WIRING
From power grids to motherboards, copper wiring is used to conduct electricity in many modern devices.

Revenue generated by copper in B.C. (2012) was approximately $1.8 BILLION

TELEVISION
Europium, a rare earth element, is used in televisions to produce the colours red and blue, while terbium creates the green colour.

SMARTPHONES AND TABLETS
An estimated 2.9 MILLION adults own smartphones in British Columbia.

These devices are created using a multitude of metals, including:

GOLD • SILVER • COPPER
RARE EARTH METALS
PLATINUM • ALUMINUM

LCD DISPLAYS
Silica, an industrial mineral mined in B.C., is used as a coating material between layers of glass to prevent contamination in LCD screens.

BATTERIES
Graphite, mined in B.C., is a critical component of lithium-ion batteries, which power many of today's devices.

SPEAKERS
Metals such as titanium and aluminum are used in headphones and speakers to produce music through their application in transducers, which convert electrical energy into sound.

15:1 Graphite-Lithium

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HYDROELECTRIC
In BC’s hydroelectric dams, copper plays a vital role. As the rotors turn, magnets create an electrical charge inside copper wire, which sends out the electricity.

WIND POWER
The average wind turbine contains:
4 TONNES OF COPPER
300 TONNES OF STEEL

TRANSMISSION
The Northwest Transmission line runs 344km through Northern BC, and contains over 138 TONNES OF STEEL

ENERGY STORAGE
Zinc-air batteries are being used to deliver renewable power when consumers need it. Zinc acts as the fuel, which offers a higher energy density compared to standard batteries.
In 2012, BC’s zinc generated revenue of $685 MILLION.

HYBRID CARS
Gold, copper, zinc, molybdenum, lead, and coal are all used to manufacture hybrid vehicles. In fact, hybrid cars use as much copper as conventional vehicles.

SOLAR PANELS
A typical solar panel uses roughly 20g of silver.
90% of the most common photovoltaic cells use a silver paste to convert sunlight into useful electricity.
DENTISTRY

Gold is used in dentistry for fillings, bridges, and crowns because it is malleable, non-allergenic, and chemically inert.

A gold crown between 10-18 carats and that weighs around 1/10 of an ounce could be worth $50-100.

CANCER TREATMENT

Hyperthermic techniques in cancer treatment (applying heat to the whole body) are using gold to amplify low energy heat sources that efficiently target cancer cells while avoiding damage to healthy tissue.

Nanoparticles are so tiny that about 500 would span the width of a hair.

BANDAGES

Casts for broken limbs are made by soaking bandages in wet plaster, which is made from gypsum.

Silver is increasingly being infused into bandages to help inhibit bacterial growth in wounds.

MEDICAL IMAGING

Molybdenum is used in molecular imaging to display biochemical processes and physiological activity in the human body.

B.C. is Canada’s only producer, but the nation still ranks 4TH in global production.

X-RAY

Both doctors and patients wear lead aprons when using x-rays to reduce radiation exposure as much as possible. Lead is used for its high density and high atomic mass.

SUPPLEMENTS

Zinc is found in every tissue of the body and some use supplements to maintain healthy levels. A deficiency in zinc can affect fertility, cardiovascular health, and athletic performance.

30,566,480 kg of zinc was produced in B.C. in 2012.

B.C. is Canada’s only producer, but the nation still ranks 4TH in global production.
MINING GROWS BRITISH COLUMBIA

ONE WALL CENTRE
1500 glass units were replaced in a recent renovation. Largest units required 145 kg of silica. Now think about how much the whole building would need!

SHANGRI-LA
Reaching a height of 197 metres, Shangri-La is British Columbia's tallest building. It takes a lot of resources to construct a building of that size:
- Reinforcing steel: 6,000 TONNES
- Concrete: 51,000 METRES³

BC PLACE
Constructing BC Place's new retractable roof was a big job. Just look at these stats:
- Length of cable used: 35 KM
- Steel: 16,000 TONNES

SHANGRI-LA
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CANADA PLACE
One of Vancouver's most iconic features, Canada Place's sails, uses a high-quality teflon-coated fiberglass in its 250,000 sq. ft of fabric. B.C. minerals such as silica and dolomite are used to create fiberglass.

HARBOUR CENTRE
Any large skyscraper, like the skyline-defining Harbour Centre, will use miles upon miles of copper wiring to power its electrical needs.

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For Whistler's Peak 2 Peak gondola, 4,000 cubic meters of concrete was used for the footings, platforms, masts, and columns.

36,610,439 tonnes of construction aggregates, like sand and stone, were produced in B.C. during 2012.

Most metal acoustic guitar strings are typically wound using bronze. Bronze is an alloy consisting primarily of copper. Copper generated revenues of $1.8B in B.C. (2012)

To glide across the ice, hockey players and recreational skaters skate on steel. The steel in hockey blades is formed from metallurgical coal, which represents more than 90% of the coal produced in B.C.

Titanium and its alloys are used for manufacturing wood golf heads for its lightweight and high-strength characteristics.

Graphite is the most popular choice for fishing rods because of its lightweight and ability to offer further and more accurate casts.

Tent poles are often made up of tubes of fiberglass, which comprises of silica, limestone, kaolin clay, fluor spar, colemanite, and dolomite. Industrial and construction minerals like these generated nearly $700M in revenue. (2012)
Gold is critical to aircraft avionics and platinum maintains the longevity of turbine blades. Typically, there are precious metal containing parts in an aircraft engine.

Every material used in bicycles, from the steel processed by burning metallurgical coal to the aluminum, titanium or carbon fibre in the frame, is derived from mining.

Copper is critical to powering Vancouver's trolleybus fleet, which uses trolley line poles. Skytrain relies on aluminum conductors to facilitate over 396,500 trips each weekday.

There are over of roads and highways connecting BC communities, requiring concrete, asphalt and structural steel for bridges.

The average car requires about 630kg of steelmaking coal to produce.

Cars in BC: 3 MILLION

Platinum group metals are used in catalytic converters, which help prevent approximately 4 million tonnes of pollution each year.

PORT MANN BRIDGE
12,000 tonnes of structural steel
25,000 tonnes of asphalt
157,000 m³ of concrete