Australia

Food Water Energy Nexus

Australia a long term sustainable & reliable strategically aligned food security value chain partner
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Global export food demand dynamics

- Population increasing 30% by 2050 world will need to produce 70% more food
- Increasing numbers of affluent consumers – 30% increase in average daily calorie intake

- Major population increases coming from regions where cereals are not readily produced impacting basic food product sustainability and price security, driving substantial increase in global cereal export demand
Breakdown of Asia demand

- Asia
- Rest of world
- China
- India
- Rest of Asia

Billion (2007 US$)

0
Australia’s food export projections

- Beef
- Wheat
- Dairy products
- Sheep meat
- Sugar

Billion (2007 US$)

2007

2050

- Red
- Blue
**Grain Importers 2011**

- Japan: 52%
- Mexico: 8%
- Egypt: 6%
- Saudi Arabia: 6%
- China: 5%
- Indonesia: 5%
- Rest of World: 3%

**Grain Exporters 2011**

- United States: 24%
- Argentina: 14%
- Australia: 7%
- Russia: 7%
- European Union: 7%
- Ukraine: 7%
- Brazil: 9%
- India: 9%
- Canada: 5%
- South Korea: 5%
- Algeria: 4%
- Mexico: 4%
- Rest of World: 5%

Source: USDA, Earth Policy Institute
Sustainability of production resource (arable land & water utilisation)

One arable Hectare will need to feed 30% more people by 2050.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of people Average ‘Global’ Arable Hectare Feeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>2.4</td>
</tr>
<tr>
<td>2005</td>
<td>4.5</td>
</tr>
<tr>
<td>2050</td>
<td>Will need to support 6.1 to 6.5 (est.)</td>
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</tbody>
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Source: Savills International Farmland Focus 2012.
• Cereal exporting nations are improving their water use efficiency / capacity to convert water into grain at a faster rate than is occurring in cereal grain importing countries.
Food security - future supply demand and affordability dynamics

- Increasing demand, (global cereal stocks-to-use ratio = 24% where to?)
- Reduced rate of productivity gains
- Declining yields, (climate, conflict, non food use)
- Rising costs of production
- Government policies, (food security policies i.e. export embargos)
- Global supply / value chain dynamics adjusting rapidly i.e. vertical integration models emerging – will export grain be traded in 2050?
- Arable land values rising globally
- Trend towards increasing density of population urbanisation
FAO Food Price Index

Food and oil prices tend to rise together

- Red: Food Price Index
- Blue: Brent oil price

Agricultural input prices
Economy-wide prices
Agricultural output prices

1980=100

1980 83 86 89 92 95 98 2001 04 07 10
Global Capital Growth (Annualised 2002-10)


Global Cost of Land / MT of Wheat Production

Source: Savills International Farmland Focus 2012 (from IPA, USDA and Eurostat and various data estimates).
Australia a long term sustainable & reliable strategically aligned food security value chain partner

- Food exports – significant global food exporter in 2050

- Research - significant investor in primary production R&D, Au$1.5 Billion annually

- Food safety / quality / biosecurity – commitment, standards and quality very high

- Sustainable production practices – high water use efficiency and min tillage technologies

- Foreign investment and strategic supply / value chain integration sort and welcomed