

# Brunei Ammonia/Urea Manufacturing Project

Consortium Presentation  
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## Ammonia/Urea Project Presentation

- Introduce Project Partners
- Urea Product and Market Information
- Project Dimensions
- Manufacturing Process
- Project Benefits for Brunei



# Project Partners

## 3 Foundation Partners



- Original project proponent
- Indonesian subsidiary involved in ammonia/ urea trade and development of a world scale facility within Asia
- Strong strategic relationship with US West Coast largest ammonia/urea importers



- 30 years involvement in Brunei LNG Project
- Top 10 global revenue company
- Owns and operates ammonia plants in Indonesia



- Publicly listed company with market capitalisation ~ AS\$1 billion
- Australia's largest fertiliser manufacturer and distributor
- Owns and operates ammonia and urea plants in Australia



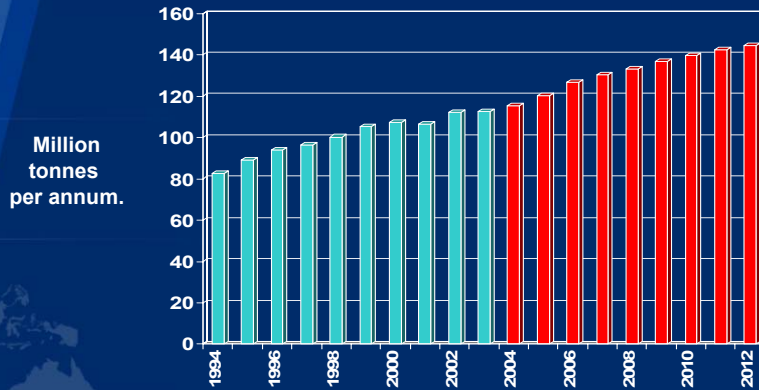
# Urea Product Information

## The world's most widely used nitrogen fertiliser

- The most commonly used fertiliser to provide nitrogen in agriculture.
- The most concentrated form of solid nitrogen fertiliser - 46%N.
- Appearance: Free flowing white granules (2 - 4 mm diameter)
- Chemical Formula:  $\text{CO}(\text{NH}_2)_2$



## Urea Market Demand



Urea is one of the world's largest globally traded commodities with demand increasing at ~3% per annum.



## Ammonia/Urea Project Dimensions

### Ammonia Production

- Annual rate - 720,000 mt
- World scale - equal to largest current production rate

### Granular Urea Production

- Annual rate - 1,225,000 mt
- World scale - largest Asian manufacturing capacity

### Scale of Investment

- Approx. US\$600 million

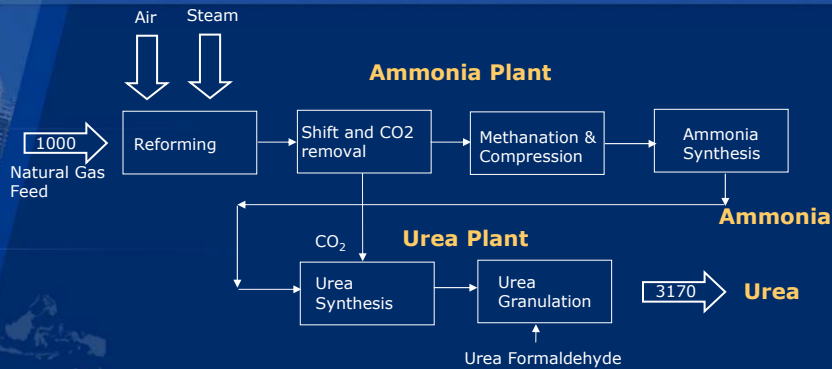


**World scale, proven size, proven technology.**



# Ammonia and Urea Manufacture

(Simplified Block Flow Diagram)



- Note :**
- 1000 units of gas will produce over 3000 units of urea
  - 100% of ammonia produced is used in urea production
  - Over 70% of CO<sub>2</sub> generated from ammonia production is used in urea production



# Environmental Sustainability

## Urea Manufacture has minimal Environmental Impact:

- Urea is used in growing crops which consume CO<sub>2</sub> and feed the world
- Liquid effluent is negligible and will be managed to world leading ANZECC protocol
- Gaseous emissions will be managed to meet world standards
- The facility will be constructed and operated to world's best and fertiliser industry codes of practice.



## Why Brunei ?



BRUNEI

- Strategic location servicing Asia, US West Coast and Australia
- Brunei Government committed to downstream development
- Gas infrastructure is existing and extensive
- World competitive gas price
- Stable, safe and economically secure country
- Availability of well educated and disciplined workforce
- Track record with large petro chemical facilities



## Project Benefits for Brunei

- Broaden the Economic base of Brunei
  - Expand exports earning by ~US\$150 million per annum
  - Diversification from petroleum income
  - Multiplier effect from spin-off opportunities
- Training and Development
  - On site skills development and training
  - University and Technical Institute programs
  - Secondment opportunities with project partners
- Employment opportunities at many levels
  - Directly at the facility
  - Indirectly servicing the facility
  - Spin off industries





## Employment Opportunities

### More than 200 new jobs will be created

- 155 jobs direct with the project owners
- More than 50 new permanent jobs servicing the facility
- High proportion of skilled management and technical roles
- High level of Bruneisation of jobs



## Indirect Employment

### Suppliers to the Project

Ongoing plant suppliers and service contractors

- Gas, power and water supplies
- Urea Formaldehyde and chemicals
- Maintenance labour
- Facility management
- HR and IT Services
- Training
- Financial Services



# Spin - Off Opportunities

## Downstream Usage of Urea

- Melamine
- Coatings and laminates
- Formaldehyde
- Building products (particle board and melamine)
- Fertiliser bagging and blending plants
- Livestock nutrition (cattle/poultry)
- Fuel additives

Spin off opportunities could add as many as 300 additional full time jobs



# Brunei Ammonia/Urea Manufacturing Project



The ammonia/urea project has clear benefits to Brunei through diversification of earnings and the creation of over 200 new full time jobs, as well as new spin off opportunities for small to medium enterprises.

