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| **TRAININGWORKSHOP****ON****ENERGYEFFICIENCYANDCONSERVATIONMEASURESINPUNJAB**(April 10-11, 2018)ORGANIZED BYCOMSATS INSTITUTE OF INFORMATION TECHNOLOGY, LAHORE*IN COLLABORATION WITH*PEECA LogoPUNJAB ENERGY EFFICIENCY AND CONSERVATION AUTHORITY, PUNJAB ENERGY DEPARTMENT, LAHORE.Diesel and electricity. ENERCON has demonstrated that energy-use efficiencies in agriculture are low and can be improved with net cost-savings of Rs.1.50 billion per annum.**TRAINING WORKSHOP** In order to create awareness and give hands on experience on energy auditing to engineers, a training workshop on Energy Efficiency and Conservation Measures in Punjab has been organized on 10-11th April 2018. This shall be a joint eventorganized by CIIT ERC & PEECA.Training will be imparted to engineers, managers, technicians etc. from Industry, companies, academia etc. During training the energy auditing of buildings /motors/pumps shall be explained and practically demonstrated to the participants.Main objectives of the workshop are:1. To deliberate on current GoP policy framework and regulatory issues on energy efficiency and conservation measures (EECMs) and suggest improvements.
2. Identify the status of energy consumption patterns, losses in Agriculture, Industry and Domestic Sectors and recommend measures for improving energy efficiency.
3. Review the status of GoP programs on energy efficiency in various economic sectors of Pakistan as well as at global level and identify constraints in promotion of EECMs in Pakistan.
4. Offer training to technical manpower of Industry on energy auditing (hands on training), and suggest corrective measures for eliminating the losses.
 | **ENERGY RESEARCH CENTRE**The CIIT Energy Research Centre (ERC) was established on November, 2014 with the following objectives: 1. Provide sustainable support for the integration of higher engineering education with its energy related research activities
2. Assist in building the national capability in different aspects of the energy sector
3. Increase the capability of technical and managerial personnel involved in the energy sector and assist in its effective utilization and mobilization
4. Conduct relevant training programs in required field relating to the energy sector
5. Establish relations with foreign Universities and other related institutions for achieving the objectives of the Centre
6. Carry out research and development studies related to energy matters

The Center aims at building strong relations with International Universities, Government and Private Agencies, Energy Entrepreneurs and Professionals working on energy technologies with ultimate goal to bring all the stakeholders together from academic research to field level activities for the sustainable development of Renewable Energy Technologies. As energy is multi-disciplinary subject, therefore, the ERC constituted energy research groups in 12 energy technologies from amongst the Faculty Members of Chemical and Electrical Engineering, and Physics Departments. These energy groups undertake research on energy technologies, mainly the students research thesis, in consultation with the ERC researchers. [The Center also seeks funds through research projects from international donors. So far four projects with Chinese experts have been approved and two more are expected to be approved soon.**LIST OF SPEAKERS WITH TOPICS**1. Regulatory framework for energy efficiency and conservation measures in Pakistan -NEECA Act 2016. Engineer Asad Mahmood, Technical Manager NEECA.
2. Punjab Government initiatives in energy sector and road map for future. MD PEECA/ PM PEECA.
3. ISO 5001 energy management standards: Introduction and awareness. Prof. Dr. Tahir Izhar, Chairman Electrical department, UET Lahore.
4. Energy sources and trends: Environmental impact assessment.Prof. Dr. M. Nawaz,Dept of Earth and Environmental Sciences Punjab University Lahore.
5. Efficient energy management and utilization. Mr. Buland Ahmed Siddique, Pak-USAID Clean Energy Program, Islamabad.
6. Introduction to energy audit and its procedures. Engr. Muhammad Ali, Certified Energy Auditor, Manager EECL/KICS, UET, Lahore.
7. Energy conservation and flexible integration of renewables: tech start-ups based on innovation.Prof. Dr. Nauman Ahmed Zafar, Director of Energy and Power Systems Research Cluster at Department of Electrical Engineering, SBASSE, LUMS, Lahore.
8. Panel Discussions
9. Practical Demonstration on Energy Auditing (Buildings and Pumps).
 | **ENERGY EFFICIENCY AND CONSERVATION ISSUES IN PAKISTAN*** Pakistan suffers from an inefficient use of her energy resources. According to a study conducted by ENERCON, 25% savings in energy consumption, worth US$ 5 billion per annum, are possible in all economic sectors. The industry consumes about 38% of the nation’s commercial energy and most of this is concentrated in a few hundred industrial plants. Pakistan industry suffers from high specific energy consumption compared with the international norms.
* Total Primary Energy Supply Intensity to Industry is more than three times of the OECD countries industry and around double of world average. On the other hand, energy consumption per capita is one fifth of the OECD countries and half of the world average. This means that the potential increase in energy demand will be excessive with growth in GDP and improvement in living standards of the people of Pakistan.
* According to ENERCON study on Energy Efficiency, 192 boilers and furnaces of selected industries were tuned with fuel savingsand resulted into net benefits Rs.110 million per annum. Further, 42 steam systems were surveyed identifying energy efficiency measures with fuel saving of Rs.60 million per annum.
* A pilot study of power consumption monitoring at one node conducted by CIIT Electrical Engineering Department showed that up to 20% improvement in power factor is possible with estimated savings of Rs. 0.288 million per annum, for one block (35 KW load). Further an energy auditing survey of anindustry conducted jointly by PEECA and CIIT team concluded power loss of 20%-35% and Industry could make savings by using energy efficient tools with net annual saving of Rs.4.16 Million.
* Similarly, agriculture sector is a major consumer of energy resources; farm tractors and tube wells consume High Speed

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