

## “Sustainable Production: the Key to Industry Survival”

A Forum by the EU Switch Asia funded EEPEx project will be held on 19th May 2011 at the Sri Lanka Foundation Institute from 8.30 am to 5.00 pm

The Forum will include presentations by International and National experts across 3 themes:

- Sustainability: New Horizons for Industry Growth
- Cutting Edge Resource Management
- Business and Pollution Control

Target Groups of the Forum include:

- Industrial and manufacturing companies from all sectors
- Environmental consultants, service providers and equipment suppliers
- Government stakeholders from environment, export development and industry/commerce
- Donor agencies, International Organisations and NGOs

Download Registration form & Seminar programme: [www.iti.lk](http://www.iti.lk) or [www.eepex.iti.lk](http://www.eepex.iti.lk)  
For more information please contact Iranganie on Tel: 011 2379861

## Completion of EEPEx Project Website

The EEPEx project website saw substantial development during the months of January & February 2011. Development was done by Experts from Megaskills Research including Dr Channa Gunawardena and Mr Thilina Pitigala. Work included development of comprehensive website structures, content and hosting on the EEPEx server. Support was also provided by staff at the IT computer unit.

The Website includes background on the objectives and activities of the project, information on upcoming events and a comprehensive downloads section with reference materials on Sustainable production practices and technologies.

The website has been hosted on the EEPEx server and public access configuration is currently being performed.

The Website is now live and accessible on [www.eepex.iti.lk](http://www.eepex.iti.lk)

## Events

- Energy Training for Gampaha District Industries - 8 March 2011
- Sustainable Production Forum Seminar - 19 May 2011

## Vital Facts

The EU SWITCH-Asia funded Project EEPEx aims to encourage Sri Lanka's export sector enterprises and their support service providers across the value chain, to adopt environmentally friendly production practices and technology. The project commenced in March 2009 and will be implemented over a period of 42 months.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.



# EEPEX Project

Enhancing Environmental Performance of Export Sectors



## Missions by International Experts from Megaskills

Dr Channa Gunawardena (International Long Term Expert – Megaskills UK) undertook a mission from 7<sup>th</sup> February 2011 onwards. Dr Gunawardena's missions included: joint work with the project office, supervision of data entry by Megaskills staff, updates to the Wastex system, drafting of sector analysis/guidelines for a further 4 sectors, Carbon Footprinting component development, circulating the eco-working document, finalisation of the project website and participation at numerous meetings with project staff, other Switch Asia projects and stakeholders. Dr Gunawardena's next mission will be in Mid April.

## IFF third mission

The EU SWITCH-Asia funded Project EEPEx aims to encourage Sri Lanka's export sector enterprises and their support service providers across the value chain, to adopt environmentally friendly production practices and technology. The project commenced in March 2009 and will be implemented over a period of 42 months.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

The project targets industries such as Ceramic, Rubber, Plastic, Leather, Footwear, Tourism and supporting industries like construction, service stations & packaging.

## IVL second mission to Sri Lanka

Second visit of IVL Mission expert Ms Åsa Stenmarck - International Expert on Solid waste from IVL Sweden was in Sri Lanka during January/February 2011.

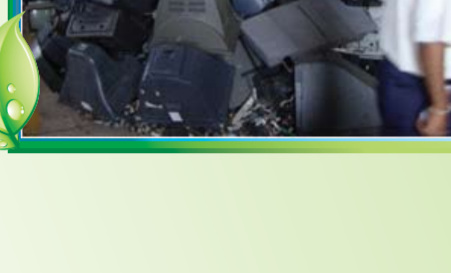
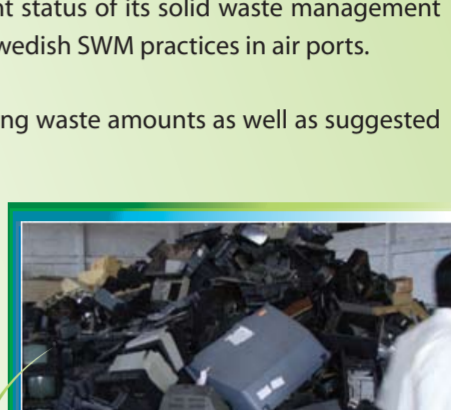
Her visit included

- A Class room training session on
  - Swedish or international practices and regulations on industrial solid waste
  - Waste management technologies, experiences and case studies and adaptability to the Sri Lankan situation
  - International best practices of industrial SWM
- A Presentation to CEA officials on Mercury recovery, handling, safety, etc.
- Industry visits -
  - Industry visits to the Ceramic sector (industries using Plaster of Paris molds), Leather Sector and Vehicle service station and Cement Factory where manufacturing process investigations were carried out. Presentation on Case studies or model solutions to each of the industries were also made to convince the importance of solid waste reuse, recycling and proper disposal, manufacturing alternative products etc.
  - Visit to a WEEE processing facility and WEEE handling investigation where a presentation on WEEE handling, safety, packing, transport, international regulations and etc. was also made
  - Visit Bandaranaika International Air port to investigate the current status of its solid waste management system and together with a presentation on the international or Swedish SWM practices in air ports.

The aim of the visits has been to present benchmarking values regarding waste amounts as well as suggested solutions for improvement of the waste management.

The following have been selected as focus areas, for recommendations and implementations in the future.

- Gypsum recycling
- Anaerobic digestion
- E-waste
- Recycling of fluorescent lamps and low-energy bulbs
- Mercury waste



## Draft Sector analysis released for Desiccated Coconut, Coir and various cross sector analysis

International experts from Megaskills UK have released Draft Sector analysis for Desiccated coconut and Coir sectors during the month of February 2011. These draft documents contain numerous analyses for the sector using data from the Baseline survey. Examples of analysis include: nature of business, & facilities, production processes, compliance with environmental regulations, solid waste outputs & disposal methods, waste water outputs & disposal, energy use, water use, environmental impacts and environmental benchmarking.

Also circulated were cross sector analysis for Solid Wastes, EPI status of companies, Litigation/public complaints and impact matrix analysis. These documents will be important tools to support future decision making by stakeholders for sustainable development of each sector.

Dr Miriya Samarakoon (International Environmental expert - Megaskills UK) led the development of the analysis and guidelines with inputs from other Megaskills experts. The documents are currently being circulated amongst the IT technical team, for further development in terms of specific subject areas and verification of data anomalies. The documents will be updated in due course with analysis from the detailed assessment for each sector being done by ITI.

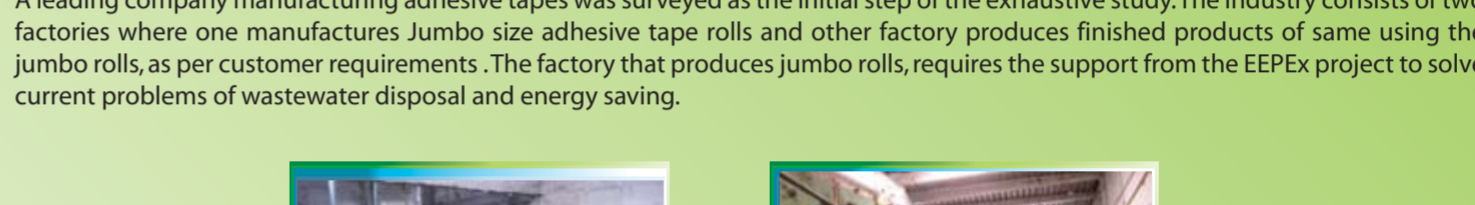
## Detailed Assessment Progress

Reporting on the results and analysis conducted during the detailed assessments form an important task, through which solutions to the various issues are then derived and recommended to the industries concerned. The following measurements and reports were done during the year, by the ITI Teams.

Measurement Reports	
WW Analysis Reports	70
Noise Measurement	47
Ambient Air Quality	1
Indoor/Outdoor PM	2
VOC Measurement	7
Performance Assessment Reports	
Ceramic Sector	9
Modelling Reports	
Air Dispersion Model	1
Noise Modelling Reports	1
Environmental Review Reports	
Ceramic Sector (Draft)	5
Auto Service Sector (Draft)	2
Status Reports	
Hotel Sector	18
Construction Sector	2
Sector Reports	
Ceramics Sector	1
Auto Service Sector	1

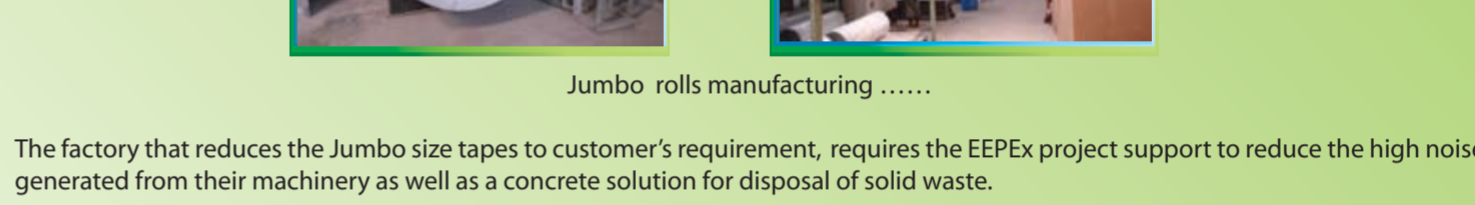
## Case study on Solid waste management Practices

A leading company manufacturing adhesive tapes was surveyed as the initial step of the exhaustive study. The industry consists of two factories where one manufactures Jumbo size adhesive tape rolls and other factory produces finished products of same using the jumbo rolls, as per customer requirements. The factory that produces jumbo rolls, requires the support from the EEPEx project to solve current problems of wastewater disposal and energy saving.



Jumbo rolls manufacturing.....

The factory that reduces the Jumbo size tapes to customer's requirement, requires the EEPEx project support to reduce the high noise generated from their machinery as well as a concrete solution for disposal of solid waste.



Variety of products comes out from jumbo rolls



Current practice of solid waste disposal.....



Excessively manufactured Original product stored as waste.....



Explaining the existing problem of solid waste management

## 2nd Energy Audit – ITI energy team is progressing steadily

The EU SWITCH-ASIA funded EEPEx project aims to encourage Sri Lanka's export sector enterprises and their support service providers across the value chain, to adopt environmentally friendly production practices and technology. One of the key activities of the EEPEx project is to carry out detailed energy audits covering almost all the industrial sectors it deals with and ITI (the lead partner of the project) energy team plays the key role in this exercise.

The need for energy conservation has assumed paramount importance due to rapid growth of process industries causing substantial energy consumption in operations. Global energy crisis as well as high cost of fuels resulted in more activities to conserve energy to the maximum extent. Energy expenses stand for a major part of operating and production costs of many energy intensive process industries. These industries can achieve significant cost savings by investing in energy saving measures. Moreover, reducing the carbon footprint by saving energy will help in enhancing the environmental performance of the industry.

It is interesting to note that investments in energy efficiency improvements have a much shorter payback period compared to other investments. Industrial energy audits are instrumental in revealing the details of the facts described above. An energy audit is a systematic analysis of energy flow in a process and is a part of an overall energy management exercise. It seeks opportunities to reduce the amount of energy input to a system without negatively affecting the outputs. However, it should be noted that energy audits don't save money and energy for industries unless the recommendations are implemented.

Sri Lanka's sole manufacturer of refractory material produces some 1000 t of refractory material annually at present. Refractory materials are widely used in ceramic, glass, cement, lime, chemical and steel industries. This is one of the energy intensive industries in Sri Lanka. The industry meets its energy requirements through two main types of energy supplied by three main sources, namely,

Type	Source
Electricity	National grid
Thermal energy	Stand by diesel generator
	Furnace oil

Electricity is used mainly for operating the prime movers such as motors