

General Department of Economic and Financial Affairs of Khuzestan

Preparation and Compilation of Investment Opportunities in The Province
Investment Opportunity Analysis Report

Textile and Bottle Polyethylene Terephthalate (PET) Plan

(Attachment Number 1)

v-2

Date: 2023/04/09

In the name of God

Table of content

(Attachment Number 1)	1
1) Location of the project	4
1-1- Province	4
1-2- County	4
2) Project Status.....	5
2-1- ACCESS TO INFRASTRUCTURES	6
3) Technical specifications of the project	7
3-1- Product	7
3-2- Project Requirement	8
3-2-1- Land And Required Infrastructure	8
3-2-2- Machinery and Equipment	8
3-2-3- Raw Materials and Intermediate Parts	10
3-2-4- Management and human resource	10
4) Ownership and legal permissions	10
4-1- land ownership	10
4-2- Intellectual Property and Concessions	10
4-3- Legal permissions	10
5) market research and competition	11
5-1- Target market introduction	11
5-2- Product classification and coding	12
5-3- Local Production	12
5-4- Forecast of supply possibilities	12
5-5- Importation	12
5-6- Exportation	12
5-7- conclusions and suggestions	13
6) Physical progress of the project	13
7) Operational plan and implementation scheduling	13
8) Financial Plan	14
8-1- Cost Estimation	14
8-2- Sales Revenue	15
8-3- Length of Production Phase	15
8-4- Break-Even Analysis	16
8-5- Cost-Benefit Analysis	17
8-6- Sensitive Analysis	17
8-7- Conclusion	19
8-8- Estimation of currency rate fluctuation during the project implementation	19
9) Investment Required, method of fundraising and guarantees	20
9-1- Foreign Currency Required	20
9-2- Model Of Partnership and Fundraising	20
9-3- Payback Period	20
10) Incentives, features and benefits of the plan	21
(Attachment Number 2)	22

Tables and Figures

Table (1): access to infrastructures	6
Table (2): Amount of investment in land, landscaping and building.....	8
Table (3): Machinery and Equipment.....	9
Table (4): Auxiliary and service plant Equipment	9
Table (5): Costs of Raw Material for Production.....	10
Table (6): Management and Human Resource	10
Table (7): ISIC Codes	12
Table (8): Customs tariff number related to polyethylene terephthalate	12
Table (9): List of active units producing polyethylene terephthalate	12
Table (10): List of existing projects in the field of polyethylene terephthalate production.....	12
Table (11): Import of polyethylene terephthalate during the years 1395 to 1400 SH.....	12
Table (12): Export of polyethylene terephthalate during the years 1395 to 1400 SH	13
Table (13): Project Scheduling	13
Table (14): Cost Estimations	14
Table (15): Fixed Capital Estimations (Capital Costs)	14
Table (16): Total Net Working Capital Requirements (Production Costs).....	15
Table (17): Pre-Production Expenditure	15
Table (18): Project Revenue in The First 5 Years of Production Phase (Billion Rials)	15
Table (19): Planning Horizon.....	15
Table (20): Project break-even point estimation	16
Table (21): Project Return Index	17
Table (22): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)	17
Table (23): Summary of Economic Features	19
Table (24): Currencies exchange Rate.....	19
Table (25): Foreign (Fixed) Currency Required	20
Figure (1): The Province location in Iran	4
Figure (2): Abadan location in Khuzestan province	4
Figure (3): Political divisions of Khuzestan province	4
Figure (4): The Project Status.....	5
Figure (5): Abadan Industrial Estate 1.....	5
Figure (6): Access routes to the project.....	6
Figure (7): PET.....	8
Figure (8): The production process of polyethylene terephthalate	9
Figure (9): application of PET in industries	11
Figure (10): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration	18

1) Location of the project

1-1- Province

Khuzestan province is located in the southwest of Iran (in 47° 42' to 50° 39' east of the Greenwich meridian and 29° 58' to 32° 58' north of the equator). The area of Khuzestan province is 63,238 square kilometers. With a population of 4,994 thousand people in 1400SH, it is the fifth most populous province in Iran (after Tehran, Khorasan Razavi, Isfahan and Fars provinces). **Ahvaz** is the capital of Khuzestan province and is located in the 880km of Tehran. This province is bordered by ILAM province from the northwest, Lorestan province from the north, CHAHARMAHAL and BAKHTIARI, KOHGILUYEH and BOYERAHMAD provinces from the northeast and east, the Persian Gulf (330km long) from the south and Iraq (330km long) from the west. The location of Khuzestan is in the west of Zagros mountains. Due to the vastness of its plains, the border with Iraq and the Persian Gulf, and the distance from other provincial centers have placed this province in a strategic position.

1-2- County

Abadan is a city in Khuzestan province and the center of Abadan city. It is located on Abadan Island, 53 kilometers from the Persian Gulf. The geographical location of Abadan city is 48° 17' long and 30° 20' latitude, with a height of 3 meters above sea level and a width of 2,796 square kilometers. The population of Abadan city in 2015 was equal to 298 thousand people. The boundaries of Abadan city are from the north to Shadgan, from the east and south to the Gulf of Pars, from the southwest and west to the country of Iraq, which forms the natural border between ARVAND river and is limited to Khorramshahr from the northwest.

Abadan city is located in the plain and due to its neighborhood with large and burning deserts such as the great desert of Arabia and Iraq, it has hot and desert weather. Its minimum temperature in the year is 17.7 and maximum temperature is 32.6 degrees Celsius. Its freezing days are a maximum of nine days during the year. The cold winds from the north, which blow to this region mostly in the winter season, sometimes bring the temperature close to zero, and sometimes the northwest winds, together with the Mediterranean humidity, cause a relatively large amount of precipitation. The maximum heat in Abadan is more than 50 degrees and its intensity is from July to the end of September. The temperature difference between day and night is 25 to 30 degrees Celsius and the weather is variable and unpredictable.

The soil of Abadan was created due to the alluvium of Karun and Tigris rivers (which are connected). The city of Abadan is an island surrounded by a river. This land is known as Abadan Island. Abadan city as well as ARVANDKANAR and half of Khorramshahr city are in this island. The rivers around Abadan, which all flow into the Persian Gulf, are the Tigris and Karun rivers. The largest branch that emerged from the collision of these two rivers is ARVANDRUD. The other part of this river that flows on the other side of this island and is less important is called BAHMANSHIR. BAHMANSHIR River is also called Karun in parts of its passage.

This city has been one of the most important cities of Iran since World War II due to its oil and petrochemical refinery, strategic location and border with Iraq. One of the largest oil refineries in the world (Abadan Oil Refinery) is located in this city. In fact, the economy in Abadan is mainly based on the oil company. Also, Abadan is the largest producer of dates in Khuzestan province.



Figure (1): The Province location in Iran



Figure (2): Abadan location in Khuzestan province



Figure (3): Political divisions of Khuzestan province

2) Project Status

The location of the land is in Abadan Industrial Estate 1 with the following specifications and an area of about 50,000 square meters. This special area is located in the vicinity of Abadan city and Karun River. Acquiring industrial land in this place requires approval from ministry of industry, mining and trade, industrial estates company and environment protection agency. One of the reasons for choosing this place is the presence of sufficient land, the establishment of some consumer industries (textile) and its proximity to the consumer markets of bordering countries. If there is enough land, this project can be located in the Mahshahr Special Economic Zone of Imam Khomeini port. Since one of the raw materials required for the project (ethylene glycol) is supplied by one of the petrochemical companies located in this area (Maron), the plan can have more suitable conditions for implementation.



Figure (4): The Project Status

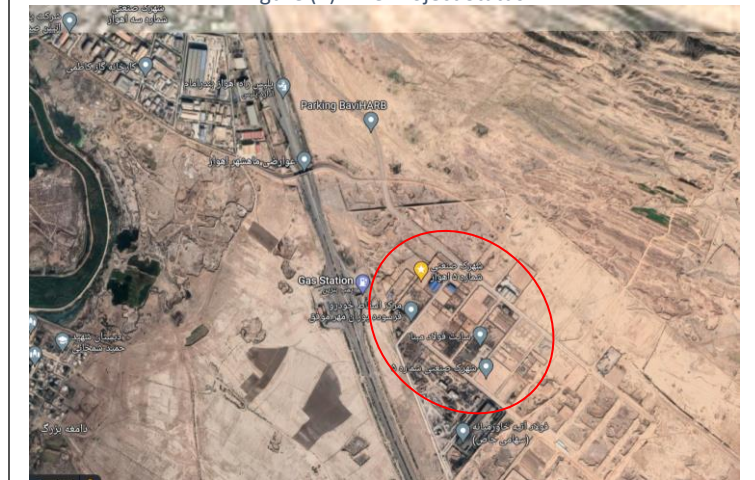


Figure (5): Abadan Industrial Estate 1

2-1- ACCESS TO INFRASTRUCTURES

Currently water, gas and electricity infrastructures are available in this estate. It is also well-located in terms of access to transportation. The distance between the selected location and Ahvaz-Abadan highway is 4 km and it is 100 km from Imam Khomeini Port. Bandar Abadan airport is also located 16 km away from the place.

Table (1): access to infrastructures

No.	Required Infrastructure	Distance From Project Status	Location Of Infrastructure Provision
1	Water	0	Abadan industrial Estate no 1
2	Electricity	0	Abadan industrial Estate no 1
3	Gas	0	Abadan industrial Estate no 1
4	Telecommunication	0	Abadan industrial Estate no 1
5	Main road	4	Ahvaz – Abadan highway
6	Side road	0.2	Industrial Estate transportation
7	Airport	16	Abadan International Airport
8	Port	100	Imam Khomeini Port
9	Railway Station	25	KHORAMSHAHR Railway



Figure (6): Access routes to the project

3) Technical specifications of the project

3-1- Product

Polyethylene terephthalate is a type of thermoplastic polymer that is produced by the stepwise polymerization of the reaction between pure terephthalic acid and Mono ethylene Glycol (MEG). The glass transition temperature of this type of polymer is about 80 degrees Celsius. Polyethylene terephthalate ($C_{10}H_8O_4$)_n is a chemical compound commonly abbreviated PET, PETE or PETP or PET P, is the most common thermoplastic polymer resin of the polyester family which is used in clothing fibers, liquid and food containers, thermoforming for manufacturing and in combination with glass fibers for Engineering resins. Polyethylene terephthalate is one of the most widely used polymers in the industry. PET granule is obtained by polymerization reaction. The monomers used for the polymerization process of this material are ethylene glycol and terephthalic acid. Today, PET granules are available in two forms, virgin and recycled. Polymer materials produced in the market are available in different forms. One of the common and widely used forms of polymers is the granular form. Granules are polymers whose final form is like grains. This form has many advantages. For example, they are much easier to use than other forms of polymers. Moreover, their storage and transportation can be easier compared to other forms. The term "PET granule" actually refers to polyethylene terephthalate polymers that are in the form of granules. To mention some of its features are things like water repellency, high strength-to-weight ratio, flexibility, recyclability, as well as availability and affordability. When polyethylene terephthalate is used to produce fibers and textile uses, it is called "polyester" and when it is used for food packaging and beverage bottles, we generally call it "PET". PET is the most common thermoplastic polymer in the world. About physical features of this polymer, we can mention its transparency and semi-crystalline appearance.

One of the main applications of this granule is in the textile industry. PET granules are widely used to produce all kinds of fabrics and clothes. Since it is very water-repellent, it is also used in the packaging industry and the production of plastic bottles. In different industries, PET granules are combined with other materials to achieve special properties. For example, polyethylene terephthalate is combined with other natural or synthetic polymers which leads to high level of strength in the final material. There is a high variety in this polymer according to the application and structure of polyethylene terephthalate. PET is one of the recyclable plastic materials that melts at a temperature of 255 degrees Celsius and turns into an amorphous form with a density of 1.38 g/cm³ when gets cooled. Due to slow molecular movements, crystallization begins at around 80°C. Its specifications are listed in the table below.

Specification	Amount	Specification	Amount
Shrinkage	0.2-3 %	Rockwell M Hardness	50-100
Water absorption after 24 hours	0.1-0.2 %	Flexural modulus	2.8-3.5 GPa
arc resistance	75-125 Second	Young's modulus	2.8-5 GPa
Flammability 94 UL	HB	density	1.3-1.4 g/cm ³
Tensile strength at failure	40-70 MPa	HDT in 46 MPa tension	75-115 Celsius
Tensile strength at yield	50-57 MPa	HDT in 8.1 MPa tension	65-80 Celsius
Elongation at failure	30-70 %	Maximum operating temperature	80-140 Celsius
Elongation at yield	3-5 %	Minimum operating temperature	
Shore D hardness	85-95		

3-2- Project Requirement

3-2-1- Land And Required Infrastructure

For the production of polyethylene terephthalate, land with an area of 50,000 thousand square meters and construction infrastructure (industrial shed and other buildings) production amounting to 13,260 meters is needed. The specifications of the land, main buildings and other required side buildings along with the amount of investment are described in the table below.

Table (2): Amount of investment in land, landscaping and building

No.	Requirements	Description	Investment Required		Total Cost (Million Rials)
			Required Area	Unit Price (IRR)	
1	and purchase 125m * 400 m	Khuzestan, Abadan, Abadan Industrial Estate No 1	50,000	3,200,000	160,000
2	Site preparation and development	According to relative calculations	20,200	3,168,317	64,000
3	Civil works, structures and buildings	Production building (12m height)	8,820	70,000,000	617,400
		Office and management building	600	100,000,000	60,000
		Labor and support building (restaurant, dressing room, prayer room, shower and restroom)	500	60,000,000	30,000
		Water, electricity and gas facilities building	300	80,000,000	24,000
		guard and janitor building	100	70,000,000	7,000
		Other buildings (warehouse, etc.)	2,940	50,000,000	147,000
Total			-	-	1,109,400

3-2-2- Machinery and Equipment

Polyethylene terephthalate resins are commercially produced from ethylene glycol and dimethyl terephthalate (DMT) or terephthalic acid (TPA). Both DMT and TPA are solids. DMT melts at 140 degrees Celsius while TPA is sublimated. In both processes, the intermediate monomer bis-2-hydroxyethyl terephthalate (BHET) and also methanol in the DMT process or water in the TPA process are produced. Then BHET monomer is polymerized under low pressure with catalyst and heat to produce PET.

The primary reaction for the polyethylene terephthalate process is as follows:

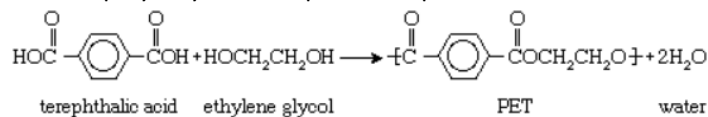


Figure (7): PET

Both reactions have the ability to produce products of high and low viscosity. The viscosity of the final product is determined by the operating conditions of the polymerization including, pressure (vacuum level), temperature, residence time and flow turbulence (mechanical design).

The core of polyethylene terephthalate consists of a hydrocarbon chain. This material, like other plastics, is made through a condensation polymerization process and by distilling a hydrocarbon fuel and separating it into smaller components. To produce polyethylene terephthalate, the hydrocarbon ethylene glycol is combined with terephthalic acid.

The polyethylene terephthalate polymer is heated and turns into a molten material after reaching the melting point. In the next step, this molten material is made into thin strands by passing through the openings of the extruder. Then, the strings are quickly cooled and cut into small balls (granules).

The produced granules can be remelted and easily extruded or molded to produce new products. According to the selected processes and technology, the required machines and equipment are as follows:

According to the mentioned process, required equipment and machinery are as follows;

Table (3): Machinery and Equipment

No.	Equipment/Machinery	Required investment			Total cost (Million Rials)
		Amount	Purchase Price	Currency	
1	Primary machines for production line	1	70,000,000	EURO	31,607,170
2	Other Primary equipment	1	692,830	(Million Rials)	692,830
Total		-	-	-	32,300,000

Raw materials for producing PET are pure terephthalic acid and ethylene glycol which are extracted from crude oil. When the raw materials are mixed and subjected to constant heat and pressure, the first solution called monomer (Bis(2-hydroxyethyl) terephthalate) is mixed with low molecular mass polymers called oligomer. Then the reaction proceeds and water is removed. Finally, PET polymer is formed.

At this stage, PET is a viscous melt that is spread on a surface by the extruder. After cooling with water and without solvents, a form of a glassy and transparent amorphous material is produced. Some of the polyester (PE) materials are also produced based on dimethyl terephthalate using technology. To produce PET with high molecular weight, a second stage of polymerization is required which is done in the SSP or solid state polymerization at low temperature. In this operation, mainly all impure and volatile substances such as acetaldehyde, glycol and water are released and removed.

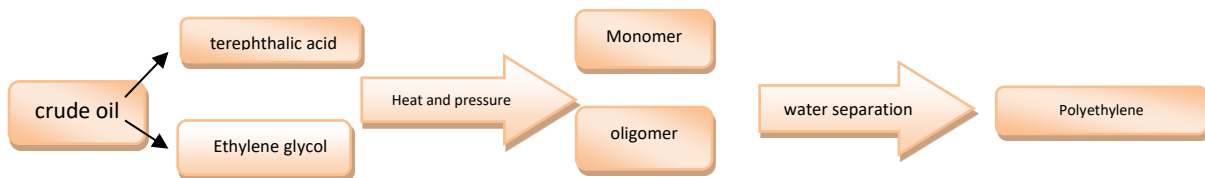


Figure (8): The production process of polyethylene terephthalate

Table (4): Auxiliary and service plant Equipment

No.	Equipment/Machinery	Unit of measurement	Type of equipment	Required investment		Total cost (Million Rials)
				Amount	Unit Price (Million Rials)	
1	Distribution Of Electricity / Demand Price	Kw	Facility	3,000	6	18,000
2	Several Electrical Cables	M	Facility	5,000	4.0	20,000
3	Electrical Equipment of The Greenhouse Lighting System	Amount	Facility	400	40	16,000
4	The Cost of Panel Boards and Related Electrical Equipment	Amount	Facility	30	320	9,600
5	Water Branch	-	Facility	1	5,000	5,000
6	Other Water Conveyance Equipment	Amount	Facility	1	5,000	5,000
7	Firefighting, Safety and Health Equipment, etc.	Capsule	Facility	200	30	6,000
8	Gas Piping	M	Facility	5,000	5	25,000
9	Gas Branching	-	Facility	1	10,000	10,000
10	Water Heater and Heater	Machine	Facility	30	350	10,500
11	Ventilation Systems for Toilets and Bathrooms	Fan	Facility	30	36	1,080
12	Air Conditioner	Set	Facility	25	850	21,250
13	Evaporative Cooler	Set	Facility	30	250	7,500
14	Gas Heater	Ton	Facility	25	100	2,500
15	Industrial Heater	Machine	Facility	10	150	1,500
16	3 Ton Forklift	Machine	Vehicle	5	16,000	80,000
17	ZAMYAD Diesel Van	Machine	Vehicle	3	6,000	18,000
18	SAMAND Soren Car	Machine	Vehicle	4	12,000	48,000
19	Operation Equipment	Machine	Equipment	1	30,000	30,000
20	CCTV System	Set	Facility	1	12,000	12,000
21	Office Stuff	Set	Office Equipment	37	1,500	55,500
22	Restaurant Equipment	Set	Office Equipment	210	30	6,300
23	Medical Equipment	Set	Office Equipment	1	5,000	5,000
24	Other Facilities	-	Facility	1	2,270	2,270
Total				-	-	416,000

3-2-3- Raw Materials and Intermediate Parts

In this plan, the main raw materials include ethylene glycol and terephthalic acid. The specifications of the raw materials and packaging for the production of polyethylene terephthalate are as described in the table below.

Table (5): Costs of Raw Material for Production

No.	Title	Production quantity at maximum performance	Unit	Unit price (Rials)	Amount of consumption in nominal capacity	The cost at the maximum nominal capacity (Million Rials)
1	Ethylene glycol (mono-MEG)	168,000	ton	135,000,000	22,680,000	22,680,000
2	terephthalic acid	132,000	ton	390,000,000	51,480,000	51,480,000
3	Other formulation chemicals	3,000	ton	400,000,000	1,200,000	1,200,000
4	Catalyst materials	1,500	ton	600,000,000	900,000	900,000
5	Packaging materials (one ton jumbo bag)	300,000	-	1,000,000	300,000	300,000
Total		-	-	-	-	76,560,000

These materials are produced by petrochemical industries and the supply in local market is not limited. Mono ethylene Glycol is supplied by Maron Petrochemical (Mahshahr Port Special Economic Zone) and MARWARID Petrochemical (ASALUYEH). Moreover, terephthalate acid is supplied (Commodity Exchange) by some importers and sometimes by Shahid TOND GOOYAN Petrochemical Company.

3-2-4- Management and human resource

For the production of polyethylene terephthalate, 420 employees will be required in the production, management and support department as described in table (6):

Table (6): Management and Human Resource

No.	Level of skill	Number of staff	Average basic salary
1	Senior	52	193,076,923
2	Mid-level	150	120,000,000
3	Junior	218	99,583,333

Number Of Direct Mid-Level Staff Required	150	Person
Number Of Direct Junior Staff Required	218	Person
Number Of Direct Senior Staff Required	52	Person
Total	420	person

4) Ownership and legal permissions

4-1-land ownership

It is a suitable place for the implementation of the Abadan Industrial Town No 1 project. The right to exploit the land in the mentioned industrial town is equivalent to 3,500,000 Rials and the related costs are considered in the plan. Land ownership is subject to legal conditions and regulations and will be available to investors after utilization. In order to take industrial land in this town, it is necessary for the investors to obtain the legal permits mentioned in paragraph 3-4. Of course, if the construction in the town is canceled; It's better, because this unit should be built in the Economic Special Zone of Imam Khomeini Port or in Bandar Mahshahr Industrial Town.

4-2-Intellectual Property and Concessions

In order to use polyethylene terephthalate, there is no need to use high level of knowledge. This product is currently produced by Guyana's Tend Petrochemical and several other suppliers in the country. Therefore, the technical knowledge exists in Iran. However, the production must be in accordance with the international standard ISO 15988:2003 and ISO/TC 61/SC 11.

4-3-Legal permissions

In order to produce this product, we need legal permits such as (establishment and operating permit) from the Khuzestan Province Industry and Mining Organization, and environmental permit. It is worth noting that the production in the Abadan Industrial Estate will not cause any damages to the environment and environmental permits can be obtained.

5) market research and competition

5-1- Target market introduction

Low viscosity resins, sometimes known as staple PET (textile grade), are used in the production of various products such as fabric fibers, bottles, and photographic films. High viscosity resins, which are sometimes called industrial or high denier are used in the production of ropes, safety belts, etc.

This material is widely used in the production of synthetic or artificial fibers (such as polyester fibers), which constitutes the largest part of the synthetic fiber industry and also widely used in food packaging such as beverage bottles. and frozen foods that can be heated in the microwave are used.

This product is used in the packaging sector in the form of film, box or bottle, which, of course, is mainly used in the production of bottles. In 2010, almost 70% of all water bottles and sweet drinks produced were made of this material.

Polyethylene terephthalate bottles are used to store a wide range of beverages and foods such as syrup, alcohol, mouthwash, peanut butter and pickles. Containers made of this material are used to store cosmetics, pharmaceutical and household products.

Other application of PET includes, molding resins, X-ray and other photographic films, magnetic tape, electrical insulation, printing sheets, and food packaging.

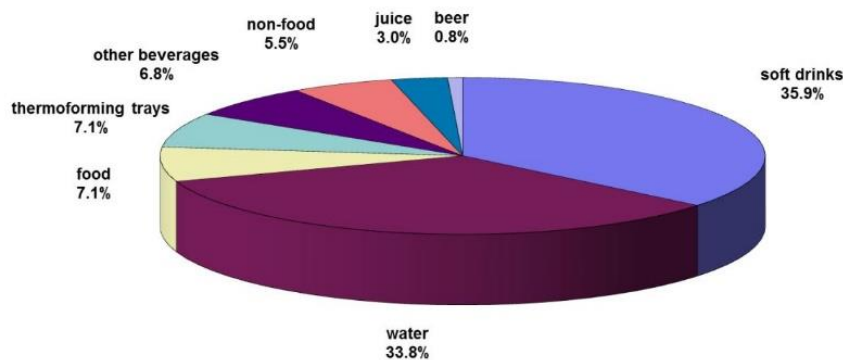


Figure (9): application of PET in industries

Polyethylene terephthalate has many uses in textiles. Polyester fibers are strong and flexible and have less wrinkles and water loss compared to linen. PET without crystals is very transparent, while the all-crystalline type is completely opaque and is used in microwave containers and trays.

Due to the good anti-electricity properties of this material, it is also used for insulation materials in electrical and electronic industries.

The global production capacity of polyethylene terephthalate was 30.3 million tons in 2017. Among all the countries, China has the highest production rate, which is equivalent to 30.8% of the total global production of this product. The Asian region, excluding China, accounts for 21% of the production share. The North American region accounts for 16.9% of the production share, and among the countries in this region, the United States of America has the highest production rate. The new PET production factories are MG Chemical of Corpus Christi and Texas, in which annual production capacity is about 1.1 million tons. The production capacity of the European region is about 14.7%, South America is ¼% and Africa is 2.3%. There are limited companies that are active in the field of PET production. Indorama Ventures has the highest production capacity with an annual production capacity of 2.4 million tons in 2017. China is not only the largest producer of this material, but also its biggest consumer. The consumption market of polyethylene terephthalate resin is controlled by beverage bottles, films and sheets. Water bottles contain the highest amount of consumption of this product with about 26.3%, and the second place is related to carbonated soft drink bottles with 26.1%. Other major sectors that use this product include film and page (13.8 percent), food (9.1 percent) and non-food items (6.1 percent).

5-2- Product classification and coding

The most common classification that includes all economic and social activities at the international level is the ISIC classification, which according to the type of industry and product produced, assigns a four code to each product. Assigns up to eight digits. According to this classification, the product of this project is classified as described in the table below:

Table (7): ISIC Codes

Classification (ISIC Code)	Division (ISIC Code)	Product Name (ISIC Code)	
Manufacture of chemical materials and products (24)	Production of plastic materials in primary form and manufacture of synthetic rubber (2413)	2413412352	Polyethylene terephthalate

Resource: Ministry of Industry, Mine and Trade

According to the customs information of the Republic of Iran, the tariff code related to polyethylene terephthalate is assigned as described in the following table.

Table (8): Customs tariff number related to polyethylene terephthalate

Tariff Number	Product Name	Entry tariff
39206200	Polyethylene terephthalate	5

5-3- Local Production

Currently, there are 6 units active in the production of polyethylene terephthalate with a nominal capacity of 922 thousand tons per year in the country. Below is the list of active units and their nominal capacity. It is worth noting; The largest producer of polyethylene terephthalate, Tend Goyan Petrochemical, located in Khuzestan province, has allocated 96% of the production capacity.

Table (9): List of active units producing polyethylene terephthalate

Unit Name	Province	Nominal Capacity (ton)	Share of the total
TOND GOOYAN PETROCHEMICAL	MAHSHAR-Imam Khomeini Port	887,000	٪96.2
PARS RANGADANEH KHAZARA IRANIAN	Qom	11,000	٪1.2
QOM POLYESTER CHEMISTRY	Qom	10,000	٪1.1
RECYCLE OF ILAM PERAK	ILAM	10,000	٪1.1
FAJR LAMARD FARS COOPERATIVE COMPANY	Fars	4,000	٪0.4
SEYED HADI NAJMABADI	Qazvin	360	٪0.0
Total		922,360	100%

Resource: Ministry of Industry, Mine and Trade

5-4- Forecast of supply possibilities

In order to check the supply possibilities, the nominal capacity of the projects under implementation has been analyzed. In the following tables, the specifications and nominal capacity of the units with plans under implementation in the field of polyethylene terephthalate production are given.

Table (10): List of existing projects in the field of polyethylene terephthalate production

Unit Name	Province	Year of legal permit	progress	Nominal Capacity (ton)
ALI KOSHKI	FARS	1391	30	3,000
PERSIAN GULF NAWAB PETROCHEMICAL	CHAHARMAHAL AND BAKHTIARI	1391	3	220,000
GOLRIZ POLYMER QOM	YAZD	1400	0	85,000
JANDI SHAPOUR	QESHM FREE ZONE	1400	0	59,400
KHOSRO TAHERI BABRASAD	ISFAHAN	1400	0	60,000
PARS SEFID ALYAF	KHUZESTAN	1397	45.52	3,000
Total				

Resource: Ministry of Industry, Mine and Trade

Based on the information of the permits issued by the Ministry of Industry, Mines and Trade until the end of 1401, 6 projects have been granted permits for the construction of polyethylene terephthalate production units, the total capacity of which is around 430,000 tons. Of these, 2 units have a physical progress above 25% with a nominal capacity of 6 thousand tons and 4 units have a physical progress below 25% with a capacity of 424 thousand tons.

5-5- Importation

According to the information and statistics of the customs of the Islamic Republic of Iran, the import of polyethylene terephthalate during the years 1395 to 1400 is as described in the following table.

Table (11): Import of polyethylene terephthalate during the years 1395 to 1400 SH

Year	Weight (ton)	Rial value (million Rials)	Dollar value (thousands of dollars)
1396	2,280	170,916	5,012
1397	1,426	152,427	3,626
1399	337	34,934	832

Resource: Islamic Republic of Iran Customs

5-6- Exportation

8) Financial Plan

8-1- Cost Estimation

Generally, there are two ways to fundraise for this project, fixed capital and initial working capital. The required investment before utilization is provided through fixed capital. Initial working capital will be used during utilization. Fixed capital includes, purchasing land, construction and landscaping, machinery and equipment, facilities, office stuff and pre-production costs. These types of costs are incurred at the beginning and before operation and are consumed during the life of the project according to their service life. Working capital includes the capital required during the operation of the project. The working capital of a production unit is the set of facilities, inventories and work in progress, as well as the liquidity required for the exploitation of fixed capital in order to maintain the operation.

Determining the basic amount for inventories, work in progress and claims depends on the supply, production and sales capacity and business environment. In this section, the evaluation and estimation of the required investment (based on the price of the base year 1402 SH) is proposed.

Table (14): Cost Estimations

No.	Subject	Amount (Million Rials)
1	Total Fixed Investment Costs	36,002,700
2	Total Net Working Capital Requirements	5,169,140
3	Total Production Costs (Annual)	82,927,900
4	Depreciation	3,584,368
5	Total Investment	41,171,840
6	Unit Cost (By Product Type)	-
7	Production - Bottle grade polyethylene terephthalate - million rials/piece	283,725
8	Production - Polyethylene terephthalate fiber grade - million rials/piece	276,536

Table (15): Fixed Capital Estimations (Capital Costs)

No.	Subject	Cost (Million Rials)	
1	Purchasing land	160,000	
2	Landscaping and land improvement	64,000	
3	Civil operations and construction of buildings	885,400	
4	Production machinery and equipment	32,300,000	
5	Service equipment	416,000	
6	Protection and environmental equipment	0	
7	Overhead costs	0	
8	Pre-Production Expenditure (As described in Table (17))	Prior to investment studies	53,280
		Project management	294,954
		Obtaining technology	137,766
9	Unexpected costs	1,691,300	
Total		36,002,700	

The primary items included in working capital are:

- Raw materials (local and foreign): To prevent any interruptions in production process, production capacity, source and method of supplying materials, length of time during ordering and receiving materials, time of delivery and transportation, the amount of required raw materials, auxiliary materials and packaging are determined as one of the working capital items for one period. In this project, the material inventory coverage period is equal to 15.
- Finished product and work in progress: Considering the steps and methods of production, the required time for production and storage has been determined and the related costs are considered as working capital. In this plan, the coverage period for finished product and work in progress are 3 and 5 days, respectively. With this in mind, the total stock in hand is equal to 23 days.
- Claims of expected funds from sold products that are collected in a short period of time. The duration for expected funds must be determined. According to the economic condition of Iran, cash is preferred.
- Revolving fund to finance the company's current expenses is considered as cash balance or revolving fund for a period of time in working capital based on production costs (without considering the cost of raw material production and depreciation). 30 days is considered in this plan.

Table (16): Total Net Working Capital Requirements (Production Costs)

No.	Subject	Amount (Million Rials)
1	Raw Materials Inventory	3,190,000
2	Work In Progress	651,037
3	Finished Product	1,102,339
4	Accounts Receivable	0
5	Cash-In-Hand	225,764
6	(Commercial Accounts Payable)	0
Total Net Working Capital Requirements		5,169,140

Table (17): Pre-Production Expenditure

No.	Subject	Description	Total (million Rials)	
1	Incorporation	-	200	
2	Obtaining Licenses / Production License	-	1,200	
3	Studying, Consulting, Research and Development, Traveling, Visiting and Participating in Local Exhibitions, etc.	1.5 thousandth of the investment costs of the project	53,280	
4	Property Insurance	2 thousandth of depreciable fixed assets	71,030	
5	Survey Fee, Financing, Contract and So On	Survey fee 0.5 thousandth, other 2.5 thousandth	85,240	
6	Cartography, Supervising	2 thousandth of contract expenses	66,500	
7	Other's	Staff Training	Equivalent to 30 days of Staff salary	71,266
		Wages And Salaries During the Construction	Equivalent to the salary of 26 personnel in 36 months	127,364
		Other Expenses	2.2 %	9,921
Total			486,000	

8-2- Sales Revenue

Currently, polyethylene terephthalate is offered in different grades of textiles and bottles in the Iranian Commodity Exchange and its price is determined in this market. According to the latest transactions of this market, the price of each kilogram of bottle grade polyethylene terephthalate is equivalent to 370,000 Rials per kilogram, and the price of each kilogram of bottle grade polyethylene terephthalate is equivalent to 360,000 Rials per kilogram. Based on this (according to the production plan), the total sales amount of the project in 1406 at the fixed prices of 1401 is estimated to be equal to 76,650 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 109,500 billion Rials.

Table (18): Project Revenue in The First 5 Years of Production Phase (Billion Rials)

No.	Subject	Q ₁	Q ₂	Q ₃	Q ₄	Total 1 st Year	Total 2 nd Year	Total 3 rd Year	Total 4 th Year	Total 5 th Year
1	Production - Bottle grade polyethylene terephthalate	9,713	9,713	9,713	9,713	38,850	47,175	49,950	55,500	55,500
2	Production - Polyethylene terephthalate fiber grade	9,450	9,450	9,450	9,450	37,800	45,900	48,600	54,000	54,000
Total		19,163	19,163	19,163	19,163	76,650	93,075	98,550	109,500	109,500

8-3- Length of Production Phase

The construction period of the plan is equal to 36 months and it is considered to start from the beginning of 1402 SH. The duration of the project is considered to be 7 years.

Table (19): Planning Horizon

Title	Month	-	year	Length of construction phase (months)	Start of phase (months)	Length of production phase (years)
Project identification	1	/	1402	36	12	7
Beginning of construction phase	1	/	1403			
Beginning of production phase	1	/	1406			
End of production phase	12	/	1412			

8-4- Break-Even Analysis

From an economic point of view, break-even point analysis is an important technique that is used to study the relationship between costs, income and profit. The break-even point is the point at which total cost and total revenue are equal. In other words, it is used to analyze the effect of product volume change on the profit. The break-even point is calculated for 100% of practical capacity (year 1409 SH onwards) below.

$$\text{Break-even sales value (Rials)} = \frac{\text{Total fixed costs}}{1 - \frac{\text{Total variable costs}}{\text{Sales value}}}$$

$$\text{The number of sales at the break-even point} = \frac{F_c}{S - V_c}$$

FC = Total Costs VC= Average Variable Costs Q= Quantity of Sales S = Unit Price

$$\text{Break-even sales value} = \frac{4,695,157}{1 - \frac{78,257,583}{109,500,000}} = 16,455,824 \text{ (Million Rials)}$$

$$\text{The number of sales at the break-even point} = \frac{4,695,157,080,000}{429,411,765 - 306,892,484} \approx 38,322$$

$$\text{Break-even ratio (\%)} = \frac{16,455,824}{109,500,000} = 15.0\%$$

Table (20): Project break-even point estimation

(Million Rials)

Title	Production 1406	Production 1407	Production 1408	Production 1409	Production 1410	Production 1411	Production 1412
Sales revenue	76,650,000	93,075,000	98,550,000	109,500,000	109,500,000	109,500,000	109,500,000
Variable costs	54,889,072	66,573,328	70,468,080	78,257,583	78,257,583	78,257,583	78,257,583
Variable margin	21,760,928	26,501,672	28,081,920	31,242,417	31,242,417	31,242,417	31,242,417
Variable margin ratio (%)	28	28	28	29	29	29	29
Fixed costs	4,498,849	4,595,178	4,627,287	4,691,507	4,651,977	4,645,297	4,645,297
Break-even sales value	15,846,602	16,138,462	16,238,889	16,443,031	16,304,484	16,281,072	16,281,072
Break-even ratio (%)	20.7	17.3	16.5	15.0	14.9	14.9	14.9

- According to COMFAR Results

Based on the calculations of COMFAR software, the break-even point including operating and non-operating costs, is 16,455 billion Rials and it will be achieved in the 15 % of the practical capacity.

In the mentioned formula, the break-even point is determined by the relationship between fixed costs and the difference between unit sales price and unit variable costs. Therefore, three practical results are obtained from it:

- The higher the fixed costs, the higher the break-even point.
- The greater the difference between unit sales price and variable operating costs, the lower the break-even point. In this case, fixed costs are absorbed faster through the difference between unit sales price and unit variable costs.
- One of the break-even points is disproportionate. Since it makes the company vulnerable to changes in production (sales) levels.

8-5- Cost-Benefit Analysis

In project analysis, one of the most common methods is the **Benefit-Cost Ratio**. In this method, the ratio of the current value of possible benefits to the current value of costs is obtained. If this ratio is greater than one, the plan has economic justification for implementation. In terms of this index, the plan has favorable conditions.

Net Present Value is one of the other evaluation methods which is calculated according to the following relationship:

$NPV = \text{The Present Value of The Total Cost of The Period of Construction Phase and Production Phase} - \text{The Present Value of The Total Income of Construction Phase and Production Phase}$

$NPV = \text{The Present Value of The Fixed Assets Depreciation} + \text{Initial Investment} - \text{The Present Value of The Future Cash Flows}$

The **net current value** of the project at a discount rate of 30% is over 13,870 billion Rials, which shows that the project is economically feasible.

One of the other methods of evaluating investment plans **internal rate of return**. In fact, the internal rate of return is the interest rate or the discount rate in which the current value of all the plan benefits is equal to the current value of its expenses.

According to the calculations, the internal rate of return of the project is estimated at 43.7 % and compared to the Minimum Attractive Rate of Return, it is favorable.

Table (21): Project Return Index

Index	Amount	Unit of measurement
The Present Value of The Total Cost of The Period of Construction Phase and Production Phase	116,070,704	Million Rials
The Present Value of The Total Income of Construction Phase and Production Phase	129,940,773	Million Rials
NET PRESENT VALUE (NPV)	13,870,069	Million Rials
Cost-benefit RATIO (B/C)	1.12	-
INTERNAL RATE OF RETURN (IRR)	43.7%	Percent
NPV RATIO (PI)	0.48	Rial per Rial of investment
NORMAL PAYBACK	1.76	Year

Profitability Index (PI) indicates how much economic profit will be obtained for each unit of money invested during the lifetime of the project.

Project Investment payback is the period of time required to recover the project investment from net income, measured in years. In other words, it shows the length of time taken for the initial investment to be returned. This index shows the speed of investment return and the amount of project risk coverage. The ROR (simple) of the plan is estimated to be 1.76 years (equal to the year 1407) according to the calculations.

8-6- Sensitive Analysis

In the sensitivity analysis of the plans, the percentage of changes in the internal rate of return (IRR) is measured in relation to the change in some basic parameters and variables. In this plan, the analysis has been carried out by major variables such as sales, fixed and operating costs. **Error! Reference source not found.** shows the results of the sensitivity analysis regarding the variables of sales income, fixed assets and operating costs.

8-6-1- Sales Revenue

Changes in sales revenue are mainly caused by alteration in two variables: planned sales amount and product sales price. The results of the sensitivity analysis regarding sales income show; 4% increase in sales revenue of the plan, the internal rate of return will increase from 43.7 % to 49%. On the contrary, in the case of a 4% decrease in sales revenue, the internal rate of return of the project will decrease to 38%.

Table (22): Sensitivity Analysis (Percentage of IRR changes caused by sales revenue, fixed assets and operating costs alteration)

Variation (%)	Sales revenue	Increase in fixed assets	Operating costs
-20%	10%	52%	61%
-4%	38%	45%	47%
0%	43.7%	43.7%	43.7%
4%	49%	42%	40%
20%	67%	37%	21%

8-6-2- Fixed Assets

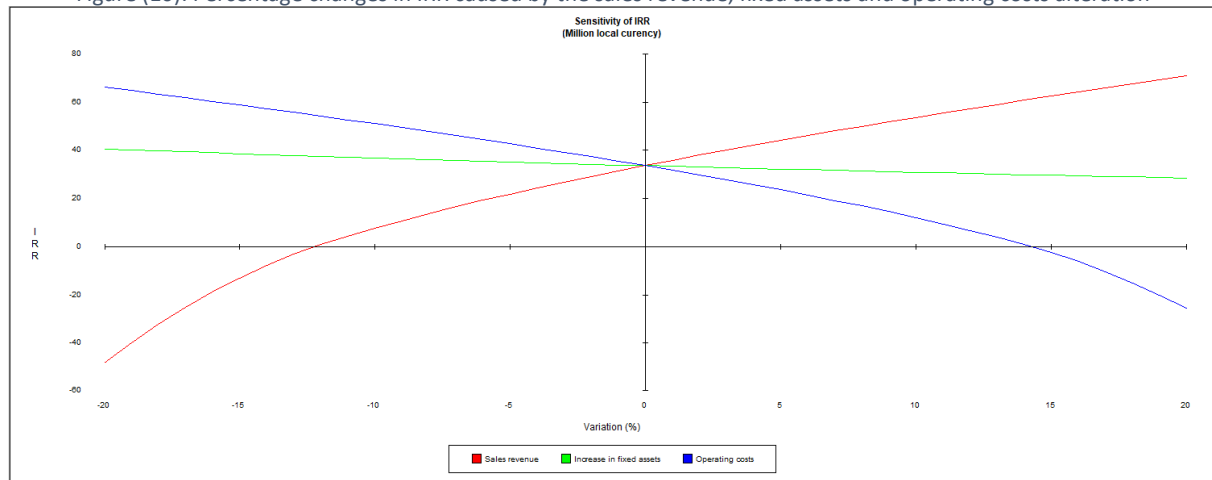
The change in the fixed assets is due to the fixed costs of the initial investment alterations. The results of the sensitivity analysis according to the fixed costs of the plan have been done and it shows that in case of an unexpected 20% increase in the fixed capital costs of the project, the internal rate of return will decrease from 43.7 % to 37%. Conversely, if there is a 20% reduction in the fixed capital costs, the internal rate of return will increase and reach 52%.

8-6-3- Operating Costs

The operating costs of the plan is one of the crucial items in terms of sensitivity analysis regarding its changes. Therefore, unexpected and possible changes should be investigated.

The change in project operating costs is mainly caused by changes in raw material, supply, human resource and finally changes in other overhead costs of projects. If these parameters change, it can be as a result of the change in the technical coefficients of product production or the change in their purchase price. The sensitivity analysis indicates that in case of a 20% increase in the operating costs, the efficiency rate of the plan will decrease to 21%. On the contrary, if the total operating costs of the project are reduced by 20%, the internal rate of return will increase to 61%. Finally, the results of the sensitivity analysis show that the current project has a very high sensitivity to changes in sales revenue (changes in sales amount or sales price) and more considerations should be taken in this regard.

Figure (10): Percentage changes in IRR caused by the sales revenue, fixed assets and operating costs alteration



As you can see, the slope of the IRR change curve is higher relative to the changes in sales revenue compared to other items while the slope of the IRR change curve is lower relative to the changes in fixed assets, which indicates the greater sensitivity of the plan's internal rate of return to sales revenue and its lower sensitivity relative to operating costs and fixed assets.

8-7- Conclusion

The implementation of the project is planned by acquiring a land with an area of 50,000 square meters and carrying out construction in the substructure of 13,260 square meters. The total investment in land and building is estimated at 1,109 billion Rials and the total investment in main and auxiliary equipment is estimated at 34,407 billion Rials. The total pre-operational costs are estimated at 486 billion Rials, including the total fixed capital required of 36,002 billion Rials and the total working capital required for the project is 5,169 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders.

The sale of the plan in 1406 is predicted at fixed prices equal to 76,650 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 109,500 billion Rials. The net profit of the plan has been positive in all years.

The profit figure in 1406 is equivalent to 17,262 billion. The profit will increase in the following years and will reach a maximum of 21,277 billion Rials. The average annual profit of the mature plan is 21,857 billion Rials and the average profit margin is expected to be 21.7%. The internal rate of return (IRR) of the project is estimated at 43.7% and the payback period (PBP) is estimated at a maximum of 1.76 years. Also, the net present value of the project's cash flows (NPV) is positive and, considering the expected interest rate of 30%, is equal to 13,870 billion Rials.

The liquidity status of the plan and the payment of dividends to the shareholders from the company's funds are also acceptable. Therefore, if the assumptions and predictions are fulfilled, this plan has favorable profitability and according to the financial results obtained, its implementation is recommended. The economic features of the plan are summarized as follows.

Table (23): Summary of Economic Features

Nominal Capacity and Unit of Measurement	Product Name	Title Of the Project with ISIC Code	Title Of the Project
300,000 ton	polyethylene terephthalate (PET) textile and bottle	Bottle grade polyethylene terephthalate (2413512353) Textile grade polyethylene terephthalate (2413512354)	Production plan of polyethylene terephthalate (PET) textile and bottle
Required Human Resource (Person)	Equity Shares (Million Rials)	Total Fixed Capital (Million Rials)	Project Duration
420	5,169,140	36,002,700	36
B/C	Applicant Available Cash (Million Rials)	Net Present Value (NPV) (Million Rials)	IRR (%)
1.1	41,171,840	13,870,069	43.7%
ROI (%)	NPV Ratio / Profitability Index (Rial per Rial invested)	Dynamic Payback Period (Year)	Normal Payback Period (Year)
54	0.48	3.51	1.76
Average Assets Turnover Ratio	Average Net Profit Margin (%)	Average Annual Profit (%)	Maximum Annual Sales (Million Rials)
1.24	21.7%	21,857,408	109,500,000

8-8- Estimation of currency rate fluctuation during the project implementation

The currency rate at the time of evaluation is included as described in Table (24). In the present plan, it is an important part of the cost of buying foreign equipment and requires foreign currency.

Considering the currency of buying equipment and raw materials, both in the construction phase and in the implementation phase, the following are significant:

- As long as the financing of the project is through foreign currency sources, the number of financial resources required will not change much.
- If the financial resources of fixed and circulating capital are provided through internal sources, the increase in the exchange rate will directly increase the fixed and circulating investment costs and will make it difficult to provide financial resources for the implementation of the plan.

Table (24): Currencies exchange Rate

Unit of Measurement	Unit Price	Currency
Rials	413,204	USD
Rials	451,531	EURO

Exchange rate of Central Bank, Exchange Trading System (ETS) dated 05/25/1402

9) Investment Required, method of fundraising and guarantees

9-1- Foreign Currency Required

The total required foreign currency investment is estimated at 70 million euros, which is planned to be paid within three years (36 months according to the physical progress of the project).

Table (25): Foreign (Fixed) Currency Required

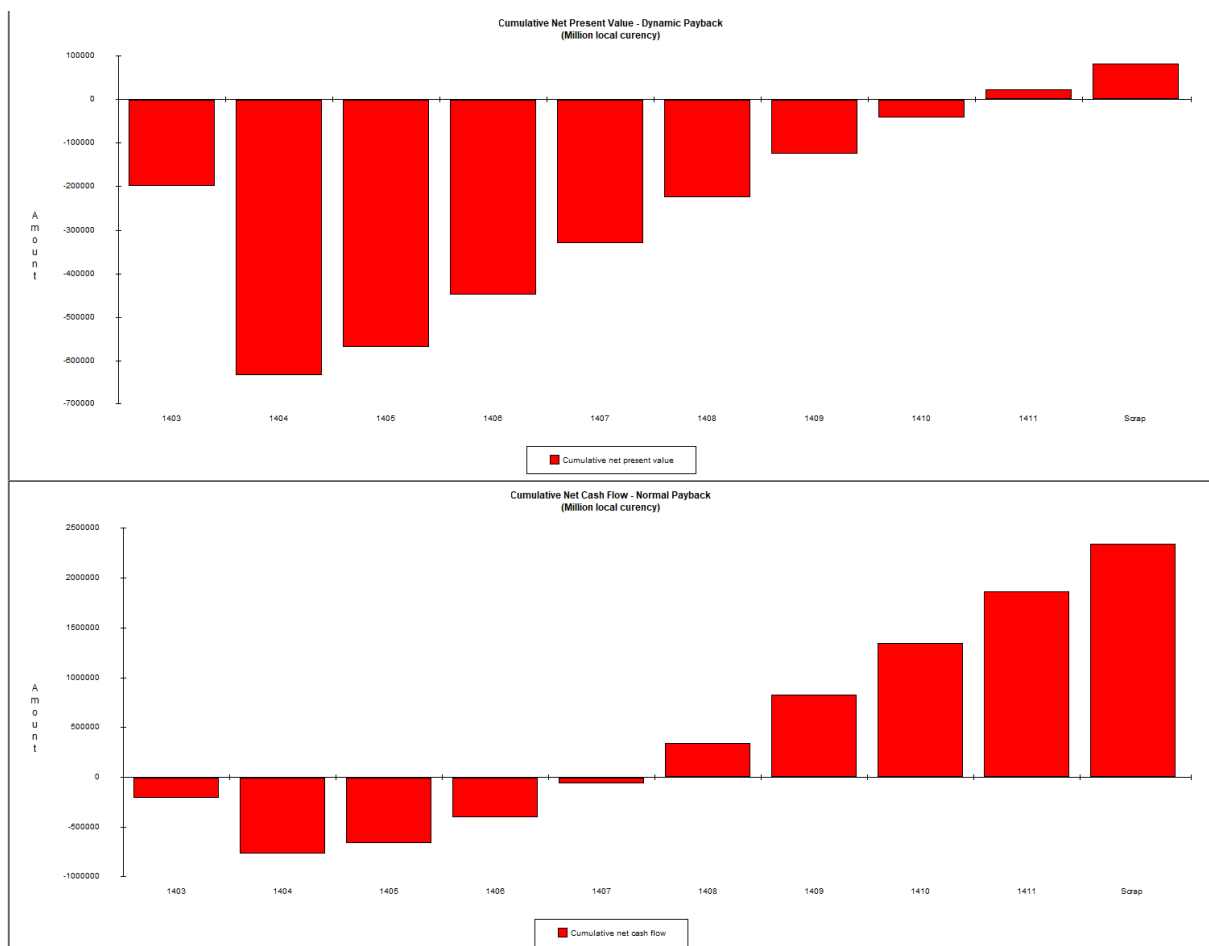
No.	Year	Required Investment
1	Year 1	14,000,000
2	Year 2	28,000,000
3	Year 3	28,000,000
4	Year 4	0
5	Year 5	0

9-2- Model Of Partnership and Fundraising

Participation in the present project and its fundraising process is predicted to be in the form of establishing a company inside Iran. The total required investment is predicted through the investor's contribution. Financing through local banks has not been included in the fundraising process.

9-3- Payback Period

The payback period is the period of time when the initial investment of the plan is compensated from the annual cash funds. The payback period (simple) of the plan is estimated to be 1,76 years (equal to 1407) according to the calculations of CAMFAR.



Dynamic Payback Period of the plan is also estimated at 3,51 years.

10) Incentives, features and benefits of the plan

Some of the financial supports for production companies are loans and bank facilities and tax exemptions which can facilitate the project implementation and provide the favorable condition for investment. In the following, some of these supports will be discussed.

One of the important bank facilities for production units is the long-time repayment period loans up to 70% of fixed capital by the Iran's state banks. This amount can be increased up to 90% for deprived areas if foreign machinery is used. The interest rate of long-term facilities in the industry sector is 23%, which in case of financial prudence, only a part of the interest can be repaid. The repayment period of long-term bank facilities is up to 8 years according to the production plan, the type of technology and the possibility of product exportation.

Another important bank facility is short-term bank loans (6 to 12 months) to use as working capital needed to carry out production processes, which will be provided up to 70% by bank communities. Obtaining short-term facilities to this extent depends on gaining the trust of the operating banks and having an acceptable financial history.

Tax exemption is another incentive for investors to establish factories. To name a few;

- Tax exemption for up to 10 years for implementation in deprived areas
- Tax exemption for up to 4 years for implementation in industrial towns

Investments in the project during implementation is of the investments in developed towns with industrial and mining activities. Since it is located within 30 kilometers of cities with more than 300,000 people, it doesn't have any tax exemption. But if it establishes in another industrial town within a range of more than 30 kilometers from cities with a population of more than 300 thousand people, it can get exempted from Article 132 of the Direct Taxes Law and up to 80% until four years after the date of operation from Article 105 (Direct Taxes Law)¹.

So, the effective performance tax rate (annual profit) can be reduced to 4% in the first 4 years, and then it will be considered on the basis of 20%. Obviously; If the project location is in one of the deprived areas, it will be subject to 10 years of 100% exemption.

If the manufactured products (provided that it is in excess of the local market) can be exported to foreign markets, it can be exempted from Article 141 and 100% of the income from exports is exempt from taxes.

Obviously, If the legal personality of the partnership is defined as a public company accepted in the stock exchange market during its operation (in such a way that its shares can be traded with stock brokers), this type of company is subject to Article 143 of the Direct Taxes Law and up to 10% of the company's tax will be exempted.

1 - The exemptions of this article will not include the income of production and mining units located within a radius of 120 kilometers from the center of Tehran and 50 kilometers from the center of Isfahan, 30 kilometers from the centers of provinces and cities with more than 300 thousand people (according to the latest census).

(Attachment Number 2)

Summary Sheet

Project introduction
1. Project Title: Textile and Bottle Polyethylene Terephthalate (PET) Plan Production plan of polyethylene terephthalate (PET) textile and bottle
2. Sector: Production sub-sector: Industry
3. Products/services: Production plan of polyethylene terephthalate (PET) textile and bottle
4. Location: Khuzestan, Abadan city, Abadan Industrial Estate No. 1
5. Project description: <p>The implementation of the project is planned by acquiring a land with an area of 50,000 square meters and carrying out construction in the substructure of 13,260 square meters. The total investment in land and building is estimated at 1,109 billion Rials and the total investment in main and auxiliary equipment is estimated at 34,407 billion Rials. The total pre-operational costs are estimated at 486 billion Rials, including the total fixed capital required of 36,002 billion Rials and the total working capital required for the project is 5,169 billion Rials. The total investment of the project is expected to come from the resources of the company's shareholders.</p> <p>The sale of the plan in 1406 is predicted at fixed prices equal to 76,650 billion Rials. This figure will increase in the following years due to the increase in production capacity and will increase to a maximum of 109,500 billion Rials. The net profit of the plan has been positive in all years.</p> <p>The profit figure in 1406 is equivalent to 17,262 billion. The profit will increase in the following years and will reach a maximum of 21,277 billion Rials. The average annual profit of the mature plan is 21,857 billion Rials and the average profit margin is expected to be 21.7%. The internal rate of return (IRR) of the project is estimated at 43.7% and the payback period (PBP) is estimated at a maximum of 1.76 years. Also, the net present value of the project's cash flows (NPV) is positive and, considering the expected interest rate of 30%, is equal to 13,870 billion Rials.</p>
6. Annual Capacity: 300,000 ton

Project Status

7. Local/internal raw material access: 100%

8. Sales: 109,500 (Million Rials)

Anticipated local market: 30%

Anticipated export market: 70%

9. construction period: 36 months

10. project status:

- Feasibility study available?

Yes. The feasibility of the project has been evaluated from different aspects and the results of the feasibility study are favorable in terms of market, engineering, financial and economic indicators.

- Required land provided?

Yes. Currently, there is industrial land in Abadan city, Abadan Industrial Estate No. 1, and it has been selected based on geospatial criteria for the implementation of the project. Of course, in order to settle in this area, it is necessary to obtain the necessary approvals. Of course, if there is enough land, this project can be implemented in the economic visa area of Imam Khomeini Port, and in this case, the conditions and financial and economic indicators of the project will be more favorable.

- Legal permission (establishment license, foreign currency quota, environment) taken?

The raw materials of the project can be obtained from Maron Petrochemical Company and TOND GOOYAN Petrochemical Company, and the establishment of this project in the economic special zone or the industrial towns of Mahshahr Port is a priority. But due to the need for suitable land and also the need to be close to consumer industries, this plan can be implemented in Abadan industrial town. In order to settle in the industrial city of the project, it is necessary to obtain legal permits from the organization of industry, mining, trade and environment of Abadan city.

- Partnership agreement concluded with local/foreign investor?

No

- Agreement with local/foreign contractor(s) concluded?

No

- Infrastructural utilities procured?

If the project is established in Abadan city, Abadan Industrial Estate No.1, infrastructure facilities such as water and electricity, roads, etc. are available.

- List of know-how, machinery and equipment concluded?

Considering the history of polyethylene terephthalate production in Shahid TOND GOOYAN Petrochemical in (Imam Khomeini Port Special Economic Zone), it can be said that there is technical know-how to produce and sell this product in the country and the province, and the implementation of the project in terms of providing technical know-how for production is difficult. It will not be serious.

- Financing agreement for machinery, equipment and know-how concluded?

No

Financial structure

11. Financial table:

Description	Local Currency Required			Foreign Currency Required	Total Euro
	Million Rial	Exchange Rate	Euro		
Total Fixed Investment Costs	4,395,530	451,531	9,734,725	70,000,000	79,734,725
Total Net Working Capital Requirements	5,169,140	451,531	11,448,028	0	11,448,028
Total Investment	9,564,670	-	21,182,753	70,000,000	91,182,753

- Value Of Foreign Equipment/Machinery:	70,000,000	Euro		
- Value Of Local Equipment/Machinery:	9,734,725	Euro		
- Value Of Foreign Technical Know-How:	0	Euro		
- Value Of Local Technical Know-How:	0	Euro		
- Net Present Value (NPV):	30,717,866	Euro	Net present values discounted to:	1402
- Internal Rate of Return (IRR):	43.7%	%		
- Normal Payback:	1.76	year		
- Minimum Attractive Rate of Return:	30%	%		

General information

12. Project Type: new Project Explanation / Rehabilitation project
 Name / Company name: -
 Address: Khuzestan, Abadan city Abadan Industrial Estate 1
 Tel: +98 916 3418900 +98 061 34451004 Fax:
 Email: mh_rahimzade@yahoo.com Website:
 Local entrepreneur: Private Sector government /public sector