greener than plastic

“miracle metal”

sustainable

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general perception

scale

consumer vs. industry

construction

the automotive industry

consumer goods, waste and production waste

avaiation - aircraft wings

Electrical Appliances & Machinery

History

1933 – Quart can of motor oil introduced.
1935 – Introduction of the beer can. The first beer can was “Krueger Cream Ale” – sold by the Kruger Brewing Company of Richmond, Virginia.
1935 – Felifoel breweries in Wales introduce canned beer into the UK using cone shaped topped steel cans.
1940 – Carbonated soft drink canning begins.
1960 - Coca-Cola broke away from selling their soda in bottles and introduced their first widely distributed canned soda

Material

recycable but still single-use

disposability

food preserving during war to single-use product

Coca-cola becomes a symbol of america during WWII - use CAN to evoke a nostalgia from the soldiers

https://www.coca-colacompany.com/about-us/faq/how-did-coca-cola-grow-internationally#

While almost all food cans are made of steel, aluminum’s unique properties make it ideal for holding carbonated beverages. The typical aluminum can weighs less than half an ounce, yet its thin walls withstand more than 90 pounds of pressure per square inch exerted by the carbon dioxide in beer and soft drinks. Aluminum’s shiny finish also makes it an attractive background for decorative printing, important for a product that must grab the attention of consumers in a competitive market.
https://www.madehow.com/Volume-2/Aluminum-Beverage-Can.html

specific to carbon drinks

aluminum

https://www.hindalco.com/operations/r

Hindalco Industries Limited

Aditya Birla Group

mining founded by a multinational conglomerate

L&T, ALCOA, and Vedanta

bauxite

By far the single greatest contributor to CO2 emissions from the primary production of aluminum is the electrolysis process itself, the method that converts the transitional ingredients into aluminum. While the carbon footprint for production of one tonne of new aluminum has gone down as a whole by 35% since 1995, finding alternative energy sources for primary production is still one of the biggest environmental challenge facing the aluminum industry.

the electrolysis process

every 3rd aluminium can is made from Novelis aluminium

systems

the New National Mineral Policy announced by the government in March 1993 is designed to attract private and multinational investors for large-scale mineral exploitation in India

The liberalization of economic policies in India has facilitated foreign investments in mining projects, further intensifying environmental concerns in bauxite-rich tribal areas

The extraction of bauxite, along with other minerals like iron ore and chromite, has led to environmental degradation and social issues in tribal regions of Odisha

government policy

electricity (Energy cost)

fertility of the land and ability to hold rainwater

the single greatest contributor to CO2 emission

Novelis

political system

system of production

extraction

refining

Environment cost

Toxic substances are often found in bauxite residues, even after the extraction of aluminum.

The production waste of alumina - the residue - red mud

The extraction of bauxite, along with other minerals like iron ore and chromite, has led to environmental degradation and social issues in tribal regions of Odisha

The mining, processing and refining of bauxite into raw aluminum is energy-intensive and has a major impact on the environment. **By contrast, recycling aluminum uses only 5% of the energy required to extract raw aluminum from ore.**

Niyamgiri Mountains in Orissa, India.

- Jharkhand
- Odisha (Orissa)
- Chhattisgarh
- Maharashtra

displacement

human cost

Bauxite is highlighted as a key factor in the fertility of the land and the growth of tropical forests due to its ability to hold monsoon rainwater and release it slowly throughout the year (https://www.jstor.org/stable/27644128?searchText=bauxite+india+environment&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dbauxite%2Bindia%2Benvironment%26so%3Drel&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A7545a14f9d3c8523900a3cca11c09015)

https://www.sciencedirect.com/topics/earth-and-planetary-sciences/bauxite

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