

# RAG System - Sample Questions & Answers

Generated on October 29, 2025 at 12:45 PM

## System Performance Summary

Metric	Value
Total Questions	5
Average Confidence Score	0.667 (66.7%)
Average Retrieval Score	0.473
Average Citations per Answer	4.0

## Question 1

### Q: What is climate change?

#### Answer:

Climate change refers to long-term shifts in global temperatures and weather patterns. While it is a natural phenomenon, scientific evidence indicates that human activities, primarily through the burning of fossil fuels, have been the main driver of climate change since the mid-20th century.

Confidence Score	Retrieved Documents	Avg Retrieval Score
0.741 (74.1%)	6	0.447

#### Citations (6):

**[1]** climate\_environment.txt (Chunk 7.0)

*Climate Change and Environmental Science Climate change refers to long-term shifts in global temperatures and weather patterns. While climate change is a natural phenomenon, scientific evidence shows...*

**[2]** climate\_environment.txt (Chunk 8.0)

*Climate change poses a significant threat to biodiversity. Rising temperatures, changing precipitation patterns, and extreme weather events are altering habitats and forcing species to adapt, migrate,...*

**[3]** carbon\_climate\_action.txt (Chunk 4.0)

*At the individual level, people can reduce their carbon footprints by using energy-efficient appliances, improving home insulation, choosing renewable energy suppliers, driving less and using public t...*

**[4]** carbon\_climate\_action.txt (Chunk 5.0)

*Changes in temperature and precipitation patterns are affecting agriculture, water availability, and food security. Some regions are experiencing more frequent droughts, while others face increased fl...*

**[5]** carbon\_climate\_action.txt (Chunk 2.0)

*Carbon Emissions and Climate Action Understanding Carbon Emissions Carbon emissions refer to the release of carbon dioxide (CO2) and other carbon-containing greenhouse gases into the atmosphere. Thes...*

**[6]** carbon\_climate\_action.txt (Chunk 6.0)

*International Climate Action International cooperation on climate change is coordinated through the United Nations Framework Convention on Climate Change (UNFCCC). The Paris Agreement, adopted in 2015...*

## Question 2

**Q: What are renewable energy sources?**

**Answer:**

Renewable energy comes from sources that are naturally replenished on a human timescale and can provide power indefinitely with minimal environmental impact.

Confidence Score	Retrieved Documents	Avg Retrieval Score
0.579 (57.9%)	2	0.506

**Citations (2):**

**[1]** renewable\_energy.txt (Chunk 30.0)

*Renewable Energy and Sustainable Development Renewable Energy Sources Renewable energy comes from sources that are naturally replenished on a human timescale. Unlike fossil fuels, which take millions...*

**[2]** renewable\_energy.txt (Chunk 31.0)

*Biomass Energy Biomass energy comes from organic materials like wood, agricultural crops, and waste. When burned or processed, biomass releases stored solar energy. While burning biomass does release ...*

## Question 3

### Q: What causes deforestation?

#### Answer:

The primary causes of deforestation include agricultural expansion, logging for timber and paper products, infrastructure development, urbanization, and mining. Large-scale commodity agriculture, such as cattle ranching, soy production, and palm oil plantations, is a major driver, as is small-scale subsistence farming. Infrastructure development, including roads, dams, and mining operations, also contributes to forest removal and fragmentation.

Confidence Score	Retrieved Documents	Avg Retrieval Score
0.797 (79.7%)	6	0.533

#### Citations (6):

**[1]** forests\_deforestation.txt (Chunk 1.0)

*Boreal forests, also called taiga, stretch across northern regions of North America, Europe, and Asia. These coniferous forests adapted to cold climates store enormous amounts of carbon in both vegeta...*

**[2]** forests\_deforestation.txt (Chunk 23.0)

*Logging operations, both legal and illegal, remove trees for timber, pulp, and paper products. While sustainable forestry can maintain forest cover, much logging involves clear-cutting that destroys e...*

**[3]** forests\_deforestation.txt (Chunk 2.0)

*Environmental Consequences of Deforestation Deforestation has severe environmental consequences at local, regional, and global scales. Loss of forest cover disrupts water cycles, as forests play cruci...*

**[4]** forests\_deforestation.txt (Chunk 22.0)

*Temperate forests exist in regions with moderate temperatures and distinct seasons. These forests, including deciduous forests that lose their leaves in winter and evergreen coniferous forests, are fo...*

**[5]** climate\_environment.txt (Chunk 8.0)

*Climate change poses a significant threat to biodiversity. Rising temperatures, changing precipitation patterns, and extreme weather events are altering habitats and forcing species to adapt, migrate,...*

**[6]** forests\_deforestation.txt (Chunk 24.0)

*Deforestation significantly contributes to climate change by releasing stored carbon into the atmosphere and eliminating the forests' capacity to absorb CO2. Tropical deforestation alone accounts for ...*

## Question 4

**Q: What is biodiversity?**

**Answer:**

Biodiversity refers to the variety of life on Earth at all levels, from genes to ecosystems. It includes three main components: genetic diversity, species diversity, and ecosystem diversity.

Confidence Score	Retrieved Documents	Avg Retrieval Score
0.520 (52.0%)	2	0.415

**Citations (2):**

**[1]** ecosystems\_biodiversity.txt (Chunk 17.0)

*Ecosystems and Biodiversity Conservation Understanding Ecosystems An ecosystem is a complex network of living organisms interacting with each other and their physical environment. Ecosystems can be t...*

**[2]** ecosystems\_biodiversity.txt (Chunk 18.0)

*Earth is home to an estimated 8.7 million species, though only about 1.2 million have been identified and described. The majority of Earth's biodiversity is found in tropical regions, particularly in ...*

## Question 5

### Q: What is carbon footprint?

#### Answer:

A carbon footprint is a measure of the total greenhouse gas emissions caused directly and indirectly by an individual, organization, event, or product throughout its lifecycle, expressed as carbon dioxide equivalent.

Confidence Score	Retrieved Documents	Avg Retrieval Score
0.700 (70.0%)	4	0.462

#### Citations (4):

**[1]** carbon\_climate\_action.txt (Chunk 2.0)

*Carbon Emissions and Climate Action Understanding Carbon Emissions Carbon emissions refer to the release of carbon dioxide (CO2) and other carbon-containing greenhouse gases into the atmosphere. Thes...*

**[2]** renewable\_energy.txt (Chunk 32.0)

*The United Nations' Sustainable Development Goals (SDGs) provide a framework for achieving sustainability by 2030. These 17 goals address poverty, inequality, climate change, environmental degradation...*

**[3]** carbon\_climate\_action.txt (Chunk 3.0)

*Major Sources of Carbon Emissions The energy sector is the largest source of carbon emissions globally, accounting for about 73% of total greenhouse gas emissions. This includes electricity and heat p...*

**[4]** carbon\_climate\_action.txt (Chunk 4.0)

*At the individual level, people can reduce their carbon footprints by using energy-efficient appliances, improving home insulation, choosing renewable energy suppliers, driving less and using public t...*

*Report generated by RAG System Pipeline Test*