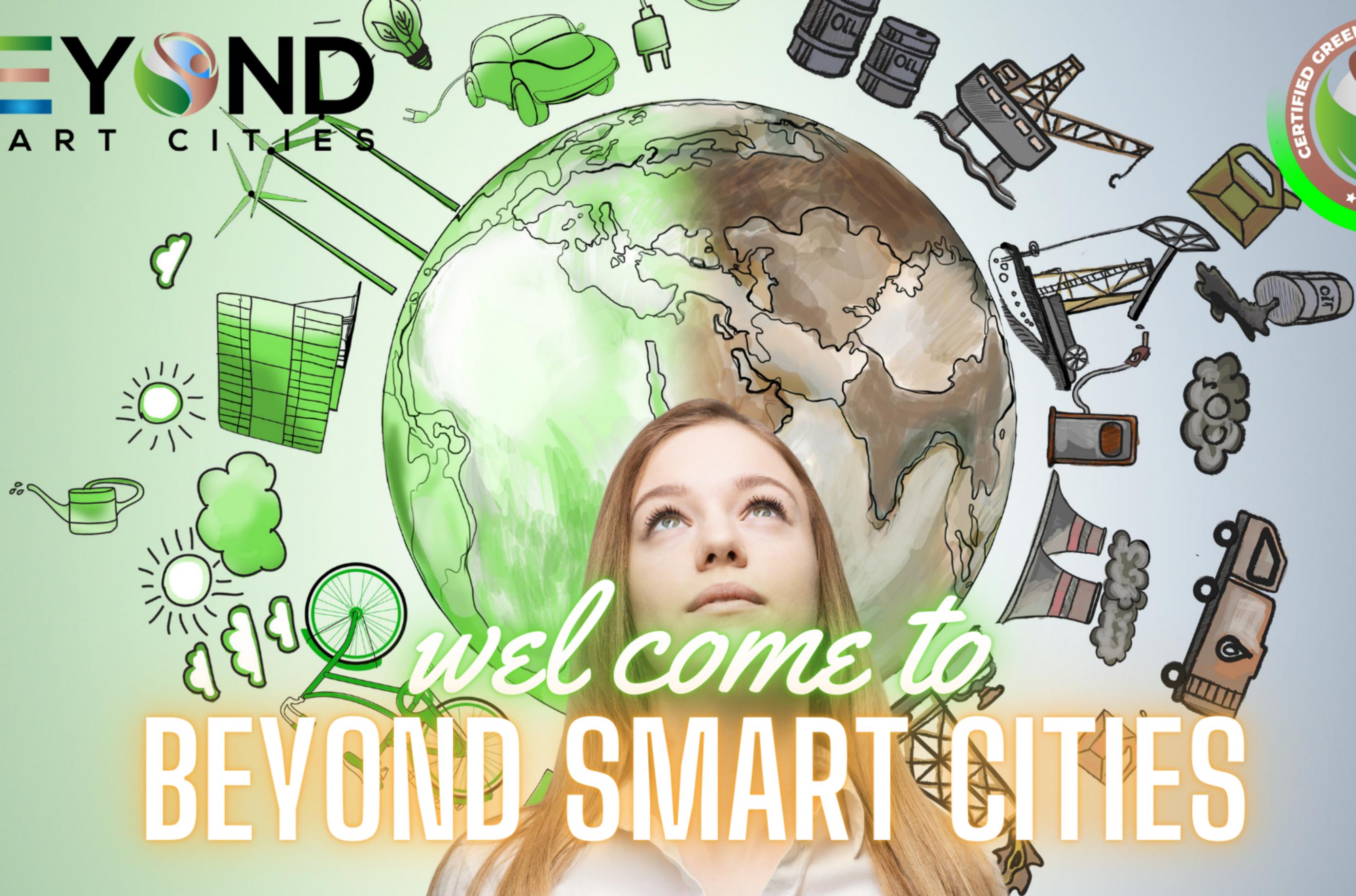


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# HIGH-PERFORMANCE BUILDING DESIGN PROFESSIONAL-HBDP EXAM REFRESHER

ONLINE PROFESSIONAL COURSES LED BY THE  
WORLD'S TOP SPECIALISTS

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MODULE

8

# Environmental Improvement Programs and Rating Systems

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# **HIGH-PERFORMANCE BUILDING DESIGN PROFESSIONAL HBDP OVERVIEW**

Environmental Improvement Programs and Rating Systems promote sustainable design, innovation, and environmental stewardship, demonstrating project teams' commitment to creating healthier, more resilient built environments for future generations.

# Learning Objectives

- Introduction to High Performance Buildings
- Sustainability Concepts
- What is sustainable development?
- Sustainable Development: Definitions and Applications
- Sustainable Buildings
- Sustainable Transportation
- Alternative Energy & Carbon Reduction
- Environmental Improvement Programs and Rating Systems
- HVAC Processes



## INTRODUCTION

- Tools used to assess and improve environmental sustainability of buildings, infrastructure, and landscapes.
- Provide a framework for evaluating and certifying environmental performance based on energy efficiency, water conservation, waste management, and indoor air quality.
- LEED certification system, developed by the U.S. Green Building Council, provides rating systems for different types of projects.
- Projects earn points based on meeting specific criteria in various categories, earning points ranging from Certified to Silver, Gold, and Platinum.

# ENVIRONMENTAL IMPROVEMENT PROGRAMS AND RATING SYSTEMS

- Sustainable Sites Initiative (SITES) focuses on sustainable landscape design, construction, and maintenance.
- Other rating systems and programs focus on specific aspects of environmental improvement, such as the WELL Building Standard, the Living Building Challenge, and the Envision rating system.
- These programs promote sustainable design and construction practices, drive innovation, and raise awareness about environmental stewardship in the built environment.





## LEED

LEED certification provides a framework for healthy, highly efficient, and cost-saving green buildings that offer environmental, social, and governance benefits.



## SITES

SITES certification promotes sustainable and resilient landscape development for projects with or without buildings, enhancing sustainability and resilience.



## TRUE

TRUE zero waste certification promotes sustainable resource management and reduction practices to improve environmental, health, and economic outcomes.



## WELL

WELL certification sets performance requirements in seven categories (air, water, nourishment, light, fitness, comfort and mind) to improve the effects of buildings on human health.



## PEER

PEER certification promotes reliable, resilient, and sustainable power systems, enhancing tracking to prevent failures.



## ICP

The Investor Confidence Project (ICP) is a global standard for developing and measuring energy efficiency retrofits in commercial and multifamily residential buildings.



## Parksmart

Parksmart certification supports sustainable parking structure design and operations to reduce costs, increase energy efficiency, and improve lighting and ventilation.



## EDGE

EDGE certification for green buildings focuses on enhancing the resource efficiency of buildings by identifying cost-effective measures.



# ENVIRONMENTAL ISSUES ASSOCIATED WITH SUSTAINABLE DEVELOPMENT

- **Loss of Biodiversity:** Human activities like deforestation, overfishing, and pollution have led to the decline of many species and ecosystems, threatening the survival of marine species and the livelihoods of millions.
- **Climate Change:** The burning of fossil fuels, deforestation, and industrial activities have increased greenhouse gas emissions, causing global temperatures to rise. This has resulted in more frequent and severe weather events, melting ice caps, rising sea levels, and disruptions to ecosystems.





# ENVIRONMENTAL ISSUES ASSOCIATED WITH SUSTAINABLE DEVELOPMENT +

- Resource Depletion: Rapid consumption of natural resources like freshwater, minerals, and forests is straining Earth's ecosystems and threatening the availability of these resources for future generations. Unsustainable practices like overfishing, clear-cutting of forests, and unsustainable agriculture are depleting these resources at an alarming rate.
- Sustainable Resource Management Practices: Sustainable agriculture, reforestation, and water conservation can ensure the long-term availability of these resources for future generations.



# LEED CERTIFICATION: A GLOBAL GREEN BUILDING RATING SYSTEM

- LEED is the world's most widely used green building rating system.
- Provides a framework for healthy, efficient, cost-saving green buildings.
- Offers environmental, social, and governance benefits.
- Supports over 197,000 projects in 186 countries and territories.
- LEED v5 is the latest version, aligning with a low-carbon future.
- Addresses equity, health, ecosystems, and resilience.



# SITES RATING SYSTEM OVERVIEW

- Guides, evaluates, and certifies sustainability in landscape planning, design, construction, and management.
- Supports implementation of nature-based solutions.
- Enhances biodiversity, mitigates climate change, conserves resources, improves public health, and protects ecosystems.



# WELL BUILDING STANDARD

- Aims to enhance human health and well-being through thoughtful spaces.
- Includes strategies backed by scientific research.
- Aims to advance human health through design interventions and operational protocols.
- Fosters a culture of health and well-being.
- Draws expertise from diverse community of WELL users, practitioners, public health professionals, and building scientists.



# CORPORATE AND INDUSTRIAL SUSTAINABILITY PROGRAMS



- Environmental stewardship: Reducing greenhouse gas emissions, minimizing waste, and conserving natural resources.
- Social responsibility: Fostering positive relationships with employees, customers, and local communities.
- Economic sustainability: Adopting sustainable practices to improve operational efficiency, reduce costs, and create long-term value.
- Integrating sustainability into business strategies: Driving innovation and creating competitive advantages.
- Crucial role in promoting sustainable development and addressing global challenges like climate change and resource depletion.

# DEVELOPING A CORPORATE SUSTAINABILITY PLAN

- Corporate sustainability is crucial for business success and long-term growth.
- A plan outlines a company's commitment to environmental, social, and economic responsibility.

## Key steps include:

- Conducting a thorough assessment of current operations to identify areas for improvement.
- Setting specific, measurable, achievable, relevant, and time-bound (SMART) sustainability goals.
- Developing a detailed action plan outlining specific initiatives and measures to achieve these goals.
  - Securing buy-in from key stakeholders is essential for successful implementation.
  - Engaging stakeholders in the plan development and implementation can build support and create a culture of sustainability.





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