Explain the supply chain that Carabao operates in when it comes to energy drinks products domestically and clarify where Carabao sits within it. I want the output to be a map from upstream inputs all the way to the end customer with all stakeholders accounted for. Make sure to capture the names of all the companies interacting with Carabao.

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## Carabao Energy Drink Domestic Supply Chain Map (Thailand)

Carabao Group Public Company Limited (CBG) operates a vertically integrated supply chain for its energy drinks in Thailand, meaning it controls much of the process from packaging production through manufacturing and distribution. This reduces reliance on external suppliers and enhances cost efficiency. The company focuses on its flagship Carabao Dang and other energy drink variants, with production centered at facilities like the Bangpakong factory. Below is a step-by-step map of the supply chain, from upstream inputs to end customers. I've structured it as sequential stages, highlighting key stakeholders, processes, and companies interacting with Carabao Group (based on publicly available information from official sources). Where specific external supplier names are not disclosed (e.g., for raw ingredients), I've noted generalizations.

Note: Carabao Group sits primarily in the **midstream** of the supply chain as the brand owner, manufacturer (via subsidiary CBD), and packager (via subsidiaries APG, ACM, and APM). It also extends into downstream via distribution (DCM). This integration allows CBG to oversee quality, branding, and marketing while partnering selectively for equipment, joint ventures, and sales channels.

#### 1. Upstream: Raw Material and Input Suppliers

• **Description**: Sourcing of core ingredients and production equipment. Ingredients include carbonated water, sugar, citric acid, taurine (typically 0.3-0.4%), caffeine (0.032%), inositol, vitamins (e.g., B3, B5, B6, B12), flavorings, preservatives (e.g., sodium benzoate), and colors. These are standard for energy drinks and sourced globally or locally, but specific supplier names are not publicly detailed. Raw materials like sugar and glass cullet have seen cost reductions benefiting margins.

Packaging materials are largely produced in-house to minimize external dependencies.

- Key Processes: Procurement of bulk commodities; equipment installation for efficient production.
- Stakeholders and Companies Interacting with Carabao:
  - Ingredient Suppliers: Undisclosed (likely commodity traders or chemical firms specializing in food-grade additives; e.g., taurine often from Chinese or European suppliers, but no specifics for CBG).
  - Machinery Suppliers: Krones (German company providing filling and packaging lines, including high-speed canning lines processing up to 74,000 containers/hour; long-term partner for 10+ years, supplying eight lines since 2017 for sustainability and efficiency).
  - Packaging-Related Partners: Showa Denko Group (Japanese; former joint venture partner for aluminum cans until CBG acquired full ownership of ACM in March 2020).
- Flow to Next Stage: Raw inputs are delivered to in-house packaging and manufacturing facilities.

### 2. Midstream: Packaging Production

- Description: In-house production of containers and secondary packaging, leveraging economies of scale. Excess capacity is sold to external parties. All packaging is 100% recyclable, with ESG initiatives like using recycled film and reducing resource consumption (e.g., solar rooftops for energy).
- Key Processes: Melting glass, forming cans, printing labels, and assembling cartons.
- Stakeholders and Companies Interacting with Carabao:
  - APG (Asia Pacific Glass Co., Ltd.): CBG subsidiary; produces amber and emerald green glass bottles (capacity: 640 tons molten glass/day, 2.5 billion bottles/year).
  - ACM (ACM Aluminum Can Manufacturing Co., Ltd.): CBG subsidiary (100% owned); produces aluminum cans (capacity: 1 billion cans/year).
  - APM (APM Packaging Co., Ltd.): CBG subsidiary; produces carton boxes, OPP labels, shrink films, and T-shirt bags (capacity: 90 million cartons, 45 million sqm labels, 3,000 tons film/bags/year).

• Flow to Next Stage: Packaged materials are supplied directly to manufacturing facilities.

## 3. Midstream: Manufacturing and Product Assembly

- Description: Core production of finished energy drinks. Energy drinks are
  produced in-house in various formats (cans, bottles, carbonated/non-carbonated)
  to suit Thai preferences. Capacity supports domestic demand (25.1% market share
  per Nielsen, March 2025) and exports. Facilities use state-of-the-art tech with
  certifications for safety.
- **Key Processes**: Mixing ingredients, filling containers (e.g., 2 billion containers/year at Bangpakong), quality control, and labeling. Water and coffee products are outsourced to local contract manufacturers, but energy drinks are in-house.
- Stakeholders and Companies Interacting with Carabao:
  - CBD (Carabao Tawandang Beverage Co., Ltd.): CBG subsidiary; handles production, marketing, and some sales (capacity: 2.5 billion cans and 2.4 billion bottles/year).
  - AWD (AWD Co., Ltd.): Joint venture with Woody (Thai brand); manages functional drinks like WOODY C+ Lock, which may overlap with energy drink variants.
  - Contract Manufacturers: Unnamed local Thai firms for non-core products (e.g., water, 3-in-1 coffee).
- Flow to Next Stage: Finished products are warehoused and routed to distribution centers.

#### 4. Downstream: Distribution and Logistics

- Description: Management of nationwide delivery, focusing on efficient inventory and channel optimization. CBG uses a multi-tiered system with data analytics for retailer insights. Distribution covers 76% traditional trade, 16% modern trade, and 8% other channels. Fleet includes 325 cash vans for direct sales.
- Key Processes: Warehousing at 19 distribution centers, order fulfillment, and transportation to agents/wholesalers.
- Stakeholders and Companies Interacting with Carabao:
  - DCM (Distribution Company Limited): CBG subsidiary (established 2012);
     manages all domestic channels for CBG products and third-party items (e.g., rice spirit, beer).

- First-Tier Agents: Over 100 unnamed agents acting as primary distributors.
- Third-Party Logistics/Partners: Undisclosed, but includes collaborations for cash van operations and inventory management.
- Flow to Next Stage: Products are shipped to wholesalers and retailers.

#### 5. Downstream: Wholesalers and Retailers

- Description: Intermediary sales points ensuring wide availability. Emphasis on partnerships with small wholesalers to boost reach in rural/urban areas. Pricing is competitive (e.g., 10 Baht retail for key products).
- Key Processes: Bulk purchasing by wholesalers, resale to retailers; marketing support from CBG (e.g., BaoDang Girl Teams, events, digital ads on Facebook/TikTok).
- Stakeholders and Companies Interacting with Carabao:
  - Wholesalers: Over 12,000 small-to-medium wholesalers (XS segment); unnamed but key partners for expanding channels.
  - Retailers:
    - Traditional Trade: Mom-and-pop shops, local markets.
    - Modern Trade: Supermarkets and convenience stores (e.g., 7-Eleven, Big C, Tesco Lotus—implied as major outlets, though not exclusively named in CBG docs).
  - On-Trade Partners: Pubs, bars, and restaurants in major cities (for crosspromotion with Carabao Beer, but relevant for energy drink mixers).
- Flow to Next Stage: Products reach consumers via purchases at retail points.

#### 6. End: Customers/Consumers

- Description: Final consumption by Thai individuals. Target demographics include young adults, workers, and sports enthusiasts. Brand building via sponsorships (e.g., Chelsea F.C., Carabao Cup) and ambassadors enhances loyalty.
- Key Processes: Direct purchase and consumption; feedback loops via social media.
- Stakeholders: General public in Thailand (no specific companies; end-users).
- Interaction with Carabao: Consumers engage through marketing (TV ads, events) and product availability.

This map accounts for all major stakeholders based on available data. CBG's integration minimizes external dependencies, but it interacts with equipment providers like Krones and former partners like Showa Denko. For sustainability, CBG emphasizes renewable energy and recycling across the chain. If more granular details (e.g., specific ingredient suppliers) emerge in future reports, the map could be refined.

- → Sustainability initiatives in Carabao's supply chain
- → Supply chain of rival M-150