

Illustration 14.2 - The stages of carbon emission

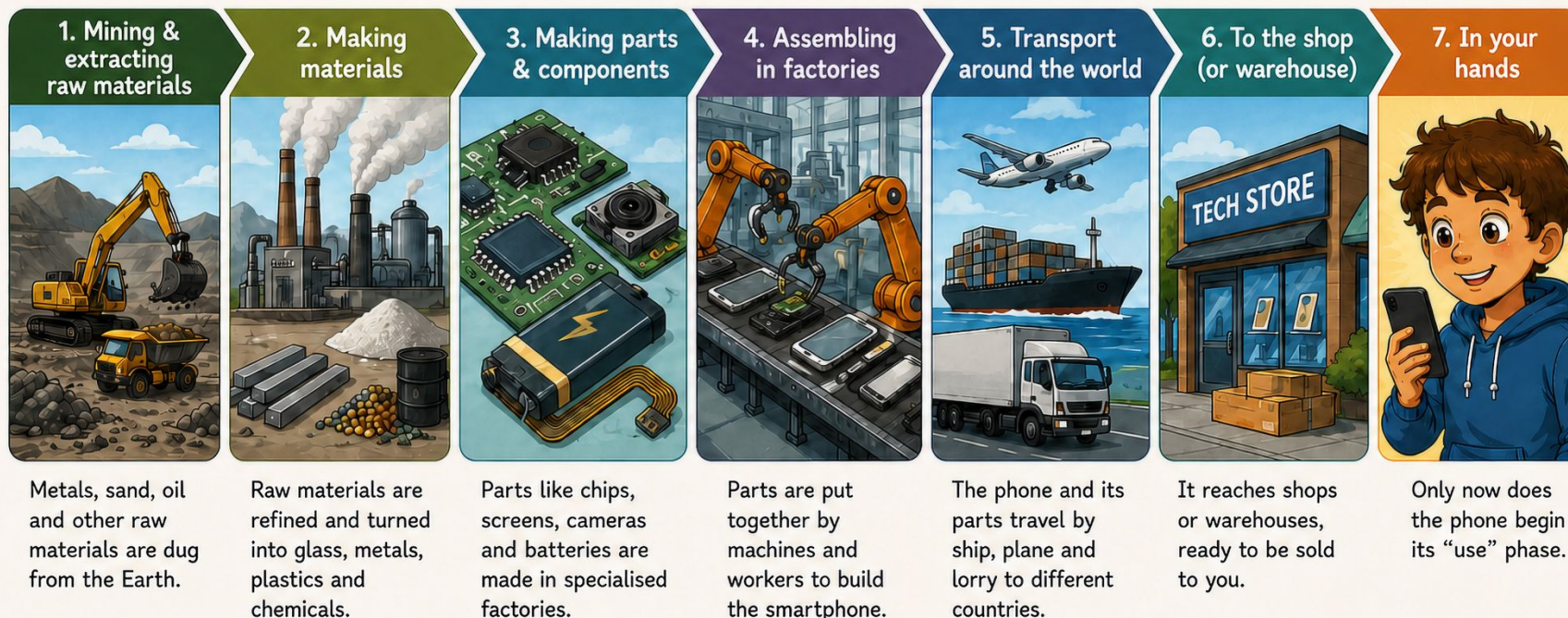
Before It Reaches Your Pocket

A smartphone's climate story begins long before you switch it on.
Greenhouse gases are released at every step.

Materials & manufacture
≈ 77 kg CO_{2e}

Assembly & distribution
≈ 2.3 kg CO_{2e}

Total before
first use
≈ 79 kg CO_{2e}



**Nearly all of a smartphone's hidden carbon is released before you switch it on.
Keeping it for longer, repairing it or passing it on makes a big difference.**



Rounded illustrative estimate; real phones vary.

Illustration 14.5 - From a linear to a circular economy

THE OLD WAY: LINEAR ECONOMY

Take → Make → Throw away

TAKE

We take materials from the Earth.



MAKE

We make products in factories using energy and materials.



THROW AWAY

We throw products away when we no longer want or need them.



This wastes materials and energy. It creates pollution and harms nature.

THE BETTER WAY: CIRCULAR ECONOMY

Design → Use → Repair → Reuse → Refurbish → Recycle

DESIGN

Design products that last longer, use fewer resources and can be repaired, refurbished and recycled.



USE

Use products carefully and look after them.



REPAIR

Fix and repair things so they keep working well.



REUSE

Use products again yourself or share them with others.



RECYCLE

Recycle materials properly so they can be used to make new products.



REFURBISH

Clean, repair and update products so they're like new again.



Keeps materials in use for longer. Saves energy. Reduces pollution. Protects our planet.

Illustration 14.3 - How much carbon in things?

The Lunch-Box Unit Ladder

How much hidden carbon is in everyday things?

1 lunch-box unit
= 0.2 kg CO₂e



One lunch box
is our measuring
unit. Watch the
numbers climb!

Hidden carbon before first use

	Reusable lunch box	0.2 kg CO ₂ e	=	 × 1
	Paperback book	2.7 kg CO ₂ e	=	 × 14
	Sports trainers	19 kg CO ₂ e	=	 × 95
	Cotton hoodie	27 kg CO ₂ e	=	 × 135
	Smartphone	79 kg CO ₂ e	=	 × 395
	Large TV	328 kg CO ₂ e	=	 × 1,640
	Average petrol car	6,800 kg CO ₂ e	=	 × 34,000



From tiny to huge – hidden carbon adds up! Rounded estimates; real products vary.

Illustration 14.7 - The factory of the future

