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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 Maize (Corn) Processing and Manufacture of Maize Products

(Oil, Starch, Corn Steep Liquor, Syrup, Cornmeal, Popcorn, Flakes, Gluten, Husk, Anhydrous Dextrose, High Maltose Syrup, Maltodextrin Powder, Monohydrate Dextrose, Sorbitol, Ethanol, Cattle Feed with Manufacturing Processes, Equipment Details and Plant Layout)

In India, maize is becoming third most significant crop. Its significance stems from the fact that it is utilised not only for human food and animal feed, but also for corn starch manufacturing, corn oil production, and the generation of baby corns. Additionally, maize stover, the leaves and stalk of the maize plant, is used for forage, biofuel production, and chemical production.

Corn is also processed into a multitude of food and industrial products including:-

- Corn Starch is a yellow powder made from finely ground, dried corn, while cornstarch is a fine, white powder made from the starchy part of a corn kernel.
- High fructose corn syrup (HFCS) is a sweetener derived from corn syrup, which is processed from corn.
- Corn oil contains some healthy components like vitamin E and phytosterols, but overall it's not considered a healthy fat.
- Corn ethanol is produced from corn biomass and is the main source of ethanol fuel, mandated to be blended with gasoline in the Renewable Fuel Standard.
- Some strains of corn (Zea mays) are cultivated specifically as popping corns.
- Dextrose Anhydrous can be used as sweetener in baked goods, candies, gums, dairy products like some ice-creams and frozen yogurts, canned foods, cured meats etc.
- Maltose is a sugar that tastes less sweet than table sugar. It contains no fructose and is used as a substitute for high-fructose corn syrup.
- Maltodextrin is a white powder made from corn. To make it, first the starches are cooked, and then acids or enzymes such as heat-stable bacterial alpha-amylase are added to break it down further.
- Dextrose is the name of a simple sugar made from corn that's chemically identical to glucose, or blood sugar.

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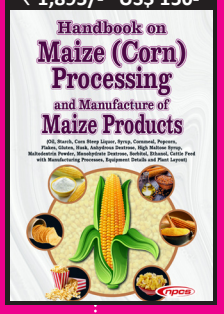


- Sorbitol, or glucitol as it is sometimes called, is a slow-metabolizing sugar alcohol derived from fruits, corn and seaweed.

The global maize market is expected to grow at a CAGR of 3.8%. The factors that affect the demand for starch mainly include population growth and industrial development of a country; specifically the food and beverage, textiles, paper and printing, pharmaceuticals and other health and beauty products, and adhesives.

The demand for high-fructose corn syrup (HFCS) sweeteners across the country is majorly due to its wide usage in the confectionery, bakery, and beverage industries, especially soft drink manufacturing. Rising health awareness among consumers has resulted into increasing preference for corn oil due to its health benefits. More ethanol production means more demand for corn. According to the most recent statistics released by the U.S. Department of Agriculture, 35%, or 5.25 billion bushels, of the projected 15.062 billion bushels of corn harvested will be processed into ethanol.

The book covers a wide range of topics connected to Maize Products, as well as their manufacturing processes. It also includes contact information for machinery suppliers, as well as images of equipments.

A complete guide on Maize (Corn) Processing and Manufacture of Maize Products manufacture and entrepreneurship. This book serves as a one-stop shop for everything you need to know about the Maize manufacturing industry, which is ripe with opportunity for manufacturers, merchants, and entrepreneurs. This is the only book that covers Maize (Corn) Processing and Manufacture of Maize Products in depth. From concept through equipment procurement, it is a veritable feast of how-to information.

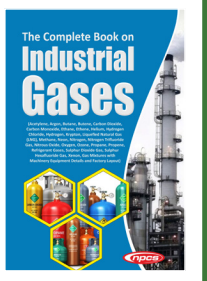
The Complete Book on Industrial Gases

(Acetylene, Argon, Butane, Butene, Carbon Dioxide, Carbon Monoxide, Ethane, Ethene, Helium, Hydrogen Chloride, Hydrogen, Krypton, Liquefied Natural Gas (LNG), Methane, Neon, Nitrogen, Nitrogen Trifluoride Gas, Nitrous Oxide, Oxygen, Ozone, Propane, Propene, Refrigerant Gases, Sulphur Dioxide Gas, Sulphur Hexafluoride Gas, Xenon, Gas Mixtures with Machinery Equipment Details and Factory

Industrial gases are gases that are produced for use in industrial processes. These gases are used in a wide range of industries, including manufacturing, healthcare, electronics, food and beverage, and many more. They are utilized in different forms, such as pure gases, gas mixtures, and liquid gases, depending on the specific application. Industrial gases can be classified into several categories based on their properties and applications. One of the most common types is atmospheric gases, which are gases that exist naturally in the Earth's atmosphere. This category includes gases such as nitrogen, oxygen, and argon, which are widely used in various industries.

The global industrial gases market size was valued at USD 99.99 billion and is expected to grow at a compound annual growth rate (CAGR) of 7.42%. The growing demand for industrial gases from food & beverages, electronics, and healthcare sectors is driving the global market growth. There are untapped opportunities for market players operating in the industrial gases market due to surging demand for industrial gases in emergency medical conditions. Moreover, due to the rapid spread of manufacturing and processing industries across the globe, market players are expected to invest towards production expansion to expand the market share, hence providing growth opportunities in the upcoming years. Steel, glass, oil, and fiber optics segments demand intensive usage of industrial gases. Growth and advancement in these sectors in developing countries is contributing to the rapid expansion of the industrial gases market.

₹ 2,495/- US$ 250-



This book is dedicated to the Gases Industry, the details of gases properties, methods and applications are given. The book sheds 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 gas technologies are revolutionizing the industry.

The major content of the book are Acetylene, Ammonia, Argon, Butane, Butene, Carbon Dioxide, Carbon Monoxide, Ethane, Ethene, Helium, Hydrogen Chloride, Hydrogen, Krypton, Liquefied Natural Gas (LNG), Methane, Neon, Nitrogen, Nitrogen Trifluoride Gas, Nitrous Oxide, Oxygen, Ozone, Propane, Propene, Refrigerant Gases, Sulphur Dioxide Gas, Sulphur Hexafluoride Gas, Xenon, Gas Mixtures (Breathing, Forming, Penning, Shielding) photographs of machinery with suppliers contact details.

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

Setup Biodegradable Disposable Cups and Plates (Tableware) Using Sugarcane Bagasse

Bagasse is the fibrous residue that remains after sugarcane or other vegetation is harvested for its juice or sap. It's usually dried, baled, and used as a renewable source of fuel or biomass energy. It is also gaining traction in the green movement as a material for sustainable, biodegradable products such as disposable plates, cups and cutlery. Bagasse is generally considered a waste product, but it is in fact an extremely versatile, renewable resource. It can be used in many different ways, including paper production, manufacturing of furniture, and packaging materials.

Advantages of Using Bagasse in Biodegradable Disposables

Bagasse is a lightweight material that is easy to transport, which makes it more economical than other materials like plastic or Styrofoam. Bagasse is also extremely durable. It can withstand temperatures of up to 220°F, meaning it can be used for hot and cold beverages and food without worrying about leakage or other problems. Plus, it won't break easily like plastic or Styrofoam. Bagasse is completely biodegradable, which means it won't contribute to landfills or other environmental problems associated with plastic waste.

Global Market Signal

The biodegradable tableware market is expected to be growing at a growth rate of 6.0% for the forecast period of 2022 to 2029. The global market for biodegradable disposable cups and plates made from sugarcane bagasse has seen significant growth. This is due to increased awareness of environmental sustainability and waste reduction among consumers and the availability of various types of sugarcane bagasse tableware products in the market. The growing preference for eco-friendly alternatives is expected to drive the demand for biodegradable disposable cups and plates made from sugarcane bagasse over the forecast period. A growing trend of 'green' restaurants is also expected to contribute to an increase in demand for biodegradable disposable cups and plates made from sugarcane bagasse.

PROJECT COST ESTIMATE

CAPACITY:

Biodegradable Disposable Cups each 9gm wt.	: 665 Th.Pcs Per Day
Biodegradable Disposable Plates each 16gm wt.	: 375 Th.Pcs Per Day
Plant & Machinery	: ₹ 1941 Lakhs
Cost of Project	: ₹ 2774 Lakhs
Rate of Return	: 27%
Break Even Point	: 46%

Conclusion

Entrepreneurs should consider entering the biodegradable disposable cups and plates (tableware) business using sugarcane bagasse due to its numerous benefits. Not only is it environmentally friendly, but there is a growing demand for this type of product and the cost of producing it is relatively low. The use of sugarcane bagasse is becoming increasingly popular among consumers as they seek more sustainable options. This means that there is a growing demand for this type of product, making it a great opportunity for entrepreneurs looking to get into the market.

Setup Analytical Testing Laboratory (Food, Water, Soil and Pharma)

Analytical testing labs are establishments that specialize in evaluating the safety and quality of various products. They have cutting-edge equipment and are manned with highly skilled experts who conduct testing with accuracy and precision. In sectors including food, water, soil, and medicines, these labs are essential because they make sure that the goods and materials adhere to safety requirements before they are distributed to customers. A lab for analytical testing is essential to our civilization. The detection and measurement of pollutants in food, water, soil, and medications, such as microorganisms, metals, minerals, and chemicals, is helpful. These labs can identify potential risks by completing rigorous tests, which also confirm that the products are safe for use or ingestion.

Importance of Accurate Test Results for Each Industry

Accurate test results are of utmost importance in every industry that relies on analytical testing labs. In the food industry, for example, accurate results help to identify potential contaminants such as bacteria, chemicals, or allergens. Similarly, in the water industry, accurate test results are crucial in detecting the presence of harmful bacteria, viruses, or pollutants. These results help to ensure that the water we drink is free from any potential hazards and safe for consumption. In the soil industry, accurate test results play a vital role in determining the presence of heavy metals, pesticides, or other contaminants. This information is essential for farmers and agricultural experts to make informed decisions about the use of soil for crop production. In the pharmaceutical industry, accurate test results are crucial in ensuring the safety and efficacy of medications and drug products. These results help to verify that the products meet regulatory standards and are free from any impurities or contaminants.

Why Should Entrepreneur Start an Analytical Testing Lab?

- **Growing Demand:** As more emphasis is placed on safety and quality, companies are seeking reliable testing labs to ensure their products meet regulatory standards and consumer expectations.
- Advancements in Technology: Analytical testing labs are equipped with sophisticated instruments and cutting-edge technology that enable accurate and precise testing.
- Lucrative Market: The analytical testing industry is a lucrative market with significant growth potential. As concerns about contamination and safety continue to rise, companies are willing to invest in reliable testing services to protect their reputation and meet industry requirements.

Global Market Outlook

The global analytical laboratory services market is expected to reach USD 15,746.84 million by 2029, at a CAGR of 14.7%. Rapidly increasing demands, a rise in industrialization, consumer awareness, growing sectors, and technical improvements are fueling the expansion of the global Analytical Laboratory Services market. Sales and revenue in this sector have increased at an exponential rate. The market's size and growth are both expected to increase thanks to the factors driving the market's expansion over the forecast period.

PROJECT COST ESTIMATE

CAPACITY :

Food Tests	: 25 Tests Per Day
Water Tests	: 25 Tests Per Day
Soil Tests	: 25 Tests Per Day
Pharma Tests	: 25 Tests Per Day
Plant & Machinery	: ₹ 410 Lakhs
Cost of Project	: ₹ 646 Lakhs
Rate of Return	: 25%
Break Even Point	: 60%

Conclusion

Starting an analytical testing lab can be a fulfilling and financially rewarding venture for entrepreneurs. By meeting the increasing demand for reliable testing services and making a positive impact on public health, you can position your business for long-term success in this growing industry.

A Business Plan
Copper Cathode from Copper Scrap

Copper cathode is a pure form of copper metal that is produced through a refining process from copper scrap. Unlike copper scrap, which may contain impurities and alloys, copper cathode is 99.99% pure copper. It is typically shaped into rectangular plates and is used as a raw material in various industries, including electronics, construction, and manufacturing.

How to Process Copper Scrap for Cathode Production

There are various procedures that must be taken in the processing of copper scrap for cathode manufacture. There are various procedures that must be taken in the processing of copper scrap for cathode manufacture. The scrap copper needs to be gathered and sorted according to purity first. It's crucial to separate the scrap from any contaminants or alloys. After sorting, the waste must be heated to eliminate contaminants and surplus elements. Copper is melted and then cast into molds to create anodes. Then, these anodes are positioned in an electrolytic cell, which is equipped with an electric current. Electrorefining is the name of this procedure. Copper ions move during electrorefining from the anode to the cathode, which is a thin sheet of pure copper. The resulting cathode is taken out of the electrolytic cell after the copper ions have migrated, cleaned, and made ready for use. The cathode is made to be 99.99% pure copper using this process, making it extremely valuable in many industries.

Maximizing Your Profit from Copper Scrap with Cathode Production

Maximizing your profit from copper scrap with cathode production requires careful planning and efficient processes. One way to increase profitability is by optimizing the sorting and collection of copper scrap. By thoroughly sorting the scrap based on purity levels, you can ensure that only high-quality materials are used in the production of copper cathode. Another key factor in maximizing profit is the efficiency of the refining process. By utilizing advanced technologies and techniques, businesses can minimize energy consumption and maximize the yield of pure copper. This not only reduces costs but also increases the value of the resulting cathode.

Global Market Outlook

The copper cathode market was estimated at around USD 22.5 billion in 2021, growing at a CAGR of nearly 5.6% during 2022-2030. The market is to reach approximately USD 36.8 billion by 2030. The growth of the market depends on several factors, such as the rising demand for copper cathode from the construction, electronics, and automotive industries, the rise in industrialization and urbanization, and stringent environmental regulations to promote the use of recycled metals. Asia-Pacific is expected to continue to be one of the most alluring marketplaces, and it generates the majority of the market's revenue. Due to rising urbanization and industrialization, nations in the Asia Pacific region, including China, India, Japan, and Australia, dominate the copper cathode market.

Conclusion

Investing in the copper scrap industry and focusing on cathode production offers a compelling opportunity for growth, profitability, and environmental stewardship. By capitalizing on the value of copper scrap and embracing sustainable practices, you can position your business for long-term success in the dynamic world of copper recycling.

PROJECT COST ESTIMATE

CAPACITY:	
Copper Cathode	: 1,800 MT Per Annum
Copper Slag, Residue	: 180 MT Per Annum
Plant & Machinery	: ₹ 202 Lakhs
Cost of Project	: ₹ 954 Lakhs
Rate of Return	: 28%
Break Even Point	: 60%

Setup Your Own
Essential Oil and Oleoresins Business
from Chili, Pepper, Ginger and Turmeric

Essential oils and oleoresins are concentrated forms of natural plant extracts that are derived from chili, pepper, ginger, and turmeric. These oils and oleoresins contain the active compounds that give these spices their distinct flavors and medicinal properties. Essential oils are typically extracted through a process of steam distillation or cold-pressing. This method involves carefully separating the oil from the plant material to capture its concentrated essence. On the other hand, oleoresins are obtained through a process called solvent extraction, which involves using solvents like ethanol to extract the oil and resin components from the spices.

Why Should Start This Business?

If you're considering starting a business focused on essential oils and oleoresins from chili, pepper, ginger, and turmeric, here's why you should take the leap.

First and foremost, there is a growing demand for natural remedies and alternative health products. People are becoming more conscious of what they put in and on their bodies, and they're actively seeking out natural options. By offering high-quality essential oils and oleoresins derived from these powerful spices, you can tap into this expanding market and provide customers with the natural solutions they're looking for.

Market Overview

Global Essential Oils and Oleoresins Market size was valued at US$ 11.2 Bn. in 2020 and the total revenue is expected to grow at 9.1 % through 2021 to 2027, reaching nearly US$ 20.61 Bn. Essential Oils and Oleoresins are used on a large scale in manufacturing food products, beverages, medicines, cosmetics, and personal care products. An increase in demand for food products with enhanced taste and aroma has resulted in the growth in the Essential Oils and Oleoresins Market. With applications ranging from the Food and Beverages Industry to Cosmetics Industry, the Global Essential Oils and Oleoresins Market is growing.

Summery

Starting a business focused on essential oils and oleoresins from chili, pepper, ginger, and turmeric offers you the opportunity to tap into a growing market, provide effective natural remedies, diversify your product range, and make a positive impact on people's lives. So why wait? Start your business journey and harness the healing power of these amazing spices!

PROJECT COST ESTIMATE

CAPACITY:	
Chilli Oil	: 10 Kgs Per day
Chilli Oleoresin	: 20 Kgs Per Day
Chilli Spent	: 1600 Kgs Per Day
Pepper Oil	: 10 Kgs Per Day
Pepper Oleoresin	: 20 Kgs Per Day
Pepper Spent	: 600 Kgs Per Day
Ginger Oil	: 10 Kgs Per Day
Ginger Oleoresin	: 20 Kgs Per Day
Ginger Spent	: 400 Kgs Per Day
Turmeric Oil	: 10 Kgs Per Day
Turmeric Oleoresin	: 20 Kgs Per Day
Turmeric Spent	: 400 Kgs Per Day
Plant & Machinery	: 934 Lakhs
Cost of Project	: 1479 Lakhs
Rate of Return	: 25%
Break Even Point	: 46%

Start Kraft Paper Industry from Pulp

Kraft paper, also known as kraft, is a type of paper made from wood pulp that has been highly processed. The kraft process involves treating the wood pulp with chemicals to break down the lignin, which helps give kraft paper its distinctive strength and durability. It is known for its high tear resistance, allowing it to withstand heavy use and rough handling. Additionally, kraft paper is naturally brown in color, giving it a rustic and environmentally-friendly appearance. Kraft paper from pulp is a versatile and cost-effective option for companies in need of reliable and sustainable paper products.

Applications of Kraft Paper in Various Industries

Kraft paper from the pulp industry has a wide range of applications in various industries. One major industry that utilizes kraft paper is the packaging industry. Kraft paper is often used for wrapping products, creating bags, and providing cushioning and protection during shipping and storage. Its durability and tear resistance make it ideal for withstanding the rigors of transportation.

Indian Market Outlook

The India kraft paper market size reached 9.4 Million Tons in 2022. Looking forward, IMARC Group expects the market to reach 15.6 Million Tons by 2028, exhibiting a growth rate (CAGR) of 8.9% during 2023-2028. Kraft paper refers to a strong paperboard material that is composed of recycled materials or wood pulp produced in the kraft process. The pulp is bleached with chemicals to enhance the thickness, durability, and strength of the fibers while sustaining lightweight characteristics. The growing usage of compostable and sustainable packaging materials owing to the increasing awareness regarding the detrimental impact of plastic and other non-biodegradable variants is primarily propelling the growth of the Indian kraft paper market. Apart from this, the expanding utilization of kraft paper in the e-commerce industry for packaging solutions on account of various associated benefits, such as folding resistance, toughness, and high-strength compression performance, is further augmenting the market growth.

Conclusion

The market for Kraft paper from the pulp industry is poised for growth as businesses increasingly prioritize sustainability and consumers seek eco-friendly alternatives. Investing in this industry can position companies to capitalize on this growing demand and secure a competitive advantage in the market.

PROJECT COST ESTIMATE

CAPACITY

Kraft Paper	: 20 MT Per Day
Plant & Machinery	: ₹ 2002 Lakhs
Cost of Project	: ₹ 4040 Lakhs
Rate of Return	: 26%
Break Even Point	: 59%

Start Your Own Expandable & High Purity Graphite Business

Expandable Graphite refers to a form of graphite that has been treated with chemicals, resulting in a highly porous structure. This porosity allows the material to expand when exposed to heat, making it ideal for applications such as fire retardants and thermal insulators. On the other hand, High Purity Graphite is graphite that has undergone extensive purification processes to remove impurities, resulting in a material with a carbon content of over 99.9%. This high purity makes it suitable for industries that require exceptional thermal and electrical conductivity, such as the semiconductor and electronics sectors.

Production of Expandable and High Purity Graphite

It starts with obtaining premium natural graphite, which is subsequently put through a purification procedure to get rid of impurities and raise the carbon content. The graphite is further processed to produce expandability after being purified. This is accomplished using a procedure known as chemical intercalation, in which graphite is treated with various chemicals to produce a structure that is highly porous. Due to its porosity, the material can expand in the presence of heat, making it appropriate for uses as thermal insulators and fire retardants. The substance is put through additional purification processes, like acid washes and heat treatments, to produce high purity graphite. These procedures aid in the removal of any impurities that may still be present, producing a material with a carbon content of above 99.9%.

Applications and Uses

Expandable Graphite

- Flame Retardants
- Thermal Management
- Emission Control

High Purity Graphite

- Semiconductor Manufacturing
- Nuclear Reactors
- Anode Material in Lithium-ion Batteries

Global Market Outlook

Expanded Graphite Market is expected to grow at a CAGR of 7.6% during the forecast period and is expected to reach US$ 509.42 Mn by 2029. The major drivers for this market are stringency in fire safety standards in the building and construction industry, growing demand for non- halogenated flame retardants, and growth in the consumer electronics market. The global High Purity Graphite market was valued at USD million in 2019 and it is expected to reach USD million by the end of 2026, growing at a CAGR during 2021-2026. High purity graphite is the most stable form of carbon and is primarily being used in setting the benchmark for defining how carbon compounds are formed during the application of heat. Asia Pacific led the global market for high purity graphite in 2016 and is expected to retain its dominance throughout the forecast period as well. It is also expected to display the fastest growth during the forecast period.

Conclusion

Investors should start a business in Expandable & High Purity Graphite due to its disruptive potential, increasing demand, and advantages over traditional graphite. By capitalizing on these opportunities, investors can position themselves for success in an evolving market.

PROJECT COST ESTIMATE

CAPACITY:

Expandable Graphite	: 10 MT Per Day
High Purity Graphite	: 10 MT Per Day
Plant & Machinery	: ₹ 206 Lakhs
Cost of Project	: ₹ 1598 Lakhs
Rate of Return	: 27%
Break Even Point	: 49%

Solar Panel Plant

Solar panels are the backbone of renewable energy. They are devices that convert sunlight into electricity using the photovoltaic effect. Made up of multiple solar cells, which are typically made from silicon, solar panels harness the power of the sun and convert it into usable energy. When sunlight hits the solar cells, it creates an electric field that allows the electrons in the cells to move freely. This movement of electrons generates direct current (DC) electricity. Solar panels are an essential component of solar energy systems, whether they are used for residential, commercial, or utility-scale applications.

Production Process

The first step in the production process is sourcing the necessary materials. This includes the semiconducting material, usually silicon, as well as the front cover, back cover, and encapsulant material. It's important to ensure that the materials you choose meet industry standards and are of high quality. The next step is the actual manufacturing of the solar panels. This involves cutting the silicon wafers into solar cells, assembling the cells into a panel, and then connecting them in a series to generate electricity.

Scaling Up Your Business

Expanding your business will help you fulfill the needs of a growing market and boost your profitability as demand for solar panels rises. The evaluation of your production capacity is one of the first steps in scaling up. Examine your present manufacturing capacity to see whether any modifications or additions are required. This can entail making investments in new machinery, expanding your facility, or streamlining your manufacturing procedures. Targeting new client segments or geographical areas with a high demand for solar panels is a crucial component of scaling up. To increase awareness and generate leads in these new markets, create tailored marketing efforts. Build alliances and expand your sales channels by working with installers and contractors in these areas.

Market Analysis

The solar panels market is projected to grow from USD 131.37 billion in 2022 to reach USD 282.4 Billion by 2030, exhibiting a compound annual growth rate (CAGR) of ~12.63%. during the forecast period (2022–2030). Solar Panels industry size was valued at USD 84.35 billion in 2021. Increased environmental pollution, falling prices for materials like silver and polysilicon, and incentives and tax breaks offered by governments throughout the world for the installation of PV panels are the main primary market drivers for expansion. One of the key factors influencing the growth of the solar panel market is the rising investments in the field of renewable energy. Investments in renewable energy have grown globally as a result of their competitive cost of production and minimal carbon emissions.

Conclusion

Scaling up your solar panel manufacturing business requires strategic planning, attention to detail, and a customer-centric approach. With the right strategies and execution, you can position your business for long-term success in the dynamic and expanding solar energy industry.

PROJECT COST ESTIMATE

CAPACITY:

Solar Panel	: 500 MW Per Annum
Plant & Machinery	: ₹ 810 Lakhs
Cost of Project	: ₹ 5353 Lakhs
Rate of Return	: 32%
Break Even Point	: 56%

A Business Plan for Waste Lubricating Oil Recycling Plant

Waste Lubricating Oil Recycling Plants are specialized facilities designed to process and transform used oil into high-quality lubricants and base oils. These plants employ advanced technologies to collect, clean, and re-refine the used oil, ensuring that it meets industry standards and can be safely reused. At these plants, the used oil is first collected from various sources such as automotive service centers and collection centers. It then undergoes a thorough cleaning process, which involves filtration and centrifugation to remove contaminants like dirt and metals. Once cleaned, the oil goes through a re-refining process that utilizes techniques like distillation, hydrotreating, and solvent extraction to separate and refine the different components of the oil. The end result of the recycling process is high-quality lubricants and base oils that can be used in a wide range of applications.

Economic Benefits of Recycling Lubricating Oil

Recycling lubricating oil not only has significant environmental benefits, but it also provides a range of economic advantages. One of the key economic benefits is the reduction in costs for industries that rely on lubricating oil. By re-refining and reusing used oil, companies can save on the expenses associated with purchasing new oil. This can have a positive impact on their bottom line and help them remain competitive in the market. Furthermore, by reducing the demand for new oil extraction and processing, recycling lubricating oil helps stabilize oil prices. As the supply of recycled oil increases, the dependence on imported oil decreases, which can help stabilize prices in the long run.

Uses and Application of Recycling Lubricating Oil

- **Bitumen-Based Products:** Used lubricating oil can be mixed with bitumen to produce roofing materials, waterproofing solutions, and road surfaces.
- **Additive in Manufactured Products:** Some industries use recycled oil as an ingredient in the production of goods, such as rubber or plastic items.
- **Marine Oils:** After thorough processing and blending with appropriate additives, the recycled lubricating oil can be used in marine applications like ship engines.

Global Market Outlook

The Waste oil recycling Market is estimated to grow at a 5.30 percent CAGR from 2022 to 2029, from USD 63.44 billion in 2022 to USD 95.4 billion in 2029. The waste oil recycling method allows leftover motor oil to be recycled and reused for other purposes. This allows the producers to save money on the raw materials needed to make the oil from scratch. The cost of raw materials is expected to fall throughout the forecast period, boosting the waste oil recycling market's growth.

Conclusion

Starting a waste lubricating oil recycling plant presents a unique opportunity to build a profitable and environmentally-friendly business. With the potential for long-term growth, regulatory compliance, and positive social impact, this venture is an attractive option for aspiring entrepreneurs looking to make a difference while generating profits.

PROJECT COST ESTIMATE

CAPACITY:

Recycled Lubricating Oil	: 18,000 KLs Per Annum
Spent Clay as by product	: 1,890 KLs Per Annum
Plant & Machinery	: ₹ 355 Lakhs
Cost of Project	: ₹ 3101 Lakhs
Rate of Return	: 26%
Break Even Point	: 32%

Start Manufacturing of Carton Boxes

Carton boxes, also known as corrugated boxes, are commonly used in packaging and shipping due to their durability and lightweight. They are made up of a layer of corrugated material between two layers of cardboard, which provides strength and cushioning. The corrugated layer also provides insulation against heat and moisture. Carton boxes come in a wide range of sizes and shapes to accommodate various products and purposes. As e-commerce and online shopping continue to grow, the demand for carton boxes has increased significantly. More and more people are opting to shop online, and this has led to a surge in the need for durable, secure packaging that can protect products during shipping. As e-commerce and online shopping continue to grow, the demand for carton boxes has increased significantly. More and more people are opting to shop online, and this has led to a surge in the need for durable, secure packaging that can protect products during shipping.

How are Carton Boxes made?

- ***Corrugating***

To make corrugated cardboard, one sheet of paper is corrugated (or fluted) using a machine that presses it into waves. This corrugated sheet is then adhered between two flat liner sheets using a starch-based adhesive. The result is a piece of corrugated cardboard.

- ***Cutting and Printing***

These large sheets of corrugated cardboard are then cut into desired sizes. Printing can be done either before or after the cutting process. Using large industrial printers, designs, labels, and information can be printed onto the boxes.

- ***Box Making***

The cut sheets are folded and glued to form a box shape. This process can be manual or automated. Depending on the box design, they may be stitched, taped, or glued together.

Indian Market Outlook

The India corrugated boxes market size reached US$ 6.5 Billion in 2022. Looking forward, IMARC Group expects the market to reach US$ 12.3 Billion by 2028, exhibiting a growth rate (CAGR) of 10.8% during 2023-2028. Corrugated boxes are disposable containers manufactured with different layers and widely available in different sizes, colors, designs, text, and graphics. They are lightweight, highly durable, safe, secure, and resistant to shock, moisture, and sudden temperature changes. They are cost-effective, eco-friendly, recyclable, and increase customer satisfaction. They provide more cushion or support for weighted materials to enhance protection as compared to cardboard boxes. Factors such as increasing demand from fresh food and beverages, home & personal care goods, electronic goods industries, logistics application, increasing consumer awareness towards sustainable packaging and growth of the e-commerce industry have propelled the growth of Indian corrugated boxes market.

Global Market Outlook

Corrugated box market is growing with a CAGR of 5.8% in the forecast period of 2021 to 2028 and expected to reach USD 237,989.25 thousand by 2028. Corrugated box products are designed to give an extreme protection to the goods such as fragile, heavy, bulky, or high-value products in storage and transit. A corrugated box with several layers provides strength to the packaging product and makes it stronger than average cardboard. Corrugated packaging products are 100% renewable and cost-effective in nature and used to replace wood and metal packaging. The Asia-Pacific region is expected to grow with the highest growth rate in the forecast period of 2021 to 2028 because of increasing demand of light weight packing products.

Conclusion

The popularity of carton boxes has led to the rise of carton box manufacturing as a booming business opportunity. Entrepreneurs looking to enter the packaging industry can take advantage of this trend and start their own carton box manufacturing business. With a relatively low start-up cost and high demand, this business has the potential to be profitable and sustainable.

PROJECT COST ESTIMATE

CAPACITY

Carton Boxes	: 40 MT Per Day
Plant & Machinery	: ₹ 409 Lakhs
Cost of Project	: ₹ 2071 Lakhs
Rate of Return	: 28%
Break Even Point	: 61%

Setup Electrolytic Manganese Dioxide Business

Electrolytic Manganese Dioxide (EMD) is a black powder that is produced through an electrolytic process. EMD is known for its high purity, high capacity, and excellent electrochemical properties, making it a popular choice in various applications. The production of EMD involves the electrolysis of a manganese sulfate solution, which results in the deposition of manganese dioxide on the cathode. This manganese dioxide is then processed further to obtain the desired EMD product.

Applications

EMD is used in the production of lithium-ion batteries, where it serves as a key component in cathodes, enabling efficient energy storage and discharge. The ceramic industry also relies on EMD for its excellent pigmenting and coloring properties. EMD is commonly used in the production of ceramics, where it adds vibrant colors and enhances the durability of the finished products. Additionally, EMD finds application in the manufacturing of pigments for paints and coatings, providing long-lasting color and improved corrosion resistance.

Market Analysis and Business Plan

Understanding the current market trends, competition, and pricing dynamics will enable you to position your plant strategically and identify unique selling points. A robust business plan is crucial for securing funding and attracting investors. It should include a detailed analysis of the plant's costs, such as equipment, raw materials, labor, and utilities. Additionally, it should outline your marketing and sales strategy, production capacity, and projected financials. Presenting a comprehensive business plan will demonstrate your understanding of the market, industry, and the feasibility of your EMD plant.

Testing and Quality Assurance

The testing and quality assurance process plays a critical role in maintaining the high standards that are expected in the industry. This process involves rigorous testing and inspection of the EMD at various stages of production to ensure that it meets the required specifications. During the production process, regular monitoring and testing should be conducted to ensure that the desired electrochemical properties of the EMD are achieved. This includes analyzing the current density, pH level, and temperature to maintain optimal conditions for deposition. Once the EMD is produced, it should undergo comprehensive quality assurance tests to verify its purity, capacity, and electrochemical performance.

Conclusion

If you're looking for a profitable venture in the chemical industry, an EMD plant offers immense opportunities for growth and success. It's time to take advantage of the increasing demand for EMD and establish your presence in this thriving market.

PROJECT COST ESTIMATE

CAPACITY

Electrolytic Manganese Dioxide	: 5 MT Per Day
Plant & Machinery	: ₹ 89 Lakhs
Cost of Project	: ₹ 576 Lakhs
Rate of Return	: 27%
Break Even Point	: 57%

Start Active Pharmaceutical Ingredients Unit

Acetaminophen/Paracetamol, Metformin/Metformin Hydrochloride, Azithromycin Dihydrate

Active Pharmaceutical Ingredients (APIs) are essential components of drugs and medications. They are the active substances that provide the therapeutic effects of the medicine. Three common APIs that you should be familiar with are acetaminophen/paracetamol, metformin/metformin hydrochloride, and azithromycin dihydrate. Acetaminophen/paracetamol is a widely used API known for its analgesic and antipyretic properties. It is commonly used to alleviate pain and reduce fever. Metformin/metformin hydrochloride, on the other hand, is a medication used for managing type 2 diabetes. It helps control blood sugar levels by improving insulin sensitivity. Lastly, azithromycin dihydrate is an antibiotic that is commonly prescribed to treat various bacterial infections. It works by inhibiting bacterial protein synthesis.

Benefits of Starting This Business?

First and foremost, the pharmaceutical industry is growing rapidly, and the demand for APIs is consistently high. This means that there is a steady market for API manufacturers and suppliers, ensuring a consistent stream of customers and potential revenue. By starting an API business, you have the opportunity to contribute to the development of new medications and make a significant impact on healthcare.

PROJECT COST ESTIMATE

CAPACITY:

Paracetamol	:	10,000 Kgs Per Day
Azithromycin	:	10,000 Kgs Per Day
Metformin	:	10,000 Kgs Per Day
Plant & Machinery	:	₹ 1111 Lakhs
Cost of Project	:	₹ 5246 Lakhs
Rate of Return	:	33%
Break Even Point	:	55%

Global Market Overview

The Active Pharmaceutical Ingredients (API) Market size is expected to grow from USD 204.08 billion in 2023 to USD 285.29 billion by 2028, at a CAGR of 6.93% during the forecast period (2023-2028). Several factors are driving this growth. Firstly, the increasing prevalence of chronic diseases and the growing global population are contributing to the rising demand for medications. As a result, pharmaceutical companies are seeking reliable API manufacturers and suppliers to meet this demand. Furthermore, the advancements in technology and the development of innovative drugs are also propelling the API market forward.

Conclusion

The API market offers fantastic prospects for corporate development and innovation, and it also supports global healthcare. Exploring the world of Active Pharmaceutical Ingredients is certain to be an intriguing and worthwhile adventure, regardless of whether you are an investor or simply interested in the science behind medications.

Start Curcumin Extraction Unit

Curcumin extraction refers to the process of isolating and extracting the active compound curcumin from turmeric. Turmeric, a vibrant yellow spice commonly used in Indian cuisine, contains curcumin, which is known for its powerful antioxidant and anti-inflammatory properties. The extraction process typically involves using solvents to separate curcumin from the other components of turmeric, resulting in a concentrated form of the compound.

Uses and Benefits

Curcumin extraction offers a wide range of uses and benefits, making it a highly sought-after compound in various industries. One of the most popular uses of extracted curcumin is in dietary supplements. This makes it a valuable ingredient in the field of medicine, where it can be used to alleviate symptoms of chronic inflammatory conditions such as arthritis and inflammatory bowel disease. Curcumin's anti-inflammatory properties also extend to the skincare and cosmetics industry. Furthermore, curcumin has demonstrated potential anticancer properties, with studies showing that it may help inhibit the growth and spread of cancer cells.

Market Analysis

The global curcumin market size was valued at USD 58,199.4 thousand in 2020 and is expected to grow at a compound annual growth rate (CAGR) of 16.1% from 2020 to 2028. Curcumin is an active ingredient commonly extracted from turmeric and ginger. Turmeric is widely consumed in the South East Asian countries in both food and medical products due to its therapeutic properties. The market analysis also shows that the dietary supplements industry holds the largest share in the curcumin market, followed by cosmetics and pharmaceuticals. This indicates the diverse range of applications for curcumin and the potential for entrepreneurs to tap into multiple sectors. The rising demand for curcumin-based ayurvedic and herbal personal care products is also expected to fuel regional market growth.

Conclusion

Starting a curcumin extraction unit, you have the opportunity to contribute to the growing demand for natural health products, make a positive impact on people's well-being, and achieve financial success in an industry that is only going to get bigger. Don't miss out on the spice to riches opportunity that curcumin extraction offers!

PROJECT COST ESTIMATE

CAPACITY:

Curcumin Powder	:	100 Kgs Per Day
Turmeric Oil	:	47 Kgs Per Day
Deoiled Turmeric	:	1,853 Kgs Per Day
Plant & Machinery	:	₹ 216 Lakhs
Cost of Project	:	₹ 491 Lakhs
Rate of Return	:	28%
Break Even Point	:	64%

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

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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.

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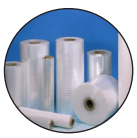

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- Cashew Nut Processing Unit
- Caustic Soda From Limestone and Sodium Carbonate (Soda Ash)
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- Chocolate
- Cold Water Soluble Starch
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- Phosphate Rice Organic Manure (PROM)
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- Microbrewery
- NPK Complex Organic Fertilizer Plant
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- Pet Recycling
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- Potassium Permanganate
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- Latex & Nitrile Gloves
- Production of Red Oxide Primer
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- Readymade Garments
- Red Oxide Primer
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SELECTED BUSINESS IDEAS FOR RIGHT INVESTMENT

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- » Unsaturated Polyester Resin Plant
- » Pharmaceutical Tablets Unit (API Metformin, Amoxicillin, Ibuprofen, Paracetamol)
- » Nicotine Usp99+
- » Lab Cultured Diamonds from Graphite
- » Silicon Carbide Abrasive Nozzle Liners
- » Sodium Silicate from Rice Husk Ash
- » Solar Panel
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- » Oxygen Gas Plant
- » Lemon Processing Unit (Lemon Juice Dry Powder, Lemon Peel Oil Extraction Steam Base, and Lemon Pectin)
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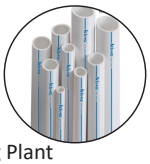
- » Surgical & N95 Masks
- » Surgical Cotton
- » Tempering & Toughening of Flat Glass
- » Thinners and Solvent Thinners (Blending and Bottling)
- » Toothpaste
- » Toughened Glass

- » Truck Body Building
- » Tyres and Tubes for Bicycle and Rickshaw
- » Undergarments (Men and Women)
- » UPVC Pipes
- » Warehouse
- » Wheat Starch & Gluten
- » Wire Drawing with Galvanizing Plant
- » Wood Plastic Composite (WPC)
- » WPC Board
- » WPC Profile for Building Materials Like Door and Window Frame and Shutters
- » Zinc Oxide from Zinc Dross (White Seal)



npcs Most Growing Industries to Start a New Business

Ready to Eat Food (RTE)

Ready to Eat Foods (RTE) are convenience foods, enclosed in aluminium container or pouches that only need to be cut and heated before being served. Instant vegetables in retort pouches fall under this category and find application not only as home meal replacement in working class households but also in fast-food restaurants and multi cuisine food joints. These are handy meals for armed forces and paramilitary forces deployed in remote places. RTE food includes wide range of products viz. vegetarian/ non- vegetarian, basic food/ delectable desserts, south and north Indian items available from a specialty or multi cuisine restaurant & food joint only.

Ready To Eat, Shelf Stable, Retort Sterilized Foods are completely cooked foods packed in airtight containers, which could be preserved at room temperature for a long period of time without the necessity of freezing, cooling and drying. The thermally-processed retort pouch foods are waterproof, weatherproof and bug proof. The Shelf Life of Ready To Eat Foods is from 1 year to 5 years, depending on the type of packing materials and processing procedures.

India's Food Processing industry is one of the largest industries in the country–it is ranked fifth in terms of production, consumption, export and expected growth. The industry employs 1.6 million workers directly. Now the time is to provide better food processing & marketing infrastructure for Indian industries to serve good quality & safest processed food like READY TO EAT (RTE) food, keeping in mind the changing tastes and lifestyle of the Indian demography.

PROJECT COST ESTIMATE

CAPACITY:

Vegetable Pulao	: 3000 Kgs. Per Day
Dal Makhani	: 2000: Kgs. Per Day
Palak	: 600: Kgs. Per Day
Rajmah	: 700 Kgs. Per Day
Potato Peas	: 600 Kgs. Per Day
Mutter Mushroom	: 250 Kgs. Per Day
Plant & Machinery	: ₹ 580 Lakhs
Cost of Project	: ₹ 954 Lakhs
Rate of Return	: 30%
Break Even Point	: 58%

The Indian food processing market was worth INR 24,665 Billion in 2018. Looking forward, the market is projected to reach INR 50,571 Billion by 2024, exhibiting a CAGR of 12.4% during 2019-2024. Rising household incomes, urbanization and the growth of organized retail are currently some of the major drivers of this market. Food processing is a large sector that covers activities such as agriculture, horticulture, plantation, animal husbandry and fisheries.

Biomass Briquettes from Bio Waste

Among the non-conventional forms of energy, Bio-Energy offers vast potential under Indian conditions, due to the wide spectrum of BIOMASS available in different agro-climatic regions of the country.

Worldwide, the energy stored in biomass through photosynthesis is approximately $3x10^{21}J$ (90% in trees) every year, which is nearly 10 times the world's annual energy use. Even through the total renewable biomass resource for energy far exceeds the world's total energy requirement, its volume exploitation remains limited because of the present low cost of fossil fuels, the heterogeneous nature of biomass, and the area over which the biomass must be collected for large-scale applications.

Biomass feed, especially agro-residues, is available in different forms, such as husks, straw, and stalks of various and numerous crops. Due to this heterogeneous nature, the utility of these materials for energy becomes limited, and energy conversion processes tend to become biomass specific. Biomass briquettes are a proven way of generating energy from bio-waste. Different types of waste have been utilized in order to develop biomass briquettes. Biomass briquettes derived from Mustard, Cotton, Guar, Saw Dust and Peanut shell Agro waste could result in feasible on-site fuel production.

Biomass briquettes can typically provide between 3-15 per cent of the input energy into the power plant. The objective behind the move, is to reduce air pollution caused due to burning of surplus biomass residue in fields by creating an alternate market for its large-scale utilisation in power plants as well as reduce carbon emission from coal-fired power plants.

PROJECT COST ESTIMATE

CAPACITY

Capacity	: 20 MT Per Day
Plant & Machinery	: ₹ 52 Lakhs
Cost of Project	: ₹ 94 Lakhs
Rate of Return	: 20%
Break Even Point	: 73%

The global Biomass Briquette market is valued at 320 million US$ in 2017 and will reach 570 million US$ by the end of 2025, growing at a CAGR of 7.3% during 2018-2025. The global biomass briquettes market is segmented into North America, Latin America, Western Europe, Eastern Europe, the Middle East and Africa, and Asia Pacific. Of these regions, Europe and North America are expected to be key regions for the growth of this market over the forecast tenure. The utilization of the biomass briquettes production technologies is high to convert their biomass into useful energy sources.

Opportunities in Drinking Water with Packaging in Aluminium Beverage Cans (Mineral, Carbonated, Alkaline)

It goes without saying that water, a mixture of hydrogen and oxygen, is a priceless natural gift that is critical for the existence of humans and animals alike. Water that is utilised for drinking reasons should be free of contaminants. Untreated water from sources such as wells, boreholes, and springs is often unsanitary and unsafe to consume. Purifying water and supplying it in sanitary conditions for human use is thus desirable and necessary.

Water that is safe to drink or use for food preparation is referred to as drinking water. The amount of drinking water needed to stay healthy varies, depending on physical activity, age, health-related disorders, and environmental factors. Even while only a small fraction of tap water is consumed or used in food preparation, it usually meets drinking water quality standards in developed countries. Other common use include laundry, toilets, and irrigation. Access to safe drinking water is considered a basic human right by the World Health Organization.

Mineral water is water from a mineral spring that contains salts and sulphur compounds, among other minerals. Mineral water is usually either still or sparkling (carbonated/effervescent) depending on whether or not additional gases are present.

PROJECT COST ESTIMATE

CAPACITY:

Mineral Water	:	2,000 Cans Per Day
Carbonated Water	:	2,000 Cans Per Day
Alkaline Water	:	2,000 Cans Per Day
Plant & Machinery	:	₹ 186 Lakhs
Cost of Project	:	₹ 417 Lakhs
Rate of Return	:	22%
Break Even Point	:	61%

Mineral waters were traditionally used or drank near their spring sources, a practise known as "taking the waters" or "taking the remedy," in spas, baths, or wells.

Carbonated water (also known as sparkling water, fizzy water, club soda, and water with gas) is water that contains dissolved carbon dioxide gas, which is either naturally present or purposefully injected under pressure. Small bubbles form as a result of the carbonation, giving the water an effervescent aspect. Sparkling natural mineral water, club soda, and commercially made sparkling water are all popular options. Minerals such as potassium bicarbonate, sodium bicarbonate, sodium citrate, and potassium sulphate are added or dissolved in club soda and sparkling mineral water, as well as several other sparkling fluids.

The global bottled water market was valued at USD 217.66 billion in 2020, with a compound annual growth rate (CAGR) of 11.1 percent predicted from 2021 to 2028. The important elements driving the industry over the next few years will be portability, ease of use and installation, and low maintenance costs. Additionally, increased consumer awareness of the health benefits of drinking bottled water is expected to propel market expansion throughout the forecast period. Plain and flavoured still and sparkling water have become immensely popular beverages on a global scale in recent years. This is a new megatrend that is expected to grow in popularity in the next years. Consumers are choosing for packaged water and limiting their intake of sugary drinks as their health awareness grows. Still bottled water consumption has increased in food outlets and restaurants, which is driving market expansion.

Lucrative Business of Steel Containers (Cargo Containers)

Containerized shipping has changed the way that goods and materials are transported, but it can also take a while to learn how it all works. Cargo containers are the most efficient form of transportation when it comes to moving bulk loads over long distances. These sturdy metal boxes may look like something out of Star Wars, but they're actually an economical and environment-friendly way to ship goods across the globe, especially when compared to transporting by road or air freight services.

The cargo container industry produces a lot of intermodal containers each and every year. They are used to transport goods all over the world. About 180 million container loads crisscross the oceans each year in about 5000 container ships. International shipping of containerized commodities is indispensable for global trading firms to thrive in the increasingly competitive economic environment.

The global Shipping Containers Market was accounted for US$ 10,350.1 Mn in terms of value and 306,324 Thousand Units in 2019 and is expected to grow at CAGR of 5.9% for the period 2020-2027. Increasing speed, reliability, and safety of containerization have compelled companies to opt for containers to ship their goods.

PROJECT COST ESTIMATE

CAPACITY

Cargo Containers (Size 20 Feet)	:	34 Nos Per Day
Plant & Machinery	:	₹ 3.21 Cr
Cost of Project	:	₹ 18.13 Cr
Rate of Return	:	28%
Break Even Point	:	52%

Manufacturing Business of IV Fluids (BFS Technology)

Intravenous fluids are fluids that are given to a patient intravenously (via the veins) or directly through the circulatory system. To prevent patients from damage, these fluids must be sterile, and there are various options. Many companies manufacture pre-packaged intravenous fluids and other things that can be added with sterile water to form an intravenous solution.

Two types of intravenous fluids are available. Crystalloids contain a solution of water-soluble molecules, such as saline solutions. Colloids are formed composed of particles that aren't soluble in water and produce a high osmotic pressure, which draws fluid into blood vessels.

In 2015, the global intravenous (IV) solutions market was worth USD 6.9 billion, and it is expected to increase at a CAGR of 7.8% over the next five years. The rise of this market can be ascribed to the rapidly rising geriatric population as well as the high frequency of malnutrition among the elderly and children.

PROJECT COST ESTIMATE

CAPACITY

IV Fluids (500 ml Size Pack)	:	78,000 Packs Per Day
Plant & Machinery	:	₹ 576 Lakhs
Cost of Project	:	₹ 1190 Lakhs
Rate of Return	:	27%
Break Even Point	:	50%

Opportunities in Manufacturing of Solar Inverter (100 KVA – 1000 KVA)

A solar inverter, also known as a PV inverter, is an electrical converter that converts a photovoltaic (PV) solar panel's variable direct current (DC) output into a utility frequency alternating current (AC) that can be fed into a commercial electrical grid or used by a local, off-grid electrical network. In a photovoltaic system, it is a vital balance of system (BOS) component that allows the use of standard AC-powered equipment. Maximum power point tracking and anti-islanding prevention are two features that solar power converters have developed for use with photovoltaic arrays.

Advanced solar pumping inverters convert DC voltage from solar panels to AC voltage, allowing submersible pumps to be driven directly without the use of batteries or other energy storage devices. Solar pumping inverters use MPPT (maximum power point tracking) to manage output frequency and control the speed of the pumps, preventing damage to the pump motor. Solar pumping inverters typically contain many ports for DC current supplied by PV arrays, one port for AC voltage output, and a third port for input from a water-level sensor.

The market for solar PV inverters is predicted to grow at a rate of more than 8% each year. Reduced electricity use and slowing economic growth have also wreaked havoc on the industry. However, when global market activity resumes, demand for the industry is increasing at a quicker rate. Market growth is likely to be aided by factors such as lower inverter prices and an increase in solar PV installations. The advancement of technology, which has resulted in lower costs and higher efficiency in solar panel manufacture, has also contributed to the expansion of the solar PV inverters market. However, market growth has been limited by a lack of general knowledge, infrastructure construction expenses, and recent subsidy decreases on solar panels by governments in the Asia-Pacific area.

PROJECT COST ESTIMATE

CAPACITY

Solar Inverter 50 Hz 100 to 1000 KVA	: 15 Nos Per Day
Plant & Machinery	: ₹ 373 Lakhs
Cost of Project	: ₹ 1288 Lakhs
Rate of Return	: 26%
Break Even Point	: 47%

Recycling of Lithium Ion Battery

Because of the popularity of smart phones and tablets, the demand for lithium ion batteries has surged substantially in recent years. Because these devices include hazardous materials that must be properly disposed of to avoid contamination of the environment, recycling these batteries is now more crucial than ever.

Lithium-ion batteries are becoming more prevalent. They're already used in cell phones, laptops, consumer electronics, and some industrial applications. Telecom towers, solar storage systems, and electric vehicles are all using them. Battery specialists and environmentalists agree that lithium-ion batteries should be recycled for a variety of reasons.

According to estimates, India's yearly lithium-ion battery industry would expand at a 37.5 percent compound annual growth rate (CAGR) from now until 2030, when it will reach 132 GWh. The global lithium-ion battery market will have risen from 2.9 gigawatt-hours in 2018 to around 800 gigawatt-hours by 2030.

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	: ₹ 200 Lakhs
Cost of Project	: ₹ 422 Lakhs
Rate of Return	: 27%
Break Even Point	: 55%

Xanthan Gum

Xanthan gum is a polysaccharide with many industrial uses, including as a common food additive. It is an effective thickening agent and stabilizer to prevent ingredients from separating. . It is used to make medicine. Xanthan gum is used for lowering blood sugar and total cholesterol in people with diabetes. It is also used as a laxative. Xanthan gum is used as a thickening and stabilizing agent in foods, toothpastes, and medicines.

Xanthan gum is also employed in oil-in-water emulsions to help stabilize oil droplets against coalescence. As a result, the demand in this application segment is expected to grow at a CAGR of 5.1% from 2014 to 2020. The demand in food & beverage was valued at USD 310.3 in 2013 and is expected to grow at a CAGR of 6.0% from 2014 to 2020. Entrepreneurs who invest in this project will be successful.

PROJECT COST ESTIMATE

CAPACITY:

Xanthan Gum Food Grade	: 720 Kgs./Day
Xanthan Gum Oil Grade	: 340 Kgs./Day
Plant & Machinery	: ₹ 120 Lakhs
Cost of Project	: ₹ 313 Lakhs
Rate of Return	: 25%
Break Even Point	: 53%

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