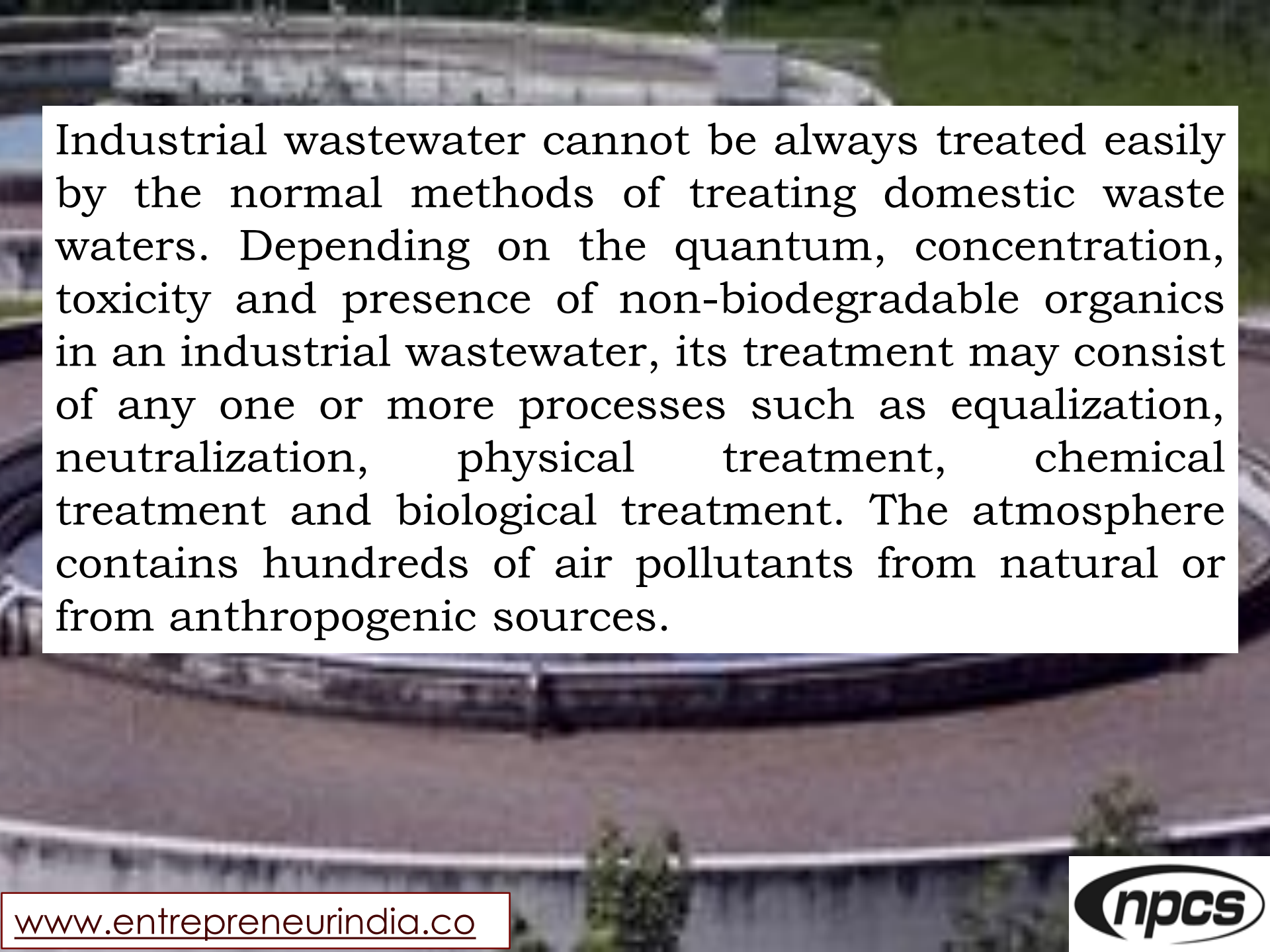
Water and Air Effluents Treatment Technologies

(Fuels from Waste, Air Pollution, Disposal of Solid Effluents and Reuse, Industrial Waste Water Effluents, Sludge Process, Treatment of Effluents, Sedimentation, Chlorination of Sewage, Terminology, Radioactive Wastes, Bio-Medical Wastes)

Introduction

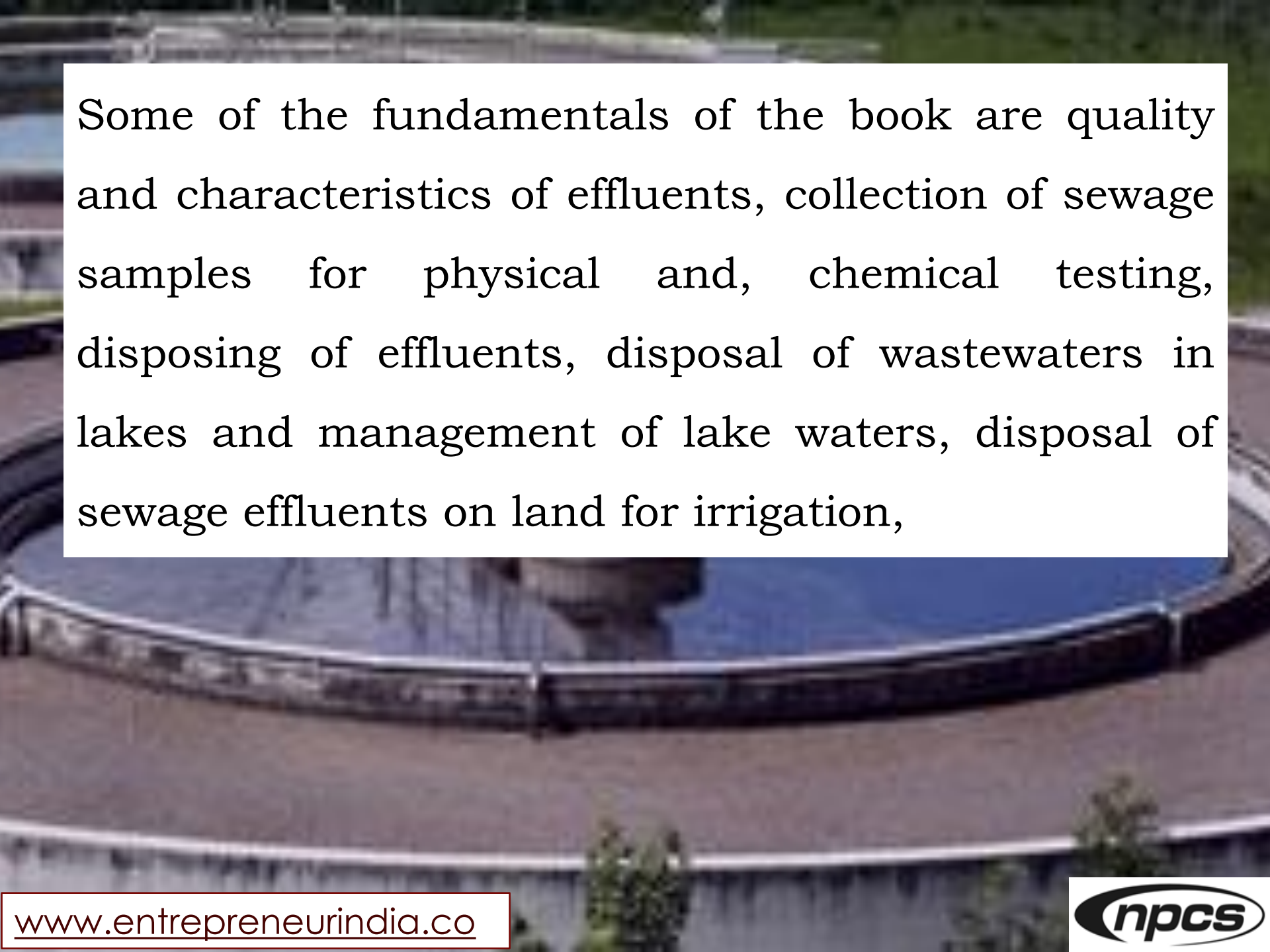
Water treatment describes those processes used to make water more acceptable for a desired end use. These can include use as drinking water, industrial processes, medical and many other uses. The goal of all water treatment process is to remove existing contaminants in the water, or reduce the concentration of such contaminants so the water becomes fit for its desired end use. Water quality analytical techniques are considered in the context of EEC directives on the quality of the aquatic control of all effluents is entering it.

The principal methods of water analysis are reviewed and it indicated in view of destructive and hazardous role of pollution, it become necessary that the very nature of atmosphere, the various air effluent are present there to save the environment from the harmful effect. Effluent can be treated in different ways, it is classified as; preliminary treatment, primary treatment, secondary treatment and complete final treatment. Waste water obtained from industries is generally much more polluted than the domestic or even commercial waste water.



Industrial wastewater cannot be always treated easily by the normal methods of treating domestic waste waters. Depending on the quantum, concentration, toxicity and presence of non-biodegradable organics in an industrial wastewater, its treatment may consist of any one or more processes such as equalization, neutralization, physical treatment, chemical treatment and biological treatment. The atmosphere contains hundreds of air pollutants from natural or from anthropogenic sources.

All such pollutants are called primary pollutants for example; sulphur oxides, carbon monoxide, nitrogen oxides, lead etc. Secondary pollutants are the chemical substances, which are produced from the chemical reactions of primary pollutants or due to their oxidation etc. A high growth in vehicle population brings in its wake urban air pollution problems unless timely appropriate steps to control vehicle emissions are under taken.



Some of the fundamentals of the book are quality and characteristics of effluents, collection of sewage samples for physical and, chemical testing, disposing of effluents, disposal of wastewaters in lakes and management of lake waters, disposal of sewage effluents on land for irrigation,

classification of treatment processes, treatment of industrial effluents, methods of treating industrial wastewaters, strategies for management of industrial wastes, combined industrial municipal wastes, a process for upgrading paper mill effluent by water hyacinth, ventilation for controlling indoor air pollution, the environment and its pollution, disposal of environmentally hazardous radioactive effluents and biomedical wastes, air pollution, its control and monitoring, fuels from waste etc.

Table of Contents

1. QUALITY AND CHARACTERISTICS OF EFFLUENTS

2. DISPOSING OF EFFLUENTS

- DISPOSAL BY DILUTION
- Conditions Favouring Disposal By Dilution
- Standards of Dilution for Discharge of
- Waste waters into Rivers
- Dilution in Rivers and Self Purification of Natural Streams
- Disposal of Wastewaters in Lakes and
- Management of lake Waters
- Disposal of Wastewater in Sea Water
- DISPOSAL ON LAND
- Disposal of sewage effluents on land for for Irrigation

- 'Effluent Irrigation' and 'Sewage Farming'
- -Difference Thereof
- Methods of Applying Sewage Effluents to Farms
- Sewage Sickness
- Crops Grown in Sewage Farms and Their Hygienic Aspect
- Dilution Method Vs. Land Disposal Method for
- Disposal of Sewage

3. TREATMENT OF EFFLUENTS

- Classification of Treatment Processes
- SCREENING
- Types of Screens, Their Designs and Cleaning
- Comminutors
- Disposal of Screenings
- GRIT REMOVAL BASINS
- Grit Chambers
- Detritus Tanks
- Design of ParaboIic Grit Chamber provided-with-a-Par shall Flume

- TANKS FOR REMOVING OILS AND GREASE
- Skimming Tanks
- Vacuators
- Disposal of Skimmings
- Necessity and Use of Skimming Tanks in India
- SEDIMENTATION
- General Introduction
- Principle of Sedimentation
- Theory of Sedimentation
- Sedimentation Tanks
- Disadvantages or Demerits of Coagulation in Sewage Treatment

- SECONDARY TREATMENT THROUGH BIOLOGICAL
- FILTRATION OF SEWAGE
- (Aerobic Attached Culture)
- Introduction to Sewage Filtration
- Contact Beds for Biological Filtration of Sewage
- Intermittent Sand Filters for Biological Filtration of Effluents
- Trickling Filters for Biological Filteration of Sewage
- Construction and Operation of Trickling Filters
- Recirculation of Treated Sewage and its Use in High Rate Trickling Filters
- Other Miscellaneous Types of Filter
- SECONDARY SEDIMENTATION
- Secondary Settling Tanks or Humus Tanks

- DIGESTION AND DISPOSAL OF PRIMARY AND
- SECONDARY SLUDGE
- Sludge and Its Moisture Content
- Sludge Digestion Process
- Stages in the Sludge Digestion Process
- Factors Affecting Sludge Digestion and Their Control
- Sludge Digestion Tank or Digestors
- (Aerobic Suspended Culture)
- Disposal of Digested Sludge
- Use of Lagoons for Disposal of Raw Sludge
- SECONDARY TREATMENT THROUGH ACTIVATED
- SLUDGE PROCESS

- (Aerobic Suspended Culture)
- Definition of Activated Sludge Process
- Various Operations and Units of an Activated Sludge Plant
- Bulking and Foaming Sludge in an Activated Sludge Treatment Plant
- DESIGN CONSIDERATIONS INVOLVED IN AN
- ACTIVATED SLUDGE PLANT
- Aeration Tank Loadings
- Sludge Volume Index (S.V.I.)
- Sludge Recycle and Rate of Return Sludge
- Wasting of Excess Sludge (Qw)
- Modifications of the Basic Activated Sludge Process
- Size and Volume of the Aeration Tank

- Qxygen Requirement of the Aeration Tanks
- Advantages and disadvantages of an Activated Sludge Plant
- Activated Sludge Process Vs Trickling Filter Process and the Choice of One
- SECONDARY TREATMENT THROUGH ROTATING
- BIOLOGICAL CONTRACTORS
- (Aerobic Attached Culture)
- Rotating Biological Contractors (RBCS)
- AEROBIC STABILISATION UNITS
- (Aerobic Suspended Culture)
- Oxidation Ponds and Stabilisation Ponds
- Oxidation Ditches (Pasveer Type) or Extended Aeration Lagoons
- Mechanically Aerated Lagoons

- ANAEROBIC STABILISATION UNITS
- Anaerobic and Facultative Stabilisation Ponds
- Septic Tanks
- Advantages
- Disadvantages
- Imhoff Tanks
- Clarigesters
- High Rate Anaerobic Systems
- CHLORINATION OF SEWAGE
- Disinfection of Sewage by Using Chlorine
- Design of Inlet Chamber
- Design of Screen Chamber

- Design of Grit Chamber
- Design of Aeration Tanks
- Design of Secondary Clarifier
- Return Sludge Pump House:
- Design of Sludge Drying Beds

4. TREATMENT OF INDUSTRIAL EFFLUENTS

- Introduction
- Methods of Treating Industrial Wastewaters
- Thermal Pollution

5. INDUSTRIAL WASTE WATER EFFLUENTS

- Introduction
- TERMINOLOGY
- TREATMENT LEVELS
- Primary Treatment
- Secondary Treatment

- LAGOONS AND SEPTIC TANKS
- TYPES OF INDUSTRIAL WASTES
- Strategies for Management of Industrial Wastes
- QUANTITY OF INDUSTRIAL WASTES
- METALS AND METAL PRODUCTS
- Geographical Aspects of the Industry
- Technological Control Methods for Steel Mill Wastes
- CHEMICAL AND ALLIED PRODUCTS
- PAPER AND ALLIED PRODUCTS
- PETROLEUM & COAL PRODUCTS
- Petroleum
- Coal

- FOOD & KINDRED PRODUCTS
- Cannery Wastes
- Frozen Foods
- Dairy Products
- Meat
- Bakery Products
- Poultry
- MACHINERY AND TRANSPORTATION EQUIPMENT
- STONE, CLAY & GLASS PRODUCTS
- RUBBER AND PLASTICS
- LUMBER AND WOOD PRODUCTS
- TEXTILE MILL PRODUCTS

- Cotton
- Synthetics
- COMBINED INDUSTRIAL-MUNICIPAL WASTES
- COST ASPECTS OF POLLUTION CONTROL IN THE
- PULP AND PAPER INDUSTRY

6. RECLAMATION OF TEXTILES EFFLUENTS

- Experimental Procedure
- Results and Discussion
- Conclusion

7. A PROCESS FOR UPGRADING PAPER MILL

- EFFLUENT BY WATER HYACINTH
- Experimental Procedure and Results
- Phase I
- Phase II
- Phase III
- Discussion
- Conclusion
- Salient Features

8. DISPOSAL OF SOLID EFFLUENTS AND REUSE

- Definition, Classification, Quantity and Composition of Refuse
- Collection, Removal and Carriage of Refuse
- Disposal of Refuse
- Advantages
- Disadvantages
- Merits
- Demerits and Limitations

9. VENTILATION FOR CONTROLLING INDOOR

- AIR POLLUTION
- Sources, Effects and Status of Indoor Air Pollution
- Definition of Ventilation
- Effects of Occupancy of a Space
- Purpose of Ventilation
- Extent of Ventilation Required and Ventilation Standards
- Systems of Ventilation
- Advantages
- Disadvantages

10. THE ENVIRONMENT AND ITS POLLUTION

- Biosphere and Environment
- Physical and Biological Environment
- Ecosystem and Ecological Balance of Nature
- Impact of Man on Biosphere
- Pollution and Conservation of Environment
- Status of Administrative Control on Environment in India
- Status of Water Pollution--Monitoring and Control in India
- Status of Air Pollution--Monitoring and Control in India.

11. DISPOSAL OF ENVIRONMENTALLY HAZARDOUS RADIOACTIVE EFFLUENTS AND BIOMEDICAL WASTES

- RADIOACTIVE WASTES
- Radioactive Elements and Radioactive Radiations
- Impacts of Radioactivity on Life and Environment
- Disposal of Radioactive Wastes
- BIO-MEDICAL WASTES
- Biomedical Wastes and Their Hazards on Health and Environment
- Legal Laws on Management of Medical Wastes in India

- COLLECTION AND TREATMENT OFBIOMEDICAL WASTES
- Colour Coding of Biomedical Wastes and Their Collection in Different Coloured Bins or Bags
- Collection of Sharp Wastes
- Labeling for Identification of Bio-medical Wastes
- Storage of Bio-medical Waste
- Transportation of Bio-medical Wastes to the Treatment and Disposal Site
- Treatment and Disposal of Biomedical Wastes

12. AIR POLLUTION, ITS CONTROL AND MONITORING

- Air Pollutants, Their Effects, and Sources of Origin
- Dispersion of Air Pollutants into the Atmosphere
- AIR POLLUTION CONTROL
- The Natural Self-Cleansing Properties of the Environment
- Dilution Method for Controlling Air Pollution from Stationary Sources (Factories)
- Controlling Air Pollution from Stationary Sources by Installing Engineering Devices
- Controlling Air Pollution from Automobiles

13. VEHICULAR AIR POLLUTION AND MEASURES FOR ITS CONTROL

- Types of Vehicle Emissions
- Emission Characteristics of Indian Vehicles
- Vehicle Emission Control Technology and Fuel Efficiency
- Inspection and Maintenance
- Conclusions

14. FUELS FROM WASTE

- Characteristics of Wastes for Fuels
- Wastes as Fuel
- Wood-Waste Combustion Systems
- Municipal-Waste Combustion
- Other Wastes as Fuel
- Conversion Systems Applied to Wastes
- Conclusions

Tags

Air Effluents, Water and Air Effluents, Air Pollution, Water & Effluent Treatment, Water Effluent, Effluent Treatment, Industrial Effluent Disposal, Water Pollution, Effluent Disposal Methods, Effluent Treatment Plant, Effluent Treatment Plant Process, Fuel from Waste, Conversion of Waste Into Fuel, Creating Fuels from Waste, Fuels from Industrial Waste, Sources and Causes of Water Pollution, Water Pollution Prevention, Ways to Reduce and Control Air Pollution, Air Pollution Control, Methods to Control Air Pollution, Air Pollution Prevention Methods, Air Pollution Control Equipment, How to Prevent Air Pollution, Preventions and Control of Air Pollution, Preventing Air Pollution, Steps to Reduce Air Pollution, Controlling Air Pollution from Automobiles, Controlling Air Pollution from Stationary Sources by Installing Engineering Devices, Air Pollution Monitoring, Air Pollution Monitoring Methods, Industrial Air Pollution Prevention and Control, Control Methods of Air Pollution, Treatment and Disposal of Biomedical Wastes, Storage of Bio-Medical Waste, Labeling for Identification of Bio-Medical Wastes, Collection of Sharp Wastes, Collection and Treatment of Biomedical Wastes, Legal Laws on Management of Medical Wastes in India, Bio-Medical Wastes, Biomedical Wastes and Their Hazards on Health and Environment, Disposal of Radioactive Wastes, Radioactive Elements and Radioactive Radiations, Disposal of Environmentally Hazardous Radioactive Effluents and Biomedical Wastes, Radioactive Wastes, Bio-Medical Waste Management, Bio-Medical Waste Disposal, Treatment of Bio-Medical Waste, Biomedical Waste Disposal Methods,

Tags

Biomedical Waste Treatment and Disposal Methods, Biomedical Waste Treatment and Disposal, Colour Coding of Biomedical Waste Management, Biomedical Wastes Colour Coding, Disposal of Biomedical Waste, Treatment of Biomedical Waste In India, Disposal and Management of Biomedical Waste, Biomedical Waste Management in India, Guide for Management of Biomedical Waste, Bio Medical Waste Disposal, Method of Disposing Bio-Medical Waste, How to Manage Medical Waste, Managing and Disposing of Medical Waste, Biological Waste Guide, Storage and Disposal of Bio-Medical Waste, Sharp Waste Management, How to Dispose of Sharps, Sharps Waste Collection, Radioactive Waste Management, Storage and Disposal For Radioactive Waste, How to Store and Dispose of Radioactive Waste, Disposal of Radioactive Materials and Equipment, Disposal of Radioactive Wastes, Radioactive Waste Disposal Methods, Pollution and Conservation of Environment, Ventilation for Controlling Indoor, Disposal of Solid Effluents and Reuse, Process for Upgrading Paper Mill, Reclamation of Textiles Effluents, Industrial Waste Water Effluents, Industrial Wastewater Treatment, Treatment of Industrial Wastewater Effluents, Effluent Treatment Plant Process, Activated Sludge Plant, Tanks for Removing Oils and Grease, Treatment of Effluents, Disposal of Sewage, Disposal of Sewage on Land, Land Disposal, Land Disposal Unit, Land Disposal of Sewage and Industrial Wastes, Disposal of Wastewater in Sea Water,

Tags

Business consultancy, Business consultant, Project identification and selection, Preparation of Project Profiles, Startup, Business guidance, Business guidance to clients, Startup Project, Startup ideas, Project for startups, Startup project plan, Business start-up, Business Plan for a Startup Business, Great Opportunity for Startup, Small Start-up Business Project, Best small and cottage scale industries, Startup India, Stand up India, Small Scale Industries, Guide to Starting and Operating a Small Business, Small Scale Industry You Can Start on Your Own, Business plan for small scale industries, Profitable Small Scale Manufacturing, How to Start a Small Business in India, Free Manufacturing Business Plans, Small and Medium Scale Manufacturing, Profitable Small Business Industries Ideas, Business ideas for Startup


VISIT US AT
www.entrepreneurindia.co
www.entrepreneurindia.co
npcs

Take a look at Niir Project Consultancy Services on #Street View

https://goo.gl/VstWkd

Locate us on Google Maps

https://goo.gl/maps/BKkUtq9gevT2

www.entrepreneurindia.co

npcs

OUR CLIENTS

Our inexhaustible Client list includes public-sector companies, Corporate Houses, Government undertaking, individual entrepreneurs, NRI, Foreign investors, non-profit organizations and educational institutions from all parts of the World. The list is just a glimpse of our esteemed & satisfied Clients.

Click here to take a look

https://goo.gl/G3ICjV

Free Instant Online Project Identification & Selection Search Facility

Selection process starts with the generation of a product idea. In order to select the most promising project, the entrepreneur needs to generate a few ideas about the possible projects.

Here's we offer a best and easiest way for every entrepreneur to searching criteria of projects on our website www.entrepreneurindia.co that is "Instant Online Project Identification and Selection"

NPCS Team has simplified the process for you by providing a "Free Instant Online Project Identification & Selection" search facility to identify projects based on multiple search parameters related to project costs namely: Plant & Machinery Cost, Total Capital Investment, Cost of the project, Rate of Return% (ROR) and Break Even Point % (BEP). You can sort the projects on the basis of mentioned pointers and identify a suitable project matching your investment requisites.

Click here to go

http://www.entrepreneurindia.co/project-identification

Contact us

Niir Project Consultancy Services

106-E, Kamla Nagar, Opp. Spark Mall,

New Delhi-110007, India.

Email: npcs.ei@gmail.com , info@entrepreneurindia.co

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Website : www.entrepreneurindia.co , www.niir.org

Take a look at NIIR PROJECT CONSULTANCY SERVICES on #StreetView

https://goo.gl/VstWkd

NIIR PROJECT CONSULTANCY SERVICES

AN ISO 9001:2008 COMPANY

www.entrepreneurindia.co

npcs

Who are we?

- *One of the leading reliable names in industrial world for providing the most comprehensive technical consulting services*
- *We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad*

We at NPCS want to grow with you by providing solutions scale to suit your new operations and help you reduce risk and give a high return on application investments. We have successfully achieved top-notch quality standards with a high level of customer appreciation resulting in long lasting relation and large amount of referral work through technological breakthrough and innovative concepts. A large number of our Indian, Overseas and NRI Clients have appreciated our expertise for excellence which speaks volumes about our commitment and dedication to every client's success.

npcs

We bring deep, functional expertise, but are known for our holistic perspective: we capture value across boundaries and between the silos of any organization. We have proven a multiplier effect from optimizing the sum of the parts, not just the individual pieces. We actively encourage a culture of innovation, which facilitates the development of new technologies and ensures a high quality product.

What do we offer?

- *Project Identification*
- *Detailed Project Reports/Pre-feasibility Reports*
- *Business Plan*
- *Industry Trends*
- *Market Research Reports*
- *Technology Books and Directory*
- *Databases on CD-ROM*
- *Laboratory Testing Services*
- *Turnkey Project Consultancy/Solutions*
- *Entrepreneur India (An Industrial Monthly Journal)*

How are we different ?

- *We have two decades long experience in project consultancy and market research field*
- *We empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
- *We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors*
- *We use authentic & reliable sources to ensure business precision*

Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation

Who do we serve?

- *Public-sector Companies*
- *Corporates*
- *Government Undertakings*
- *Individual Entrepreneurs*
- *NRI's*
- *Foreign Investors*
- *Non-profit Organizations, NBFC's*
- *Educational Institutions*
- *Embassies & Consulates*
- *Consultancies*
- *Industry / trade associations*

Sectors We Cover

- *Ayurvedic And Herbal Medicines, Herbal Cosmetics*
- *Alcoholic And Non Alcoholic Beverages, Drinks*
- *Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin*
- *Activated Carbon & Activated Charcoal*
- *Aluminium And Aluminium Extrusion Profiles & Sections,*
- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*

Sectors We Cover Cont...

- *Bamboo And Cane Based Projects*
- *Building Materials And Construction Projects*
- *Biodegradable & Bioplastic Based Projects*
- *Chemicals (Organic And Inorganic)*
- *Confectionery, Bakery/Baking And Other Food*
- *Cereal Processing*
- *Coconut And Coconut Based Products*
- *Cold Storage For Fruits & Vegetables*
- *Coal & Coal Byproduct*

Sectors We Cover Cont...

- *Copper & Copper Based Projects*
- *Dairy/Milk Processing*
- *Disinfectants, Pesticides, Insecticides, Mosquito Repellents,*
- *Electrical, Electronic And Computer based Projects*
- *Essential Oils, Oils & Fats And Allied*
- *Engineering Goods*
- *Fibre Glass & Float Glass*
- *Fast Moving Consumer Goods*
- *Food, Bakery, Agro Processing*

Sectors We Cover Cont...

- *Fruits & Vegetables Processing*
- *Ferro Alloys Based Projects*
- *Fertilizers & Biofertilizers*
- *Ginger & Ginger Based Projects*
- *Herbs And Medicinal Cultivation And Jatropha (Biofuel)*
- *Hotel & Hospitability Projects*
- *Hospital Based Projects*
- *Herbal Based Projects*
- *Inks, Stationery And Export Industries*

Sectors We Cover Cont...

- *Infrastructure Projects*
- *Jute & Jute Based Products*
- *Leather And Leather Based Projects*
- *Leisure & Entertainment Based Projects*
- *Livestock Farming Of Birds & Animals*
- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
- *Medical Plastics, Disposables Plastic Syringe, Blood Bags*
- *Organic Farming, Neem Products Etc.*

Sectors We Cover Cont...

- *Paints, Pigments, Varnish & Lacquer*
- *Paper And Paper Board, Paper Recycling Projects*
- *Printing Inks*
- *Packaging Based Projects*
- *Perfumes, Cosmetics And Flavours*
- *Power Generation Based Projects & Renewable Energy Based Projects*
- *Pharmaceuticals And Drugs*
- *Plantations, Farming And Cultivations*
- *Plastic Film, Plastic Waste And Plastic Compounds*
- *Plastic, PVC, PET, HDPE, LDPE Etc.*

Sectors We Cover Cont...

- *Potato And Potato Based Projects*
- *Printing And Packaging*
- *Real Estate, Leisure And Hospitality*
- *Rubber And Rubber Products*
- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
- *Steel & Steel Products*
- *Textile Auxiliary And Chemicals*

Sectors We Cover Cont...

- *Township & Residential Complex*
- *Textiles And Readymade Garments*
- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

Contact us

Niir Project Consultancy Services

106-E, Kamla Nagar, Opp. Spark Mall,

New Delhi-110007, India.

Email: npcs.ei@gmail.com , info@entrepreneurindia.co

Tel: +91-11-23843955, 23845654, 23845886, 8800733955

Mobile: +91-9811043595

Website : www.entrepreneurindia.co , www.niir.org

Take a look at NIIR PROJECT CONSULTANCY SERVICES on #StreetView

https://goo.gl/VstWkd

Follow Us

- https://www.linkedin.com/company/niir-project-consultancy-services

- https://www.facebook.com/NIIR.ORG

- https://www.youtube.com/user/NIIRproject

- https://plus.google.com/+EntrepreneurIndiaNewDelhi

- https://twitter.com/npcs_in

- https://www.pinterest.com/npcsindia/

www.niir.org

www.entrepreneurindia.co

THANK YOU!!!

For more information, visit us at:

www.entrepreneurindia.co