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Energy

The Green Pivot: How Decarbonization, Circularity, and the EV Boom are Reshaping the Global Alkali Market

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11th AMAI Alkali Industry Conference, New Delhi

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Agenda

Sustainable chlor-alkali to PVC production

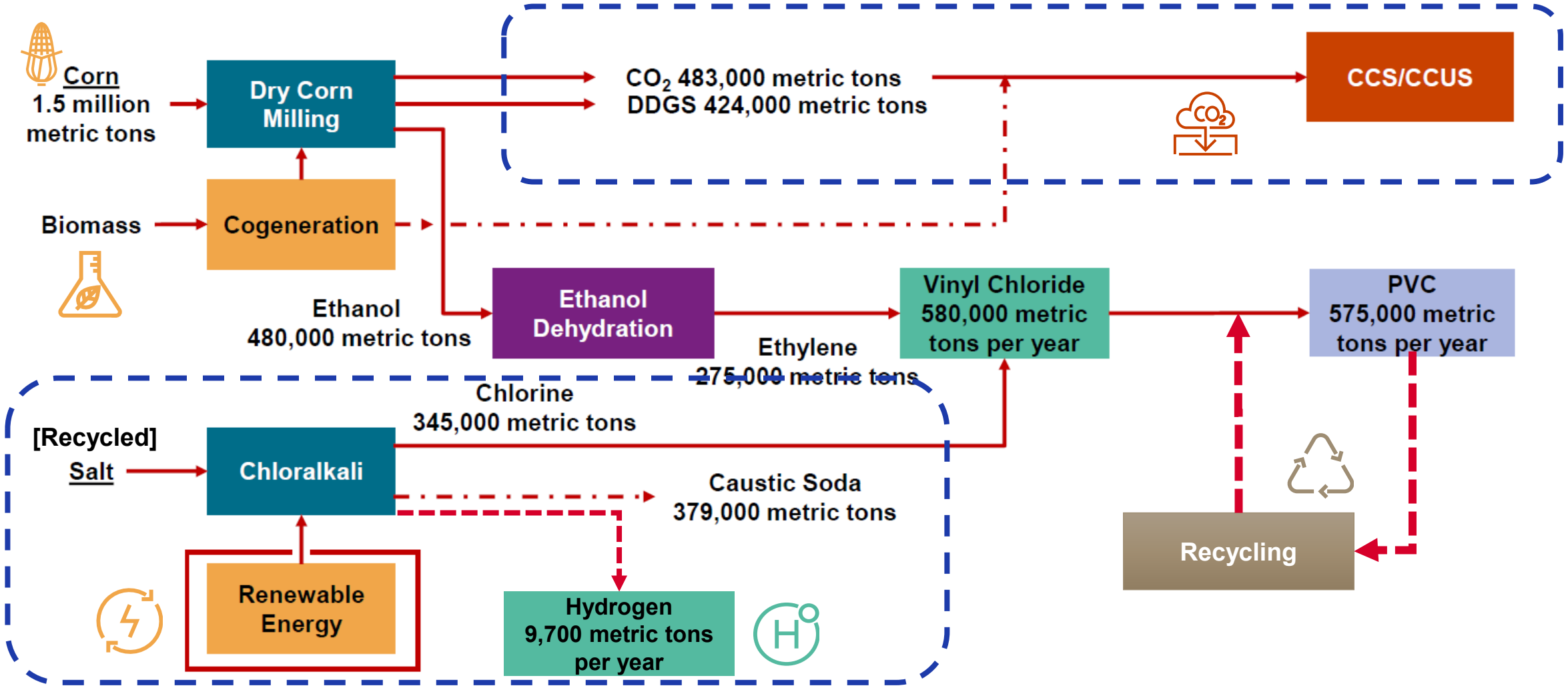
Caustic soda consumption boost from EV boom and ET-driven aluminum demand

Domestic value capture ambitions spur bauxite processing in Southeast Asia

Caustic soda benefiting from the production of circularity applications

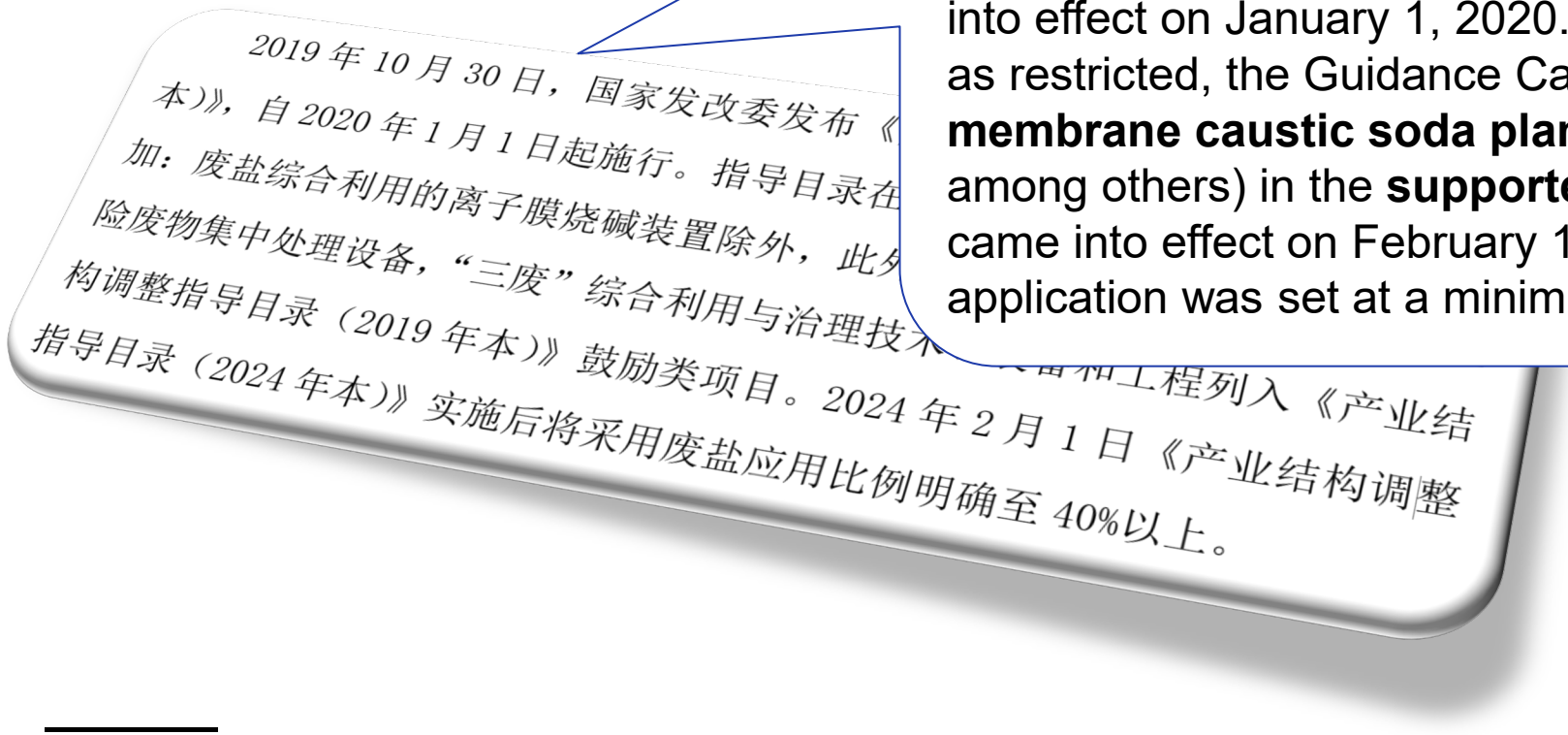
Sustainable Chlor-alkali to PVC production involves numerous components

Implementing parts or in phases help support sustainability and positive receptivity towards the value chain



China has mandated the use of waste industrial salt for new CS plants

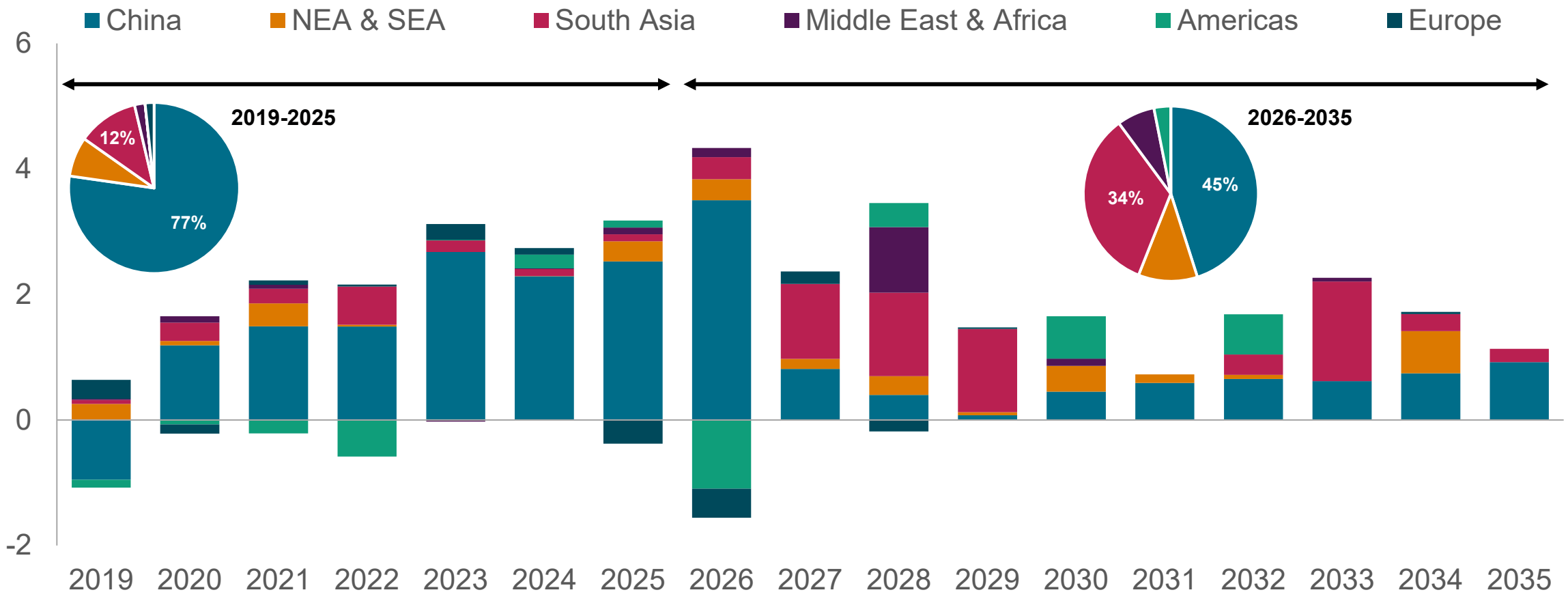
The ability to source adequate waste salt and purify economically will impact the pace of new start-ups



On October 30, 2019, the National Development and Reform Commission (NDRC) released the "Guidance Catalogue for Industrial Structure Adjustment (2019 Edition)," which came into effect on January 1, 2020. While classifying caustic soda as restricted, the Guidance Catalogue listed ion-exchange **membrane caustic soda plants utilizing waste salt** (… among others) in the **supported** category. After the "Guidance" came into effect on February 1, 2024, the **waste salt** application was set at a minimum of **40%.**

Chlor-Alkali seeing significant capacity additions in India and China

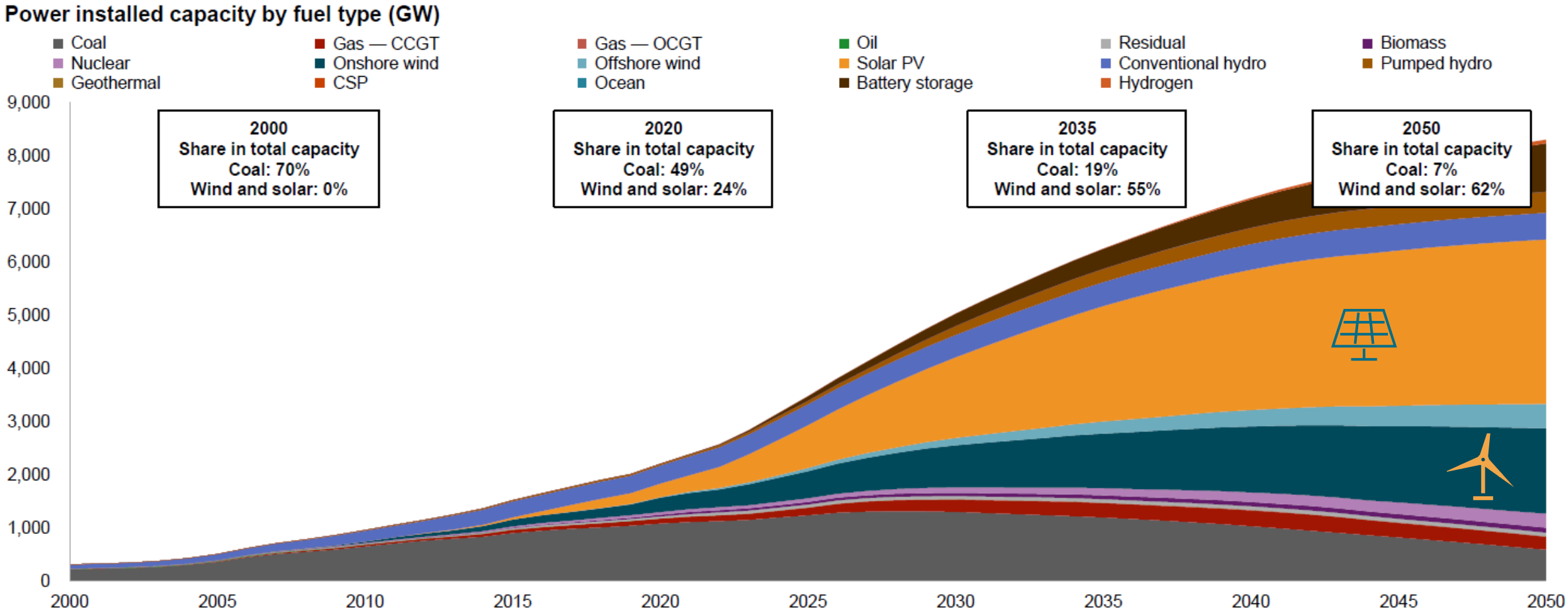
Caustic soda capacity growth by region, million dmt



As of Jan. 2026.

Source: S&P Global Energy.

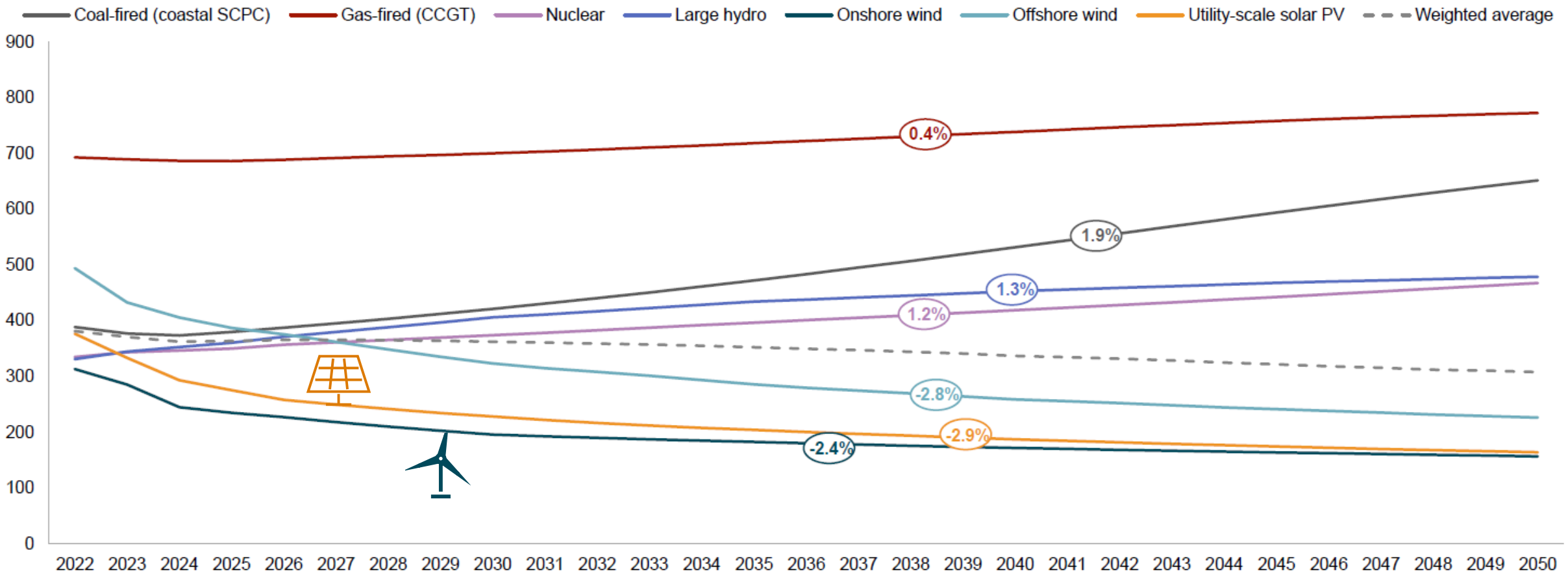
China's power fleet is already the largest in the world and will almost triple in size by 2050; coal's share will steadily decline



Source: S&P Global Energy.

Declining LCOE and capacity growth of renewable power will drive down weighted-average generation cost, despite the uptick in conventional power

China LCOE outlook, 2022–50 (yuan/MWh)

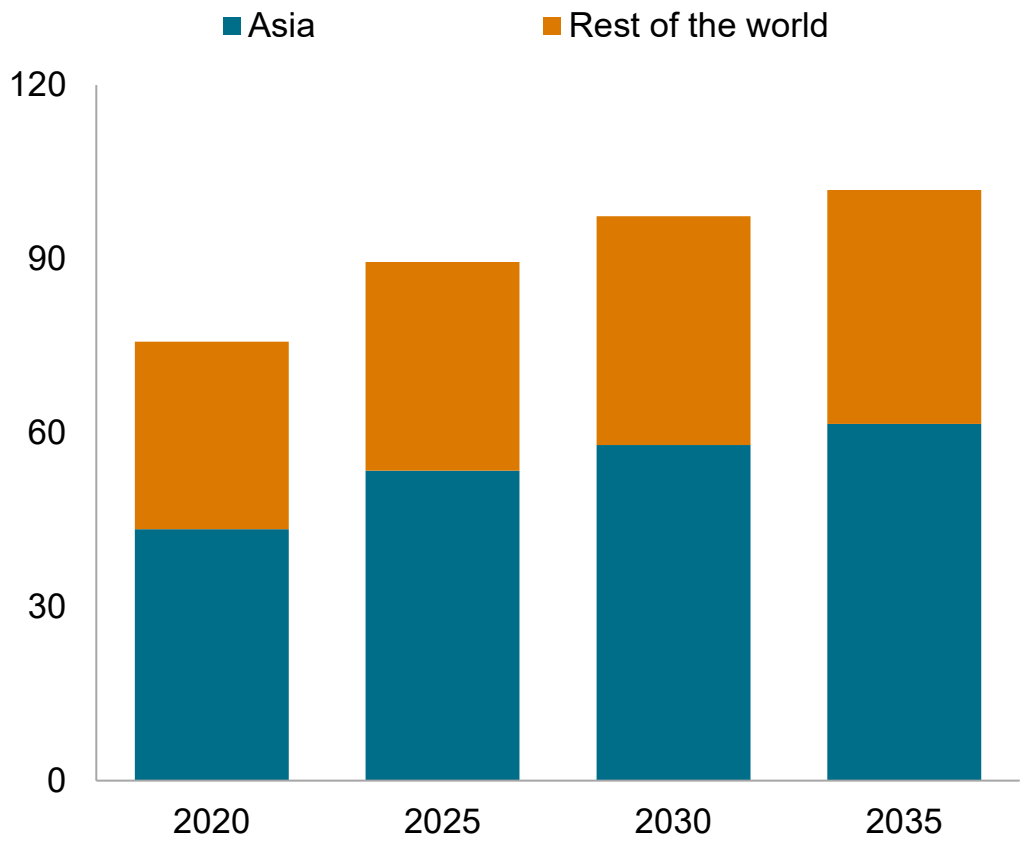


LCOE = levelized cost of electricity.
Source: S&P Global Energy.

EV boom boosts demand for caustic soda and PVC

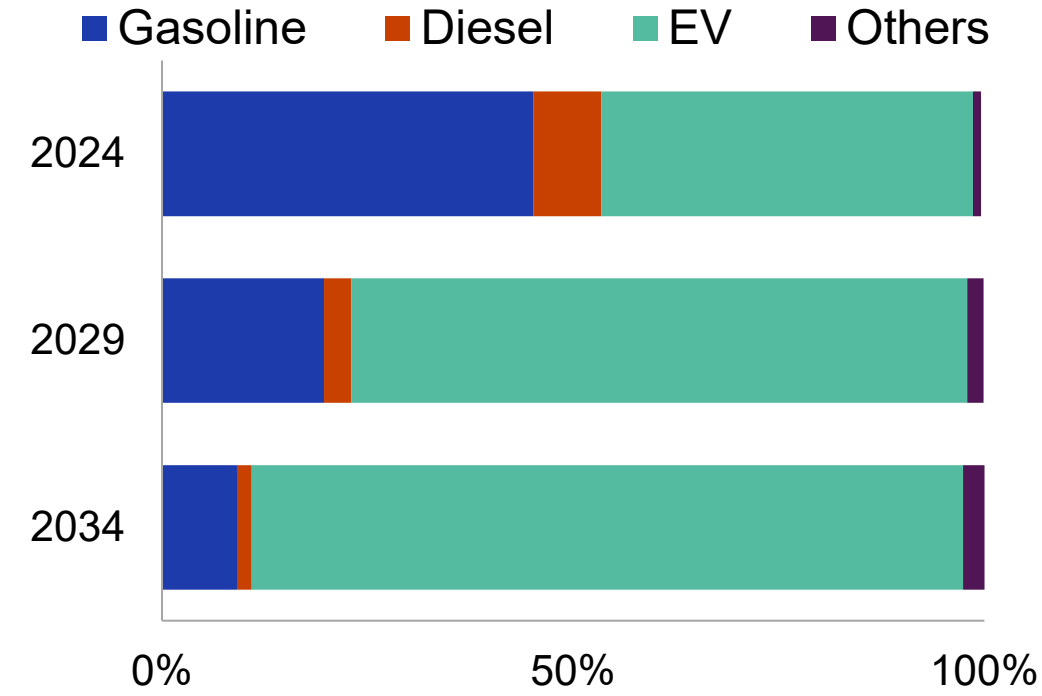
Higher aluminum and PVC content and batteries drives related caustic soda consumption

Vehicles production, million



Source: S&P Global Mobility.

EV share forecast of new LV sales of four regions



* Four regions include US, Europe, China, India

Data compiled August 2024
Source: S&P Global Mobility.

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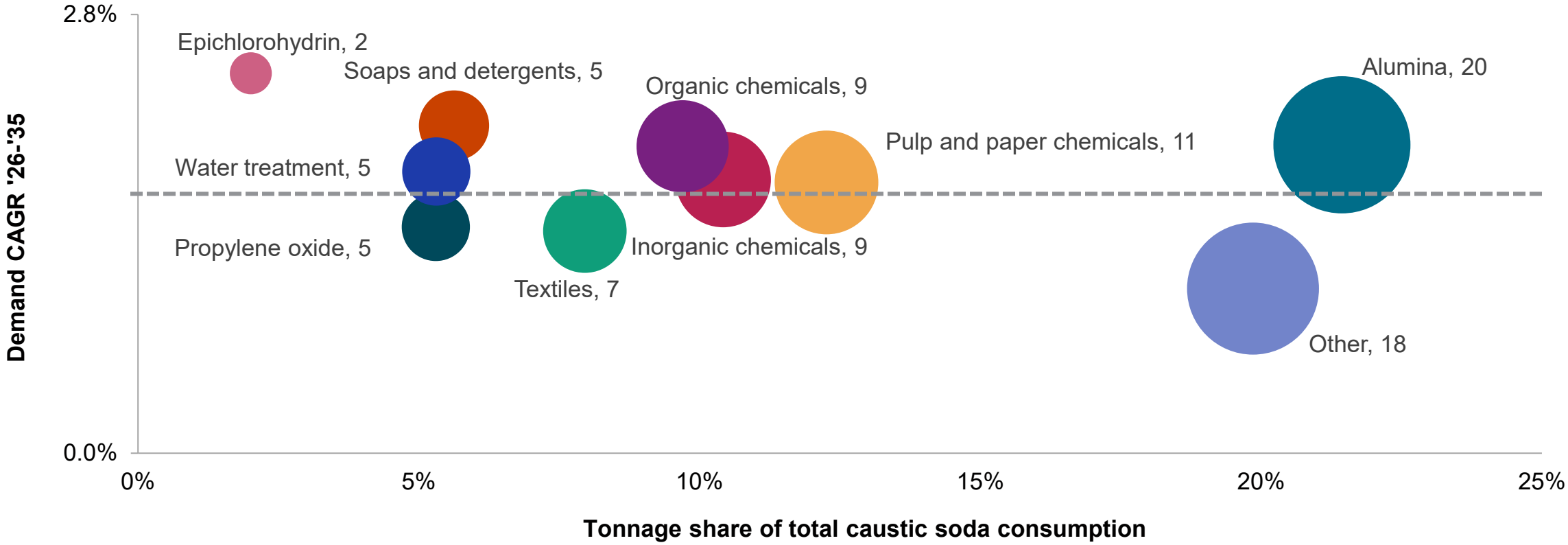
Caustic soda demand from alumina to grow strongly from a large base

Growth in battery manufacturing and recycling, and bioplastics support organic/inorganic/other segments

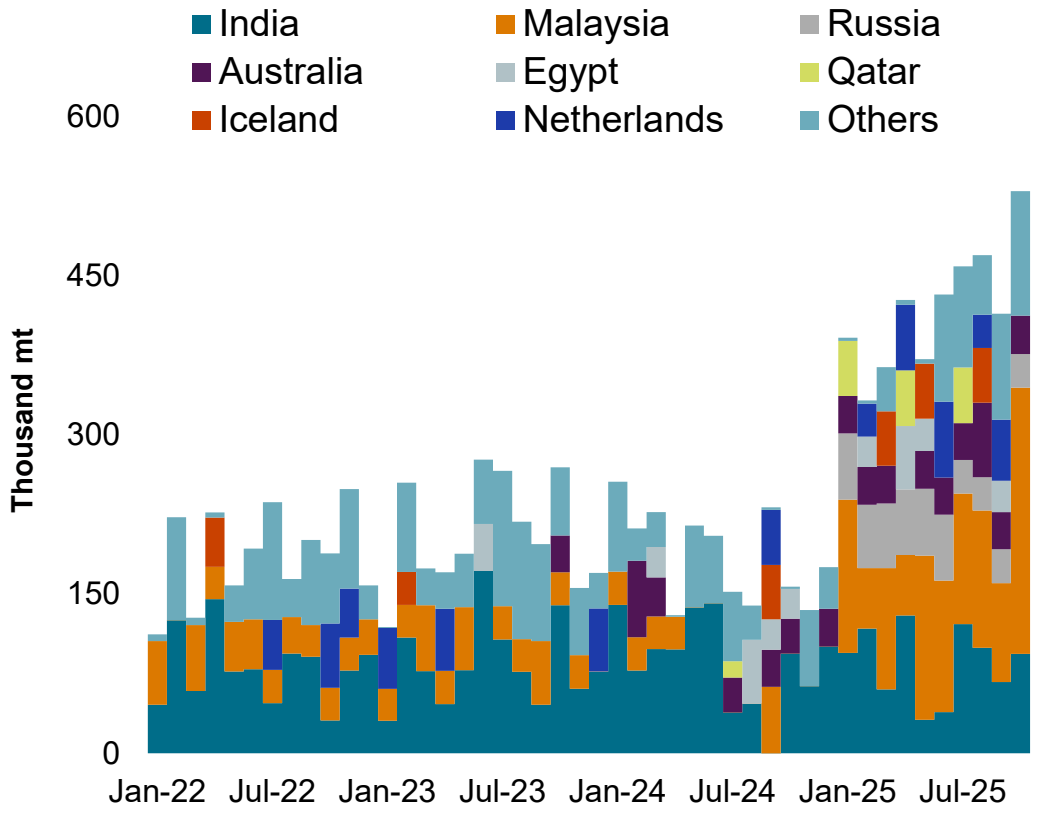
Global caustic soda 2025 demand by application, million mt



Source: S&P Global Energy.

Indonesia’s rapid expansions in alumina production driving CS demand

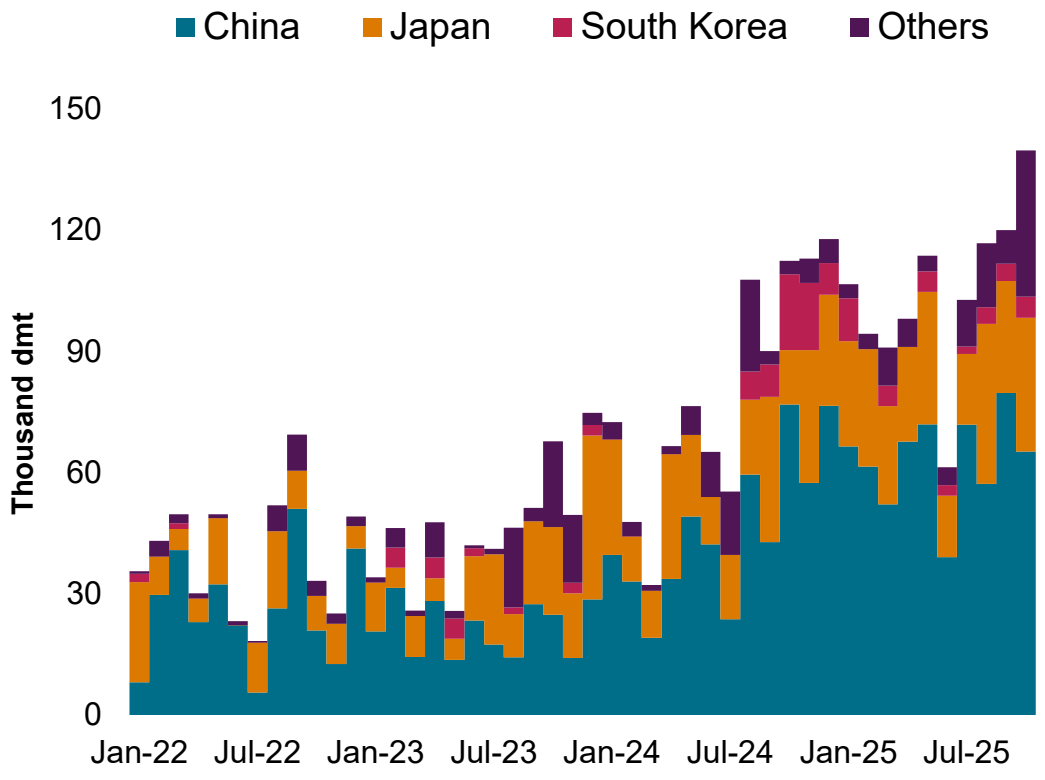
Indonesia Alumina export by country



As of Jan. 2026.

Source: S&P Global Market Intelligence

Indonesia caustic soda import by country

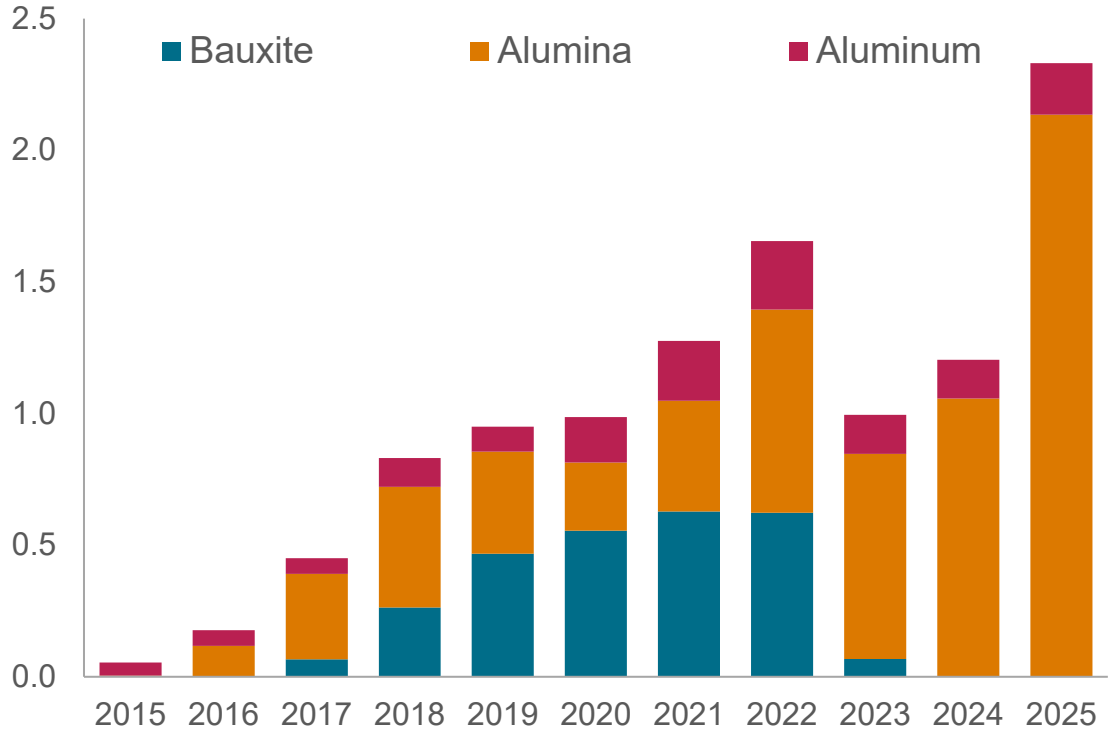


Data compiled Jan. 9, 2026.

Source: S&P Global Energy.

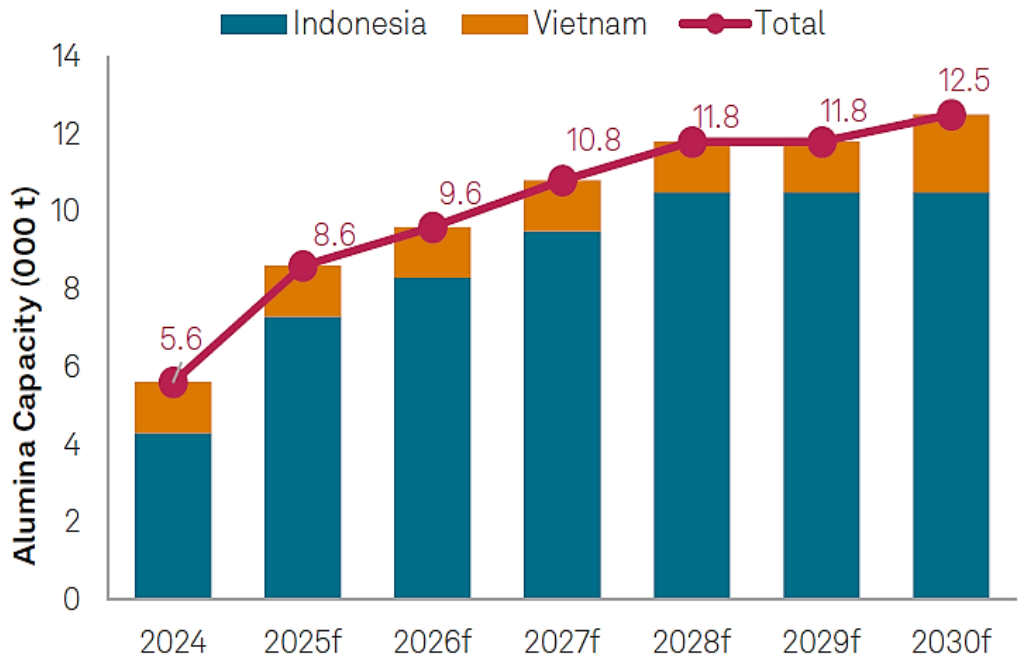
Southeast Asia's domestic value capture ambitions spur bauxite processing

Indonesia exports of raw and processed aluminum, US$ bn



As of Jan. 2026.
Source: S&P Global Market Intelligence.

Southeast Asia alumina capacity to sustain rapid growth

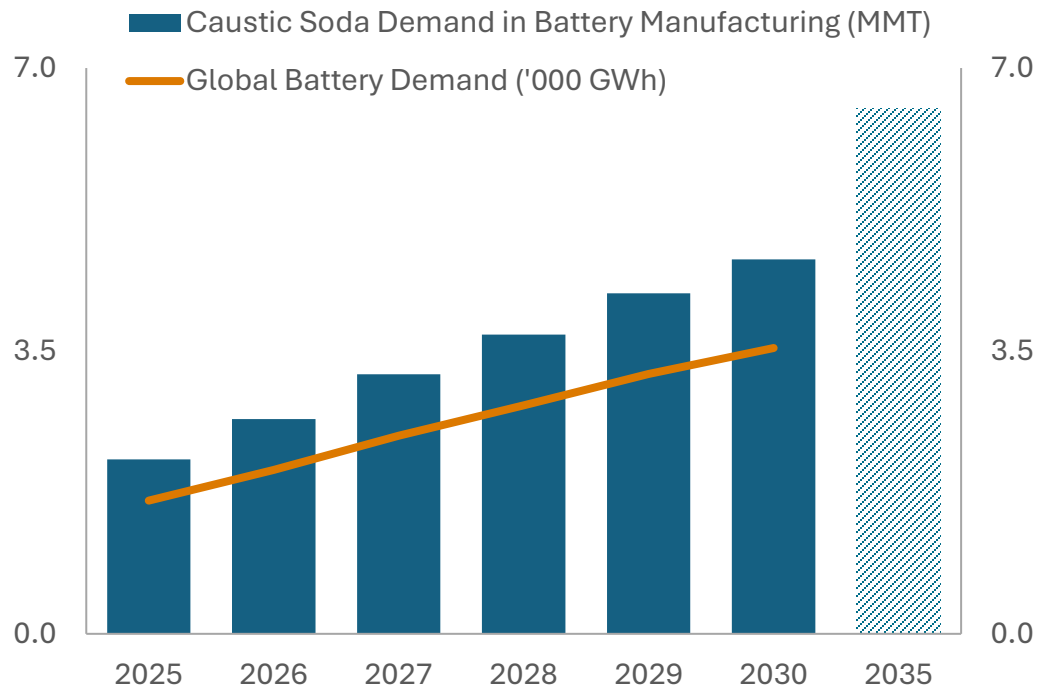


As of Oct. 2025
f = forecast; t = metric ton
Source: S&P Global Energy

EV boom and ET are driving a surge in caustic soda demand

Near-term boost from battery manufacturing, augmented by battery recycling ramp up post 2030

Global caustic soda demand from battery manufacturing



Source: S&P Global Energy CERA, S&P Global Mobility.

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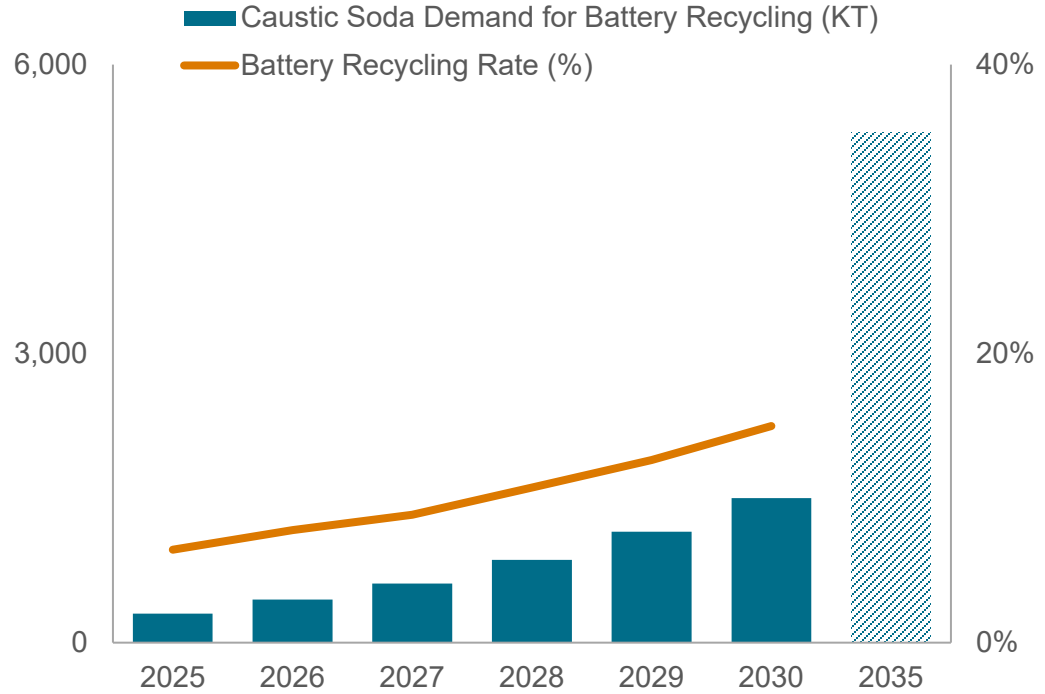
Global caustic soda demand from battery recycling



Source: S&P Global Energy CERA, S&P Global Mobility.

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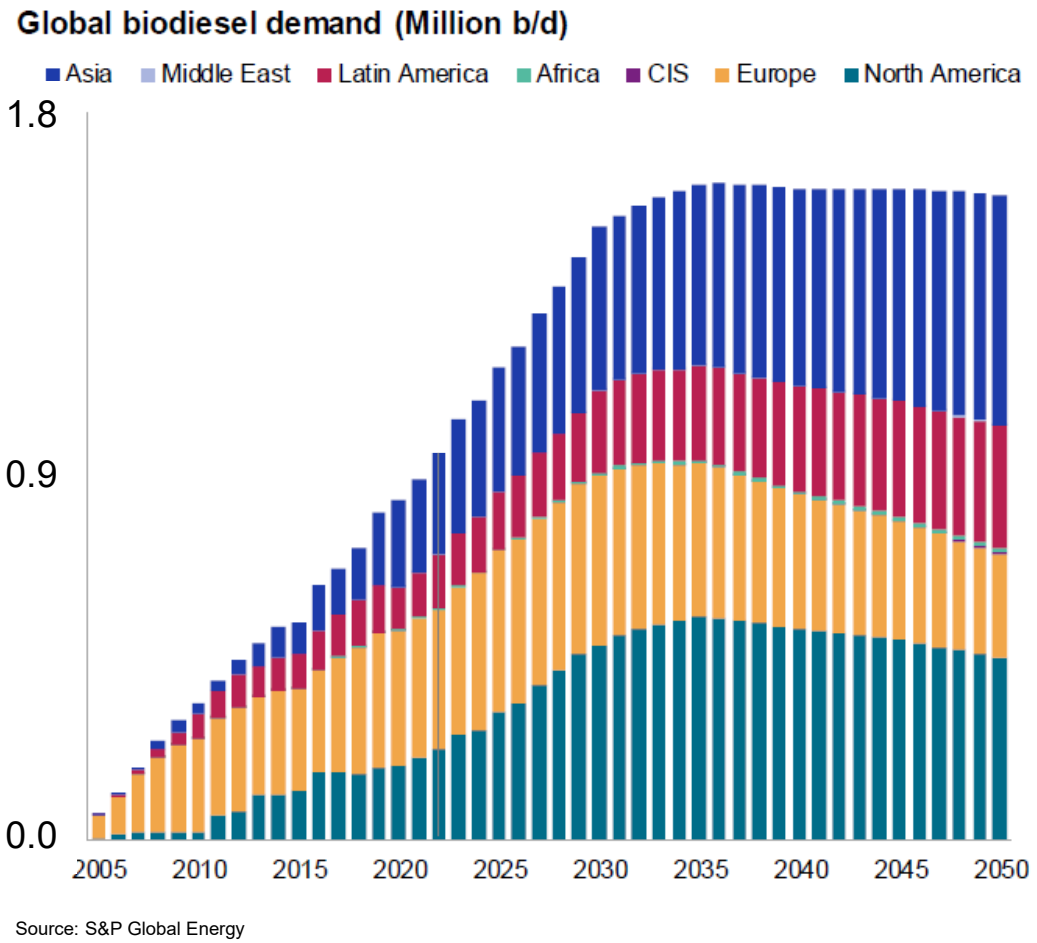
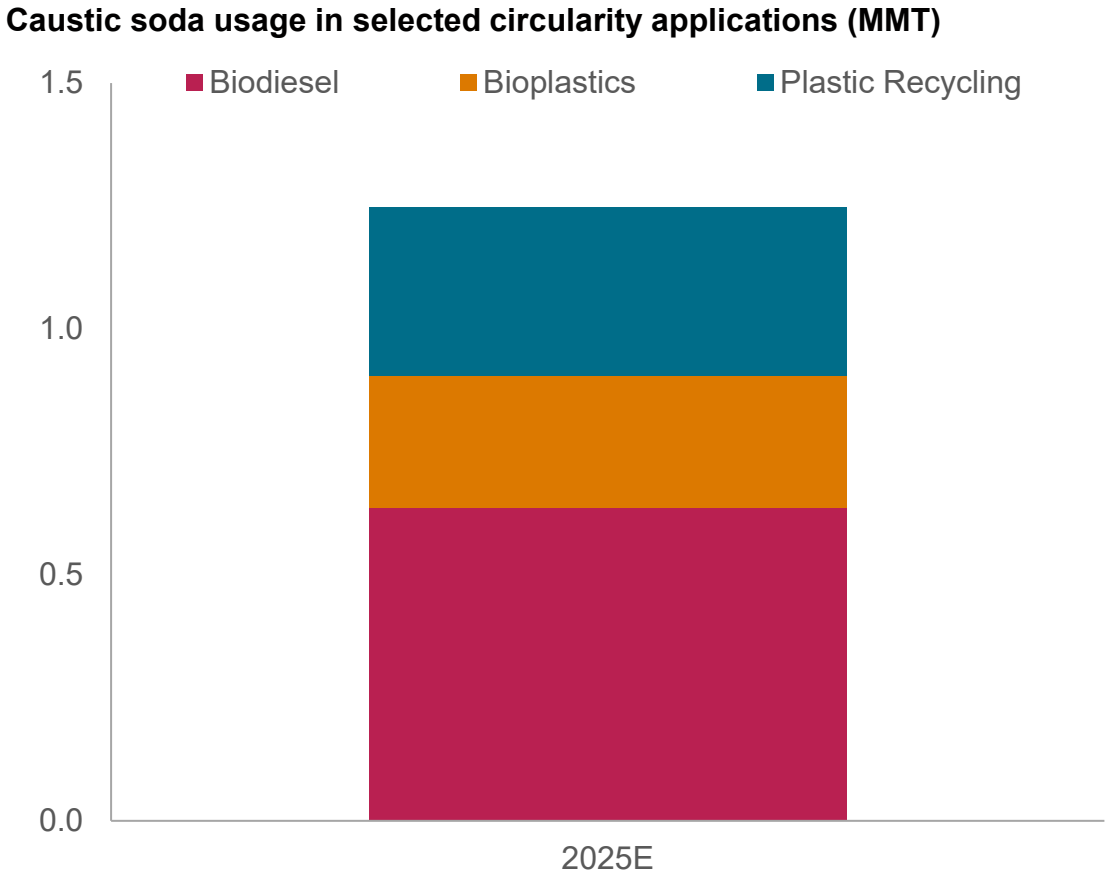
Caustic soda boost from the production of circularity applications

Small segmental demand relative to total caustic soda but significant localized consumption



Source: S&P Global Energy

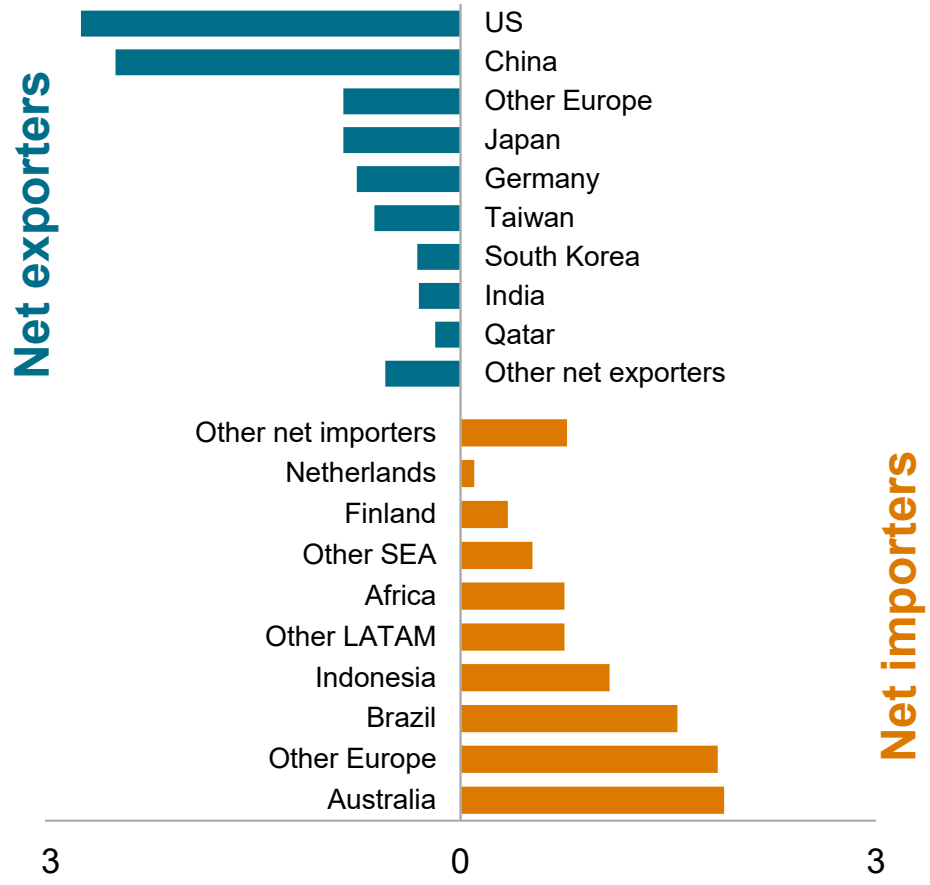


Source: S&P Global Energy.

Note:
Plastic recycling: including washing, de-labelling, de-inking, wastewater neutralization, pH control, depolymerization, hydrolysis, purification, etc.
Bioplastics: including regenerated cellulose, cellulose acetate, PHA, PLA, bio-polymers and starch blends.

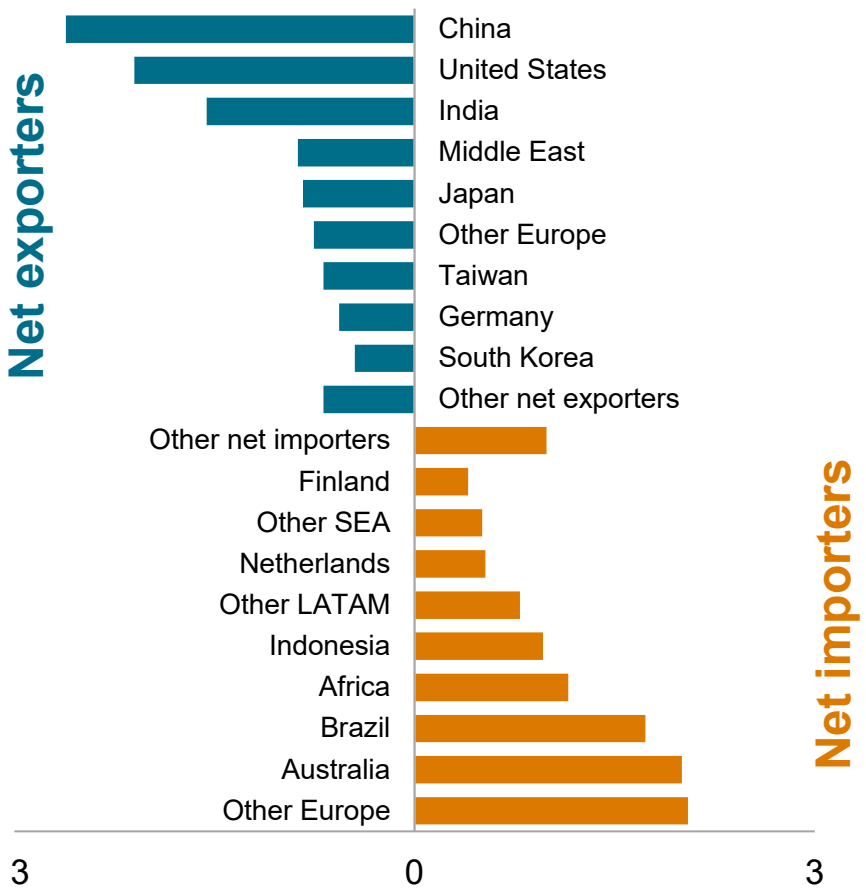
India and UAE's exports to jump, Africa and Europe to increase imports

2025 caustic soda net trade, million dmt



As of Jan. 2026.
Source: S&P Global Energy.

2030 caustic soda net trade, million dmt



As of Jan. 2026.
Source: S&P Global Energy.

Key takeaways

Implementing sustainable chlor-alkali to PVC production in parts or in phases help support positive receptivity towards the value chain

EV boom and ET-driven aluminum demand growth boost caustic soda consumption

Resource-based industrialization in Southeast Asia creates opportunities for caustic soda global trades

Circularity applications lift caustic soda demand; small globally, but influence trade flows to localized consumption hotspots.

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