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## About Us

NPCS is a well-known technical consultancy that focuses on Project Reports Compilation, and we have been following a tight system and procedure to assure only top quality in accordance with our clients' expectations in this rapidly increasing and changing market. We've created the list of the top projects to start your own business startups.

## Handbook on Active Pharmaceutical Ingredients (API), Drugs & Pharmaceutical Products

(Paracetamol, Aspirin, IV Fluids, Ointment, Metronidazole, Liquid Glucose, Surgical Cotton, Syrup, Tablet, Excipients, Pharmaceutical Salts with Manufacturing Process, Machinery Equipment Details and Factory Layout)

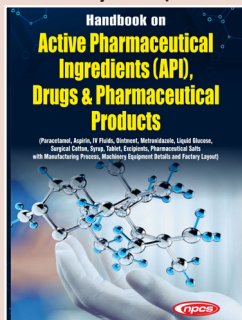
An active pharmaceutical ingredient (API) is the active substance in a pharmaceutical drug that produces its therapeutic effect. APIs can be synthetic chemicals or natural sources such as plant extracts. APIs are components of drugs, the majority of which are manufactured by pharmaceutical companies. Drugs, on the other hand, are dosage forms that contain an API and are distributed to patients for use. Pharmaceutical products are any compounds used in the medical industry to diagnose, treat, cure, or prevent diseases. These products are typically formulated as drugs, vaccines, biologics, and medical devices, which can either be prescribed by a doctor or bought over-the-counter (OTC). They come in various forms such as tablets, capsules, syrups, ointments, creams, solutions, suspensions, implants, patches, and powders. Pharmaceutical products are manufactured under strict guidelines and must adhere to various regulations such as Good Manufacturing

Practices (GMP).

The global market for Active Pharmaceutical Ingredients (API), Drugs & Pharmaceutical Products is expected to grow rapidly over the next few years. This growth will be driven by rising demand for improved healthcare services and an increasing number of new treatments. The market for active pharmaceutical ingredients is anticipated to rise at a CAGR of 5.90%. The development in the production of active pharmaceutical ingredients (APIs) as well as the increased incidence of chronic diseases including cancer and cardiovascular conditions are both responsible for the expansion. Government regulations that are supportive of API manufacturing, together with shifting geopolitical conditions, are accelerating market expansion.

The pharmaceutical products market has grown steadily in recent years, and is expected to continue to do so. This growth is driven by a number

₹ 2495/- US\$ 63-



of factors, including increased demand for new drugs, changing disease patterns and aging populations in some countries, as well as the emergence of innovative drugs and technologies. The market is being shaped by the rise of emerging economies and their increasing healthcare needs. This

has led to increased investment in drug research and development, as well as an increase in the number of multinational companies setting up operations in various countries.

Furthermore, generic drugs are becoming increasingly popular as a way of reducing healthcare costs. Generic drugs are copies of brand-name drugs, which are manufactured by generic drug companies. They offer an effective alternative to branded drugs and are often much cheaper. As a result, generic drugs are increasingly being used in countries across the world, leading to an increase in the global pharmaceutical products market.

Overall, the global market for pharmaceutical products and drugs are set to continue to grow in the coming years. New products, innovative technologies and emerging markets will drive growth, and this will bring both opportunities and challenges for the industry.

The books' main subjects include

Active Pharmaceutical Ingredients (API), Drugs, Aspirin, Paracetamol, IV Fluids, Ointment, Metronidazole, Liquid Glucose, Surgical Cotton, Syrup, Tablet, Excipients, Pharmaceutical Salts with formulations, factory layout, and images of machinery with contact information for suppliers.

A thorough guide to manufacturing and business operations in the Active Pharmaceutical Ingredients (API), Drugs & Pharmaceutical Products industry. The Active Pharmaceutical Ingredients (API), Drugs & Pharmaceutical Products manufacturing industry is full with opportunity for producers, traders, and business owners, and this book is your one-stop resource for all the information you require. This only complete manual on the creation of commercial Active Pharmaceutical Ingredients (API), medications, and pharmaceutical products is this one. It offers a wealth of information on how to do things, from concept through equipment acquisition.

## Handbook on Printing Technology

(Offset, Flexo, Gravure, Screen, Digital, 3D Printing with Book Binding and CTP)

Printing is a process for reproducing text and image, typically with ink on paper using a printing press. It is often carried out as a large-scale industrial process, and is an essential part of publishing and transaction printing. Modern technology is radically changing the way publications are printed, inventoried and distributed. Printing technology market is growing, due to technological proliferation along with increasing applications of commercial printing across end users. In India, the market for printing technology is at its nascent stage; however offers huge growth opportunities in the coming years. The major factors boosting the growth of offset printing press market are the growth of packaging industry across the globe, increasing demand in graphic applications, the wide range of application in various industry, and industrialization. 3D printing market is estimated to garner \$8.6 billion in coming years. The global digital printing packaging market is expected to exceed more than US\$ 40.02 billion by 2026 at a CAGR of 13.9%. Computer-to-plate systems are increasingly being combined with all digital prepress and printing processes.

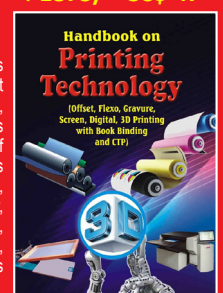
This book is dedicated to the Printing Industry. In this book, the details of printing methods and applications are given. The book throws light on the materials required for the same and the

various processes involved. This popular book has been organized to provide readers with a firmer grasp of how printing technologies are revolutionizing the industry.

The major content of the book are principles of contact (impression), principles of noncontact printing, coated grades and commercial printing, tests for gravure printing, tests for letterpress printing, tests for offset printing, screen printing, application of screen printing, offset lithography, planography, materials, tools and equipments, sheetfed offset machines, web offset machines, colour and its reproduction, quality control in printing, flexography, rotogravure, creative frees printer, shaftless spearheads expansion, digital printing, 3D printing, 3D printing machinery, book binding, computer-to-plate (ctp) and photographs of machinery with suppliers contact details.

A total guide to manufacturing and entrepreneurial success in one of today's most printing industry. This book is one-stop guide to one of the fastest growing sectors of the printing industry, where opportunities abound for manufacturers, retailers, and entrepreneurs. This is the only complete handbook on the commercial production of printing products. It serves up a feast of how-to information, from concept to purchasing equipment.

₹ 1875/- US\$ 47-



# A Business Plan for Surgical Cotton and Cotton Balls

**S**urgical cotton, also recognized as medical cotton or absorbent cotton wool, undergoes a detailed purification and sterilization process to ensure its safety and effectiveness in medical applications. This type of cotton is distinct from its non-medical counterparts due to its preparation for direct use on wounds or in surgical settings, making it a staple in healthcare facilities. It is crafted to be hypoallergenic and highly absorbent, characteristics that are critical for preventing infections and facilitating healing. Cotton balls share the same foundational material as surgical cotton but are primarily targeted towards the cosmetic industry and personal care routines. They play a vital role in skincare regimens, aiding in the application and removal of products such as makeup and toners. Despite their common use in beauty and personal care, cotton balls are also utilized in medical environments for the gentle application of antiseptics and medications, showcasing their versatility.

### Benefits of Surgical Cotton and Cotton Balls

- High Absorbency
- Softness and Comfort
- Low Linting
- Sterility
- Versatility
- Cost-Effective
- Biodegradable
- Hypoallergenic
- Easy to Use and Dispose of

### Global Market Outlook

Bleached Absorbent Cotton Market Size Was Valued at USD 1765.45 Million in 2022 and is Projected to Reach USD 2472.46 Million by 2030, Growing at a CAGR of 4.30% From 2023-2030. The global market for bleached absorbent cotton is on a trajectory of steady growth, fueled by increasing demands from both the medical and personal care sectors. This surge is attributed to a heightened awareness regarding hygiene practices and the expanding healthcare industry, especially in emerging economies. The aging population worldwide, coupled with a rise in chronic diseases, has necessitated an uptick

in surgical procedures, directly influencing the demand for medical-grade cotton products. Furthermore, the personal care industry's exponential growth, driven by the beauty and skincare boom, has significantly contributed to the consumption of cotton balls and pads.

PROJECT COST ESTIMATE	
<b>CAPACITY:</b>	
<i>Surgical Cotton</i>	: 10,500 Kgs Per Day
<i>Cotton Balls</i>	: 4,500 Kgs Per Day
<b>Plant &amp; Machinery</b>	: ₹ 11 Cr.
<b>Cost of Project</b>	: ₹ 26 Cr.
<b>Rate of Return</b>	: 29%
<b>Break Even Point</b>	: 51%

A promising future for the bleached absorbent cotton sector, with a compound annual growth rate that reflects the industry's resilience and adaptability to global health trends. Innovations in product development, such as the introduction of eco-friendly and organic cotton products, are opening new avenues for market expansion. These advancements resonate well with the growing consumer preference for sustainable and environmentally responsible products, setting the stage for companies that align with these values to capture a sizable market share.

### Strategies for Success in the Surgical Cotton and Cotton Balls Business

To carve out a competitive advantage in the surgical cotton and cotton balls market, entrepreneurs must deploy a multifaceted strategy that emphasizes innovation, efficiency, and market insight. First and foremost, product quality is paramount. Investing in advanced purification and sterilization technologies ensures that products not only meet but exceed regulatory standards, establishing trust with healthcare and personal care consumers alike.

Adopting cutting-edge manufacturing solutions can streamline operations and reduce overhead costs. Automation in sorting, cleaning, and packaging processes can increase production speeds while ensuring consistent product quality. Additionally, adopting lean manufacturing principles can minimize waste, contributing to both cost-efficiency and environmental sustainability.

### Conclusion

Starting a business in surgical cotton and cotton balls sector is not just about tapping into an existing market; it's about contributing to an industry that is essential, dynamic, and ripe with opportunities for innovation and growth. It's a chance to build a venture that not only thrives economically but also makes a positive impact on health and environmental sustainability.

# Start Production of Silica from Rice Husk Ash

**I**n the concrete business, rice husk ash silica is a viable alternative to conventional sand, particularly in areas where sand is scarce. Silica is extracted from rice husk ash using high-temperature calcination and carbonization procedures to produce silicon dioxide, which can be used to concrete mixes to improve qualities like as strength, density, air entrainment, and freeze-thaw resistance.

1. **Adhesive:** Silica is used as a reinforcing and thickening agent, as well as to improve bond strength. When a liquid adhesive comes into touch with a solid surface, the dispersed silica particles within it solidify quickly. Adhesive based on natural and synthetic rubber.
2. **Chappals:** Silica is utilised in shoe soles because of its wear and tear durability, non-scuffing properties, and the ability to create compounds with light colours or even transparent materials.
3. **Conveyor Belt & Transmission Belt:** Due to its small particle size and complex aggregate structure, silica is employed to improve tear strength.
4. **PVC Sheets:** Silica improves pigment dispersion, acts as a separating agent and an absorbent to increase flow, and gives the compound a dry feel.
5. **Railway Pads:** Silica is utilised in railway pads for the following reasons:
7. **Rubber Products and Rubber Hoses:** In industrial rubber, silica gives higher strength and durability, as well as improved heat resistance and tear strength, to industrial Rubber Belts and Rubber Hoses.
8. **Silicon Tubes:** Silicone rubber is utilised in a variety of applications where its distinct qualities are advantageous. Many of these characteristics are heavily influenced by the type and amount of filler used in the compound.

In 2019-20, the India silica market was worth USD 46.8 million. It is expected to grow at a CAGR of 6.5 percent in the next years. Because of its anti-caking and super absorption qualities, strong product demand in the food industry has helped the market gain traction in recent years.

PROJECT COST ESTIMATE	
<b>CAPACITY:</b>	
<i>Silica</i>	: 5.80 MT Per Day
<i>Activated Carbon (by product)</i>	: 0.64 MT Per Day
<i>Sodium Carbonate (by product)</i>	: 0.96 MT Per Day
<b>Plant &amp; Machinery</b>	: ₹ 745 Lakhs
<b>Cost of Project</b>	: ₹ 1121 Lakhs
<b>Rate of Return</b>	: 27%
<b>Break Even Point</b>	: 45%

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

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**P**otato starch is obtained by crushing and rinsing potatoes, separating the starch from the fibrous material. This fine, powdery substance is highly valued for its ability to thicken, bind, and glaze. It's widely used in the culinary world, especially in gluten-free cooking and baking, where it's essential for making bread, noodles, and various desserts. Potato flakes are also important in this industry. Made by cooking, mashing, and dehydrating potatoes, these flakes offer a convenient way to prepare mashed potatoes quickly. They're popular in both homes and industries. Besides mashed potatoes, potato flakes are used as a base in snacks, a thickener in soups and sauces, and even in pet food. Their versatility and wide appeal make them a staple ingredient in many products.

**Why Set Up in the Potato Starch & Flakes Industry?**

Entering the Potato Starch & Flakes industry presents a promising opportunity for entrepreneurs and businesses seeking to capitalize on a market with significant growth potential. Several compelling factors support the case for establishing a presence in this sector. The evolving dietary preferences, marked by a rising demand for gluten-free and plant-based options, favor products derived from potatoes. The versatility of potato starch and flakes extends beyond culinary uses, finding applications across various industries, thereby creating multiple revenue streams. Furthermore, the industry's commitment

to sustainability is noteworthy. Potatoes are a highly efficient crop, requiring minimal water and yielding substantial output per acre. Additionally, utilizing by-products from potato starch production minimizes waste, aligning well with environmentally conscious practices. Global market trends further reinforce the attractiveness of investing in this sector. The growing popularity of convenience foods and the preference for natural ingredients have propelled the demand for potato flakes, especially in ready-to-eat meals and snacks. Moreover, advancements in agricultural and food processing technologies have enhanced the efficiency and cost-effectiveness of potato starch and flakes production, while also fostering innovation in product development.

**Uses and Applications**

Potato starch and flakes have diverse applications across several industries, including:

- Thickening Agent
- Gluten-Free Baking Ingredient
- Coating and Binding Agent
- Ingredient in Processed Foods
- Sizing Agent
- Finishing Agent
- Surface Sizing
- Internal Sizing
- Excipient
- Glue Production

- Animal Feed
- Cosmetics

**Global Market Outlook**

Global Potato Starch Market size was valued at USD 4.80 Bn in 2023 and is expected to reach USD 6.36 Bn by 2030, at a CAGR of 4.1%. Potato starch is an odorless, tasteless, and soft powder that is a rich source of carbohydrates derived from potato plant cells containing starch grains. It is used in various applications such as food, feed, pharmaceuticals, and paper-making industries. The potato starch market has been growing steadily due to its various benefits such as its gluten-free nature, easy digestibility, and high binding capacity. The global market value for the potato flakes market was USD 21,328.3 Mn in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 5.3 % from 2022 to 2032. Potato flakes accounts for 20% of market share in the potato processing market. Potato flakes are pieces of dehydrated squashed potatoes. These flakes are the key component in pre-mashed potato retailed in food stores, in commercially accessible products, such as pasta, instant mashed potatoes, croquettes, and bakery. Owing to the veganism trend potato protein is gaining traction. Flakes act as a thickening agent and improve the texture of gravies as well as many confectionary products also helps in extending the shelf life of bakery products.

**Start Manufacturing of Potato Starch & Flakes**

**PROJECT COST ESTIMATE**

<b>CAPACITY:</b>	
Potato Starch	: 7,000 Kgs Per Day
Potato Flakes	: 5,000 Kgs Per Day
Plant & Machinery	: ₹ 203 Lakhs
Cost of Project	: ₹ 877 Lakhs
Rate of Return	: 30%
Break Even Point	: 52%

**Conclusion**

Venturing into the Potato Starch & Flakes industry not only capitalizes on current consumer trends but also aligns with sustainable practices, promising profitability and future growth potential.

**Lucrative Business of Ethanol as Bio-Fuel**

**B**iofuels are transportation fuels such as ethanol and biomass-based diesel fuel that are made from biomass materials. These fuels are usually blended with petroleum fuels (gasoline and distillate/diesel fuel and heating oil), but they can also be used on their own. Using ethanol reduces the consumption of gasoline and diesel fuel made from crude oil, which can reduce the amount of crude oil imported from other countries.

Ethanol is used extensively as a solvent in the manufacture of varnishes and perfumes; as a preservative for biological specimens; in the preparation of essences and flavorings; in many medicines and drugs; as a disinfectant and in tinctures (e.g., tincture of iodine); as a fuel and gasoline additive. Ethanol has been produced from different sources in the past.

**Properties of Ethanol**

- It is 10th % pure ethyl alcohol.
- It is highly flammable, non-toxic sweet smelling compound
- Ethanol has a greater affinity for water
- Highly Soluble
- Ethanol has an auto-ignition temperature of 793°F
- Some ethanol blends can conduct electricity

The global fuel ethanol market was valued at USD 78.6 billion in 2018 and expected to grow at a CAGR of 5.8% in, 2019–2025. Crude oil and natural gases are commonly used sources for manufacturing fuels across the world. As India has very large area under sugar cultivation, we can also follow the Brazilian route (i.e. using ethanol as motor fuel) of ethanol production. Biofuel refers to the specific type of fuel derived from the natural sources such as plants, organic materials, animal wastes. Biofuel industry

is gaining substantial attraction as alternative fuel for the petroleum derived fuels in order to mitigate major concerns of global warming, raised due to the fossil fuels. The market is mostly driven by rising environmental concerns and the need to reduce GHG emissions.

Government has been promoting use of ethanol as a blend stock with main automotive fuel like petrol in line with the National Policy on Biofuels -2018 under the Ethanol Blended Petrol (EBP) Programme. This policy envisages an indicative target of blending 20% ethanol in petrol by 2030. Department of Food & Public Distribution (DFPD) has informed that the production of ethanol varies from distillery to distillery and depends upon various factors viz. cost of raw material, conversion cost, efficiency of distillery plants etc. Several supply and demand side interventions have been initiated by the Government including enhancing scope of raw material for ethanol production and fixing remunerative prices of ethanol from different feedstocks being utilized for ethanol production.

**PROJECT COST ESTIMATE**

<b>CAPACITY</b>	
Ethanol	: 30.0 KL Per Day
Plant & Machinery	: ₹ 345 Lakhs
Cost of Project	: ₹ 4325 Lakhs
Rate of Return	: 24.00%
Break Even Point	: 48.48%

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**C** caustic soda is a versatile substance, available in various forms to meet different industrial needs. Solid caustic soda, found in blocks or bars, is ideal for large-scale processes due to its high concentration and potency. Liquid caustic soda, a sodium hydroxide solution, is perfect for precise dosing and easy mixing, making it valuable in water treatment and chemical manufacturing. Caustic soda flakes dissolve quickly, making them suitable for medium-scale applications like textiles and detergents. Pearls, similar to flakes but with low dust content, are perfect for smaller-scale or precision-demanding tasks, such as laboratory work or specialized manufacturing.

**The Wide Range of Caustic Soda Applications**

Caustic soda's versatility is evident in its widespread use across various industries, demonstrating its crucial role not only in manufacturing but also in vital environmental and health-related procedures. In manufacturing, it is essential in the paper industry for both pulping and bleaching processes, ensuring the production of top-quality paper products. The textile sector relies on caustic soda to treat and refine fibers, guaranteeing they meet required standards for strength and quality. In everyday products like soaps and detergents, caustic soda initiates the saponification process, converting fats and oils into soap. In water treatment, caustic soda serves dual purposes: adjusting pH levels for safe consumption and removing hazardous heavy metals, thus averting potential health hazards. The food industry benefits from its effectiveness in cleaning and sanitizing, maintaining high hygiene standards in production facilities. It is also utilized in the creation of specific food items, showcasing its adaptability. Moreover, the energy sector utilizes caustic soda in refining biofuels and producing fuel cells, supporting sustainable energy solutions. This wide-ranging utility emphasizes caustic soda's

**Start Production of  
Caustic Soda  
(Solids, Liquids,  
Flakes & Pearls)**

**PROJECT COST ESTIMATE**

**CAPACITY:**

<i>Caustic Soda Liquid 50%</i>	: 100 MT Per Day
<i>Caustic Soda Flakes</i>	: 25 MT Per Day
<i>Caustic Soda Pearl</i>	: 25 MT Per Day
<i>by Product Liquid Chlorine Gas 900 Kg Cylinder</i>	: 90 MT Per Day
<i>by Product Hydrogen Gas 10 Kg Cylinder</i>	: 5 MT Per Day
<b>Plant &amp; Machinery</b>	: ₹ 290 Cr.
<b>Cost of Project</b>	: ₹ 565 Cr.
<b>Rate of Return</b>	: 25%
<b>Break Even Point</b>	: 33%

invaluable contribution to industrial processes and environmental and public health initiatives.

**Why Entrepreneur Should Start This Business?**

Starting a venture in the caustic soda industry presents entrepreneurs with a compelling opportunity to enter a market with established demand across various sectors. Caustic soda's indispensability in critical manufacturing processes, environmental management, and everyday consumer products underpins the industry's resilience, ensuring a consistent demand. The versatility of caustic soda, available

in multiple forms like solids, liquids, flakes, and pearls, caters to a diverse client base ranging from large-scale industrial operations to specialized small-scale applications. This diversity opens up various market segments for new businesses, allowing for customized services and products to meet specific industry needs, thereby enhancing reach and profitability.

**Global Market Outlook**

The global caustic soda market size was USD 44,959.2 million in 2019 and is projected to reach USD 55,557.7 million by 2027, exhibiting a CAGR of 3.1% during the forecast period. Caustic soda is a crucial building block for a host of important items, such as plastics, pharmaceuticals, and additives for water treatment. It is generated by the electrolysis of sodium chloride solution using one of the cell types, such as diaphragm cells or membrane cells. The pulp and paper, detergent, alumina, oil and gas, textile, and chemical industries are the main consumers of the market.

The market size in Asia Pacific stood at USD 25,280.17 million in 2019. The region dominated the global market and is likely to maintain its position during the forecast period, backed by high consumer expenditure, rising interest rates, construction work, expanding chemical industry, and government subsidies. These are some of the important components of GDP. Also, the growing chemical industry is likely to drive the market.

**Conclusion**

The versatility of caustic soda forms (solid, liquid, flakes, and pearls) allows businesses to cater to a wide array of applications, customizing solutions for clients and creating niches within the market. This adaptability is key to staying competitive and relevant in a field that is continually evolving, ensuring long-term success and growth for entrepreneurs willing to venture into this robust industry.

**D**isposable containers are products that are a part of day-to-day life. Disposable items like cups, plates, saucers are being increasingly used. Such disposables items are made with natural materials like leaf as well as manmade products like paper, biodegradable plastics.

**Disposable Plates from Banana Leaves**

Leaf plates, cups have greater hygiene value. Cost-wise also it is cheaper than plastic and other plates. Banana leaves are large, flexible, and waterproof. They impart an aroma to food that is cooked in or served on them; steaming with banana leaves imparts a subtle sweet flavour and aroma to the dish. The leaves are not themselves eaten and are discarded after the contents are consumed. The pneumatic banana leaf cutting machine is used to produce different shapes of leaf spreads in faster production rate.

Banana leaf plate making is a state-of-the-art to develop biodegradable and compostable alternatives to petrochemical based plastics and polystyrene. From carrier bags to cling film, plates to cups, medical trays

to plant pots, there is a crucial crusade against non-degradable plastics. A biodegradable product is one that's broken down safely and relatively quickly by microbial activity into CO<sub>2</sub>, Water and Biomass – that's bacteria, moulds and fungi.

The global disposable plates market is projected to grow at a CAGR of 5.9% during the assessment period, to reflect a 1.76x increase in value from 2017-2027. Around US\$ 3.6 Bn is the global disposable plates market standing in 2017 and it is estimated to reach an evaluation of about US\$ 6.4 Bn by 2027. Disposable Tableware Market is segregated by product type as Disposable Plates, Disposable Bowls, Disposable Cups, and others. Disposable Tableware Industry is classified by application as Household, Commercial, and others. Disposable Tableware Market is categorized by end user as Household, School, Restaurant, and others.

Among all the end users, it has been noticed that the segment of Restaurant is taking up the largest share in the market the reason being, augmentation in the number of consumers across the globe.

**PROJECT COST ESTIMATE**

**CAPACITY**

<b>Disposable Plates from wild banana leaves</b>	: 1,00,000 Nos Per Day
<b>Plant &amp; Machinery</b>	: ₹ 6 Lakhs
<b>Cost of Project</b>	: ₹ 45 Lakhs
<b>Rate of Return</b>	: 29%
<b>Break Even Point</b>	: 69%

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# Start Production of Laundry Soap Bars

Laundry soap bars are a concentrated form of detergent that come in solid bar form, specifically designed for washing clothes. Unlike their liquid or powder counterparts, these bars are compact, often made from natural ingredients, and are used by directly applying them to clothes or dissolving a piece in water to create a cleaning solution.

### Why to Entrepreneurs Start this Business?

The burgeoning popularity of laundry soap bars presents a ripe opportunity for entrepreneurs looking to make a mark in the eco-friendly product space. Recognizing the shift in consumer behavior towards sustainable and minimal waste products, savvy business minds are capitalizing on this trend. The initial investment required to start a laundry soap bar business is relatively low compared to other ventures, particularly because the production process is straightforward and does not necessitate expensive machinery. Ingredients are often natural and can be sourced locally, further reducing costs and appealing to the environmentally conscious consumer.

### Benefits of Laundry Soap Bars?

Laundry soap bars are highly efficient and cost-effective. Their concentrated form means that a little goes a long way, offering more washes per bar compared to the equivalent volume of liquid detergent. This efficiency, combined with their multifunctional nature, presents a compelling value proposition for consumers looking to economize without compromising on performance. Another significant benefit is the health and safety aspect. Many laundry soap bars are made from natural, non-toxic ingredients, making them a safer alternative for families and individuals with sensitive skin or allergies to conventional detergents. This shift towards health-conscious cleaning products has further fueled their popularity.

### Global Market Outlook

The global bar soap market size was valued at USD 28.27 billion in 2021. The market is projected to grow from USD 29.16 billion in 2022 to USD 38.42 billion by 2029, exhibiting a CAGR of 4.02%

during the forecast period. Bar soaps are often used in households and commercial places such as schools, colleges, corporates, fitness centers, restaurants, and others for the purpose of cleaning and maintaining hygiene. The soaps have the capacity to moisturize the skin in a better way compared to other cleaning agents and are also long lasting and skin-friendly for consumers. Therefore, the increasing demand for soaps from several end-users, including hotels and restaurants, fitness clubs, households, institutional centers, and others is driving the consumption of these soaps in the global market.

The Asia Pacific region is estimated to lead the bar soap market share over the forecast period. The region accounted for 33.99% of the market share in 2021 owing to increasing population strength in countries such as China and India. Moreover, the prevalence of urbanization in emerging nations has accelerated the demand for soaps in the region. In addition, the rising appearance of small & medium-sized players of skin care products in the region has also fostered the market growth.

### Conclusion

Starting a laundry soap bar business is not just about tapping into a trend; it's about aligning with broader societal shifts towards sustainability, health consciousness, and simplicity. With its eco-friendly appeal, cost-effectiveness, and market differentiation potential, the laundry soap bar industry offers a fertile ground for entrepreneurs looking to make a positive impact while building a successful business. By addressing consumer desires for environmentally friendly and health-conscious products, your laundry soap bar business can clean up in the market while contributing to a cleaner planet.

### PROJECT COST ESTIMATE

CAPACITY	
Laundry Soap (1 Kgs Pack 10 Pcs. each 100gms Size)	: 1,000 Kgs Per Day
Plant & Machinery	: ₹ 27 Lakhs
Cost of Project	: ₹ 65 Lakhs
Rate of Return	: 27%
Break Even Point	: 72%

# A Business Plan for Glass Fiber Reinforced Polymer (GFRP) Rebar

Glass fiber reinforced polymer (GFRP) rebar is a type of composite rebar made from high-strength glass fibers embedded in a resin matrix. It is a relatively new product that has been developed for use in the construction industry as a substitute for steel rebar. GFRP rebar has several advantages over traditional steel rebar, including greater corrosion resistance and a lower cost.

### Scope of Start-up in Glass fiber reinforced polymer rebar Manufacturing Industry

The scope for start-up in Glass Fiber Reinforced Polymer (GFRP) rebar manufacturing industry is immense, as the global construction industry is projected to expand at a rapid pace in the years to come. GFRP rebar is gaining popularity as a replacement for traditional steel reinforcement due to its superior corrosion resistance, lightweight, and lower cost. The advantages of using GFRP rebar can help in cutting down the costs of construction, making it attractive for contractors to switch to GFRP rebar

over steel.

### Uses and Application

Glass fiber reinforced polymer rebar (GFRP) is a type of reinforcing bar used in the construction industry. This material is composed of glass fibers, epoxy resin, and other additives.

### Global Market Outlook

Glass fiber reinforced polymer (GFRP) is widely used in the construction industry for non-structural elements, such as facade, panels, piping, and channels. The Asia-Pacific region has become an attractive market for the investors, owing to the presence of a number of emerging economies, such as India, China, Indonesia, Vietnam, and others in the region.

### Conclusion

The scope of starting a GFRP rebar manufacturing business is excellent and provides a great opportunity for entrepreneurs to capitalize on the increasing demand of green building materials. With the right knowledge and resources, one can reap the benefits of this growing market in no time.

### PROJECT COST ESTIMATE

CAPACITY	
Glass Fibre Reinforced Polymer (GFRP) Bar (Size 8mm to 36 mm)	: 360,000 MT Per Annum
Plant & Machinery	: ₹ 6 Crore
Cost of Project	: ₹ 61 Crores
Rate of Return	: 34 %
Break Even Point	: 51 %

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

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**M**ink blankets, despite their name, are not made from the fur of minks. Instead, they are crafted from synthetic materials, primarily acrylic or polyester, that mimic the luxurious feel and warmth of real mink fur without the ethical and financial implications of using animal fur. These high-quality synthetic blankets are known for their plush, velvety texture and are designed to offer exceptional comfort and durability. The term "mink" in their name refers to the softness and rich texture that is akin to that of mink fur, making them a sought-after item for those looking to add a touch of luxury to their home decor. The production process involves high-density knitting and a special finishing technique, which results in a lustrous finish and an incredibly soft touch that rivals that of natural fur.

**A Growing Emphasis on Comfort and Luxury in Home Décor**

The evolving landscape of home decor has increasingly shifted toward prioritizing both comfort and luxury, a trend clearly embodied by the rising popularity of mink blankets. In a world where individuals are spending more time within their personal spaces, there's a notable shift towards enhancing these environments to be as comfortable and luxurious as possible. Mink blankets, with their unmatched softness and warmth, align perfectly with this new priority. They not only serve as functional items keeping individuals warm but also act as luxurious accessories that add a touch of elegance and sophistication to any room. This trend is further fueled by the growing interest in creating spaces that reflect personal style while ensuring the utmost comfort. Consumers are looking for high-quality, versatile home textiles that do not compromise on aesthetics, and mink blankets meet these criteria splendidly. Their wide range of colors,

**Setup Mink Blankets Business**

patterns, and sizes allows for customization and personalization in home decor, ensuring that each living space is both unique and reflective of the owner's taste.

Moreover, the accessibility of these luxurious blankets, thanks to their affordability compared to genuine fur or high-end textiles, means that a wider demographic can enjoy the benefits of a plush, inviting home environment. This democratization of luxury in home textiles is a key factor in the growing emphasis on incorporating items like mink blankets into everyday living spaces, marking a significant shift in how comfort and luxury are perceived and attained in modern home decor.

**Advantages of Mink Blankets**

- Unparalleled Softness
- Exceptional Warmth
- Durability
- Lightweight
- Versatility

**Global Blanket Market**

The global blanket market size was valued at USD 17.0 billion in 2018. Growing application of blankets in the commercial sectors including travel and hospitality, military and defense, and charity is expected to have a positive impact on the market growth. Furthermore, the market has seen a boom as a result of innovation and ease of

product availability in affordable price ranges. New product developments such as pastel-colored cotton blankets are expected to remain a recent trend. Preference for color and pattern is mostly based on the requirements of products with excellent stain resistance and machine washable properties. Additionally, demand for exotic colors and patterns related to flora and fauna has been observed in countries including India, Vietnam, Myanmar, and Sri Lanka.

Asia Pacific is expected to expand at the fastest CAGR of 5.2% from 2019 to 2025. Fluctuation in climate conditions in key markets, along with a strong hold of middle-income age groups, is expected to promote the utility of blankets. Large armed forces of China, India, and Pakistan are another factor influencing the market growth.

**Conclusion**

Setting up a mink blanket business presents a promising opportunity for entrepreneurs looking to venture into a market with high demand, diverse consumer preferences, and significant growth potential. With strategic planning, innovation, and a customer-focused approach, entering the mink blanket market can be a lucrative and rewarding endeavor.

**PROJECT COST ESTIMATE**

**CAPACITY:**

<i>Double Bed Blankets (3.80 Kgs Size)</i>	: 3,300 Nos Per Day
<i>Single Bed Blankets (2.50 Kgs Size)</i>	: 2,800 Nos Per Day
<i>Baby Blankets (0.60 Kgs Size)</i>	: 7,500 Nos Per Day
<b>Plant &amp; Machinery</b>	: ₹ 27 Cr.
<b>Cost of Project</b>	: ₹ 60 Cr.
<b>Rate of Return</b>	: 27%
<b>Break Even Point</b>	: 42%

**Start Lithium Ion Battery (Battery Assembly)**

**A** lithium ion battery (Battery Assembly) is a rechargeable battery that is typically used in portable electronic devices such as cell phones, laptops, and tablets. Lithium ion batteries have become increasingly popular due to their high energy density, long life cycle, and low self-discharge rate.

**Opportunity for Lithium Ion Battery Start-ups**

The increasing demand for energy storage solutions in the industrial, automotive, and consumer sectors have made lithium ion batteries a promising business opportunity.

**Indian Market Outlook**

The India lithium-ion Battery Market was valued

at US\$ 1.91 Bn. in 2021 and is estimated to reach a value of US\$ 5.2 Bn. in 2029. The Global India lithium-ion Battery Market size is estimated to grow at a CAGR of 15.3% over the forecast period.

**Global Market Outlook**

The global lithium-ion battery market size was valued at USD 41.97 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 18.1% from 2022 to 2030.

**Conclusion**

The lithium ion battery (Battery Assembly) industry is an ever-evolving one that offers exciting opportunities for Startups and established companies alike. With advances in technology and manufacturing, these batteries are becoming increasingly popular as an energy source. They

offer an efficient and cost-effective way to store and use energy, making them a great option for many applications. Overall the lithium ion battery industry has a bright future.

**PROJECT COST ESTIMATE**

**CAPACITY:**

<i>48 Volt, 60 AH Lithium-Ion Battery Pack</i>	: 500 Nos. Per Annum
<i>48 Volt, 80 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>48 Volt, 100 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>60 Volt, 20 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>60 Volt, 30 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>72 Volt, 20 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>72 Volt, 40 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>12.8 Volt, 8 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>12.8 Volt, 12 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>12.8 Volt, 20 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<i>12.8 Volt, 30 AH Lithium-Ion Battery Pack</i>	: 400 Nos. Per Annum
<b>Plant &amp; Machinery</b>	: ₹ 86 Lakhs
<b>Cost of Project</b>	: ₹ 516 Lakhs
<b>Rate of Return</b>	: 27 %
<b>Break Even Point</b>	: 60 %

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**E**gg Powder is created through a dehydration process that removes all moisture from eggs, transforming them into a fine, shelf-stable powder. This product is available in several forms, including whole egg powder, which contains both the yolk and the white; egg white powder, which is just the albumen; and egg yolk powder, made exclusively from the yolks. Egg Shell Powder is derived from the shells of eggs, which undergo a rigorous process of cleaning, drying, and grinding to produce a fine, powdery substance. This product is celebrated for its high calcium content and other essential minerals, making it a popular choice for promoting bone health among humans.

**Manufacturing Process**

**1. Egg Shell Removal**

The first step in the process is the removal of egg shells. This is typically done using automated machines that crack the eggs and separate the egg whites and yolks from the shells. The goal is to do this gently to minimize damage to the egg contents. This step is crucial as it ensures that only the edible parts of the egg are processed further.

**2. Washing**

Once the egg contents are separated from the shells, they are thoroughly washed. This step is essential for removing any residual shell fragments, bacteria, or other contaminants that may have been present on the shell's surface. The washing process uses a sanitized solution that is safe for food products and does not alter the egg's taste or nutritional value.

**3. Heating (Pasteurization)**

After washing, the egg mixture is pasteurized. Pasteurization is a controlled heating process that kills any bacteria or pathogens present in the egg, making it safe for consumption. This step is crucial for ensuring the egg powder's safety, especially since eggs can harbor bacteria like Salmonella. The heating process is carefully controlled to preserve as much of the egg's nutritional value as possible while ensuring it is safe to eat.

**4. Grinding**

Once the egg mixture is pasteurized, it is dried. The drying process can be done using spray drying or freeze-drying methods. In spray drying, the liquid egg is sprayed into a hot chamber, where the water quickly evaporates, leaving behind fine particles of egg solids. In freeze-drying, the egg mixture is frozen and then placed in a vacuum chamber where the water is removed via sublimation. After drying, the resulting product is a fine, dry powder. This powder is then ground to ensure a consistent texture and particle size, making it easy to package and dissolve when needed.

**5. Packaging**

The egg powder is then packaged in moisture-proof and air-tight containers to protect it from humidity, contamination, and spoilage. The packaging

**Start Egg & Egg Shell Powder Manufacturing Business**

process is designed to extend the shelf life of the egg powder, often up to a year or more when stored properly. The packaging material and process are selected to preserve the powder's quality and nutritional value.

**6. Sale/Store**

Finally, the packaged egg powder is ready for sale or storage. It can be distributed to retailers, wholesalers, or directly to consumers. The egg powder is stored in a cool, dry place until it is sold. This product offers a convenient, long-lasting alternative to fresh eggs for consumers and businesses alike, including those in the food service industry, bakeries, and for use in processed foods.

Egg powder manufacturing is a sophisticated process that transforms fresh eggs into a versatile, shelf-stable product. Each step of the process is designed to ensure the safety, quality, and nutritional value of the egg powder, making it a valuable ingredient for various culinary and industrial applications.

**Uses and Applications**

➤ **Egg Powder**

Here are some of the common uses and applications of egg powder:

- Baking and Cooking
- Breakfast Food
- Nutritional Supplement
- Emergency Preparedness

➤ **Egg Shell Powder**

Here are some of the common uses and applications of egg shell powder:

- Calcium Supplement
- Gardening
- Polishing Agent
- Pest Control

**Why to Start Egg Powder & Egg Shell Powder Manufacturing Business?**

Embarking on an Egg Powder & Egg Shell Powder business presents a golden opportunity for entrepreneurs looking to carve out a niche in the booming health and sustainability sectors. The market for egg-based products is vast and diverse,

encompassing everything from the food industry to cosmetics and agriculture. This diversity offers multiple revenue streams for businesses, allowing for flexibility and resilience against market fluctuations. For instance, while Egg Powder caters to the food industry, Egg Shell Powder finds its place in dietary supplements, beauty products, and even as an organic fertilizer, each market with its own set of growing demands. Consumer trends towards healthier lifestyles have increased the demand for products rich in protein and calcium, which Egg Powder and Egg Shell Powder are rich in. This health trend, coupled with the convenience of these powders, makes them highly marketable to a broad audience, from fitness enthusiasts to busy parents looking for quick nutritional solutions.

**Global Market Outlook**

The Egg Powder Market size is estimated to reach \$2,647 million by 2027. Furthermore, it is poised to grow at a CAGR of 4.8% over the forecast period of 2022-2027. The Global Egg Powder market based on product type can be further segmented into Whole Egg Powder, Egg Yolk Powder, Egg Albumen Powder, Egg Powder Mix, and Others. In 2021, the whole egg powder category had the most market share. This is attributable to the expanding use of whole egg powder in baking cakes, as well as an increase in whole egg powder consumption in the coming years. In sweets like chocolate mousse and meringues, the powdered egg is increasingly being utilized whole. Owing to the constantly increased incidence of food allergies and intolerances, items like egg white powder are becoming a lucrative investment industry. Egg whole powder is rapidly being employed in pharmaceuticals and dietary supplements, in addition to their applications in the food processing industry. Egg whole powder is a lactose-free option that aids in the supply of critical nutrients for body growth and development. The significant rise in the health and wellness trend is fuelling the market for whole egg powder.

**Conclusion**

The journey into the Egg Powder & Egg Shell Powder market is one of innovation, sustainability, and immense potential. For those ready to embark on this venture, the future looks promising, with endless opportunities to impact the food industry, environmental conservation, and consumer health positively. This is not just a business opportunity; it's a chance to be at the forefront of a meaningful shift towards a more sustainable and healthy future.

**PROJECT COST ESTIMATE**

**CAPACITY:**

<i>Egg Powder</i>	: 2,400 Kgs Per Day
<i>Eggshell Powder</i>	: 1,000 Kgs Per Day
<b>Plant &amp; Machinery</b>	: ₹ 511 Lakhs
<b>Cost of Project</b>	: ₹ 982 Lakhs
<b>Rate of Return</b>	: 26%
<b>Break Even Point</b>	: 54%

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- Manufacture of Food & Beverages (2nd Edn.) # ..... 1895/- 150

## NIIR PROJECT CONSULTANCY SERVICES

AN ISO 9001:2015 CERTIFIED COMPANY

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### Hybrid Electric Scooter Assembling

A plug-in hybrid electric vehicle (PHEV) is an HEV that can be plugged-in or recharged from wall electricity. PHEVs are distinguished by much larger battery packs when compared to other HEVs. The size of the battery defines the vehicle's All Electric Range (AER), which is generally in the range of 30 to 50 miles. PHEVs can be of any hybrid configuration. PHEVs start in 'all electric' mode, runs on electricity and when the batteries are low in charge.

India electric scooters and motorcycles market size valued at \$24.6 million in 2016, it is expected to grow at a CAGR of 45.4% during 2017- 2025. Some 4,50,000 electric two-wheelers were sold in India in the past eight years. The potential of electric vehicles in this segment is massive, say industry executives, given that more than 17 million two-wheelers are sold annually in the country. This facilitates the development of new technologies and ensures a high quality product.

#### PROJECT COST ESTIMATE CAPACITY

Hybrid Electric Scooter	: 50 Nos./Day
Plant & Machinery	: ₹ 95 Lakhs
Cost of Project	: ₹ 279 Lakhs
Rate of Return	: 34%
Break Even Point	: 74%

**T**oughening is a process where the glass is heated at high temperatures to make it stronger and more resistant to breakage. This process creates a balance in the product's internal stresses, so that when the glass is broken, it would crumble into tiny granular chunks instead of breaking into sharp, jagged pieces. Toughened glass is a type of safety glass processed by controlled thermal or chemical treatments to increase its strength compared with normal glass.

The global glass market size was valued at USD 68.71 billion in 2014. It is expected to attain a CAGR of nearly 7.1% from 2015 to 2022. Increasing use of flat glass in photovoltaic modules, solar panels and e-glass owing to rising need for clean energy is anticipated to be one of the key trends escalating market growth. Toughened Glass Market size was over USD 24.5 billion in 2016 and industry expects consumption above 4.3 billion

square meters by 2024.

Increasing demand for furniture including table tops, shelves and cabinets and other interior applications should stimulate toughened glass market size. Toughened glass market size from furniture applications should witness significant gains up to 2024 owing to increasing demand for innovative furniture designs for interior applications accompanied with improving lifestyle patterns of consumers. As a whole any entrepreneur can venture in this project without risk and earn profit.

## Toughened Glass

#### PROJECT COST ESTIMATE CAPACITY

Toughened Glass (Size of Sheet 8 ft. x 12 ft.)	: 4,000 Sq. Ft. / Day
Plant & Machinery	: ₹ 332 Lakhs
Cost of Project	: ₹ 939 Lakhs
Rate of Return	: 24%
Break Even Point	: 46%

Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :

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# SELECTED BUSINESS IDEAS FOR RIGHT INVESTMENT

## EACH DETAILED PROJECT REPORT (BUSINESS PLAN) CONTAINS



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**Market Survey Cum Detailed Techno Economic Feasibility Reports**

**BEGINNING :** Project Introduction, Brief History of the Product, Properties, BIS (Bureau of Indian Standard) Specifications & Requirements, Uses & Applications.

**MARKET SURVEY :** Present Market Position, Expected Future Demand, Statistics of Imports & Exports, Export Prospect, Names and Addresses of Existing Units (Present Manufactures).

**PLANT & MACHINERY :** List of Plant & Machineries, Miscellaneous Items and Accessories, Instruments, Laboratory Equipments and Accessories, Plant Location, Electrification, Electric Load and Water, Maintenance, Suppliers/Manufacturers of Plant and Machineries.

**RAW MATERIAL :** List of Raw Materials, Properties of Raw Materials, Availability of Raw Materials, Required Quality of Raw Materials, Cost/Rates of Raw Materials.

**MANUFACTURING TECHNIQUES :** Formulae Detailed Process of Manufacture, Flow Sheet Diagram.

**PERSONNEL REQUIREMENTS :** Requirement of Staff & Labour, Personnel Management, Skilled & Unskilled Labour.

**LAND & BUILDING :** Requirement of Land Area, Rates of the Land, Built up Area, Construction Schedule, Plant Layout.

**FINANCIAL ASPECTS :** Cost of Raw Materials, Cost of Land & Building, Cost of Plant & Machineries, Fixed Capital Investment, Working Capital, Project Cost, Capital Formation, Cost of Production, Profitability Analysis, Break Even Point, Cash Flow Statement for 5 to 10 Years, Depreciation Chart, Conclusion, Projected Balance Sheet, Land Man Ratio.

- Prepared by highly qualified and experienced consultants and Market Research and Analyst Supported by a panel of experts and computerised data bank.
- Data provided are reliable and upto date collected from suppliers/manufacturers, plants already commissioned in India.
- NPCS Reports are very economical and immediately available on demand where as commissioned Feasibility Studies are time consuming and costly.

**FOR ASSESSING MARKET POTENTIAL, INVESTMENT DECISION MAKING CORPORATE DIVERSIFICATION PLANNING ETC.**

**NPCS Engineers and Consultants have prepared Market Survey Cum Detailed Techno Economic Feasibility Report on the following products which are most viable and profitable.**

## Business Ideas: 4 – 4.5 Crore (Plant and Machinery) : Selected Project Profiles for Entrepreneurs, Startups



- » Aluminium Fluoride
- » Bamboo Sticks
- » Calcium Silicate Insulation Board
- » Carbon Black (Furnace Black Process)
- » Copper Wire Drawing & Enamelling
- » Copper Wire Manufacturing (Wire Drawing & Enamelling)
- » Oxygen Gas Plant (Industrial and Pharmaceutical Grade)
- » Disposable Nitrile Gloves (Nitrile Examination Hand Gloves)
- » Disposable Plastic Syringes



- » Fusion Bonded Epoxy Coated TMT Rebars
- » Granulated Fertilizers
- » Mini Aerodrome
- » Natural Glycerine
- » Natural Rubber Block
- » Precipitated Silica from Rice Husk Ash
- » Polyvinyl Alcohol
- » Liquid Hand Soap, Foam & Bath Soap
- » Stone Plastic Composite (SPC) Flooring Tiles
- » Recovery of Fe<sub>2</sub>O<sub>3</sub> & TiO<sub>2</sub> from Bauxite Processing Waste



- » Steel Ingot from Scrap Plant
- » Solar Power Plant
- » Sorbic Acid/Potassium Sorbate
- » Surgical and Examination Latex Rubber Gloves
- » Tartaric Acid Production Business
- » Tissue Paper from Recycled Paper
- » Titanium Dioxide
- » Titanium Dioxide (Chloride Process)
- » Yarn, Fabric & Garments Production Using Solar Charkha & Solar Looms



**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

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**M**icronutrient Fortified Energy Dense Food (Rice Based) is a revolutionary approach to nutrition that aims to combat micronutrient deficiencies while providing a high energy yield, utilizing rice as its fundamental ingredient. This category of food is specifically designed to address the nutritional gaps in diets, especially in regions where access to a wide variety of foods is limited. The fortification process involves the deliberate addition of vitamins and minerals such as iron, zinc, vitamin A, and several B vitamins to rice, which naturally has a high carbohydrate content but is often lacking in essential micronutrients.

**Why Rice Makes an Ideal Base for Fortification**

Rice stands out as a prime candidate for micronutrient fortification, primarily due to its widespread consumption and central role in the diets of billions of people worldwide. Its neutral taste and adaptable texture serve as an excellent foundation for incorporating essential vitamins and minerals without altering its fundamental characteristics that are beloved by many. This adaptability is key in ensuring that fortified rice can be seamlessly introduced into existing dietary patterns, encouraging acceptance and regular consumption among diverse populations. Another significant advantage of using rice as a base for fortification lies in its cultivation and distribution network. Rice is cultivated across various continents, under different climatic conditions, making it a universally available crop. This global presence is coupled with an established supply chain that can facilitate the

**Start Manufacturing Business of  
Micronutrient Fortified  
Energy Dense Food  
(Rice Based)**

efficient production and distribution of fortified rice, ensuring it reaches those in need without significant additional infrastructure investment. The existing rice distribution channels can be leveraged to make fortified rice accessible to a wide audience, particularly in regions where rice is a dietary staple and malnutrition rates are high.

**Advantages**

- Combats Micronutrient Deficiencies
- Improved Overall Health
- Cost-Effective and Sustainable
- Increased Energy Levels
- Improved Cognitive Function
- Reduced Risk of Chronic Diseases

**Why to Start Micronutrient Fortified Energy Dense Food (Rice Based) Business?**

Embarking on a business venture centered around Micronutrient Fortified Energy Dense Food (Rice Based) offers a unique intersection of meeting a global health need while tapping into a burgeoning market. The escalating awareness around health and nutrition, coupled with the urgent need to address malnutrition across various demographics,

presents a fertile ground for ventures that prioritize societal welfare alongside profitability. Starting such a business not only aligns with the global push towards sustainable and nutritious food solutions but also positions the enterprise at the forefront of a significant nutritional advancement. The demand for fortified foods is on the rise, driven by an increasing consumer base that is more informed and concerned about their dietary choices and the nutritional quality of their food.

This heightened consumer awareness translates into a growing market for fortified foods, including rice-based products, which are seen as both a preventive measure against nutrient deficiencies and a step towards improved overall health.

**Conclusion**

Embarking on a business that produces and distributes Micronutrient Fortified Energy Dense Food (Rice Based) is more than an entrepreneurial venture; it's a step towards contributing positively to global nutritional health. The process leverages existing agricultural and distribution systems, making it a scalable and sustainable model that can adapt as nutritional science and global health priorities evolve.

**PROJECT COST ESTIMATE  
CAPACITY**

Micronutrient Fortified Energy Dense Food	: 100 MT Per Day
Plant & Machinery	: ₹ 13 Cr.
Cost of Project	: ₹ 35 Cr.
Rate of Return	: 28%
Break Even Point	: 57%

**Start Manufacturing of  
Aluminium Ingots  
from Aluminium Scrap**

Aluminium, is a light weight, silver-white, metallic element that makes up approximately 7 per cent of the earth's crust. It weighs about one third as much as steel (7480- 8000 Kg/ cubic meter) or copper (8930 Kg/cubic meter). Aluminium is malleable, ductile, and easily casted and has excellent corrosion resistance and durability. It is mined in the form of bauxite ore and exists primarily in combination with oxygen as alumina. India has nearly 10 per cent of the world's bauxite reserves and a growing aluminium sector that leverages this. Demand in the domestic market is expected to grow by 8-10 per cent. By 2020, India is expected to have an installed aluminium capacity of 1.7 to 2 million tones per annum.

India's share in world aluminium market is estimated at around 3%. India ranks fifth in bauxite production after Australia (62 mntonnes), Guinea (17.50 mntonnes), Brazil (16.20 mntonnes) and China (10.75 mntonnes). With a total output of 9.25 mntonnes, the country contributes about 6% of the world's total production of 159 mntonnes, India holds the fifth position in reserves base and is ahead of China with 2300 mntonnes. India ranked seventh in alumina production with a total output of 3 mntonnes, a share of nearly 5% of the global production of 61 mntonnes.

Aluminium has a wide range of applications, from aircraft building to packaging, a major consumer being the electrical industry. The two sectors, electricity and transportation, account for more than half of the total off take. The key consumer industries in India are power, transportation, consumer durables, packaging and construction. Of this, power is the biggest consumer (about 44% of total) followed by infrastructure (17%) and transportation (about 10% to 12%).

**PROJECT COST ESTIMATE**

**CAPACITY:**

Aluminium Alloy Ingots	: 14 MT Per Day
Aluminium Scrap	: 0.23 MT Per Day
Plant & Machinery	: ₹ 7 Cr
Cost of Project	: ₹ 33.15 Cr
Rate of Return	: 24%
Break Even Point	: 25%

**PVC Wire & Cables**

P.V.C. coated cable and wire are extensively used in all electrical linings, domestic lightings and all other purposes. The demand for PVC coating electrical wires (with rapid electrification all over the country) is increasing at a rapid rate. Considering recent export market and increase in demand from Russia and other countries, it is estimated that the export demand will remain 25 % of total demand. The present demand supply gap is 36.3 thousand Km. According to 70% of capacity utilisation, it may required additional capacity of 52 thousand Km. It indicates very good scope for new investment in power cable industry. There is a bright scope for starting new units in this field.

**PROJECT COST ESTIMATE  
CAPACITY**

Plant Capacity	: 1600 Mtrs/ Day
Plant & Machinery	: ₹ 22.50 Lakhs
W. C. for 3 Months	: ₹ 86.47 Lakhs
Total Capital Investment	: ₹ 162.05 Lakhs
Rate of Return	: 26.18%
Break Even Point	: 59.65%

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

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# A Business Plan for Water Based Emulsion (Used as Coating for Paper Cups and Straws Replacing PE Coating)

**W**ater-based emulsion refers to a sophisticated coating formulation where polymer particles are dispersed in water rather than in organic solvents. This technology leverages the natural solvent properties of water to create a uniform and stable mixture that, when applied to a surface, dries to form a durable, protective layer. The polymers used in these emulsions can vary, but they typically include acrylics, styrene-acrylics, and polyurethane dispersions, chosen for their excellent adhesion properties and environmental compatibility. The mechanism of action of water-based emulsion coatings involves the evaporation of water once the coating is applied to a substrate, such as paper or cardboard. As the water evaporates, the polymer particles coalesce, forming a continuous film that bonds to the substrate, providing a moisture-resistant and sometimes oil and grease resistant barrier. This process is integral to producing packaging materials that are both durable and capable of withstanding the demands of various food packaging applications.

### Benefits

Water-based emulsions, used as coatings for paper cups and straws as a replacement for polyethylene (PE) coatings, offer a range of environmental and functional benefits. Here's a detailed look at these advantages:

- Biodegradability and Compostability
- Recyclability
- Reduced Environmental Impact
- Safety and Non-Toxicity
- Performance and Functionality
- Energy Efficiency
- Flexibility in Application
- Enhanced Aesthetics

### India Market Outlook

The India paper cups market reached a volume of about 8.59 billion units in 2023 and expected to grow at a CAGR of 3.2% between 2024 and 2032 to reach a volume of about 11.38 billion units by 2032. The India paper cups market growth can be attributed to a variety of factors, including increasing disposable incomes, convenience, recyclability, government regulations, and the development in the food services industry. Paper cups are commonly used in India for food and beverages,

including tea, coffee, soft drinks, etc. There are two primary types of paper cups, hot and cold. Cold cups generally consist of a waxy coating inside to prevent the paper from becoming damp and from absorbing the liquid. Although hot cups are almost the same as cold cups, the only difference being that hot cups are specifically built to withstand the heat which cold cups cannot withstand. At present, sanitation and hygiene are the main drivers of the increasing market for disposable paper cups.

### Global Market Outlook

The global paper cups market size was valued at USD 9.90 billion in 2022 and is projected to grow from USD 10.43 billion in 2023 to USD 12.94 billion by 2030, exhibiting a CAGR of 3.1% during the forecast period. Cafes and restaurants use disposable paper cups to instantly serve their customers coffee, tea, soup, and other beverages. These products are available in different shapes, sizes, and colors. They prefer custom-printed disposable food service products to portray their brand information and build restaurant service sales. Growing demand for paper cups, plates, trays, spoons, and other disposable food service products in restaurant settings accelerates the paper cup market growth. Growing coffee and tea consumption among people to improve energy & stamina is simultaneously driving the global demand for paper coffee cups. In addition, rising demand for takeaway food services and increasing consumption of ready-to-drink beverages among the global population is accelerating the paper cups market growth.

### Conclusion

Starting a business in water-based emulsion coatings for paper products is a forward-thinking move that aligns with environmental and market trends. It presents an opportunity to lead in the transformation of the packaging industry, offering innovative, sustainable solutions that meet the evolving needs of consumers and businesses alike.

### PROJECT COST ESTIMATE

#### CAPACITY

Acrylate Emulsions	: 3 MT Per Day
Plant & Machinery	: ₹ 55 Lakhs
Cost of Project	: ₹ 414 Lakhs
Rate of Return	: 28%
Break Even Point	: 54%

# Manufacturing of MS Fasteners (Screws, Nut and Bolts)

**F**astener may be defined as any device, method or component used to hold or FASTEN two or more engineering components together. Fasteners may be classified into groups and sub-groups according to the functions they perform. Probably the main division is into:

- a. Detachable fasteners (e.g. nut and bolt, screw, etc.);
- b. Non-detachable fasteners (e.g. rivet, weld, adhesive).

Fastener Material can be important when choosing a fastener due to keeping in view the strength, brittleness, corrosion resistance, galvanic corrosion properties. Cost of course an important factor which determines which materials to choose from.

A screw is a broad category of mechanical fastener with a threaded shaft, designed to screw into a part. This includes wood screws and self-tapping screws, which have a tapered shaft with sharp threads designed to cut a mating thread in the part to which they are fastened. It also includes machine screws, which much more closely resemble bolts, but their entire shaft is normally threaded.

Nuts and Bolts are most commonly used items in the family of industrial fasteners and their demand is fast increasing due to expansion of industries in the country. Bolt is a piece of metal rod whose one end is upset and at the other end threading is done. Nut is a device which rolls on bolt threads. In nuts, internal threading is done while bolts bear external thread. Screw, demonstrate their true merit in the movements, assembly etc, of wooden components. Screws are most popular as fasteners which assemble, or join parts together to be made into a complete unit.

### PROJECT COST ESTIMATE

#### CAPACITY:

Zinc Coated High Tension Bolt (Size M5 to M20)	: 16 MT Per Day
Zinc Coated High Tension Screw (Size M5 to M20)	: 8 MT Per Day
High Tension Nut (Size M5 to M20)	: 8 MT Per Day
Plant & Machinery	: ₹ 116 Lakhs
Cost of Project	: ₹ 758 Lakhs
Rate of Return	: 29%
Break Even Point	: 57%

**Market Survey Cum Detailed Techno Economic Feasibility Report on all above Businesses are Available. Contact :**

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The popularity of smart phones and tablets has resulted in a significant increase in the demand for lithium ion batteries in recent years. Because these gadgets contain hazardous elements that must be properly disposed of to avoid contamination of the environment, it is now more important than ever to recycle these batteries. Most commercial lithium ion batteries contain transition metal oxides or phosphates, aluminium, copper, graphite, organic electrolytes containing poisonous lithium salts, and other chemicals.

As a result, an increasing number of scientists are concentrating their efforts on the recycling and repurposing of spent lithium ion batteries. However, recycling expended lithium ion batteries is difficult due to their high energy density, greater safety, and low cost.

Lithium-ion batteries are becoming increasingly popular. Cell phones, computers, consumer gadgets, and certain industrial applications already use them. They're used in telecom towers, solar storage systems, and electric automobiles. Lithium-ion batteries should be recycled for a variety of reasons, according to battery experts and environmentalists. The recovered materials might be utilised to build new batteries, cutting production costs. These components now account for more than half of the

# Recycling of Lithium Ion Battery

cost of a battery. The most expensive components of the cathode, cobalt and nickel, have seen significant price changes in recent years.

The removal of any plastic, rubber, or metal pieces is the first stage in recycling a lithium ion battery. These parts are sold as raw materials after being separated from the remainder of the waste stream. The next stage is to separate all metals, which is usually done by electrolysis, which produces an acid solution that dissolves metals while leaving the bulk of other components behind.

Batteries can be dismantled into groups of similar materials and reused without any additional processing. Cobalt and nickel, for example, could be employed in new batteries or as semiconductor components. Steel is created from manganese and iron, and aluminium is delivered to aluminium smelters. Despite the

fact that chromium is infrequently recovered for use in steel manufacturing, it is most commonly used as a high-purity alloying agent. Lithium waste does not react with other chemicals, thus it can be disposed of properly in landfills or resold to manufacturers who will reuse it after separation.

India's lithium-ion battery sector is expected to grow quickly over the next five years. One of the primary steps taken by the Indian government to drive the growth of this sector is the National Electric Mobility Mission Plan 2020, which forecasts 6-7 million electric vehicles on Indian roads by 2020 and a target of 175 GW renewable energy installation by 2022. India's annual lithium-ion battery market is expected to increase at a 37.5 percent compound annual growth rate (CAGR)

from now until 2030, when it would reach 132 GWh, according to projections. By 2030, the market for lithium-ion batteries will have grown from 2.9 gigawatt-hours in 2018 to around 800 gigawatt-hours.

India's goal to transition from fossil fuel-based vehicles to electric vehicles (EVs) would drive up demand for batteries in the coming years. The lithium-ion battery (LiB) is now the most suitable alternative among the various existing

battery technologies. With today's recycling technology, valuable metals including cobalt, nickel, manganese, lithium, graphite, and aluminium can be recovered up to 90%. These make up around 50-60% of the total battery cost, with cobalt being the most expensive.

## PROJECT COST ESTIMATE

CAPACITY:	
Copper	: 1.4 MT Per Day
Aluminium	: 0.8 MT Per Day
Graphite	: 1.8 MT Per Day
Carbon Black	: 0.3 MT Per Day
Lithium Cobalt Oxide	: 2.5 MT Per Day
Plastic	: 0.2 MT Per Day
Plant & Machinery	: ₹ 199 Lakhs
Cost of Project	: ₹ 422 Lakhs
Rate of Return	: 27%
Break Even Point	: 55%

## CANCER HOSPITAL (50 BEDS)

Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues. Cancer cells can spread to other parts of the body through the blood and lymph systems. Every year about 8,50,000 new cancer cases are diagnosed in India resulting in about 5,80,000 cancer related death every year.

The cancer hospital is a comprehensive cancer care setup with all the facilities for diagnosis and treatment of all types of cancers under one roof. It is to provide reliable and internationally compatible diagnostic and therapeutic services related to the field of oncology to the patients in particular and society at large.

There is good scope for cancer hospitals for all poor, middle and high society people. So, opening a new hospital with all facilities will be highly profitable.

### PROJECT COST ESTIMATE

CAPACITY	
Capacity	: 19600 Outdoor Patients
	: 1400 G. Ward Patients
	: 1050 Special Ward Patients Per Year
	: 10 Special Ward
	: 40 General Ward
Plant & Machinery	: ₹ 501 Lakhs
Cost of Project	: ₹ 699 Lakhs
Rate of Return	: 46%
Break Even Point	: 35%

## FORM IV (See Rule 8)

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I Ajay Kr. Gupta hereby declare that the particular given above are true to the best of my knowledge and belief.

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