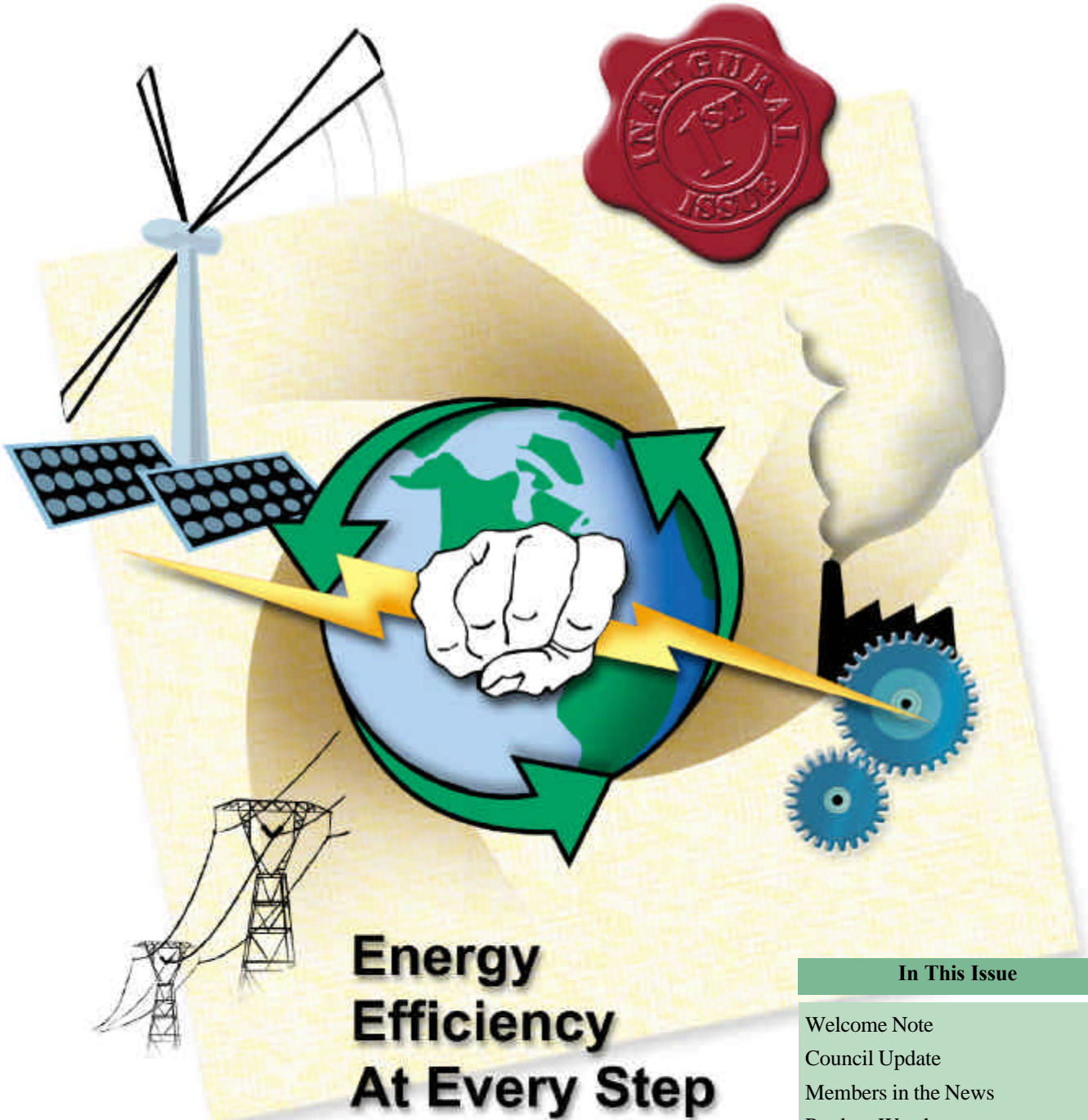




# Energy Productivity News

A Forum for the Views of Council of Energy Efficiency Companies  
Volume 1 No. 1, Spring/Summer 2000



## Energy Efficiency At Every Step



### In This Issue

Welcome Note	2
Council Update	3
Members in the News	4
Product Watch	5
Technical Article	6
Energy Efficiency in the News	8
Seminars & Conferences	10
About the Council	11
Membership Info	12

# Welcome Note

**Dear Readers,**

The energy situation in India is dire and in immediate need of repair. Anywhere between 30 to 50 percent of the energy consumed in this country is wasted. The waste is evident in every aspect of our lives. We see its impact in the higher energy bills and in the higher prices for food and other things we buy.

We feel the energy wasted in the air we breathe, polluted by the smoke from the buses, scooters, factories and power plants. The human toll from sickness, death and lost productivity which can be attributed to pollution is enormous.

Increased energy efficiency is the key to India's economic success in the global marketplace and the prerequisite for clean air. Energy efficiency means doing more with less energy. Increased energy efficiency means improving the comfort in our homes and offices while using less energy. It means increasing the output of our factories while using less energy. Energy efficiency is an environmental responsibility and is economically sensible.

This is the inaugural issue of the Energy Productivity News. The Council of Energy Efficiency Companies is publishing this newsletter to provide a forum for the nation's energy efficiency industry and to provide useful and timely information about the many opportunities we have to save energy.

The Council's main thrust is to emphasize the importance of building energy efficiency into the reform process. This thrust is and will be very well complemented by our growing member base, where each member can offer invaluable information on his respective industry, thus providing the Council a cohesive approach.

This issue of Energy Productivity News describes the activities that the Council has been involved in over the last couple of years. It also serves as an invitation to energy efficiency companies throughout India to join the Council and create awareness about the benefits of improved energy efficiency among the government, industry and consumers. More importantly, this awareness should catalyse the growth and demand for Energy Efficiency products and services.

With your help, the Council will work to ensure that energy efficiency is a top priority and consideration every time an electricity board considers building a new power plant, every time a consumer purchases an energy-using household appliance, every time a factory manager increases production capacity.

**Bhavin H Soonderji**  
**Chairman**

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## Members' Views

The subsequent issues of Energy Productivity News will carry a section "Members' Views" which will list opinions and views of CEEC members on contemporary issues and policies related to energy efficiency.

You are invited to send your contributions to the editorial team at:  
[rahul.walawalkar@tatainfotech.com](mailto:rahul.walawalkar@tatainfotech.com)

## Council Organises Energy Efficiency Seminars

The Council of Energy Efficiency Companies (CEEC) was established in 1998 to expand markets for energy efficiency products and services. The Council's mission is to promote energy efficiency policies, programs and technologies to create jobs as well as to foster economic growth and environmental improvement throughout India.

As part of its mission, the Council recently held seminars in Chennai, New Delhi, Bangalore, and Ludhiana. The seminars were organized in cooperation with the Delhi-based Conserve Society and

various partners including the Madras Chamber of Commerce and Industry (MCCI), Tata Infotech Ltd., Saha Sprague Ltd., Ludhiana Management Association (LMA), APEX Chambers of Commerce and Industry, Alliance to Save Energy, USAID and USAEP.

The seminars provided a forum for representatives from industry and government to interact with Council

members on various topics, including energy management controls, steam and hot water systems, compressed air, transformers, air conditioning, motors and drives, lighting, monitoring, and project financing.

The audience at the seminars enthusiastically welcomed the opportunity to learn about the various

Seminar	Date	Venue
■ Seminar on Energy Efficiency in India-State of the Art	24th September 1999	Chennai
■ Energy Efficiency Alternatives for Industries	1st- 2nd November 1999	Delhi
■ Energy Efficiency and Information Technology	27th November 1999	Bangalore
■ Energy Efficiency in the Textile Industry	6th December 1999	Ludhiana

products and services available to help them reduce their energy bills. A total of 362 people from 280 companies, government agencies, utilities, and other organizations participated in the four seminars.

The profile of the participants included CEOs, Government officials, Facility Managers, Administration and Maintenance Personnel, Energy

Consultants, Quality Control Managers and Marketing Executives. Many luminaries from the government participated in these seminars. The more prominent luminaries included the Chairman of the Tamil Nadu Electricity Board, the Chairman of Indian Renewable Energy Development Agency (IREDA), the Secretary of

Industry for the Government of Punjab (Principal Secretary to the Punjabi Chief Minister), the Chairman of the Delhi Vidyut Board, and the Personal Secretary to the Chief Minister of Delhi.

In exchange for sharing their knowledge and experience, Council members were able to draw high-level government and press attention to their products and services, which were displayed in tabletop demonstrations located around the seminar rooms. Seminars for year 2000 are currently being planned. For the latest details about these seminars visit the CEEC website.

## The Indian Energy Efficiency Business Directory

The Council's web site, located at [www.ase.org/ceeci](http://www.ase.org/ceeci), contains a searchable directory that can be used to identify and locate companies offering energy-savings products and services in India. Nearly 300 companies

are currently listed in the Directory, which is continually being revised and updated. This August, the Council will also re-issue the very popular bound version of this Directory, which is already in the hands of more than 500

decision-makers in government and industry. To add your company to the Directory or to request changes to your company's information in the Directory, contact the Council via phone or the website.

## CEEC e-group provides a forum for members

The Council of Energy Efficiency Companies has created an e-group site at [e-groups.com](http://e-groups.com). The site provides features such as a homepage for CEEC, message archives, 20MB file storage for sharing information, group calendar with auto reminder facility, Chat for

discussing issues related to energy efficiency and a polling facility so that members can vote on different issues. Subscription to the mailing list can be obtained by sending mail to [ceec-subscribe@egroups.com](mailto:ceec-subscribe@egroups.com).

Members can log in at :

[www.egroups.com/group/ceec](http://www.egroups.com/group/ceec).

The site is aimed at keeping all members updated about the latest events and developments at CEEC. Members on this mailing list will receive the subsequent issues of this newsletter by e-mail.

# Members in the News

## Tata Infotech launches Eco Lumen

Tata Infotech celebrated Earth Day 2000 on 22<sup>nd</sup> April this year by making available a freeware version of Eco Lumen™ for free download at the company site: [www.tatainfotech.com](http://www.tatainfotech.com) Eco Lumen™ is Tata Infotech's proprietary energy efficient lighting designer software that facilitates the process of designing lighting layouts for residential, commercial or industrial complexes.

The software is a decision support tool, which will cut down electricity bills substantially, at the same time offering optimum lighting designs to architects, interior designers, lighting and electrical consultants, energy auditors and facility managers. Other interesting features of the software include an energy calculator that calculates total annual electricity bills in a facility based on the electrical equipment utilized.

ZD Net software library ([www.zdnet.com](http://www.zdnet.com)), one of the most popular download sites on the net, has given Eco Lumen™ a 4 Star rating, signifying a very good product with some outstanding features.

(Read more about Eco Lumen™ on Page 5.)



## Atco Controls India supplies MV to SV converters to TISCO

Atco Controls India has supplied Mercury Vapour to Sodium Vapour converters (ATCO AZRM 400/250) to TISCO. The converters were supplied as part of TISCO's lighting efficiency upgrade project which includes

converting the 400 W MV lamps to 250W SV lamps, thereby achieving a saving of 150W per burning hour, which leads to annual savings of more than Rs. 25 lakh. The only other investments needed were capacitors, to maintain 0.9

PF and new lamp holders, thus ensuring a payback period of less than 18 months.



## Thermax EPS commissions 1<sup>st</sup> Energy Performance Project

Thermax Energy Performance Services (TEPS) has commissioned its first energy cost reduction project with performance guarantees. The customer is the 125-year-old Morarjee Mills, located in the heart of Mumbai. Under the Master Energy Services Agreement signed with TEPS, Morarjee Mills will get the dual benefit of guaranteed savings in energy costs and a reduction in greenhouse gas emissions, through various technological solutions.

The first project commissioned under this programme is a caustic soda recovery plant. TEPS has engineered an energy neutral plant, which will recover 800 TPA caustic soda from the lean stream by diverting it to a recovery plant, simultaneously, recovering hot distilled water in a slightly alkaline condition from the weak solution. Morarjee Mills will use this water as boiler feed water - reducing the need for alkaline dosing of boiler feed water. In addition, the plant

will also generate 12,000 m<sup>3</sup>/yr of hot water for process use. The project is expected to pay for itself in a little over two years. The Plant is financed through an innovatively structured tripartite lease agreement engineered by Thermax Capital Ltd.



## Clean funding by USAID for a cleaner tomorrow

In another major development, TEPS has secured project financing for the various energy saving measures being developed for Morarjee Mills. The financial tie-up is with the Clean Technology Initiative mechanism set up by the United States Agency for International Development (USAID)

and administered by ICICI. A pre-condition for the attractive loans offered is that the project should address the issue of greenhouse gas emission. TEPS is the first Energy Services Company (ESCO) to meet this requirement and arrange for the soft loan. The gamut of TEPS projects in Morarjee Mills will lead

to substantial reduction in fuel oil and power consumption, leading to abatement of over 6000 tonnes of carbon dioxide emission a year.

(Read more about the project on Page 9)



## Tata Infotech Launches Eco Lumen™ to Reduce Electricity Bills



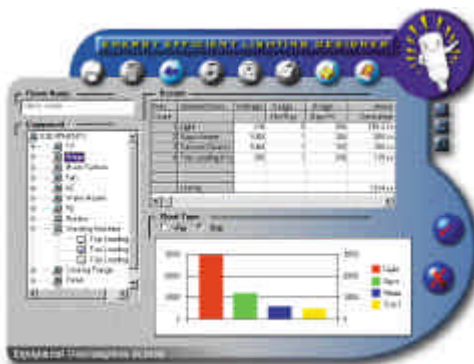
Surveys have indicated that as much as 30% of the energy consumed in any facility is wasted. Good house keeping practices can lead to reduction in electricity consumed by about 10%. However, the major savings in electricity bills can be achieved by prudent decision making while designing facilities. Selection of the right type of electrical equipment in the optimum quantities at the right place can lead savings of up to one third in electricity bills. All that is required is the use of energy efficient design practices.

Lighting, which accounts for 17% of the electricity consumed in India, is unfortunately one of the areas where the implementation of energy efficient practices has been neglected for far too long. This despite lighting upgrades often offering the quickest paybacks. The complexity of the lighting design process is a major reason for this neglect.

Traditionally designing lighting layouts, has been a complicated process where the designer needs to consider the usage of the facility, output characteristics of the lighting equipment, the room parameters such as dimensions and properties of the various surfaces in the facility and the number of fittings required in the facility for providing the appropriate illumination level.

In order to promote the use of energy efficient design practices, Tata Infotech has developed Eco Lumen™, a Decision Support Tool to simplify the complex process of designing lighting layouts. The software requires basic inputs such as room parameters and work-environment details to provide lighting design solutions. Not only does Eco Lumen™ calculate the number of fittings required as per the applicable standards, but also provided detailed costing in terms of investment, energy and lifecycle cost.

The software also provides other features such as lighting layout and cost benefit analysis for different options including an option for evaluating upgrade feasibility. In addition to providing quick, easy and accurate designs for lighting layouts, Eco Lumen™ also optimises the energy consumption in these layouts. It provides energy saving designs that facilitate the use of multiple level switching. Thus the lighting designs can include a provision for switching off some lights when not in use, resulting in saving on the electricity bills.



Other interesting features of the software include an energy calculator that computes the total annual electricity bills for a facility based on the electrical equipment utilized.

The software is primarily targeted at facility designers, electrical consultants and facility managers. However, in order to bring the benefits of this software to every energy conscious individual in the country, a free-ware version of Eco Lumen™ was launched on the 22<sup>nd</sup> April, 2000, celebrated world-wide as Earth Day 2000, as part of Tata Infotech's energy management promotion plan.



This software has received a 4 star rating from ZD Net, one of the most popular download sites, signifying a very good product with some outstanding features.

The vision is towards a future where every facility in the country is designed using energy efficient practices, thus minimising the wastage of energy in the country.

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## Energy Optimisation by use of Occupancy Sensors

Shalabh Ahuja

### The Problem

Many office buildings are designed to have guards and maintenance staff switch on the lights very early in the morning and switch them off again very late at night. At the same time, since occupants don't have access to controls and switches, most of the areas are over lighted and often consume almost 60% more energy than needed. In every kind of property, in rooms and in corridors, lights remain on when there is nobody there, and often in broad daylight, simply because the reliance is on people. As a result, the waste in energy is costing India hundreds of millions of rupees per year. For your Company, it means lost profit. There is also an environmental price to pay that affects everybody.

### The Solution

Fortunately, low cost technology solutions such as occupancy sensors are now available to curb this wastage. Occupancy sensors use Passive Infrared and/or ultrasonic technologies to detect human presence or occupancy. These sensors are designed to control lights and air-conditioning automatically, depending upon whether the room or area is occupied. The sensors can be easily installed by any electrician, and require no maintenance. They replace standard wall switches without any need for costly rewiring.



### The Technology

The occupancy sensors offer a variety of operations that include:

- automatic on/off,
- manual on / off / automatic off,
- manual on / automatic off / dimmer controls.

Performance and reliability depend on design of rooms, installer's experience, maintenance and compatibility with components like ballasts and lamps.

Depending on the technology employed for the sensor, they can be classified into three types:

#### 1. PIR Sensing:

People radiate about 100 watts of infrared light (heat) continuously. Passive Infrared sensing relies on detecting this moving body heat. To be seen, the person must move between the 'vaness' created by a sensor's lens, which divides the area into a number of zones according to the type of lens.



While this technology is very effective at small distances, it loses sensitivity at greater ranges. The amount of motion required increases as the distance from the sensor increases. Typically it can detect gross body motion up to 12 ft and hand motion up to 22 ft depending on the configuration and the placement of the sensor.



#### 2. Ultrasonic:

Ultrasonic sensors fill the room with high frequency inaudible sound. Movement causes the reflected sound to have a frequency shift (Doppler effect), which is sensed to trigger on the lights. The high frequency sound fills the room (volumetrically) and yields excellent small motion sensitivity over larger areas. However these sensors are sensitive to air currents, and may create false reactions.

#### 3. Dual Technology:

The best and the most reliable technology therefore is one that can harness both of the above together. Thus there are no false "Offs" or false "Ons" because the limitations of each are mutually overcome. These microprocessor-based sensors install quickly and work reliably. Once installed they ensure that the lights are on when they should be, and off when the room is empty.

Advance occupancy sensors also include Photo Sensors to send signal to main dimming module, which controls the power supplied to luminaires in control zone either by solid state device or by auto transformer dimming.

#### Working:

When the room is empty, the sensor is in a 'high confidence' mode. Infrared / ultrasonic composite must be above a specific threshold to turn the lights on. This prevents false reactions to inanimate movements. Once the room is occupied, the sensors enter a 'high sensitivity' mode. The threshold lowers and the slightest movement will keep the lights on. When the room is unoccupied, the lights stay off while the air conditioning system cycles on and off to maintain the desired temperature.

## The Cost

The cost of these sensors varies according to the technology and application desired. In addition to the energy savings, a 100% depreciation allowance is available under the Income -Tax for energy conservation systems. In India sensors are available in the price range of Rs. 3,500/- to Rs. 8,500/-.

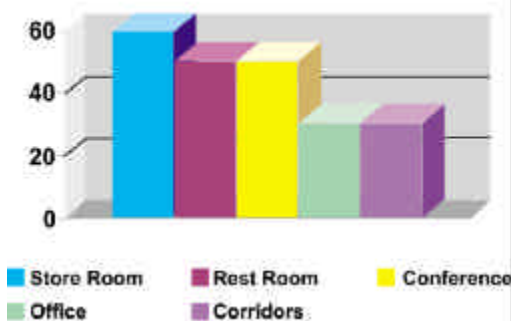
## The Savings

Sensor economics depends on the occupancy pattern and the tariff rates. Experiments conducted by the Lighting Research Center at Rensselaer Polytechnic Institute (USA) suggest that auto restore occupancy sensors and manual switching and dimming controls maximise occupant satisfaction and reduce the energy wastage upto 60% in private offices. Out of this, the occupancy sensors can save upto 40% of electricity. Manual controls can further reduce the energy consumption by 10% to 15%, by providing opportunity for occupants to optimise the lighting conditions to their individual needs and satisfaction. This may also increase the productivity due to optimisation of their work environment.

Price Range for Sensors		
Type of Sensor	Application Area	Price (Rs.)
Infra-Red Wall Switch replacement	Private offices, toilets, storerooms	3,600
Infrared Ceiling mount	Hotel guestrooms/ hostels	3,600
Ultrasonic Wall switch replacement	Public area toilets, large offices	7,800
Dual tech Sensor	Open plan offices, corridors, staircases, conference rooms	8,200

PAYBACK ANALYSIS FOR SINGLE ROOM			
1	Energy Analysis for Occupancy Sensors	Before	After
A	Average load of lighting / fans/ appliances etc	400 watts	
B	Usage Hours per day	9 hrs	6 hrs
C	Usage hours per year (B x 6days/week x 52weeks/year)	2,808 hrs	1,872 hrs
D	kWh used in one year (A x C)	1,123 kWh	749 kWh
E	Energy cost per year @ 5.50 Rs/ unit	6,178 Rs	4,118 Rs.
2	Payback Analysis		
F	Savings in energy costs for lighting	2,059 Rs.	
G	Savings in energy costs for air conditioning (25% savings by reduced lighting heat load)	515 Rs.	
H	Total annual savings (A/C + lighting)	2,574 Rs.	
I	Total Project Cost (for 1 infrared sensor)	3,600 Rs.	
J	Payback Period	1.40 Yrs	

Expected Savings



Savings vs Investment



Occupancy sensors are ideal for applications such as hotels, hospitals, commercial buildings and offices, industry, retirement homes and student accommodations, where lighting in public areas may otherwise remain on all night. As seen in the above graph, expected savings can be in the range of 20% to 60%.

It is thus evident that these energy savers are extremely cost efficient. They provide an inexpensive method of achieving large cuts in energy bills at low installation costs.

The savings begin from the day the system is installed - and in most applications the initial investment can be recouped in less than a year.

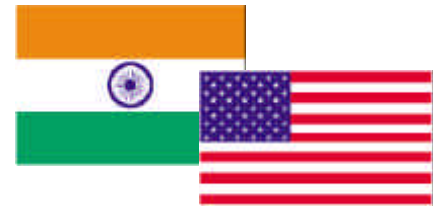
*The author is Managing Director of Shivalika Proenergetics Ltd. The company has installed sensors at locations such as Welcomgroup Maurya Sheraton, Welcomgroup Mughal Sheraton, Mitsui & Co. Ltd., New Delhi, Hyatt Regency, New Delhi, Northern Railways, Gas Authority of India Ltd. and Escorts JCB among others.*

# Energy Efficiency in the News

## Bill Clinton emphasizes energy and environment issues

In a recent visit to India, US President Bill Clinton announced several new initiatives aimed at strengthening Indo-American efforts to protect the environment, develop clean energy resources, and combat global climate change. Citing the broad scientific consensus that greenhouse gas emissions, primarily in the form of carbon dioxide from burning fossil fuels, are at least partly responsible for an increase in global temperatures over the last century, Clinton announced a range of joint initiatives between the US and India. Secretary of State Madeleine Albright and Minister of External Affairs Jaswant Singh signed the joint statement on cooperation on energy and environment issues on behalf of the United States and India. The Initiatives include:

- Two ambitious Indian national environmental goals:
  1. 10% of new electric power will come from renewable energy sources by 2012
  2. Approximately 15% improvements in energy efficiency in power production will be made by 2007-08.
- Creation of a bi-national 'Joint Consultative Group' on Clean Energy and the Environment that will focus on clean energy projects and policy, commercial development of clean energy and enhanced cooperation on global climate change.
- Promotion of a shared vision that countries can achieve robust economic growth while protecting the environment and taking action to combat climate change.
- A reaffirmation of the urgent need for international dialogue on ways in which both developed and developing countries can participate in actions to combat climate change, consistent with treaty obligations under the Framework Convention on Climate Change.
- Agreement to work in closer partnership on the further elaboration of mechanisms under the Kyoto Protocol, such as the Clean Development Mechanism
- Acknowledgement of the essential role of the private sector and reference to new initiatives.
- South Asia Regional Initiative (SARI) Energy Program: The SARI Energy Program is a new \$50 million USAID program designed to accelerate investment and trade in clean energy among South Asian nations, including India, Bangladesh and Nepal.
- U.S. Export-Import Bank Line of Credit: The Ex-Im Bank will provide a \$200 million specialized line of credit targeted for clean energy development projects through a Memorandum of Understanding with the Indian Power Finance Corporation.
- Clean Energy Trade Mission Greenhouse Gas Pollution Prevention Project (GEP): USAID will provide \$20 million for a three-year extension of this program to help reduce green house gas emissions through energy efficiency and cleaner fuel use. GEP will:
  - expand the efforts of India's National Thermal Power Corporation to increase efficiency in its power generation plants
  - help increase use of clean energy technology in power production
  - build local institutional capacity, and increase public/private partnerships for climate change abatement efforts
  - design and demonstrate climate change abatement initiatives in cities
- Energy Conservation and Commercialization (ECO) Project: USAID will provide \$25 million for ECO, a program to help promote commercialization of energy efficient technologies and services.



ECO will provide technical assistance and training to the Ministry of Power, electric utilities, and regulatory commissions on policy reforms and will work to address market constraints to greater use of energy efficiency products and services.

- Resumption of Bilateral Energy Consultations and Technical Assistance: DOE will resume its cooperative efforts on non-nuclear power sector policy reforms, and on public and private collaborative projects related to clean energy, renewable energy and energy efficiency. DOE programs were suspended in 1998 in the context of policy-based restrictions on U.S. assistance to India.
- Resumption of Environmental Protection Agency (EPA) Technical Assistance: EPA will re-establish its environmental cooperation program in India with proposals to address air quality management, strengthening implementation of environmental policies and regulations, risk assessment and management of priority pollutants, and greenhouse gas reduction projects. EPA programs were suspended in 1998 in the context of policy-based restrictions on U.S. assistance to India.
- Joint Private Sector Statement: The Confederation of Indian Industry and the U.S. Energy Association announced a joint statement to cooperate on trade and investment for clean energy development in India. The parties announced creation of a new 'green business center' in Hyderabad and a 'matchmaker' initiative to help bring investors in contact with business/project opportunities.

## First CTI funded ESCO project in India for Morarjee Mills

The Clean Technology Initiative (CTI) mechanism setup by USAID provides funding through ICICI Limited for green house reduction projects in the form of concessional loans or conditional grants. CTI is targeting 20 qualified companies in selected rapidly growing and energy-intensive industrial sectors for on-site facility demonstration projects that improve environmental performance. Technical and financial assistance is provided to those qualifying companies that are most likely to use clean technologies to improve industrial efficiency, production process efficiency, and/or environmental product design. In March 2000, the first CTI demonstration project was sanctioned by ICICI. The project was developed by Thermax EPS (TEPS), an Indo-U.S. joint venture Energy Services Company (ESCO), and Morarjee Goculdas Spinning and Weaving Mills, a 125-year old composite textile mill located in the

heart of Mumbai. The project, the first of its kind in India, utilizes energy improvement systems. The system supports greenhouse gas reductions on a performance-based 'paid from savings' contract, the innovative concept of ESCO. The project will demonstrate the benefits of an ESCO's performance-based contract and will also show that clean technologies really do pay. The total project cost is approximately US \$ 1 million with US \$ 0.64 million funded under the CTI mechanism. The project is expected to lead to a reduction of approximately 6,400 tons/year in greenhouse gases while saving \$ 0.3 million per year in energy costs for Morarjee Mills. This voluntary initiative on the part of Morarjee Mills is expected to have a major impact on the Indian textile industry, which is gearing itself to meet the challenge of removal of trade barriers. The textile industry is a major manufacturing sector in India and is the

largest foreign exchange earner after computer software. The global market demands cost competitiveness and this project will be a model for the industry to replicate both for commercial advantage as well as social responsibility.

Energy, which accounts for 15-20 % of the total cost for textile industry is the single largest expenditure for this industry. In addition, Indian furnace oil has one of the highest sulphur contents in the world resulting in major SO<sub>x</sub> emissions. Through the project, Morarjee Mills expects to reduce energy costs substantially- realizing significant savings from the decrease in fuel oil/power/water consumption. Besides the welcome reduction in consumption of resources, a major benefit from this project will be the improvement in living standards with less pollution.

## USAID invites CEEC members to participate in ECO project.

Energy Conservation and Commercialisation (ECO) is a new joint project of the Government of India and the US Agency for International Development (USAID). The US \$25 million project provides technical assistance and training for developing market-oriented policy environment for commercialization of energy conservation, and for enhancing the capabilities of private and financial sectors for deploying market-based mechanisms for end-use energy efficiency investments in India. ECO aims to facilitate wide-spread commercialization of energy services and technologies through a two-pronged strategy: (1) Energy Efficiency Market Development and Financing (Markets Component), and (2) Energy Efficiency Policy and Institutional Reforms (Policy Component).

Under the ECO project, US \$5 million will be used for establishing a loan fund, managed in coordination with ICICI Limited. This fund is meant to provide financial incentives for supporting market development activities aimed at implementing ESCO demonstrations and for leveraging private-sector investments for energy efficiency, utility Demand Side Management and non-sugar co-generation projects being identified under the ECO. The major objectives of ECO are being implemented through a primary four-year technical assistance and training services contract with Nexant, a fully-owned subsidiary of the Bechtel Consulting Group, USA. Nexant's ECO project office in New Delhi and a satellite office in Mumbai, which is supported by local energy professionals, will coordinate with various stakeholders in India for

implementing the activities under this project. CEEC members are encouraged to explore opportunities for contributing to Nexant's efforts, for collaborating on specific technical assistance activities, and for participating in training events to be conducted under this project. A calendar of ECO events will also be made available on a dedicated ECO project web site (under construction).

For further details, please contact:

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# Seminars and Conferences

## Council Convenes Policy Roundtable on Energy Efficiency and Power Sector Reforms

In December, the Council organized a one-day roundtable in Delhi with senior decision-makers in the Indian energy sector. The objective of the roundtable was to provide Indian energy efficiency companies with an opportunity to discuss pending energy policy issues that could affect the use of energy efficiency as a resource in India. The roundtable also aimed to increase the involvement of Indian energy efficiency companies in the energy policy debate and to obtain a feedback regarding the effectiveness of past, present, and future energy policies and programs.

The roundtable, organized in cooperation with the PHD Chamber of Commerce and Industry and the Conserve Society, was the first of its kind in India to specifically focus on the important role

that energy efficiency companies can play in the formulation of energy efficiency policies and practices and give policy makers and energy efficiency advocates a “view from the trenches.” The agenda encouraged significant discussion and debate on each topic. The main focus of the roundtable was the role of energy efficiency in the power sector reforms. Other issues that were discussed included standards and labeling, and utility demand-side management opportunities.

Participants included 80 people representing suppliers of energy saving equipment and services, multilateral development organizations, non-governmental organizations, and government agencies. Key government participants included the Chairmen of

the Central and several State Electricity Regulatory Commissions, the Chairmen of 2 State Electricity Boards, and the Joint Secretary of the Ministry of Power. In all, over 60 businesses and organizations were represented at the event.

The Council looks forward to providing additional Policy Roundtables in the coming months. Please feel free to contact the Council directorate at [ceec@conserv.org](mailto:ceec@conserv.org) to suggest topics or to get the latest information on upcoming events.



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## Seminar on Environment Management

Chemtech Foundation, as a part of its Silver Jubilee Celebrations, organised a one-day seminar titled:

**“Environment Management: A Global Perspective to the Indian Industry”** on June 29, 2000 at Hotel Orchid (the only Ecotel in Mumbai). This seminar was co-sponsored by United States: Asia Environmental Partnership. Several important issues on environment conservation, trade laws and regulations were discussed under various session’s like: Cleaner Technologies, Greening the Supply Chain, ISO 14000, Cradle to Grave Management, Clean Development Mechanism, Greenhouse Gas Reduction (Global Warming) and Investment Perspectives.

Mr. R. V. Shahi, CMD, BSES, was felicitated on his receiving the “Business Millennium Award” from International Chambers of Commerce and United Nations Environmental Programme at the World Congress in Budapest.

Some of the eminent speakers were top industry experts like-

- Mr. R. K. Narang, TERI, New Delhi,
- Mr. R. V. Shahi, CMD, BSES, Mumbai,
- Mr. R. P. Sharma, Head – Energy & Env, TISCO, Jamshedpur,
- Mr. S. V. Jamble, Corp. Head – Env, INDAL, Belgaum

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# About the Council

## CEEC's Inception on 15 DECEMBER 1997

CONSERVE and Alliance to Save Energy (ASE), convened a meeting of energy efficiency companies, government and energy consumers on 15 December, 97 to determine whether there was sufficient interest in creating a non-profit association of energy efficiency companies.

Dr. B Natarajan (EMC, Ministry of Power), Mr. Y P Singh (Delhi Vidyut Board), Dr. Ajay Mathur (Tata Energy Research Institute) and Mr. Joe Loper (ASE), each spoke about the possible roles of an energy efficiency industry association in developing and promoting policies and programs to encourage

investment in energy efficiency improvements.

The participants joined hands to promote energy efficiency programs, policies and technologies to help meet the power crises, engulfing our nation while fostering economic growth and environmental improvement.

## CEEC Comes into Existence on 16 December 1998

With the above aim Council of Energy Efficiency Companies (CEEC) came into existence on 16 December 1998.

The Minister of Power, P R Kumaramangalam, officially launched the Council. Mr. Yog Dhyan Ahuja,

Mayor, Mr. V K Pandit, Secretary, MOP and Mr. Anil Razdan, Jt. Sec, MOP attended the inaugural event.

## CEEC Releases 'All India Energy Efficiency Directory'

The Council's first major accomplishment was the release of the first ever 'All India Energy Efficiency Industry Directory', giving free listing to

over 230 Indian companies. The directory serves as a buyer's guide for energy efficient goods and services, as well as a means to facilitate

communication between various Indian energy efficiency companies. The 2nd Edition of this directory will be released by August 2000.

## CEEC organizes its Working Groups

Following Working Groups have also been established to develop action items in each of the areas:

A **Product Working Group** was created to develop Council policy recommendations on energy performance standards for equipment and buildings and recommendations on equipment labeling. The Group will also identify elements in the Indian tax code

and tariff structure that impede the introduction of energy-efficient equipment.

A **Communications Working Group** was created to develop strategies for raising the Council's profile including: designing a Council logo, preparing editorial articles in trade journals, advertising in major newspapers and organizing educational seminars, etc.

A **Policy Working Group** was created to develop the Council's positions on energy policy issues, including but not limited to utility reforms, fiscal policy, and transmission and distribution issues. The Group will craft policy recommendations to Parliament and the Ministries and to develop the Council's legislative strategy.

## CEEC at Energy Summit '98

The Council also participated in the Energy Summit '98 in Chennai, showcasing Energy Efficiency Technologies.

A record number of people about 5,000 visited the stall and more than 100 inquires were received.

The Chief Guest, Mr. P. R. Kumaramangalam, Minister of Power commended the stall.

## CEEC and its Global Links

The Council has established close relations with various international organisations such as United States

Agency for International Development (USAID), United States Asian Environmental Partnership (USAEP)

and Alliance to Save Energy (ASE) among others.

# Membership Info

## CEEC and its Members

The Council's members encompass a wide variety of companies throughout India that manufacture or supply energy efficiency products and services such as Air-conditioning and dehumidification, Building shell improvements, Compressed air systems, Control systems, Energy auditing, Engineering and architecture design, Heating and heat recovery, Lighting products and

services, Motors and drives, Maintenance management, Performance-based financing and leasing, Steam generation and Distribution, Transformers, capacitors and Information Technology. The council has companies such as Thermax-EPS, Johnson Controls (I) Pvt. Ltd., Saha Sprague Limited, ATCO Controls (I) Pvt. Ltd., etc. on its Board.

## CEEC and its Supporters

The Council is supported by a large number of Govt. officials, Senior staff members of related councils and other experts. These include Mr. P R

Kumaramangalam Minister of Power, Mr. V K Pandit, Secretary, MOP, Mr. K K Dhingra, Chairman, PCRA, Dr. Bakthavatsalam Chairman, IREDA etc.

## Join CEEC

Joining the CEEC is simple and makes good business sense.

### Q. Who should consider joining the CEEC?

**Ans.** Any business interested in promoting energy efficiency or selling energy efficient products. Businesses that offer energy efficiency products and services may apply for full membership with CEEC. Government and other interested organizations may participate in CEEC activities as Associate members.

### Q. Why join the CEEC?

**Ans.** Benefits of membership include: access to energy end-users through CEEC seminars, updates on the latest in technology and policy affecting energy efficiency, and the ability to provide input with a collective voice on government policies and decisions concerning energy efficiency

### Q. How to Join the Council?

**Ans.** To join the CEEC, contact : Council of Energy Efficiency Companies, A-116, Madhuban, Vikas Marg, Delhi-110092. OR Fax the membership form to (011) 2413112

### Q. What are the membership fees ?

**Ans.** Annual dues for Full Members are 2,500 Rupees. Dues for Associate Members are 5,000 Rupees. There is a one-time application fee of 1,000 Rupees.

## CEEC Board Members

### Chair Person

■ Bhavin H Soonderji,  
Director,  
ATCO Controls India Pvt Ltd., Mumbai

### Vice-Chair Person

■ Shiana Makhija,  
Vice President,  
Johnson Controls India Ltd., Mumbai

### Executive Director

■ Shalab Ahuja,  
Managing Director,  
Shivalika Proenergetics Ltd., New Delhi

### Treasurer

■ V J Kaul,  
Managing Director,  
AVN Engineering Company, New Delhi

### Jt. Secretary

■ P K Sood,  
Managing Director,  
Linear Technologies Pvt. Ltd.,  
New Delhi

### Directors

- R.K. Iyer,  
Saha Sprague Ltd., Bangalore
- Rizwan U. Khan,  
Sterling & Wilson, New Delhi
- Sujit Kumar,  
Klimart, New Delhi
- A.K. Sachdeva,  
Consulting Engineers Company,  
New Delhi
- R.B. Sinha,  
Chief Consultant,  
Energy Audit Services
- Shishir Joshipura,  
Thermax - EPS Ltd., Mumbai
- M.G. Devasahayam,  
Infracons, Chennai
- Abraham Varughese,  
PHDCCI, New Delhi
- G.S. Darbari,  
Effectron Luminex Ltd., New Delhi

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