"स्थायित्वम्"

CNK & Associates LLP
Chartered Accountants

Investing in a Sustainable Future

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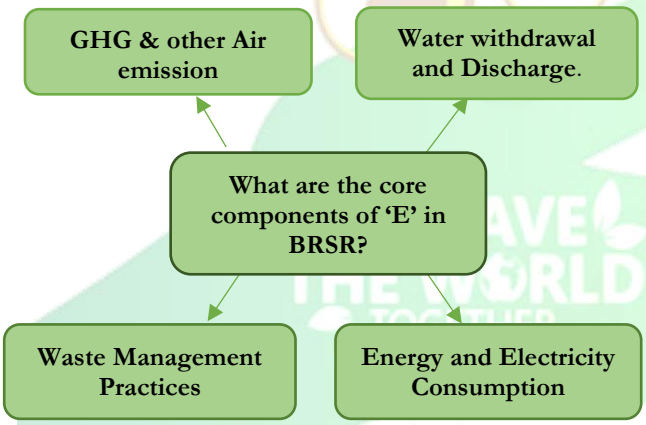
Editor's Nest

"Earth provides enough to satisfy every man's needs, but not every man's greed." – Mahatma Gandhi

Imagine a world where companies are like conscientious citizens, not just churning out profits, but also taking care of their shared home – Earth. That's the vision behind Principle 6 of the SEBI mandated Business Responsibility and Sustainability Report (BRSR) which states that "*Businesses should respect and make efforts to protect and restore the environment.*"

Disclosing environmental metrics like carbon footprint, water usage, and waste management isn't just about ticking boxes. It's a way to identify potential weak spots and course-correct before it's too late. Investors are increasingly seeking out environmentally conscious companies, and consumers are willing to switch brands to support those with a green thumb. The **beauty** of this Principle is that it calls upon industries across all sectors to report on their environmental aspects. For example, a manufacturing plant will disclose its greenhouse gas (GHG) emissions, while a bank will report on how much it finances renewable energy projects. A hospital might highlight its efforts to reduce medical waste, and a tech company could showcase its energy-efficient data centers. These seemingly disparate metrics all contribute to the same goal: a healthier planet and a sustainable future.



All about Green House Gases (GHG)

Greenhouse gases (also known as GHGs) are gases in the earth's atmosphere that trap heat. During the day, the sun shines through the atmosphere, warming the earth's surface. At night the earth's surface cools, releasing heat back into the air. But some of the heat is trapped by the greenhouse gases in the atmosphere.

Earth's greenhouse gases trap heat in the atmosphere and warm the planet. The main gases responsible for the greenhouse effect include carbon dioxide, methane, nitrous oxide, and water vapor. In addition to these natural compounds, synthetic fluorinated gases also function as greenhouse gases.

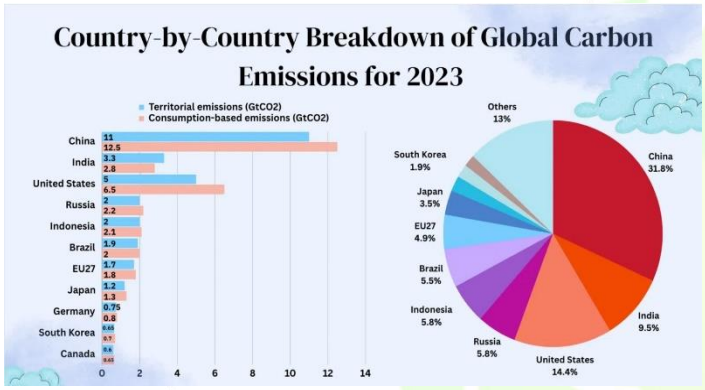
How much any one greenhouse gas influences global warming depends on three key factors:

1. How much of the gas exists in the atmosphere? Concentrations are measured in parts per million (ppm), parts per billion (ppb), or parts per trillion (ppt). For example, 1 ppm for a given gas means that there is one molecule of that gas in everyone million molecules of air.
2. How long the gas remains in the atmosphere, otherwise known as its lifetime.
3. How effective the gas is at trapping heat? This is referred to as its global warming potential (GWP) and is a measure of the total energy that a gas absorbs over a given period of time (usually 100 years) relative to the emissions of 1 ton of carbon dioxide.

What are greenhouse gas emissions?

The release of greenhouse gases associated with human activities and climate change is referred to as greenhouse gas emissions, or climate pollution. And since the start of the Industrial Revolution and the advent of coal-powered steam engines, human activities have supersized the volume of greenhouse gases emitted into the atmosphere. There are five major greenhouse gases: Carbon dioxide, Methane, Nitrous oxide, fluorinated gases and water vapor.

Which Countries emits Greenhouse Gases?



In 2023, the global carbon emissions landscape unfolds with distinctive profiles for key nations, revealing their contributions to the ongoing challenge of climate change.

Which Sectors create more GHGs?

Greenhouse gas emissions can be divided into those that arise from the combustion of fuels to produce energy, and those generated by other processes. Around two thirds of greenhouse gas emissions arise from the combustion of fuels.

The major GHGs emitters are:

- Electricity production: Electric power includes emissions from electricity production used by other end use sectors. 60% of our electricity comes from burning fossil fuels, mostly coal and natural gas.
- Transportation – it primarily comes from burning of fossil fuels for cars, trucks, ships, trains and planes. Over 94% of the fuel used for transportation is petroleum based, which includes primarily gasoline and diesel and results in direct emissions.
- Industry: Greenhouse gas emissions from industry primarily come from burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials. Industrial emissions are the third largest source of direct emissions.
- Commercial and Residential: Greenhouse gas emissions from the commercial and residential sector come from fossil fuels burned for heat and the use of gases for refrigeration and cooling in buildings, and non-building specific emissions such as the handling of waste.

What is Net Zero Emissions?

'Net zero emissions' refers to achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere. Net zero targets will be achieved by the various agencies/countries as per the negotiated targets under the Conference of Parties (COP) organized periodically.

How to reduce GHGs?

Solutions are already being implemented in places around the world. Some can be tackled by individuals, such as using less energy, driving an electric car, and switching to renewable energy. Other actions to mitigate climate change involve communities, regions, or nations working together to make changes, such as switching power plants from burning coal or gas to renewable energy and growing public transit.

A. Emission Reduction & Move towards Net Zero

1. Energy Efficiency
2. Renewable energy
3. Supply chain
4. Waste reduction and Diversion strategies
5. Reduce methane emissions
6. Increase fuel efficiency in transportation and logistics
7. Process changes at source

B. Carbon capture

1. Direct Air capture (removing CO_2 from air mechanically)
2. Land use, Landcover, Forestry enhancement
3. CO_2 uptake in seas through enhanced weathering solutions

-***Sangram Kadam & Aarti Shama***
(Kadam Enviro Group of Companies)

Green-House Culprits across Economic Sectors

Economic Sector	Contribution in GHG Emission (%)	Major Pollutants	Impact on Environment
Energy	25 %	CO_2	Increase in global temperature, ocean acidification, heat waves and Natural Disasters, sea-level rise, respiratory problems, ozone depletion, biodiversity loss
Agriculture	24 %	CH_4 & NO_2	
Transportation & Construction	22%	CO_2, VOCs	
Manufacturing Sector (Chemicals, etc)	17%	F-Gases (HFCs, SF_6)	

Principle 6 aligns with the following United Nation's Sustainable Development Goals:

Principle 6 also aligns with the following Integrated Reporting Capitals:

Best Practices for Principle 6

The following are the major components covered by the SEBI mandated BRSR format, further supported by best industry practices:

Component	Company	Best Practice
Projects to reduce Green House Emission	Asian Paints Limited	Replaced 4000KW diesel generators capacity with gas-based generators as secondary source of captive power consumption.
Mechanism for Zero Liquid Discharge	Hindustan Petroleum Corporation Limited	75% of effluent water at Mumbai Refinery is recycled back to process from effluent treatment plant after Primary, Secondary and Tertiary Treatment. RO reject water (25%) is used as make up water for fire water system at the refinery.
Waste Management Practices	Tata Steel Limited	Production of steel through recycling of scrap, and processing of By-Products of steel like steelmaking slags for their reuse.
Initiatives to improve resource efficiency	Reliance India Limited	Development of biodegradable polymers for general applications, including packaging in retail and agriculture sectors.

Did you know?
Scope 1, 2, and 3 GHG Emissions enable companies to understand their full value chain emissions and focus their efforts on the greatest reduction opportunities. **Scope 1** covers emissions from a source that company owns/ controls directly (E.g. – company vehicle). **Scope 2** accounts for GHG emissions from generation of purchased electricity consumed by company. **Scope 3** are a consequence of the activities of the company but occur from sources not owned or controlled by the company. (E.g. – downstream transportation)

Are You Eco-Savvy?

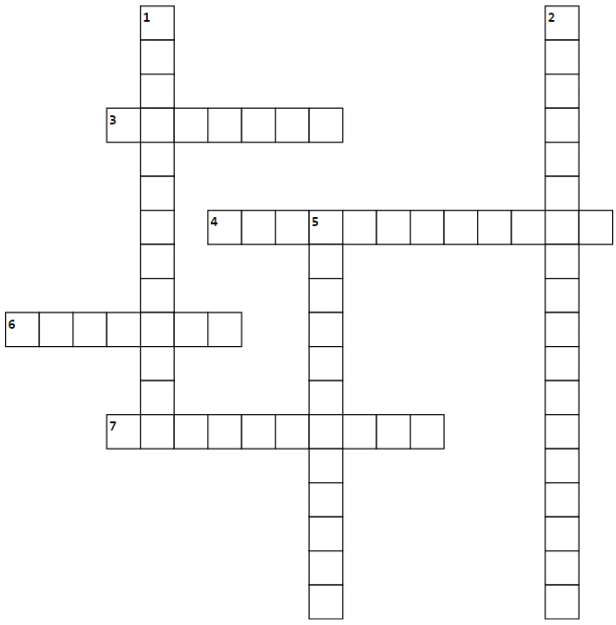
This quiz will test your knowledge of environmental issues and empower you to act!

1. The rapid growth of the Internet of Things (IoT) devices is projected to significantly increase the environmental impact of the tech industry. This is primarily due to:
   A.) The growing demand for rare earth metals used in device production.
   B.) The need for specialized facilities to dispose of outdated electronic devices (e-waste).
   C.) The higher energy consumption required for data transmission across networks.
   D.) All of the above.
2. Legacy contaminants, a major environmental hazard for industries, are particularly challenging to manage because:
   A.) They are readily biodegradable and decompose quickly in the environment.
   B.) Effective remediation techniques are readily available and cost-effective to implement.
   C.) They persist in the environment for extended periods, posing long-term risks.
   D.) They are easily identifiable and their potential for harm is well understood.
3. A furniture manufacturing company relies heavily on wood as its primary raw material but is facing criticism for its role in deforestation. Which of the following practices is LEAST likely to contribute to a sustainable wood supply chain for the furniture company?
   A.) Obtaining wood from plantations specifically grown for sustainable timber harvesting.
   B.) Partnering with forestry organizations that implement selective logging practices.
   C.) Utilizing recycled wood or composite materials whenever possible to reduce reliance on virgin wood.
   D.) Pressuring governments to weaken environmental regulations on logging practices to reduce production costs.

Quiz Answers: 1. D; 2. C; 3. D

Test your Earth IQ!

This crossword puzzle is packed with clues about the environment we share. From climate change to pollution, get ready to flex your green knowledge!



Across: 3. Use this for sustainable agriculture instead of man-made fertilizers; 4. A large island of debris floating in the Pacific Ocean; 6. This material takes centuries to decompose, creating a global waste crisis; 7. What are animals or plants facing the threat of extinction called?

Down: 1. Another word for loss of forests at an alarming rate; 2. A major cause for coral reef bleaching; 5. What is the scientific term for species richness in an ecosystem?

Did you know?

Environment Impact Assessment (EIA) is a systematic process that meticulously evaluates the potential environmental impacts of a proposed project before it's even built. The process typically involves screening, scoping, impact assessment, mitigation measurements, and public participation.

Crossword Answers: 1. deforestation; 2. ocean acidification; 3. compost; 4. garbage patch; 5. biodiversity; 6. plastic; 7. endangered