

MINISTRY OF ENVIRONMENT & FORESTS
GOVERNMENT OF INDIA
CLEAN TECHNOLOGY & WASTE MINIMISATION



PARYAVARAN BHAWAN
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NEW DELHI 110 510

Development and Promotion of Clean Technology

Brief introduction and objective: Adoption of Cleaner Technologies and cleaner production strategies is considered to provide a balance between Development and Environment through economic benefits by way of increased resource efficiency, innovation and reduced cost for environmental management. The grant-in-aid scheme on development and Promotion of Clean Technology was initiated in 1994 with the following objectives:-

1. Development & Promotion of Cleaner Technologies.
2. Development of tools and techniques for pollution prevention.
3. Formulation of Sustainable Development Strategies

National Environmental Policy 2006 on Clean Technology

Clean Technologies, as distinct from “end-of-pipe” abatement technologies minimize the generation of waste streams in the production processes and utilize waste from other consumption goods and production processes, rather than treating the waste after generation, clean technologies are less intensive in use of raw materials and energy, than conventional technologies, which rely on pollution abatement after generation. For this reason, they may also offer significant cost advantages to the producer.

Barriers to the adoption of clean technologies are, first, the fact that many of them are proprietary, and protected by strong patent regimes held abroad. The vendors, accordingly, would be able to extract large premiums in the absence of competitive substitutes. In such cases a project specific approach will be adopted in respect of enhancing market access. Second, lack of capacity in development financial institutions for appraisal of proposals for switching existing production facilities to clean technologies. Third, the lack of coordination in R&D efforts in India aimed at developing a shelf of commercially viable clean technologies. The last should also be viewed against the fact that in future, almost all commercial transfers of production technology worldwide may be for clean technologies.

The following will comprise elements of an Action Plan:

- a) Encourage capacity building in the financial sector for appraising clean technology switchover project proposals.
- b) Set up a mechanism to network technology research institutions in the country, public and private, for cooperation in technology research and development and adaptation, information, and evaluation of clean technologies. Create a database of such technologies, and promote dissemination of new technologies developed both in India and abroad.
- c) Consider use of revenue enhancing fiscal instruments to promote shifts to clean technologies in both existing and new units.
- d) Promote adoption of clean technologies by industry, in particular in the small and medium sector, through regulatory and fiscal measures, and standards setting.

Important activities under taken so far:

Since the inception of the scheme in 1994, important activities undertaken so far include (1) Carrying Capacity Studies in various parts of the country namely Greater Kochi Region, Doon Valley, Damodar River Basin, Tapi Estuary and National Capital Region (NCR) by National Environmental Engineering Research Institute (NEERI) Nagpur; (2) Natural Resource Accounting Studies for Yamuna Sub-Basin by National Environmental Engineering Research Institute (NEERI); (3) Life Cycle Assessment (LCA) Studies in Thermal Power Plants by Indian Institute of Environment Management, Navi Mumbai; (4) Live Cycle Assessment for Steel Sector by National Metrological Laboratory, (NML) Jamshaedpur; (5) Pulp and Paper Study by Indian Agro and Recycled Paper Mills Association (IARPMA), Delhi; (6) Life Cycle Assessment for Cement Sector by National Council for Cement and Building Materials Ballabgarh; and Other pollution prevention and waste utilization and management studies.

Financial Assistance for Demonstration Projects

The Ministry of Environment & Forests does not provide financial assistance for Primary Research projects under the scheme, "Promotion and Development of Clean Technology".

Financial Assistance are provided only for those projects whose Primary Research has already completed and are ready for Pilot Scale Demonstration Research on any innovative technologies in the areas of highly polluting categories of industries.

Main objective of the Demonstration Research Projects are to standardize the data obtained after Primary Research, and to study the feasibility of the technology in the Indian Environmental condition both from Economic and Scientific point of view.

Evaluation and Monitoring Committee

The Ministry of Environment & Forests, New Delhi has constituted an Evaluation and Monitoring committee on 20.12.2006, under the Chairmanship of Prof. L. Kannan, Vice Chancellor to evaluate and consider the proposals under the scheme "Development and Promotion on Clean Technology" for granting financial assistance. The compositions of the committee are as under:-

- | | |
|---|------------------|
| 1. Prof. L. Kannan Vice Chancellor, Thiruvellure University, Vellore,
(Tamil Nadu) | Chairman |
| 2. Chairman, Central Pollution Control Board or his Nominee | Member |
| 3. Adviser (Environment), Planning Commission | Member |
| 4. Nominee of Confederation of Indian Industries | Member |
| 5. Adviser, Council of Scientific & Industrial Research | Member |
| 6. Director, Centre for Cleaner Production, National
Productivity Council | Member |
| 7. Director, Finance, MoEF, New Delhi | Member |
| 8. Adviser, Ministry of Environment & Forests
New Delhi | Member Secretary |

Under the scheme details of various ongoing projects are given as under:-

1. Recycling of Marble Slurry:

Under the ongoing project "Manufacture of Bricks and Tiles from Marble Slurry," Indian Environmental Society, New Delhi, have set up two demonstration units at Udaipur and Rajsamand Districts of Rajasthan, with the aim of utilizing marble slurry wastes arising out of marble cutting and processing. Based on the successful demonstration of technology at the above two locations, the project proponents have set up brick and tiles manufacturing unit utilizing stone slurry at Kota also. Awareness workshops were also organized to promote the usage of bricks made out of marble slurry.

2. Bio-remediation of Railadevi Lake, Thane, Maharashtra:

The ongoing demonstration project relating to cleaning of Railadevi Lake in Thane District in Maharashtra using bio-remediation technique is likely to be completed soon.

3. Development of Adhesive from Bio-material:

The project has been sponsored to Indian Plywood Industries Research & Training Institute (IPIRTI), Bangalore, for development of adhesive for use in the manufacture of plywood drawn from biological materials like tannin from tree bark, cashew nut shell liquid and lignin obtained from black liquor wastes generated by Pulp and Paper Industry. The material so developed will replace existing adhesives based on organic compounds like phenol formaldehyde and urea formaldehyde.

4. Development of Air Pollution Control Package for medium Scale Lime Kilns:

The project has been sponsored to National Environmental Engineering Research Institute, (NEERI) Nagpur for Development of Air Pollution Control Package for Medium Scale Lime Kilns. The outcome of the project on flue gas treatability studies of lime kilns will eventually lead to designing of techno-economic treatability option for full scale installation.

5. "Design and Development of Computer Numerical Controlled Eco-friendly Welding Machine":

The Project has been sponsored to develop a low cost computer numerical controlled environmentally cleaner Friction Stir Welding (FSW) technology to weld almost all structural application materials. The effect of toxic exposures to the workers at the work place and surrounding environment due to the toxic fumes generated in metal cutting industries will be reduced by application of this technology. It will also help to minimize air pollution, soil pollution water pollution and control the causative factors for dreadful diseases like Cancers, Bronchitis, Pneumonitis, etc.

6. Development of Natural Dyes from Forest Wastes:

The ongoing project on Identification, Development and utilisation of Natural Dyes from the Forest Plants of Uttranchal by Forest Research Institute, Dehra Dun is likely to be completed during the year 2008-09.

7. Upflow Anaerobic Sludge Blanket (UASB) system and energy recovery in Common Effluent Treatment Plant (CETP) :

The ongoing project on Upflow Anaerobic Sludge Blanket (UASB) system and energy recovery in Common Effluent Treatment Plant (CETP) at Dindigul, Tamil Nadu is likely to be completed during the year 2008-09.

The Evaluation and Monitoring Committee for Clean Technology met on 30th November, 2007 and recommended the following new projects for funding:-

- (i) Development & Demonstration of Environmentally Sound Technology for Regenerating/ Recovery/ Recycling of Paint Sludge by National Productivity Council (NPC), New Delhi.
- (ii) Flue Gas Cleaning System an Alternative to ESP by M/s Indus Smelters Ltd., Raipur, Chhattisgarh.
- (iii) Defluoridation of water using natural materials for better drinking water supply in rural regions” by Jawaharlal Nehru University, New Delhi.
- (iv) Effective removal of arsenic from ground water covering Maslandapur – Ghoshpur blocks of 24 – Parganas (W. B.) (Phase -II) by ion – specific adsorbents carrying sorbed ferric hydroxide by Central Salt and Marine Research Institute, Bhavnagar, Gujarat.

The following projects were completed under the scheme during the year 2005-06 & 2006-2007:-

1. Life Cycle Assessment for Cement Sector by National Council for Cement and Building Materials, Ballabgarh.
2. Development of Bio-degradable emulsions for increasing the shelf life of fruits and vegetables by Indian Institute of Technology, Delhi but toxicity study report is awaited.
3. Utilisation of Anode Mud and Chips – solid wastes generated in the zinc industry for making value added products by Regional Research Laboratory, Bhopal.
4. Development of point of use (POU) clean technology in the form of a domestic unit employing a complexing resin for removing arsenic (v) from water by Central Salt & Marine Chemicals Research Institute, Bhavnagar, Gujarat.

Application for Grant for Research Project
(To be completed by the Principal Investigator)

1. Title of the Project: :
2. Name, Designation and Addresses of Principal and Lead Investigators :
3. Date of superannuation of PI :
4. Name(s), Designation and Address(es) of Co- Investigators: :
5. Institution where the project will be implemented (Lead Institution in case of a network) :
6. Names of Network Partners (if project is to be carried out by a network): :
7. Duration of the project (years, months) :
8. Total amount of Grant required :

Annexures:

Annexure I (A): Project Brief

A brief summary of the project
(not exceeding one page):

Annexure I (B): Project Investigators:

- (a) CVs of all research staff, covering academic qualifications (Degrees, Year, University, Thesis Title for research degrees), Peer Reviewed research publications, and Institutions where previously located.
- (b) Details of project grant proposals submitted by (all participating) Institutions to Ministry/all other funding organizations which are currently under consideration.

Annexure I (C): Technical Proposal

- (a) Specification of research question(s) :
- (b) Survey of literature relating to the project
- Existing relevant literature on the subject – 2 pages note on key :

findings, gaps in knowledge.

- Relevant sites on Internet – 2 pages :
Note on key Internet findings
- (c) Justification for the proposed project in relation to the Thematic Priorities :
- (d) Outline of research methodology :
- (e) Data sources :
- (f) Surveys to be conducted :
- (g) Equipments and Infrastructure Available :
- (h) Equipments and Infrastructure required :
- (i) Support staff available (Technical/Non-Technical) :
- (j) Additional Support staff required (Technical/Non-Technical):
- (k) Time Schedule of the project (PERT-Chart) giving annual monitorable targets :
- (l) Envisaged deliverables from the projects/ Professional Publications :
- (m) Modalities for dissemination of Research Outputs :

Annexure I (D): Project Budget:

A. Person-months to be spent on the project:

Name of Investigator/ JRF/SRF/ Emeritus Scientist/ Support staff	Person months Year 1	Person months Year 2	Person months Year 3
Totals:			

B. Salaries³ and Benefits⁴ (scaled to person-months to be spent on the project by each):

Name of Investigator/ JRF/SRF/ Emeritus Scientist/ Support staff	Salary For Year 1	Benefit s For Year 1	Total Year 1	Salary For Year 2	Benefits for Year 2	Total Year 2	Salary For Year 3	Benefits for Year 3	Total Year 3
Totals:									

C. Capital costs of Equipment/Infrastructure⁵:

Equipment/ Infrastructure	No. required	Unit costs	Cost in Year 1	Cost in Year 2	Cost in Year 3	Total cost
Totals						

³ Salary: Includes Pay and Dearness Allowance

⁴ Benefits includes all other Allowances and estimated reimbursements (except travel related)

⁵ Includes computers, software, and peripherals

D. Consumables (Chemicals, Glassware):

Year 1:

Year 2:

Year 3:

Total:

E. Travel costs:

Name of Investigator/ JRF/SRF/ Emeritus Scientist	Travel Events Year 1	Travel Events Year 2	Total Events Year 3	Total No. of trips National	Total No. of trips International
Totals					

Name of Investigator/ JRF/SRF/ Emeritus Scientist	Travel Year 1	Per- Diem Year 1	Total Year 1	Travel Year 2	Per- Diem Year 2	Total Year 2	Travel Year 3	Per- Diem Year	Total Year 3	Project Total
Totals										

F. Contingencies

G. Institutional charges

H. Grand Total for Project:

BOND
(For Non Govt. Organisation)

KNOW ALL MEN BY THESE PRESENTS THAT WE, signed for and on behalf of a society registered under the _____ and having its office at _____ (herein after called the 'Obligors' which terms shall unless excluded by or, repugnant to the context be deemed to include its successors, permitted assigns and all persons entitled to and capable of disposing off the assets and properties of the obligors) are held and firmly bound to the President of India (herein-after called the 'Government' which term shall unless exclude or repugnant to the context be deemed to include his successors and assigns) in the sum of Rs. _____ (Rupees _____ only) well and truly to be paid to the government on demand and without a demur for which payment we firmly bind ourselves by these presents.

SIGNED this _____ day of _____ in the year Two thousand _____.

WHEREAS on the obligors request the government has as per union Ministry of Environment's letter No. _____ dated _____ (herein after referred to as the Letter of sanction' which forms an integral part of these present and a copy whereof is annexed hereto as Annexure'A') agreed to made in favor of the obligors for the purpose of grant of Rs. _____ (Rupees _____ only) out of which Rs. _____ (Rupees _____ only) have on _____ been paid to the obligors (the receipt of sum the _____ do hereby admit and acknowledge) on condition of the obligors have agreed to do.

NOW the condition of the above-written obligation is such that if the obligors duly fulfill and comply with all the terms and conditions mentioned in the Letter of sanction then the above written bond or obligation shall be void and of no effect, but otherwise it shall remain in full force, effect and virtue.

And these presents further witness as under:

The decision of the Secretary to the Government of India in the ministry of Environment on the question whether there has been breach or violation of any of the terms and condition mentioned in the letter of sanctions shall be final and binding in the obligors, and

The Government have agreed to bear the stamp duty, if any, chargeable on the presents.

In witness whereof those Presents have been executed on behalf of the obligors pursuant to the Resolution No. _____ dated _____ passed by the Board of the Management of the Society (Governing Body) of the Obligors in the presence of

With name and address

Signature of the grantee institution.

2.

(for office use only)

Accepted for and on behalf
of the President of India

Witness:-

(Name and Designation)

Name and address:-

UTILISATION CERTIFICATE

(TO BE SENT IN DUPLICATE TO MINISTRY OF ENVIRONMENT & FORESTS)

For the Financial Year (from 1st April to 31st March of the next calendar year).

1. Title of the Project /Scheme :
2. Name of the organization :
3. Principal Investigator :
4. Ministry of Environment & Forests
letter No. and date of sanctioning the Project :
5. Amount brought forward from the previous
financial year quoting Ministry of Environment
& Forests letter no. and date on which the authority
to carry forward the said amount was given. :

	No. & date of Sanction	Amount
6. Amount received from Ministry of Environment and Forests during (Please give no. and dates of sanctions of sanctions showing the amount paid).	:	
	1.	
	2.	
	3.	

Total:

5. Total amount that was available for
expenditure (including commitments)
incurred during the Financial Year
(S.NO. 5 + S. No. 6). :
8. Actual expenditure (excluding
commitments) incurred during the
financial year. :
9. Unspent balance refunded if any
(Please give details of cheque no. etc.) :
10. Balance amount available at the end of
Financial year. :

11. Amount allowed to be carried forward to :
the next Financial Year. Vide letter No.
and date.

Certified that the expenditure of Rs.....(Rupees.....).
mentioned against column 8 was actually incurred on the project/scheme for the
purpose for which it was sanctioned.

Date:

Signature of Principal
Head
Investigator
Organization

Signature of
Registrar/Accounts
Officer

Signature of
of the

Our Ref. No.

Accepted and Countersigned

Date:

COMPETENT AUTHORITY
MINISTRY OF ENVIRONMENT & FORESTS

CERTIFICATE

To:

Contact person of the programme
Ministry of Environment & Forests
Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi-110 003.

Sir,

1. A research project entitled,
.....
.....
.....is forwarded herewith for consideration of
grant funding by the Ministry.
2. It is certified that the same project or another project with similar objectives has not been submitted to any other funding agency by the Investigator(s).
3. We have carefully read the terms and conditions of sanctioning the project and agree to abide by them.
4. The organization will provide all necessary infrastructural facilities (both laboratory and administrative) if the project is sanctioned.
6. The organization is fully responsible in regard to matters pertaining to the project.
6. Certified that the equipment/instruments proposed in the project are not at all available in the Department/institution or are available in the Department/Institution but are not available for dedicated project use.

Yours faithfully,

(Registrar/Director/Head of the Organisation)

Place:

Date:

Waste Minimisation in Small & Medium Industries (SMIs)

Objectives

The policy statement for abatement of pollution lays emphasis on preventive aspects of pollution abatement and promotion of technical inputs to reduce industrial pollution. One of the simplest preventive strategies is to minimize the waste in production of products and goods. The main objective of waste minimization is to optimize the consumption of raw materials and also reduce waste generation by adopting production techniques which are cleaner in nature and which can be adopted by the existing units without necessarily changing the production processes or unit operations. The approach to the problem is towards utilizing the existing production facilities in an optimal manner. The objective of the scheme is to assist the primary small units and some medium scale units (where investment cost is less than Rs.5.00 crores) who do not have access to the requisite technical expertise to achieve waste minimization but excludes procurement of equipment and hardware. The programme aims at not in achieving waste reduction through optimization in one or more units but also serve to build confidence among other industrial units in the cluster/region to adopt similar initiatives. It has been established that by adopting waste minimization approach the units are able to reduce not only the generation of wastes but also reduce their overall cost of production and thereby operate in a more environmental friendly manner.

Components of the Programme

2. The activities to be undertaken include:
 - (i) Identification of the industrial sectors, which have the possibility of reducing the waste generated within the existing operation, leading to conservation of resources.
 - (ii) Identification of clusters of small and medium scale industries and the units willing to adopt the waste minimization approach.
 - (iii) Profile the sector/cluster/units giving information on the raw material consumption, waste generation including the existing treatment and disposal methods.
 - (iv) Feasibility study of implementing the waste minimization schemes for selected sectors/clusters/units.
 - (v) Demonstration of the waste minimization in one or more units through actual implementation of the waste minimization options/solutions.
 - (vi) Conducting workshop/s for entrepreneurs bringing out the salient features of waste minimization measures that can be adopted/replicated.

Eligibility

3. The application for assistance under waste minimization programme can be submitted by either industrial entrepreneurs or consultants or industry association or similar agency engaged in the area of waste minimization. The assistance will be provided to develop and establish waste minimization approach in one or more units which can be adopted by a cluster of small and medium enterprises that are engaged in the production of similar products/goods. An illustrative list of potential sectors provided in Annex-1. The consultant/entrepreneur can also select sectors outside the illustrative list, provided they could justify the same. However, the industry/ies selected must belong to small and medium scale only.

Application

4. The application should be submitted in the prescribed 'application form' attached with the guidelines. The projects should be of short duration not exceeding twelve months. The project proposals would be examined by the Ministry as per prescribed procedure and decision taken accordingly. The grant of assistance under waste minimization scheme is subject to the scrutiny of the Evaluation & Monitoring Committee constituted by this Ministry. The proponent will have to give a presentation before the Committee. If the Committee is satisfied with the proposal, the qualification and experience of the applicant, the need for taking up the proposed project and funds is available, the project may be recommended. The Ministry also has the right to reject the proposals without assigning any specific reasons. If a project is recommended for assistance, the budget will be decided as per the norms. The funds for the project will be released in three installments, i.e. 40% at the time of sanctioning of the project and upon submission of detailed profile of the selected sector and cluster, which should *inter-alia* include identification of the demonstration units and their commitment. The second installment of another 40% will be released on completion of the detailed field studies (compiling and developing base line information, feasibility studies of preventing the waste, material balance etc.). Final installment of 20 % will be released after implementation of waste minimization measures, evaluation of the implementation of the project and organizing a workshop for dissemination of the information to the other units in the cluster and submission of the final Report and submission of Utilisation Certificate/Expenditure Statement (Audited in case of non-governmental organizations).

The sector-wise list of 118 WMCs established so far and cities/towns. A total of 118 Waste Minimisation Circles (WMCs) have been established in 41 industrial sectors through which 600 small and medium industries have been benefited. In this process, 39 WMC Facilitator Organizations have taken an initiative in establishing EMCs under the guidance of National Productivity Council. The WMC training programmes are integral part of the activity for which the Government of India funding under the scheme is utilized. The participating organizations facilitate NPC in conduction the training programme by providing necessary logistic assistance.

As per the information furnished by NPC, the aggregate environmental benefits (estimated in percentage terms) from WMCs established so far are as follows:

Reduction in Water Consumption	:	10 – 35%
Reduction in Electricity Consumption	:	15 – 20%
Reduction in fossil fuel Consumption	:	10 – 20%
Reduction in Raw Material & Chemical Consumption	:	10 – 20%
Reduction in Wastewater Generation	:	10 – 30%
Reduction in Air Emissions	:	5 – 10%
Reduction in Solid Waste generation	:	5 – 20%
Yield improvement		

Documents to be submitted

5. Applicant should provide a curriculum vitae (not exceeding 2 pages) along with the application, which should inter-alia include expertise in process/operation of the industry concerned/waste minimization techniques of similar industry/ association with the waste minimization programme. The applicant should also be familiar with the operation in the organisation is NGO or private organisation, it will submit last three years audited statement of accounts and registration certificate. Once the project is sanctioned the project proponent has to submit a Bond as per the pro-forma enclosed in Annex-2. Funds will be released in installment on submission of Utilisation Certificates and expenditure statement (audited in case of non-government organisation) for the earlier releases as per the pro-forma enclosed in Annex-3.

Evaluation and Monitoring

7. During the course of implementation of the waste minimization scheme the Ministry of Environment and forests may send their recommendation which would *inter-alia* include recommendations regarding continuation of the programme.

The Ministry of Environment & Forests, New Delhi, has constituted an Evaluation and Monitoring committee on 20.12.2006 under the chairmanship of Prof. L. Kannan, Vice Chancellor to evaluate and consider the proposals for granting financial assistance. the composition of the committee are as under:-

1. Vice Chancellor	Chairman
2. Chairman, Central Pollution Control Board or his Nominee	Member
3. Adviser (Environment), Planning Commission	Member
4. Nominee of Confederation of Indian Industries	Member
5. Adviser, Council of Scientific & Industrial Research	Member
6. Director, Centre for Cleaner Production, National Productivity Council	Member
7. Director, Finance	Member
8. Adviser, Ministry of Environment & Forests	Member Secretary

Completed Project

1. Geochemical baseline mapping for Environmental Management Proposal. National Geophysical Research Institute, Hyderabad.
2. Inviting Proposals under the Scheme on 'Adoption of Waste Minimization in smalls medium Industries (SMIs), Chandigarh.
3. Proposal on carrying out waste minimization study units in and around, Hyderabad by APITCO, Hyderabad.
4. Waste Minimization in small scale Industries (WMC- Extension Project) being implements by National Productivity Council, New Delhi.
5. Proposal for Waste Minimization and Demonstration Studies in Textile Dyeing Industries in Kolkata by M/o Environ Control and Development Consultants, Kolkata.
6. Proposal for Conducting Awareness and Training Programme on Waste Minimization & Cleaner Production in Small Scale Industries (SSI) through SISIs.

Ongoing Projects

1. Project proposal to conduct Sector-Specific Awareness Programme on "Environmental Statements including Waste Minimisation, Environmental Auditing & Management System for the Industrialists and regulatory officials" by CPCB, Delhi.
2. Proposal for Waste Minimisation studies in Electroplating Industries in Balanagar Industrial area, Hyderabad – Proposal by EPTRI, Hyderabad CPA.
3. Proposal for Waste Minimisation studies in Textile sector in Nandigaon village Kothur Mahboobnagar district, Andhra Pradesh by EPTRI, Hyderabad.
4. Project – Waste minimization in small scale Industries – WMC Extension – Phase-III proposed by NPC, New Delhi.
5. Project "Industrial Pollution Abatement Through Preventive Strategies" - Waste Minimisation and Demonstration Studies in Textile Dyeing Industries in Kolkata - M/s Environ Control & Development Consultants, Kolkata.
6. Project proposal on "Clean Technology for waste Minimization from Nutraceutical Industry", University of Mysore, Mysore.
7. Project proposal on "Minimization of Environmental Impacts of Slaughter House Wastes by Value Addition as Pet Foods" by Aligarh Muslim University, Aligarh. Project proposal on "Demonstration of Waste Minimization in Basic Chrome Manufacturing Unit" by Ramky Enviro Engineers Ltd., New Delhi.

**APPLICATION FORM FOR GRANT OF ASSISTANCE
UNDER WASTE MINIMISATION PROGRAMME**

S. No.	Item	Details
1.	Name of the Applicant (In block letters)	
2.	Full address of the applicant (In block letters)	
	Pin Code:	<input type="text"/>
	Tel./Fax No./ e-mail	<input type="text"/>
3.	Product/ process propose to be covered under waste minimization scheme (Brief Resume not exceeding one page may be attached)	
4.	(a) Size of the units proposed to be covered based on product out put (tones/day or tonnes/year)	
	(b) Raw material used by the industry (including coal, furnace oil, LSHS, diesel etc.)	
	Items:	Quantity in tonnes/liters/KG etc. per day/per anum
	(i)	
	(ii)	
	(iii)	
5.	Water consumption by the industry per day (liters/day)	
	(i) Cooling water	
	(ii) Process water	
	(iii) Steam generation	
6.	Energy consumption by the electrical Co. (kwh/tonne of product or number of units consumed per year)	

S. No.	Item	
7.	Process Steps Adopted (Provide a flow sheet) Identifying both Chemical and Mechanical operation	
8.	Waste generated: (a) Liquid wastes (i) (ii)	WASTE QUANTITY TREATMENT DISPOSAL
	(b) Solid wastes (i) (ii)	
9.	Gaseous/ Fugitive emission	
10.	Current disposal method (a) Liquid wastes (i) (ii)	WASTE QUANTITY TREATMENT DISPOSAL
	(b) Solid wastes (i) (ii)	WASTE QUANTITY TREATMENT DISPOSAL
11.	(a) Key Problem Areas proposed to be addressed (i) (ii) (iii) (b) Specific Problem to be taken up for study	
12.	Detailed methodology of the proposed study (add additional sheets, if required)	
13.	Whether the industry's operation seasonal or round the clock or based on exports demand	

S. No.	Item		
14.	Number of industrial units in the area producing the same/similar product		
15.	Scale of operation of the units in the cluster (i) Minimum (ii) Maximum (iii) Average		
16.	Activity (Indicative)	No. of Months	
	(i) Identification and characterisation of wastes		
	(ii) (a) Material balance (b) Water balance (c) Energy balance		
	(iii) Preparation of feasibility study		
	(iv) Implementation of waste minimization measures		
	(v) Demonstration study		
	(vi) Workshop		
17.	Funds required	Number of man months	Funds required (Rs. 000)
	(i) Collection of basic information		
	(ii) Characterisation of wastes		
	(iii) (a) Material balance (b) Water balance (c) Energy balance		
	(iv) Preparation of feasibility report		
	(v) Implementation		
	(vi) Demonstration		
	(vii) Travel		
	(viii) Documentation		
	(ix) Workshop		
	(x) Contingency		
	(xi) Laboratory Charges		

Note:

- ❖ **Activity schedule to be provided.**

- ❖ **The project shall be carried out in 2 phases:**
 - (i) Preparation of pre-feasibility study**
 - (ii) Demonstration Workshop and final report**

- ❖ **The physical and financial targets should be given separately for both the phases.**

Signature of the Applicant

POTENTIAL INDUSTRIAL SECTORS FOR CLEAN TECHNOLOGY / WASTE MINIMIZATION STUDIES

<u>S. No.</u>	<u>Sector</u>
1.	PULP & PAPER
2.	REFRACTORIES
3.	DYE & DYE INTERMEDIATES
4.	FOUNDRY & FORGING
5.	ELECTROPLATING
6.	TEXTILE PROCESSING
7.	DAIRY
8.	PAINTS
9.	RESINS
10.	BULK DRUG/PHARMA
11.	MARBLE & SLURRY
12.	RICE MILL
13.	RUBBER PROCESSING
14.	STEEL ROLLING MILLS
15.	PESTICIDE FORMULATION
16.	PRINTED CIRCUIT BOARD
17.	BATTERY MANUFACTURING (SMALL SCALE UNITS)
18.	EDIBLE OIL
19.	UNTENSIL MANUFACTURING
20.	SAGO/TAPIOCA PROCESSING
21.	BRICK KILNS/ROOF TILING
22.	COIR DFIBRING
23.	PACKAGING MATERIALS
24.	TANNERY
25.	FERTILIZER (SMALL SCALE UNITS)
26.	SAFETY MATCH BOX
27.	FLOUR MILLS
28.	SCREEN PRINTING
29.	PLASTING COMPONENTS
30.	ACTIVATED CARBON-CHARCOAL

Priority Industrial Sectors for submission of proposals on Waste Minimization Studies in 2008-2009.

<u>Sl. No.</u>	<u>Sectors</u>
1.	FOUNDRY & FORGING
2.	ELECTROPLATING
3.	TEXTILE DYING & PROCESSING
4.	BULK DRUG/PHARMA
5.	STEEL ROLLING MILLS
6.	BRICK KILNS/ROOF TILING
7.	TANNERY
8.	ACTIVATED CARBON – CHARCOAL

POTENTIAL INDUSTRIAL SECTORS FOR CLEAN TECHNOLOGY / WASTE MINIMIZATION STUDIES

S. No. Sector

1. PULP & PAPER
2. REFRACTORIES
3. DYE & DYE INTERMEDIATES
4. FOUNDRY & FORGING
5. ELECTROPLATING
6. TEXTILE PROCESSING
7. DAIRY
8. PAINTS
9. RESINS
10. BULK DRUG/PHARMA
11. MARBLE & SLURRY
12. RICE MILL
13. RUBBER PROCESSING
14. STEEL ROLLING MILLS
15. PESTICIDE FORMULATION
16. PRINTED CIRCUIT BOARD
17. BATTERY MANUFACTURING (SMALL SCALE UNITS)
18. EDIBLE OIL
19. UTENSIL MANUFACTURING
20. SAGO/TAPIOCA PROCESSING
21. BRICK KILNS/ROOF TILING
22. COIR SPINNING
23. PACKAGING MATERIALS
24. TANNERY
25. FERTILIZER (SMALL SCALE UNITS)
26. SAFETY MATCH BOX
27. FLOUR MILLS
28. SCREEN PRINTING
29. PLASTIC COMPONENTS
30. ACTIVATED CARBON-CHARCOAL

Evaluation and Monitoring Committee

The Ministry of Environment & Forests, New Delhi has constituted an Evaluation and Monitoring committee on 20.12.06 under the chairmanship of Prof. L. Kannan, vice Chancellor to evaluate and consider the proposals for granting financial assistance. The composition of the committee are as under:-

- | | |
|---|------------------|
| 1. Vice Chancellor | Chairman |
| 2. Chairman, Central Pollution Control Board or his Nominee | Member |
| 3. Adviser (Environment), Planning Commission | Member |
| 4. Nominee of Confederation of Indian Industries | Member |
| 5. Adviser, Council of Scientific & Industrial Research | Member |
| 6. Director, Centre for Cleaner Production, National Productivity Council | Member |
| 7. Director, Finance | Member |
| 8. Adviser, Ministry of Environment & Forests | Member Secretary |

BOND
(For Non Govt. Organisation)

KNOW ALL MEN BY THESE PRESENTS THAT WE, signed for and on behalf of a society registered under the _____ and having its office at _____ (herein after called the 'Obligors' which terms shall unless excluded by or, repugnant to the context be deemed to include its successors, permitted assigns and all persons entitled to and capable of disposing off the assets and properties of the obligors) are held and firmly bound to the President of India (herein-after called the 'Government' which term shall unless exclude or repugnant to the context be deemed to include his successors and assigns) in the sum of Rs. _____ (Rupees _____ only) well and truly to be paid to the government on demand and without a demur for which payment we firmly bind ourselves by these presents.

SIGNED this _____ day of _____ in the year Two thousand _____.

WHEREAS on the obligors request the government has as per union Ministry of Environment's letter No. _____ dated _____ (herein after referred to as the Letter of sanction' which forms an integral part of these present and a copy whereof is annexed hereto as Annexure'A') agreed to made in favor of the obligors for the purpose of grant of Rs. _____ (Rupees _____ only) out of which Rs. _____ (Rupees _____ only) have on _____ been paid to the obligors (the receipt of sum the _____ do hereby admit and acknowledge) on condition of the obligors have agreed to do.

NOW the condition of the above-written obligation is such that if the obligors duly fulfill and comply with all the terms and conditions mentioned in the Letter of sanction then the above written bond or obligation shall be void and of no effect, but otherwise it shall remain in full force, effect and virtue.

And these presents further witness as under:

The decision of the Secretary to the Government of India in the ministry of Environment on the question whether there has been breach or violation of any of the terms and condition mentioned in the letter of sanctions shall be final and binding in the obligors, and

The Government have agreed to bear the stamp duty, if any, chargeable on the presents.

In witness whereof those Presents have been executed on behalf of the obligors pursuant to the Resolution No. _____ dated _____ passed by the Board of the Management of the Society (Governing Body) of the Obligors in the presence of

With name and address

Signature of the grantee institution.

2.

(for office use only)

Accepted for and on behalf
of the President of India

Witness:-

(Name and Designation)

Name and address:-

UTILISATION CERTIFICATE

(TO BE SENT IN DUPLICATE TO MINISTRY OF ENVIRONMENT & FORESTS)

For the Financial Year (from 1st April to 31st March of the next calendar year).

1. Title of the Project /Scheme :
2. Name of the organization :
3. Principal Investigator :
4. Ministry of Environment & Forests
letter No. and date of sanctioning the Project :
5. Amount brought forward from the previous
financial year quoting Ministry of Environment
& Forests letter no. and date on which the authority
to carry forward the said amount was given. :

	No. & date of Sanction	Amount
6. Amount received from Ministry of Environment and Forests during (Please give no. and dates of sanctions of sanctions showing the amount paid).	:	
	1.	
	2.	
	3.	

Total:

8. Total amount that was available for
expenditure (including commitments)
incurred during the Financial Year
(S.NO. 5 + S. No. 6). :
8. Actual expenditure (excluding
commitments) incurred during the
financial year. :
9. Unspent balance refunded if any
(Please give details of cheque no. etc.) :
10. Balance amount available at the end of
Financial year. :

11. Amount allowed to be carried forward to :
the next Financial Year. Vide letter No.
and date.

Certified that the expenditure of Rs.....(Rupees.....).
mentioned against column 8 was actually incurred on the project/scheme for the
purpose for which it was sanctioned.

Date:

Signature of Principal
Head
Investigator
Organization

Signature of
Registrar/Accounts
Officer

Signature of
of the

Our Ref. No.

Accepted and Countersigned

Date:

COMPETENT AUTHORITY
MINISTRY OF ENVIRONMENT & FORESTS

PRESCRIBED PROFORMA FOR GRANT FOR RESEARCH PROJECTS

To,
The Secretary,
Ministry of Environment & Forest
Parayavan Bhavan
CGO Complex, Lodhi Road
New Delhi - 110 003

Sir,

1. A research project entitled “
.....
.....
.....
.....”

Is forwarded herewith.

2. It is certified that the same project or project with similar objectives has not been submitted to any other funding agency by the Investigator.
3. We have carefully read the terms and conditions of sanctioning the project and agree to abide by them.
4. The organization will provide all necessary infra-structural facilities (both laboratory and administrative) if the project is sanctioned.
5. The organization is fully responsible in regard to matters pertaining to the project.
6. Certified that the equipment's proposed in the project proposal are not available in our institution.

Yours faithfully,

Place:

Date: (Registrar / Director / Head of the Institution)

OFFICERS IN CLEAN TECHNOLOGY DIVISION

1. SHRI R. H. KHWAJA, ADDITIONAL SECRETARY
2. DR. M. SENGUPTA, ADVISOR
3. DR. M. SALAHUDDIN, ADDITIONAL DIRECTOR
4. SHRI SATISH MOHAN, SECTION OFFICER

CONTACT NO.

TELE FAX 011-24364595

011-243612818, 24361669 EXT. 743 & 166