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# Argus Butadiene Annual 2018

(Insight from the Argus Butadiene Analytics Service)

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Market Reporting  
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## Summary

The major forces that have reshaped the global butadiene (BD) markets started over 10 years ago. Among the casualties of the financial crises in 2008, US auto sales plummeted from 16.1mn units in 2007 to 10.4mn in 2009. The recovery of the US auto industry has been slow and steady, but has also brought about the restructuring and downsizing of the US tire and synthetic rubber industries. At the same time, China's auto industry began a period of explosive growth. Light vehicle sales jumped 50pc in 2009 to 13mn units and another 38pc to above 17mn in 2010, and China became the largest auto market in the world. In 2017, China's light vehicle sales reached 28.6mn units, 30pc of global sales. The third major development was the onset of the US shale gas revolution. US crackers took advantage of abundant low cost ethane. From 2007 through 2016, the percentage of US ethylene made from ethane increased from 50pc to 70pc, while naphtha cracking declined from 27pc to 5pc. The loss of contained BD output from US crackers was 600,000 t/yr over the same period. As a result, US BD and synthetic rubber capacity were idled, rationalized or forced to operate at reduced rates. While the US BD market shrank, global demand shifted to Asia-Pacific. Northeast Asia became the focal point for the global BD market, accounting for 48.2pc of global BD production and 54.0pc of global BD consumption in 2017, and still required 675,000 t/yr of BD imports to balance demand.

The 2018 Butadiene Annual focuses on the expansion of BD supply in the US and the supply and demand balance in China. To capture the advantage of low cost ethane, the US is adding nearly 11mn t/yr of new ethane based ethylene capacity through 2021. Depending on average operating rates, these new crackers will generate an additional 250,000-300,000 t/yr of contained BD by 2022 versus 2016. For the first time in a decade, US BD extraction plants will be able to increase production and supply a greater share of the growing North American BD demand. Eleven new plants manufacturing high performance tires have been or will be built in the US and Mexico between 2015 and 2020. The expansion of alternate ethylene technology is changing BD supply growth in China. Coal to olefins (CTO) and methanol to olefins (MTO) capacity was 4pc of China's ethylene capacity in 2013, but swelled to 26pc in 2017. CTO and MTO processes yield a C<sub>4</sub> co-product stream with almost no contained BD. China had overbuilt BD extraction capacity prior to 2014 and did not commission new BD capacity from 2015 through 2017. Steam cracker ethylene capacity barely increased during the same period. After steady demand recovery, BD plant operating rates in China moved from 65pc in 2014 to 74pc in 2017. More MTO capacity is planned, but steam cracker capacity, along with integrated BD extraction, is projected to grow at 7pc/yr through 2022, and BD extraction plant operating rates will increase to 79pc of capacity. On-purpose BD production in China has failed because of high costs, lower BD pricing and slower demand growth. Some of the original "Oxo-D" style units were closed. Jiangsu Sailboat has introduced yet another route to BD supply by sending the co-product butylene stream from its new MTO plant to an ODH/BD extraction plant. More CTO and MTO capacity is planned and will account for 24pc of China's ethylene capacity in 2022. As a result China will remain a major importer of BD to balance demand, although import volume will gradually decline through 2022.

Market growth and changing trade flows are the main themes of the Argus 2018 Butadiene Annual. BD supply growth in the US will increase faster than demand growth for the next several years, reducing the demand for imports. European crackers are running lighter feed slates and their surplus of BD for export will decline. Growing demand for BD supply to northeast Asia will be met by imports from Europe, the Middle East, India, Brazil, southeast Asia and the US. Argus has provided a comprehensive view on how BD producers and consumers around the world will manage in such a highly competitive and shifting marketplace.

## Key components

In addition to providing details and background on our key findings, the Argus 2018 Butadiene Annual has been updated throughout and includes the following major components:

- A history and forecast of the supply and demand balance for each country that produces or consumes BD from 2013 through 2022. An extended supply and demand balance, by country, through 2027 is available on Argus Direct.
- An overview of regional and world BD markets, including demand analysis of the major BD derivatives.
- A history and forecast of BD and crude C<sub>4</sub> imports and exports by country.
- Analysis of market changes and trends by country and region.
- Useful technical data that explains the production and conversion of BD into its major derivatives.

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## Appendix F: Argus butadiene service

Argus Butadiene Services provide in-depth analysis of the butadiene, C<sub>4</sub> olefins and derivatives markets.

Argus Butadiene Services offer authoritative contract and spot pricing information for butadiene and its derivatives, as well as insight on global fundamentals, trade flows and supply-demand balances through the twice monthly Argus Butadiene report and Argus Butadiene Asia-Pacific Supplement report in alternate weeks. In addition to current butadiene industry trends, Argus also offers insight into future trends in the Argus Butadiene Outlook report, which includes a rolling 13-month price forecast, and a comprehensive Annual Butadiene report on global supply and demand and trade balance. Argus' experts have many years of experience executing consulting projects and providing customized results for clients.

Argus is a leading provider of data on prices and fundamentals, news, analysis, consultancy services and conferences for the global crude, oil products, petrochemical, natural gas, electricity, coal, emissions, bioenergy, fertilizer, metals and transportation industries.

Argus' reports cover global trade and pricing for aromatics, olefins, butadiene, methanol, MTBE, hydrocarbon resins and other petrochemicals. Argus publishes nearly 200 price references, which are widely used for price indexation and analytical purposes. In addition to reports and price data, Argus provides consulting services and publishes multi-client studies.



## Appendix G: Argus butadiene experts

### **Paul Brisson**

Paul Brisson is Vice President of C<sub>4</sub> olefins and derivatives consulting, based in Houston, Texas. Paul has over 40 years of experience in sales, marketing and business management in the chlor-alkali and base petrochemical industry with Diamond Shamrock Chemical/OxyChem, Huntsman, TPC Group, and DeWitt & Company, which was acquired by Argus in 2012. Paul has been a consultant specializing in the global butadiene market since 2007. Paul has BA in philosophy from The Ohio State University in Columbus, Ohio.

### **Chuck Venezia**

Chuck Venezia oversees our petrochemical related services, previously DeWitt. He has over 25 years of experience and is an expert on benzene, styrene, phenol, cyclohexane and their downstream derivatives. His roles with Chevron Chemical and Fininter gave him valuable experience working with major petrochemical accounts in Brazil, Argentina, Mexico, Chile and Peru. He also served as an export manager for polyethylene and managed a network of local agents in Mexico, Central America and the Caribbean. Chuck holds multiple degrees, including a BA in International Relations, and two MAs from Tulane University.

## About Argus

Argus Consulting Services offers you tailored research, independent data, benchmarking, modelling, strategic analysis and decision-making support. The focus is firmly on markets – their structure, outlook, logistics and economics – where Argus' experience and understanding of the global petrochemical and energy sectors provides you with a clear competitive advantage.

## Find out more

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