METHODOLOGY AND SPECIFICATIONS GUIDE

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ARGUS UREA COST AND MARGIN SERVICE

Contents:

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The most up-to-date Argus Urea Cost and Margin Service methodology is available on www.argusmedia.com

Introduction

Argus has developed a cost curve model to calculate production costs and netback margins for over 120 urea plant units across all major export regions. The service provides a forward view of cost development in line with our 15 year outlook. The curves produced represent an annual view.

A cost curve expresses cumulative volume as a function of the cost of production, allowing users to identify the lowest cost producing regions, countries and plants and infer the incentive to produce under different market price conditions.

The model takes into account estimates of the cost of feedstocks, electricity, water, catalysts and chemicals, labour, maintenance, replacement costs, export taxes and transportation costs to fob at a plant unit level.

Users have the option to view two curve types — production or net urea export.

Production cost curve

The urea production cost curve illustrates the production cost against production capacity. The sites covered are located at or near to a port or regularly transport product to a port for onward seaborne export. Canadian capacity to deliver overland to the US market is also assessed.

Production cost is comprised of feedstock cost and other variable and fixed costs as outlined below.

Production capacity is defined as installed capacity multiplied by an Argus-defined utilisation rate and is reported in thousands of tonnes per annum. Capacity utilisation is set at plant unit level. Installed capacity per annum is calculated at unit level, as the daily production capacity multiplied by 330 days of annual operation. Plant units that exceed the standard 330 days of operation will be assigned a utilisation rate in excess of 100%.

Plant unit level cost assessments are aggregated to provide a site level weighted average cost for each component.

The feedstock, other variable and fixed costs incurred in the upstream production of ammonia are assigned directly to the urea feedstock, other variable and fixed cost classifications.

A number of the urea plants included in our modelling serve downstream units on-site that can use a proportion of the urea produced. The production curve represents the total volume that can be produced at a site and excludes the potential on-site consumption of urea for other products.

Net urea export cost curve

The net urea export cost curve illustrates the cost to fob against the net urea availability for export.
Cost to fob is comprised of feedstock cost and other variable and fixed costs, transportation cost to fob and export taxes where relevant.

Net urea export potential is defined as production capacity minus the sum of the potential on-site use of urea in the production of UAN. The net urea export curve does not refer to an expectation of the volume of urea that will be exported from the site but provides an indication of the minimum volume that could be available to the market at the assumed urea capacity utilisation rate even if the production of UAN is maximised.

A producer fob margin is provided with the net urea export cost curve. Subtracting the cost to fob from the relevant Argus long-term regional fob price forecast gives an estimation of the average annual margin for each plant.

The inputs to the model including capacity utilisation will be revised every six months. Argus intelligence in fertiliser, oil and gas markets is used to provide a thorough analysis of feedstock prices.

Model plant unit specifications

- Installed capacity
- Utilisation rate
- Feedstock usage (mnBtu/t)
- Feedstock unit price ($/mnBtu)
- Ammonia feedstock cost ($/t)
- Ammonia fixed costs ($/t)
- Ammonia other variable costs ($/t)
- Ammonia usage
- Electricity usage (kWh/t) *
- Electricity unit cost ($/kWh)
- Water ($/t)
- Other variables/chemicals & catalysts ($/t)
- Employees
- Labour cost (average wage $)
- Maintenance and overheads factor
- Cost to fob ($/t)
- Export tax ($/t)

**if no on-site generation exists*

Modelled costs

- Feedstock cost (urea and ammonia)
- Other variable costs (electricity, water, catalysts and chemical costs and a proportion of the other variable costs incurred to produce ammonia)
- Fixed costs (labour, overheads and maintenance costs and a proportion of the fixed costs associated to ammonia production)

Model reporting

Users have the flexibility to construct a curve for a specific region/country or set of regions/countries. The default curve structure covers all regions.

Our reporting interface provides the ability to highlight the production costs for a user specified region or country against other plants within the constructed curve.

In additional to total production cost or fob cost, a breakdown of feedstock cost, other variable costs, fixed costs, cost to fob and export tax can be viewed at a site level.

Users can download the cost curve data to Excel.