Non-Ferrous and Precious Metals
with Electroplating Chemicals
Non-ferrous metals are much more malleable than ferrous metals. Non-ferrous metals are also much lighter, making them well-suited for use where strength is needed, but weight is a factor, such as in the aircraft or canning industries. Because they contain no iron, non-ferrous metals have a higher resistance to rust and corrosion, which is why you’ll find these materials in use for gutters, water pipes, roofing, and road signs.
The most commonly used non-ferrous metals are aluminium, copper, lead, zinc, nickel, titanium, cobalt, chromium and precious metals. Millions of tonnes of nonferrous scrap are recovered annually and used by smelters, refiners, ingot makers, foundries, and other manufacturers. Some non-ferrous materials are also used in the iron and steel industries.

Important non-ferrous metals include aluminium, copper, lead, nickel, tin, titanium and zinc, and alloys such as brass.
Precious metals such as gold, silver and platinum and exotic or rare metals such as cobalt, mercury, tungsten, bismuth, cerium, cadmium, niobium, indium, tantalum and vanadium are also non-ferrous. Precious metals have long been valued as stores of wealth and for use in producing coinage, jewelry and decorative arts. Today, precious metals are used in a wide range of applications including electronic and communications equipment, spacecraft, and jet aircraft engines and can be found in everything from cell phones to catalytic converters.
Gold serves as the most vital element in international banking and over 90 per cent of the world’s total gold production is used in the monetary system. A large quantity of gold is used in India, for the manufacture of jewellery, dentistry and decorative articles.

Indian Precious Metals demand has always been very active especially Gold and Silver as Indian's are known worldwide for their love for Gold, be it simply Bars or Ornaments or Coins. This has been the case ever since Gold was first discovered or introduced into India. Investment to silver in India would nearly double world silver jewellery demand.
Electroplating Chemicals that is basically used for metal finishing and electroplating. This chemical is widely demanded in automotive, electronics, telecommunications, aerospace and precision engineering industries.

Electroplating is a process in which electrical current is used to reduce dissolved metal cation so that they form a coherent metal coating on an electrode. Additionally, this chemical is used to change the surface properties of an object such as abrasion and wear resistance, corrosion protection, lubricity, etc.
India is among top 20 major producers copper globally. Falling prices of copper in international markets would benefit India, as it is one of the world’s biggest importers of the metal, alongside China, Japan, South Korea and Germany. Nickel demand is derived demand based on the growth of different industrial sector thus exhibits high volatility. Nickel market in India is of total import dependent. India imports around 50,000 mt of Nickel. One of the emerging trends spurring the growth prospects of this market is the extensive applications of titanium. Titanium is used in anodic spark deposition, a technology that has the potential for expanding titanium’s suitability for automotive, biomechanical, marine, and industrial applications.
Demand for non-ferrous metals comes from sectors such as agriculture, automobiles, railways, telecommunications, construction and chemicals. The Make in India campaign coupled with enhanced thrusts to sectors like Defence, Railways, Metro, Power, Housing; which all need huge quantity of Non-Ferrous Metals; will be a great catalyst to spur the demand in India.

Basic precious and non-ferrous metals’ turnover expected to see 13% CAGR over 2014-2020 due to expected growth in construction industry.

www.entrepreneurindia.co
This handbook explains different extraction and production processes with flow diagrams of various non-ferrous and precious metals. Major contents of the book are Silver, Gold, Copper, Complex salts of copper, silver and gold, magnesium, chromium, platinum group of metals, nickel, zinc, lead, aluminium, mercury, cobalt, sodium, sodium chloride, soda ash, sodium sulfate, glauber salt, hydrochloric acid, sodium silicate, sodium sulfides, sodium thiosulfate, sodium bisulfate, anhydrous, sodium hyposulfite, liquid chlorine, hydrides of boron, silicon, sulfuric acid, nitric acid, ammonium nitrate, hydrazine, hydrogen cyanide, melamine, amines, aniline, isocyanates, phosphorus, tin, ferroalloys, manganese, bismuth, cerium, phosphoric acid, tungsten, niobium and tantalum etc.

It will be a standard reference book for professionals, entrepreneurs, engineers, those studying and researching in this important area and others interested in the field of non-ferrous, precious metals and electroplating chemicals.
# Table of Contents

## 1. SILVER
- Extraction by Chloridizing Roasting
- Extraction by Cyanidation
- Recovery from Base Metal Ores
- Parke's Process
- Silver Production in India
- Silver Nitrate
- Industrial Applications
- Photography

## 2. GOLD
- Extraction of Gold
- Amalgamation Process
- Chlorination Process
- Cyanidation Process
- Gold Extraction in India
- Compounds of Gold
3. COPPER
Uses
Harmful Impurities in Copper
Pyrometallurgical Extraction of Copper
Sources of Copper
Extraction of Copper from Sulphide Ores
Concentration
Roasting
Smelting
Converting
Slagging Stage
Blister Formation Stage
Refining
Fire Refining
Electrolytic Refining
Newer Processes for Copper Extraction
Flash Smelting
Continuous Copper Production
<table>
<thead>
<tr>
<th>Process/Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORCRA Process</td>
</tr>
<tr>
<td>Noranda Process</td>
</tr>
<tr>
<td>Mitsubishi Process</td>
</tr>
<tr>
<td>Smelting Furnace</td>
</tr>
<tr>
<td>Slag-cleaning Furnace</td>
</tr>
<tr>
<td>Converting Furnace</td>
</tr>
<tr>
<td>TORCO Segregation Process</td>
</tr>
<tr>
<td>Energy Concepts in Copper Smelting</td>
</tr>
<tr>
<td>Hydrometallurgy of Copper</td>
</tr>
<tr>
<td>Ferric Chloride Leaching</td>
</tr>
<tr>
<td>Leaching of Low-Grade Ores</td>
</tr>
<tr>
<td>Leaching of Roasted Sulphide Concentrates</td>
</tr>
<tr>
<td>Production of Copper in India</td>
</tr>
<tr>
<td>Indian Copper Complex</td>
</tr>
<tr>
<td>Khetri Copper Complex</td>
</tr>
<tr>
<td>Compounds of Copper</td>
</tr>
</tbody>
</table>

### 4. COMPLEX SALTS OF COPPER, SILVER AND GOLD

- Complex Compounds of Silver
- Complex Salts of Gold
5. MAGNESIUM

Uses
Nonstructural Uses
Alloying
Deoxidation and Desulphurization
Modifying Structure of Graphite in Cast Irons
Pyrotechnics and Photography
Cathodic Protection

Structural Uses
Magnesium Ores
Methods of Magnesium Extraction
Magnesium from Sea-Water
Pidgeon Process
Equipment and Operation
Reaction Mechanism
Energy Required for the Pidgeon Process
Magnotherm Process
Magnesium Production in India
NML Process
CECRI Process
6. CHROMIUM
Uses
Occurrence
Metal Extraction
Electrolytic Chromium
Chrome Alum Process
Chromic Acid Process

7. PLATINUM GROUP OF METALS
Extraction of Platinum Group Metals
Compounds of Platinum

8. NICKEL
Uses
Extraction of Nickel by Pyrometallurgy
Extraction from Sulphide ores
Nickel Sulphide Ore Processing at Sudbury (Canada)
Smelting of Nickel Concentrate
Carbonyl Process for Refining Nickel
Electrolytic Refining of Nickel
Extraction of Nickel from Oxide Ores
Pyrometallurgical Processing
DTA (Differential Thermal Analysis) of Lateritic Ores
Selective Nickel Reduction
Reduction Smelting
Ferronickel Production
Matte Smelting
Pyrometallurgical Processing followed by Hydrometallurgy
Ammoniacal Leaching
Other Leachants
Pyrometallurgical Processing followed by Carbonylation
Hydrometallurgy
Hydrometallurgy of Nickel Sulphide Concentrates
Other Metals from Sulphide Ores
Compounds of Nickel
9. ZINC

Uses
Extraction of Zinc
Sources of Zinc
Pyrometallurgical Extraction of Zinc
Horizontal Retort Reduction
Vertical Retort Reduction
Hydrometallurgical Extraction of Zinc
Imperial Smelting Process (ISP)
Production of Other Metals by ISP
Lead Recovery
Precious Metals Recovery
Copper Recovery
Arsenic, Antimony, and Bismuth Recovery
Tin Recovery
Cadmium Recovery
Zinc from Lead Slags by Slag Fuming
Production of Zinc in India
HZL Debari Plant
Treatment of Complex Sulphides of Lead, Copper and Zinc
Gravity Concentration
Differential Flotation
Retort Distillation
Electrolysis
Liquation
Rectification
Lead Blast Furnace Smelting
Selective Roasting
Reverberatory Smelting
Hydrometallurgical Treatment of Complex Sulphides
Solvent Extraction
Compounds of Zinc and Cadmium

10. LEAD
Uses
Extraction of Lead
Occurrence
Treatment of Ore and Production of Metal
Treatment of Base Bullion
Drossing
Parke's Process for Desilverization of Lead
Dezincing
Debismuthizing
Electrolytic Refining
Modern Developments in Lead Smelting
Outokumpu Flash Smelting
Direct Smelting in Converter
Flash Smelting with Oxygen
KIVCET Process
WORCRA Process
Q-S Process
TBRC (Top-Blown Rotary Converter) Smelting
Production of Lead in India
Tundoo Plant
Tundoo Blast Furnace
Lead Refining
Compounds of Lead
1. Lead monoxide or litharge PbO
2. Red lead, Pb3O4
3. Lead dioxide, PbO2
4. Basic Lead Carbonate or White Lead, Pb(OH)2.2PbCO3-Dutch Process, Carter's Process, Electrolytic Process
11. ALUMINIUM

Uses
Aluminium Ores
Extraction of Aluminium
Bayer Process for Alumina Production
Factors Affecting Bayer Process
Hall-Heroult Process
Decomposition Potential of Al\textsubscript{2}O\textsubscript{3} Dissolved in Cryolite
Influence of Hydrogen or Methane Injection at Anode
Actual Decomposition Potential
Electrolytic Reduction Cell
Cell Operation
Role of Cryolite in Electrolysis
Theory 1
Theory 2
Factors Influencing Electrolysis
Electrolytic Refining of Aluminium
Methods of Treating Low-Grade Ores
Lime Sinter Process
Deville-Pechiney Process
Serpeck Process
Production of Aluminium in India
The Alumina Plant at Hindalco
The Reduction Plant at HINDALCO
Environmental Considerations in Aluminium Production
Newer Processes for Aluminium Production
ALCOA Process
Toth Process
ALCAN Process
Properties of Aluminium: Physical
Compounds of Aluminium
Ceramics Industry

12. MERCURY
Extraction of Mercury
Compounds of Mercury-Experimental evidences to show that mercurous ion is Hg22+
13. COBALT
Compounds of Cobalt

14. SODIUM
Production of Sodium
Downs's Process

15. SODIUM CHLORIDE

16. SODA ASH
Soda Ash, The Commercial Sodium Carbonate
Solvay Process
Soda Ash from Other Sources
Soda Ash Related Products

17. SODIUM SULFATE
Salt Cake

18. GLAUBER SALT
19. HYDROCHLORIC ACID

20. SODIUM SILICATE
Bormine and Bromides

21. SODIUM SULFIDES

22. SODIUM THIOSULFATE

23. SODIUM BISULFITE, ANHYDROUS

24. SODIUM HYPOSULFITE (HYDROSULFITE)
Caustic Soda and Chlorine
Electrolysis of Brine
The Electrolytic Cell
Purification of the Salt Solution
Diaphragm Cells
Concentration of the Caustic Liquor
The Mercury Cell
Other Processes for the Production of Chlorine
25. LIQUID CHLORINE
   Bleaches

26. HYDRIDES OF BORON
   Historical
   Methods of Preparation
   Properties
   Chemical
   Oxyacids of Boron
   Orthoboric Acid, H₃BO₃
   Properties
   Borax, Na₂B₄O₇·10H₂O Preparation
   Properties
   Perboric Acid and Perborates
   Preparation
   Properties
   Structure
   Industrial Applications
27. SILICON

Hydrides of Silicon
Silicon Tetrahydride, Silicane, or Monosilane, SiH4
Preparation
Properties
Silicoethane, Disilicane, or Disilane, Si2H6
Properties
Silicopropane, Trisilicane or Trisilane, Si3H8
Preparation
Properties
Silicobutane, Tetrasilicane or Tetrasilane, Si4H10
Silicopentane, Si5H12 and Silicohexane, Si6H14
Silico-acetylene, (Si2H2)n
Structural Considerations
Short Note on Silicones
Structure of Silicates
Simplest Silicates
Mixed Silicates
Three Dimensional Networks-Felspar and Zeolites
28. SULFURIC ACID
Uses of Sulfuric Acid
Kinds of Acid
The Manufacture of Sulfuric Acid
Development of the Sulfuric Acid Industry
The Chamber Process for Making Sulfuric Acid
The Contact Process

29. NITRIC ACID
Processes
Uses of Nitric Acid
30. AMMONIUM NITRATE
31. HEXAMETHYLENETETRAMINE
32. HYDRAZINE
   Manufacture
   Stabilization
33. UREA
   Uses of Urea
34. HYDROGEN CYANIDE
35. ACRYLONITRILE
36. MELAMINE
37. AMINES
38. ANILINE

39. ISOCYANATES
Other Nitrogen Compounds

40. PHOSPHORUS
Manufacture of Phosphorus
Modern Electric Process
Manufacture in India
Purification
Smithel's Cold Flame
Luminescence
Manufacture of Red Phosphorus
Hydrides of Phosphorus
Phosphorus Trihydride, or Phosphine PH₃
Properties
Phosphonium Iodide, PH₄ I
Hydrogen Hemiphosphide, P₂H₄
Hydrogen Diphosphide, P₁₂H₆

www.entrepreneurindia.co
Structure
Oxyacids of Phosphorus
Hypophosphorous Acid, H₃PO₂
Properties
Detection
Evaluation
Phosphorous Acid, H₃PO₃
Preparation
Properties
Constitution
Pyrophosphorus Acid, H₄P₂O₅
Preparation
Properties
Constitution
Metaphosphorous Acid, (HPO₂)ₙ
Preparation
Properties
Hypophosphoric Acid, H₄P₂O₆
Preparation
Structure
Orthophosphoric Acid, H₃PO₄
Manufacture
Thermal Process
Volatileization Process
Properties
Constitution
Orthosphates
Preparation
Detection
Evaluation
Pyrophosphoric Acid, H₄P₂O₇
Preparation
Properties
Constitution
Metaphosphoric Acid, (HPO₃)
Preparation
Permonophosphoric Acid, H₃PO₅
Perdiphosphoric Acid, H₄P₂O₈

www.entrepreneurindia.co
Halogen Compounds of Phosphorus
Phosphorus Trichloride
Phosphorus Pentachloride, PCl₅
Phosphoryl Chloride, POCl₃

41. TIN
Uses
Concentration of Tin Ores
Smelting of Tin Concentrate
Reverberatory Furnace Smelting
Rotary Furnace Smelting
Refining of Tin
Pyrometallurgical Refining of Tin
Electrolytic Refining of Tin
Compounds of Tin

42. FERROALLOYS
General Methods of Producing Ferroalloys
Beneficiation

www.entrepreneurindia.co
Carbon Reduction
Aluminothermic Reduction
Analysis of Aluminothermic Reduction of Manganese Ores
Aluminothermic Process Versus Carbothermic Process
Refining of Ferroalloys
Production of Individual Ferroalloys
Ferromanganese
Ferrosilicon
Ferrochromium (Ferrochrome)
Charge Chrome
Ferrotitanium
Ferrotungsten
Ferromolybdenum
Ferrovanadium
Compounds of Iron

43. MANGANESE
Uses
Electrolytic Manganese
Compounds of Manganese
44. ANTIMONY
Extraction of Antimony

45. BISMUTH
Extraction of Bismuth

46. CADMIUM
Production of Byproduct Cadmium

47. CERIUM
Compounds of Cerium

48. PHOSPHORIC ACID
Production of Elemental Phosphorus and Phosphoric Acid
Industrial Phosphates
Wet-Process Phosphoric Acid

49. INDIUM
Properties
Methods of Manufacture
50. TUNGSTEN
Uses
Occurrence and Extraction
51. VANADIUM
Uses

52. NIOBIUM AND TANTALUM
Sources of Niobium and Tantalum
Extraction of Niobium and Tantalum
Niobium and Tantalum in India

53. MOLYBDENUM
Molybdenite Roasting

54. TITANIUM
Sources of Titanium
Treatment of Ilmenite for Upgradation
Electric Smelting of Ilmenite
Acid Leaching of Ilmenite
Halogenation of Ilmenite
Upgradation Processes
Smelting of Ilmenite: Sorel Process

www.entrepreneurindia.co
Direct Acid Leaching of Ilmenite
Hydrochloric Acid Digestion of Ilmenite
Sulphuric Acid Digestion of Ilmenite
Solid-State Reduction of Ilmenite Followed by Iron Removal
 Preferential Chlorination of Ilmenite
Chlorination of TiO2
Production of Metallic Titanium by Reduction of Titanium Tetrachloride
 Kroll's Process
Production of Ductile Titanium
Theory of Titanium Chloride Reduction by Sodium (Hunter's Process) and Magnesium (Kroll's Process)
Sodium Reaction
Magnesium Reduction
Application of Zinc Refining Process, Book of Non-Ferrous Metal, Book on Non-Ferrous and Precious Metals with Electroplating Chemicals, Chemical Extraction of Precious Metals, Chemicals are used for the preparation of precious metal plating, Chromium Chemistry, Chromium occurrence, principles of extraction, Chromium uses, Copper extraction and purification, Copper extraction techniques, Copper refining process, Electrolysis of Magnesium Chloride, Electrolysis Production of Magnesium, Electrolytic processes for the extraction of nickel, Electroplating Chemicals & Non Ferrous Metals, Electroplating Chemicals, Essential Guide to Investing in Precious Metals, Extracting Lead Materials from Ore, Extracting precious metals from electronics, Extraction of Copper, Extraction of Lead, Extraction of nickel from its ore, Extraction of nickel from sulphide ore, Extraction of Nonferrous Metals book, Extraction of nonferrous metals, Extraction of Platinum Group Metals, Extraction of precious metals, Extraction of zinc by electrolysis, Extraction of Zinc, Extraction purification lead zinc titanium chromium mineral ores, Gold Extraction in India, How electroplating works, How is lead processed?, How is nickel extracted?, How lead is made - material, used, processing, product, industry, How Nickel is produced, How to remove precious metals, How to start Non-ferrous Businesses,
Niir Project Consultancy Services (NPCS) can provide Process Technology Book on Non-Ferrous and Precious Metals with Electroplating Chemicals

See more
http://goo.gl/tdxhxA
http://goo.gl/MC4MqD
http://goo.gl/DI8u5s
Visit us at

www.entrepreneurindia.co
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
Our inexhaustible Client list includes public-sector companies, Corporate Houses, Government undertakings, 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/G3lCjV
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
Fax: +91-11-23845886

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
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.
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

www.entrepreneurindia.co
Our Approach

1. Requirement collection
2. Thorough analysis of the project
3. Economic feasibility study of the Project
4. Market potential survey/research
5. Report Compilation

www.entrepreneurindia.co
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

www.entrepreneurindia.co
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

- 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

- 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 & Hospitality Projects
- Hospital Based Projects
- Herbal Based Projects
- Inks, Stationery And Export Industries

www.entrepreneurindia.co
Sectors We Cover  

- 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

- 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

- 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

- 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
Fax: +91-11-23845886
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/
THANK YOU!!!

For more information, visit us at:
www.entrepreneurindia.co