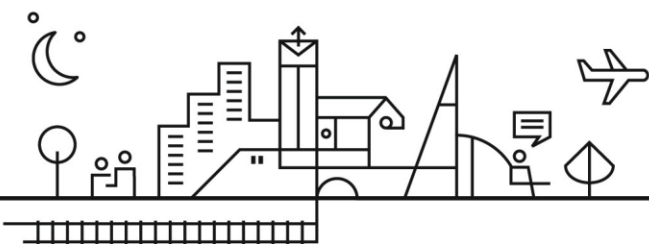


# IEMA Practitioner Exam Practice Questions: Sustainability



## Introduction

This document is provided by IEMA to give guidance on the type of questions that will be in the multiple choice exam for the Practitioner (Certificate in Environmental Management). The practice questions cover the range of learning outcomes in the Certificate in Environmental Management.

The exam is an “open – book” exam which means that you can refer to text books, notes, internet sources to help answer questions.

In the exam there will be 30 questions in total. Each question has four answer options, one of which is correct. Questions are worth one mark each. You will have one hour to complete the exam and will need to correctly answer 70% (21) questions to pass the exam.

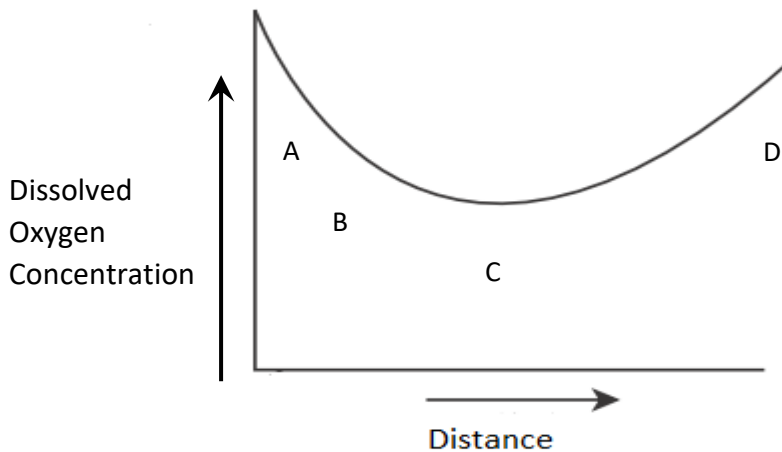
This practice paper contains **10** individual multiple choice questions; you should allow approximately 2 minutes per question maximum or 32 minutes in total to complete this section of the paper. In addition, this practice paper contains **one** case study question with **6** sub questions allow approximately 15 minutes to complete this section of the paper.

You need to correctly answer 70% (12) questions to pass this practice paper.

The answers along with related learning outcome can be found at the back of the document.

## IEMA Practitioner Exam Practice Questions: Sustainability

1. The planetary boundaries concept identified in the figure states that when planetary boundaries are crossed irreversible and abrupt environmental change will occur. The combustion of fossil fuels will have a negative contribution to which of the following planetary boundary(s)?
  - a. Climate Change
  - b. Atmospheric aerosol loading
  - c. Ocean acidification
  - d. All of the above
  
2. Which of the following descriptions, best describes the concept of doughnut economics?
  - a. The expansion of traditional economic models to incorporate social and environmental boundaries
  - b. Operation of financial activity such that it minimises risk to the environment
  - c. Concept providing economic solutions based on physical processes common in the natural world
  - d. Tool exploring how to retain materials for reuse in a production system
  
3. Following a major accident at work a number of employees are injured and there is a major shut-down of operations for a few weeks whilst investigations are carried out. Select the correct type of social legislation that is likely to cover this scenario.
  - a. Health and Safety only
  - b. Health and Safety and income security
  - c. Unemployment security
  - d. Human Rights legislation
  
4. The diagram below represents the impact of the release of large quantities of an organic pollutant into a river. At which point marked on the graph is the impact on the river likely to be the **greatest**?
  - a. A
  - b. B
  - c. C
  - d. D



5. The following are 20 year global warming potentials of selected greenhouse gases. Nitrous Oxide - 280, Methane - 56, Carbon dioxide - 1, HFC152a - 460. An organisation releases the following amounts of these substances into the atmosphere over a calendar year: Nitrous oxide - 2 tonnes, Methane - 3 tonnes, Carbon dioxide - 300 tonnes, HFC 152a - 1 tonne. Which substance would have the **greatest** contribution to climate change?
- Nitrous Oxide
  - Methane
  - Carbon dioxide
  - HFC152a
6. A university decides to implement a campus waste minimisation scheme and wants to promote the scheme to students to maximise the chances of success. From the following options, identify the **most effective** forms of scheme promotion for students.
- Social media and campus computer screen savers
  - Local newspaper and university website
  - Printed leaflets and local newspaper
  - Workshops and printed leaflets
7. A university decides to implement a campus waste minimisation scheme targeted at students. The lecturers at the university have been identified as a stakeholder that has a low level of interest and low level of influence for this scheme. What would be the **most appropriate** means of engaging with the lecturers?
- Involving lecturers in the planning of the scheme
  - Surveying the views of the lecturers
  - Involvement of lecturers in workshops

- d. Providing a fact sheet about the scheme
8. Which of the following stakeholder groups are **most likely** to have an interest in the negative effects on the reputation of a company following an environmental incident?
- Suppliers & Regulators
  - Shareholders & Customers
  - Regulators & Customers
  - Customers & Suppliers
9. Which of the following stakeholder groups are **most likely** to have an interest in the ethics and responsible business practices undertaken by an organisation?
- Regulators & Corporate Investors
  - Suppliers & Corporate Investors
  - Employees & Local Community
  - Suppliers & Local Community
10. Your organisation has recently implemented a system to recycle paper waste. During an audit it is identified that this system is failing. For the two potential improvement actions below, identify which part of the 4Cs model they comply with.
- Development of a documented process to ensure that inspections of general waste skips for paper waste are undertaken on a weekly basis.
  - Having a staff suggestion scheme on improving the waste minimisation system at the site." Which of these is NOT a principle of auditing?
1. Competence                      2. Communication
  1. Communication                2. Control
  1. Cooperation                    2. Competence
  1. Control                            2. Cooperation

## CASE STUDY

The World Bank has proposed to partially fund the construction of a new long-distance railway through Central America connecting Panama with Mexico, the railway will start in the southern Mexican state of Oaxaca before passing through Guatemala, Honduras, Nicaragua and Costa Rica before terminating at Panama City.

The main use of the railway will predominantly be freight but it will also be used for passenger transport. Currently it is very expensive to fly within the region and the railway will form a welcome alternative for business travellers and a valuable draw for tourism in a region which has greatly suffered from a wide range of socio-economic development challenges and significant poverty.

The railway will cross a number of environmentally sensitive landscapes including tropical dry forest, tropical wet forest, wetlands and tropical savannah. It will pass along the borders of national parks, particularly through the Costa Rica and Nicaragua segments.

It is anticipated that 112,500,000km of truck movements per year will be replaced by rail freight.

Each km travelled by truck consumes 6.5 litres of diesel fuel.

Each km travelled by rail consumes 0.8 litres of diesel fuel.

Greenhouse gas conversion factor for diesel: 0.00267 tonnes/CO<sub>2</sub>e per litre"

1. The construction of the railway will result in a greenhouse gas saving of \_\_\_\_\_ tonnes of CO<sub>2</sub>e per annum.
  - a. 17,213 tonnes CO<sub>2</sub>e
  - b. 171,213,800 tonnes CO<sub>2</sub>e
  - c. 171,213 tonnes CO<sub>2</sub>e
  - d. 1,712,138 tonnes CO<sub>2</sub>e
  
2. The World Bank as part of the conditions around funding this project require the scheme to be appraised with regards to the UN Sustainable Development Goals.

The appraisal has found one of the major benefits of the project to be job creation during both the construction and operational phases. Which of the sustainable development goals does this address?

  - a. SDG10: Reduced inequalities; SDG3: good health and wellbeing; SDG1: no poverty
  - b. SDG1: No poverty; SDG9: industry, innovation and infrastructure; SDG8: decent work and economic growth
  - c. SDG8: Decent work and economic growth; SDG15: Life on Land; SDG9: industry, innovation and infrastructure
  - d. SDG1: No poverty; SDG9: industry, innovation and infrastructure; SDG12: responsible consumption and production

3. The World Bank also requires impact assessment to be carried out both holistically for the whole scheme and at the individual project level.

It is proposed that a \_\_\_\_\_ is carried out at a high level for the whole scheme with the aim being to integrate environmental, social and economic considerations into the scheme.

Which two statements complete the sentences above (in the correct order).

- a. Environmental and Social Impact Assessment; Strategic Environmental Assessment
  - b. Sustainability Appraisal; Social Impact Assessment
  - c. Strategic Environmental Assessment; Environmental and Social Impact Assessment
  - d. Environmental Impact Assessment; Sustainability Appraisal
4. The project team have consulted with a wide range of stakeholders including national governments, regulatory bodies, land-owners, business groups and indigenous groups. The team consulted on project related issues including its proposed route and land-use change, economic benefits and drawbacks, ecological impacts and mitigation measures. As well as being used for impact assessment, the information is fed into an annual report which is produced over the project's duration. Which of the following reporting principles relates to the team identifying **relevant** stakeholder issues?

- a. Inclusivity
- b. Materiality
- c. Responsiveness
- d. Completeness

5. Which two words (in the correct order) complete the statement below

Successful \_\_\_\_\_ differs from \_\_\_\_\_ because it requires a commitment to actively engage with stakeholders, listen to them, build a respectful relationship with them, and then respond to their concerns in a mutually beneficial way.

- a. Stakeholder engagement; socio-economic surveying
- b. Socio-economic surveying; stakeholder engagement
- c. Socio-economic surveying; opinion research
- d. Opinion research; stakeholder engagement

6. An international NGO has flagged up concerns regarding the stakeholder engagement process stating (and bringing evidence) that the process has avoided engaging a number of indigenous tribal groups that live along the route in the wet tropical forest regions in Honduras. Which of the following principles have been infringed by the project team?

- a. Inclusivity
- b. Materiality
- c. Responsiveness
- d. Completeness



## IEMA Practitioner Exam Practice Questions: Sustainability

### Answers

1. The planetary boundaries concept identified in the figure states that when planetary boundaries are crossed irreversible and abrupt environmental change will occur. The combustion of fossil fuels will have a negative contribution to which of the following planetary boundary(s)?
  - a. Climate Change
  - b. Atmospheric aerosol loading
  - c. Ocean acidification
  - d. All of the above**

*LO1: Explain the implications global trends for the environment, for society, for the economy and for organisations and the role of an Environment/Sustainability practitioner in overcoming these challenges.*

2. Which of the following descriptions, best describes the concept of doughnut economics?
  - a. The expansion of traditional economic models to incorporate social and environmental boundaries**
  - b. Operation of financial activity such that it minimises risk to the environment
  - c. Concept providing economic solutions based on physical processes common in the natural world
  - d. Tool exploring how to retain materials for reuse in a production system

*LO2: Explain sustainable business/governance models, their underlying principles and their relationship with organisations, products and services.*

3. Following a major accident at work a number of employees are injured and there is a major shut-down of operations for a few weeks whilst investigations are carried out. Select the correct type of social legislation that is likely to cover this scenario.
  - a. Health and Safety only
  - b. Health and Safety and income security**
  - c. Unemployment security
  - d. Human Rights legislation

*LO4S: Explain major policy and legislation and their implications for organisations, products and services.*

4. The diagram represents the impact of the release of large quantities of an organic pollutant into a river. At which point marked on the graph is the impact on the river likely to be the greatest?
- a. A
  - b. B
  - c. C
  - d. D

*LO7: Collect and critically analyse data, and report information that informs decision making.*

5. The following are 20 year global warming potentials of selected greenhouse gases. Nitrous Oxide - 280, Methane - 56, Carbon dioxide - 1, HFC152a - 460. An organisation releases the following amounts of these substances into the atmosphere over a calendar year: Nitrous oxide - 2 tonnes, Methane - 3 tonnes, Carbon dioxide - 300 tonnes, HFC 152a - 1 tonne. Which substance would have the **greatest** contribution to climate change?
- a. **Nitrous Oxide**
  - b. Methane
  - c. Carbon dioxide
  - d. HFC152a

*LO7: Collect and critically analyse data, and report information that informs decision making.*

6. A university decides to implement a campus waste minimisation scheme and wants to promote the scheme to students to maximise the chances of success. From the following options, identify the most effective forms of scheme promotion for students.
- a. **Social media and campus computer screen savers**
  - b. Local newspaper and university website
  - c. Printed leaflets and local newspaper
  - d. Workshops and printed leaflets

*LO9: Determine, implement and measure methods of effective communication.*

7. A university decides to implement a campus waste minimisation scheme targeted at students. The lecturers at the university have been identified as a stakeholder that has a low level of interest and low level of influence for this scheme. What would be the **most appropriate** means of engaging with the lecturers?
- a. Involving lecturers in the planning of the scheme
  - b. Surveying the views of the lecturers
  - c. Involvement of lecturers in workshops
  - d. **Providing a fact sheet about the scheme**

*LO9: Determine, implement and measure methods of effective communication.*

8. Which of the following stakeholder groups are **most likely** to have an interest in the negative effects on the reputation of a company following an environmental incident?
- a. Suppliers & Regulators
  - b. **Shareholder and Customers**
  - c. Regulators & Customers
  - d. Customers & Suppliers

*LO9: Determine, implement and measure methods of effective communication.*

9. Which of the following stakeholder groups are **most likely** to have an interest in the ethics and responsible business practices undertaken by an organisation?
- a. Regulators & Corporate Investors
  - b. Suppliers & Corporate Investors
  - c. **Employees & Local Community**
  - d. Suppliers & Local Community

*LO9: Determine, implement and measure methods of effective communication.*

10. Your organisation has recently implemented a system to recycle paper waste. During an audit it is identified that this system is failing. For the two potential improvement actions below, identify which part of the 4Cs model they comply with.

1. Development of a documented process to ensure that inspections of general waste skips for paper waste are undertaken on a weekly basis.

2. Having a staff suggestion scheme on improving the waste minimisation system at the site.

Which of these is NOT a principle of auditing?

- a. 1. Competence                      2. Communication

- b. 1. Communication 2. Control
- c. 1. Cooperation 2. Competence
- d. **1. Control 2. Cooperation**

*LO13: Implement change and transform.*

## **CASE STUDY**

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  - d. **1,712,138 tonnes CO<sub>2</sub>e**

*LO7: Collect and critically analyse data, and report information that informs decision making.*

2. The World Bank as part of the conditions around funding this project require the scheme to be appraised with regards to the UN Sustainable Development Goals.

The appraisal has found one of the major benefits of the project to be job creation during both the construction and operational phases. Which of the sustainable development goals does this address?

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- c. SDG8: Decent work and economic growth; SDG15: Life on Land; SDG9: industry, innovation and infrastructure
- d. SDG1: No poverty; SDG9: industry, innovation and infrastructure; SDG12: responsible consumption and production

*LO1: Explain the implications global trends for the environment, for society, for the economy and for organisations and the role of an Environment/Sustainability practitioner in overcoming these challenges.*

3. The World Bank also requires impact assessment to be carried out both holistically for the whole scheme and at the individual project level.

It is proposed that a \_\_\_\_\_ is carried out at a high level for the whole scheme with the aim being to integrate environmental, social and economic considerations into the scheme.

It is proposed that at the level of an individual project (such as a new station or freight facility) a \_\_\_\_\_ is carried out in order to determine and evaluate the environmental and social implications of the development and to inform decision-making at project level. Which two statements complete the sentences above (in the correct order).

- a. Environmental and Social Impact Assessment; Strategic Environmental Assessment
- b. Sustainability Appraisal; Social Impact Assessment
- c. Strategic Environmental Assessment; Environmental and Social Impact Assessment**
- d. Environmental Impact Assessment; Sustainability Appraisal

*LO5: Explain major and relevant tools, techniques, systems and practices, their application and how they can be used to develop sustainable products and services and improve sustainability performance.*

4. The project team have consulted with a wide range of stakeholders including national governments, regulatory bodies, land-owners, business groups and indigenous groups. The team consulted on project related issues including its proposed route and land-use change, economic benefits and drawbacks, ecological impacts and mitigation measures. As well as being used for impact assessment, the information is fed into an annual report

which is produced over the project's duration. Which of the following reporting principles relates to the team identifying **relevant** stakeholder issues?

- a. Inclusivity
- b. Materiality**
- c. Responsiveness
- d. Completeness

*LO5E&S: Explain major and relevant tools, techniques, systems and practices, their application and how they can be used to develop sustainable products and services and improve sustainability performance.*

5. Which two words (in the correct order) complete the statement below

Successful \_\_\_\_\_ differs from \_\_\_\_\_ because it requires a commitment to actively engage with stakeholders, listen to them, build a respectful relationship with them, and then respond to their concerns in a mutually beneficial way.

- a. engagement; socio-economic surveying**
- b. Socio-economic surveying; stakeholder engagement
- c. Socio-economic surveying; opinion research
- d. Opinion research; stakeholder engagement

*LO5: Explain major and relevant tools, techniques, systems and practices, their application and how they can be used to develop sustainable products and services and improve sustainability performance.*

6. An international NGO has flagged up concerns regarding the stakeholder engagement process stating (and bringing evidence) that the process has avoided engaging a number of indigenous tribal groups that live along the route in the wet tropical forest regions in Honduras. Which of the following principles have been infringed by the project team?

- a. Inclusivity**
- b. Materiality
- c. Responsiveness
- d. Completeness

*LO9: Determine, implement and measure methods of effective communication.*

