



## **SUSTAINABLE & ENVIRONMENT-FRIENDLY INDUSTRIAL PRODUCTION (SEIP)**

### **Activities in Delhi: Monthly Progress Report – May, 2017**

“Sustainable and Environment-friendly Industrial Production – SEIP” is a joint project of the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH within the framework of Indo-German Technical Cooperation. The objective of the SEIP project is to enable Indian public and private stakeholders to jointly implement strategies for efficient, environment- friendly, and climate-friendly industrial development.

The project aims at mitigating environmental problems caused by industrial production focusing on industrial wastewater and solid waste management. During the project duration, technical solutions as well as business and management models to reduce acute environmental pollution and to improve resource efficiency in industrial production are piloted in five Indian industrial estates. Visible positive direct impacts of the solutions showcased are to improve conditions directly at the sites, and to unfold a strong signal effect leading to the replication and upscaling of solutions in industrial parks throughout India. Project activities focus on wastewater conveyance systems, the treatment, recycling and reuse of wastewater, waste management as well as the management and planning practices in the industrial areas. Solutions are piloted in 5 selected industrial areas located in the states of Delhi, Gujarat and Uttarakhand.

Further cross-cutting activities, such as the development of a market-driven training system for technicians and operators of effluent treatment plants, the development of industry-wide environmental standards, the work on a green rating system for industrial areas, and the setting up of a technology platform offering international exchange of best practice technologies target the improvement of enabling framework conditions for sustainable industrial production in India.

SEIP started in March 2015 and will run until February 2018 (with a likely extension of 12 months) and has a budget of EUR 6.5 million. A brief overview of the SEIP Project is given at Annexure 1.

## Activities for Delhi

- 1) **SOLUTIONS FOR CETP:** upgradation/modernisation, recycle/reuse of treated wastewater
- 2) **PLANNING OF CETP/STPs** for Patparganj Industrial Area
- 3) **ENVIRONMENTAL IMPROVEMENT** in 50 individual industries to reduce pollution and increase resource efficiency at company level
- 4) Demonstration of **IMPROVEMENT IN 10 ETPs** and replication
- 5) Improvement in **STORM WATER DRAINAGE AND WASTEWATER CONVEYANCE SYSTEMS**
- 6) Improvements through **CROSS-LEARNING AND FACILITATION**
  - a. environment drives
  - b. cleaner production
  - c. Waste water management
- 7) **MANAGEMENT OF SOLID WASTE** from the industrial area and CETP sludge as a part of an Indo-Norwegian project (SINTEF) on co-processing under SEIP
- 8) **MISCELLANEOUS**
- 9) **ANNEXURES**

### Selection of other industrial areas within Delhi:

Under SEIP it was decided that GIZ will take up two more industrial areas/CETPs in Delhi other than Patparganj Industrial Estate to provide technical cooperation for sustainable industrial production and waste water management. To discuss and decide anonymously on the selection of two CETPs, DSIIDC and GIZ had organised a meeting in DSIIDC, Connaught Place office on 14th December, 2016. Representative from 13 CETP societies along with representatives from Confederation of Delhi Industries & CETP Societies, Office of the Commissioner of Industries, Ministry of Environment, forest and Climate change were invited in the meeting. As a result, Okhla CETP and Lawrence Road CETP were selected as two more sites for technical cooperation in Delhi.

**Note: Due to lack of Co-operation from Okhla CETP Society, GIZ incorporated Mayapuri industrial area/CETP as a third site other than Patparganj Industrial Area and Lawrence Road Industrial Area under SEIP. The decision was taken along with DSIIDC.**

## 1. Solutions for CETP: upgradation/modernization, recycle/reuse of treated wastewater

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### About the activity:

Delhi has 13 CETPs and 29 industrial areas (according to NPC report). The operation of most CETPs is suffering due to a gap between installed and operational capacity due to low effluent supply (sometimes as low as 1/10 of the installed capacity). The CETPs are not able to function properly due to obsolete technology, conveyance problems in the industrial areas connected, a change in type of industries connected to the CETP, and due to existing business and management models. CETPs in Delhi need urgent upgradation in order to meet CPCB/DPCC standards. Under SEIP, GIZ provides technical support to DSIIDC to modernize two CETPs as a pilot.

To identify two CETPs in the project, a meeting chaired by CE, DSIIDC was conducted on 14<sup>th</sup> December 2016 at Conference Hall DSIIDC, Connaught place where all CETP societies and Confederations of CETP societies were represented. In this meeting, CETP at Lawrence road (connected to Lawrence road industrial area known as Keshavpuram industrial area) and CETP at Okhla (connected with Okhla Industrial Area Phase I and Phase II) were selected anonymously by all participants.

The CETP at Lawrence Road offers physio-chemical treatment only. It receives sewage from industries and slum areas located in the industrial area. The mixture of effluents causes serious issues to their proper treatment. The CETP further receives much less wastewater than it was designed for and can, hence, not operate properly. Further, the business and management model of the CETP is in need of improvement.

Note: Due to a lack of Co-operation from the Okhla CETP Society, Mayapuri industrial area/CETP will substitute Okhla as a third site. This decision was taken with DSIIDC.

### Summary of progress so far:

- Data collection by GIZ team on CETPs, wastewater discharge from individual companies, conveyance systems (for Lawrence Road industrial area and Okhla Industrial Area). A reconnaissance survey was conducted in Lawrence Road IA to assess the state of the storm water drainage system, the sewer system, and the solid waste management system.
- List of industries and operational industries at Lawrence Road IA has been finalized and verified by the CETP society
- Conveyance system for Lawrence Road industrial area and Okhla Industrial Area (drawings of sewer lines and Storm water drainage) collected from DSIIDC and DJB were shared with German consultant (Hydroplan)
- Action plan for Patparganj presented by Hydroplan to the industry association and company representatives (10<sup>th</sup> March, 2017). Three options for Patparganj identified:
  - Option 1) Planning of a new CETP based on actual wastewater/effluent quality and generation from the industries in Patparganj Industrial Estate.
  - Option 2) Planning of a STP according to PFEA Patparganj Industrial Estates wastewater/effluent quality which is of domestic sewage quality. A small CETP would be set up covering a small set of polluting companies.
  - Option 3) Transportation of polluted wastewater/effluent through tankers to nearest existing CETP (Probably Jhilmil CETP) for treatment.
  - Situational analysis in Lawrence Road CETP completed by Hydroplan. Work in Mayapuri CETP has started.

### Progress for the current month:

- Hydroplan submitted problem identification report for both Lawrence Road CETP and Mayapuri CETP which is currently being assessed by GIZ and stakeholders.

## 2. Planning of CETPS/STPs for Patparganj Industrial Area

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### About the activity:

This activity aims at assessing the problems occurring at the CETPs and STPs. Subsequently, technically sound and economically efficient solutions are to be identified and implemented.

There are seven electroplating units (as identified in the PFEA directory 2013) in the Patparganj Industrial Area generating seriously polluting effluent as per DPCC reports. These units have individual ETPs installed. There are further a set of electroplating companies which are not associated with PFEA, and a few service stations causing serious water pollution according to PFEA. However, Patparganj Industrial Area does not have a CETP installed. The industrialists consider this as a cause of major concern.

### Summary of progress so far:

- Meeting with seven identified electroplating units (20<sup>th</sup> October 2016) to discuss problems faced by these units. Conclusion: serious need for CETP/STP within the industrial area for which a detailed level survey on water usage, wastewater generation, etc. is required.
- Questionnaire for data collection on wastewater usage in industries for pre-feasibility study was circulated during the month of November.
- Reconnaissance survey in the industries to understand present scenario of ETP and ZLD application has been done by GIZ during the month of November.
- A survey was conducted by GIZ all the seven electroplating units, service stations, and printing and packaging units to understand present status of the ETPs installed in them during the month of December.
- Data collection through questionnaires from 51 industries which have installed ETP completed by GIZ.
- Hydroplan presented their schedule to PFEA and Mayapuri Industrial area CETP society.
- Hydroplan is working on upgradation of ETPs. Detailed level studies in selected ETP's in Patparganj currently being undertaken (4 already completed).
- Lists of ETPs of Lawrence Road Industrial Area and Mayapuri Industrial Area were collected by GIZ Delhi team from CETP societies and DPCC.

### Progress for the current month:

- Hydroplan calculated effluent/waste water/sewage generation from Patparganj Industrial Area from secondary data. They are in process of collecting primary data from industries to use for triangulation.
- Hydroplan has identified several options for Patparganj Industrial Area which were discussed in a meeting with PFEA on 23<sup>rd</sup> May 2017. *For details please refer to Annexure 2.*
- Hydroplan collected samples from two pumping stations in Patparganj industrial area to test and verify the quality of the wastewater discharged to Ghazipur Drain.

## 3. Environmental improvement in 50 individual industries to reduce pollution and increase resource efficiency at company level

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The objective of this activity is to implement measures that will lead to either a reduction in pollution or an increase in resource efficiency thereby improving the environmental improvements of a company and demonstrating the effectiveness of the measure at hand.

Patparganj Industrial Estate is located on the bank of the Ghazipur Drain and is among the most developed estates of Delhi in terms of infrastructure and commerce. However, 12 seriously polluting and 70 polluting industries, which are producing thousands of litres of wastewater every day, are causing serious environmental problems. There are not many effluent treatment plants in the estate which is characterised by many small businesses producing wastewater with differing characteristics. There is no CETP installed. A great share of the wastewater is disposed in the drains without any prior treatment eventually ending up in Yamuna River. Another serious issue is posed by the badly functioning solid waste management system in the industrial estate.

50 companies at which technically sound and financially viable techniques and technologies are to be implemented, are selected at the three sites of in Delhi i.e. Patparganj Industrial Area, Lawrence Road also known as Keshavpuram Industrial Area and Mayapuri Industrial Area. The first step is the assessment for the scope of process optimisation and improvements in resource efficiency (materials, water, energy) before detailing and implementing the solutions suggested. Subsequently, the replication of successful solutions is to be enabled in other industries/industrial areas.

#### **Summary of progress so far:**

- Contract awarded to German consultant adelphi. adelphi (local consultant TERI) started working in Delhi from March, 2017 onwards. Data collection undertaken at all three sites.
- Information event (10<sup>th</sup> March 2017) at Patparganj Industrial Area covering the topics of Environment Management in Industries through Resource Efficiency and Cleaner Production (RECP), ETP improvement, wastewater/effluent and storm water management was conducted at PFEA conference room. About 25 representatives from PFEA, industrialists, DPCC, Adelphi/TERI/Sternum Asia, Hydroplan and GIZ attended the event.
- Activities planned for Patparganj Industrial Area by adelphi and Hydroplan were presented to PFEA, industrialists and DPCC to understand their view point and expectations. Industries welcomed the idea and displayed high interest for participation in the project. It was agreed by PFEA that they will circulate the application forms to the industrial units and assured GIZ and team of experts of providing the filled-in application forms as soon as possible.
- adelphi completed Rapid Assessment for three industries in Patparganj Industrial Area.
- Information event (19<sup>th</sup> April 2017) at Mayapuri Industrial Area covering the topics of Environment Management in Industries through Resource Efficiency and Cleaner Production (RECP), ETP improvement, wastewater/effluent and storm water management was conducted at Mayapuri CETP Society. About 25 representatives of the Mayapuri CETP Society and Mayapuri Industrial Area association, industrialists, adelphi (represented by TERI), Hydroplan and GIZ participate in the event.
- Activities planned for Mayapuri Industrial Area by adelphi and Hydroplan were presented to participants to understand their view point and expectations.

#### **Progress for the current month:**

- Adelphi, along with GIZ, visited eight industries at Patparganj Industrial Area, 12 industries in Mayapuri Industrial Area, and 5 industries in Lawrence Road Industrial Area and conducted rapid assessments.
- GIZ conducted reconnaissance surveys with 18 industries in Lawrence Road Industrial Area.

## **4. Demonstration of improvement in 10 ETPs and replication**

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#### **About the activity:**

The aim of this activity is to provide technical assistance to industries for the upgradation of 10 ETPs at the three industrial sites. ETPs will be shortlisted based on type of industry, their water consumption and their effluent generation.

#### **Summary of progress so far:**

- Contract awarded to German consultant Hydroplan. Hydroplan started working in Delhi from 15<sup>th</sup> February 2017. Data collection in process at all three sites.

- Information Event at Patparganj Industrial Area (see 3. *Environmental improvement in 50 individual industries to reduce pollution and increase resource efficiency at company level*).
- Hydroplan assessed industries with ETPs in Patparganj Industrial Area and shortlisted four industries for upgradation.
- Information Event at Mayapuri Industrial Area (see 3. *Environmental improvement in 50 individual industries to reduce pollution and increase resource efficiency at company level*).

**Progress of current month:**

- Hydroplan shortlisted 4 industries with an ETP and collected samples for testing in Patparganj industrial area.
- GIZ Delhi team conducted initial surveys of four ETPs in Lawrence Road Industrial Area and seven ETPs in Mayapuri Industrial Area.

## **5. Improvement in storm water drainage and wastewater conveyance systems**

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**About the activity:**

The aim of this activity is to improve the conveyance system in two industrial areas i.e. Lawrence Road Industrial area and Mayapuri Industrial Area.

During the planning workshop conducted at Patparganj industrial estate on September 1<sup>st</sup>, 2016, the association expressed concerns about the existing wastewater conveyance system. Concern was raised regarding the depletion of the groundwater level within the industrial area and a lack of rainwater harvesting. The storm water collected in the industrial area is conducted through surface drains (partially open) to Ghazipur drain. These drains are often choked by solid waste dumps in the open drains during the dry season. Based on the existing situation, measures towards effective storm water management will be proposed to DSIIDC and PFEA under the technical cooperation with GIZ.

**Summary of progress so far:**

- Base mapping of the existing land use, circulation network and green areas completed by GIZ (May-June 2016)
- GIZ team collected data on the existing sewage/conveyance system and storm water drainage from DSIIDC and PFEA. A layout map with details about sewer line, water supply line, location of fire hydrants (proposed at that time) has been obtained from PFEA, however it is old (last signed in 1989).
- A German consultant (Hydroplan) started work to improve conveyance systems in three sites identified. Collected base data was already shared with Hydroplan.
- GIZ Delhi team collected relevant base maps for Lawrence Road industrial; area from DSIIDC and DJB and handed over to Hydroplan.

**Progress for the current month:**

- Draft of Problem Identification Report – Existing Conveyance Systems was submitted by Hydroplan with details of Patpaarganj Industrial Area and Lawrence Road industrial Area. Assessment of the report is in progress.
- Hydroplan is in touch with Mayapuri Industrial Area CETP Society and DSIIDC for existing drawings of the conveyance system.

## **6. Improvement through cross-learning and facilitation**

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Under SEIP, facilitation teams on the topics of 1) Environmental Drives, 2) Cleaner Production and 3) Wastewater have been established at the industrial areas. Facilitation teams are supposed to provide a platform for discussion amongst entrepreneurs and other stakeholders of the park covering various topics and including the demonstration and sharing of best practices from industries. GIZ team will provide external field experts (both within and outside GIZ), organisations like DSIIDC, DPCC to educate the industrialists about available best practices in the field. Through these meetings the

industrialists themselves educate/guide each other about available best practices.

#### **a. Environment Drives**

##### **About the activity:**

Solid waste management is a major concern within Patparganj Industrial Estate. PFEA has assigned the waste management task to a private body which is responsible for collection, storage, transportation and disposal of waste. The East Delhi Municipal Corporation collects the waste once in a week through waste collection vehicles from the estate and then dumps it into the dumping grounds of Ghazipur. For lack of designated waste disposal facility within the industrial estate, the waste often dumped in the open areas like vacant plots, parking lots, etc. PFEA has started door to door waste collection system.

Patparganj industrial area is within a close vicinity to ISBT, Anand Vihar. As per PFEA ISBT causes too much traffic within the area causing serious air pollution within the Patparganj Industrial Area. Also the toxic gases generated in the Ghazipur Drain reacts with the surfaces of electronic appliances in the surroundings and damages them. The buffer zone at one of the edge of the Patparganj industrial estate is still lying under-developed which would have helped in bringing down the effect of air pollution within the industrial area and its surroundings. PFEA is keen to improve the aesthetics and hygiene of the industrial areas and hence have started taking steps towards it.

##### **Summary of progress so far:**

- PFEA conducted a cleanliness drive during October 2016. As a result, almost 300 tons of garbage was removed from the industrial area through street cleaning and sweeping.
- PFEA conducted a plantation drive in an open space from June to September 2016 with the support of DSIIDC and GIZ. This resulted in transformation of park once lying as a junkyard into a green lung space for the industrial estate.
- At the “Planning workshop” held on September 1, 2016, PFEA expressed interest in developing more green areas within the industrial area and also in the buffer zone along the drain.
- Following this, GIZ team had a discussion with CE, DSIIDC along with SE (Environment), DSIIDC regarding the same on 16<sup>th</sup> November meeting at DSIIDC, Connaught Place office. The final decision is awaited.
- Proposal prepared for Environment Improvement Drive to take place in June 2017 in Patparganj Industrial Area by GIZ presented in front of PFEA on 5th April, 2017 meeting. After discussion with PFEA the modified proposal again presented on 7th April, 2017 in PSC Meeting in front of the committee and other stakeholders.

##### **Progress for the current month:**

- GIZ met with CE, DSIIDC to discuss pending decisions from DSIIDC. CE directed concerned SE, DSIIDC to identify at least two spots in Patparganj Industrial Area where public toilets can be installed. He also informed GIZ that DSIIDC already started working on parking lots in front Udyog Sadan in Patparganj Industrial Area. *For details please refer to Annexure 2.*
- GIZ organised a small meeting with GIZ IGEN team to discuss on the feasibility of installation of solar panels on Mr. Maheswari’s rooftop as a pilot case. Discussion is under process. *For details please refer to Annexure 3.*
- In the 23<sup>rd</sup> May meeting with PFEA, GIZ informed PFEA that DSIIDC is willing to hand over other parking plots to PFEA for development. PFEA informed both GIZ and DSIIDC due to poor economic condition of the industries they will not be able to take up the project. They requested DSIIDC to look into the matter. (For details refer to Annexure 4)



PFEA's discussion with IGEN team

**b. Cleaner Production**

- This activity has not yet started.

**c. Wastewater Management**

- This activity has not yet started.

## **7. Management of solid waste from the industrial area and CETP sludge as a part of an Indo-Norwegian project (SINTEF) on co-processing under SEIP**

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### **About the activity:**

GIZ and SINTEF are cooperating to provide technical support and capacity building for sustainable management of industrial waste and sewage sludge as well as for the cleaning up of critically polluted areas in the three selected industrial sites.

### **Summary of progress so far:**

- Mr. Palash Kumar Saha from SINTEF visited Patparganj Industrial Area and Lawrence Road CETP to understand whether there is scope for co-processing in energy intensive industries. During his visit he met DSIIDC and DPCC to gain information on initiatives which have already been undertaken by them concerning the utilisation of CETP sludge. DPCC shared minutes of their meeting with the cement industries for utilisation of CETP sludge, which will be used as the baseline by SINTEF.
- Representatives from SINTEF, Dr. Kåre Helge and Mr. Palash Kumar Saha, visited Lawrence Road CETP and Lawrence Road Industrial Area on 21<sup>st</sup> March 2017 to prepare a plan of action for Delhi site under SEIP.
- GIZ Delhi team collected data on sludge quality report from DSIIDC and submitted it to SINTEF.
- SINTEF shared their action plan for Delhi with GIZ.

### **Progress for the current month:**

- SINTEF scientist Mr. Palash Kumar Saha along with GIZ visited Mayapuri CETP and discussed with Mr. Tandon, from the Confederation of the CETP Society to understand the present condition of CETP sludge in Delhi.



- GIZ along with SINTEF Scientist Dr. Christian visited Ramky Enviro Engineers Ltd. Site Delhi MSW solutions Ltd. In Bawana industrial area to explore possibilities of using CETP sludge in the waste to energy plant.



Mayapuri CETP Visit



Delhi MSW solutions Ltd. Visit in Bawana industrial area

## 8. Miscellaneous:

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### a. Discussion on Cooperation agreement with Mayapuri CETP:

GIZ organised a meeting with Mayapuri Industrial Area CETP society and DSIIDC to discuss the co-operation agreement prepared by GIZ. Mayapuri industrial area CETP society accepted the agreement with few changes from their end. Acceptance from DSIIDC is awaited. *For more details, refer to Annexure 4.*



Discussion with Mayapuri industrial area CETP society on co-operation agreement along with DSIIDC

## **9. Annexures**

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Annexure 1: SEIP Project Overview

Annexure 2: MOM: GIZ, DSIIDC Meeting to discuss on Environment Improvement Drive 2017 in Patparganj Industrial Area and status of SEIP in Delhi.

Annexure 3: MOM: PFEA, IGEN and SEIP Meeting to discuss on feasibility of installation of solar panels on industry rooftop under Environment Improvement Drive 2017

Annexure 4: MOM: Signing of Cooperation Agreement

## Annexure 1: SEIP Project Overview

**Objective:** The SEIP project has focus on efficient, and environment and climate-friendly industrial development. The objective of the project is: “Private and public stakeholders jointly implement strategies for efficient, and environmental and climate-friendly industrial development.”

**Duration:** The project has a duration of 3 years from March 2015 to February 2018. The project is likely to be extended by about 8 to 10 months.

**Budget:** The total budget available for the duration of the project is 5 million EUR. An additional budget of 1.5 million EUR has been committed by the German for augmenting the activities for controlling industrial pollution to River Ganga.

**Project Sites:** The project has its focus in selected sites at the Gujarat Industrial Development Corporation’s (GIDC) Industrial Estate at Vapi (Gujarat), Delhi Industrial Infrastructure Development Corporation’s (DSIIDC) industrial areas at Patparganj and Lawrence Road (Delhi), and the Integrated Industrial Estate State Industrial Infrastructure Development Corporation of Uttarakhand Ltd. (SIIDCUL) in Haridwar (Uttarakhand).

**Partners:** The Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India and GIZ are the main project partners. An Implementation Agreement has been signed between MoEF&CC and GIZ on 16<sup>th</sup> June 2016. The Central Pollution Control Board, as a technical arm of MoEF&CC, plays an important role. The key stakeholders for the project site in (Delhi) are:

- Delhi State Industrial and Infrastructure Development Corporation Ltd. (DSIIDC)
- Delhi Pollution Control Committee
- Patparganj F.I.E Entrepreneurs Association (PFEA)
- Okhla CETP Society
- Lawrence Road CETP Society
- Confederation of CETP Society, Delhi

## Approach

The SEIP project works on selected environmental problems of national importance, with the main thematic focus on industrial wastewater and solid waste management. The project aims to showcase solutions on how acute environmental pollution can be reduced and how resource efficiency in industrial production can be improved. Project outputs are grouped into 3 areas:

- Output A: Environment-oriented modernisation of three industrial areas (showcasing solutions),
- Output B: Establishing appropriate framework conditions at the national and state levels, and
- Output C: Knowledge management and dissemination.

To accomplish these outputs, various activities are being taken up at the national level as well project site level. The project activities are focused on wastewater conveyance, treatment, recycle/reuse, waste management, monitoring, process modification in individual industries etc. These will be complemented by training and skills development, and setting up of a technology platform. At the national and state level, the project supports the creation of an enabling framework by suggesting measures for new policies, plans and support programmes to prevent and reduce pollution and improve resource efficiency in industrial zones. Further, the project will create practical examples of management and planning for sustainable industrial zones supporting women. The project will include private stakeholders such as industry associations, operators of industrial sites and companies, and relevant entities in the states and the centre. The public and private sectors will be effectively engaged at various stages of the project.

## Expected Results of SEIP Project

The SEIP project will demonstrate solutions resulting in positive impacts and improved environmental conditions at the selected sites. The successful cases will serve as models that can subsequently be taken up on much larger scales. The key indicators for measuring the results are:

- Decrease in pollution by an average of 20 percent in the surroundings of three industrial sites.
- Launch of development programmes and promotional guidelines that aim at increasing resource efficiency and reducing pollution in selected states.
- Launch of two additional compulsory central government policies, plans and/or programmes, and measures to prevent and reduce pollution as well as improve resource efficiency in industrial zones.
- Adoption of best practices through technology and management methods for an efficient, environment- and climate-friendly industrial development in 10 industrial zones.
- Provision of two additional practical examples regarding management and planning methods of sustainable industrial zones that support women.

## Annexure 2: MOM: GIZ, DSIIDC Meeting

### Participants:

1. Mr. Ajay Kumar Mittal - CE, DSIIDC
2. Mr. Sharat Kumar - SE, DSIIDC
3. Mr. Mishra - DSIIDC
4. Franziska Kohler - Advisor, GIZ
5. Riti Samanta - Junior Technical Advisor, GIZ

**Venue:** Chief Engineers Room, DSIIDC, Lajpat Nagar

### Key points of discussion:

- Environment improvement drive 2017: Decisions on land allocation for:
    - a. Parking area
    - b. Public toilet
    - c. Green buffer zone
  - Status of Lawrence Road
  - Status of Mayapuri
1. Mr. Mittal, CE, DSIIDC had gone through the MOM of the PSC meeting happened on 7<sup>th</sup> April, 2017. The discussion started with GIZ asking for the decisions pending from DSIIDC regarding environment improvement drive 2017.
  2. Parking lot development:
    - The chief engineer informed GIZ that DSIIDC already started developing the parking lot in front of Udyog Sadan in Patparganj Industrial Area. After development the parking lot will be handed over to the association for operation and management. Other designated under developed parking lot will be handed over to the association for development. Proposed date of completion of the parking lot is 15<sup>th</sup> July, 2017.
  3. Toilet development:
    - The chief engineer agreed that the public toilet is a need for the industrial area they are interested in allotting land for two toilets within industrial area which will be developed by the industrialists. The technical drawings will be provided by GIZ. The potential land will be offered after a survey done by DSIIDC by this month. GIZ will interact with the industrialists and also prepare the required technical details by July, 2017.
    - One major issue was raised by GIZ about water supply for the toilet. DSIIDC committed they will try to resolve the issue with Patparganj Industry Association and Delhi Jal board.
  4. Green buffer development:
    - Regarding green buffer development the Chief engineer addresses that land below the metro line has potential but the land has different land use as per Layout Plan (LOP) of Patparganj Industrial Area. DSIIDC need to prepare a new Layout Plan (LOP) and submit it to MCD for land use change. Which is a time consuming work.
  5. Chief engineer, DSIIDC also showed his concern for activities in Lawrence Road.
  6. Chief Engineer ask Mr. Sharat Kumar to arrange a meeting with Lawrence Road industrialists regarding developing green buffer zone below the high tension line going through the Industrial area.
  7. He also issued a letter for the Junior Engineer (Civil) to support GIZ representatives and consultants in Patparganj Industrial Area and Lawrence Road Industrial Area.

The meeting ended with a vote of thanks from GIZ.

## Annexure 3: MOM: PFEA, IGEN and SEIP Meeting

### Participants:

6. Mr. S K Maheswari - General Secretary, PFEA
7. Mr. Deepak Kumar - Member, PFEA
8. Mr. Hemant Bhatnagar - Indo-German Energy Programme, GIZ
9. Mr. Sandeep Goel - Indo-German Energy Programme, GIZ
10. Mr. Dirk Simon - Indo-German Energy Programme, GIZ
11. Franziska Kohler - Advisor, GIZ
12. Mr. Ashish Kumar - Technical Advisor, SEIP, GIZ
13. Riti Samanta - Junior Technical Advisor, SEIP, GIZ

**Date and time:** 9<sup>th</sup> May, 2017 from 3:30 pm to 4:30 pm

**Venue:** Conference Hall, First Floor , B5/1 Safdarjung Enclave

### Key point of discussion:

- Environment improvement Drive 2017:  
Potential of solar energy as an alternate source of energy in industrial area in India, A case of Mr. S K Maheswari's unit in Patparganj Industrial Area.

### Discussion:

- The meeting started with self-introduction of the participants.
- After self-introduction Mr. Maheswari introduced his idea of installation of solar panels on his industry rooftop, along with his neighbor Mr. Sunil Puri's roof top. He also discussed about their plan to put solar panels on the common driveway in-between two industries which will not only generate energy but also work as a shadowing device.
- Mr. Hemant Bhatnagar from Indo-German Energy Programme (IGEN) team presented the calculations prepared by their team based on the electricity bill provided by Mr. Maheswari.
- PFEA also discussed with Indo-German Energy Programme team regarding economic feasibility of installation of solar panels in industrial areas.
- They have also discussed about other advantages of Solar panel.
- IGEN team informed PFEA that subsidy is available for residential and institutional land use but for industrial land use no subsidy is available from government side.
- They have also discussed about the pay back option in case solar panels gets installed.
- The financial calculation done by IGEN team for Mr. Maheswari's industry was well received.
- PFEA requested IGEN team to prepare potential assessment and material preparation in Hindi language for better understanding of the industrialists.
- PFEA asked IGEN team to support in selection of vendor (specifically Swiss or German made solar panels, not Chinese), preparation of implementation agreement etc.
- Mr. Maheswari asked for information 3 suitable vendors at least, design of the plant for implementation of the solar plant on his unit, analysis of the electricity bill etc.
- Mr. Maheswari said he will provide detail architectural drawing of his rooftop and asked GIZ to support in detail technical drawings as soon as possible.
- GIZ promised Mr. Maheswari that GIZ will get back to him once inter team discussion (IGEN and SEIP) is done.

Note: IGEN team requested SEIP team that as their hands are full with other project work, they would like to suggest for appointing a suitable consultant who can immediately take up this work. They would be very happy to guide the consultant.

## Annexure 4: Signing of Cooperation Agreement

PFEA and DSIIDC signed the co-operation agreement. Mr. Sanjeev Gupta, Secretary, PFEA signed the document on behalf of PFEA and Mr. Sharat Kumar, SE (Env), DSIIDC signed the document on behalf of DSIIDC. The copies of agreement were then handed over to Mr. C. Sripathi, Technical Advisor, GIZ. Mr. Raghubabu, Director, SEIP, GIZ will sign the agreement on behalf of GIZ.

### Environment improvement drive 2017 for Patparganj Industrial Area:

- GIZ informed PFEA about the upcoming project on parking area development in front of Udyog Sadan which was taken up by DSIIDC.
- GIZ also informed that DSIIDC is willing to handover other parking areas to PFEA for development. PFEA need to arrange for the finance and carry out the work. Mr. Maheswari, PFEA said due to the unfortunate economic situation industries within Patparganj industrial area will not be able to fund anything from their end. PFEA requested DSIIDC to look into the matter.
- GIZ also informed Mr. Maheswari about options of two models (Opex model and Capex model) for solar roof top installation. Mr. Maheswari asked GIZ to share both details to him.

The meeting ended with a ceremonial photoshoot on the occasion and vote of thanks from Mr. C Sipati.

### Key decisions/way forward:

- Cooperation agreement was signed by PFEA, DSIIDC and GIZ.
- GIZ shall follow up with PFEA if they want to pursue the skilling programme under RPL at Patparganj.
- Due to lack of fund PFEA asked DSIIDC to look into the matter of Environment improvement drive 2017 proposed by GIZ for Patparganj Industrial Area.

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