



Review of Carbo Solutions International's sugar conference held in Bangkok, Thailand in July 2017



Krisda Monthienvichienchai, the CEO of the multinational sugar company Mitr Phol in his opening address charted progress of the company from humble beginning to the giant it is today. It was apparent that the company's strategy to diversify has given its competitive advantage against the volatility of sugar price. It secures only 42% of its income from sugar. Krisda pointed out that the company benchmarks its capabilities with the best in the industry, and also noted that it does not follow 'one size fits all' in its global operations.

Professor Sriroth (Kasetsart University) provided an overview of the structure of the Thai sugar industry. He alluded to the challenge and impact of climate change on cane production – drought last year, adversely impacted output. He discussed the 2014-2026 Roadmap that will see sugarcane production in Thailand expanding to 1 million hectares. He highlighted the transformative impact of digital agriculture mediated via improved crop management. Prof Sriroth

also echoed Krisda's message on increasing diversification.

Overview of the Pakistan's sugar industry by Murad Ali Bhatti (President, Pakistan Society of Sugar Technologists) highlighted the fact that Pakistan is now the 6th largest producer globally with record output of 7 million tonnes this year – an impressive expansion in productivity over the last few years has informed

the current production. Opportunity certainly exists to continue this trend of increasing productivity. Diversification is also driving the competitiveness of the local industry. One of the weak links of the industry is cane payment system whereby growers are not paid according to the quality of cane.

With technologies maturing advanced by biotech-up start-ups,



Krisda Monthienvichienchai, CEO, Mitr Phol



Emmanuel Sarir, President, Carbo Solutions International



and sugar being the central feedstock in the production of substitute petrochemicals, Arvind Chudasama (Editor, *ISJ*) discussed the opportunity from the emerging bioeconomy that sugar companies should consider exploring and exploiting.

Both Sharif Khan (Mirpurkhas Sugar Mills, Pakistan) and Benhur Pabon (Carbo Solutions International (CSI)) provided an exhaustive review of colourants in sugar processing and technologies employed in reducing colour. Benhur discussed the variety of commercially available decolourisation technologies and their relative merits.

In the presentations by Saovapun

Suputtitada (Real Soluplus, Thailand), Emmanuel Sarir (President, CSI) and Benhur (CSI), with reference to case studies, they highlighted the effectiveness of Carbo Solutions high performance processing aids (both adsorbents and decolourants) that appear to be superior to the range of other decolourization technologies.

Youssef Abdelatif (United Sugar, Saudi Arabia) and Isagani Apacible (Central Azucarera Don Pedro, Philippines) discussed the merit of Carbo Solutions high performance adsorbent FRS-3 in their respective sugar refineries.

Introduction of online colorimeters has greatly facilitated and improved

control and reduced waste during the latter half of sugar processing – particularly in the production of sugar of specified quality. Presentations by both Neltec (Bjarne C Nielsen and Tim Diring) and Iteca Socadei (Norbert Duc and Natchanok Silapalert) provided compelling insights into the benefits of using their technologies.

Jamil Khanzada (Chashma Sugar Mills, Saudi Arabia) and Benhur provided an excellent review on sugar caking and trouble-shooting strategies to avoid caking.

Aboud Banakhr (United Sugar Company, Saudi Arabia) and Benhur reviewed the production of liquid sugar, highlighting both its significant



advantages as well as constraints. Liquid sugar is largely destined for industrial use, therefore its scope in terms of its use and demands remains niche.

Asim Hussain (CSI, Pakistan) provided an insightful review along the value chain from cane quality, its reception at a mill right through to the production of crystal sugar in the context of energy management, and the value of energy audits in identifying particular management and technological issues to drive efficiency. This theme was taken up by Benhur who went on to discuss in greater detail with reference to case studies.

Sanaullah Arain (Mehran Sugar

Mills, Pakistan) provided an excellent review of factors impacting molasses sugar losses. He pointed out that water is the most important component in molasses impacting sugar losses. He went on to discuss a range of factors that needs to be addressed to mitigate its loss. In particular, he highlighted measures to control non-sucrose:water ratio.

Sanaullah's stand-in presentation on behalf of Mr Hayatt-Ur- Rahim (Sanghar Sugar Mills, Pakistan, who could not attend due to ill health) on reducing purity of final molasses with four massecuite boiling system was engaging. He was of the opinion that shifting from 3 to 4 massecuite

boiling was both beneficial and cost-effective. However, more data on the latter needs to be forthcoming at a future presentation to confirm this.

The penultimate presentation by Asim described and discussed a range of process equipment supplied by Carbo Solutions – in particular, mill rollers, multi-jet and barometric condensers, vacuum pumps, mud recovery systems, decanters and steam ejectors.

The final paper by Emmanuel Sarir discussed the use of Carbo Solutions of high performance processing aids during the carbonation process. Case studies from various factories provided useful indication of their merit.



Arvind Chudasama (Editor, *ISJ*, left) Murad Ali Bhatti (President, Pakistan Society of Sugar Tech. right)

