Course 1- Energy Access and Human Development

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| A. Name of the Institute | The Energy and Resources Institute (TERI) |
| B. Name/Title of the Course | Energy Access and human development |
| C. Course Dates with Duration in Weeks*[note: dates may be fixed keeping in mind with festivals, holidays, weather conditions, availability of accommodations, etc. No request for change in dates, once approved/ circulated will be entertained]*  | **05-09-2016 23-09-2016 3 weeks** |  |
| D. Eligibility Criteria for Participants1. Educational Qualifications2. Work Experience required, if any3. Age Limit*[note: ITEC norms is 25-45 years]*4. Target Group *[Level of participants and target ministries/departments etc. may be indicated]* | 1) Bachelors degree in technology or science 2) 2 years 3) 25- 45 years Government officials from the Ministry; Executives from public sector organizations; Representatives of accredited NGOs working on energy & conservation for at least past 5 years and involved in promotion of micro-enterprises in rural areas Personnel from technical and/or financial Institutes 25 – 45 years |
| E. Aims & Objectives of the Course | Sensitization of the participants on the planning, designing, implementation and utilization of Solar technology for livelihood based projects. The course aims to explain the extent to which solar technology can be utilized in improving the energy access scenario in the rural areas through creation of energy enterprises at local level to meet the energy needs.  |
| F. Course Contents / Syllabus *[please attach course details / profile in Word Format for uploading on ITEC website]* | Module 1: Introduction to the Solar Technology Introduction to Solar technologies Various applications of Solar energy systems and their relevance Advantages and limitations of solar technology Current programs, policies & trends of select developing countries Advancement of solar technology: trends and costs Module 2: Solar Energy Systems – Assessment, Design, Economics, Operations and maintenance Components of Solar PV and thermal systems Solar Systems: planning and design including use of RETScreen Pre-feasibility, Feasibility and DPR for Solar Energy Projects Solar energy system – operation, maintenance and trouble-shooting Energy Storage – Batteries Overview of solar PV standards, conformity and quality Cost Economics of Solar energy system Module 3: Project Management and design of business models Planning and designing of livelihood based rural energy projects Case-study analysis on various institutional and business models (ownership, delivery channels, market and/or financial linkages etc) Case studies on solar energy based projects and Lighting a Billion Lives initiative for enhanced energy access and livelihood generation Analysis of solar based livelihood projects through experience sharing Solar energy based livelihood projects – Issues and Challenges Module 4: Monitoring and evaluation of projects Monitoring of solar energy systems including concept of remote monitoring Evaluation and impact assessment Module 5: Exposure Visits to Solar Projects & Manufacturing Facility Visit to a solar PV module manufacturing facility in North India Visit to a solar lantern assembly unit in Noida Learning by practice –Visit to Solar Charging Station / Solar Power Plant Visit to Northern India cultural and heritage sites Tools and techniques for undertaking feasibility/scoping survey of decentralized solar PV projects Module 6: Group Exercises & practical sessions Hands-on training of installation and commissioning of solar PV systems Design of service delivery and business model for solar energy based livelihood projects for participants’ countries.  |
| G. Mode of evaluation of performance of the participants | Class participation during the courseA brief report or presentation by the participants summarizing the learning from the course |