



# **ACTION PLAN**

## Knowledge Exchange Platform (2015-2017)

Promoting Energy Efficiency through  
Best Practices in Industries covered under the  
Perform Achieve & Trade (PAT) Scheme

*Supported by*



British  
High Commission  
New Delhi



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## **Knowledge Exchange Platform**

### **(2015-2017)**

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Perform Achieve & Trade (PAT) Scheme





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**PRADEEP K. SINHA**



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## MESSAGE

As our country is preparing to embrace the new era of 'Make in India', it becomes imperative for the Indian industry to become globally competitive. This will make productivity improvement, including energy cost reduction, an important criteria for economic success, where Indian industry will be under increasing pressure to 'make more with less energy' by adopting measures to improve energy efficiency and energy management systems. The Perform Achieve and Trade (PAT) initiative has been a significant move in this direction where the industry and the Government have joined hands to promote energy efficiency. The results so far have been very encouraging. I am particularly enthused with the increasing number of industries getting recognized for their outstanding efforts in this direction through the prestigious National Energy Conservation Awards. These industries represent significant pockets of excellence in our country that are comparable to the best in the world, and there is a lot that other industrial units in the same sector as well as those in other sectors can learn from each other through peer-to-peer learning.

The 'Knowledge Exchange Platform' initiative is a move to capitalise on this opportunity, which not only aims to promote collaborations for transferring best practices within a particular industry sector but also aims to promote cross-sectoral learning. This will help in bringing the industry closer as a community for learning and experience sharing. This initiative will also help in making the industry aware of new and innovative technologies available globally and facilitate partnerships with the technology providers, Centres of Excellence and research institutions, to build their capacity for adopting these technologies and best practices. It will provide a forum for dialogue between industry and the government that will enable us to understand your issues and challenges better and provide an enabling environment to promote energy efficiency.

I am sure that this collaborative platform will help in sustained adoption of energy efficiency best practices in the industrial sector.

**(PRADEEP K. SINHA)**





**AJAY MATHUR**



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## MESSAGE

The importance of promoting energy efficiency in the industry sector cannot be over-emphasized. With the sector accounting for more than half of our total commercial energy use, the role of industrial energy management assumes great significance not only in making our manufacturing competitive, but also in addressing the energy security concerns that we are facing. Energy efficiency measures also brings with it a number of co-benefits like improved product quality and reduced wastage, leading to an overall improvement in productivity. In India, we have made a very good beginning with our flagship initiative of Perform Achieve and Trade (PAT), but we need to sustain this effort to bring about a transformational impact.

The Knowledge Exchange Platform initiative will add momentum to the existing collaboration with industry under PAT by promoting partnerships within and across industry sectors. It will allow industry to share knowledge, experience and best practices within their industry group as well as gain access to new and innovative technologies available globally. The initiative will not just share best practices but also support their uptake in the industry by building partnerships with technology suppliers and service providers. Through this platform we also intend to support a wider uptake of the ISO 50001 energy management protocol. A structured approach to energy management by allocating staff and resources to energy management, establishing goals, and adopting a philosophy of continuous improvement will ensure long-term results on energy efficiency. The platform will also give us an opportunity to have sustained dialogue with the industry on various issues, challenges and policy priorities.

I am hopeful that this initiative will not only develop into a vibrant platform for knowledge exchange within Indian industrial sectors, but over a period of time, develop as a knowledge hub on industrial energy management for the entire region.

**(AJAY MATHUR)**



# Context

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The use of commercial energy in India has increased many folds since independence, and presently stands at around 700 million tonnes of oil equivalent (MTOE). An analysis of the share of commercial energy use by different sectors indicate that the industry is the most dominant sector, accounting for more than half of the total commercial energy use in the country. The Indian industry, in general, is highly energy intensive and the energy efficiency is well below that of other industrialized countries and presents an ideal case where substantial reduction in energy use and CO<sub>2</sub> emissions is possible through rational use of energy.

In India, although the energy efficiency of well performing units in certain sectors is comparable to their counterparts in developed countries, the major area of concern is the large bandwidth in specific energy consumption within a given sector. In some sectors like Cement and Fertilizer, the Indian industry has made significant achievements in terms of improvements in energy efficiency & productivity. The energy efficiency improvement graph, however, have become almost flat and the industry is desperately seeking information on innovative approaches and new opportunities to take them to the next level. This will increasingly become important in the subsequent cycles of PAT.

The success story of Indian industries (for some chosen sectors) with regard to energy efficiency and productivity gains can be very good examples for other lesser developed countries to follow. It is hoped that the successful implementation of the Perform Achieve and Trade (PAT) scheme will address this basic concern and help in narrowing down the huge gap that exists between the efficiency of operation of better performing units with the laggards within a sector.

These better performing sectors (as also better performing units within these sectors) also present significant opportunity of learning for others (outside these sectors) in the area of utility energy efficiency or in systems/equipment that cuts across different sectors.

Keeping the above in mind, there is a need to catalyse knowledge transfer to facilitate peer to peer learning, exchange of best practices and exposing the Indian industry to innovative approaches to energy management and to new and upcoming technologies in this area at the international level. This would not only help in better implementation of the PAT scheme, but also a forum for policy discussion and formulation as PAT moves into its subsequent cycles.



# Knowledge Exchange Platform Initiative

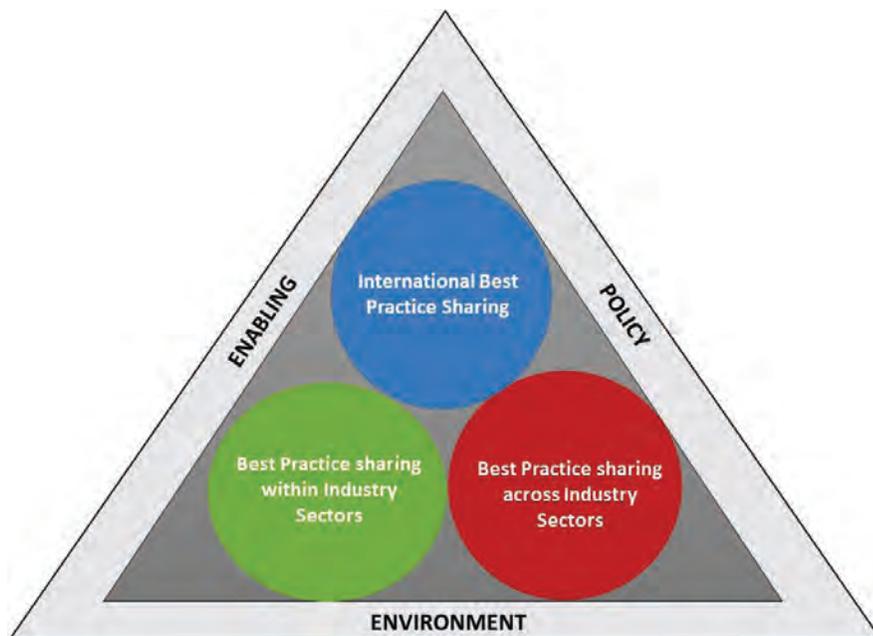
In order to capitalize on the above opportunities, Bureau of Energy Efficiency (BEE) in Partnership with Institute for Industrial Productivity (IIP) is creating a knowledge exchange platform (KEP) for promoting energy efficiency and Energy Management System (EnMS), as a means of achieving continuous improvement in energy efficiency in the industry sectors covered under the PAT in the current and subsequent cycles.

**This is proposed to be achieved through the following specific objectives:**

- Encourage peer to peer learning and facilitate exchange of knowledge and information within a particular industry sector to help the lagging industrial units improve the efficiency of their operations and narrow down the SEC bandwidth in the sector.
- Facilitate exchange of energy management best practices across sectors in common areas

like utilities, where there is a high possibility of replication.

- Facilitate sharing of information/capacity building on upcoming approaches to energy management and to new and innovative technological choices for promoting energy efficiency available at the international level.
- Create a vibrant platform for industry & BEE interface not only for smoother implementation of PAT but also for policy discussion to aid sustained actions on industrial energy management.
- It is proposed to expand it both in terms of geographic focus (knowledge exchange with Emerging Economics (BRICS) and Low Income Countries) as well as thematic focus by going beyond the PAT sectors and the Designated Consumers.



**FIGURE 1: Domain of Action for KEP**

Figure 1 shows the domain of action for the KEP initiative. It is proposed to start the KEP initiative with the sectors covered under the PAT (aluminium, cement, fertilizer, iron and steel, pulp and paper, textiles, chlor-alkali and thermal power) in the current cycle and gradually expand it to include sectors that are expected to be covered under PAT in the subsequent cycles.



# Implementation Arrangement

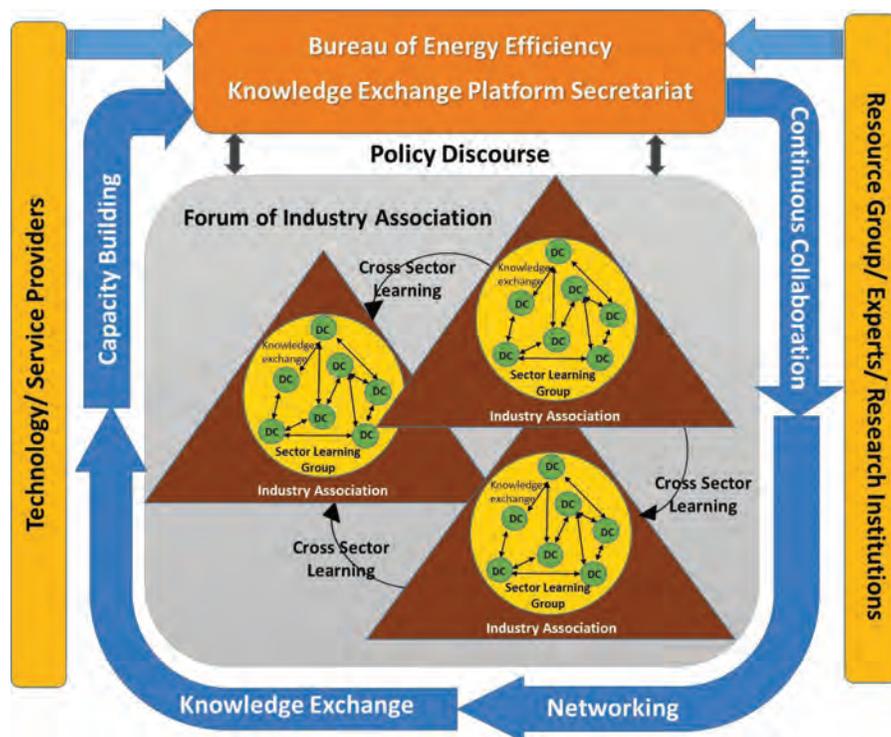
The Knowledge Exchange Platform will have an implementation strategy that supports effective interface with key stakeholders in particular with the industry associations and designated consumers while linking up with the technology suppliers/experts to ensure effective adoption of best practices. The implementation arrangement and the structure of the Knowledge Exchange Platform Initiative is depicted in figure 2 and explained in detail as follows:

(i) Establishing a Secretariat at BEE to act as a Knowledge Exchange Platform (KEP) with following implementation arrangement:

- The Secretariat will have a core team and supported by a team of technical experts/expert

organizations. The Secretariat will be responsible for facilitating various policy discussions, partnerships/collaborations, communication and outreach activities.

- The Technical Experts/Resource Pool will include national and international experts/organizations/technology suppliers in the areas of new technologies, financing, trading, policy development, training and capacity building etc., having demonstrated knowledge on global and national best practices.
- Advisory Group: The Secretariat will convene an Advisory Group with representation from relevant stakeholders which will meet at regular intervals to provide guidance to the project, engage on policy discussions to ensure that the objectives and goals



**FIGURE 2: Architecture of KEP and the strategy**



are achieved in a definite time frame, to act as a sounding board on strategic issues.

(ii) In order to promote collaboration, partnerships and networking within and across Industry Associations for transfer of best practices, the following arrangements would be made:

- Creation of Sector Learning Groups (SLG) within each Sectoral Industry Associations (e.g. Cement Manufacturers Association, Fertilizer Association of India etc.) that will comprise of technical experts/leaders of each sector. SLGs would help expand relationships and networks within the sector, identify best practices and develop strategy to promote peer to peer learning, outreach and rapid uptake of best practices.
- Create Federation/Forum of Industry Associations (FoIA)(of targeted PAT sectors) to promote cross

sectoral knowledge transfer. The partner Industry associations will be able to access the information about best practices and technologies of other Industry Associations that could be applicable in their sectors, improve access to wider set of new ideas and network of technology suppliers.

(iii) The KEP Secretariat will also support Training and Capacity Building by using the existing Centers of Excellence and experts (both national as well as international) to provide technical assistance and tailored training and capacity building support for faster diffusion of EnMS.

The key strategy and architecture of the KEP initiative explained above is depicted in **figure 2**. This approach will support effective implementation and management of the project in active collaboration with the industry.

## Thrust Areas of KEP and the Action Plan

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The overall aim of the project is to make this platform effective, vibrant and responsive to the needs of the Industry. To achieve these goals, the following five thrust areas are identified.

- **Thrust Area 1** : Facilitate learning and sharing of best practices within various industry sectors
- **Thrust Area 2** : Facilitate learning and sharing of best practices across industry sectors
- **Thrust Area 3** : Regional and international cooperation for sharing knowledge, best practices and technologies
- **Thrust Area 4** : Stakeholder Communication and Outreach
- **ThrustArea 5** : Policy discussion and dialogue between BEE and Industry

# Action Plan for Thrust Area 1

## Facilitate learning and sharing of best practices within various industry sectors

In India, there is a wide variation in the specific energy consumption (SEC) figures across industrial units within a sector. Narrowing this down by helping the lagging industrial units is one of the major challenges being attempted under the PAT scheme. The KEP initiative will support this objective by facilitating knowledge exchange around effective technology, tools and processes within the focus sectors. This will be carried out with the help of Sector Learning Groups that will be created within each Sectoral Industry Associations (CMA, FAI, IPMA etc.).

The approach and action plan for achieving the objective under this 'Thrust Area' is as follows:

### Key Activities

- Engagement of KEP with Sectoral Industry Association (CMA, FAI, IPMA etc.)
- Creation of Sector learning Groups (SLG) within each Sectoral Industry Associations. This will be done by identifying sector leaders and experts with the help of Industry Associations.
- Identification of effective best practices (technologies/tools/processes) in better performing industries of the sector with the help of industry associations and SLGs.

### Focus Strategy

*Identify effective best practices in active consultation with industry leaders (SLG members and Industry Associations) in each sector and facilitate its adoption in other units through structured dissemination*

- Development of at least 10 case studies/best practices (technologies/tools/processes) based on analysis of the enabling conditions/success factors making them effective.
- Packaging the best practices/case studies into effective products (that would include technology, financing, training and other accompanying measures) and sharing it with member units for adoption through structured workshops and capacity building programs.
- Facilitation of friendly energy efficiency exchange visits, in which energy managers of one plant to other plant in the same sector, is supported
- Developing a database of service providers/technology suppliers to support industry to adopt new technologies/practices.

### Action plan & timeline

Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
KEP Secretariat set up at BEE	BEE and IIP								
Advisory Group for KEP having representations from PAT Sectors convened	BEE & KEP Secretariat								
Sector wise Technical Experts/Resource Pool Established	KEP Secretariat								
Sector learning Groups (SLG) within each Sectoral Industry Associations created	KEP Secretariat & Industry Association								



Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Periodic meeting with SLG and Industry Association organised	KEP Secretariat, SLG & Industry Association								
At least 10 effective best practices per PAT Sector identified	KEP Secretariat, BEE, SLG & Industry Association								
At least 10 innovative technologies/ best practices per sector shared through organization of sector specific workshops	KEP Secretariat, BEE, SLG & Industry Association								
At least 10 friendly energy efficiency exchange visits per Sector ( visit of energy managers of one plant to other plant) facilitated	KEP Secretariat, BEE, SLG & Industry Association								
Database of service providers/technology suppliers developed and uploaded on KEP website	KEP Secretariat & SLG								



# Action Plan for Thrust Area 2

## Facilitate learning and sharing of best practices across industry sectors

Although not generally attempted, there is a good scope for transfer of knowledge around energy efficiency and management best practices across sectors in areas that are not process centric. To exploit this opportunity and promote cross sectoral knowledge transfer, a Networks/ Forum consisting of Sectoral Industry Associations will be created. Through this Forum, the partner Industry associations will be able to access information about technology/best practices of other Industry sectors that could be applicable in their sectors, improve access to new ideas and network of technology suppliers.

The approach and action plan for achieving the objective under this 'Thrust Area' is as follows:

### Key Activities

- Willingness of sectoral Industry Associations will be assessed to collaborate for cross-sectoral knowledge exchange through a Forum or Federation.

### Focus Strategy

*Create a Forum for sharing of information and networking across Industry sectors and facilitate exchange of best practices from one sector to the other with high possibility of replication.*

- A Network/Forum of Industry Associations (FoIA) will be created to promote cross-sectoral knowledge transfer.
- Identification of technology/management best practices identified that have a potential to be replicated across sectors.
- Packaging of best practices and dissemination across industry associations
- Consultation with the FoIA members to assess willingness to pay for services provided by the Secretariat.

### Action plan & timeline

Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Forum of Industry Association created	KEP Secretariat, BEE & Industry Association								
Identification of technology/management best practices that holds promise of replication across industry sectors	KEP Secretariat & FoIA								
Exchange of Best practices across Industry Associations	KEP Secretariat & FoIA								
Dialogue between BEE and FoIA established for regular interaction and brainstorming meetings on various issues of relevance for promoting energy efficiency	KEP Secretariat, BEE & FoIA								



# Action Plan for Thrust Area 3

## Regional and international cooperation for sharing knowledge, best practices and technologies

The Industry is seeking information on new and innovative approaches available at the international level for energy efficiency and energy management systems, which can help take them to the next level of efficiency. This aspect is increasingly become important to enhance the competitiveness of Indian industry in the global market. KEP will promote sharing of international best practices and technologies that have been tested and successfully adopted globally and have the potential for replication in India. To ensure effective dissemination and uptake by the industry, KEP will facilitate partnerships for technology transfer, capacity building and sustained hand holding support by service providers.

The approach and action plan for achieving the objective under this 'Thrust Area' is as follows:

### Key Activities

- Identification and assessment of international best practices that can be customized/localized for energy efficiency gains in the Indian context.
- Share information on best practices and technologies with the SLG members and Industry

### Focus Strategy

*Linking Industry with global best practice networks and facilitating partnerships for transfer of new and innovative technologies.*

association to test the applicability and interest of the industry to implement it.

- Prepare a list of the most relevant technology/best practice for sharing with Industry.
- Identifying experts (financing, trading mechanism, technology, etc.), technology suppliers, service providers for the identified list of best practices/technologies.
- Linking up the Industry Association with technology suppliers and service providers
- Promote technology partnership/agreement of Industry Associations with technology suppliers
- Organize sensitization workshops/meets to make the industry aware of such models, technologies, mechanisms etc.
- Facilitate training and capacity building support through technology suppliers for adoption of international best practices

### Action plan & timeline

Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Assessment of International best practices/technologies undertaken	KEP Secretariat								
Dissemination of information on best practices/technologies to Industry association and SLG members	KEP Secretariat								
List of prioritised technologies prepared for dissemination	KEP Secretariat, SLG & Industry Association								
Cooperation and agreement for transfer/sharing of technologies done	KEP Secretariat & Industry Association								
At least 10 international best practices/technologies disseminated to Industry Association/DCs	KEP Secretariat, DC, SLG & Industry Association								



# Action Plan for Thrust Area 4

## Stakeholder Communication and Outreach

To be effective, the Knowledge Exchange Platform will need to have a robust outreach and communication strategy to facilitate exchange of best practices, delivery of quality information and uptake of new and innovative technologies. To ensure this, the Secretariat will organise various stakeholder engagement activities that will include awareness generation workshops, training and capacity building programs, webinars etc. The initiative will specifically organise both sector wise as well as cross sectoral workshops and focused training and capacity building programs to share and facilitate implementation of best practices. These workshops will enable industry wide outreach to the Designated Consumers. The Secretariat will also reach out to the targeted stakeholders on a continuous basis through a newsletter and a website customised to the needs of the industry. The website and newsletter will be designed to provide an entry point for the industry to existing sources of information on best practices and also guide the users on best technologies suited for their industry.

### Focus Strategy

*Ensure best practice exchange and uptake through sector wise workshops and capacity building activities along with workshops and outreach activities covering a range of sectors covered under PAT. This will also include creation of an interactive website and newsletter guiding the industry to best practice information, technology and resource base.*

This will be done through:

- A dashboard approach to guide the industry to the right information, technology and experts for their needs.
- A searchable database of technology and service providers to enable the users to choose from a range of options.
- A clearing house – supporting expansion of and provide access to research, analysis, databases etc.

### Action plan & timeline

Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
KEP website launched	KEP Secretariat								
KEP Newsletter initiated	KEP Secretariat								
Workshops for each of the focused PAT sectors to share best practices organised	KEP Secretariat								
Cross sectoral workshops to share best practices across the sectors organised	KEP Secretariat								
Training and capacity building programs for industry organised	KEP Secretariat								
Linkage with other knowledge/policy platforms and websites of industry associations established	KEP Secretariat								
Awareness Workshops, brainstorming meetings, webinars organised	KEP Secretariat, SLG & Industry Association								



- d. Build the skills of the users (Industry, Industry association etc.) through enabling interaction with the expert community, providing training and mentoring and by providing glossaries, good practice guides etc.
- e. Providing regular and robust syntheses of research in the area of energy efficiency and EnMS.

The approach and action plan for achieving the objective under this 'Thrust Area' is as follows:

### Key Activities

- Secretariat will initiate partnership with other knowledge and policy platforms, to promote knowledge exchange within and across PAT sectors.
- Organise periodic workshops for each of the targeted PAT sectors to share best practices.
- Organise cross sectoral workshops to facilitate sharing and transfer of best practices across the sectors.
- Structured training and capacity building programs by bringing in national and international expertise in specialized areas for uptake of best practices by the industry.
- Launch a KEP website to share key reports, information, training/meeting schedules etc.
- Link up with the websites of other sectoral Industry associations.
- Initiate a quarterly newsletter to share knowledge/information/announcements etc. across and within sectors.
- Provide recognition to outstanding Designated Consumers and Industry Associations by recognising them as 'Best Achiever'/'Outstanding Performer' and publicizing their success story in the quarterly newsletter and website to incentivize action through recognition.
- The Secretariat will also organise various other stakeholder engagement activities viz. (a) awareness generation/sensitization workshops, (b) brainstorming meetings and (c) webinars. While organising these events the Secretariat will align its plans with the planned stakeholder engagement activities of the industry associations, so that maximum outreach is ensured.



# Action Plan for Thrust Area 5

## Policy discussion and dialogue between BEE and Industry members

The KEP platform would facilitate sustained periodic discussions and dialogue between BEE, Industry and other relevant stakeholders to seek views and feedback from the industry, raising awareness regarding policy directives and improving preparedness among the industry to implement energy efficiency targets and Energy Management Systems. Such discussions will also help in identifying innovative solutions to address industry risks, challenges and barriers in implementation of efficiency measures. The discussions around these issues will be used to develop strategy papers/recommendations.

The approach and action plan for achieving the objective under this 'Thrust Area' is as follows:

### Key Activities

- Round table discussions with BEE, industry associations and other key partners to understand

issues, challenges, barriers in the existing strategy and identifying solutions that facilitate smoother implementation of existing policies.

- Develop strategy papers based on the learning's drawn from the key stakeholders and discussions with experts to address various barriers and challenges facing the industry and creating enabling conditions for implementation. These could cover a range of issues including but not limited to financing options, regulatory regime, business models, certification etc.
- Regular discussion and dialogue with Industry members to raise awareness on various policy and regulatory requirements to support adoption of energy efficiency measures by the industry.

### Action plan & timeline

Performance Indicator	Action by	Timeline							
		Year 1				Year 2			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Learnings based on discussions with BEE, Industry representatives drawn	KEP Secretariat, BEE, SLG & Industry Association								
Round tables/discussions to draw up recommendations	KEP Secretariat, BEE, SLG & Industry Association								
Thematic/strategy papers developed	KEP Secretariat								
Interactive meeting with FoIA, SLG and Industry Association meetings to raise awareness organised on various policy issues	KEP Secretariat, BEE, SLG & Industry Association								



# Road Ahead

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The strategy behind this initiative is to build and expand on the existing capabilities of the industries and linking them with national and global best practices network. This demands active participation of industry through SLGs, FoIA and DCs to enhance the effectiveness of the platform. The idea is to make this initiative self-sustaining in the long run by being relevant to the industry needs and providing

value added service for promoting energy efficiency and energy management approaches. Once the platform establishes itself as a Forum for promoting sustainable industrial growth in India, the vision is to develop this as a knowledge exchange hub for the entire region and to promote regional partnership for knowledge transfer on the subject of industrial energy management.



**Knowledge Exchange  
Platform**

*Transmitting Knowledge through Best Practices*

**Comments and feedback welcome:**

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