Producing MAP and DAP Ammonia Based Fertilisers (Phosphate Hill Process)

**Energy use and emissions**
- Very high
- Medium
- Low

**CO₂e**
- Gas mining and processing
- Atmospheric Nitrogen (N₂)
- Natural Gas (CH₄)
- Phosphate Rock

**SO₂**
- Waste Sulphur (copper smelter)
- Sulphuric Acid
- Phosphoric Acid

**CO₂e**
- (fugitive emissions and compressors)
- (Piped)
- (Conveyor)
- (Trucked)
- (Piped)
- (Piped as sludge)
- (Rail transport)
- (Shipped)
- (Trucked)

**NH₃**
- Mon-Ammonium Phosphate
- Di-Ammonium Phosphate
- MAP and DAP Plant

**CO₂e**
- Surat Basin
- Mt Isa Acid Plant
- Phosphate Rock Mine
- Gypsum Pile

**Energy use and emissions**
- 40% electricity imported (scope 2 CO₂e)
- 60% electricity generated from waste heat from reaction process

**Application to soils**
- 0.4% N de-nitrification

**CO₂e**
- Waste Sulphur (copper smelter)
- Waste Rock
- Phosphate Rock Mine

**CO₂e**
- Consumption
- Processing
- Primary Distribution Centres
- Additives (minerals)
- LCA (future)
- LCA (complete)

**CO₂e**
- Storage in silos
- On farm transport

**CO₂e**
- Electricity
- BLEEGing with other fertilisers
- Packaging
- Electricity

**CO₂e**
- 3rd Party Distributors
- LCA (future)
- LCA (complete)

**CO₂e**
- 50% trucked to farms in bulk
- 10% product is packaged (packaged)

**CO₂e**
- Cotton, Maize, Sorghum
- Increased protein content
- Increased trace elements (e.g. zinc)

**CO₂e**
- Soil and carbon
- Land use clearing
- Phosphorus to waterways
- Soil erosion
- Soil and carbon
- Land use clearing

**CO₂e**
- Soil erosion
- Storage in silos
- On farm transport

**CO₂e**
- Crop (increased yield)