



**BCMC**

**Bluestar (Beijing) Chemicals Machinery Co.**

# **DEVELOPMENT IN THE AMERICAS**

*Clorosur – Costa do Sauípe – November 2022 – Jacques LEHRE*



**CloroSur**

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**COSTA DO SAUÍPE**

# BCMC Overview

- BCMC is a subsidiary of the Sinochem group, a conglomerate representing around 160 b\$ in sales, the biggest chemical company in the world.
- BCMC is a worldwide leader in the manufacturing and maintenance of membrane electrolyzers for chlorine and caustic production.
- BCMC also offers global EPC services (Engineering – Procurement – Construction) concerning all industrial aspects of the chlorine-caustic activities.
- Total installed capacity, running with BCMC membrane electrolyzers, correspond to 18 million mt (expressed in caustic soda 100%).



# Electrolysis Technology

- BCMC has developed a bipolar membrane electrolyzer with natural circulation using zero gap technology. The last generation of this equipment is called : NBZ-2.7 II.





# Electrolyzers Manufacturing

- The assembly line of the NBZ-2.7, located in Beijing, is the biggest manufacturing unit for membrane electrolyzers in the world with a capacity up to an equivalent of 3 million mt per year (in caustic soda).
- This capacity allows for competitive costs and reduced delivery time.



# BCMC in China

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Around 135 chloralkali plants in China operate with BCMC electrolyzers.

Total installed capacity of BCMC electrolyzers represent 17 million mt.

BCMC share of the total chlorine caustic activity in China is 41%.

85% of all Chinese electrolyzers are maintained in BCMC facilities.



# International Development



 Location of overseas plants running with BCMC electrolyzers

 2011

 2012

 2014

 2018

# Development in the Americas

BCMC is considering the Americas as its main development zone outside of China in the 10 coming years

## Market Opportunities

- There are still mercury units to be converted to membrane (projects delayed due to Covid).
- An even bigger potential is in the conversion of diaphragm units, suffering from the huge increase in energy prices

## BCMC Offer

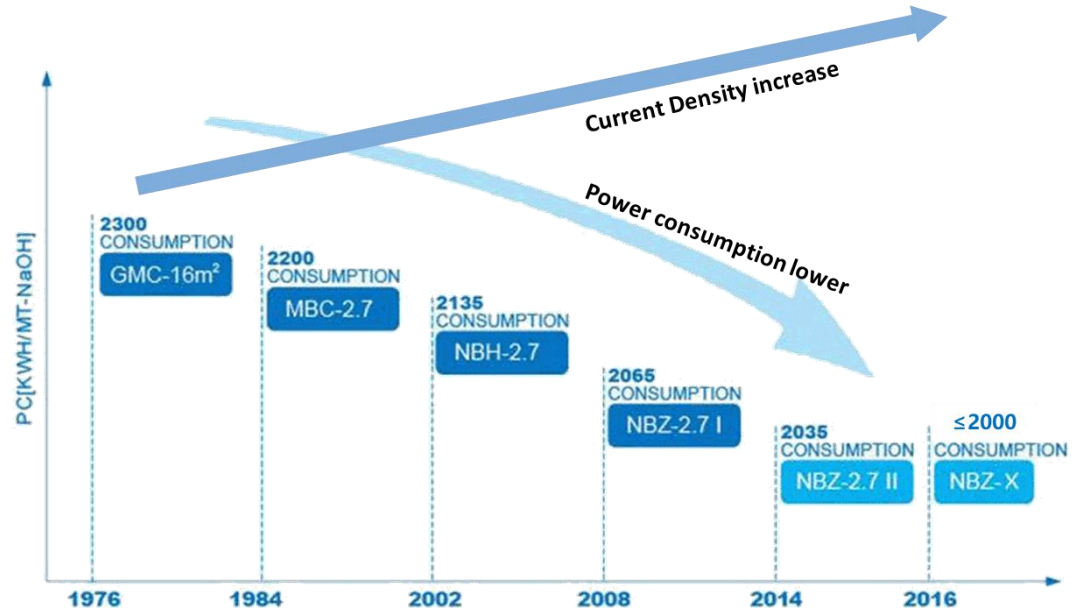
- BCMC core offer is on the electrolyzers and the engineering of the electrolysis process.
- BCMC can also offer other key equipment (NaOH concentrators, brine filtration, NaClO units, compressors, transformers, rectifiers, etc.) manufactured by Chinese partners.

## Local Support

- BCMC will invest in local support services and storage of spare parts.
- Regular maintenance operations (like re-coating) can also be conducted on site by local and/or Chinese experts.

# Technology Development

- BCMC has a research department with 25 engineers and technicians focused on the development of the new generations of electrolyzers.
- BCMC has constantly improved the performance of their electrolyzers and offers today the best available technology of zero gap membrane equipment.





# Mexican Project

## Project

- Customer is leading chloralkali group Cydsa.
- The request is a full chlorine/caustic unit of 150 kt capacity.
- The modality is full EPC (construction, supply, installation, commissioning) with lump sum price.



## Challenges

- Erection of the plant during the Covid pandemics.
  - Fixed price in a context of significant evolutions of metal and service prices (Covid, Ukraine war).
- Timing constraints for plant delivery.

# Highlights

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- BCMC is part of Sinochem, the biggest chemical company in the world with sales around 160 b\$. As such, BCMC is managed on the basis of the highest worldwide standards in quality, health and environmental aspects.
- BCMC has the technologies, the resources and the experience needed to become a global partner for all chloralkali producers wanting to go one step beyond in terms of long term productivity and reliability of their facilities.
- Based on more than 30 years history, BCMC has demonstrated a long term commitment to the chloralkali industry and will continue dedicating significant efforts to the continuous improvement of the chlorine electrolysis.
- After developing projects outside of China in Asia, Europe and Africa, BCMC now wants to bring its expertise and competitiveness to the American customers.

A tropical landscape featuring a body of water in the foreground, a line of palm trees on a small island in the middle ground, and a blue sky with white clouds. A large, semi-transparent yellow shape is overlaid on the left side of the image.

**Thank you!**