

BIO DIESEL PROJECT REPORT

SHRI PARTH P E T R O C H E M



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Shri Parth Petro

- Shri Parth Petrochem is one of the leading Petroleum Refinery and Turnkey Base Extraction, Sulphonation and Distillation Refinery Projects Suppliers in across the world. Established in year 2008 as a Proprietary Firm by Mr. Sandip Dinesh Patil, under the Flagship of Pioneer of Petroleum field Mr. Dinesh G. Patil who has more than 4 Decades of Experienced in Field of Petroleum and Refineries.
- "Shri Parth Petrochem" has grown from Petroleum Product manufacturer to Refinery Plant and Machinery Manufacturer. We "Shri Parth Petrochem" is one of the Major and leading Extraction, Sulphonation and Distillation Plant and Machinery Suppliers.
- We are one of Pioneer Consultant in Petroleum Refinery Fields and Bio Diesel Industries. We are Turnkey Project suppliers of Crude Distillation, Hydrocarbon Refining, Bio Diesel, Lubricating oils, etc.? We have Installed Projects of Crude Distillation in Bahrain (UAE), Nigeria (Africa) and also lot in India like, Gujarat, Rajasthan, Karnataka, Punjab. We have installed Projects of Bio Diesels Projects in Gujarat, Rajasthan, Andhra Pradesh, Bihar, Haryana, Madhya Pradesh, Etc. successfully.



IS PROUD TO PRESENT

SHRI PARTH PETROCHEM

AS ONE OF THE

**TOP 10
BIOFUEL
MANUFACTURERS
2022**

*in acknowledgement of its unwavering focus and dedication
to achieve excellence in quality and delivery in this field.*

A handwritten signature in black ink, which appears to read "Sudhakar Singh".

**Sudhakar Singh
Managing Editor
Industry Outlook**

SHRI PARTH PETROCHEM

DELIVERING END-TO-END BIOFUEL TURNKEY SOLUTION



India is set to become the third-largest market for biofuel in the world after the US and Brazil by 2026, a report by the International Energy Agency (IEA) states. However, the biofuel industry is still in its initial stage due to barriers in technical, economic, social, and regulatory dimensions. Furthermore, a lack of entrepreneurship support and inefficient biomass supply chain network are the key impediments ailing the overall growth of the biofuel industry in India.

As a prominent biofuel turnkey project supplier in the country, Shri Parth Petrochem strives to deliver an end-to-end solution to its clients in the technical, economic, social, and regulatory space, wherein the firm assists in all key aspects, starting from production to sales, purchase to marketing, license to manpower resources.

Sandip Patil, Chairman, Shri Parth Petrochem, states, "We are one of the best turnkey solution providers in the field of BioFuels industry, having a qualified team to handle the projects at a global scale. At Shri Parth Petrochem,

we provide Biofuels refinery quality work at a reasonable price with trail batch run, training and license work. Moreover, we make sure that our plants are designed on a very practical, easy and simple method of operation technology, which is as per Govt. of India standard."

The Growth Story

Incorporated in 2008, Shri Parth Petrochem has grown at a tremendous pace under the proactive leadership of Sandip Patil. With a humble beginning as a petroleum product manufacturer, today the company has massively expanded its bracket of offerings. Currently, Shri Parth Petrochem delivers turnkey-based project solutions for Petroleum Products, Bio Ethanol, Bio-Diesel, Bio Fuels, Aromatic Solvents, Used Engine oil, Waste oil, Essential oils, Aroma Products, Agriculture Products like Bamboo based oil and many more.



The firm's undivided attention towards quality control has been the key facilitator to its immense growth. "Shri Parth Petrochem always believes in quality, and to maintain it we always use state-of-the-art infrastructure matched with strict quality tests at each and every level of product," mentions Mr. Patil.

To stay ahead and always deliver the most updated solution to the clientele, Shri Parth Petrochem has developed an in-house R&D, wherein the firm focuses and develops new sources of raw material which can be used to manufacture Bio Fuels. This in turn ensures that Shri Parth's supplied Projects are always at the lowest rate compared to its competitors. Amongst its recent endeavors, the company is working to add new turnkey base projects like Bamboo-based oil, Herbal Extraction unit, Perfumes Aroma Unit, Glycerin Purification, and more.



We are one of the best turnkey solution providers in the field of BioFuels industry, having a qualified team to handle the projects at a global scale

In-house biofuel refinery

Apart from delivering turnkey solutions, Shri Parth also has its own Bio-Fuel refinery. "We are supplying Bio Fuels to IOCL and HPCL and also have our own Big Infrastructure space for Project handling. We have good liaison work with OMC and Govt for license and tendering. Our deep-rooted understanding of critical aspects like raw material sourcing, production process and human resource supply gives our customers a hassle-free experience," pointed out Mr. Patil.

Over the years, the range of solutions delivered by Shri Parth Petrochem has not only been instrumental for the domestic clients but also for the global clientele. In the days ahead, the company wants to make its products more affordable for Indian farmers, to help them flourish in the competitive market. ■

Shri Parth Petrochem

recognized by **siliconindia** Magazine as

siliconindia

SPOTLIGHT
2022

*In recognition of such stellar performance, we acknowledge the comprehensive and
Turnkey Approach And Certify That Shri Parth Petrochem Has Achieved
significant milestones with its solutions & services*



Emmanuel Christi Das
Managing Editor

SHRI PARTH PETROCHEM:

Driving the Business Growth through Customer-centricity & Innovation



Sandip Patil,
Proprietor

Valued at \$44.41 billion in FY22, the crude oil and petroleum products market is one of the key contributors to India's GDP. The exports of petroleum products from India reached \$2.7 MM in FY22. One of the key segments in the crude oil and petroleum market is oil refinery plant manufacturers and exporters. And Shri Parth Petrochem is one of the leading players in this segment, not just in India but across the globe. Operating out from Vadodha, Gujarat, the company has been able to develop into one of the most preferred petroleum refinery and turnkey base Project Suppliers in field of Refinement, Sulphonation, and Distillation across the world. The commitment to never compromise on the quality of their services and their passion for constant innovation have been the two primary catalysts behind the company's sustained success since their inception in 2008.

Carving out a Niche through Diversified Services

To cater to the varied requirements of their clients, the company has created a diversified products portfolio that includes Aromatic Solvents offered by Shri Parth Petrochem can service a myriad of application in plethora of industries including: paintings and coatings, printing inks, agrochemicals, emulsifiers, corrosion inhibitors, and wood preservative to name a few. When it comes to bio diesel, the company has their own refinery through which they are supplying bio diesel to IOCI/BPCL/HPCL and helping Country to achieve seven per cent Bio Diesel Blending Programme. Biodiesel has its benefits: reduced life cycle of green fuel gases by an impressive 86 percent, reduced CO₂, smoke and soot, safer to transport and handle, low maintenance, better mileage, and more power. The other impressive factor about the bio diesel offered by the company is that they are made from Waste of vegetable oils and tins oils. The company offers fuel oil which is a fraction that is obtained from petroleum distillation and the diesel oil which is offered by Shri Parth Petrochem can be used as boiler fuel, furnace oil, and heating oil.

Glycerine offered by the company has diverse industrial applications and can be used as emulsifier and humectant in cosmetics, sweetening agent, foods and beverages, and as preservatives to name a few. Other than that, the water binding tendency of the glycerin also make it useful in the preparation of anti-static and anti-fogging additives. The ink oils that Shri Parth Petrochem produces can be used in the manufacturing and processing of print inks. Other than these, the company also deals with the production of Mineral Turpentine Oil, N-Paraffin, and Rolling Oil. Shri Parth Petrochem is an ISO certified company and they have a separate team of experts ensuring the quality of each of their products and owing to the consistent quality of their products, the company has not only been able to build a positive reputation in the industry but they have also been able to create a niche in the market.




Aiming to stay ahead of the curve, the company is adding more raw materials for the bio fuel side and they are coming up with cashew nut shell oil, Palm Residue oil, Black Soldier Fly oil, algae-based oil, Mango Pills, Bamboo Based Ethanol, and so on

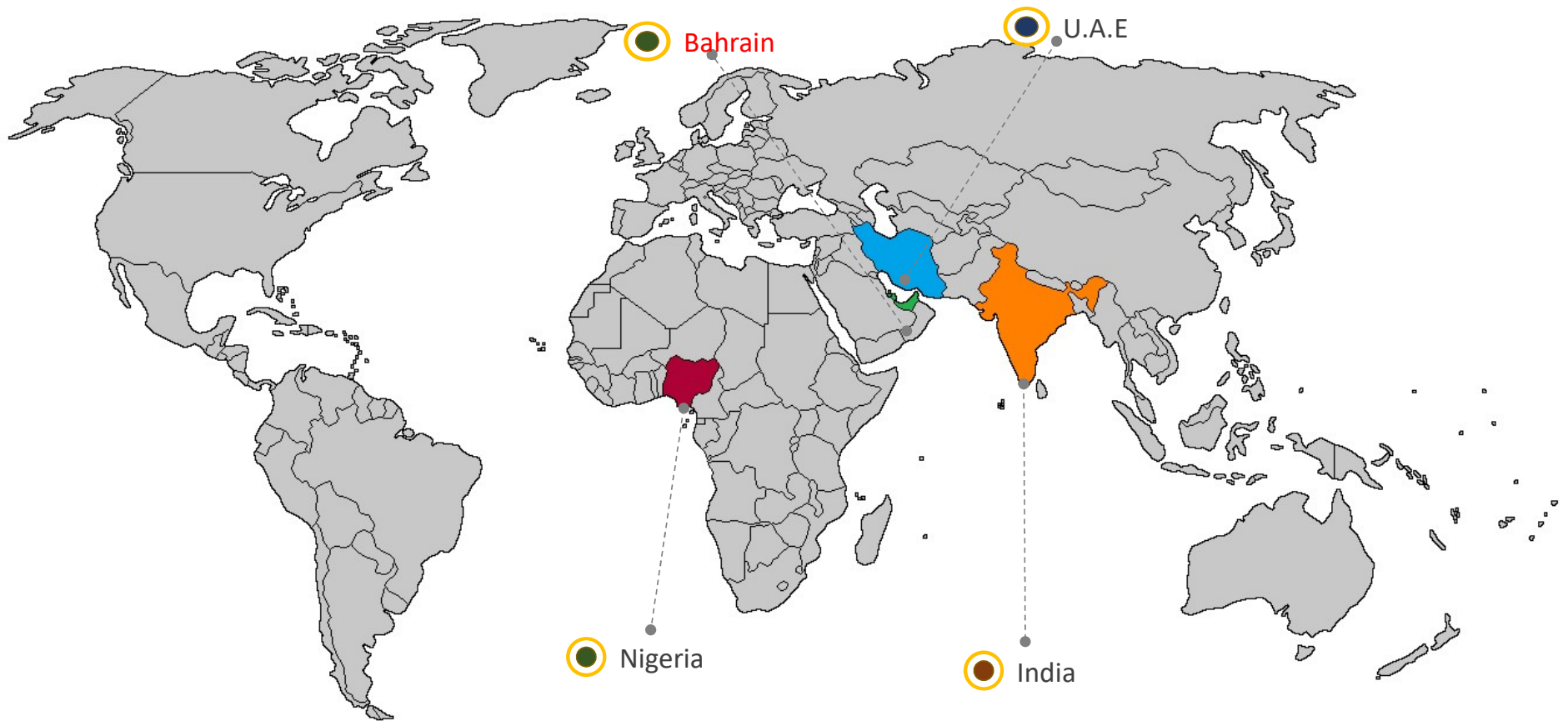
Turn-key Projects of the Highest Quality

Other than the afore-mentioned products, Shri Parth Petrochem is a pioneer when it comes to delivering projects of the highest quality. Growing from humble beginnings, even a decade since its inception, Shri Parth Petrochem has successfully undertaken projects in many locations in India as well as outside the country in Bahrain, and Nigeria as well. The company helps their clients with bio diesel manufacturing unit, bioethanol manufacturing unit, crude distillation unit, multi-product distillation refinery, and used oil and waste oil refinery, essential oil/ perfumes aroma manufacturing units. Adding more about

their operations in the projects vertical, says "We ensure that we deliver the projects that we undertake quickly and the batch times of many other suppliers are longer when compared to us. Procuring raw materials is a major concern for our customers and to overcome this challenge, we systematically help them when it comes to finding places from where they could source the raw materials. The other concern they have is in regards of licenses, and here, we hand hold them through the entire licensing process. Then, we also make sure that our customers get registered with PSTIs so that they can regularly supply them their finished products. Apart from that, we train the employees of our customers because many of their employees lack the proper experience in this arena."

Shri Parth Petrochem has an in-house production unit which occupies 1 lakh sq. ft and aside from that, they also manufacture the machineries in-house as well. Other than that, the company has an independent testing house where the machineries they manufacture are tested and the outputs of these machines are designed in a highly scientific way to ensure reliability and better performance. Aiming to stay ahead of the curve, the company is adding more raw materials for the bio fuel side and they are coming up with cashew nut shell oil, Palm residue oil, Black Soldier Fly oil and algae-based oil also. In the ethanol side, Shri Parth Petrochem is coming up with new innovations which can be revolutionary in the industry. Apart from that, the company is also planning to expand into more areas, add more machineries and refineries to their portfolio, and expand their geographical presence even more. More importantly, Shri Parth Petrochem is aiming to come out with their IPO in the near future as well and take the company to a new level. 

Projects by SHRI PARTH





BIO DIESEL



Biodiesel is a renewable alternative fuel created from vegetable oils, animal fats oils and Used oil through a chemical process.

HISTORY



History of Biodiesel: Rudolph Diesel himself developed biodiesel in 1890, wherein pure vegetable oils were used in diesel engines for agriculture, where petroleum diesel was not available. Modern biodiesel fuel is an outcome of research conducted in 1930s in Belgium, which is made by converting vegetable oils into compounds called fatty acid methyl esters. Process of transesterification was used to convert vegetable oils into fatty acid alkyl esters and use as diesel fuel replacement with lower viscosity of vegetable oil. Biodiesel is the trade name of fatty acid methyl esters. Concerns over environment, energy security and use of agro products brought the use of vegetable oils to the forefront.

Biodiesel industry became house hold name in U.S. after terrorist attack of 9/11/2001, resulting in high oil prices. Biodiesel is being used Worldwide now, due to concerns over Global warming. The future of biodiesel lies in the world's ability to produce renewable feedstocks such as vegetable oils and fats to keep the cost of biodiesel competitive with petroleum.

What is Biodiesel?



- Alternative fuel for diesel engines
- Made from Vegetable oil , Fat oil , Used Cooking oil , Seeds Oil , Etc
- Meets health effect testing (CAA)
- Lower emissions, High flash point (>300F), Safer
- Biodegradable, Essentially non-toxic.
- Chemically, biodiesel molecules are mono-alkyl esters produced usually from triglyceride esters

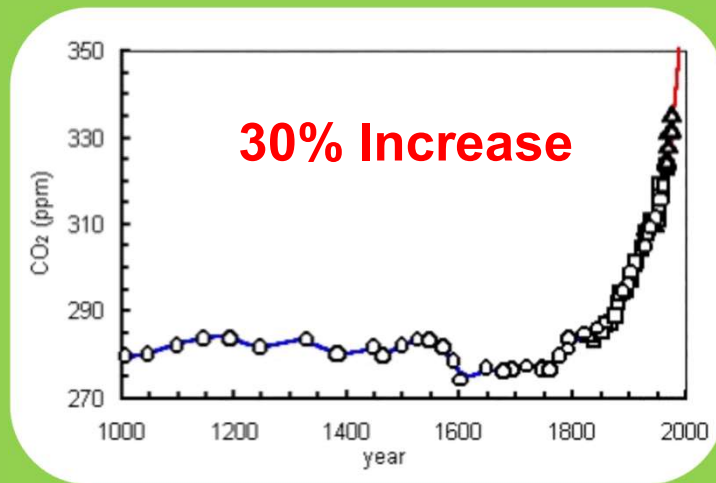
Biodiesel can be used in existing Diesel Engines

- Pure Biodiesel (B100) or blended with petroleum diesel (B20, B30 , B 50).
- Little or no engine modifications
- Use existing fuel distribution network.

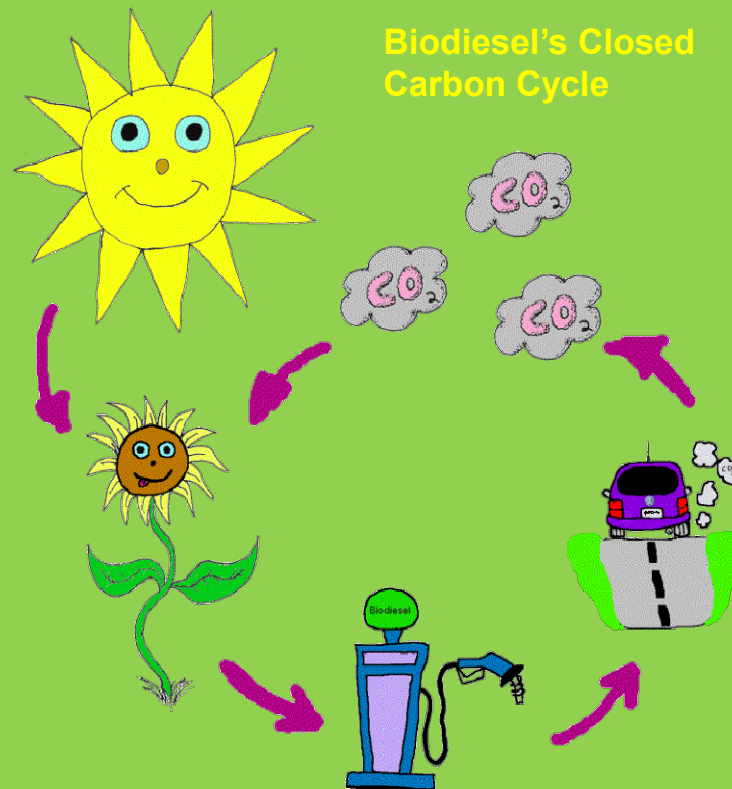


Environmental Issues

- Burning fossil fuels increases atmospheric levels of carbon dioxide
- Fossil fuels are a finite resource

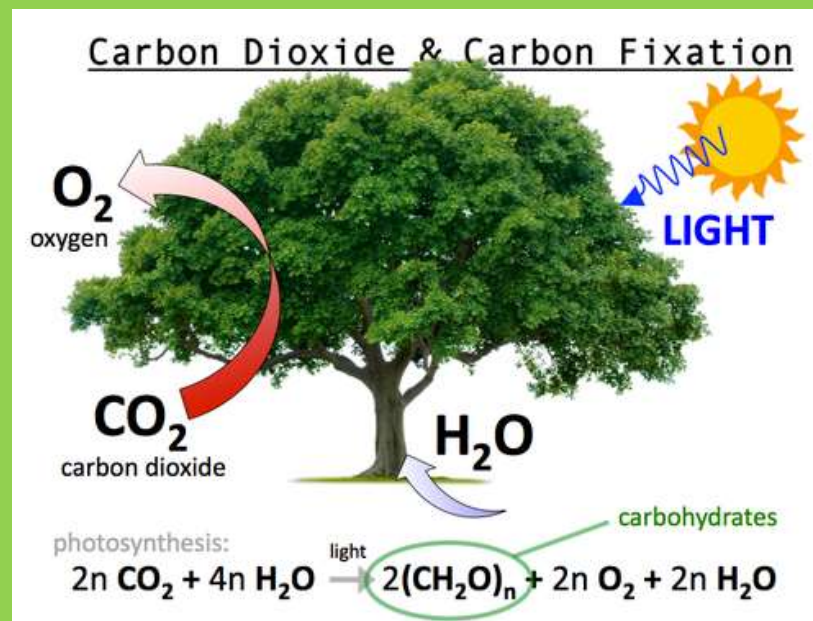


Graph taken from USF Oceanography webpage



A Lesson Learned from Nature

Photosynthesis is a biological carbon fixation process utilized by plants to obtain energy in the form of carbohydrates



BIODIESEL a New Concept of Business



Easy Sales Market



Easy Availability of Raw Material



Simple Manufacturing Process



Catalyst used for Process



Finished Products

Sources of Raw Materials



ANIMAL FAT OIL



SEEDS OIL

Like : Jathrope ,
Soyaseeds ,
Sunflower , etc



PALM FATTY OIL



**USED COOKING
OIL**

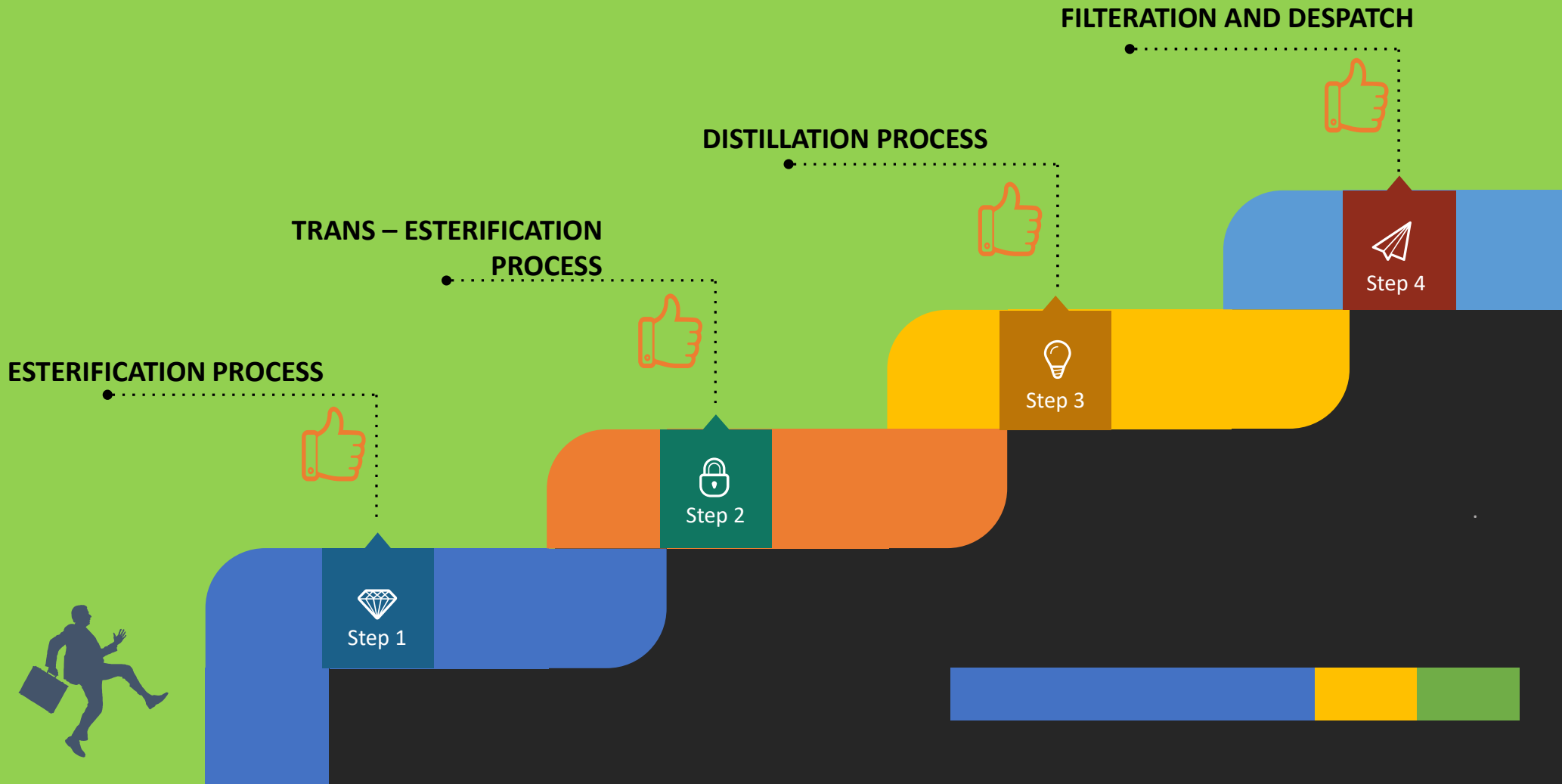


ACID OILS

RAW MATERIAL LIST

1. PALM STRENE	2. TALLOW OIL
3. SOYA OIL / Soya Fatty oil	4. SUNFLOWER OIL / Sunflower Fatty oil
5. RICE BRAN FATTY OIL	6. COTTON SEED ACID OIL
7. KARANJA OIL	8. JATROPHA OIL
9. PALM FATTY	10. CNSL (Cashew nut shell oil)
11. USED COOKING OIL	12. RAPESEEDS OIL

Four Step of Manufacturing Process

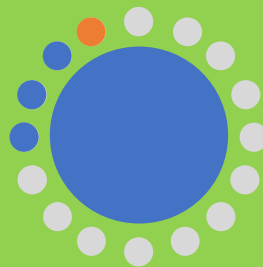


CATALYST USED IN MANUFACTURING PROCESS

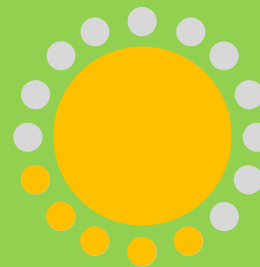


THREE CATALYST USED IN PROCESS

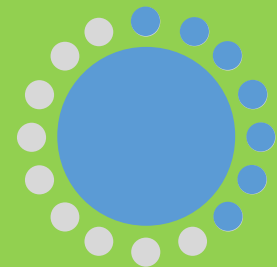
METHANOL



NaOH / KOH



HCL



PRODUCTION COST

PRODUCTION COST RS 5 to Rs. 6 per batch of production)

1. ELECTRICITY COST :- Rs. 1.00 Rupees per batch
2. LABOUR COST :- Rs. 0.50 paise per batch
3. FUEL COST :- Rs. 1.00 per batch
4. KOH COST :- Rs. 1.00 per Batch
5. METHANOL COST :- Rs. 1.00 per Batch
6. Misc. Exps :- Rs. 1.00 per Batch

FINISHED PRODUCTS

BIO-DIESEL And Glycerin

In this process we get 2 Product from our any given Raw material. Bio-Diesel and Glycerin . Biodiesel we get will be around 90 to 92 % and Glycerin will be 8 to 10 %.

From any type of Raw material we get only this Two product only.

**Biodiesel – 90 to 92 %
Glycerin – 8 to 10 %**



BIO DIESEL
90 TO 92 %



Figure 2. Glycerol formation after first reaction..



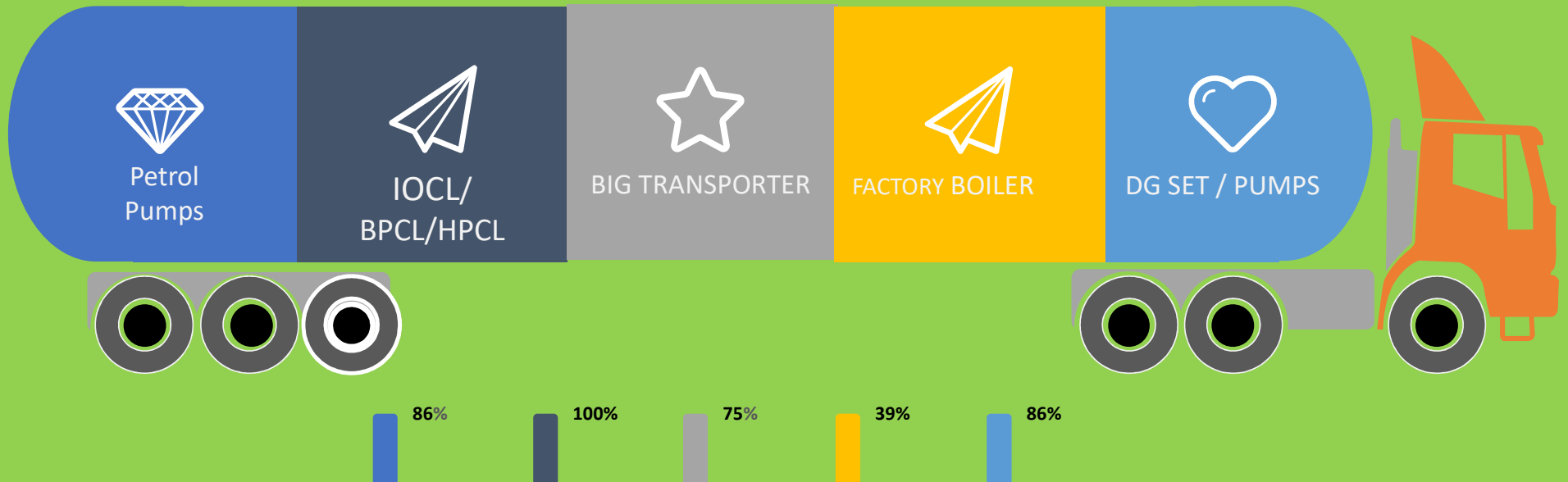
GLYCERIN
8 TO 10 %

Biodiesel Samples

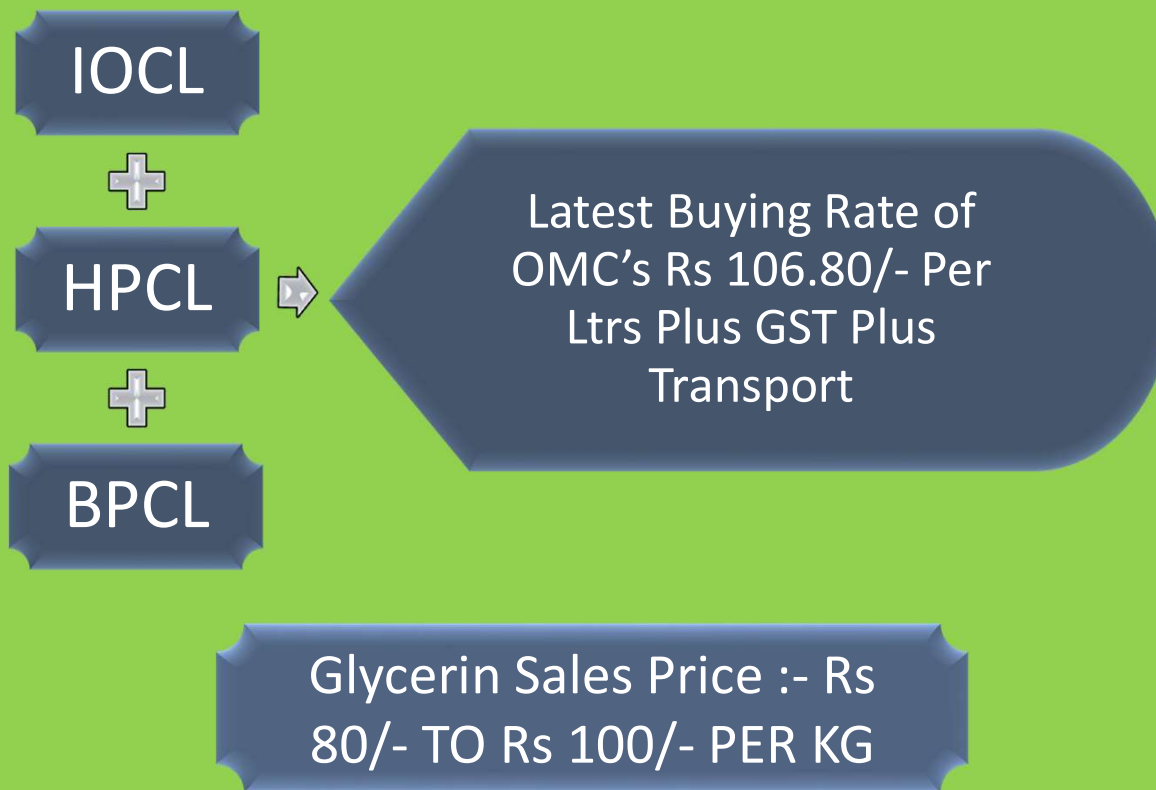


Sales Market

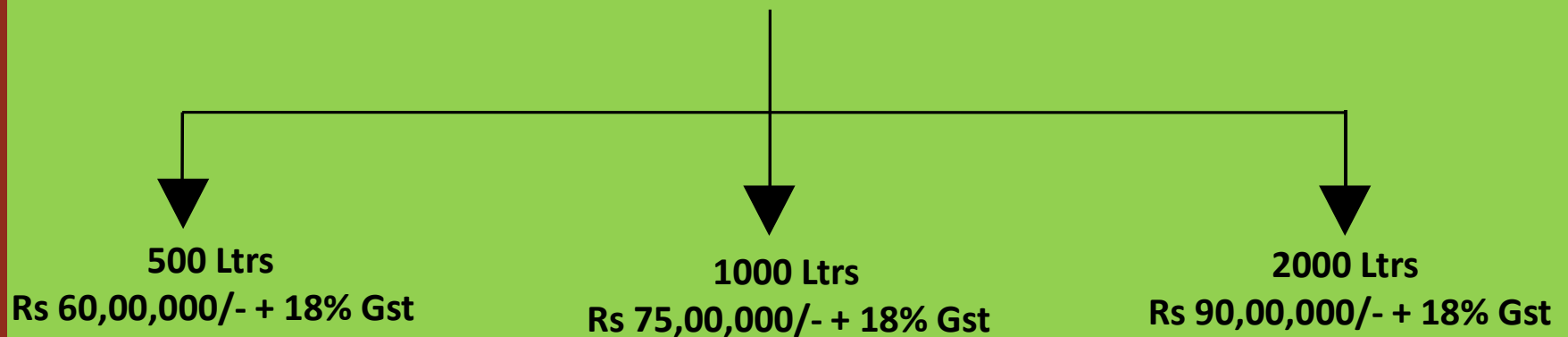
BIO DIESEL IS SOLD THROUGH BELOW Outlets



Sales Market

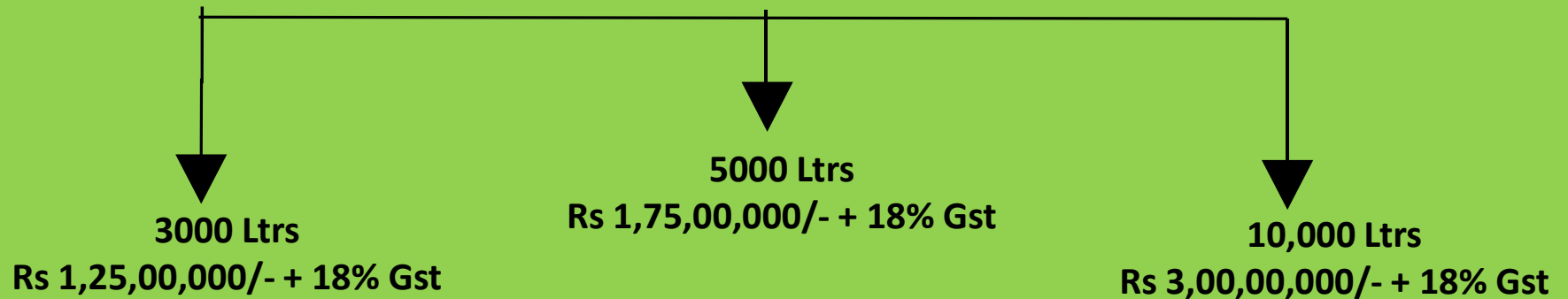


SMALL UNIT MODELS



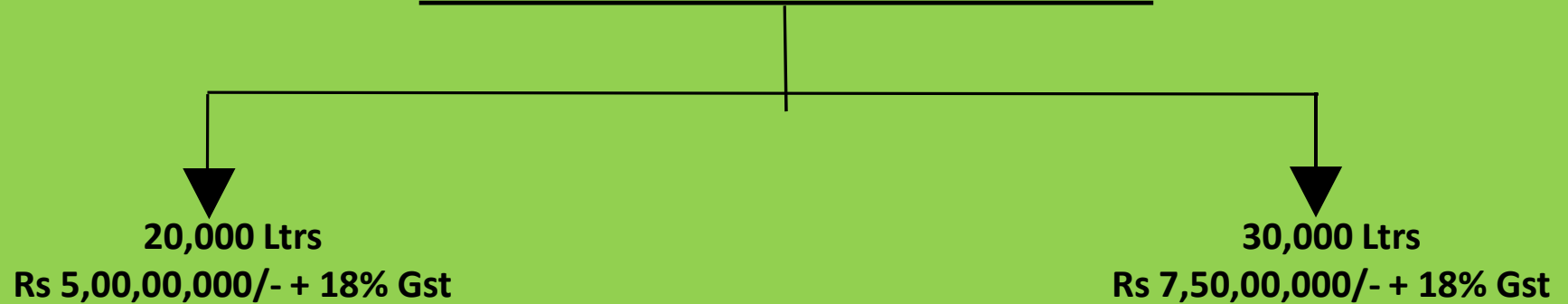
- **SPACE REQUIRED:- 3000 SQ FT TO 5000 SQ FT**
- **STAFF REQUIRED:- 3 TO 5 PERSON**
- **ELECTRICITY REQUIRED:- 45 KW TO 75 KW**
- **BATCH TIMING :- 8 HOURS TO 12 HOURS (2-BATCH PER DAY)**
- **Civil Exps :- Extra Client has to do it Approx Rs. 10 to 20 Lacks**
- **Working Capital Required :- Rs. 20 to 30 Lacks**
- **LICENCE REQUIRED:- POLLUTION CONTROL BOARD, FACTORY INSPECTOR& GST**

MEDIUM UNIT MODELS



- **SPACE REQUIRED:-** 6,000 SQ FT TO 20,000 SQ FT
- **STAFF REQUIRED:-** 5 TO 7 PERSON
- **ELECTRICITY REQUIRED:-** 100 KW TO 150 KW
- **BATCH TIMING :-** 8 HOURS TO 12 HOURS (2-BATCH PER DAY)
- **CIVIL EXPS :-** Extra Client has to do it Approx Rs. 30 TO 50 Lacks
- **WORKING CAPITAL REQUIRED :-** Rs. 2 to 3 Crore
- **LICENCE REQUIRED:-** POLLUTION CONTROL BOARD,FACTORY INSPECTOR & GST

LARGE UNIT MODELS



- **SPACE REQUIRED:- 20,000 SQ FT TO 35,000 SQ FT**
- **STAFF REQUIRED:- 10 TO 15 PERSON**
- **ELECTRICITY REQUIRED:- 150 KW TO 200 KW**
- **BATCH TIMING :- 8 HOURS TO 12 HOURS (2-BATCH PER DAY)**
- **CIVIL EXPS :- Extra Client has to do it Approx Rs. 50 TO 75 Lacks**
- **WORKING CAPITAL REQUIRED :- Rs. 1 to 2 Crore**
- **LICENCE REQUIRED:- POLLUTION CONTROL BOARD,PESO(PETROLEUM AND EXPLOSIVES SAFETY ORGANISATION),FACTORY INSPECTOR & GST**

EXTRA LARGE UNIT MODELS

50,000 Ltrs Rs
10,00,00,000/- + 18% Gst

1,00,000 Ltrs
Rs 18,00,00,000/- + 18% Gst

- **SPACE REQUIRED:- 75,000 SQ FT TO 1,00,000 SQ FT**
- **STAFF REQUIRED:- 15 TO 20 PERSON**
- **ELECTRICITY REQUIRED:- 250 KW TO 300 KW**
- **BATCH TIMING :- 8 HOURS TO 12 HOURS (1-BATCH PER DAY)**
- **CIVIL EXPS :- Extra Client has to do it Approx Rs. 1 to 2 Crore**
- **WORKING CAPITAL REQUIRED :- Rs. 5 to 8 Crore**
- **LICENCE REQUIRED:- POLLUTION CONTROL BOARD,PESO(PETROLEUM AND EXPLOSIVES SAFETY ORGANISATION),FACTORY INSPECTOR & GST**

ROI : RETURN ON INVESTMENT

65 LAKH RUPEES INVESTMENT

- 500 LTRS BATCH 10 HOURS PROCESSING TIME
- PER BATCH PROFIT MARGIN WILL BE APPROXIMATELY PER LITER RS 5/- TO RS 7/-
- PER DAY 2 BATCH OF 500 LTRS = 1000 LTRS
- 1000 LTRS X RS 5/- PROFIT = RS 5000 /-
- RS 5000 X 30 DAYS = RS 1,50,000 /-
- RS 1,50,000/-X 45 MONTHS= RS 65,00,000/-
- INVESMENT AMOUNT WILL BE RETURN IN 45 MONTHS TO 46 MONTHS

75 LAKH RUPEES INVESTMENT

- 1000 LTRS BATCH 10 HOURS PROCESSING TIME
- PER BATCH PROFIT MARGIN WILL BE APPROXIMATELY PER LITER RS 5/- TO RS 7/-
- PER DAY 2 BATCH OF 1000 LTRS = 2000 LTRS
- 2000 LTRS X RS 5/- PROFIT = RS 10,000
- RS 10000 X 30 DAYS = RS 3,00,000 /-
- RS 3,00,000/-X 22 MONTHS= RS 75,00,000/-
- INVESMENT AMOUNT WILL BE RETURN IN 25 MONTHS TO 28 MONTHS

ROI : RETURN ON INVESTMENT



1.75 CR INVESTMENT

- 5000 LTRS BATCH 8 HOURS PROCESSING TIME
- PER BATCH PROFIT MARGIN WILL BE APPROXIMATELY PER LITER RS 5/- TO RS 7/-
- PER DAY 2 BATCH X 5000 LTRS = 10,000 LTRS
- 10,000 LTRS X RS 5 /- PROFIT = RS 50,000 /-
- RS 50,000 X 30 DAYS = RS 15,00,000 /-
- RS 15,00,000/-X 12 MONTHS= RS 1,80,00,000/-
- INVESMENT AMOUNT WILL BE RETURN IN 12 MONTHS TO 14 MONTHS

3.00 CR INVESTMENT

- 10,000 LTRS BATCH 8 HOURS PROCESSING TIME
- PER BATCH PROFIT MARGIN WILL BE APPROXIMATELY PER LITER RS 5/- TO RS 7/-
- PER DAY 2 BATCH X 10,000 LTRS = 20,000 LTRS
- 20,000 LTRS X RS 5/- PROFIT = RS 1,00,000 /-
- RS 1,00,000 X 30 DAYS = RS 30,00,000 /-
- RS 30,00,000/-X 10 MONTHS= RS 3,00,00,000/-
- INVESMENT AMOUNT WILL BE RETURN IN 10 MONTHS TO 12 MONTHS

LICENSES REQUIRED



- POLLUTION CONTROL BOARD
- PESO(PETROLEUM AND EXPLOSIVES SAFETY ORGANISATION)
- FACTORY INSPECTOR LICENSE
- GST



OUR SERVICES



- RAW MATERIAL PROCUREMENT GUIDELINES
- SALES GUIDELINES
- GOVERNMENT REFINERY TENDERS PARTICIPATE GUIDELINES
- PRODUCTION BATCH TRAINING
- GOVERNMENT LICENSE SERVICES

SHRI PARTH PETROCHEM

We are Turnkey Supply of Project and We give Below mentioned Services.



Project Designing and Consultancy



Technical Know How Related to Project

Plant and Machinery Supply ,
Installed and Erection



Trail Batch Run and Production Setup





Human Resource Supply and
Management



Project Related Licenses Services

Raw Material Procurement Services



Sales and Marketing Services





Thank For Watching

