

Table 6.3 Approximate embodied energies and CO₂ footprints for electronic components

Product	Energy, OE (MJ)*	Carbon, CO ₂ equivalent (kg)
Systems, unit as specified		
Desktop computer, without screen	4,783	274
Laptop computer	3,013	250
Small electronic devices, depending on scale, (per kg)	2,000–4,000	200–400
LCD displays, per m ²	2,950–3,750	295–375
Printer, laser jet	907	68
Subsystems, per unit		
Printed wiring board, desktop PC motherboard, per kg	2,830	162
Printed wiring board, laptop PC motherboard, per kg	4,670	267
Hard disk drive	65–216	4–12
CD-ROM/DVD-ROM drive	100–300	5–15
Power supply	574	30
Fan	254	12
Keyboard, per unit	468	27
Mouse device, optical, with cable, per unit	93	5
Toner module, laser jet	215–220	10–11
Components, unit as specified		
Integrated circuit, IC, logic or memory type, per kg	9,700–16,000	500–1013
Transformers, per kg	70–105	4–6
Transistors, per kg	2,700–3,000	140–147
Diodes and LEDs, per kg	4,600–4,700	230–235
Capacitors, per kg	950–1,150	48–60
Inductors, per kg	850–1,500	45–84
Resistors, per kg	700–2,000	35–120
Cable, per meter	5–10	0.2–0.5
Plugs, inlet and outlet, per unit	8–13	0.4–1

(Continued)