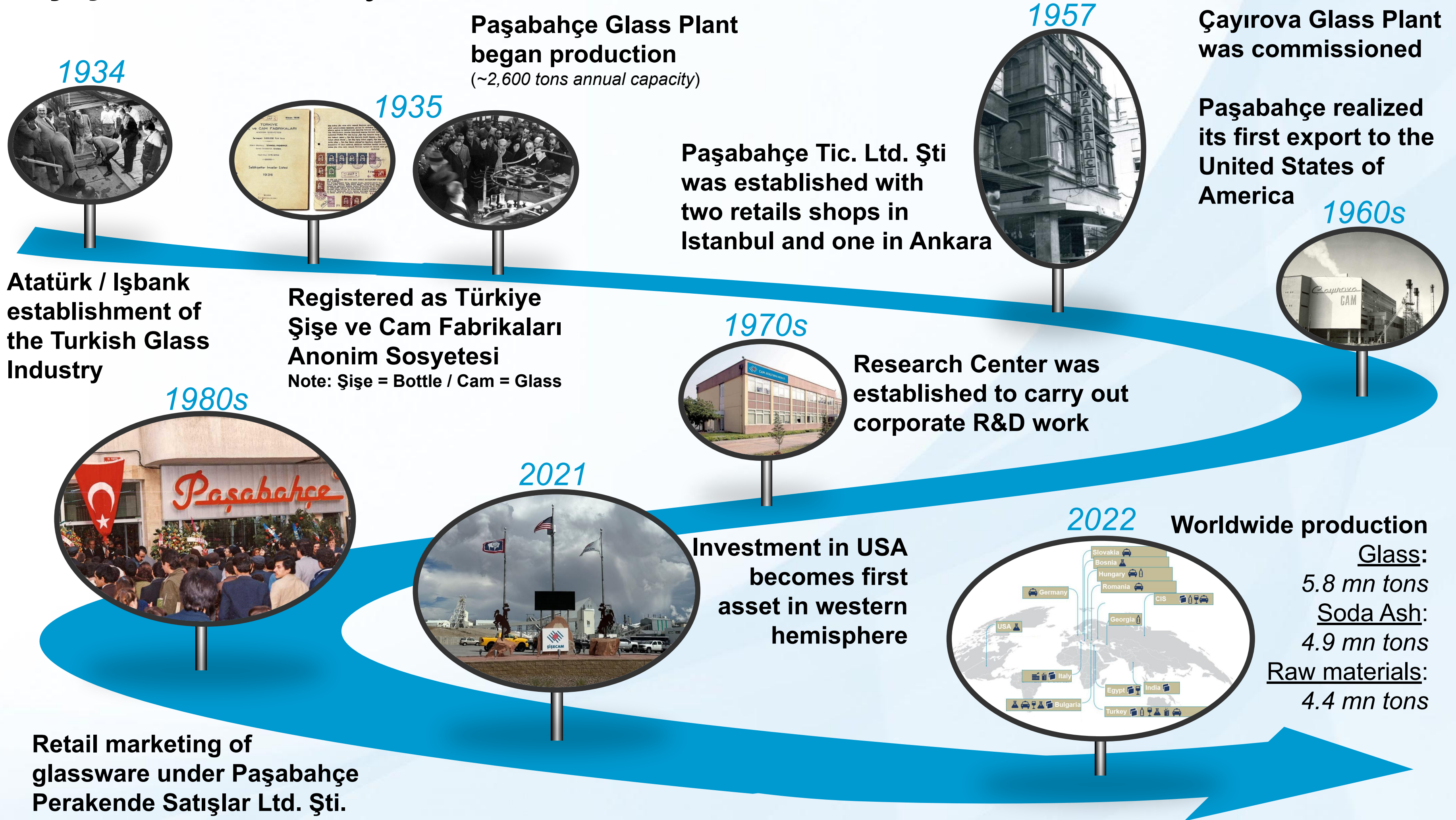
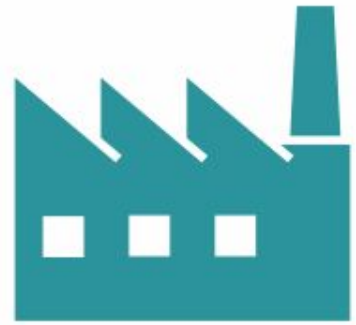




Şişecam History



SUMMARY



Global Structure

7 facilities in **5** countries

Soda: Turkey, Bosnia and Herzegovina, Bulgaria, USA

Chrome: Turkey, Italy

Oxyvit: Turkey



Production Capacities

Soda : 2,5 mio tons soda ash (MSF: 1,5 mio tons + SSL: 625k tons + Sodi: 390k tons) + Wyoming **2,5** mio tons



Global Player

2. largest producer in global soda ash market

World **leader** in global BCS market

4. largest producer in Chromic Acid market



Market Scope

Total Chemical sales to

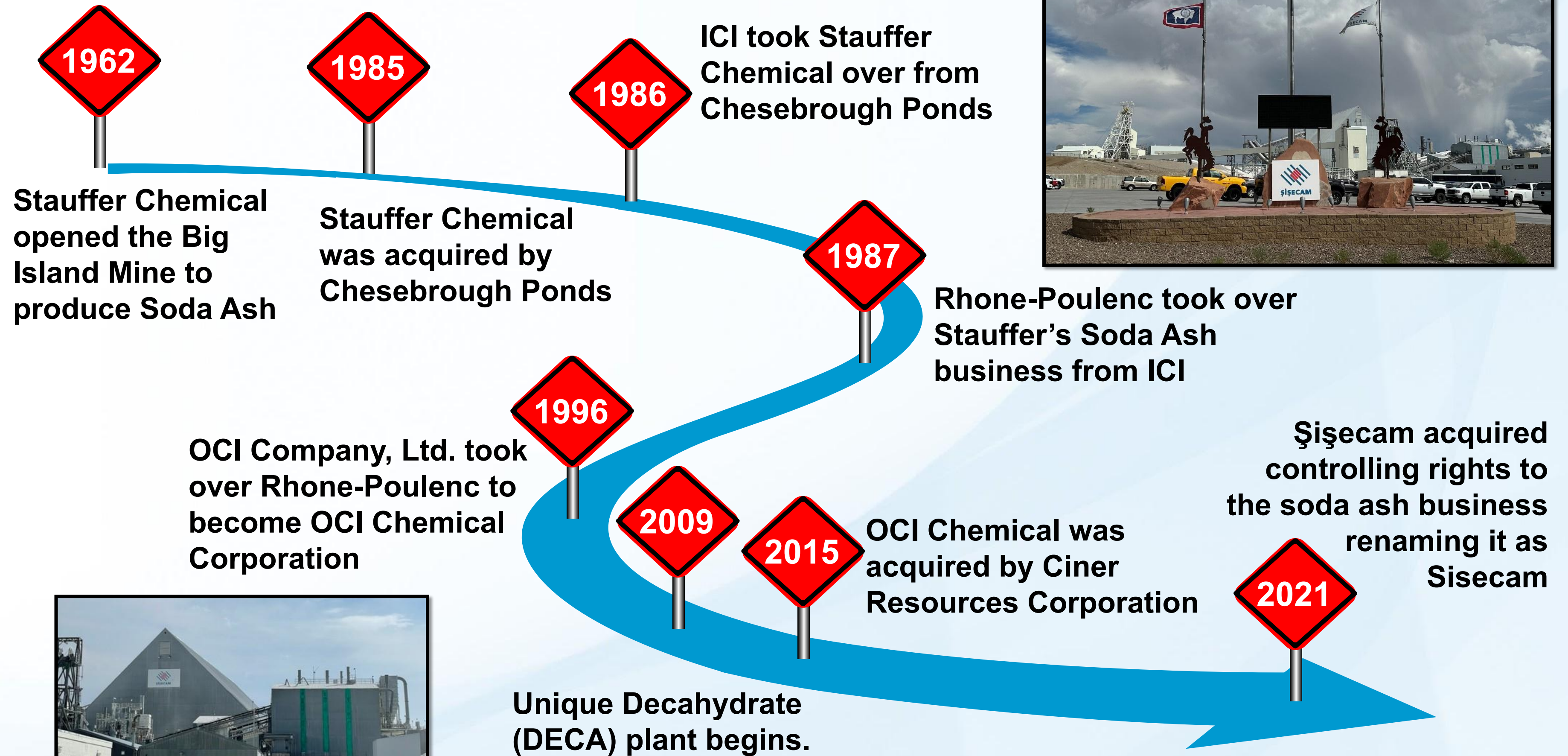
107 countries/ **583** customers

Soda; 81 countries, 225 customers

Krom ; 64 countries, 301 customers

Oxyvit; 31 countries, 98 customers

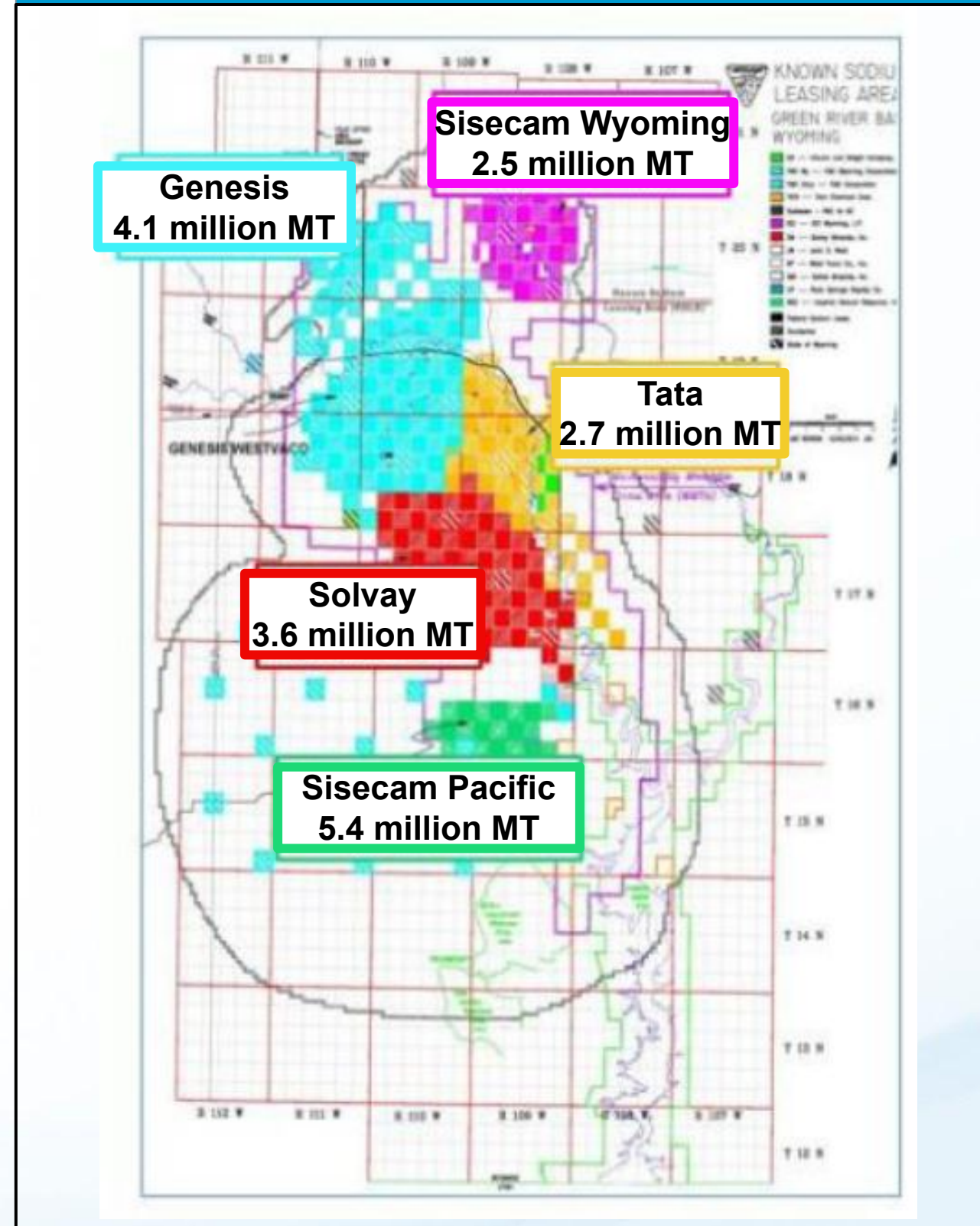
Şişecam Wyoming History



Şişecam Wyoming – Green River Basin

Wyoming has >90% of natural soda ash in the world.

Known Sodium Leasing Area (KSLA)



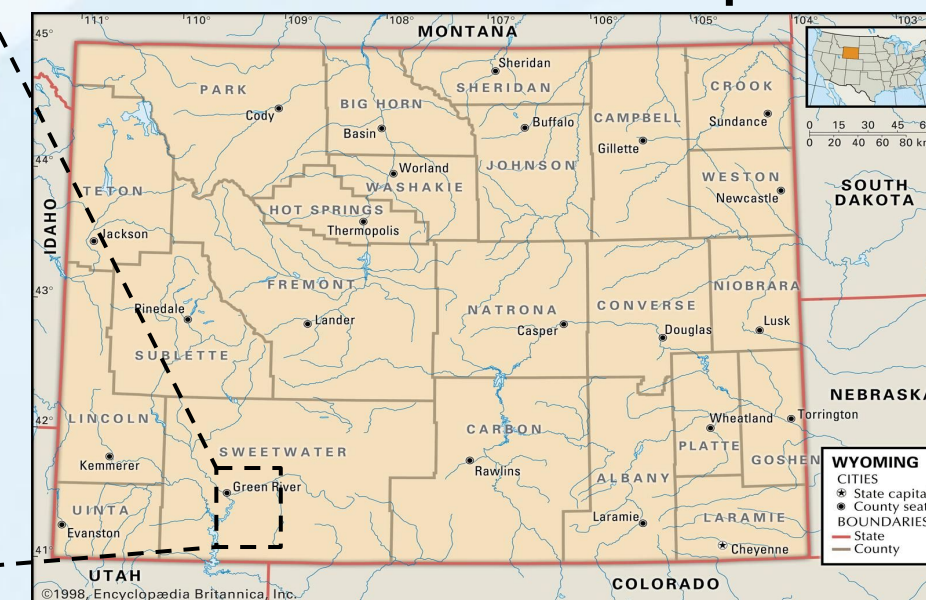
Current Siseecam Wyoming:

- 49 years reserves
- 2.5 MMT / yr
- Gallery Mining

Future Siseecam Wyoming:

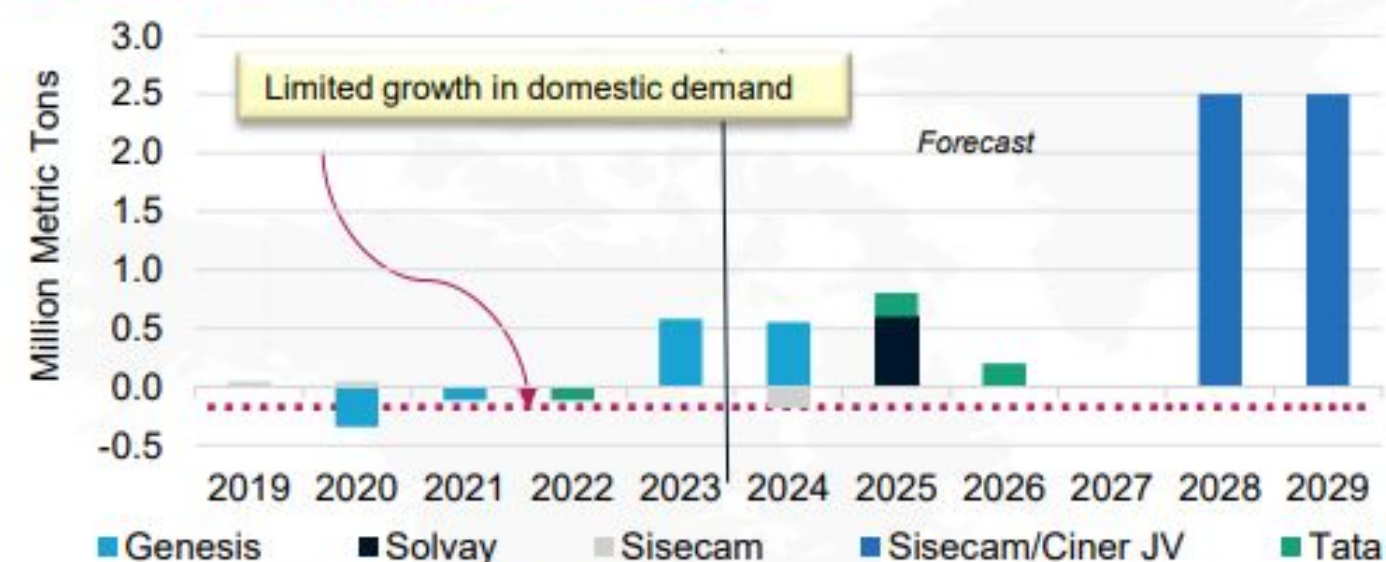
- 60 years reserves
- 3.0 MMT / yr
- Solution Mining

Şişecam will become the largest Natural Soda Ash producer in the US!



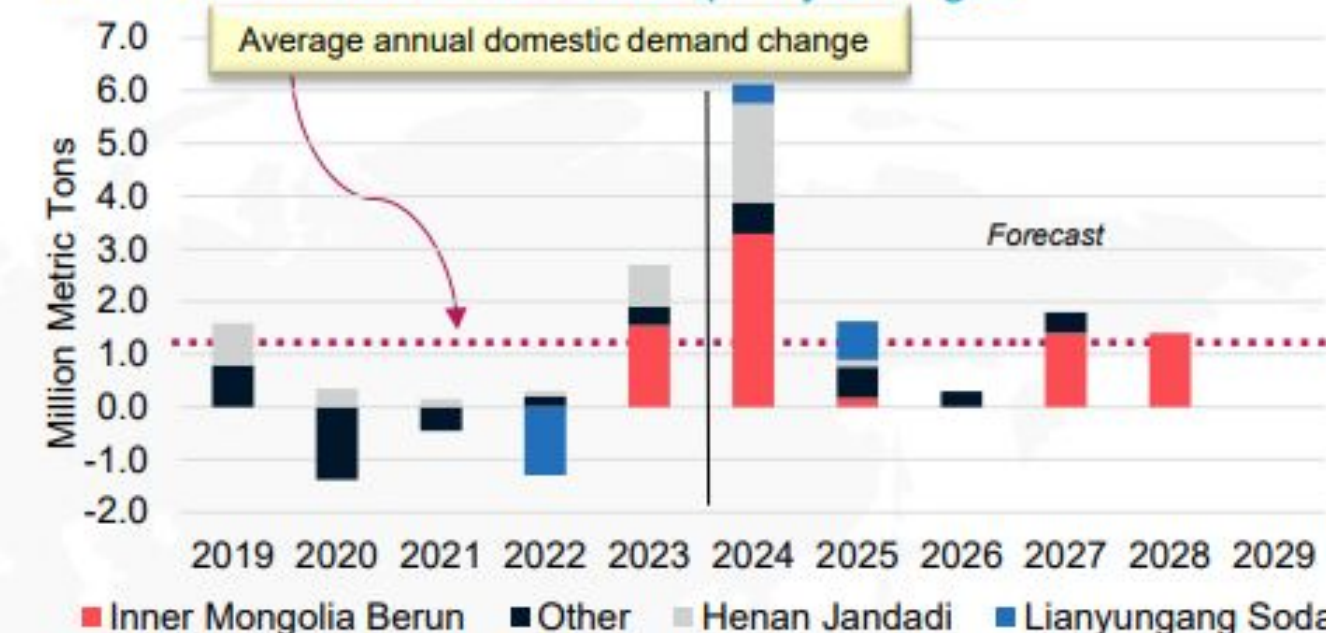
Mainland China has Dominated Recent Additions, but US has Ambitious Plans

US Soda Ash Net Capacity Changes



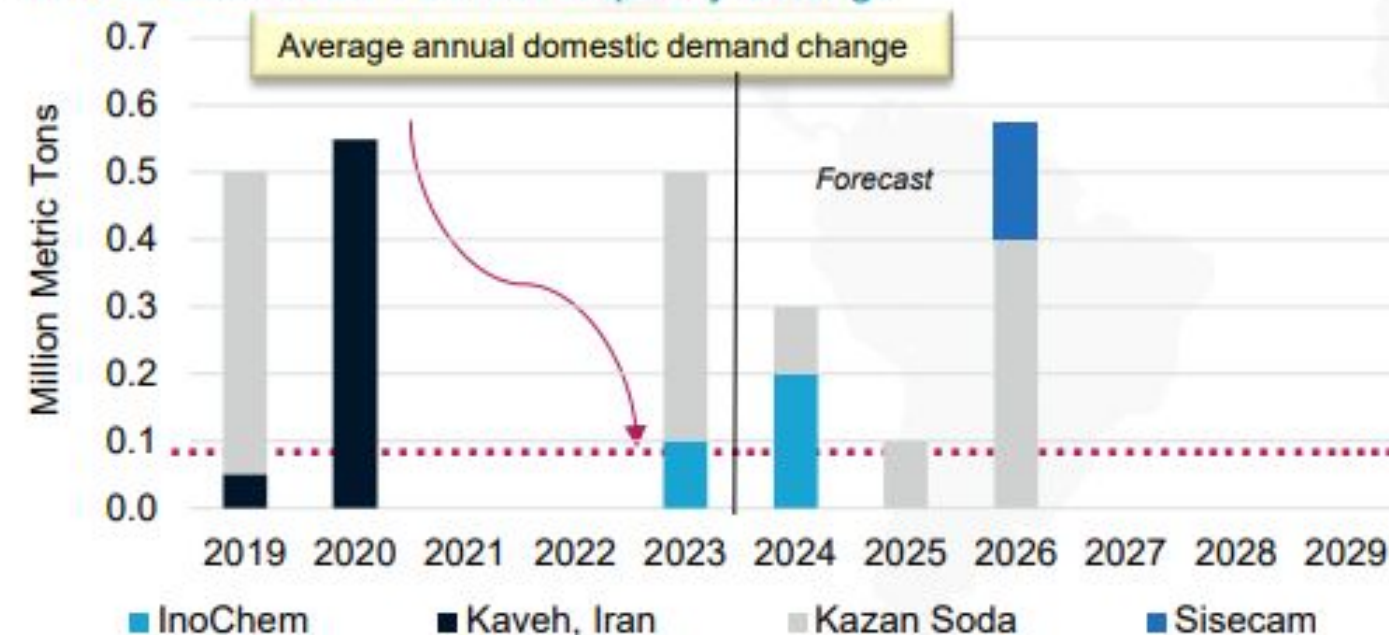
Source: Chemical Market Analytics by OPIS

Mainland China Soda Ash Net Capacity Changes



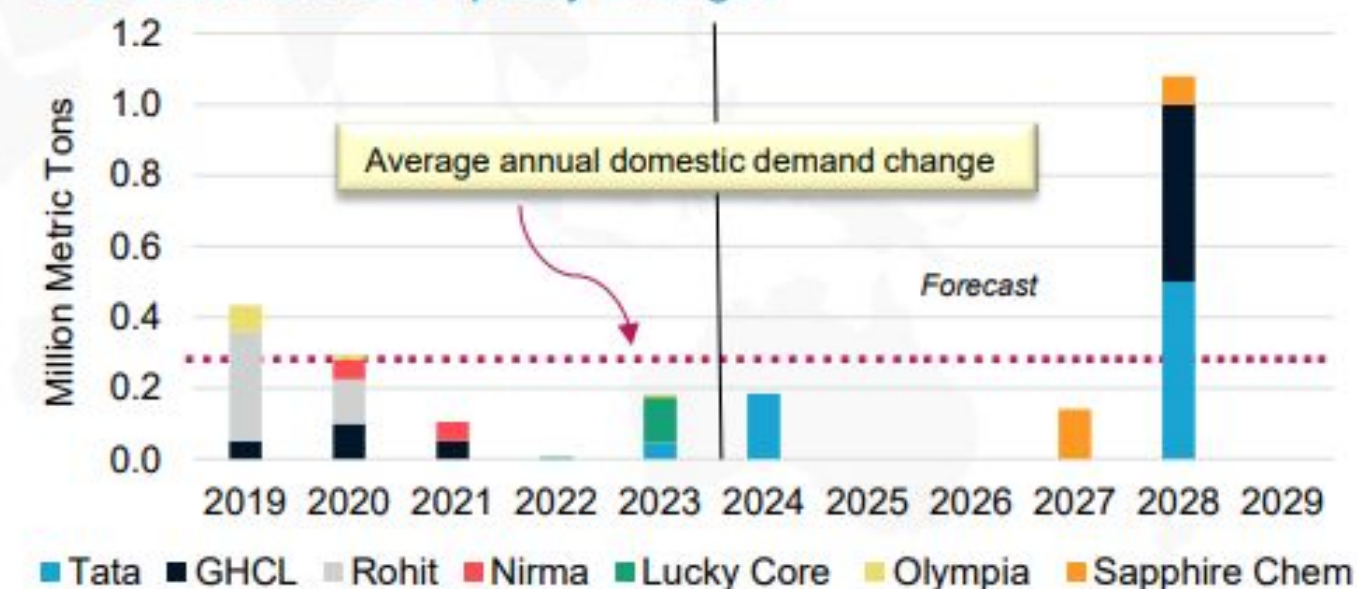
Source: Chemical Market Analytics by OPIS

Middle East Soda Ash Net Capacity Change



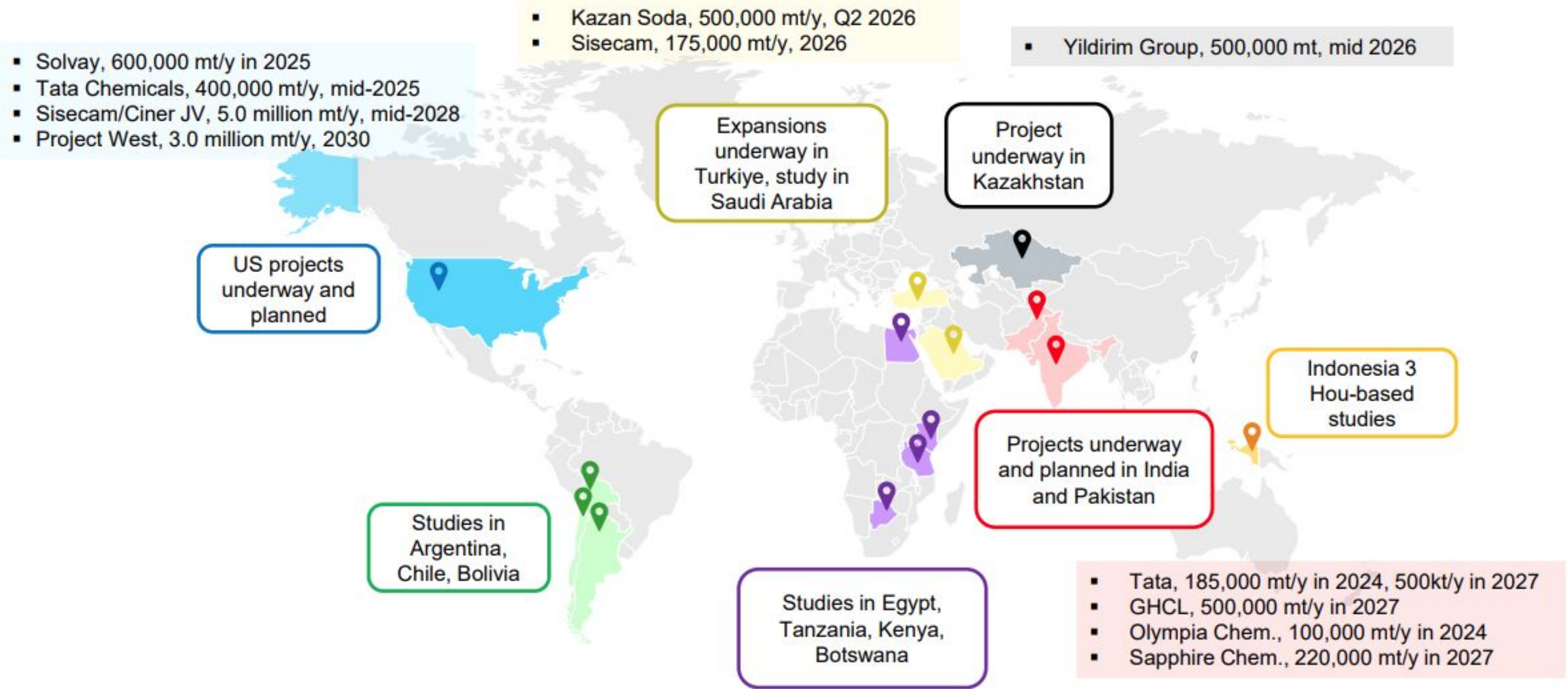
Source: Chemical Market Analytics by OPIS

ISC Soda Ash Net Capacity Changes



Source: Chemical Market Analytics by OPIS

Projects Outside Mainland China

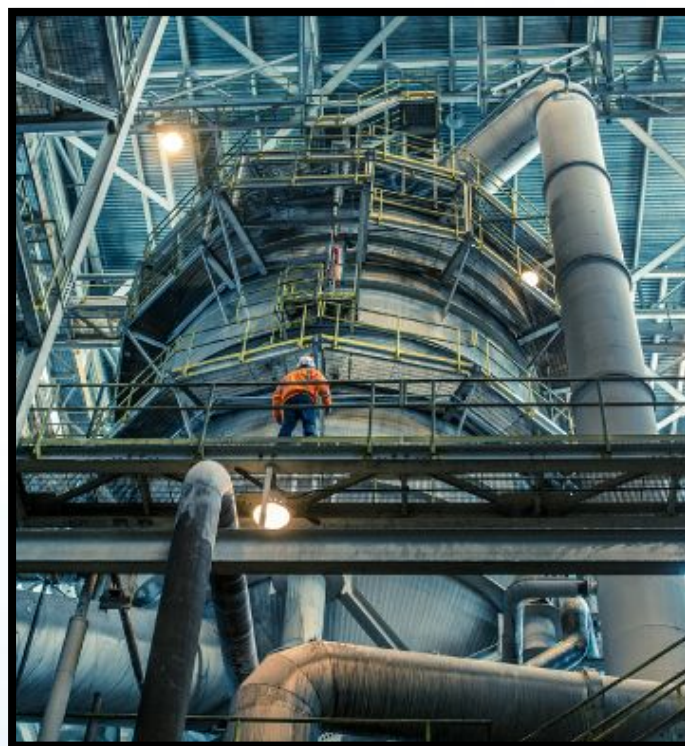
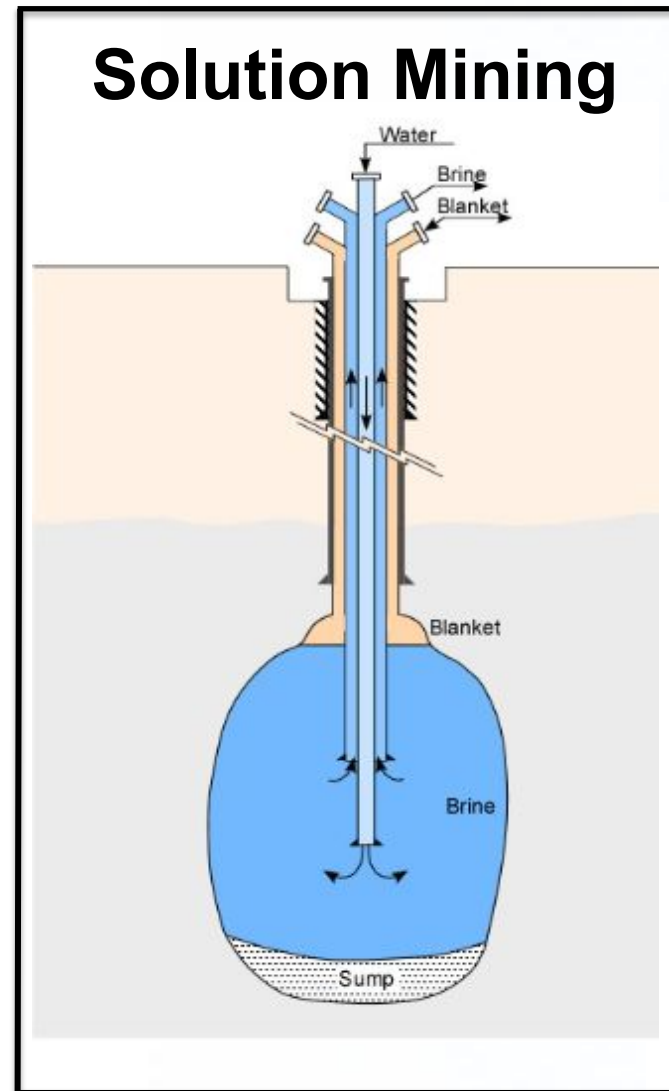


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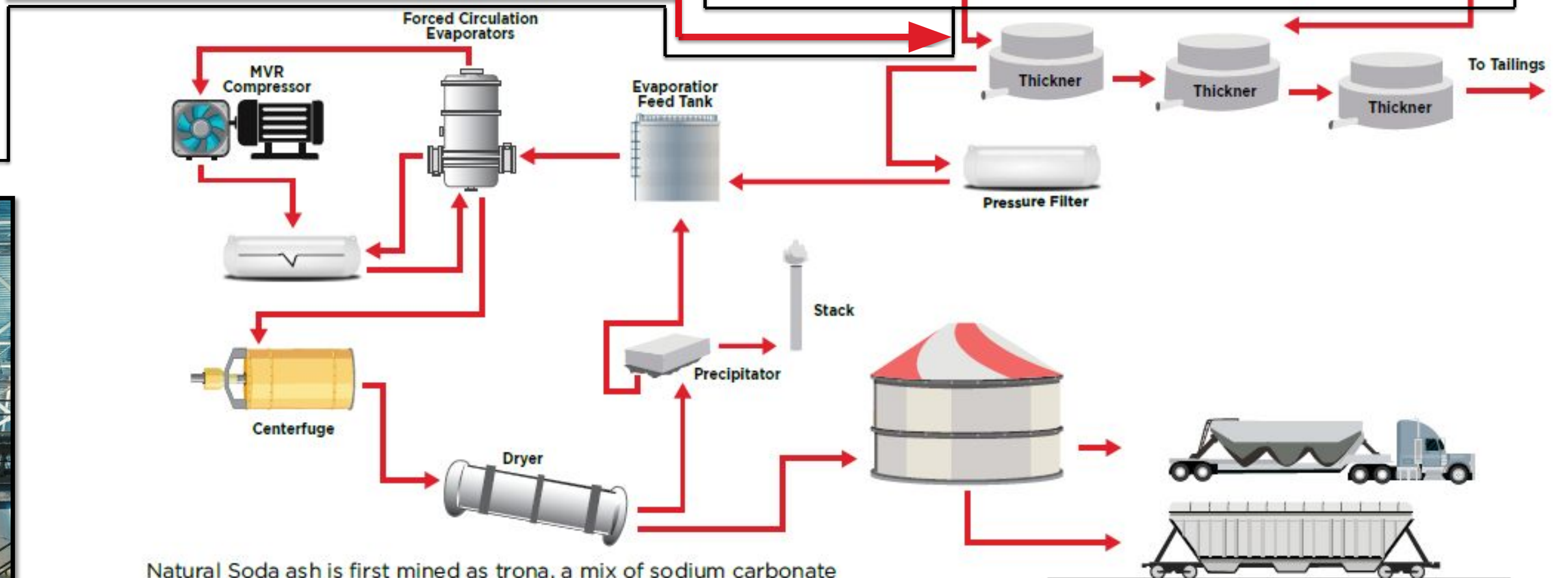
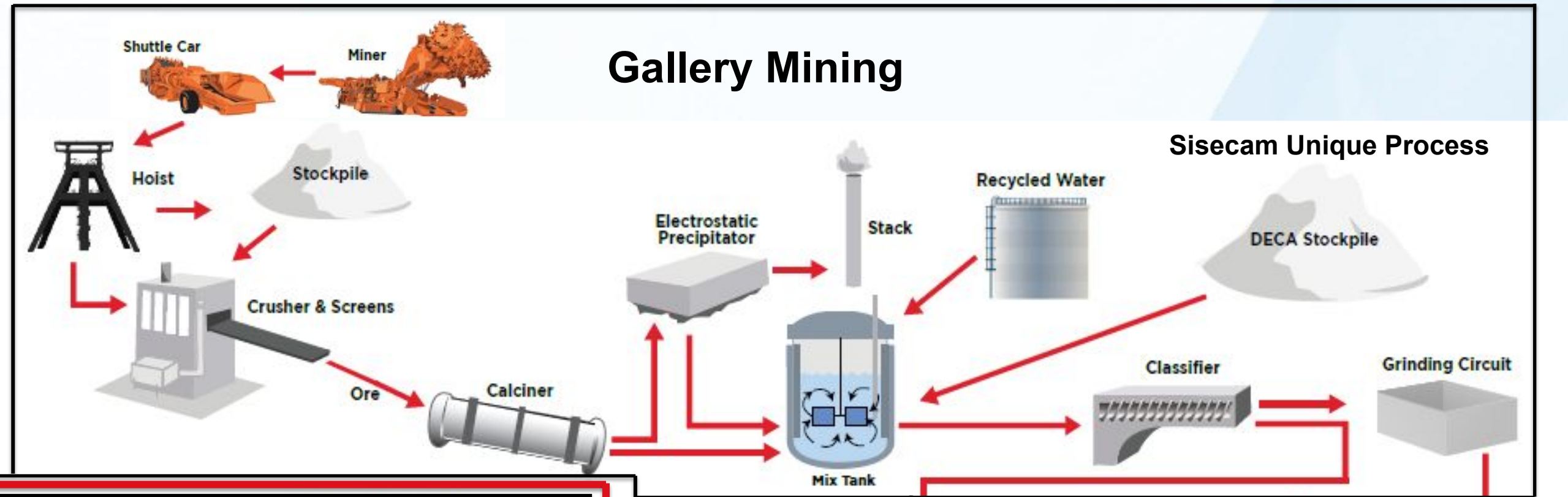


Soda Ash Processes – Mining Processes

Current and future mining processes. 50+ years of trona mining reserves



Vs.

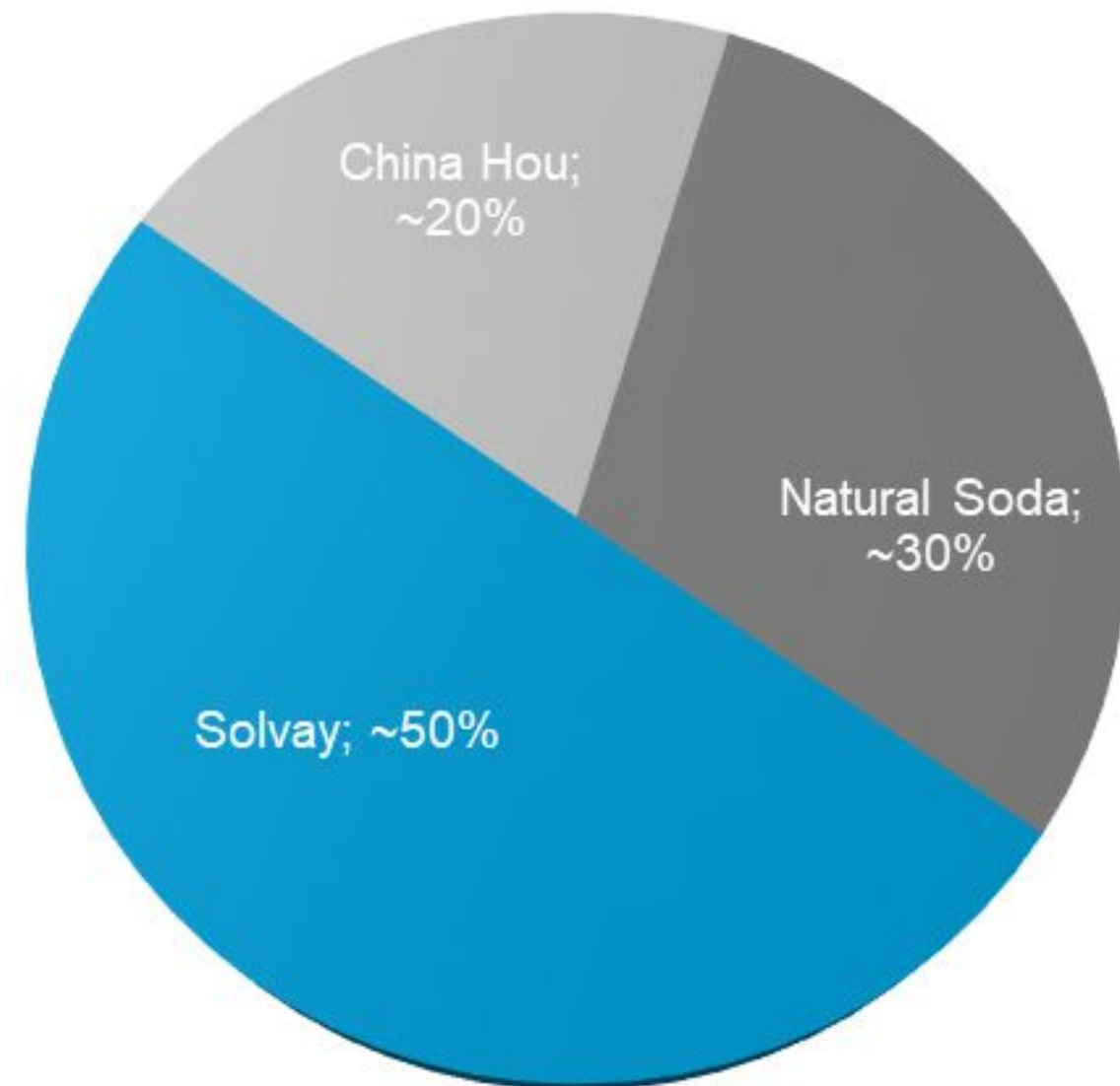


Natural Soda ash is first mined as trona, a mix of sodium carbonate and sodium bicarbonate. Trona is then conveyed to the surface and refined into dense and high purity soda ash.

Soda Ash - Types of Soda Ash

Natural Soda Ash capacity growing at faster rate with cost advantage against synthetic.

Global Soda Ash Capacity Breakdown



Environmental Impact

	Natural	Solvay Process	China Hou
RAW Material	Trona Ore	Salt, Limestone & Ammonia	Salt, Limestone & Carbon Dioxide
By-products	None	Calcium Chloride (Waste)	Ammonia Chloride (co-product)
Energy Usage	3-6 MMBtu/ton	9-13 MMBtu/ton	9-13 MMBtu/ton
Water usage	1.5 - 2.0 ton	10 - 15 tonn	10 - 15 tonn
CO2 Emm. Factor	~0,4	~1,1	~1,1

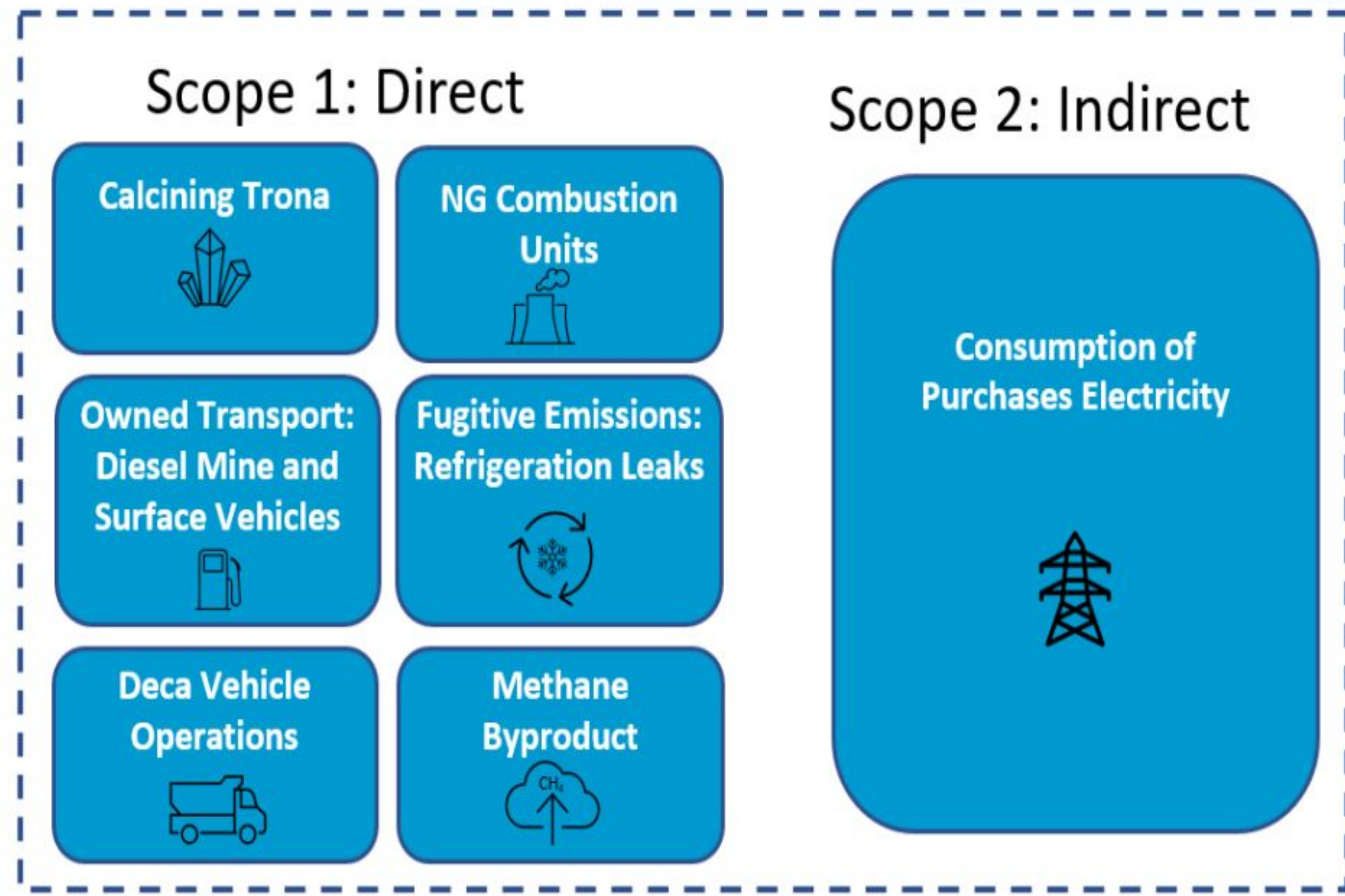
CO₂ Emissions Factor (Ton CO₂ / ton soda ash)



Care for next – Sustainability

Şişecam Wyoming has the lowest Scope 1 and Scope 2 GHG emissions of any of US Natural Soda Ash producer.

Şişecam GHG Emissions Organizational Boundaries



Low Carbon Footprint

- Clean natural gas
- NEW Co-Gen Facility
- Compared to synthetic production:
 - 1/3 less CO2
 - 10x less water
 - 5x less energy



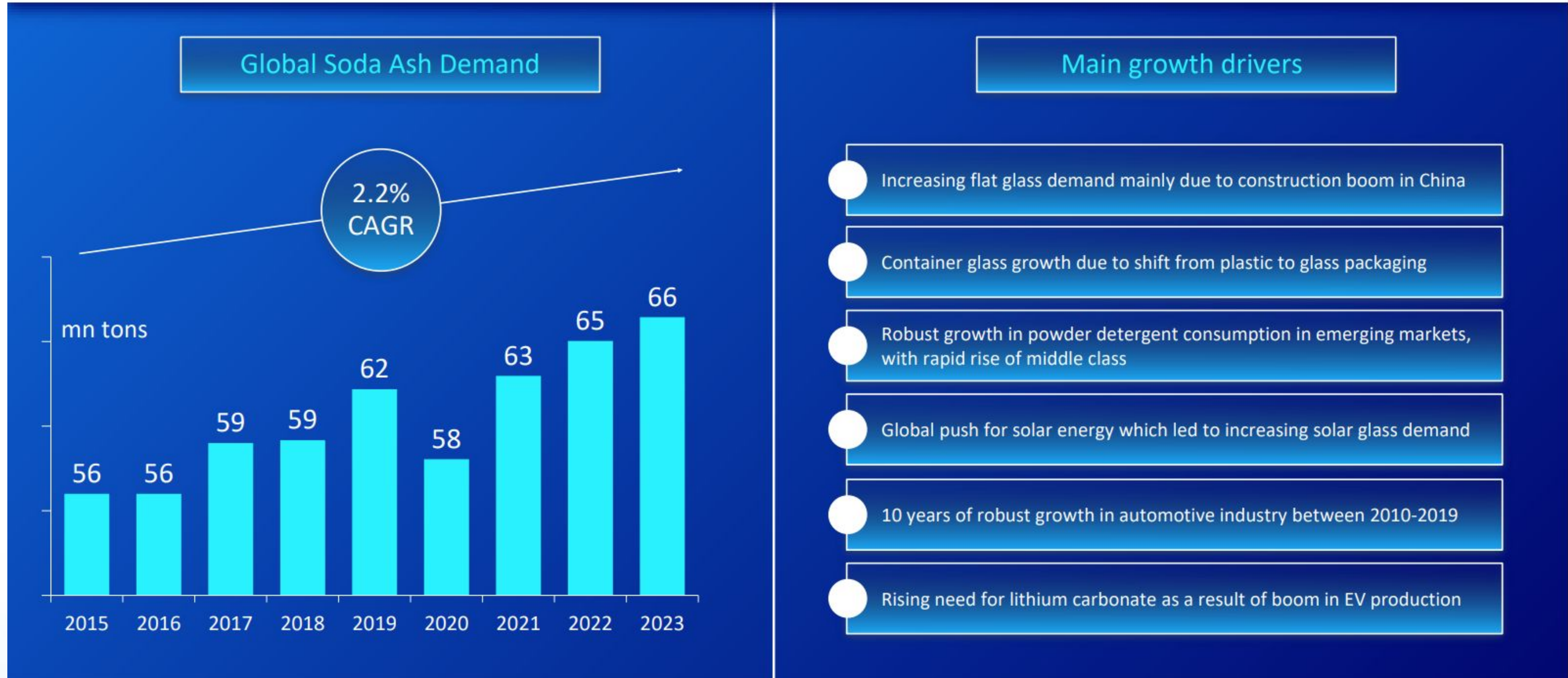
ISO 14001:2015 Certification

Only US site this level of ISO Certification.



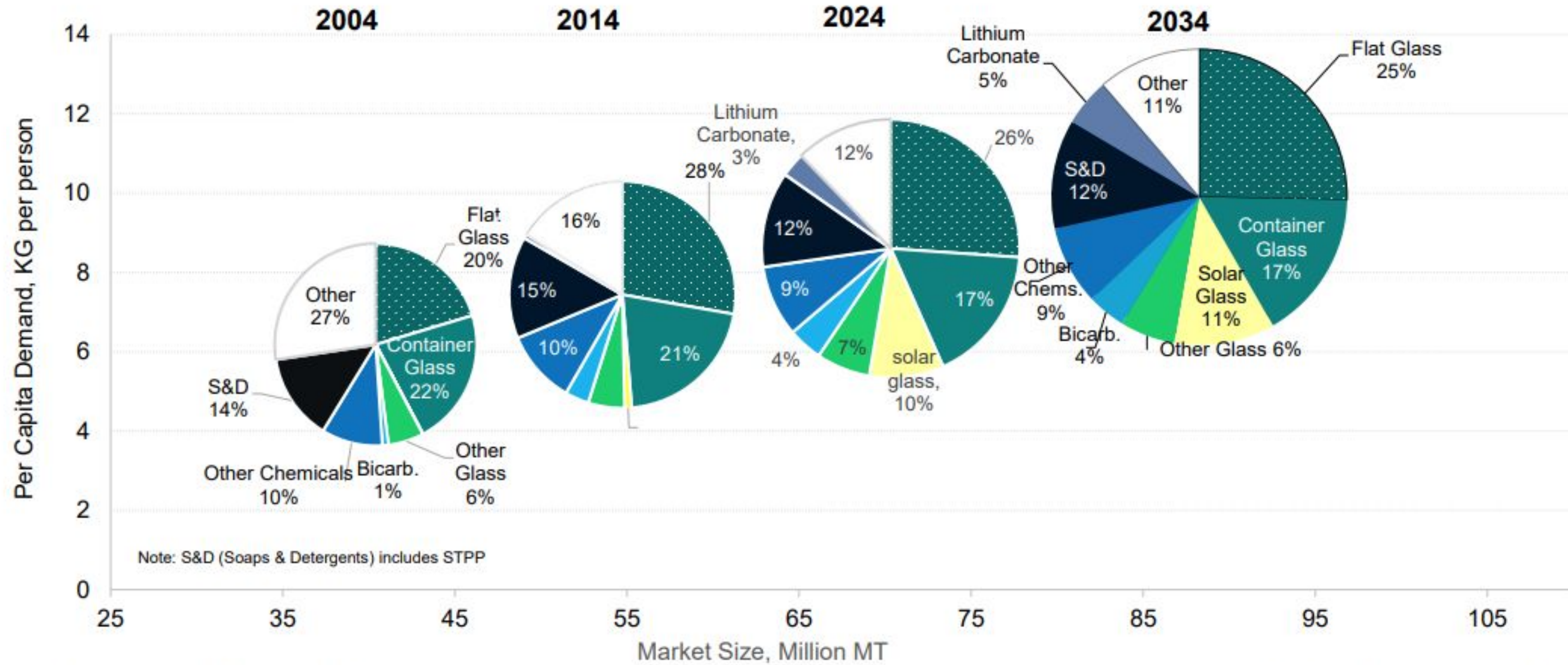
Actualized sustainable growth

The soda ash market experienced sustainable growth in the past



Evolving Soda Ash Demand

World Soda Ash Demand



Source: Chemical Market Analytics by OPIS

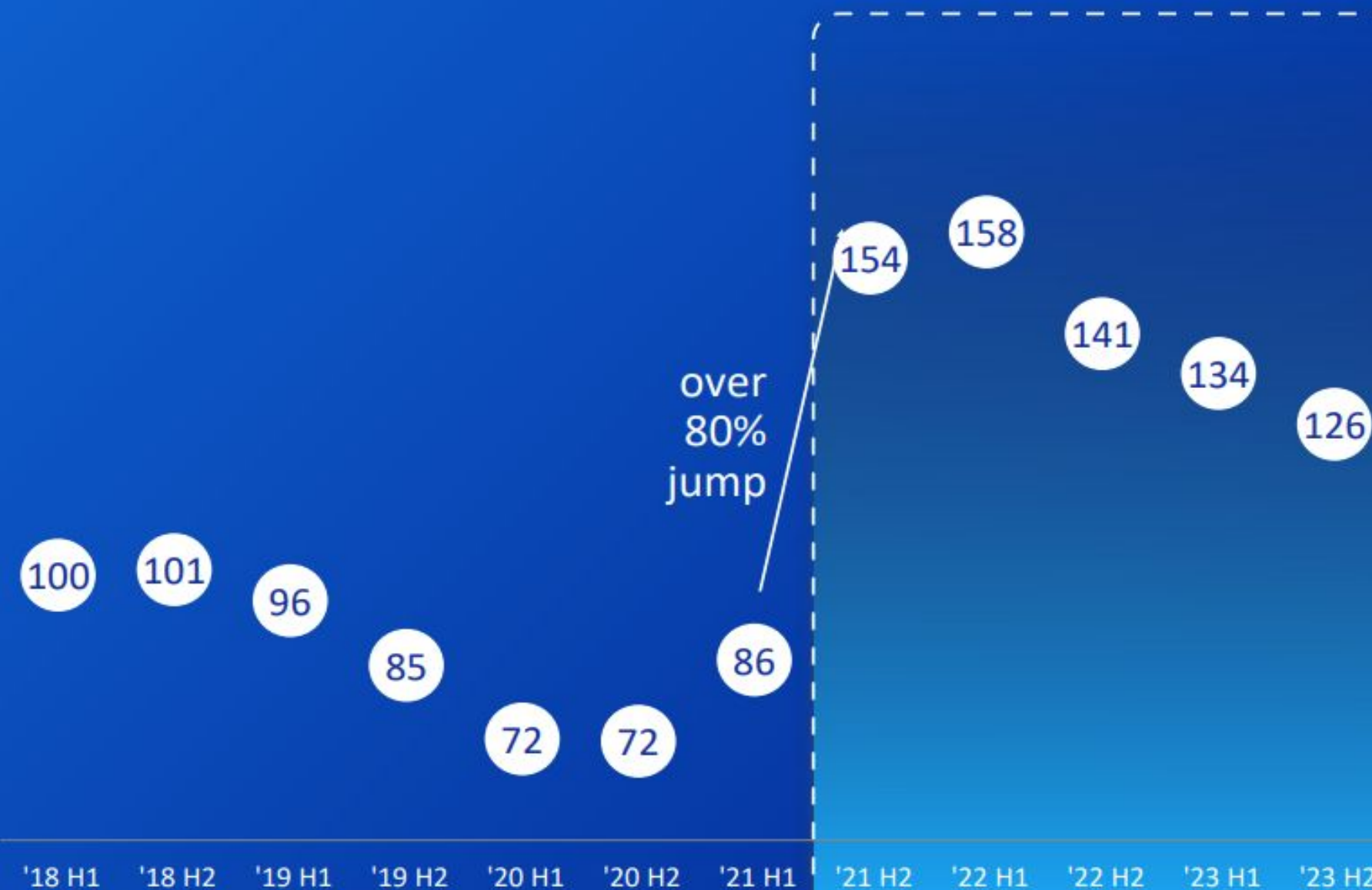
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Soda spot price index

Especially after 2021, soda prices hit all-time high level, largely driven by supply-side constraints

Soda Ash Spot Price Index (indexed '18 H1 avg = 100)



Supply disruptions led to output shortages

- Covid-19 Pandemic: operational shutdowns, reduced workforce availability and logistics bottlenecks
- Natural soda ash supply issues in Wyoming due to severe weather events during 2021

Rising shipping costs in 2021-2022 due to container shortages and port congestions

Surge in natural gas prices and rising carbon costs in Europe

Effect of inflationary pressures on global commodity markets

In the recent past, the soda ash industry has been challenged by short-term weaker demand from the glass side

Slowdown in construction industry has put pressure on flat glass demand

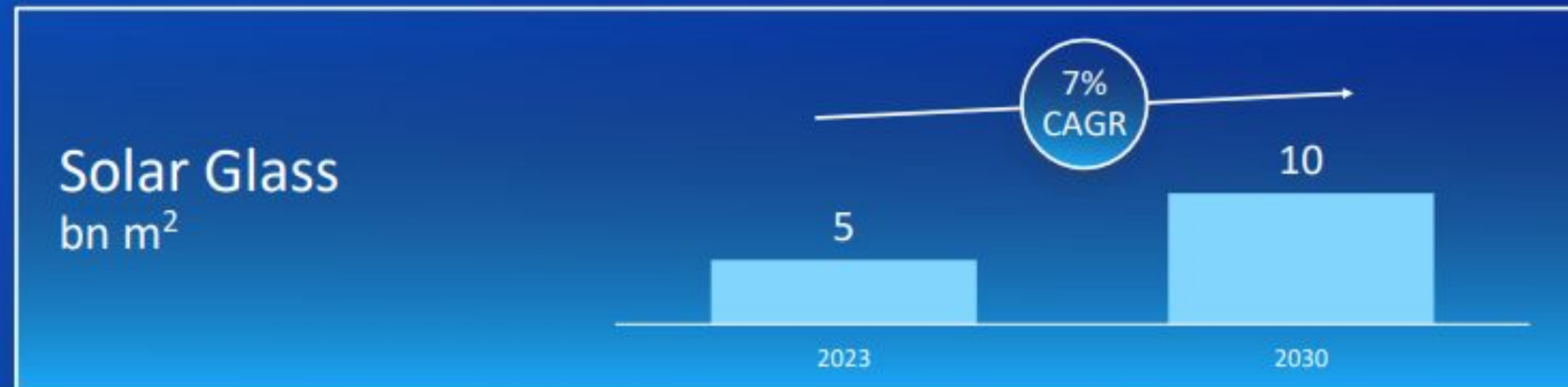
- The construction sector experienced significant stagnation, especially after 2022. The global industry's annual growth rate in both 2022 and 2023 was 0.5%-1%, compared to 3%-3.5% CAGR in 2016-2021 period.
- Post-pandemic real estate crisis in China. The government has cut spending on infrastructure projects.
- In North America, growth was limited due to rising interest rates and stagnation in the housing sector, while in Europe high energy costs and inflationary pressures limited the post-pandemic recovery.

Slow recovery in automotive industry volume growth has put pressure on the auto glass market

- It took 4 years for global car sales to return to pre-pandemic levels after a post-pandemic decline. 93 million vehicles in 2019 vs 94 million in 2023 (0.3% CAGR)
- Increased raw material costs, especially for steel and aluminum, alongside inflationary pressures, have raised vehicle prices and dampened consumer demand
- Longer vehicle ownership, as prices risen: In the U.S., the average age of a vehicle on the road increased to over 12 years by 2023, compared to about 11 years in 2017.

However, the slowdown in the glass industry is cyclical and we expect the industry to grow solidly over the long term

Glass Sectors Expected Growths



Glass industry will continue to be the main growth driver of soda ash market

Glass Industries' Share in Soda Ash Consumption

Now

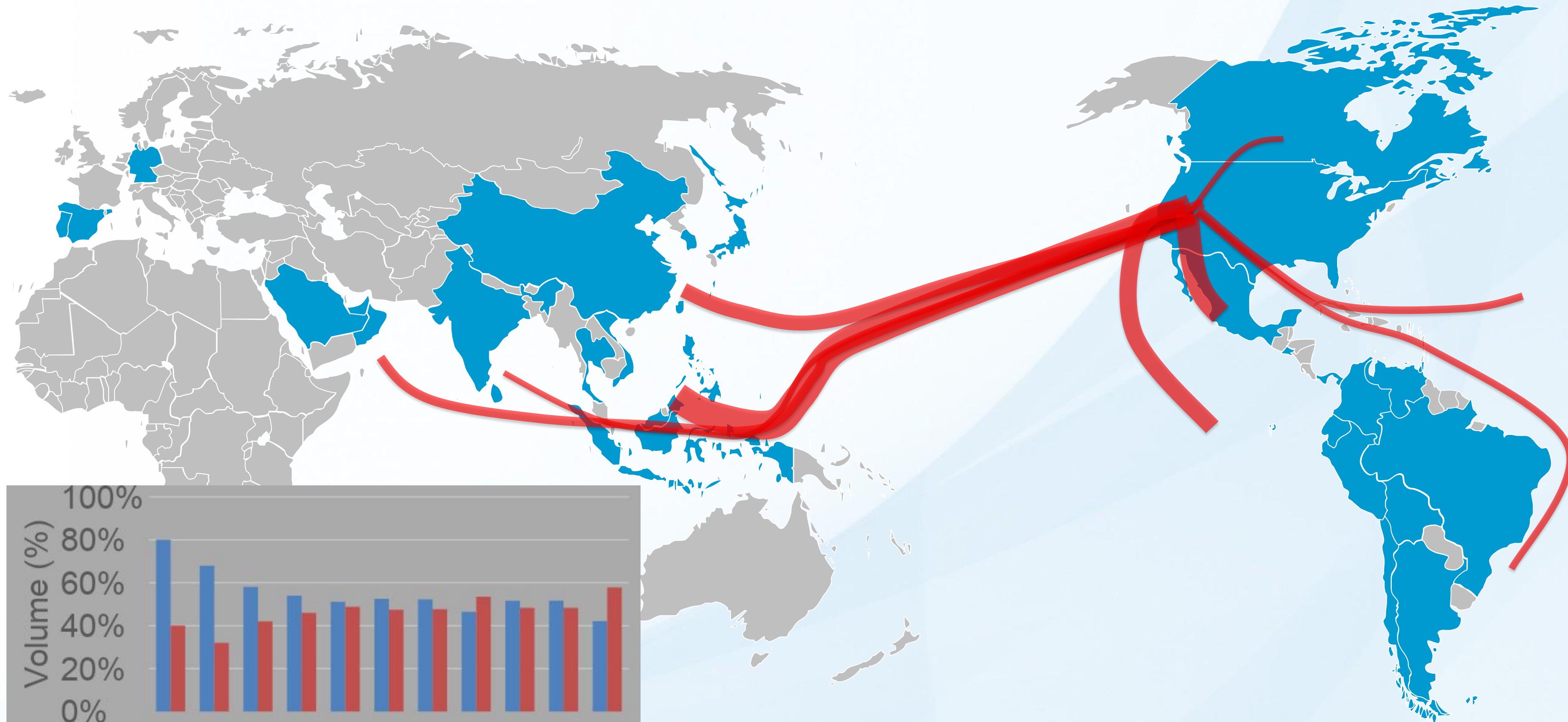
%60

%62

2030

Soda Ash Processes – International Distribution

End segment and geographic diversified portfolio selling to 28 countries in 2023.



Soda Ash Demand in 2024 and beyond

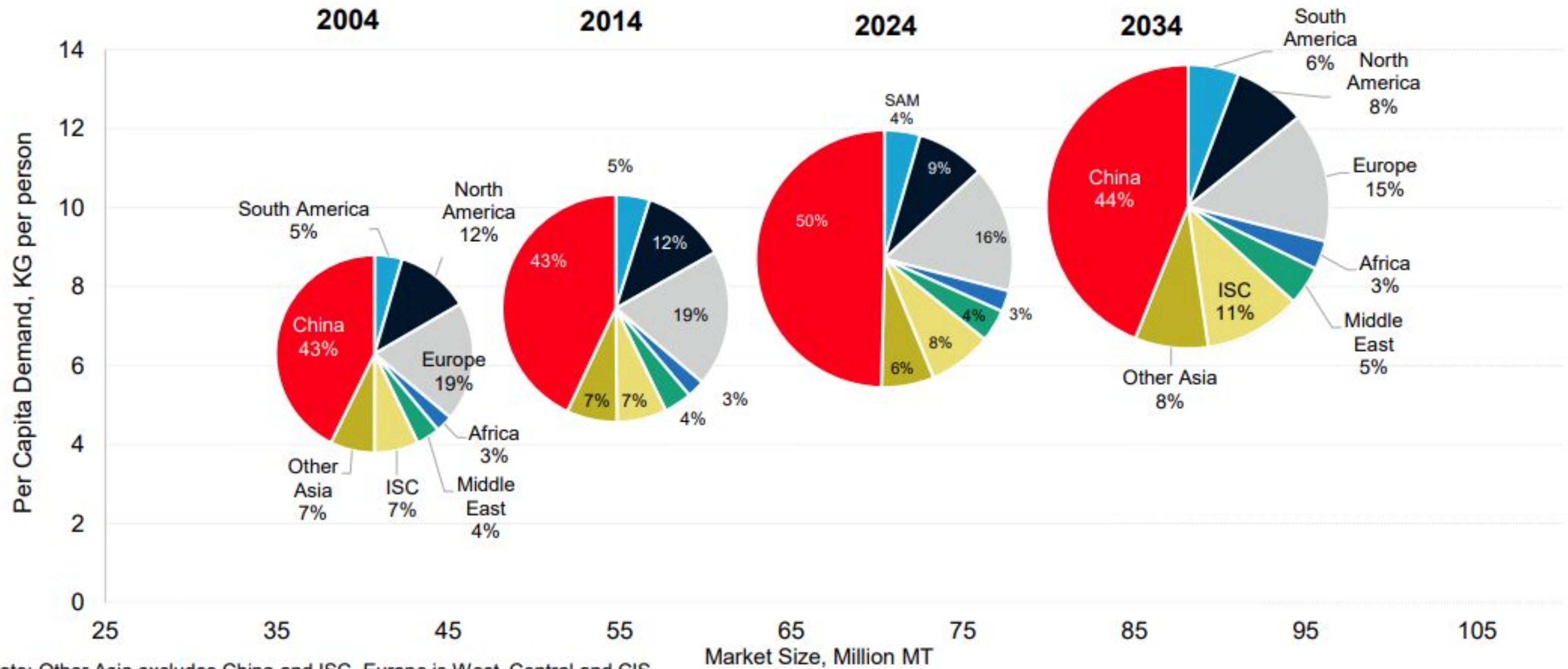
Excluding China, the nine countries highlighted below represent 4.2M MT of Demand in 2024.
CMA projects the demand is to grow by 1.6M MT by 2030



- JAPAN** - 469K MT Demand 2024
• 19K MT Growth by 2030
- S. KOREA** - 459K MT Demand 2024
• 12K MT Growth by 2030
- CHINA** – 32.7M MT Demand 2024
• 3M MT Growth by 2030
- TAIWAN** - 192K MT in 2024
• 4K MT Growth 2030
- VIETNAM** - 631K MT in 2024
• 195K MT Growth 2030
- THAILAND** - 617K MT in 2024
• 124K MT Growth 2030
- PHILIPPINES** - 205K MT in 2024
• 95K MT Growth 2030
- MALAYSIA** - 726K MT in 2024
• 466K MT Growth 2030
- INDONESIA** - 903K MT in 2024
• 703K MT Growth 2030

Mainland China has Taken a Bigger Share of the Soda Ash Pie

World Soda Ash Demand



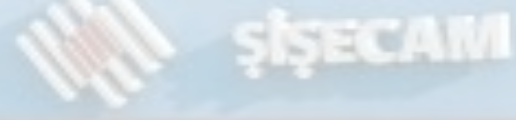
Note: Other Asia excludes China and ISC, Europe is West, Central and CIS
Source: Chemical Market Analytics by OPIS

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KİMYASALLAR GRUBU

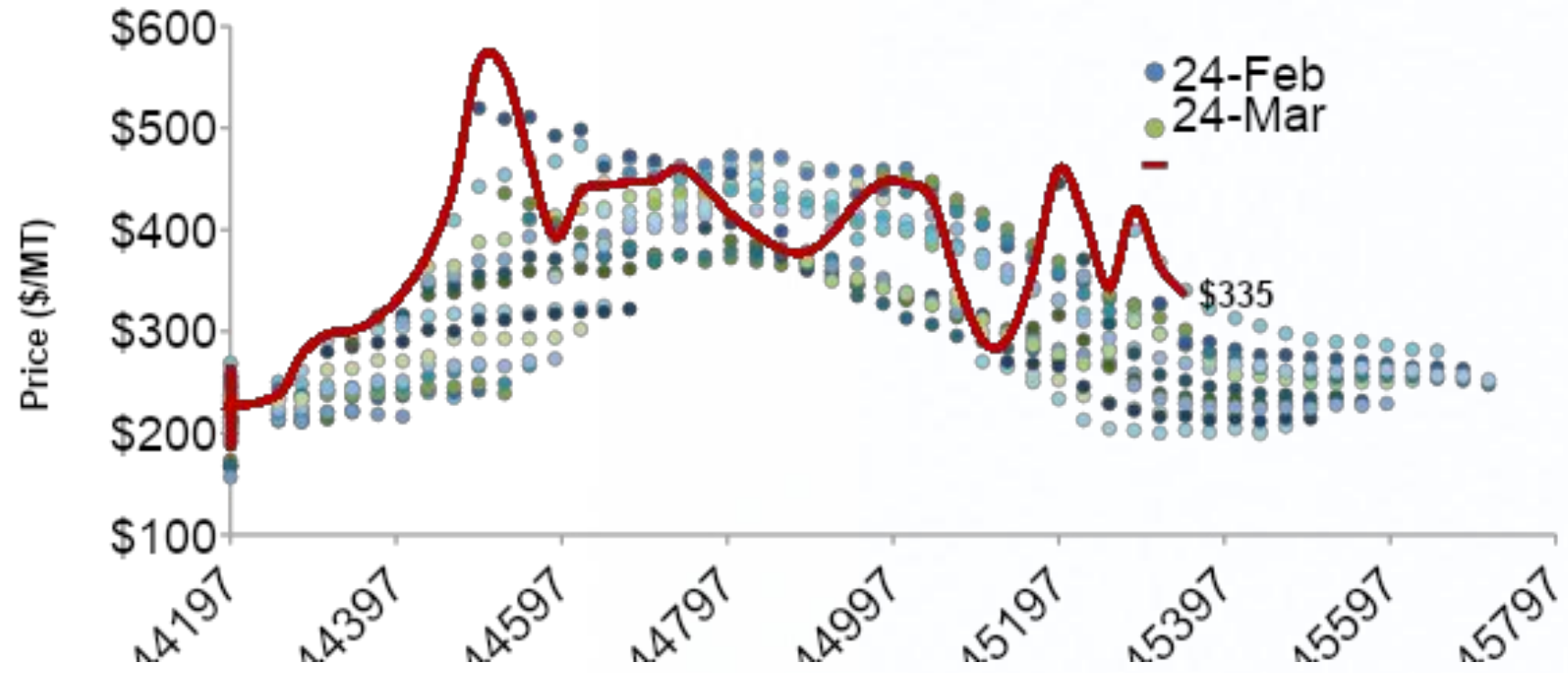


Soda Fabrikası

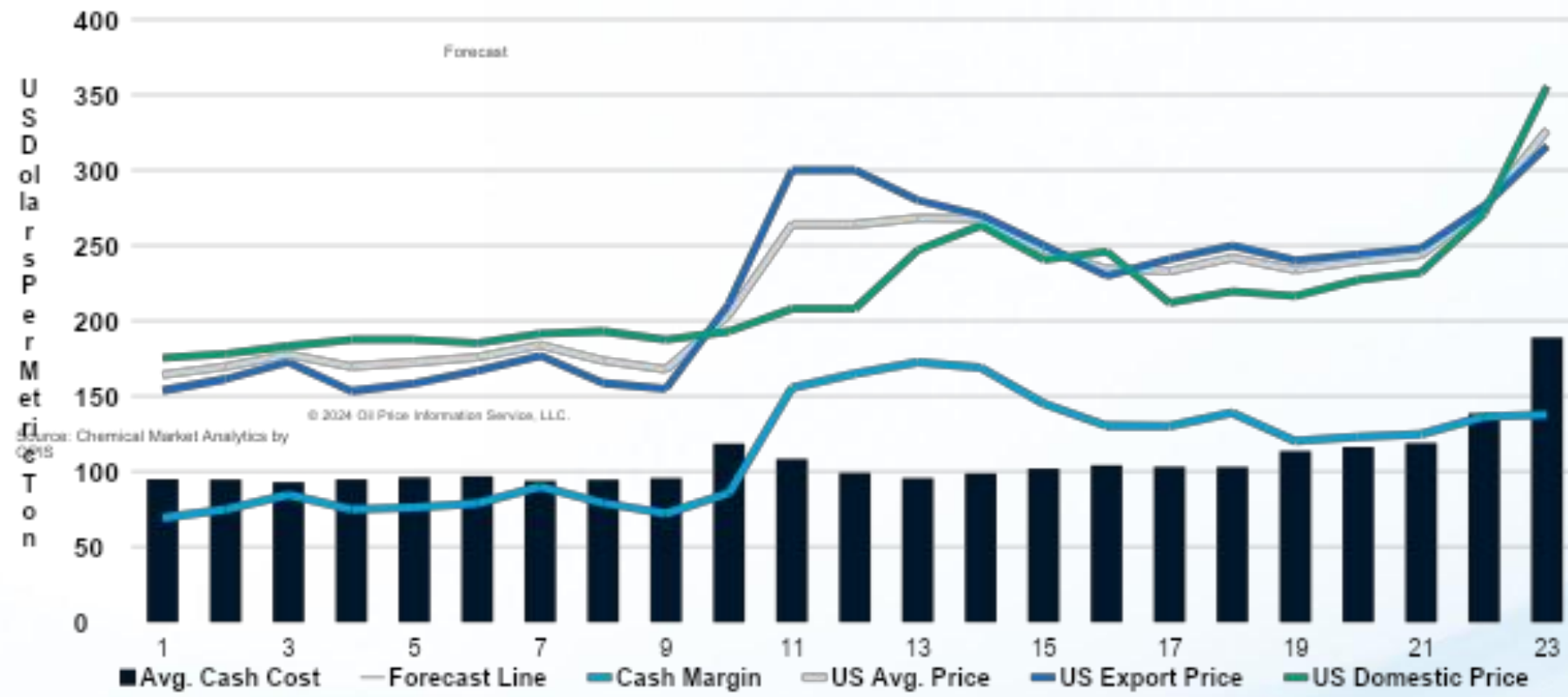
Şişecam Chemicals

Appendix

Zhengzhou Commodity Exchange Contract Trends



US Soda Ash Economics



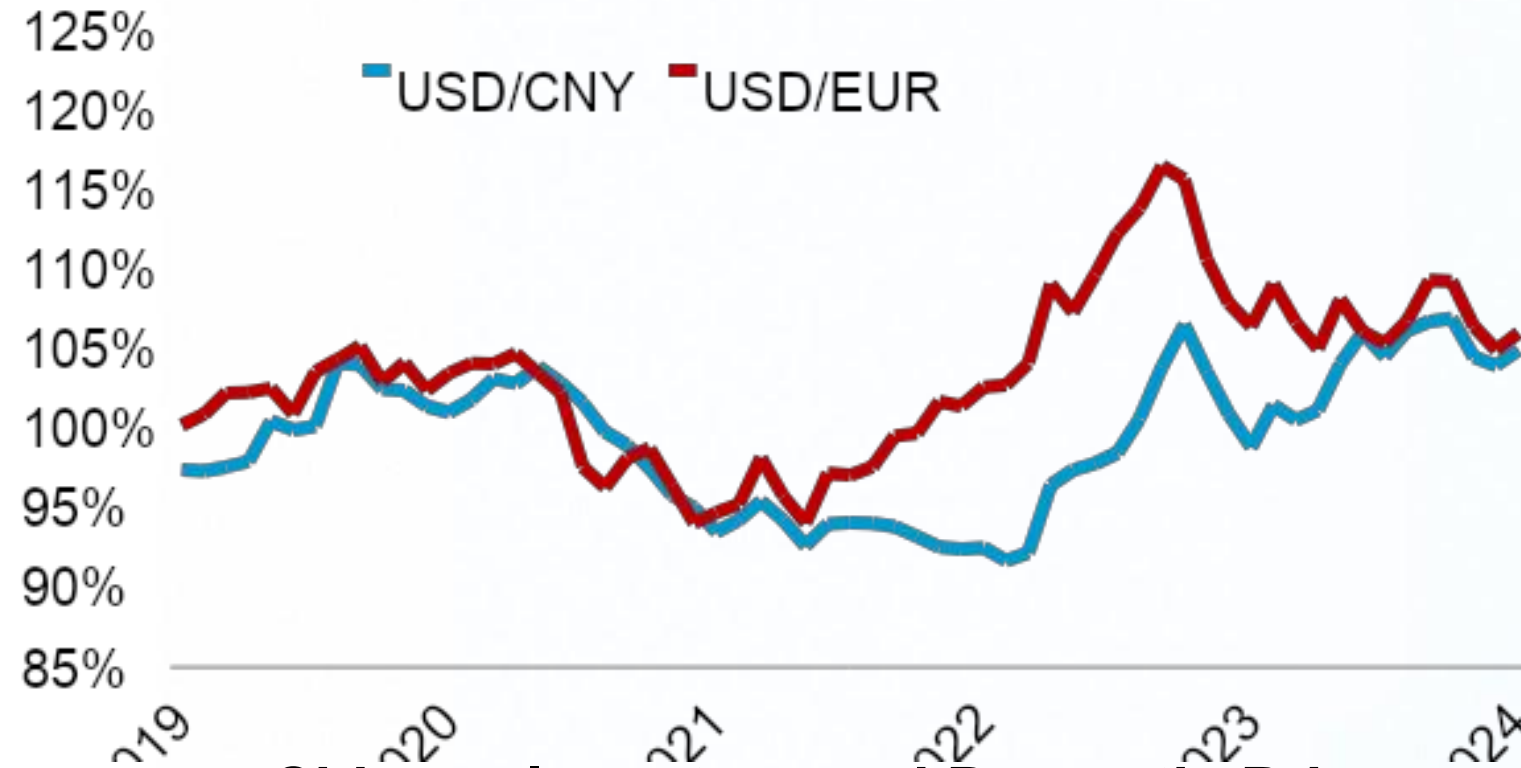
CMA China Exports



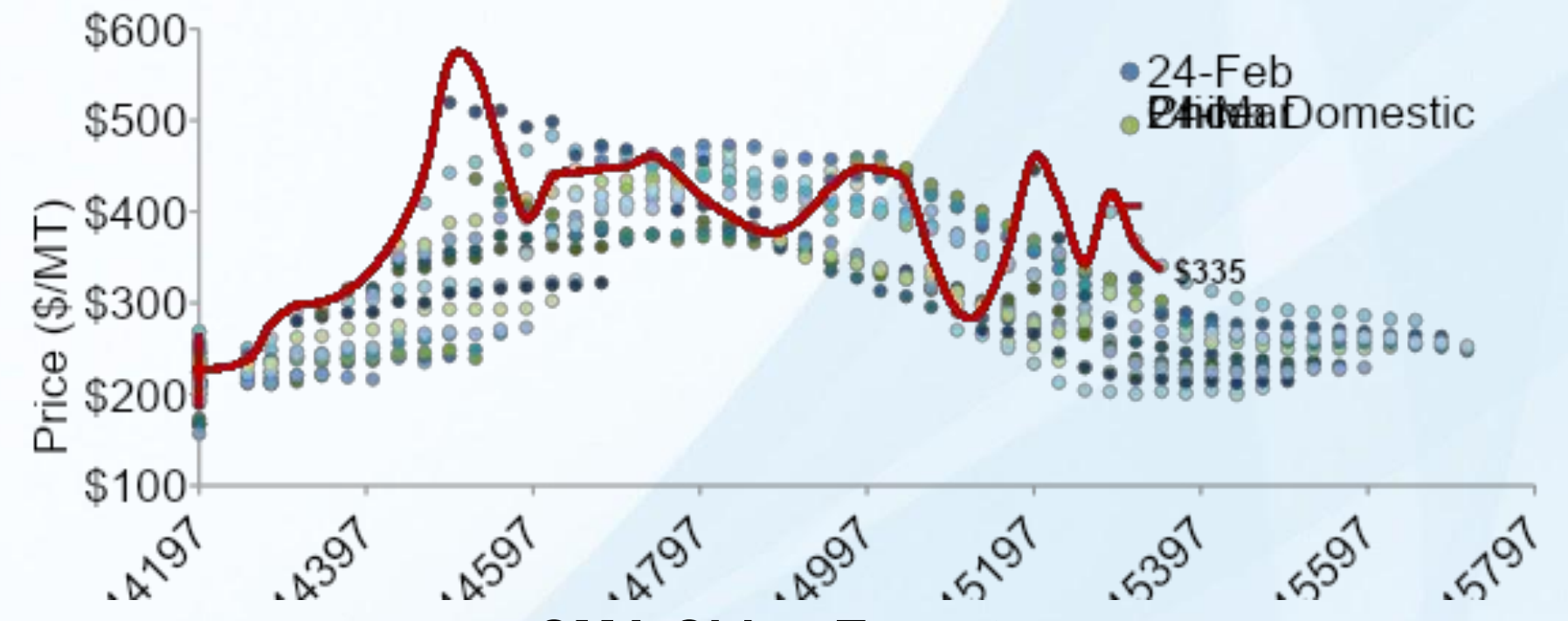
Export Markets Driven by Volatile Macros

Chinese pricing continue volatility due to supply issues causing export volumes and inventory decline.

Key Regional Currency Comparison



Zhengzhou Commodity Exchange Contract Trends



Chinese Inventory and Domestic Price



CMA China Exports

