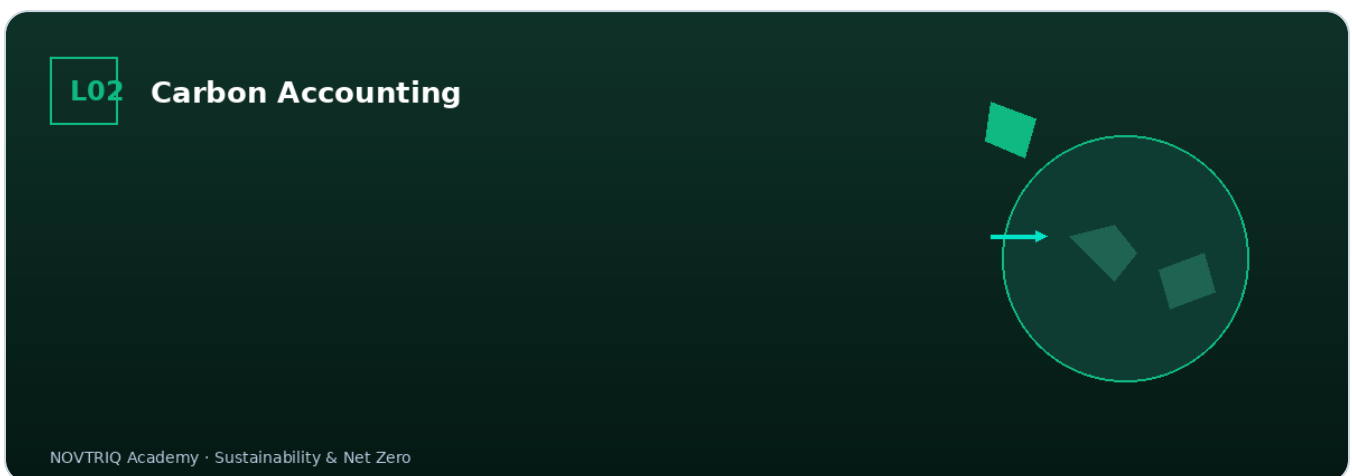


FREE

SUSTAINABILITY & NET ZERO

Carbon Accounting — Scope 1, 2 and 3

Carbon accounting — Scope 1, 2 and 3.



· Sustainability & Net Zero Lesson 2 of 10

Carbon accounting follows the Greenhouse Gas Protocol. Scope 1 = direct, Scope 2 = purchased energy, Scope 3 = everything else.

For buildings, Scope 3 includes embodied carbon, occupant transport, value chain — and is usually the biggest by far.

Learning objectives

Remember	Key terminology.
Understand	How the framework works.
Understand	Standards and benchmarks.
Apply	Apply to a working project.

1 • Scope 1 — direct emissions

On-site fuel combustion (gas boilers, gensets, fleet vehicles), refrigerant leaks. Direct accountability to the building owner.

2 • Scope 2 — purchased energy

Electricity, district heat, district cooling. Two reporting methods: location-based (grid average), market-based (contractual mix incl. RECs / GoOs). Disclose both per GHG Protocol.

3 • Scope 3 — value chain

15 categories. For buildings the major ones: purchased goods/services (construction materials = embodied), capital goods, downstream leased assets (tenant emissions for landlord), employee commuting, waste.

4 • Carbon factor sources

BEIS / DEFRA UK conversion factors annually. EU national factors (each member state's grid). IEA / Ember for international electricity factors. ASHRAE 211 for inventories.

5 • What this looks like on a real project

UK SECR scope reporting

UK SECR mandates Scope 1, 2 and material Scope 3 disclosure annually for large companies; standard reporting practice.

EU CSRD ESRS E1

European Sustainability Reporting Standards — climate change. Mandates full Scope 1/2/3 disclosure for in-scope companies from 2024.

UAE Voluntary corporate disclosure

UAE federal climate change law signals upcoming reporting. Major UAE-headquartered firms voluntarily disclose under TCFD / GHG Protocol.

6 • Why this matters

Scope 1 (direct), 2 (purchased energy), 3 (everything else) — you know how the GHG Protocol structures it and why Scope 3 is where the real argument happens. With CSRD now mandatory for ~50,000 EU companies, accurate Scope 3 isn't just policy theatre — it's audit risk.

Quiz

Your score

0 / 5

1. Scope 2 emissions cover:

- a) Direct on-site combustion
- b) Purchased electricity, district heat/cooling
- c) Tenant transport
- d) Material manufacture

2. Scope 3 typically the largest scope for:

- a) Power station
- b) Buildings (because of embodied + tenant)
- c) Vehicle manufacturer
- d) Restaurant

3. Refrigerant leak from chillers is in:

a) Scope 1

b) Scope 2

c) Scope 3

d) Not counted

4. Market-based Scope 2 accounting reflects:

a) Grid average emissions

b) Contractual mix including RECs / GoOs

c) Both

d) Net metering

5. UK BEIS / DEFRA carbon factors are updated:

a) Once a decade

b) Annually

c) Quarterly

d) Never

Answers (for print): 1b · 2b · 3a · 4b · 5b

Resources

PRIMARY SOURCES

- GHG Protocol (Corporate Standard, Scope 2 Guidance, Scope 3 Guidance).
- BEIS/DEFRA UK conversion factors.

STANDARDS AND GUIDANCE

- ISO 14064 series.
- IFRS S2 — Climate-related disclosures.
- ESRS E1 (CSRD).

INDEPENDENT COMMENTARY

- CDP disclosure framework.
- GRESB benchmark.

YOU'VE FINISHED A FREE SAMPLE

Ready for the rest of the course?

The remaining lessons are where the working detail lives — the standards, the deadlines, the scenarios, the engineering judgment. All written from practice, with primary-source citations.

Unlock all 97 lessons across 10 courses

Downloadable resources · Quiz tracking · Standards updates · 30-day refund

Get Pro - £99 / yr

or £39 per single course · cancel anytime · 30-day money-back

Continue at academy.novtriq.tech