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ONLINE TRAINING BY KRISHNAJI PAWAR
LEED AP(BD+C),GSAS CGP,GCP,ISO 14001
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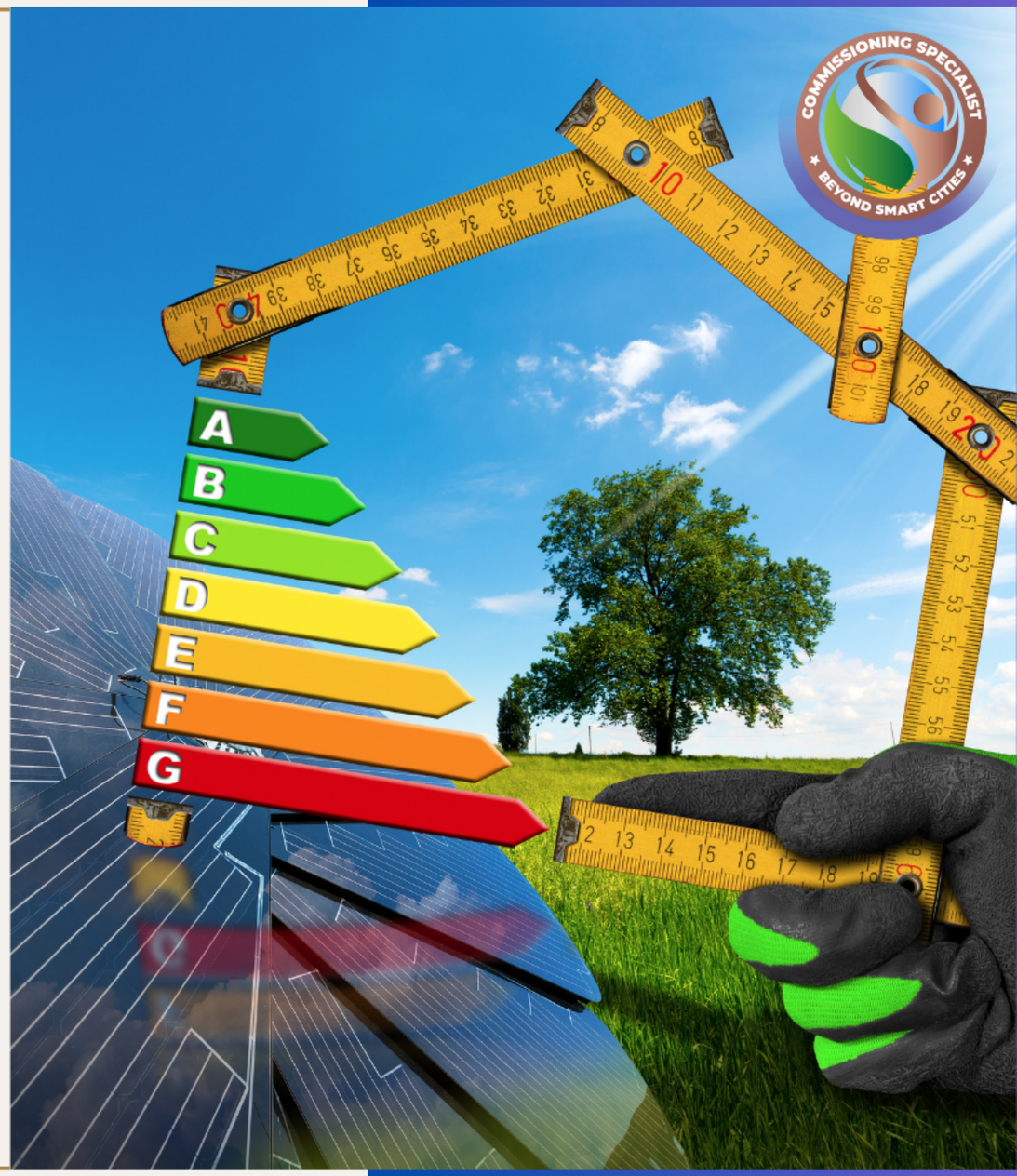
MODULE 19

Energy efficiency, sustainability, & resilience

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CERTIFIED COMMISSIONING AUTHORITY CXA EXAM PREP OVERVIEW

Leading companies are focusing on energy and sustainability programs to build resilience, energy availability, climate change mitigation, and risk management. Despite the obstacles, organizations are considering new resilience strategies to combat new threats. Learning about disruption and resilience can help companies recover.

Learning Objectives

- Introduction
- Global Disruption in Energy Markets
- What is Energy Resilience?
- Global Disruption in Sustainability
- Sustainability is innovation
- What is Energy Management?
- How Energy Management Works

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INTRODUCTION

- On the current development agenda, energy sustainability is also a priority, and countries are required to foster action plans geared toward cleaner, more sustainable, and renewable energy.
- Energy resilience objectives will be facilitated by virtuous energy policies, suggesting protection patterns for the most vulnerable social groups.
- The Topical Collection seeks submissions addressing energy sustainability, energy vulnerability, and energy resilience, as well as related papers.
- These consist of:energy conservation;energy dependence;energy reliability;Adaptation and mitigation of climate changeenergy and environmental transformation;energy metric instruments;a price analysis of energy;energy regulation and policy.
- Additional topics on energy sustainability (energy justice, security, poverty, emergence, etc.)Research that is interdisciplinary, pluralistic, and holistic is encouraged.

GLOBAL DISRUPTION IN ENERGY MARKETS

- The pandemic disrupted energy markets due to lower electricity demand and competitive pricing.
- Due to its lower carbon footprint and lower costs, coal-to-gas conversion has grown in popularity, but global natural gas consumption is expected to drop by 4% by 2020.
- Before the pandemic, renewable energy was expected to surpass coal as the world's main electricity source by 2025.
- COVID-19 has reduced electricity demand, but renewable energy demand has increased by 3%.
- Since the pandemic, renewable energy prices have risen due to demand.

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ENERGY RESILIENCE IS ABOUT ENSURING A BUSINESS HAS A RELIABLE, REGULAR SUPPLY OF ENERGY AND CONTINGENCY MEASURES IN PLACE IN THE EVENT OF A POWER FAILURE.

WHAT IS ENERGY RESILIENCE?

- As demonstrated previously, energy markets can be extremely volatile.
- Numerous organizations rely heavily on energy consumption to function.
- Consequently, their profitability is highly susceptible to oil price fluctuations.
- Energy price volatility can have a significant impact on the profitability of businesses that rely on energy usage to produce their goods or services.
- Developing "energy resilience" typically involves mitigating the risk of energy price volatility.



GLOBAL DISRUPTION IN SUSTAINABILITY

- While many of the world's leading organizations have been developing business resilience for years, most of the resilience models did not consider global lockdowns and mass quarantines.
- As a result, many sustainability initiatives have either paused or stopped completely in order to deal with the implications of the global pandemic, and ensure the health and safety of employees and customers.
- The most resilient organizations, however, have maintained focus to continue making progress toward their sustainability goals.
- This trend became evident when we polled our webinar participants about the changes they are making in response to market disruptions at the beginning of the pandemic in April and again, 3 months later in July.
- Compared to early in the crisis, attendees in July reported a reduced focus on postponing projects, while reliance on cutting costs continued to increase



SUSTAINABILITY IS INNOVATION

- Sustainable development exists to assist organizations in being ethical by preserving the environment, being efficient with their quality, and ensuring that their employees are treated ethically.
- Commissioning is attempting to help organizations be sustainable in the way they deliver their services to their customers and local community.
- Sustainable procurement is the process by which organizations attempt to benefit society, the economy, and the environment while also generating a profit from meeting their requirements for goods, services, work, and values.
- .



SUSTAINABILITY IS INNOVATION+

- Innovation is the utilization of new technological and market knowledge to offer a new customer-desirable product or service, such as the creation of 5G. The new product is new because its price is lower, its attributes are enhanced, and it now has attributes that did not previously exist, or it did not previously exist in that market.
- In the long run and in the short run, expenses are reduced.
- The attributes have enhanced.
- Innovation and sustainability are synonymous



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HOW DOES SUSTAINABILITY INCREASE A COMPANY'S RESILIENCE?

HOW DOES SUSTAINABILITY BUILD COMPANY RESILIENCE?

- In order to pursue a resilient recovery and improve their ability to adapt during times of crisis, organizations should focus on maintaining (or even accelerating) momentum in sustainability programs and goals.
- Like energy resilience, building resilience with sustainability is a multi-faceted endeavor with strategies that vary for each individual organization.
- From a financial resilience standpoint, we have observed that businesses with environmental, social, and governance (ESG) initiatives have fared better during the pandemic.
- The COVID-19 pandemic has challenged the resilience of our global systems and communities.
- Leaders in organizations of all sizes have the opportunity to take the lessons learned from the pandemic—and other disruptions—to help improve their organization's resiliency by embedding energy management and sustainability as core decision-driving values.



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WHAT IS ENERGY MANAGEMENT?

WHAT IS ENERGY MANAGEMENT?+

- Energy management is the proactive, organized, and systematic management of energy use in a building or organization to meet both environmental and economic requirements.
- Companies from all industries are turning to energy management to cut operating costs.
- It consists of the following steps: Obtaining energy data and measuring your consumption Identifying energy-saving opportunities Taking Energy-Saving Measures Monitoring progress and continuous improvement It makes no difference whether you associate energy management with energy-saving efforts that focus on making better use of existing buildings or equipment, or with energy awareness.
- Energy management is a process that does not only apply to large structures and offices.
- You can use the same principles at home to continue the positive cycle described in the four steps above (collect, identify, act, track).



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HOW ENERGY MANAGEMENT WORKS

STEP 1: DATA COLLECTION

- Energy data can be obtained from monthly utility bills, manual meter checks, or automatic uploads from smart meters. However, monthly bills are limited due to lack of detail.
- Manual meter checks are time-consuming and error-prone. Smart meters with dedicated software platforms are ideal for storing and transmitting data.



STEP 2: IDENTIFY OPPORTUNITIES.

- When you begin to investigate and analyze your data, you'll begin to find interesting bits of information.
- Whatever the situation, you need proper visualizations (graphs) and analytics to find out what is happening behind the raw data.
- This can be difficult to achieve by spreadsheet, but simple year-on-year comparisons can be a good starting point.
- There are also energy management software solutions that can help you visualize trends, break data into robust metrics, and assess performance against various benchmarks.
- These are especially useful when dealing with huge amounts of real-time data and exploring energy-saving opportunities.



STEP 3: ACTION

- Saving money involves identifying opportunities and taking action to address them.
- Some solutions may be temporary, while others require cooperation and persuasion within the organization.
- Gaining support for action can be challenging, but it helps provide evidence of potential savings.
- When everyone agrees on a problem, momentum can be generated to resolve it.
- Cloud-based airborne software can be used to create graphs and presentations.



STEP 4: TRACK PROGRESS AND ONGOING IMPROVEMENT

- To optimize energy usage, track progress and implement an ongoing improvement schedule.
- New and old problems may arise over time, so it's crucial to monitor progress, verify savings, and respond promptly to abnormalities.
- Ensure your energy management system provides regular performance reports and timely alerts to address problems.
- Even without advanced tools, input monthly bills into a spreadsheet to ensure everything stays on track.



IN SUMMARY

- Energy management is crucial for managing rising costs and regulatory requirements.
- To effectively manage it, an energy management system should automate and optimize four steps: monitoring energy data, finding savings opportunities, engaging employees, and tracking progress.
- Regular monitoring is essential to prevent deterioration.
- Ideally, energy management should be an ongoing effort to find new savings, engage employees, and track progress, achieving lasting results without tedious manual labor.

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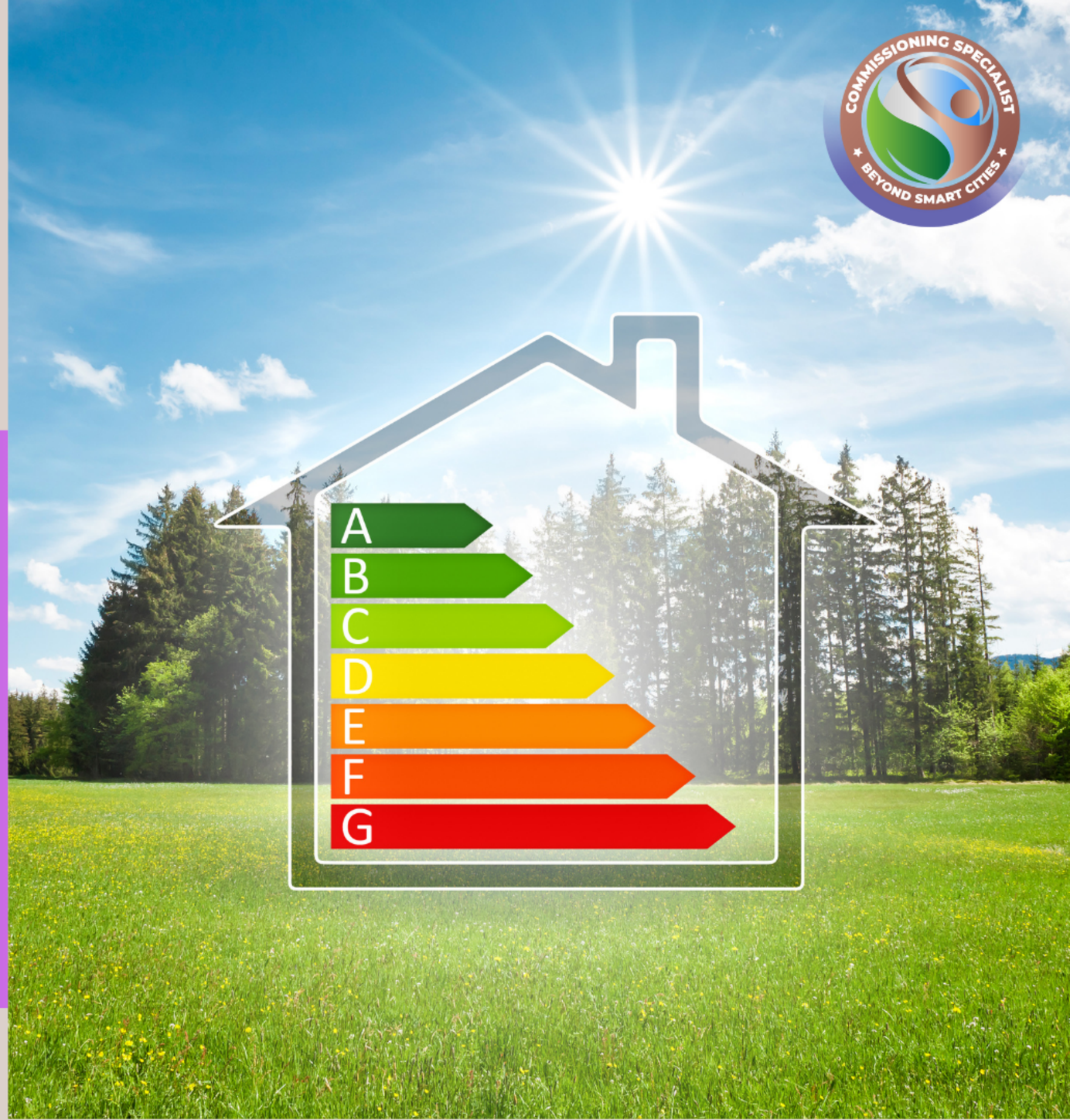
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