

Curriculum Vitae

GENERAL INFORMATION

Name : **Dr. P. Dharmalingam**

Profession : Energy Audit Consultant and Trainer,
Former Director ,NPC, Govt. of India

Experience : **35 years in Energy Auditing & Skill Development Training.**

Present organisation : Executive Director,
EnSave Consultancy and Training Pvt Ltd

Nationality : Indian

Date of birth : 25/05/1957

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Mogappair West, Chennai-600037.



EDUCATIONAL QUALIFICATION

DEGREE	INSTITUTION	UNIVERSITY, YEAR	CLASS
Ph.D (Energy Management)	Vinayaka Mission University, 2012		
M.S (Software System)	Birla Institute of Technology	BITS, Pilani, 2001	I Class
PGDEM (Energy Audit & Management)	TIPIE, NPC	National Productivity Council, 1985-87	I Class
DIM (Industrial Management)	Symbiosis Institute of Business Management	Symbiosis University, Pune, 1983-84	I Class
B.Tech (Hons)	Madras Institute of Technology	Anna University, Chennai, 1979-82	I Class

PROFESSIONAL CERTIFICATION

- Accredited & Certified Energy Auditor, Bureau of Energy Efficiency, Govt of India
- Qualified Lead auditor in ISO 50001-EnMS
- Certified Measurement & Verification Professional ® (CMVP), USA
- Trainer in Green Buildings Initiatives

PRESENT RESPONSIBILITIES

1. Director, *EnSave Consultancy and Training Pvt Ltd*: Generation and execution of energy audit consultancy and training projects. Design, coordination and execution of practical training in energy efficiency. Developing special courses for capacity building/skill development training for Corporates and Institution.
2. Adjunct Professor – *SRM University, Chennai/ SMIT, Sikkim/* for curriculum design and development, teaching and guiding Industrial projects.
3. Energy Adviser: *Winsakthi Energy Pvt Ltd* and Residency Group of Buildings.

EMPLOYMENT RECORD

Organisation	Designation	Period
EnSave Consultancy and Training Pvt Ltd	Executive director	From 2017
National Productivity Council, Chennai	Director - CETEE	2015-17
National Productivity Council, Bangalore	Director & Head (RPMG)	2014-15
National Productivity Council, Chennai	Director & Head (AIP)	2010-14
National Productivity Council, Chennai	Director (Energy Audit& Mgt)	1987-10
National Productivity Council, TIPIE	Energy Engineer	1985-87
Automotive Research Association of India, Pune	Project Engineer (IC Engine & Fuel efficiency)	1982-85

SUMMARY OF WORK EXPERIENCE

- **32 years of experiences in the field of Energy audit and Conservation from National productivity council.** Executed more than **350 Energy Audit projects** in various sectors covering Process, Engineering & Service industries such as Refineries, Chemical, Petrochemical, Textiles, Dairy, Paper, Sugar, Tyre, Steel, Cement, Fertilizers, Aluminum, Oil & Gas, Pharma, Automobiles, Foundry, Railways, Power plant, Hotel, Hospital, IT software park and Commercial buildings.
- **Detailed Energy audit includes** plant survey, Instrumented measurements, primary data collection, performance tests in key energy guzzlers, analysis with technical and economic feasibility, compare with benchmarks, report writing, presentation of recommendation and follow-up help for implantation etc.

Area covered for auditing,

- Electrical system, Motors & Power quality and harmonics mitigation
- Electrical Demand Side Management
- Energy audit and Performance assessment in Refrigeration, HVAC, Air Compressors, water pumping and Lighting system.
- Performance assessment of Steam Boilers, Process/Fired Heaters & Steam utilisation system.
- Performance assessment of electric melting furnaces and heating furnaces.
- Energy optimisation in process, pinch analysis and process integration
- Thermal Insulation & Steam Trap Survey
- Thermal Power Station and Transmission & Distribution
- Captive Power , Co-Generation and Tri-generation- Evaluation
- Water audit and conservation
- Energy audit in commercial Buildings.
- ISO 50001- EnMS Training and implementation.
- Carbon foot print study, Energy Monitoring and targeting
- Financial analysis and project management
- Cleaner production and waste minimisation
- Renewable energy systems
- Productivity improvement in manufacturing Industries-Lean Management

Training and Teaching

- Two years post graduate program on Energy Audit and Management were conducted- Full in charge cum coordinator

- Activity includes Design of Training Programme, Brochure preparation, Selecting the industrial clients, Coordination, Faculty identification, Reading material preparation, Presentation material preparation, Execution, Summery report preparation on outcome, feedback and impact of the programme for improvement.
- In-company training programmes conducted regularly at GAIL, NTPC, ONGC, Reliance, Birla group, HPCL, BP, IOCL, NADP and Indian Railways.
- Organised about **300 workshops /Training Programmes** on various energy related subjects

National and International projects carried out in Energy Management:

- Development and commissioning of '**Centre of Excellence for Training in Energy Efficiency**' (CETEE) at National Productivity Council, Chennai under Indo-Japan cooperation
- Prepared and Published the following four **Guide books on Energy Efficiency** as project leader/co-author for the purpose of national level examination. (published by BEE, Govt of India),2003
 1. General Aspects on Energy Management and Audit.
 2. Energy Efficiency in Thermal Utilities.
 3. Energy Efficiency in Electrical Utilities.
 4. Energy Performance Assessment of Equipment & Utility Systems.
- **Cleaner Production Energy Efficiency manual** for Greenhouse Gas Emission Reduction in Industry in Asia Pacific (GERIAP), UNEP, 2000: A Manual was prepared for training of trainers to the needs of nine countries in Asia pacific region under UNEP Project.
- Implementation of Institutional building & energy efficiency for state of Tamil Nadu supported by GTZ/BEE (SDA Development Project- EC ACT 2001
- Performance assessment of Biomass power generation/Cogeneration project in India, Supported by MNRE, GOI, New Delhi)
- Hands on Energy Efficiency Training' for UNEP, Bangkok
- Technical Expert for Asian Productivity Organisation (Tokyo) for Energy Efficiency and Green productivity in Taiwan
- Development of training project in Energy Efficiency for NEEP project of GIZ in Nepal
- Design and development of Energy Efficiency capacity building for Institute of Productivity and Human Resources Development (IPHRD), Tehran, Iran
- Faculty for Distribution Reforms and Upgradation Project (DRUM) of USAID for electric utilities
- Design and development of Training modules for capacity building of Engineers in 'Energy Efficiency' for Ministry of Energy, Fiji
- Developed courses for productivity practitioner /consultant on Productivity through Cleaner Production and Refrigerant Management in Industrial and Commercial Application

- Namakkal Eco-City Demonstration Project: APO- Japan, Team Member for Energy Efficiency.
- Energy Efficiency assessment in the state of Tamil Nadu, Pondicherry and Andaman

CONFERENCE PUBLICATIONS, MANUALS & REPORTS

- Preparation of Cleaner Production Energy Efficiency Manual for Greenhouse gas reduction programme for Asia Pacific (GERIAP), UNEP (www.energyefficiencyasia.org)
- Techno economic feasibility of cogeneration in India for Advisory Board , Government of India, 1989
- Prepared Course manual for two year post graduate course in Energy Management and Coordinated post graduate course (PGDEM) at AIP-NPC.
- Conducted National Level Cogeneration Feasibility study in many Industries-MNRE Project
- Conducted National Workshop on Fluidized Bed Boiler & Cogeneration
- Clean Development Mechanism Study: CER enhancement Study at Commercial Building and Industrial Energy Efficiency Projects
- Awareness programme on Energy Conservation Act -2001, BEE,
- The construction of REEC Centre for completed for housing the Japanese Industrial Energy equipment's for practical training and commissioned in time

INTER-COMPANY TRAINING PROGRAMMES CONDUCTED

The title and number of programme conducted are listed below through which training imparted to executives of various public and private organizations from all over India.

- ❑ Electrical Energy Audit & Management (32 Programs)
- ❑ Energy Conservation in Boiler & Steam System (25 Programs)
- ❑ Pinch Technology and Process Integration (6 Programs)
- ❑ Energy Conservation D.G Sets (16 Programs)
- ❑ Energy Conservation in Commercial Buildings (12 Programs)
- ❑ Energy Conservation in Compressed Air System (27 Programs)
- ❑ Energy Conservation in Plant Utilities (15 Programs)
- ❑ Energy Conservation in HVAC system (10 Programs)
- ❑ Energy Conservation in Furnaces (7 Programs)
- ❑ FBC Boiler and Cogeneration (5 Programs)

- ❑ Energy Savings in Pumps and Pumping System (12 Programs)
- ❑ Energy Conservation in Cooling Towers (6 Programs)
- ❑ Energy Efficiency and Cleaner Production Audit (5 Programs)
- ❑ Water treatment & water conservation (9 Programs)
- ❑ Climatic Change and CDM for Industry (6 Programs)
- ❑ Green Buildings (7 programs)

PREPEARTORY TRAINING COURSE (PTC) for Energy auditor/Energy manager

The number of Preparatory Trainings Course was conducted to meet the energy auditor's/energy manager needs all over India (New Delhi, Mumbai, Chennai, Kolkata, Nagpur, Hyderabad, and Bangalore, Cochin) from 2003 onwards till today. About 3000 energy auditor were trained for BEE examinations. Provided Faculty support for the past 19 Examination in PTC training

PROFESSIONAL TRAINING UNDERGONE

- ❑ Power Plant Operation and Maintenance at Power Engineers Training Society (PETS), Neyveli,1987
- ❑ Productivity and Energy efficiency in foundry at Taiwan, organised by APO, Japan (1995).
- ❑ “Standards & Labelling” Programme for Energy equipments, by USAID, Bangalore, (2005)
- ❑ Course on Training of Trainers conducted s by DENIDA-ETI, Chennai
- ❑ Undergone training at Bangkok, Thailand on “Knowledge Management: organised by APO Japan
- ❑ Workshop on E-Governance conducted by National Informatics Centre in Chennai
- ❑ Programme on Energy Conservation in industries. conducted by ETI, TNPCB, Chennai
- ❑ Awareness programme on ISO 14001 conducted by NPC
- ❑ Programme on “Cogeneration” conducted by BEE, Chennai
- ❑ Programme on “Green Buildings ” conducted by TERI, Kolkata

TECHNICAL EXPERT AND ADVISER

- ❑ Resource Person & Faculty at PCRA, CII, NSIC, AIMA, ENFUSE, MSME, IIT-Chennai, Tamil Nadu Electricity Board, Agricultural university, Madras Chamber of

Commerce and Industry, Environmental Training Institute-TNPCB, Technical Teachers Training Institute-Chennai, etc.

- ❑ Technical Expert in Technical Sub-Committee constituted by Tamilnadu Pollution Control Board for Energy Conservation in industries.
- ❑ Technical Expert & Active member in institutional building in the state of TamilNadu for implementing Energy Conservation Act 2001 enacted by Govt of India.
- ❑ Resource person for Paper setting and evaluation of BEE energy auditor examination.

PAPERS PUBLISHED

- ❑ Published a paper on “Cutting Energy Costs through Energy Conservation” in the International Programme on Energy Conservation in Industry by ENFUSE, India in June 1992.
- ❑ Presented a paper on “Effective Energy Management Approach in Industry” in the National Seminar on Energy Conservation organised by IIT, Chennai, India in March 1989.
- ❑ Published a paper titled “Energy audit Strategy in Industries” in the Energy Management
- ❑ Presented a paper on “CDM Opportunity Through Energy Efficiency” Jan2007
- ❑ Presented a paper titled “Energy conservation in steel Industries” in Taiwan, 1995
- ❑ Presented a paper on “Use of Isotopes in Piston Rings wear & tear analysis in IC Engine” at Mumbai organised by International Atomic Energy Agency,1984
- ❑ Factors influencing adoption of advanced information technologies in SMEs: India-Journal
- ❑ The Impact of Information Technology usage on organisational performance in auto ancillaries SMEs in India, Journal

VISITING FACULTY FOR INSTITUTION/ UNIVERSITY/COLLEGES

- ❑ National Productivity Council
- ❑ IREEN Nasik, Indian Railways Electrical Engg Institute
- ❑ Tamil Nadu News Print Ltd
- ❑ Anna University/ IIT Madras
- ❑ Residency Group of Hotel Management,
- ❑ Sikkim Manipal University/SRM University

- ❑ SAI Engg College, SSN Engg College
- ❑ Kongu Engg College, SA Engg COLLEGE
- ❑ District Industries Centre, Govt. of Tamil Nadu
- ❑ Dr.MGR Educational and Research Centre, Chennai
- ❑ Maharashtra Energy Development Agency, Pune

COUNTRIES VISITED

1. **Taiwan** - Attended training programme on Energy conservation in Foundry,1995
2. **Thailand** - Attended workshop programme on Knowledge management,2005
3. **Iran** - Faculty & Experts on energy conservation & Management course,2007
4. **Iran** - Energy Experts on energy conservation & Green Productivity 2008
5. **Japan** - Practical training on Industrial Energy conservation &Energy Lab,2009
6. **USA** - Green Buildings Study -Washington, Pittsburgh, LosAngeles and San Francisco,2009
7. **Japan** - Practical training on Industrial Energy conservation programme ,2010
8. **Nepal** - Chief faculty –Conducted certified *Energy auditor course*, 2011
9. **Nepal** - Faculty &Energy Experts –Conducted Energy Audit in Dairy plant,2012
10. **FIJI** - Energy Experts- Conducted *Certified Energy auditor* course,2013
11. **Taiwan** - Worksop on enhancing productivity consultancy sercive,2015
12. **FIJI** - Faculty - Conducted Green *Productivity course* for APO Member ,2016
13. **FIJI** - Chief faculty & Experts - Conducted Green *Building course* ,2016
14. **Ghana** - Energy Experts – Setting up Sustainable energy centre & curriculum development for Ghana, March 2019
15. **Ghana** - Energy Experts – Setting up Sustainable energy centre & curriculum development for Ghana, December 2019

MAJOR ACHIEVEMENTS

- ❑ Authored, **Guide Books on Energy Efficiency** for National Certification Examination for Energy Auditors and Managers to BEE Govt of India. (www.em-ea.org) - 2003. Many universities have adopted these books as syllabus for PG Courses and SAARC countries have organised training programme.
- ❑ Established **Centre of Excellence for Training in Energy Efficiency (CETEE)** at NPC Chennai with Indo-Japan cooperation. It is a unique training facilities established for the first time in India. (2010)
- ❑ Developed **Practical Energy efficiency training courses** for national and international participant utilizing CETEE that in houses Boiler, Furnaces, Pumps, Fans, Air compressors, Motors, HVAC, lighting, Heat exchangers and Solar and wind power plant.
- ❑ Executed **BEE's Energy Auditor Exam as Controller of exam** from 2009 to 2014 at 24 Centers across the India.
- ❑ Conducted more than **350 Energy audits** covering energy intensive Process, Engineering industries and commercial buildings and organised about **300 Seminars/workshops** on Energy efficiency and Conservation as a team leader. (1987-2017)
- ❑ Founder Member of **Indian Institute of Energy Management (IIEM)**
- ❑ Founder of EnSave consultancy and Training Pvt Ltd and providing consultancy, Training services to all type of Industries and Buildings.
- ❑ Recipient of AEE's **Energy Professional Development Asia Subcontinent Region Award 2017** for outstanding accomplishments in training and development of energy engineers and managers from USA

Place: Chennai
Date:21/03/2020



(P. Dharmalingam)