

GCPC- ENVIS

News Letter On Cleaner Production And Technology



GUJARAT CLEANER PRODUCTION CENTRE



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Cleaner Production

The experience of industrialized countries over the last two decades has shown that the End of Pipe Pollution Control approach can at best be a short term strategy for Industrial Environmental Management, particularly in the developing countries.

Cleaner Production helps in meeting the environmental challenges better by reducing generation of pollution at source and quite often with enhanced profitability.

The other benefits of **Cleaner Production** include **better work environment, improvement in product quality, also environment-friendly image of the industry and even creation of new market opportunities. The compliance with the environmental regulations becomes easier and cheaper.**

CP increases profit

About GCPC

Gujarat, for ages together has been known to an entrepreneur's dreamland. A state that brings together all the amenities to make some of the most crucial industrial dreams an absolute reality.

In doing, so Gujarat in the country has become a torchbearer of development. From Textiles to Petrochemicals, from Fertilizers to Pharmaceuticals, from Chemicals to Engineering, the state has created success stories one after the other.

But, it at this juncture that one needs the total realization that harnessing an industry also brings in the responsibility of protecting the environment. GUJARAT CLEANER PRODUCTION CENTRE plays an important role in education permeating and providing knowledge as well as expertise to tackle with various environmental issues that the various sectors of the industry shall need to address in the current scenario or in the near future. GCPC believes in prevention rather than cure. Hence, the germination of the concept of CLEANER PRODUCTION .or CP.

CP is based on PROACTIVE and PREVENTIVE approach: it makes much sense since it believes in avoiding creation of a problem rather than in trying to solve it. **Realizing then potential of CP in the state of Gujarat , Gujarat Cleaner Production Center(GCPC) was established in August 1998 with the technical support of NCPC and UNIDO and with the financial support of GIDC, The nation has four Cleaner Production Centers of which GCPC is one.**

GCPC through its various Orientation Programmes and Demonstration Projects have been successfully able to spread the message of Cleaner Environment in various sectors of the industry. In the era, where competition is to the maximum, if a spirit for adopting CP techniques is achieved, then probably half the battle will be won. We can then perhaps, with pride give our coming generation a better world to live.

OBJECTIVES

- ❖ To create awareness on cleaner production.
- ❖ To provide cost effective training to industrial personnel on cleaner production assessment and implementation.
- ❖ To organize and conduct cleaner production demonstration projects in different clusters.
- ❖ To develop expertise and thus provide consultancy / advisory services on cleaner production.
- ❖ To prepare guidelines and manuals preferably in local language on cleaner production.
- ❖ To promote local cleaner production centres.
- ❖ To Conduct Cleaner Technology Assessment Projects in Different Industries of Gujarat.

C.P. Activities In GUJARAT



Achievements

- **Orientation Programmes:**
Conducted more than **35** Orientation Programmes for awareness towards CP in various industrial estates and Academic Institutions.
- **Demonstration Projects:**
Completed CP Demo Projects in **15** Industries comprising dyes & dye intermediates, petrochemicals, pharmaceuticals and fish processing units.
- **Dissemination Programme:**
Conducted **2** CP dissemination programmes for multiplier effect.
- Publishing **literature** in regional language.

Projects on Hand

- **Demonstration Projects:**
Demonstration projects in many units of different sectors in various G.I.D.C. estates.
- **“Clean Technology Promotion in India”** – Project of SECO-UNIDO: GCPC is working as a Service Provider for Dyes and Dyes intermediate Sector in Gujrat.
- **ENVIS Node:**– GCPC has been selected as node under world bank assisted Environment Management Capacity Building Technical Assistant project of MoEF,GOI, New Delhi .

Case Study

Naroda Industrial Estate:-

Towards Eco- Industrial Networks

Naroda Industrial Estate was established in 1964 - the first industrial estate developed in Gujarat by the Gujarat Industrial Development Corporation. Today, there are more than 1200 industries, in more than 8 segments located in the estate and they employ roughly 30,000 people. A further 40,000 people can be considered to depend indirectly on the industrial estate for their livelihood.

Approximately 26% of the industries in the Naroda Industrial Estate fall into the chemicals segment, predominantly dyestuffs and dye-intermediates. Other types of chemical production are plastics (5%), pharmaceuticals (3%), and pesticides (1%). Engineering (24%), textiles (5%) and trading companies (9%) complete the picture of significant industrial sectors within the estate.

Approximately two-thirds of the companies in the Naroda Industrial Estate are members of Naroda Industries Association (NIA). It has been responsible for a number of projects in the areas of infrastructure, services and environment. For example, in 1997 NIA created a co-operative bank to help small industries in the estate. Other projects include a hospital and a tree-planting initiative.

In the environmental field, NIA has set up Naroda Enviro Projects Ltd. (NEPL) as a separate company to operate a landfill site for hazardous solid waste from the estate. The landfill site became operational in 1997. NEPL is also running Common Effluent Treatment Plant (CETP) which came online in September 1999. Since last many years there are Many Collective as well as Individual approach have been implemented by Naroda Industrial Estate towards Environment Management. i.e

- ❖ Cleaner Production
- ❖ Clean Technology
- ❖ Waste Minimization Circles
- ❖ ECO- Industrial Network
- ❖ Environmental Newsletter

CLEANER PRODUCTION : GCPC has started its activity of Demonstration Projects first with Naroda Industrial Estate. Around five demonstration projects were completed. Industries has saved Rs. 70,89,400 /- with one time investment of Rs. 16,03,000 /- with lots of Environmental Benefits like conservation in Water and Energy, Reduction in Effluent load, Reduction in B.O.D, C.O.D, T.D.S etc.

NIA has also established Local Cleaner Production Center for promotion of CP concept in the estate. Director General, UNIDO recently visited Industry of Naroda Industrial Estate and appreciated the work done towards CP in the estate by GCPC.

■ **CLEANER TECHNOLOGY:** GCPC is one of the Service Provider for the “Clean Technology Promotion in India project” of SECO-UNIDO for the Dyes and Dye Intermediate Industries of Gujarat. CT Assessment at the industries of Naroda under the same project is in progress.

■ **WASTE MINIMIZATION CIRCLES:** It's a collective approach and many industries are working towards this concept by forming Waste Minimization Circles.

■ **ECO-INDUSTRIAL NETWORK:** “A community of companies or other organizations in a region which choose to interact by exchanging and making use of by-products and/or energy“

More than 450 firms participated in this initiative. Waste exchange and resource optimization in production were proposed with reference to the biologically degradable waste in particular. Few other significant waste streams that received special attention were, spent acid, gypsum, iron sludge, boiler ash and ceramic wastes.

■ SPENTACID :-

The spent acid is the major liquid waste that comes out from the Dyes and Dyes Intermediate industry. Sulphuric Acid (H_2SO_4) is the major content of liquid waste. To get Fe_2SO_4 from this liquid waste is under process. This will reduce the effluent load from the effluent Treatment Plant.

■ GYPSUM:-

There are three types of Gypsum used in the Cement industry. They are (1) Chemical Gypsum (2) Natural Gypsum (3) Marine Gypsum. Natural Gypsum is so costly while Marine Gypsum contains more chloride. The Chemical Gypsum is the By-product of Dye industry. The Chemical Gypsum comes out from Dyes & Dyes Intermediate industries are Chemical Gypsum. This Gypsum has to match with the criteria required by Cement Industry. They are

1. Purity : 80%
2. Chloride Content : 2.5%
3. Moisture Content : 20%
4. Color : White, Off-white, Grey.

Earlier the industry has to dispose it at the waste landfill site at the disposal cost or around Rs. 450/T. But now they are earning by meeting the criteria of cement industry. This is only possible after CP-implementation.

■ IRON SLUDGE:-

Another problem that NIA facing is the huge quantity of Iron Sludge waste. To cope up with this problem NIA is working on several CP-solutions. This will make possible to use Iron Sludge in Brick Industry, Pigment Industry and Road construction in the near future. The Iron generation from Iron sludge is also under process.

■ WASTE TO ENERGY :-

Some of the industries in the estate are engaged in the food and agro processing. These industries generate Bio-degradable waste. This waste is used to generate 85 m³ of gas per day by an anaerobic digestion process. The gas is used for generating 13KW of power everyday to illuminate the NEPL premises at night and the waste of digester is used as manure.



Anaerobic Digester – Waste to Energy

Recent Event

VISIT OF H.E. Dr. CARLOS ALFRED MAGARINOS, DIRECTOR GENERAL, UNIDO
AT CONTINENTAL CHEMICAL ,GIDC, NARODA, AHMEDBABAD ON 2ND APRIL ' 03

H.E D.G UNIDO visited along with four member delegation to M/s Continental Chemicals , GIDC, Naroda, Ahmedabad ,

This is the first unit which participated in Cleaner Production(CP) Demonstration Project of GCPC.

The CP- tools suggested in CP Demonstration Projects have been Implemented by the unit. The unit is achieving economical benefits as well as improvement in the environment. It is the first time, where such a high profile person is visiting a small scale unit in Gujarat.

GCPC team and formal president of Naroda Industries Association made a presentation and demanded for the international support for Clean Technology and existing practices used in production process of Dye & Dyes Intermediate manufacturing in developed countries. D.G UNIDO visited the plant personally, saw all the CP implementation and talked with personals of industry.

D.G. UNIDO appreciated the work done towards CP activities by GCPC in Gujarat and promised to support the Small Scale Industries in transfer of technology for improvement in productivity and Environment Preservation.

Views - about CP

- CP is a continuous cycle that never ends.
–Mr. Rayjibhai Patel
(Industrialist)
- CP is power full management tool, if implemented as teamwork, is bound to yield economical, environmental and organizational gains, helping the industry to be competitive in era of globalization.
– Mr. Vipulbhai Shah
(Consultant).
- CP is a religion for industrialist, you required more to listen, you have to open your eyes and ears for that.
– Mr. Satishbhai Agrawal
(Industrialist)
- Improve your bottom line & save environment by adopting CP. CP leads to no waste, better yield and quality product. CP is nothing but common sense.
– Mr. Shaileshbhai Patwari
(Industrialist)



❖ Salient features of CP

Scope of CP exits everywhere
Make CP a Habit
CP is cyclic process that never ends
Sharing of information benefits both Industries and Environment.
Three Cardinal Tips
Avoid Waste, Reduce Waste, Recycle Waste
For Effective CP: Hear, observe & share

GCPC TEAM:

Mr. Bharat Jain, Member Secretary, Mr. Nalin Gami, Senior Engineer,
Ms Jayshree Jamliya, Chemical Engineer, Mr. Chirag Acharya, Chemical Engineer, Mr.
Zankheesh Jain, IT Assisatant

I am pleased at this juncture of publication of first News Letter of GCPC. Since many years GCPC is trying to spread the concept of Cleaner Production in Gujarat through its various activities.

It is our one more effort towards Pollution Prevention/ Waste Minimization/ Cleaner Production/ Technology. In each news letter of GCPC we will try to present various success stories of Cleaner Production implementations, New Projects of CP/CT, Important Events and much more.

I do congratulate GCPC team for compilation of such newsletter. We are thankful to all who gave their continuous support for extending our activities at larger stage.

Bharat Jain ,
Member Secretary,GCPC

GCPC TEAM:

Mr. Bharat Jain, Member Secretary, Mr. Nalin Gami, Senior Engineer,
Ms Jayshree Jamliya, Chemical Engineer, Mr. Chirag Acharya, Chemical

EDITOR:

❖ *Your feedback*

Our reader's views are inevitable for this column. Kindly send your views at the following address.

For further information please contact : Member Secretary

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