm management techniques referred to above. The study suggested that there is an untapped potential for using the abilities of plants themselves to better absorb and use fertiliser through genetic modification. There is also scope for investigation into the use of more 'traditional' fertilisers, such as animal manures and composted material in conventional agricultural systems, which is discussed later in this chapter.<sup>2</sup>

4.5 Mr Michael Fels, representing WAFarmers, noted that more research could be employed in improving the use of fertiliser using existing technology.

...now is the time to put a strong focus, research wise, from a governmental point of view, on improving the efficiency of the use of fertilisers. I think the quickest-fix way of doing it is using technology that is already out here,

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1 *Submission 29*, WAFarmers, p. 6.

2 I. Richardson, 'Fertiliser – a precious commodity', *Rabobank Global Focus*, Summer 2007, p. 7.

which is variable rate technology, using satellite systems and precision agriculture, basically, where you are farming to each individual square metre of the farm, not to the whole paddock. The technology is already out here, but what is not out here is a knowledge of exactly what fertiliser rates you should be using on what soil types and in what environments and all that sort of stuff. There are a handful of us doing a lot of trial work and things on that at the moment, but that is pretty slow and it is not going to lead to a wide uptake of the technology. I think there is a pretty strong role for the government at the moment to step in and accelerate that R&D aspect.<sup>3</sup>

4.6 WAFarmers pointed to genetic modification of crops as a possible pathway for many advances in plant science that will lessen the need for a range of inputs, including fertiliser. There are also a number of supplementary and alternative technologies being examined to increase nutrient use efficiency. WAFarmers stated that widespread education of farmers in relation to a range of different options is needed.<sup>4</sup>

Farmers themselves are very keen to learn new ways to decrease their use of fertiliser, and are always looking at new technology to adopt. However there is always a bit of the 'snake oil' tag attached to new technologies, whether from fear of change or as a result of 'patch protection' by existing industry players.<sup>5</sup>

4.7 The NSW Farmers Association stated that, despite farmers' preparedness to adapt to new practices, 'a lot of work' needs to be done to change the way farmers look at their fertiliser use.

In the grazing industry, they are probably moving further away from manual applications of single super, for instance, to looking at being very specific about fertiliser use in some paddocks where they want to get higher production and looking at different grazing systems in order to be able to let the natural environment build fertility in the soil instead of using introduced fertilisers. In the farming sector, they are very clear about fertiliser use. Whereas traditionally it was just whacking on, say, a hundredweight to the acre, now they do lot of soil tests and they are very clear about their fertiliser use. All of this is being done obviously to try and make sure they are increasing their profitability and not wasting nutrients that could go back into any of the production systems they have in place.<sup>6</sup>

4.8 The Association added that increases in fertiliser prices will drive the research to ensure that farmers remain competitive – 'the industry is being forced to seriously

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3 Mr Michael Fels, WAFarmers, *Committee Hansard*, 16 May 2008, p. 62.

4 *Submission 29*, WAFarmers, p. 7.

5 *Submission 29*, WAFarmers, p. 7.

6 Mr Jock Laurie, NSW Farmers Association, *Committee Hansard*, 16 May 2008, p. 19.

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consider all other options in relation to management of soil and crop production simply because they have to'.<sup>7</sup>

4.9 Australian farmers have access to extensive and diverse information with regard to fertilisers and fertiliser use. These include sales advisers/agronomists – employed by product manufacturers or sellers – they tend to have a technical and input focus and deal with 'in-paddock, here and now' issues; and independent advisers, including private consultants and government advisers. One study noted that the diversity in sources of information – and sometimes conflicting advice – can lead to confusion for some farmers.

Farmers cautiously assess the advice they receive. Judgements are based mostly on personal relationships – that is the adviser's rapport and trust with the farmer. Advisers need to be locally based for accessibility and accountability, but they must have the local knowledge and experience to deliver specific, rather than generic, advice.<sup>8</sup>

4.10 A range of agricultural extension programs to promote best environmental management on farms exist. In relation to fertilisers, these include the Fertcare program developed by the Fertilizer Industry Federation of Australia (FIFA) and the Australian Fertiliser Services Association (AFSA).<sup>9</sup> Extension programs are, however, facing a number of challenges including reduced government funding; questionable effectiveness due to the failure of farmers to adopt many recommended practices; lack of faith in the validity of many extension services; and a lack of a cohesive or widely accepted alternative to the traditional extension model. State agriculture departments are also facing challenges with regard to the nature of the services they are prepared to provide and the ways that those services are delivered.<sup>10</sup>

4.11 Some state-based initiatives were cited during the inquiry. In Western Australia there are currently two plans being developed to manage the use of fertiliser. The WA Department of Environment and Conservation (DEC) is developing a Fertiliser Action Plan which aims to phase out the use of water soluble fertilisers in the Swan Coastal Plan by 2011. The other is the Draft Water Quality Improvement Plan for the Rivers and Estuary of the Peel-Harvey System, being prepared by DEC and the Environmental Protection Authority.<sup>11</sup>

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7 Mr Jock Laurie, NSW Farmers Association, *Committee Hansard*, 16 May 2008, p. 19.

8 Tim Cummins & Associates, *An Evaluation of the Fertcare Program*, December 2007, p. 75.

9 The Fertcare program provides training, quality assurance and certification for industry staff to enable them to meet their responsibilities for food safety and environmental risk management, especially the ability to advise customers on environmental risk management issues.

10 Cummins study, pp 75-77.

11 *Submission 29*, WAFarmers, p. 8.

### *Committee view*

4.12 The committee considers that the Commonwealth, in conjunction with state and territory governments, should encourage greater efficiency in the use of fertiliser through greater education and dissemination of information to farmers on fertiliser use on farms.

### **Research funding**

4.13 Some evidence suggested a redirection in research away from research into organic fertilisers towards funding of research into chemical fertilisers over recent years. Mr Andrew Helps, Managing Director, Climate Friendly Fertiliser Pty Ltd, stated that CSIRO has gradually dispensed with organic fertiliser research to focus on 'revenue streams' from chemical fertiliser companies.<sup>12</sup>

4.14 Dr Maarten Stapper, a former employee of CSIRO, also alleged a research funding bias by CSIRO towards research into chemical fertilisers arguing that research into organic alternatives was not perceived by the organisation as a 'priority'.<sup>13</sup> Dr Stapper also alleged that the bias in funding towards chemical fertiliser research was due to the influence of certain corporate funding sources. Dr Stapper was however unable to provide documentary proof of these allegations.

Dr Stapper—People advised me that it is the companies that tell CSIRO to stop all this alternative business because it affects them.

Senator STERLE—What companies?

Dr Stapper—The fertiliser companies and the chemical companies. There are only two or three big ones—

Senator STERLE—Who tells you that?

Dr Stapper—That is what people have been telling me: farmers, consultants, other researchers from outside CSIRO.<sup>14</sup>

4.15 The committee sought a response from CSIRO to these allegations. In respect of funding of organic fertilisers, CSIRO stated that while it does not conduct research specifically on these types of fertilisers it has 'a long standing research objective to improve the efficiency of plant use of applied nutrients to reduce the need for fertilisers and to minimise the environmental impacts'.<sup>15</sup>

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12 *Submission 8A*, Climate Friendly Fertiliser Pty Ltd, p. 31. See also Mr Andrew Helps, *Committee Hansard*, 16 May 2008, pp 41, 46-47.

13 Dr Maarten Stapper, *Committee Hansard*, 11 November 2008, pp 4-5.

14 Dr Maarten Stapper, *Committee Hansard*, 11 November 2008, p. 9. See also Dr Maarten Stapper, *Committee Hansard*, 11 November 2008, p.14.

15 CSIRO, Correspondence, dated 18 June 2009.

4.16 In relation to its research priorities, the CSIRO stated that it has a significant research commitment into a broad range of the biological aspects of soils and plant growth – 'while the immediate focus of that work is largely broad-acre cropping, the principles uncovered have broad applicability to both conventional and organic/biological systems of production'.<sup>16</sup>

4.17 As to the alleged influence of corporate funding sources, the CSIRO stated that its 'research agenda is not set by companies who invest with us'. The organisation noted that CSIRO Plant Industry – the area in which Dr Stapper worked – does not receive financial support for research into the use of fertilisers that has been conducted for any major national or international company. While there may have been 'some informal discussions' there has been 'no contact between Plant Industry and companies that make fertilisers related to project funding'. In relation to other areas of CSIRO, the organisation stated that 'there has been some project funding but it is very small'.<sup>17</sup>

### *Committee view*

4.18 The committee recognises the importance of research into fertiliser use and application for the future sustainability of the agricultural sector. The committee believes that, given the importance of developing viable alternatives to chemical fertilisers and noting the CSIRO's general research expertise in the area, the CSIRO should consider conducting some research specifically on organic fertiliser use in agriculture.

### **Alternatives to chemical fertilisers**

4.19 A number of submissions argued that greater emphasis needs to be given to the adoption of alternatives to chemical fertilisers.

4.20 Climate Friendly Fertiliser Pty Ltd stated that:

For broad acre dryland farmers in Australia there is currently no alternate to chemical fertilisers and therefore no way that they can manage the risks inherent in high energy prices, high international freight rates, commodity price fluctuations, potential emission taxes and the value of the \$A.<sup>18</sup>

4.21 Several examples of the development of organic fertilisers were discussed during the inquiry. Climate Friendly Fertiliser Pty Ltd has proposed the development of granulated organic fertiliser out of organic waste streams, both from intensively raised animals and from waste organics, such as food and garden waste and animal and industrial wastes. Mr Andrew Helps explained the product in the following terms:

This is an organic product, but you can bulk handle it. It is tough enough to be dropped on a concrete floor and picked up with a front-end loader

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16 CSIRO, Correspondence, dated 18 June 2009.

17 CSIRO, Correspondence, dated 18 June 2009.

18 *Submission* 8A, Climate Friendly Fertiliser Pty Ltd, p. 4.

without falling to bits. It is in a format where it has effectively the same specific gravity as DAP and MAP so that you can coblend it—

CHAIR—Put it in an air seeder.

Mr Helps—and put it in an air seeder or a conventional Connor Shea disc plough. If you are into no-till farming, it will go straight through the air seeder. That has come out of an anaerobic digester in America that takes municipal green waste and municipal food waste, plus a bit of animal mortality—dead pussycats, dogs and things. It is all nutrients. It is heat treated. It is pathogen-and antibiotic-free. It is nearly 10 per cent nitrogen. It has three per cent phosphorous in it.<sup>19</sup>

4.22 Mr Helps stated that the technology has been trialled and is effective in growing pasture and grain. Mr Helps added that:

It is providing a full range of nutrients, plus carbon. The product is on average about 30 per cent carbon. If you study the science that is coming out of especially the American research organisations at the moment, the key to processing nutrients in the soil is actually soil carbon. There is extensive research out now which is saying the widespread use of chemical nitrogen fertilisers is basically destroying soil carbon.<sup>20</sup>

4.23 The company proposes building a facility at Leeton (NSW) producing 200 000 tonnes of fertiliser a year. The plant would be the first of its type constructed outside the United States and only the fifth plant of its type in the world.<sup>21</sup>

4.24 Mr Helps noted problems in establishing the enterprise, including debt funding from the banks and resistance from Incitec Pivot.

I did not want to create another fertiliser distribution system in Australia, so I have been trying to talk to Incitec Pivot about access to the distributor network and they just will not return the phone calls or emails.<sup>22</sup>

4.25 The committee sought comment from witnesses on the Climate Friendly Fertiliser proposal. Both positive and negative responses were received. A representative of WAFarmers noted that the proposal was weak on detail and did not provide any scientifically replicated trial results. However the representative stated that the proposal did include some good ideas in relation to recycling nutrients, but this requires substantial public investment and often the processes produce substantial greenhouse gases. It was also noted that the proposal represented a long term strategic investment project, rather than a solution to pricing issues in the short term.<sup>23</sup> Another

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19 Mr Andrew Helps, *Committee Hansard*, 16 May 2008, p. 44.

20 Mr Andrew Helps, *Committee Hansard*, 16 May 2008, p. 41.

21 *Submission 8A*, Climate Friendly Fertiliser Pty Ltd, pp 6, 49-50.

22 Mr Andrew Helps, *Committee Hansard*, 16 May 2008, p. 42.

23 Ms Belinda Eastough, Correspondence, dated 26 May 2008.

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representative of WAFarmers also noted that the claims put forward needed to be substantiated by solid data.<sup>24</sup>

4.26 Another example of an organic fertiliser product was provided by the Bio - Organics Group Pty Ltd. The company stated that it has developed a new, patented, low-cost process which transforms animal manures and sewerage sludge into an effective fertiliser. The company argued that the process solves manure stockpile issues and is capable of application and use with existing practices, plant and equipment. Sludge and trade or grease trap wastes that were previously disposed of to landfill, waterways or incineration can now be recycled as soil fertilisers.

4.27 The process does not rely on composting, temperature or pressure and is not related to the price of natural gas. The company noted that the end fertiliser products also contain good levels of carbon (20-30 per cent) which contribute significantly to enhanced moisture retention at the root level.

4.28 The company is developing customer bases in China, Thailand, the Middle East and the EU, The company stated that 'the market here appears to be closed to us' although it is constructing a small plant in Queensland.<sup>25</sup>

4.29 Some evidence cautioned against the claims sometimes made in relation to the supposed benefits of alternative types of fertiliser.

...of the many organic, rock phosphate and 'natural' type products that have been tried over the years, and reported in trial data by agriculture departments and other independent bodies, there really has not been anything that has given anything like the responses of inorganic fertilisers at a cost-effective price.<sup>26</sup>

4.30 Evidence also pointed to the importance of rigorous scientific testing of alternative products. Some witnesses suggested the introduction of a registration-type system for these new products.

When we look at some of the alternatives, the additives and other things that are about...there is always a bit of snake oil. What we have lacked and still do lack is some sort of authority or scientific backing to many of the products that are out there. I imagine those products are going to proliferate as the cost of fertiliser goes up. Farmers are going to be bombarded with products that claim to reduce fertiliser use, and I really think there is a role for government in insisting that these products are registered and that the claims made for them are true, because farmers are going to be led well and truly up the garden path with many of those products.<sup>27</sup>

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24 Mr Michael Fels, Correspondence, dated 26 May 2008.

25 *Submission 42*, Bio-Organics Group, p. 1.

26 Mr Michel Fels, WA Farmers, *Committee Hansard*, 16 May 2008, p. 60.

27 Mr Trevor De Landgraft, WAFarmers, *Committee Hansard*, 16 May 2008, p. 60.

4.31 The committee considers that with the cost burden of chemical fertilisers on the farming sector, the development of alternatives to these types of fertilisers needs to be encouraged. The committee also believes that alternative fertiliser products need to be thoroughly trialled and tested prior to their release on the market.

### **Development of domestic sources**

4.32 Submissions pointed to the need to further develop domestic sources of fertiliser supply. The Australian Energy Company (AEC) noted that the provision of local supply of fertiliser is crucial for managing security of supply as well as assisting in the stability of prices for Australian farmers.<sup>28</sup> The AEC stated that Australia's supply of nitrogen fertiliser is vulnerable – 'global trends create severe uncertainties for Australian farmers who rely on an annual supply of imported urea for their agricultural production'.<sup>29</sup>

4.33 PGA Western Graingrowers noted that a recently announced phosphate project in the WA interior, other projects in the Northern Territory, and the expected continuation of development associated with the North-West shelf gas reserves, give some hope that the increase in fertiliser prices has sparked a new wave of investment in the local production.<sup>30</sup>

4.34 Examples of local initiatives were provided during the inquiry, including Minemakers Ltd proposed rock phosphate mine in the Northern Territory and the Australian Energy Company's and Perdaman Chemicals and Fertilisers urea fertiliser plants.

#### ***Minemakers Ltd***

4.35 Minemakers Ltd proposes to mine rock phosphate at the company's Wonarah phosphate deposit in the Northern Territory. The company aims to transport the product to Darwin for export to fertiliser factories in Asia and to fertiliser plants in southern Australia and Western Australia.<sup>31</sup>

At this stage we have estimated our operating costs at about A\$150 per tonne, of which about \$100 per tonne, in round figures, is the logistics part. Had there been an east-west railway from Mount Isa to Tennant Creek, we think the cost of logistics could be reduced by between \$30 to \$50 per tonne, which is a significant saving.<sup>32</sup>

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28 *Submission 2*, AEC, p.5. See also *Submission 29*, WAFarmers, p. 4.

29 *Submission 2*, AEC, p.1.

30 *Submission 14*, PGA Western Graingrowers, p. 2.

31 *Submission 62*, Minemakers Ltd, pp 1-4.

32 Mr Neville Bergin, *Committee Hansard*, 24 March 2009, p. 3.



4.36 The company argued that Australia could be a major player in the world rock phosphate and phosphate fertiliser industry and the project would introduce effective competition in the marketplace.

Introducing our product and rock phosphate from the other Georgina Basin producers would open up a vast phosphate resource for Australia and would provide alternative sources for buyers to purchase their rock from. Some people are certainly unhappy with the behaviour of the Moroccans over the past year or so and, although the price has come back somewhat to US\$250 to US\$290 a tonne, as a matter of principle people are looking for alternative sources of rock just to try and break the Moroccan monopoly on pricing.<sup>33</sup>

4.37 The company argued that effective transport infrastructure is however needed to overcome the very significant costs associated with moving bulk freight. The company estimates that the trucking and logistics part of its operation will account for about two-thirds of its operating costs. The infrastructure requirements would include the construction of a rail link between Mt Isa and Darwin, and a rail link between Tennant Creek and Wonarah; upgrading of the north-south Ghan railway and an extension to Mt Isa; and expansion of the Port of Darwin.<sup>34</sup> Minemakers indicated that it had forwarded a proposal to Infrastructure Australia on these projects:

We made a submission to Infrastructure Australia on both the upgrade of the Port of Darwin, because there are some capacity limitations in Darwin, and also on the construction of the railway between Mount Isa and Tennant Creek. Since we made that submission, we have been approached by the Australian Transport and Energy Corridor—ATEC—to conduct a feasibility study on a rail link between Wonarah and Tennant Creek.<sup>35</sup>

4.38 The committee questioned the company as to whether the infrastructure upgrades could be seen as providing a form of Commonwealth 'subsidy' to the company. Mr Neville Bergin, General Manager, Projects Development noted however that:

Our submission to Infrastructure Australia was with regard to the Mount Isa to Tennant Creek link, which we would see as part of a major national infrastructure project. That would provide benefit to many other potential producers and existing producers in that catchment area. Our feasibility study is specifically with regard to the link from Wonarah to Tennant Creek. We are co-funding the feasibility study, and ATEC have indicated that they would go out and build the railway.<sup>36</sup>

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33 Mr Neville Bergin, *Committee Hansard*, 24 March 2009, pp 7-8.

34 *Submission 62*, Minemakers Ltd, pp 7-8.

35 Mr Neville Bergin, *Committee Hansard*, 24 March 2009, p. 3.

36 Mr Neville Bergin, *Committee Hansard*, 24 March 2009, p. 5.

4.39 Minemakers argued that a rail link from Wonarah to Tennant Creek is important to the project's success and would enable a \$50 per tonne saving on costs. This saving could either allow a cheaper product to be available to Australian fertiliser plants; make Wonarah more competitive against traditional Moroccan suppliers; or assist in the viability of the company should there be a future period of sustained low rock phosphate prices.<sup>37</sup>

### ***Australian Energy Company***

4.40 The Australian Energy Company (AEC) is currently in the development phase of a \$2 billion urea fertiliser plant in the Latrobe Valley (Victoria). The plant will use the latest carbon capture and storage technology to produce 1.33 million tonnes of urea fertiliser per annum, providing a greater security of supply for Australia.

4.41 This facility will use Victoria's significant lignite/brown coal reserves as feedstock as opposed to natural gas, which is the primary feedstock for other urea plants around the world. This facility, when fully operational by 2012, will use coal gasification to produce 3200 tonnes of urea per day replacing approximately \$300 million of current urea imports and generate approximately \$150 million of exports per annum. The plant will incorporate cutting edge technology to capture the carbon (and other byproducts) resulting from the process. The reserves and supply arrangements for the brown coal have been secured in a cooperative arrangement with Great Energy Alliance Corp (GEAC), the owners of the Loy Yang power station, who will provide the supply of coal to the urea plant. Victoria's Latrobe Valley has 53 billion tonnes of economic brown coal. The company argued that the assured supply of brown coal provides a level of certainty and ongoing viability.<sup>38</sup>

4.42 The AEC stated that it would supply 60 per cent of the market's requirements while 30 to 40 per cent of the urea will be exported to avoid long periods of storage due to seasonal demand. The company argued the benefits to farmers of the proposed arrangement. The committee however questioned the extent to which the benefits would flow to farmers if the company was only potentially supplying 60 per cent of the market.<sup>39</sup>

4.43 The committee also questioned the company as to why farmers would choose their product rather than an imported product. Mr Paul Duckett, General Manager, Operational Development, AEC explained that:

The parity price may be the same but then there is freight. The added cost of freight from the Middle East at the moment is in excess of US\$100 per tonne.<sup>40</sup>

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37 *Submission 62*, Minemakers Ltd, p. 5.

38 *Submission 2*, AEC, pp 2-3; Mr Paul Duckett, AEC, *Committee Hansard*, 23 July 2008, pp 2-5.

39 Mr Paul Duckett, AEC, *Committee Hansard*, 23 July 2008, pp 5-6.

40 Mr Paul Duckett, AEC, *Committee Hansard*, 23 July 2008, p. 6.

4.44 The committee also questioned the company about its relationship to international pricing structures and consequent potential returns.

CHAIR—But you are admitting that you are going to be part of a world cartel.

Mr Duckett—No, we will be part of a—

CHAIR—That is in polite language.

Mr Duckett—In terms of parity pricing, yes.

CHAIR—It will give you a 50 per cent return on your profit if everything stays even.

Mr Duckett—If everything stays even. At this stage it is about a 40 per cent return.<sup>41</sup>

4.45 The AEC stated that there is strong market potential but that the ammonia/urea project will rely on public infrastructure to access the national and international markets. The AEC argued that government support is needed to facilitate the increased capacity and modernisation of the existing transport infrastructure.<sup>42</sup> PGA Western Graingrowers also noted that governments need to facilitate the entry of new suppliers into the Australian market, by ensuring the infrastructure and other business conditions are suitable for such entrants.<sup>43</sup>

### ***Perdaman Chemicals & Fertilisers***

4.46 Perdaman Chemicals and Fertilisers is developing a coal-to-urea fertiliser project in Collie, WA. Production is planned to begin in 2013. The expected capital expenditure for the project is US\$2.6 billion.<sup>44</sup>

4.47 The company proposes to set aside between 100 000 and 150 000 tonnes per annum for Australian consumption. Perdaman noted that Australia is currently importing most of its urea and Australian farmers have to absorb considerable transport and distribution costs which make urea prices in Australia considerably higher than comparable international market prices.

4.48 The company indicated that it is prepared to pass on any freight cost advantage it has over imported urea to Australian farmers. Perdaman noted the potential for its project and the AEC project to supply local markets at reduced costs. The company also noted that once the viability of its project has been demonstrated, additional urea could be produced to meet an expanded local market.<sup>45</sup>

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41 Mr Paul Duckett, AEC, *Committee Hansard*, 23 July 2008, p. 6.

42 *Submission 2*, AEC, p. 3.

43 *Submission 14*, PGA Western Graingrowers, p. 2.

44 *Submission 60*, Perdaman Chemicals and Fertilisers, p. 2.

45 *Submission 60*, Perdaman Chemicals and Fertilisers, p. 2.

**Committee view**

4.49 The committee supports the further development of domestic sources of fertiliser to supply the Australian market in a genuinely competitive market situation. The committee believes that it is in the national interest and the interests of our sovereignty to secure, as far as possible, adequate supplies of fertiliser for Australian farmers. It considers that governments at all levels should encourage and support developments in this area. The committee believes that the provisions of the Foreign Investment Review Board (FIRB) in relation to proposals by foreign interests to undertake direct investment in Australia should be reviewed so as to take into account issues of national sovereignty, including interests of food security. The committee will seek a briefing from the FIRB in relation to these matters.