

Lesson 8.3 Quiz: Climate Finance and Sustainable Investing

Module 8: The Future Problem

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Digital Finance — BSc Course

What do the three letters in “ESG” stand for?

- A Earnings, Sales, Growth
- B Environmental, Social, Governance
- C Equity, Sustainability, Green
- D Ethical, Shareholder, Guidelines

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Answer: (B) ESG = Environmental, Social, Governance — three categories of non-financial factors used to evaluate companies alongside traditional financial metrics.

An ESG issue is “financially material” when:

- A It generates positive media coverage for the company
- B It can reasonably affect the company's financial condition or risk profile
- C It is mentioned in the company's annual report
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Q2: Financial Materiality

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Answer: (B) Financial materiality means the issue can affect financial performance, asset values, or risk. Not all ESG issues are material for every industry.

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- B A new carbon tax makes coal-fired power plants unprofitable
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Answer: (B) Transition risk arises from the shift to a low-carbon economy — policies (carbon taxes), technology (renewables), and market changes. The other options are physical risks.

Q4: Physical Risk Categories

“Chronic physical risk” refers to:

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Answer: (B) Chronic physical risks are long-term, gradual shifts (rising temperatures, sea-level rise, drought patterns). Acute risks are sudden events (hurricanes, floods).

What are “stranded assets” in the context of climate finance?

- A Assets that are physically damaged by climate events
- B Assets that lose value because they cannot be economically used if climate targets are met
- C Assets owned by companies with high ESG ratings
- D Government bonds issued by developing countries

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Answer: (B) Stranded assets are resources (mainly fossil fuel reserves and infrastructure) that become uneconomical or “unburnable” due to climate policy, technology shifts, or carbon pricing.

Q6: Compliance vs. Voluntary Carbon Markets

What is the key difference between compliance and voluntary carbon markets?

- A Compliance markets are larger but less regulated
- B Compliance markets are legally mandated; voluntary markets are optional
- C Voluntary markets have higher carbon prices
- D There is no practical difference between them

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Answer: (B) Compliance markets (e.g., EU ETS) are legally mandated for regulated emitters. Voluntary markets allow any entity to buy offsets but have weaker price signals and quality concerns.

Q7: Cap-and-Trade Mechanics

In a cap-and-trade system, a company that reduces its emissions below its allocated cap can:

- A Sell its unused allowances to other companies
- B Increase its emissions next year without penalty
- C Avoid all future carbon regulations
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Q7: Cap-and-Trade Mechanics

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Answer: (A) Cap-and-trade allows companies with low emissions to sell surplus allowances, creating a market incentive to reduce emissions below the cap.

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- A Governance
- B Profitability
- C Risk Management
- D Metrics and Targets

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Answer: (B) The four TCFD pillars are Governance, Strategy, Risk Management, and Metrics & Targets. "Profitability" is not a TCFD pillar.

Q9: Scope Emissions

A bank's offices consume electricity (Scope 2) and the bank lends to a coal mining company (whose emissions are attributed to the bank as Scope 3). Which category represents the larger share of the bank's total carbon footprint?

- A Scope 1 (direct emissions from the bank's own operations)
- B Scope 2 (electricity purchased by the bank)
- C Scope 3 (financed emissions from lending)
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Answer: (C) For banks, Scope 3 (financed emissions) dominates — often representing over 95% of total emissions. The bank's own office energy use is tiny by comparison.

Q10: Green Bond Definition

What makes a bond a “green bond”?

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- B Its proceeds are exclusively used to finance environmentally beneficial projects
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Answer: (B) A green bond is defined by the “use of proceeds” — the money raised must be earmarked for green projects (renewable energy, clean transport, etc.). The issuer’s ESG rating is separate.

Q11: Green Bond vs. Sustainability-Linked Bond

How does a sustainability-linked bond (SLB) differ from a green bond?

- A An SLB earmarks proceeds for green projects; a green bond does not
- B An SLB ties the coupon rate to the issuer's sustainability targets; a green bond earmarks proceeds
- C There is no difference — the terms are interchangeable
- D An SLB is always issued by governments, while green bonds are issued by corporations

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Answer: (B) Green bonds restrict the *use of proceeds*. SLBs tie the *coupon rate* to the issuer meeting sustainability performance targets (SPTs). If the target is missed, the coupon steps up.

Q12: The Greenium

The “greenium” refers to:

- A A premium charged by ESG rating agencies
- B The slightly lower yield investors accept on green bonds compared to conventional bonds
- C The penalty paid when a sustainability-linked bond target is missed
- D The price of a carbon allowance in the EU ETS

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Answer: (B) The greenium is the small yield discount (typically 2–5 basis points) that green bonds enjoy over otherwise identical conventional bonds, reflecting investor demand for green assets.

Q13: Greenwashing Identification

Which of the following is the clearest example of greenwashing?

- A A fund publishes detailed Scope 1, 2, 3 data for all holdings
- B A company labels a product “eco-friendly” without any measurable criteria
- C An oil company discloses its transition risks under TCFD
- D An SLB issuer sets ambitious, independently verified reduction targets

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Answer: (B) Using vague, unsubstantiated labels like “eco-friendly” without measurable criteria is a classic greenwashing pattern. The other options show genuine transparency and accountability.

Q14: ESG Score Divergence

The correlation between major ESG rating providers (e.g., MSCI vs. Sustainalytics) is approximately 0.50. By contrast, credit rating correlation (Moody's vs. S&P) exceeds 0.99. What does this divergence imply?

- A ESG ratings are more reliable than credit ratings
- B ESG ratings use different definitions, weights, and data — investors cannot rely on a single score
- C Credit ratings are unreliable because they agree too much
- D ESG data is perfectly standardized across the industry

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- Ⓑ ESG ratings use different definitions, weights, and data — investors cannot rely on a single score
- Ⓒ Credit ratings are unreliable because they agree too much
- Ⓓ ESG data is perfectly standardized across the industry

Answer: (B) The low correlation reveals fundamental disagreement on what ESG means and how to measure it. Investors must understand the methodology behind each rating rather than treating any single score as truth.

Q15: Carbon Price Impact

The EU ETS carbon price rose from EUR 5 in 2017 to over EUR 90 in 2023. What is the most direct financial impact on a carbon-intensive steel manufacturer?

- A Its revenue increases because it can sell excess allowances
- B Its production costs increase, squeezing profit margins
- C Its ESG rating automatically improves
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Answer: (B) A higher carbon price directly increases costs for carbon-intensive manufacturers (they must buy more expensive allowances). This compresses margins and incentivizes decarbonization or relocation.

Q16: Scope 3 Double-Counting

Company A sells jet fuel to Airline B. The emissions from burning the fuel are:

- A Only Scope 1 for Company A
- B Only Scope 1 for Airline B
- C Scope 3 for Company A **and** Scope 1 for Airline B
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Answer: (C) The fuel emissions are Scope 3 (downstream product use) for Company A and Scope 1 (direct combustion) for Airline B. This means the same emissions appear in both companies' reports — a known double-counting feature of the GHG Protocol.

A real estate company performs TCFD scenario analysis and finds that under a 4°C warming scenario, 15% of its coastal properties face chronic flood risk. What type of climate risk does this represent?

- A Transition risk
- B Physical risk (chronic)
- C Liability risk
- D Governance risk

Q17: TCFD Scenario Analysis

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- B Physical risk (chronic)
- C Liability risk
- D Governance risk

Answer: (B) Chronic physical risk from sea-level rise and increased flooding. A 4°C scenario implies less transition effort (fewer carbon policies) but more severe physical climate impacts.

Q18: Financed Emissions

A bank lends CHF 20 million to a cement company with an enterprise value of CHF 1 billion and annual emissions of 500,000 tonnes CO₂. Using the PCAF attribution approach, how many tonnes are attributed to the bank?

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Answer: (C) Attribution = (Loan / Enterprise Value) × Emissions = (20M / 1,000M) × 500,000 = 0.02 × 500,000 = **10,000 tonnes**. The bank “owns” 2% of the company’s emissions.

Q19: SLB Target Credibility

A company issues a sustainability-linked bond with a target to reduce Scope 1 emissions by 5% over 5 years. Industry peers are targeting 30% reductions. The coupon step-up for missing the target is only 5 basis points. What is the risk?

- A The target is too aggressive and may bankrupt the company
- B The target is too weak and the penalty too small — this may be greenwashing
- C The bond is too expensive for investors
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Answer: (B) A 5% target against a 30% peer benchmark and a trivial 5-basis-point penalty suggests the SLB is not driving real change. This is a common greenwashing concern with SLBs.

You manage a pension fund. A climate scenario analysis shows that 25% of your equity holdings are in sectors with high transition risk (fossil fuels, heavy industry). What is the most prudent course of action?

- A Immediately divest all high-risk holdings
- B Ignore the analysis because climate change is too uncertain to model
- C Engage with companies on transition plans, diversify into green assets, and stress-test the portfolio under multiple scenarios
- D Invest more in high-risk sectors because they offer higher short-term yields

Q20: Climate Risk and Portfolio Management

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Answer: (C) A prudent approach combines engagement (push companies to decarbonize), diversification (reduce concentration), and scenario analysis (understand the range of outcomes). Immediate full divestment may sacrifice returns; ignoring it is negligent.