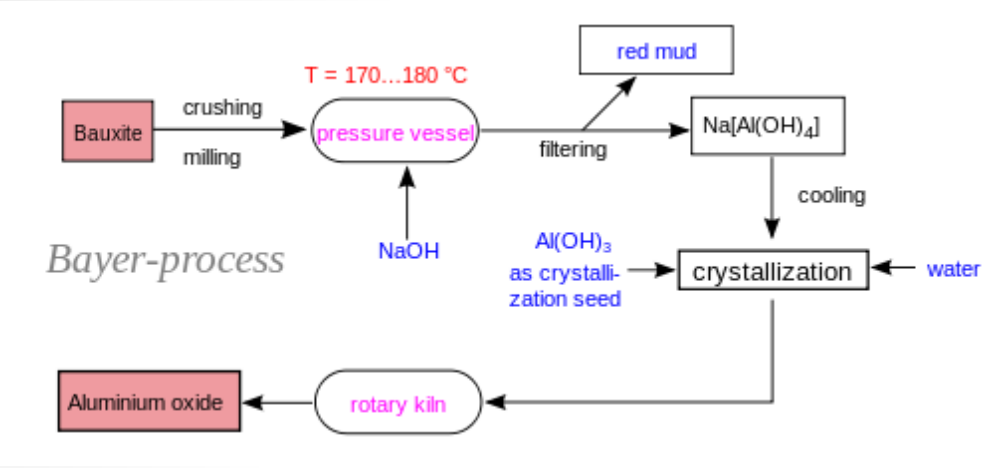
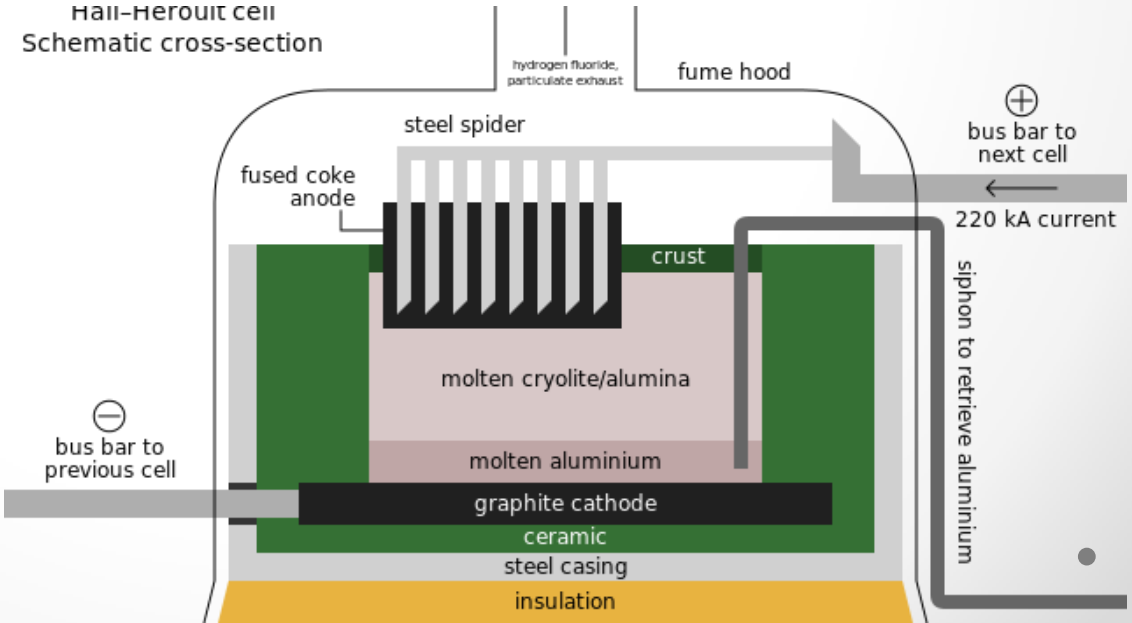
Jimmie McGehee
Tanner Hickman
Bryce Guerry

Aluminum Production



Bayer-process

Hall-Heroult process



Waste and Energy

- Two tons of "red dirt" produced for each ton of aluminum
- 17.5 tons of CO_2 produced for each ton of aluminum
- 280 lbs of PFCs produced per ton of aluminum
- 67.5 GigaJoules of energy used per ton of aluminum

"gathering aluminum scrap"

Recycling

"melt aluminum scrap"

- ~100% recovery
- Low melting point requires less energy
- No caustic agents
- No direct byproducts

Energy Equivalents

Primary	Recycled
Polluted soil	No Hazard Waste
Lots of CO_2 and PFCs	Low CO_2 and PFCs
High Energy Consumption	Low Energy Consumption

Trashing one can wastes enough energy to:

- Power a large flatscreen TV or computer for 3 hours
- Light a lightbulb for 20 hours
- Fully recharge a phone 50 times
- Make 15 slices of toast
- You can run for 2.5 miles

Energy Equivalents

- Trashing 1,000,000 cans is wasting as much energy as:
  - 40 Barrels of oil
  - Driving a car 50,000 miles
  - 130 Tons of TNT

Thank you