

## **Tracing the Origins of a Can of Cola**

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Out of nowhere the sudden desire hits me: I am feeling drained or thirsty and my mind conjures up an image of a can of Pepsi™. In a seemingly innocent act, repeated countless times before, I get up and walk to the vending machine, search my pocket for change, and then make the consequential choice: I exchange money-information for that steely-blue can. No doubt there were other choices I could have made to reinvigorate myself or quench my thirst; but, by choosing as I did, I have deliberately, irreversibly become complicit in a vast, global, oppressive economic system, and have made an astronomically disproportional impact on already stressed environmental systems in relation to the satisfaction of my meager desire.

Among the consequences set in motion by my choice are:

- The can itself is far more costly and complicated to manufacture than the beverage.
- Bauxite is mined in Australia and trucked to a chemical reduction mill where a half hour process purifies each ton of bauxite into a half ton of aluminum oxide.
- When enough of that is stockpiled, it is loaded on a giant ore carrier and sent to a region of the USA where hydro-electric dams provide cheap electricity.
- After a two week long journey across the ocean, the mineral slab usually sits at the smelter for as long as two months.
- The smelter takes two hours to turn each half ton of aluminum oxide into a quarter ton of aluminum metal, in ingots ten meters long.
- The ingots are cured for two weeks before being shipped to roller mills.
- At the roller mills, each ingot is heated to nearly 900 degrees Fahrenheit and rolled down to a thickness of one-eighth of an inch.
- The resulting sheets are wrapped in ten-ton coils and transported to a warehouse, and then to a cold rolling mill where they are rolled ten-fold thinner, ready for fabrication.
- The aluminum sheets are punched and formed into cans, which are then washed, dried, painted with a base coat and then painted again with specific product information.
- The cans are next lacquered, flanged (they are still topless), sprayed inside with a protective coating to prevent the cola from corroding the can, and inspected.

- The cans are palletized, forklifted, and warehoused until needed.
- They are then shipped to the bottler, where they are washed and cleaned once more, then filled with water mixed with flavored syrup, phosphorous, caffeine, and carbon dioxide gas.
- The corn syrup used as sweetener is harvested from somewhere in the Midwest, and undergoes trucking, milling, refining and shipping, not to mention the corresponding depletion and poisoning of aquifers and loss of topsoil wrought by the industrial agricultural methods used to grow the corn.
- The phosphorous comes from Idaho, where it is excavated from deep open-pit mines – a process that also unearths cadmium and radioactive thorium.
- Round-the-clock the mining company uses the same amount of electricity as a city of 100,000 people in order to reduce the phosphate to food-grade quality.
- The caffeine is shipped from a chemical manufacturer to the syrup manufacturer.
- The filled cans are sealed with an aluminum “pop-top” lid at the rate of 1500 cans per minute, then inserted into cardboard cartons printed with matching color and promotional schemes.
- The cartons are made of timber pulp from virgin old-growth forests in British Columbia that are the home of grizzlies, wolverines, otters, and eagles.
- Palletized again, the cans are shipped to a regional distribution warehouse and then finally delivered to AUS where a typical can is purchased within 3 days.
- The consumer buys 12 ounces of the phosphate-tinged, caffeine-impregnated, caramel-flavored sugar water. Drinking the cola takes a few minutes; throwing the can away takes a second.
- The US still gets three-fifths of its aluminum from virgin ore, at 20 times the energy intensity of recycled aluminum, and throws away enough aluminum to replace its entire commercial aircraft fleet every 3 months.
- All I wanted was to quench my thirst and reinvigorate myself.

Surely this is not a sustainable way to satisfy such a simple desire. By choosing this can of cola, I have participated in an unconscionably wasteful, unnecessarily energy intensive, and globally exploitive system. By exchanging the money-information, I have, in effect, made a vote to perpetuate this system; I have made a contribution to an oppressive trans-national entity.

Sustainable alternatives to satisfying my desire originate where all sustainable alternatives originate: right close to home. I have a beautiful garden filled with lush, fresh aromatic herbs: peppermint, lemon balm, borage, pineapple sage, lemon thyme, hyssop, and mullein. I could have made an invigorating, healthful, flavorful tea with

these friends of mine. I could have added some honey from the local bee keeper, Mr. Denny. The resulting elixir would have been a healthy tonic that would not only have satisfied my desire, it would have contributed to my health and made a positive contribution all the way around. Next time...

Facts and figures excerpted from *Lean Thinking*, by James Womack and Daniel Jones, and *Natural Capitalism*, by Paul Hawken and Amory and Hunter Lovins.