



Islamic Republic of Iran

Organization for investment economic and technical assistance of Iran

"Summary of technical-economical pre-feasibility study"

The name:

Production of stone paper(paper from calcium carbonate)

Sector: 21 subsector: 01 ISIC code: 2101412355

The owner of:

Organization for Investment, economic and Technical Assistance of Iran
(Semnan)



Consultant:

Dorsa Sanat Consultant Co.



www.dorsa.ir

The Address:

Semnan Province - Semnan Industrial Estate

Date of P.F.S:

April-2019



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1- Abstract

PROJECT PROFILE - SUMMARY SHEET

<i>Project Introduction</i>
1. Project title: Production of stone paper (paper from calcium carbonate)
2. Sector: Manufacture of paper and paper products (21) Subsector: Manufacture of pulp, paper and paperboard (01)
3. Products/Services: Stone paper (paper from calcium carbonate)
4. Location: Semnan Industrial Estate, Semnan County, Semnan Province Free zone <input type="checkbox"/> Economic special zone <input type="checkbox"/> Industrial Estate <input checked="" type="checkbox"/> Main Land <input type="checkbox"/>
5. Project Detail: The powder of calcium carbonate (with the appropriate mesh) is first homogenized with polypropylene powder and additives, under the appropriate pressure and temperature conditions. After the transferring into hopper of extruder, these raw materials are forced into the screw and are melted. On the other side of the extruder, the thick paper is outputted and repeatedly extended by rollers to form papers with required thickness. Finally, the produced stone papers are rolled and can be cut according to customer requirement.
6. a) Capacity: Nominal capacity: 6,120 ton in year b) Annual production: Actual capacity: 4,896 ton in year

<i>Project Status</i>
7. Local / internal raw material access 100%
8. Sale: - Anticipated export market 0%
9. Construction Period 2 years
10. Project Status :
- Feasibility study available? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
- Required land provided? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
- Legal permissions (establishment license, foreign currency quota, environment, etc.) taken? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
- Partnership agreement concluded with local/foreign investor? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
- Financing agreement concluded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
- Agreement with local / foreign contractor(s) concluded? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
- Infrastructural utilities (electricity, water supply, telecommunication, fuel, road, etc.) procured? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>



- List of know-how, machinery, equipment, as well as seller / builder companies defined? Yes No
- Purchase agreement for machinery, equipment and know-how concluded? Yes No

Financial Structure

11. Financial Table:

Descriptions	Local Currency Required			Foreign Currency Required Million Euro	Total Million Euro
	Million Rial	Rate	Equivalent in Million Euro		
Fix Capital	172,184	105,743	1,63	3,10	4,73
Current Capital	27,091	105,743	0.26	0.00	0.26
Total Investment	199,275	-	1,88	3,10	4,98

- Value of foreign equipment/machinery **3,1 million euro**
- Value of local equipment/machinery **0 million euro**
- Value of foreign technical know-how **0 million euro**
- Value of local technical knows-how **0 million euro**
- Net Present Value (NPV): **2,06 million euro for 10years.**
- Internal Rate of Return (IRR) **35.56%**
- Payback Period (PP) **4.64 Year**
- Number of people who (will) work in the project: **44**

General Information

12 - Project type :Establishment ✓ Expansion and completion

13- Company Profile Semnan Province Industry, Mine and Trade Organization

- Name (Legal/Natural persons): Mr. Reza Ashraf

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Web Site :

- Company's legal structure: Government Non- Governmental Public non-Governmental

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2-Project location:

On this project suggest implementing the project in Semnan province, Semnan county, Semnan industrial park. Proximity to the provincial capital for the sale products is a particular importance. Considering that Semnan Industrial park is one of the industrial parks with underground facilities and transferable land and it's near to capital province. So, there is easy access to other provinces; it is considered as a suitable site for implementation the project.

2-1- Province:

Semnan province is one of the provinces of Iran. City of Semnan is the most populous city and the provincial capital of Semnan province. This province has a total area of 97,491 square kilometers which account for 5.9 percent of the country's total area. So, Semnan is the seventh province in Iran in terms of area. Semnan province is limited to North Khorasan, Golestan and Mazandaran from the north, Tehran and Qom from the west, South Khorasan and Isfahan from the south and Razavi Khorasan from the east. According to Iranian population and housing census 2016, the population of this province was 702,360 persons.



2-2- the County:

Semnan, one of the cities of Iran, is the capital of Semnan province and central of Semnan County. This city is located south of Alborz mountain range and north of Kavir plain and on the route of Khorasan-Tehran.

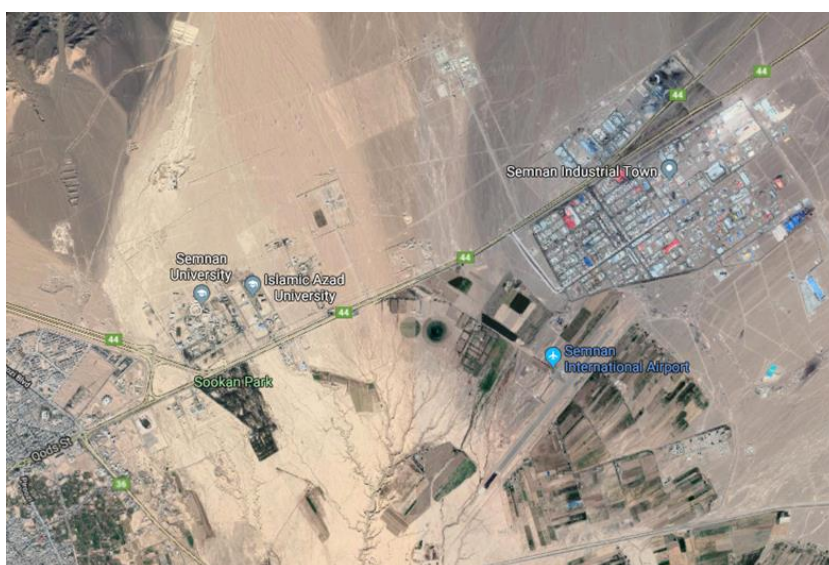




It is bounded on the east by Damghan and Shahroud, on the north by Darjazin, Mahdishahr and Shahmirzad, and on the west by neighboring Sorkheh. Its average elevation is 1,130 meters. City of Semnan is the most populous city in Semnan province. According to 2016 census, the population of this city was 185,129 persons in 49,124 families. The climate is dry and temperate. The resident of Semnan is Iranian and they speak Farsi and Semnani.

2-3- the project:

According to initial studies, implementing this project in Semnan Industrial Estate is suggested. The project location and the map of access route are illustrated in the below map:



2-4-access to the infrastructures:

No.	Needed infrastructures	distance to the project	The supply infrastructures
1	Water	0 Km	SemnanIndustrial Estate
2	Electricity	0 Km	SemnanIndustrial Estate
3	Gas	0 Km	SemnanIndustrial Estate
4	Telecommunications	0 Km	SemnanIndustrial Estate
5	Highway	0.12 Km	SemnanIndustrial Estate
6	Road	0 Km	SemnanIndustrial Estate
7	Airport	10 Km	Semnan Airport
8	Port	270 Km	Amirabad port
9	Rail way	5 Km	Semnan



3-Technical Specifications of plan

3-1 –product:

The product of this project is paper which made up sedimentary calcium carbonate, also known as stone paper. The major constituent of stone paper is calcium carbonate. The richest source of earth is stone, and the most stone on earth are limestone from which calcium carbonate can be extracted. Unfortunately, paper production resources, which are forests, are very limited and the human need is endless. Because of the restricted level of the world's forests and the excessive pressure on them and the environment and severe degradation, on the other hand, due to the increasing consumption of paper and paper products in line with population growth and technological progress and the study of paper production and consumption Per capita in different countries, it is further recognized that paper production needs to be seriously considered in other ways, and It is necessary to attention should be paid to saving and modifying the pattern of paper production to modify the process of extreme use and contrary to sustainable development goals. Lack of cellulose raw material in the industry of papermaking has led to the development of the papermaking industry to increase the percentage of minerals consume in paper.

Considering the issues such as production cost, volume and load of effluent contamination and requirement of producing paper with suitable ductility and quality, it is necessary to study the different effects of mineral fillers on paper according to different usage. The types of minerals consumed based on intrinsic properties have different effects on paper properties. Minerals considered by the industry of papermaking include sedimentary calcium carbonate, milled calcium carbonate and kaolin. The main purpose of using minerals is to improve optical properties, paper printability, low cost of production, low contamination rate and increase the speed of production of paper machinery. Paper production from calcium carbonate is one of the new methods in industry of papermaking. The difference between normally paper and stone paper (from calcium carbonate) is the existence of short, long and porous fibers in normally paper which will cause more ink to be absorbed and in multicolor printing creates poor quality print.

Glass paper is used for higher quality printing and stone paper provides quality glass paper in lower price. So the printability of stone paper is much better than regular paper. The ink does not absorb the colored paper and the ink stays on the surface of the paper and consumes about 20% of the normal paper. According to the president of the Association of Paper and Cardboard Manufacturers of Iran (Fars News dated 2018/06/13), the annual consumption of



paper and cardboard in Iran is about one million 900 thousand tons and the volume of imports is about one million 200 thousand tons annually. If the paper line of calcium carbonate is installed and set up in the country, there will be a significant reduction in paper imports and exiting the currency. It also prevents the destruction of forest resources. 4 tons of tree are used to produce each ton of paper. However, the low level of water and trees resources in Iran, it is better to use stone paper.

3-2-project's requirements:

3-2-1-Space and infrastructure required:

land purchase Cost					
Specifications	Area (square meters)	price per square meters (Rial)	Cost		
			Cost to date (million Rial)	Cost to complete (million Rial)	Total (million Rial)
A piece of land in the industrial Estate of Semnan	5,600	760,000	0	4,256	4,256

Site preparation and development Cost						
Description	amount	Unit	Unit price (Rial)	Cost to date (million Rial)	Cost to complete (million Rial)	Total (million Rial)
Excavation	5,600	M2	200,000	0	1,120	1,120
Wall Construction	600	M2	1,500,000	0	900	900
Door	2	No.	100,000,000	0	200	200
Landscaping	1,120	M2	1,500,000	0	1,680	1,680
Edging	373	Meter	400,000	0	149	149
Asphalting	1,230	M2	2,000,000	0	2,460	2,460
Lighting	25	No.	2,000,000	0	50	50
Total				0	6,559	6,559

Civil works, structures and buildings Cost					
Description	Area (square meters)	Unit price (Rial)	Cost to date (million Rial)	Cost to complete (million Rial)	Total (million Rial)
Main Plant production	1,500	15,000,000	0	22,500	22,500
Storage of material	500	12,000,000	0	6,000	6,000
Product storage	700	12,000,000	0	8,400	8,400
Office building and security	150	12,000,000	0	1,800	1,800
Power facilities Buildings	100	9,000,000	0	900	900
facilities Buildings	100	9,000,000	0	900	900
Laboratory Building	200	12,000,000	0	2,400	2,400
Total	3,250	-	0	42,900	42,900



3-2-2-Equipment and machinery:

The main machinery of this project includes the production and preparation system, extrusion, casting, roll stretch, quality control system, etc., which can be prepared from Taiwan's FKI.

The cost of investment on the machinery will be as follow:

Plant machinery and equipment Cost						
Description	Cost to date (million Rial)	Cost required				Total (million Rial)
		local cost (million Rial)	Cost of currency		Cost to complete (million Rial)	
			Cost of currency (Euro)	local currency equivalent cost		
A - foreign machinery and equipment	0	0	3,100,000	327,803	327,803	327,803
Other costs (including the cost of customs clearance, registration and ordering, shipping and insurance, installation, training and supervision and VAT) 15%	0	49,170	0	0	49,170	49,170
B –Local machinery and equipment	0	0	0	0	0	0
Other costs include VAT - about 6%	0	0	0	0	0	0
Total cost of machinery	0	49,170	3,100,000	327,803	376,974	376,974

The exchange rate is: 1 € = 105,743 Rials on April 2019.

3-2-3- Raw material and intermediate components:

The raw materials of this project are Calcium carbonate, PE and additive. The annual cost for the materials is calculated as follow:

Specifications and cost raw material, auxiliary packaging for the product						
Description	Unit	Consumption per unit of product	Production Capacity in 100%	total consumption of the raw material	price per unit of raw material (Rial)	annual cost of providing material (million Rial)
Calcium carbonate	kg	800	4,896	3,995,136	5,610	22,413
PE	kg	150		749,088	107,981	80,887
Additive	kg	50		249,696	170,000	42,448
Other material (5%)						7,287
Total						153,036



3-2-4-management and human resources:

In this project working days in a year, working shifts in a day and hours in a shift are assumed to be 300, 3 and 8 respectively. So the required human resources in different departments are evaluated as follow:

Salary of administrative staff						
No.	Position	Number of shifts	Person per shift(No.)	Total staff (person)	Monthly salary (Rial / per person)	annual salary (million Rial)
1	Direct Manager	1	1	1	45,000,000	540
2	Director of Administration	1	1	1	35,000,000	420
3	Financial staff, administrative and selling	1	1	1	25,000,000	300
4	Secretary	1	1	1	16,000,000	192
5	Labour Services	1	1	1	16,000,000	192
6	Guardman	3	1	3	16,000,000	576
Total				8		2,220
Benefits. Insurance and bonus 70%						1,554
Total						3,774

Salary of production staff							
No.	Position	Skill Level	Number of shifts	Person per shift (No.)	Total staff (people)	Monthly salary (Rial / per person)	annual salary (million Rial)
1	Production manager	Expert	3	1	3	40,000,000	1,440
2	QC engineer	Expert	3	1	3	30,000,000	1,080
3	Skilled worker	Skilled	3	2	6	20,000,000	1,440
4	worker	Non-skilled	3	6	18	16,000,000	3,456
5	Technical man	Skilled	3	1	3	20,000,000	720
6	Storage staff	Non-skilled	1	1	1	16,000,000	192
7	Driver	Non-skilled	1	2	2	16,000,000	384
Total					36		8,712
Benefits. Insurance and bonus 100%							8,712
Total							17,424

- Number of skilled personnel required: 9
- Number of non-skilled personnel required: 21
- Number of expert personnel required : 6



3-2-5- Estimates of electricity, water, fuel consumption:

Estimates of electricity, water, fuel consumption								
Description	Unit	Consumption	Hours per shift	Number of shifts per day	Number of working days per year	Amount of annual consumption	Cost per unit (Rials)	Annual cost (million Rial)
electricity	kw/h	1,601	8	3	300	11,524,468	558	6,431
gas	m3/h	70	8	3	300	505,884	1,130	572
water	m3/day	49	8	3	300	14,700	4,800	71
gasoline	lit/day	40	-	-	300	12,000	7,000	84
communications	month	1	-	-	-	12	3,000,000	36
Total (million Rial)								7,193

4-Ownership and legal permission:

4-1-ownership of land:

In this project it is assumed that the Land purchase cost will provided by Owners equity.

4-2-Intellectual property and incentives:

The project will be implemented in an industrial zone, so the infrastructure, licenses and royalties will be provided easily.

4-3-legal permission:

Required licenses and legal permissions for this project are listed below:

Not getting licenses list and estimating the time required to obtain a license				
No.	Name of License	Issuing agency	License Information	Prediction time
1	Foreign investment license	Organization for Investment, economic and Technical Assistance of Iran	Investments according to the provided specifications in the Plan	1 Month
2	Establishment license	Semnan organization of industry, mine and trade	Stone paper, ISIC code: 2101412355, with 6,120 tons capacity in a year	1 Month
3	Operation license	Semnan organization of industry, mine and trade	Stone paper, ISIC code: 2101412355, with 6,120 tons capacity in a year	At the same time of trial operation
4	License to build	Industrial estates organization	according to the provided specifications of site operation in the Plan	1 Month
5	The end of work license	Industrial estates organization	according to the provided specifications of site operation in the Plan	1 Month

5-Market study and Competition:

Although in underdeveloped countries wood is used only for fuel, woodworking and decoration, in developed countries the concept of wood goes far beyond these and its most important use is paper production. Now days, the use of trees in industries such as paper making is not affordable. However other natural materials and even cellulosic waste are used in this industry.



Environmentally, Recycling paper reduces dependency and the need for pristine paper and finally reduces cutting down the trees and increases the opportunity of revitalizing bare forest fields. However, the paper produced from agricultural waste and recycled paper is not qualitatively comparable to those produced from tree wood; as a result, human beings continue to destroy forests for paper production. The use of non-cellulosic materials for paper production has been created for general purposes such as preventing unauthorized looting of natural resources, reducing energy consumption and reducing the amount of waste to reduce disposal costs and change consumption patterns.

Paper production from calcium carbonate was first carried out by the Taiwanese company Lung Meng Tech and then gradually (around 2013) it was into the world economic cycle. This paper has special features that in addition to general applications, has led customers to use it. Waterproof, oil proof and greasy, high resistance to rupture and insects, usable on regular printers, optimal composite consumption, Proper surface tension with low price are the characteristics of this type of paper. Including the competitive advantages of this project in the market of Iran can note the following:

1. Currently, active cellulose factories in the country are facing serious problems due to environmental constraints and lack of primary substance resources. Domestic factories in many cases be satisfy of import rolls of paper and cut them.
2. "Calcium carbonate paper" is recyclable and furthermore, can be easily degraded in nature. In other words, this product is environmentally friendly.
3. The major primary substance of this project is calcium carbonate, which its resources are abundant in the country and its cost is relatively low.
4. Polypropylene is also one of the primary substances of the project which is produced in petrochemicals due to the availability of petroleum resources in the country.
5. Production per ton of paper from stone consumes less energy and water than cellulose paper.
6. If replacement this type of cellulosic paper sheets, forest destruction can be prevented.
7. The cost of producing "sedimentary calcium carbonate paper" is lower than that of cellulosic paper.
8. This paper has unique applications in addition to general applications, including that it can be used in cement packing because rock paper has a high thickness and the possibility of rupture is very low.
9. Relatively low investment volume compared with other factories producing paper
10. Possibility to export to the Persian Gulf and neighboring countries



11. Profitability and early returns of the project
12. Provide part of actual and potential internal needs
13. Possibility to produce a variety of paper products such as printing and writing paper, etc. with the same production line

According to need of the country, massive import of the product, specific benefits of the plan and its relevance to the country's environmental conditions, this plan has an appropriate market.

6-Physical Progress of project: yes No *

7-Action plan and Implementation schedule:

The time sheet of the project from starting of feasibility study is evaluated and presented as below:

Prediction of Project Schedule														
Scope of Work	Duration: years	Year 1					Year 2					Year 3		
		2	4	6	8	10	12	2	4	6	8	10	12	1
Month														
Investment studies		■												
Obtaining permission			■	■										
Providing engineering services				■										
Land purchase					■	■								
Contractor selecting						■								
Workshop tooling						■								
site operation						■	■	■	■					
Order and transfer of machinery						■	■	■	■	■				
Machinery installation										■				
Facilities									■	■	■			
Staff training												■		
Unexpected delays													■	
Trial production													■	
Commercial production														■



8-Financial projection:

8-1- The cost estimate:

No.	subject		Cost (Million Rial)		
1	Fixed investment		499,988	MR	
2	Working Capital		27,091	MR	
3	Total investment		527,079	MR	
4	Annual production cost		253,910	MR	
5	Finish goods cost	ton	Stone paper	55,171,476	Rial

Fixed investment						
subject	Cost to date (million Rial)	Costs required			total cost of the required (million Rial)	Total cost (million Rial)
		Domestic cost (million Rial)	Foreign exchange cost			
			Foreign exchange cost (Euro)	Rialequivalent		
land purchase	0	4,256	0	0	4,256	4,256
Site preparation and development	0	6,559	0	0	6,559	6,559
Civil works, structures and buildings	0	42,900	0	0	42,900	42,900
Plant machinery and equipment	0	49,170	3,100,000	327,803	376,974	376,974
Auxiliary and service plant equipment	0	732	0	0	732	732
Facility costs	0	38,309	0	0	38,309	38,309
Laboratory and workshop equipment	0	1,250	0	0	1,250	1,250
Vehicles	0	3,106	0	0	3,106	3,106
Incorporated fixed assets (project overheads)	0	24,462	0	0	24,462	24,462
Total	0	170,746	3,100,000	327,803	498,549	498,549
Pre-production expenditures	0	1,439	0	0	1,439	1,439
Total Fixinvestment	0	172,184	3,100,000	327,803	499,988	499,988

Working Capital				
Description	Duration	Cost to date (million Rial)	Cost to complete (million Rial)	Total (million Rial)
Total inventory	30	0	9,383	9,383
Accounts receivable	30	0	13,831	13,831
Cash-in-hand	30	0	3,877	3,877
Total		0	27,091	27,091

Repair and maintenance				
No.	Description	Investment (million Rial)	Rate of repair and maintenance	Total (million Rial)
1	Site preparation and civil works	49,459	2%	989
2	Plant machinery and equipment	376,974	4%	15,079
3	Facility costs	38309	10%	3831
4	Laboratory and workshop equipment	1,250	10%	125
5	Vehicles	3,106	20%	621
6	Auxiliary and service plant equipment	732	10%	73
Total		469,831		20,718



Amortization cost					
No.	Description	Investment (million Rial)	Rate of amortization	Scrap rate	Total (million Rial)
1	Site preparation and civil works	49,459	7%	10%	3,116
2	Plant machinery and equipment	376,974	10%	10%	33,928
3	Facility costs	38,309	10%	10%	3,448
4	Laboratory and workshop equipment	1,250	10%	10%	113
5	Vehicles	3,106	25%	10%	699
6	Auxiliary and service plant equipment	732	20%	10%	132
7	Incorporated fixed assets	24,462	10%	10%	2,202
Total		494,293			43,636

Fixed and variable costs						
No.	Production cost	Fixed cost		Variable cost		Total cost (million Rial)
		%	cost	%	cost	
1	Raw material	-	0	100%	153,036	153,036
2	Productionsalary	70%	12,197	30%	5,227	17,424
3	Energy	20%	1,439	80%	5,754	7,193
4	Repair & Maintenance	20%	4,144	80%	16,575	20,718
5	Overhead costs (6%)	-	1,067	-	10,836	11,902
6	Depreciation	100%	43,636	-	0	43,636
Total production cost		-	62,482	-	191,428	253,910
1	administrative cost	100%	3,774	-	0	3,774
2	Marketing cost (2%)	-	0	100%	9,792	9,792
3	Insurance Assets	100%	2,500	-	0	2,500
Total cost of operating		-	6,274	-	9,792	16,066
1	Depreciation (pre-production)	100%	144	-	0	144
Total non-operating cost		-	144	-	0	144
Total Operating annual cost		-	68,900	-	201,220	270,120

8-2- Estimated revenues:

According to speed of the production line, nominal capacity of the product is about 6,120 tons of stone paper in a year. So by considering the efficiency equal to 80%, the actual capacity would be 4,896tons per year. The production and sales plan are presented below:

Production Plan (ton)										
Description / year	Unit	Season 1	Season 2	Season 3	Season 4	Year 1	Year 2	Year 3	Year 4	Year 5
						70%	80%	90%	100%	100%
Stone paper	ton	857	857	857	857	3,427	3,917	4,406	4,896	4,896
Total production	ton	857	857	857	857	3,427	3,917	4,406	4,896	4,896

Sale Plan (millionRial)											
Years of Operation	Unit	Sale price (Rial)	Season 1	Season 2	Season 3	Season 4	Year 1	Year 2	Year 3	Year 4	Year 5
Stone paper	ton	100,000,000	85,680	85,680	85,680	85,680	342,720	391,680	440,640	489,600	489,600
Total Sales			85,680	85,680	85,680	85,680	342,720	391,680	440,640	489,600	489,600



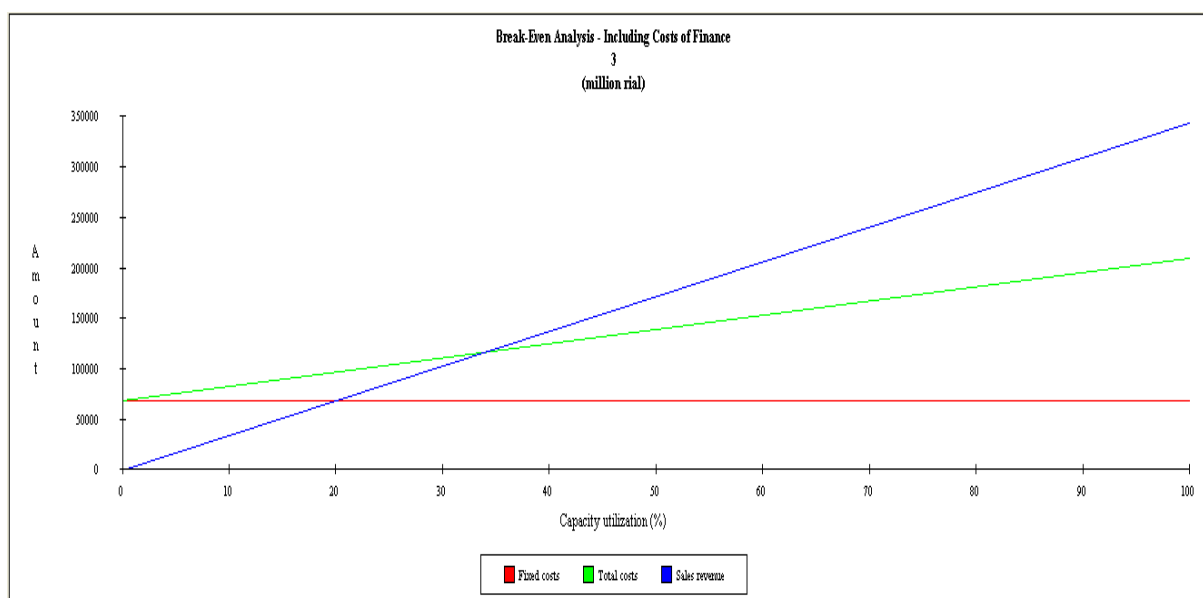
8-3-Duration of project operation:

The life time of this project as regarding to the type of industry, is assumed to be 10 years.

8-4-Break- even analyses:

Based on COMFAR results, the project break-even point in the first year of operation is 34% and it will decrease to 24% in 4th year and as the production rate increasing from this year it will remain constant in the rest years.

Period	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break- even point %	34%	30%	27%	24%	24%	24%	24%	24%	24%	24%



8-5- Cost-benefit analysis:

The table of project efficiency indicators

Present value of total fixed investment	770,540	million Rial
Present value of total net revenue	988,379	million Rial
Net present value (NPV)	217,839	million Rial
benefit - Cost ratio B/C	1.28	
Internal rate of return (IRR)	35.56%	

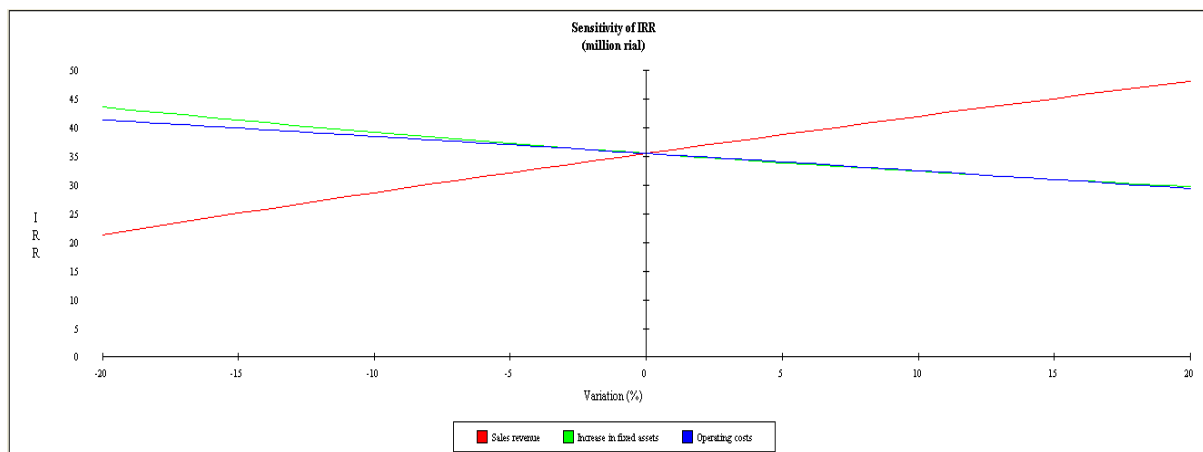


8-6- Sensitivity analysis of IRR:

In this project IRR is selected to study the project sensitivity analysis and by COMFAR software, the variation in IRR in comparison with variation in Sales revenue, Annual costs and investment costs has been studied. According to calculation, the IRR is 35.56% in normal condition and it would be reduced to 30.13%, if the sales revenue diminishes reduce 8%.

Variation IRR %	Sales revenue	Increase in fixed assets	Operating cost
-20.00%	21.38%	43.63%	41.38%
-16.00%	24.40%	41.77%	40.24%
-12.00%	27.31%	40.05%	39.08%
-8.00%	30.13%	38.45%	37.92%
-4.00%	32.88%	36.95%	36.74%
0.00%	35.56%	35.56%	35.56%
4.00%	38.17%	34.25%	34.36%
8.00%	40.73%	33.02%	33.15%
12.00%	43.23%	31.85%	31.92%
16.00%	45.69%	30.76%	30.68%
20.00%	48.10%	29.72%	29.43%

The following chart represents the sensitivity analysis of IRR in comparison with Sales revenue, Annual costs and investment costs.



8-7- Summarize table:

"Summary of economic issues"

activity	International Standard Industrial Classification (ISIC Code)	product name	Nominal capacity (unit)
Manufacture of paper and paper products	2101412355	Stone paper	6120 ton/year
Activity duration	Fix investment (million Rial)	Working Capital (million Rial)	Human resources
2 year	499,988	27,091	44Person
Internal rate of return (IRR)	Net present value (million Rial)	Owners share (million Rial)	Benefit-cost ratio *B/C
35.56%	217,839	499,988	1.28



8-8-Estimation of exchange rate changes during the project implementation:

Historical survey shows that in the recent years the exchange rate of Rial to Euro has an ascending trend and it is predicted to have a same treatment in the future.

As the machinery of the project is supplied from foreign countries, exchange rate increasing will not have an impact on the project total investment cost in terms of Euro. On the other hand, as the raw material is supplied from local suppliers and also the main goal is local sale, exchange rate increasing will not have an impact on the project beneficiary.

9-Capital needs, the supply and guarantees method:

9-1- Foreign currency needed:

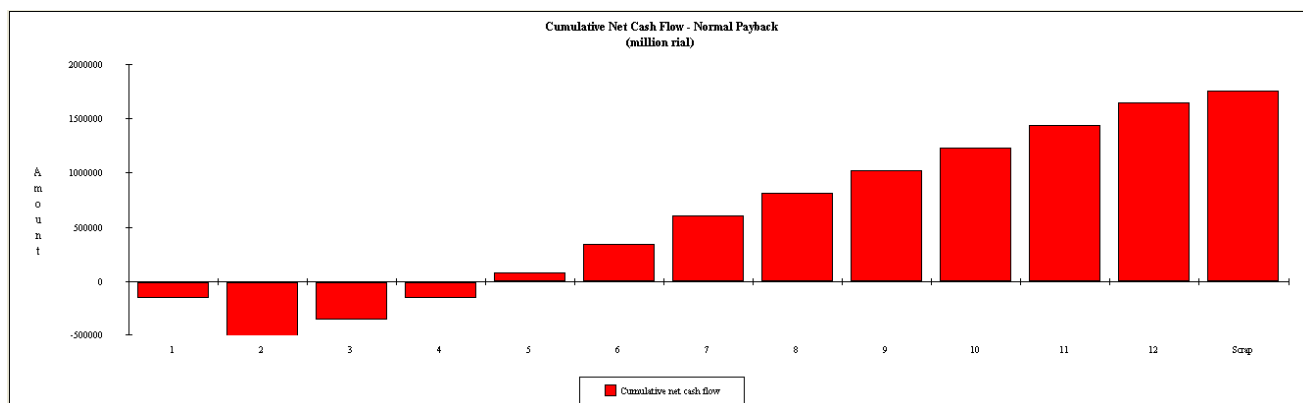
Foreign currency needed in this project is equal to 3,100,000 Euro for the machinery.

9-2-The Way of participation and finance method:

In this study, it is assumed that the total investment cost, include local and foreign currency are supplied by owner's equity.

9-3-Payback period:

Based on COMFAR results, the payback period of the project will be 2 years and 8 months from starting the utilization.





10-Incentives, features and advantages of project:

Some of the characteristics of project can be mentioned as follows:

- Profitability, output and the suitable payback period of investment;
- Availability of Raw Materials, the main raw material of project is calcium carbonate, which is abundant in country. Therefore, cost of supplies is rather low;
- Prevent from crude sold of mineral materials;
- "Paper production of precipitated calcium carbonate" Economically is 100 percent recyclability, in other words this product is environmentally friendly;
- Avoid deforestation and forest degradation by replacing this type of paper instead of cellulose paper;
- The cost of producing "calcium carbonate paper" is lower than cellulosic paper;
- This type of paper in addition to general applications, have specific applications, including it can also be a good alternative to plastic bags of cement and also countless usage of plastic;
- Energy consumption reduction, excessive water consumption reduction on the production line compared to cellulose paper and cardboard;
- Possibility to export to the Persian Gulf and neighboring countries.

Incentive scheme for the project included the following:

In accordance with clause 10 of article 31 of the Competitive Production Barriers Removal law, the zero tax rate and incentives mentioned in this article doesn't cover by this act include the income of production and mining units located in 120 kilometers distance from Tehran province downtown and 50 kilometers distance from Isfahan province downtown and 30 kilometers distance from provincial capitals of cities that their population based on the latest census is more than 300,000 persons. IT units, with the approval of the relevant ministries and the Vice President for Science and Technology, however, have the privilege of this article. Also, taxes on production and mining units based on all special economic zones and industrial parks with the exception of special economic zones and settlements within one 120 meters' radius of Tehran province downtown are calculated at zero rate and have tax incentives. Value added tax on exported products of this project will be refunded to the exporter.