

**Webinar Title: ENERGY AUDIT: PRELIMINARY & DETAILED ENERGY AUDIT, METHODOLOGY, INSTRUMENTS USED, CONDUCTING AN ENERGY AUDIT**

**Registration Fee (including GST): - Rs 1000/- (Rupees One Thousand only) per participant inclusive of GST**

**EXPERT SPEAKER (NAME/ DESIGNATION) – DR. BALKAR SINGH, INDEPENDENT ADVISOR (ENERGY EFFICIENCY) AND FORMER JOINT DIRECTOR, PUNJAB ENERGY DEVELOPMENT AGENCY, CHANDIGARH**

**Webinar Date: 07.08.2021 Duration: 15.30 hours to 17.00 hours  
(one hour thirty minutes)**

**About Webinar (Brief One Para):**

Energy audit is an official scientific study of energy utilization in an organisation aimed to reduce energy consumption and energy costs without affecting productivity / comforts. It also suggests the methods for the same. Energy audit is carried out in a planned manner by a team of Accredited / Certified Energy Auditor.

An energy audit involves collecting and analysing billing data for all energy sources and determining total energy usage, a site analysis to identify where energy is used and energy savings opportunities, doing calculations to estimate the cost/benefit of the energy savings opportunities, and producing and presenting a report which recommends what can be done to save energy.

**An energy audit provides following benefits :**

- helps to reduce energy bills/costs
- With a reduction in production costs, the competitiveness of an organisation will improve.
- helps reduce the dependence on outside energy sources.
- helps to reduce environmental damage and pollution.
- reduces the consumption of natural resources.
- reduces damage to the environment associated with the exploitation of resources.
- **reduces the impact of greenhouse gas emissions.**
- **enables to increase the comfort of those in the facility.**
- **helps to increase the life span of the equipment in facility.**
- discovers any unaccounted consumption that may exist at the facility.

The main purpose of energy audit is to establish quickly and reliably, the basic relative costs of the various forms of energy purchased their main use and to identify locations where losses, wastages or inefficiency occurs.

Thus, energy audit is one of the concepts used in the energy management and it involves methodological examination and comprehensive review of energy use in industries.

**There are two types of Energy Audits: Preliminary Energy Audit and Detailed Energy Audit.** Preliminary audit is carried out in the limited time and it highlights the energy cost and wastages in the major equipment's and processes. It also gives the major energy supplies and demanding accounting. It should adopt step by step and cautious approach for improvements and new techniques of energy management and control system.

Detailed energy audit includes engineering recommendations and well-defined projects with priorities. It gives account of total energy utilised in plants. It involves detailed engineering for options to reduce energy consumption and also reduce cost. The action plan is divided into short term, medium term and long-term actions. The detailed(comprehensive) energy audit is a thorough and extensive energy audit that analyses and quantifies the amount of energy consumption in each sub system of the plant and compares the same with the target specific energy consumption. The detailed energy audit report covers energy conservation opportunities / measures, investment, projected annual energy savings with payback period and its retrofitting feasibility.

**The webinar aims at discussing objectives of energy audit, benefits of preliminary and detailed(comprehensive) energy audit, methodology, audit report preparation and will discuss key findings of detailed energy audits of some specific industrial sectors.**

### **Webinar Coverage: -**

- Energy Audit and its objectives
- Types of energy audits: Preliminary and Detailed(comprehensive)Energy Audit
- Methodology for conducting energy audits
- Steps for Preliminary and Detailed energy audit
- Details of Data collection during Preliminary and Detailed energy audit
- **Data analysis and Identification of Energy Conservation Opportunities**
- **Understanding Energy Costs, Benchmarking of energy consumption,**
- **Plant Energy Performance and Maximising System Efficiency**
- **Fuel and Energy Substitution**
- **Energy Audit Instruments and their usage**
- **Classification of Energy Conservation Measures**
- **Outcomes of Preliminary and Detailed energy audit**
- Characteristics of a good Energy Auditor and auditing techniques
- Common Energy Wasters
- Format for reporting Preliminary and detailed Energy Audit- Table of contents
- Key formats for Preliminary and detailed energy audit assessment and reporting.

- Case study and examples of Energy Audit recommendations of key industrial sectors

**Speaker Profile (Brief One Para & Photograph):** - Dr. Balkar Singh is an Advisor (Energy Efficiency), having Professional Experience more than 32-year (Technical, Managerial and Academic) in the field of Civil Engineering, Renewable Energy, Energy Efficiency, Construction Technology & Management, Green Building, ECBCs, Energy Auditing. He is Former Joint Director, Punjab Energy Development Agency, Chandigarh. Recipient of State Award “Punjab Govt. Parman Patra” for his exemplary services rendered in the field of Science and Technology. He has been honoured with “Distinguished IET Graduate Engineer” Award by the Institution of Engineers (India). He is Honorary Co-Chairman, Green & Eco-friendly Movement Punjab Chapter. He possesses doctorate degree in Faculty of Engineering & Technology and Certified Energy Auditor. He is Fellow of The Institution of Engineers (India), Member of ASHRAE, ISHRAE and SEEM. He has international exposure of Japan and Germany. Published 17 national and international research papers and made more than 110 presentations on green building and energy efficiency.



**Register to learn (Key Learning's' in bullet points):**

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- Steps for Preliminary and Detailed energy audit
- Details of Data collection during Preliminary and Detailed energy audit
- Data analysis and Identification of Energy Conservation Opportunities
- Understanding Energy Costs, Benchmarking of energy consumption,
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- Key formats for Preliminary and detailed energy audit assessment and reporting.
- Case study and examples of Energy Audit recommendations of key industrial sectors

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**Time Slot: - 15.30 hours to 17.00 hours (one hour thirty minutes)**

**Thanks, and regards**

**S. P. Singh**

**Regional Director**

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