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BEYOND SMART CITIES



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RENEWABLE ENERGY PROFESSIONAL

REP OVERVIEW

ONLINE TRAINING BY KRISHNAJI PAWAR

LEED AP(BD+C), GSAS CGP, GCP, ISO 14001

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MODULE

1

Introduction and Course Outline

KRISHNAJI PAWAR - CEO & FOUNDER

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BRIEF ABOUT ME

Krishnaji PAWAR

CEO & FOUNDER

Krishnaji Pawar is founder and CEO of Beyond Smart Cities. Before being named CEO in January 2020, Krishnaji held leadership roles at Beyond Smart Cities in both Sustainability ,Energy & Environmental Consultancy.

Specialized in developing sustainable design strategies for Green Building Certification Systems (LEED, GSAS, etc.), Energy & Water Conservation, Commissioning, Environmental Impact Assessment & Environmental Management Systems.

Currently responsible for 3,787 million square feet Green Building /Energy modeling Consulting since January 2008 in UAE, India and Qatar.





RENEWABLE ENERGY PROFESSIONAL OVERVIEW

The Renewable Energy Professional (REP) certification acknowledges professionals with expertise in renewable energy technologies, project assessment, and achieving low-carbon and sustainability goals for organizations.

Learning Objectives

- **Introduction**
- **Environmental Impacts**
- **Alternative Energy and Carbon Reduction**
- **The Future of Alternative Energy**
- **Energy Conservation and Efficiency**
- **Alternative Energy Strategies for Buildings**
- **Professional certification in Renewable Energy**
- **Summary and Resources**
- **REP Practice Test: Test Your Knowledge!**



INTRODUCTION

- The program provides a comprehensive understanding of renewable energy principles and practices.
- It covers setting realistic goals for renewable energy projects, understanding the latest energy generation, production, and storage technologies, and understanding renewable sources.
- The program also covers knowledge about various energy management process technologies, including power generation, energy systems, and energy efficiency.
- It also covers how to finance and justify renewable energy projects, and what incentives can aid in project implementation.

CERTIFIED RENEWABLE ENERGY PROFESSIONAL (REP) OVERVIEW

- Recognizes professionals with expertise in renewable and alternative energy technologies.
- Recognizes professionals involved in assessing renewable energy projects and developing low-carbon and sustainability goals.
- Suitable for professionals with technical, management, and communication skills.
- Includes energy managers, consultants, and individuals with specialized knowledge.
- Focuses on renewable energy generation, production, and storage, and strategies supporting sustainable energy technologies.
- Assists corporations or organizations in setting sustainability goals through renewable energy projects.
- Selects suitable and viable renewable energy technologies and maximizes benefits when deploying systems at small or large scales.



CERTIFICATION REQUIREMENTS +

- Candidates must meet specific educational and professional criteria.
- Educational background: typically requires a degree in a relevant field.
- Professional experience: usually requires a minimum number of years of experience in the renewable energy sector.
- Examination: Candidates must pass a comprehensive examination covering renewable energy technologies, energy efficiency, sustainability practices, and regulatory frameworks.
- Continuing education: To maintain the REP designation, certified professionals must engage in ongoing education to stay current with industry developments, technologies, and regulatory changes.



CORE COMPETENCIES +

- Technical Knowledge: Fundamental understanding of various renewable energy technologies.
- Regulatory and Policy Frameworks: Well-versed in local, national, and international policies concerning renewable energy.
- Project Management: Essential for renewable energy projects involving multiple stakeholders.
- Financial Acumen: Understanding the financial aspects of renewable energy projects.
- Sustainability and Environmental Impact: Capable of assessing the environmental impact of renewable energy projects.



CAREER OPPORTUNITIES +

- Energy Consultancy: Expert advice on renewable energy adoption and sustainability practices.
- Project Development: Leading the development of renewable energy projects.
- Policy Advocacy: Working with governmental or non-governmental organizations to shape policies that promote renewable energy adoption.
- Research and Development: Engaging in innovative research to advance renewable energy technologies and improve existing systems.



WHAT IS A GREEN BUILDING?

A green building is a high-performance property designed to reduce its environmental impact and human health through better siting, design, material selection, construction, operation, maintenance, removal, and reuse. However, a building cannot be considered a green building if it is not rated and certified by an independent third party. Building owners and designers should consider the standards they are measuring their design against.



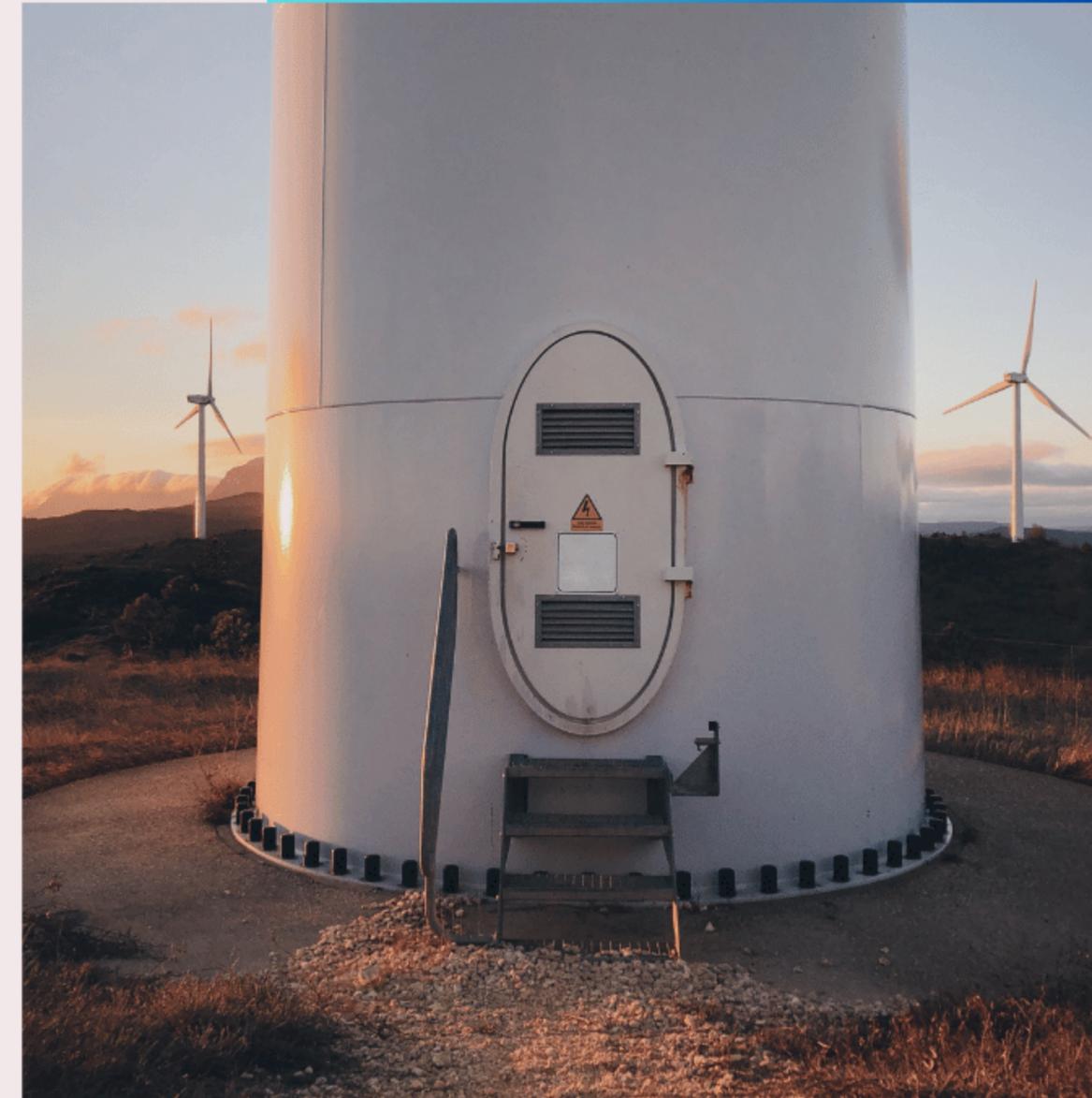
IMPACT OF BUILDINGS ON ENVIRONMENT

- Buildings contribute to 12% of freshwater use, 30% of raw materials, 30% of greenhouse gas emissions, 45-65% of landfill waste, 31% of solid waste, and 7% of electricity consumption.
- Green buildings offer 30% energy, 30-50% water, 35% reduction in carbon emissions, and 50% reduction in construction waste.
- Governments and universities often design green buildings with a long-term perspective.
- The world's largest LEED Platinum-certified building is the Oregon Health & Science University's Center for Health and Healing.
- Integrated design is used for high-performing green buildings on conventional budgets.



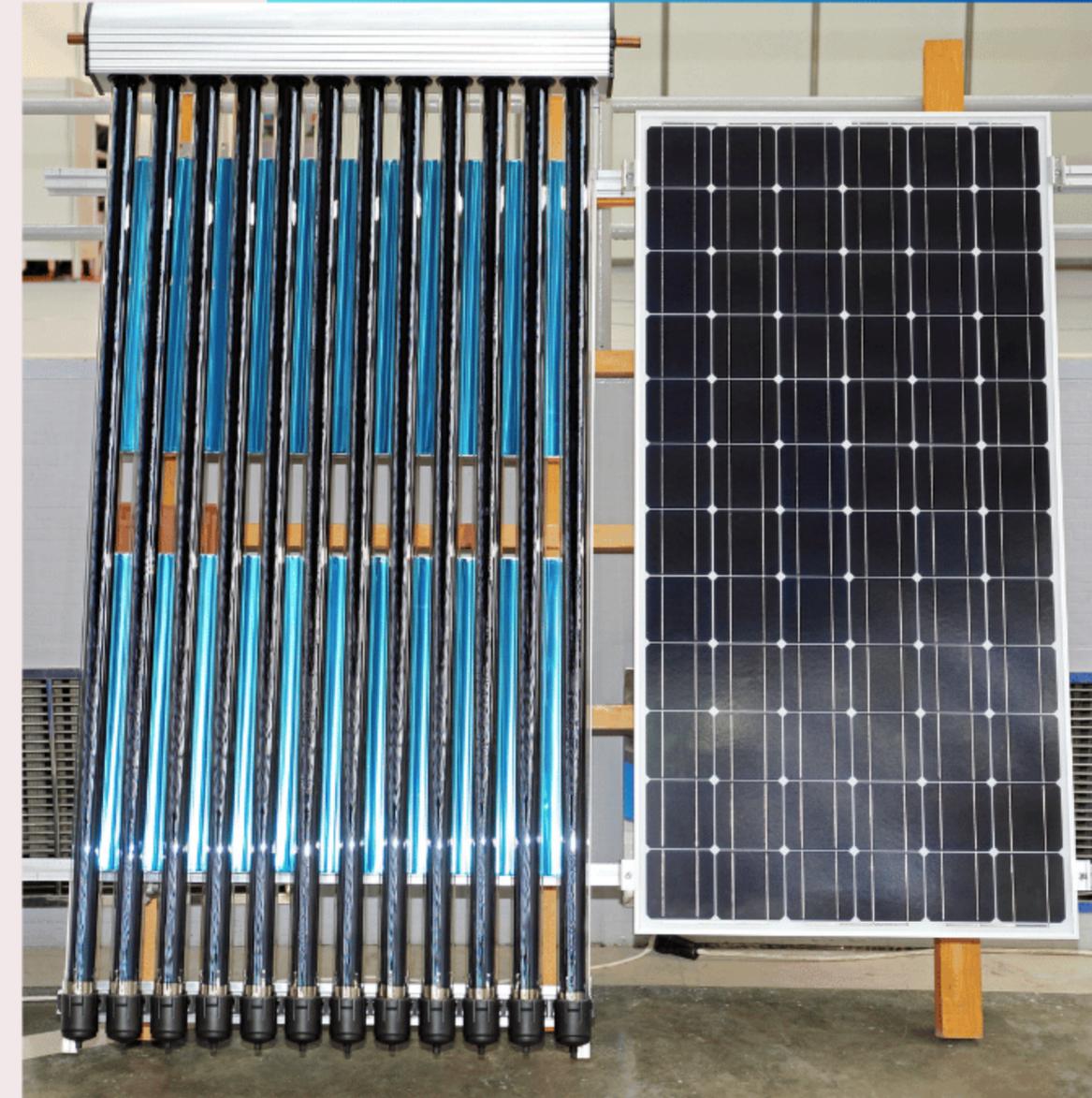
KEY TERMINOLOGY OF CERTIFIED RENEWABLE ENERGY PROFESSIONAL (REP) CERTIFICATION

- Renewable Energy: Nature constantly replenishes renewable energy sources like sunlight, wind, rain, tides, waves, and geothermal heat.
- Solar Energy: Power harnessed from the sun, converted into electricity or heat. Solar panels are the most common technology used to capture this energy.
- Wind Energy: Turbines capture the kinetic energy of wind to generate wind energy. Wind turbines spin when the wind blows, generating electricity.
- Biomass: Organic materials like plants and animal waste serve as fuel, which can be burned directly for heat or converted into biofuels for transportation.
- Geothermal Energy: Heat from the earth's interior can be used to generate electricity or provide direct heating. Geothermal plants use heat from deep within the earth to produce steam that turns turbines and generates electricity.



KEY TERMINOLOGY OF CERTIFIED RENEWABLE ENERGY PROFESSIONAL (REP) CERTIFICATION +

- **Hydropower:** The movement of flowing water from rivers or dams generates hydropower. The flow of water spins turbines, which then produce electricity.
- **Energy Efficiency:** Using less energy to perform the same task. Technology or methods that reduce energy consumption can achieve this.
- **Sustainability:** Meeting current energy needs without compromising the ability of future generations to meet theirs.
- **Energy Independence:** The ability for a country or region to produce its own energy, reducing reliance on imported fuels.
- **Grid Integration:** Connecting renewable energy sources to the existing electricity grid.





WELCOME TO BEYOND SMART CITIES

Beyond Smart Cities is the world's 1st Green Technology Marketplace, connecting millions of Sustainability Specialists, Green Building Specialists, Energy Specialists, Commissioning Specialists, Environment Specialists, Health & Safety Specialists, Fire Safety Specialists, Climate Change Specialists & Green Products/Technology Manufacturers with independent talent around the globe.

Our mission is to build and support a global community of experts with the highest professional standards in sustainability, green building, energy, commissioning, environment, health & safety, fire safety, climate change, GHG accounting, carbon auditing, and GHG emissions management.



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THANK YOU

