

Senate Select Committee on Agricultural and Related Industries

Submission on:

The pricing and supply arrangements in the Australian and global chemical and fertiliser markets, the implications for Australian farmers of world chemical and fertiliser supply and pricing arrangements, monopolistic and cartel behaviour and related matters.

Submitted by:

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Committee Secretary
Senate Select Committee on Agricultural and Related Industries
Department of the Senate
PO Box 6100
Parliament House
Canberra ACT 2600
Australia

Dear Secretary,

Attached is a submission providing information on the Select Committee term of reference:

“The pricing and supply arrangements in the Australian and global chemical and fertiliser markets, the implications for Australian farmers of world chemical and fertiliser supply and pricing arrangements, monopolistic and cartel behaviour and related matters.”

The project we are undertaking in Victoria’s Latrobe Valley is crucial to the deliberations of the Select Committee and we would be happy to provide further information that may assist the Committee’s work and findings.

For further information and follow up on this submission, please contact:

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Yours sincerely,

ALLAN BLOOD
CHAIRMAN
Australian Energy Company Limited

Introduction

This submission by the Australian Energy Company (AEC) advises the Select Committee that Australian farmers are likely to face a shortage of supply of urea in the near future unless additional measures are taken to find alternative sources. The submission sets out a proposal to manufacture urea in Australia using the abundant feedstock brown coal.

Global warming and ongoing world population increase will accelerate the trend to higher fertiliser costs for Australian farmers as well as threaten their supply.

Australia's current supply of urea fertiliser is reliant on imports from the Middle East with little significant domestic manufacturing undertaken. The international fertiliser market is being impacted heavily by the competing demands for the most commonly used feedstock, natural gas and hence an increase in cost. In addition the increasing demand generated by China and India is increasing demand for the world's current production.

There is an overwhelming need for a national strategy to ensure that Australia's agricultural sector can adapt to the emerging impacts on global urea and other fertiliser supplies. The submission offers the optimum solution of local manufacture but stresses the need for infrastructure renewal and provision as well as consideration in carbon tax policy.

Australia's Supply of Urea

Australia's supply of nitrogen fertiliser (urea) is vulnerable. Global trends create severe uncertainties for Australian farmers who rely on an annual supply of imported urea for their agricultural production.

Urea is an important agricultural chemical that is high in nitrogen and crucial for Australia's broad acre agricultural farming and horticultural production. Australia currently consumes approximately 1,330,000 tonnes of urea a year. It relies on the Middle East for the vast bulk of its supply with a small proportion being produced from natural gas feedstock at a plant in Brisbane.

Australian Urea Consumption

Queensland	-	256,000 tonnes
New South Wales	-	290,000 tonnes
Victoria	-	202,000 tonnes
South Australia	-	132,000 tonnes
Western Australia	-	430,000 tonnes
Tasmania	-	20,000 tonnes

The global demand for Urea is increasing and Australia's supply will become more costly and scarce. The growth in world population and the associated

shrinking supply of arable land places pressure to achieve greater agricultural production per hectare. Increasing population and industrialization of major population countries will lead to strong competition for the existing supply of fertiliser, in a similar way to what has already occurred with other commodities, for example iron ore. Australia must seek sustainable long term supplies of fertiliser to ensure it can meet its ongoing national requirements.

Global warming is leading to a realignment of the demand for energy resources. Natural gas is increasingly replacing coal and oil to power industry and generate electricity. Most of the urea produced in the world relies on natural gas feedstock.

There is increasing global demand for gas which may cause it to be diverted away from urea production to more profitable energy uses; the European price is in the range of US\$6 to US\$8 Gigajoule (GJ). Currently the Middle East receives a return of approximately US\$1 GJ through its urea production. They have the option of linking with the Russian pipeline where they would receive US\$5 GJ. This may or may not happen but it is a serious risk to the access to natural gas as a feedstock for the global supply of urea.

Australia has large reserves of natural gas but they are similarly being used in power generation or being exported due to the same global competitive issues.

To maintain its efficient agriculture production Australia must ensure a reliable supply of urea into the future at an acceptable price. It is unlikely that this can be achieved with long term fixed price contracts. More realistically it can develop a local industry to produce urea and replace imports.

Fortunately Australia has the option to use an abundant alternative feedstock namely brown coal. The Australian Energy Company has secured supplies of brown coal in the Latrobe Valley of Victoria to produce urea replacing imports and generate export income.

Impact on the Pricing of Urea

The discussion above shows that the increasing competition created by the demand to use the natural gas for energy uses will lead to an increased cost for urea and significant shortages in the global market. It shows that producers may receive greater than 5 times the return on the gas by selling it as energy rather than using it for urea feedstock.

The alternative feedstock is brown coal. It has significant advantages in being an abundant resource and in cost. The brown coal feedstock cost per Gigajoule (GJ) is a fraction of the cost of natural gas. The comparative cost of producing urea from brown coal feedstock is US\$14.95 per tonne versus from gas feedstock of US\$125 per tonne (at gas cost per tonne of \$5 /GJ).

AEC Proposal to Produce Urea in Australia

AEC is currently in the development phase of a \$2 billion Urea fertiliser plant in the Latrobe Valley of 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 to Australia in a world of increasingly competing demands.

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. It is proposed that 30% to 40% of the urea will be exported to avoid long periods of storage due to seasonal demand.

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 assured supply of brown coal provides a level of certainty and ongoing viability not available to gas fed plant. Furthermore, the AEC project will control the cost of the power input by its associated low emissions electricity generating plant.

Project Dependencies

Infrastructure Requirements

The ammonia/urea project will rely on public infrastructure to access the national and international markets. Strong leadership is required from government to facilitate the increased capacity and modernisation of the existing transport infrastructure. The Latrobe Valley coal reserves will be the focus for significant economic expansion in coming decades, but only if the government supports such expansion with sound infrastructure planning, facilitation and investment.

Transport

Efficient transport is crucial to the success of this project and to ensuring reasonable prices are paid by Australian farmers. Transport contributes some 14% of Australia's greenhouse gas emissions. Today's mix of transport modes will lead to an increasing cost burden in a carbon trading environment.

Modernisation, including integration of the rail and shipping infrastructure, has the potential to achieve a modal shift in transportation from road to rail with a consequent 3:1 reduction in emissions from transport. There is an urgent requirement to drive significant improvement in the way fertiliser is transported across Australia in order to insulate agricultural production from these impending cost increases.

Rail

The transport of the urea to market will require 4 trains per day from the Latrobe Valley. This will take the existing rail lines to 100% of capacity. This leaves no scope for further capacity expansion in this project or other regional development. There is an urgent need for infrastructure modernisation linking in with the national rail network.

The infrastructure investment required to facilitate this project, particularly connecting directly into the standard gauge rail network, could revolutionise the way fertiliser is distributed in south east Australia. By railing fertiliser directly to the interior of Australia it becomes feasible to establish more cost effective regional fertiliser storage (reducing the storage cost from approximately \$17 m₂ at Newcastle to .70c m₂ in regional locations). This project will achieve a freight cost advantage over imported product to all parts of Australia.

The impact on farm productivity, through availability of supply and reduced transport and storage costs, could be immense as well as removing many heavy road trucks, currently used to distribute fertiliser, from Australia's main arterial roads.

Governments need to ensure a range of infrastructure matters are resolved, namely to:

- specifically commit to the modernisation and increased rail capacity to support the ongoing development of the regions coal reserves
- provision for the bypass of Melbourne's commuter rail network and directly access the national gauge system and port facilities
- commit to direct access to port facilities and;
- facilitate an interim bulk handling facility for the transfer of materials from the broad gauge to standard gauge rail lines

Port

- Direct access to port facilities is required. This may be the Port of Geelong, however the Melbourne commuter rail traffic is an impediment to efficient commodity trains, or alternatively direct rail into the Port of Hastings.

Carbon Geo-sequestration Pipeline

The plant will produce and capture one million tonnes of CO₂ per annum. Whilst some of this will be utilised in the urea production the surplus must be stored. A means of carrying the CO₂ to geo-sequestration sites is a mandatory requirement of the project.

Victoria has a unique capacity and opportunity in this regard with the proximity of the Bass Strait oil fields. The timing of providing the common carbon capture and sequestration facility however is crucial to the success of the project. The

pipeline construction is beyond the control of AEC but government commitment to the immediate building of this infrastructure is urgently required.

The failure to have the pipeline in place may jeopardise this project. This project's feasibility relies on it being in production ahead of other competitors and not being subjected to a carbon tax. Imposition of the tax would make the project uncompetitive and cause it to not proceed in Australia.

Growing world demand for fertiliser will lead to new plants being developed. Australia has a choice; it can facilitate the development in Australia and guarantee ultimate carbon capture while securing Australia's supply of urea or see it developed in countries that may have no environmental controls. The control of carbon emissions has become a global issue and there is an opportunity to develop a supply with zero long term emissions.

State and Federal governments are urged to expedite the common pipeline to geo sequestration sites, so that capture and sequestration can begin from the commencement of production in 2012. The Commonwealth Government must agree to not impose any form of carbon excise in the event that common carbon storage is not available when the urea plant comes on line.

Conclusion

Provision of a local supply of fertiliser is crucial for managing security of supply as well as assist in the stability of prices for Australian farmers. A project such as that indicated here provides this security, with the appropriate 'future proofing' consideration of a carbon constrained environment and with the value added use of the Latrobe Valley brown coal resource. The market is well positioned to embrace this project but the challenges for government to assist in the resolution of outstanding issues of infrastructure constraints are considerable.