

## Preliminary Economic Feasibility Study for UPVC pipes factory in Karak



2017

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## 1. Executive Summary

The project aims to build a plastic pipes factory that are used in construction sector and agriculture sector in Karak. The project was adopted due to the closeness of Karak from agricultural locations such as the Southern Jordan Valley and Wadi Arba'a. The factory will manufacture plastic pipes that are used in different fields such as sanitation systems and agriculture equipment.

Depending on the expected market share, the expected annual income will be 742,000 JD in the first year, rising to 1,113,000 JD in the tenth year, and the expected pay pack period is 4 years with an internal rate of return of 28.64%.

The following table shows the most important results of the study:

**Table 1 Main results of the study**

Results	
Total investment cost (JD)	711,787
IRR (%)	%28.64
Payback period (years)	4
Net present value (for 10 years)	806,929
Provided job opportunities	18
Expected total cash inflows (for 10 years)	9,126,600
Total operating expenses (for 10 years)	6,344,662
Total net profit (for 10 years)	1,269,433

## 2. Key Highlight of Jordan

Jordan Hashemite Kingdom area is 89342 Kilometers with a population exceed 9.8 Millions distributed among 12 Governorates.

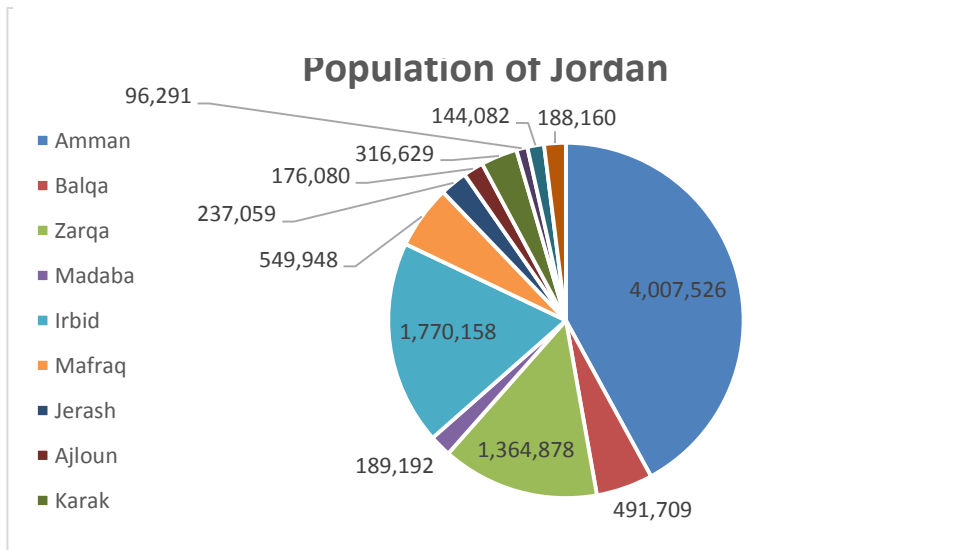
Jordan is bounded by Saudi Arabia, Iraq, Syria and Palestine from the South, East, North and west respectively. Jordan climate is mostly arid desert with rainy season between November to April Months.

Jordan is a free market economy, ranked as the fifth freest economy in the MENA region in the Index of Economic Freedom. Its free market economy enjoys strong partnerships amongst its neighboring country as well as Europe and the USA. Jordan is a signatory of several bilateral and multilateral trade agreements such as (Free Trade Agreement with the US and the EU, a Free Trade Agreement with the EFTA states, an FTA with Singapore, A member of the Greater Arab Free Trade Agreement (GAFTA) and a signatory of the Aghadir Agreement. Looking at the range of countries these agreements cover and facilitate trade between, one is confident to say that Jordan has business gateways and partnerships across the globe.

### Population Overview

Based on the latest surveys done by Department of Statistics (DOS) in 2017, total number of population has reached around 9.814.995 with an increase rate of 2.88% from 2016 year, figure below summarizes the population distribution among the kingdom governorates.

Figure 1 Population of Jordan



Department of Statistics (DOS), 2015



Moreover, and based on the latest survey conducted by (DOS) which related to population nationality distribution over the governorates, it was found that total Non-Jordanian residents constitutes around 30% of the total population. Half of these are Syrians (1.3 Million) concentrated mainly in Amman Capital (436 Thousand) then Irbid (343 Thousand), Mafraq at 208 Thousand and Zarqa at 175 Thousand.

Jordan prides itself in its youthful population with 35% of ages below 15 years old and only 4% with ages above 65 years old. Table below summarizes population distribution of Jordanians according to Age Group:

**Table 2 Population Distribution according to Age Group**

Age Group	Population %	Males	Females
0-14 Years	%35.04	%19.2	%18.2
15-64 Years	%61.02	%30.7	%28.6
More than 65 Years	%3.94	%1.6	%1.6

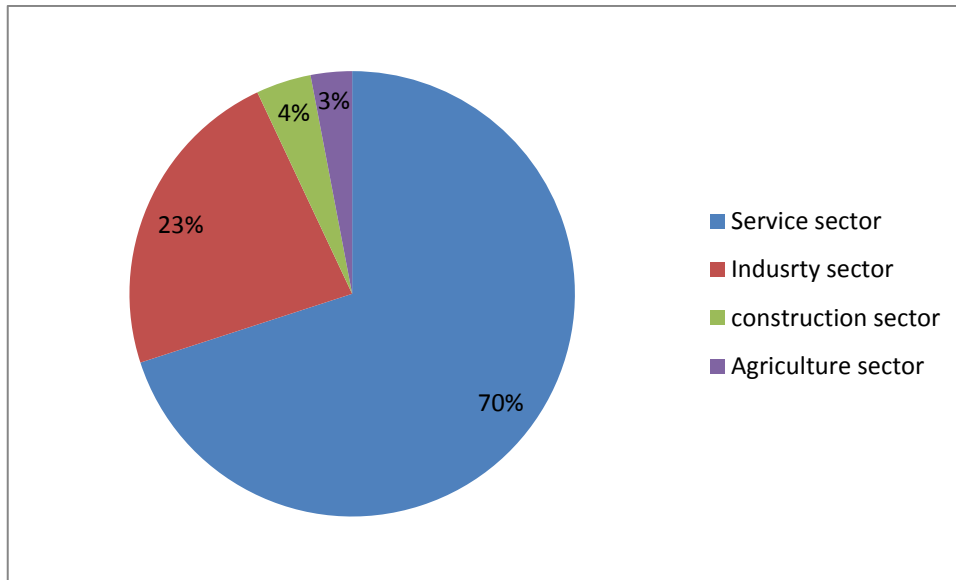
Department of Statistics (DOS), 2015.

### Overview of Jordan Economy

Classified as an upper middle economy by the World Bank and as a country of High Human Development by the UNDP, Jordan is an important financial power in the Middle East. Its small market witnessed growth in the last two decades since King Abdullah II accessed the throne. Jordan's GNI per capita has increased in the last four years due to the basket of economic reforms that were enacted in the recent decade such as (the new Income Tax Law, Public Private Partnership Law and Investment Law). These laws aim to encourage the participation of the private sector in the Kingdom's economic development and provide an enabling legislative environment for current and new investment opportunities.

The Jordanian economy is overwhelmingly services oriented and its contribution in the GDP is 68.1%. The contribution of the industrial sector is 22.4%, the construction sector is 4.2% and the agricultural sector is 2.9%. These contributions are aimed to increase to (27.4%), (5.8%) and (3.4%) respectively and that of the service sector is due to decrease according to Jordan 2025 vision.

Figure 2 Sectors Contribution to Jordan's Economy



Jordan's exports include variety of textiles, potassium, phosphates, fertilizers, vegetables and pharmaceutical products. While it's main imports are crude and refined petroleum. Distinguished by its strategic location, on the crossroads between Asia, Africa and Europe with strong connections to the Levant and the GCC, Jordan has a regional market of interest that represents US\$3.8 trillion market and comprising 380 million consumers.

Jordan infrastructure ranks comparatively well (38th out of 148 comparable economies), with an extensive 8000 KM road network connecting Jordan domestically and externally The new Queen Alia International Airport and the Port of Aqaba are the major gateways to the international market. In addition to some mega projects such as the Red- Dead Sea Canal and the national railway network that will be developed to position Jordan as a hub for regional commerce.

Jordan banking system is quite sophisticated, resilient and in compliance with international standards, making it very attractive and trustworthy to investors. This is reflected in the fact that 50% of equity in licensed banks in Jordan is held by non-Jordanians, and non-residents' deposits in Jordanian banks witnessed a steady growth of 19.2%.

Moreover, realizing the value of MSMEs to drive economic growth, the government has developed the national Strategy for the encouragement of entrepreneurship and the development of micro small and medium sized enterprises for 2015-2019. This shows the commitment of the Jordan government to enhance the private sector development and leveraging the country's strong human capital.

Jordan prides itself in its youthful population. It's the country most valuable capital. A tech savvy well educated and trained workforce attracts a lot of investors to Jordan. More than 20.4% of Jordan's GDP is dedicated to the education and capacity building for the labor force, this has resulted in securing a 91% literacy rate and enabled Jordanians to be among most hired and qualified middle-eastern workforce.

Such solid, diverse and resilient characteristics of the Jordanian economy and investment scene position Jordan as a competitive investment destination.

### Major Economic Indicators

- **GDP Growth**

The Jordanian economy slowed and reached 2.4 percent in 2015 compared to growth rate of 3.1 in 2014 and similar to MENA growth rates.

The growth also slowed for trade, restaurants and hotels; manufacturing; transport; and electricity and water. Meanwhile, finance, insurance, and business services advanced at a faster pace.

- **Inflation rate**

Inflation rate decreased to 0.9 in 2015 after 2% decline in the previous year. Inflation Rate in Jordan averaged 3.1 percent from 2011 until 2015.

- **Unemployment**

The unemployment rate in Jordan was recorded at 13 percent in 2015, comparing to 11.9 percent a year earlier. This increase due to the current instability in the labor market structure as well as high competition from low cost foreign labors especially from Syria.

- **External Sector**

A number of risks manifested in 2015, the closure of land trade routes with Syria and Iraq and the deepening instability in the region adversely impacted many external sector indicators such as trade, tourism and direct Investment.

Moreover, loans disbursements increased by JD 545.3 million, due to the use of the International and Arab Monetary Funds (IMF and AMF) credit facilities. As an outcome of these developments, the overall balance

of the balance of payments registered a surplus of JD 328.7 million in 2015, compared with a surplus of JD 1,550.7 million in 2014.

Further, net international investment position (IIP) witnessed an increase in the Kingdom's net obligations to abroad; to reach JD 24,357.5 million, compared to a net obligation of JD 22,578.8 million at the end of 2014 as a result of the increase in the stock of external financial assets and liabilities of all resident economic sectors to reach JD 18,657.9 million and JD 43,015.5 million; respectively.

External Debt in Jordan increased to 9390.50 JOD Million in 2015 from 8030.10 JOD Million in 2014. External Debt in Jordan averaged 5433.67 JOD Million from 1988 until 2015, reaching an all time high of 9390.50 JOD Million in 2015 and a record low of 3640.20 JOD Million in 2008.

### Investment Climate in Jordan

Investment in Jordan is considered as one of the vital sources to boost the economy considering that Jordan's economy is among the smallest in the Middle East, with insufficient supplies of water, oil, and other natural resources, underlying the government's heavy reliance on foreign assistance.

The country's location, supported by myriad free trade agreements (FTAs) offering access to 1.5bn consumers, enables the kingdom to be a strategic trade route to many of its neighboring countries and regions.

Jordan aspires to create a competitive investment destination capitalizing on its many advantages mentioned above. The government focused its efforts to implement significant advances in structural and legal reform. These efforts are represented in the new Investment Law of 2014, the tax law, in addition to other endeavors related to providing greater access to credit for MSMEs, and by providing greater investment incentives to specific priority sectors identified by the new Investment law and the Jordan 2025 vision.

furthermore, in its endeavor to enhance the business environment, several geographically industrial states were created across the kingdom. These range in type to include (industrial estates, free zones and special economic zones). Under the new Investment Law, these zones are given a number of incentives that include a tax rate of 0% on exports, sales tax, import duties, social service tax, dividends tax and a 5% income tax from all economic and manufacturing activities undertaken in the development zones. As for the investments in Free Zones, they enjoy Exemptions from customs duties, income tax exemptions and exemptions from land and building taxes among others. Both development and free zones also enjoy facilitations regarding visa and residency permits for investors and workers in addition to Repatriation of

capital and profits in a convertible currency. Such estates have succeeded in attracting relatively large amounts of FDI to Jordan.

### **Key National Investment Priorities:**

Jordan Investment commission worked on taking a leading role in the application of government policies to promote and attract domestic and foreign investments and create an investment environment that stimulates economic performance through investment promotion strategy launched in 2016

Jordan investments commission aims to:

- Regulating the special provisions governing Development Zones and Free Zones in the Kingdom and developing them placing them in service of the national economy as well as monitoring their functioning.
- Developing plan and programs to stimulate domestic and foreign investments.
- Establishing trade centers and organizing exhibitions as well as opening markets and organizing trade missions in order to promote national products, in addition to marketing and development of national exports and encouraging investment.
- Taking appropriate decisions related to private or public institutions to improve Investors' confidence in Jordan's investment environment.

## **3. Market Analysis**

### **Project Description**

The project aims to build a plastic pipes factory that are used in construction sector and agriculture sector in Karak. The project was adopted due to the closeness of Karak from agricultural locations such as the Southern Jordan Valley and Wadi Arba'a. The factory will manufacture plastic pipes (UPVC) that are used in different fields such as sanitation systems and agriculture equipment to withstand high pressure.

### **Project Objectives**

The following points summarize the project objectives:

- Achieving high profit from the project
- Enhancing farmers' economical status by contributing to increase agricultural production
- Providing job opportunities for the residents

### Suggested Products

The suggested products are UPVC pipes, and there are 3 sizes for the suggested pipes:

- Type1: diameter 3", thickness 2.2 mm, used in agriculture projects
- Type2: diameter 4", thickness 3.2 mm, used in agriculture and sanitation projects
- Type3: diameter 6", thickness 3.2 mm, used in large facilities sanitation projects, for its efficiency in withstanding high pressure
- Other products: plastic elbows and agriculture equipment

These pipes are characterized by their hardness and inner surface smoothness, they can be recycled in addition to standing high temperatures and chemicals resistance, since agriculture pipes that transport water for long distances need to withstand the high pressure resulting from high power pumps. Noting that UPVC pipes are used to transporting water, in chemical industries and in ventilation systems in addition to sanitation systems. Other UPVC pieces will be manufactured such as agriculture equipment and in irrigation systems.

The Jordanian government's intention to encourage the agricultural sector and farmers to stay in their lands in addition to the increase in real estate and building projects in the last period, are the reasons for the need of this type of pipes.

### Target segments

The project targets the following segments:

- Agriculture locations in the Southern Jordan Valley
- Agriculture locations in Wadi Araba'a
- Agriculture locations in Karak and south of the kingdom, and Jordan in general
- Construction and industrial sectors

### Market Size Analysis

Agricultural sector is one of the most important targeted sectors, due to the continuous demand on all kinds of pipes. UPVC is considered better than polyethylene due to its ability to withstand high pressures and high strength in addition to its elasticity, which contributed to have a longer lifecycle and is used in various applications.

Construction sector is also considered one of the most important sectors by consuming high amounts of UPVC pipes, that are used in sanitation.

The following table shows construction activity in Jordan, depending on construction licenses and construction space (areas are in thousand meters) during the period (2012-2016).

**Table 3 The volume of construction in the Kingdom during the period**

Year	2012	2013	2014	2015	2016
<b>Residential</b>					
<b>Number of licenses in the Kingdom</b> *	29,940	33,906	36,642	32,882	36,367
Karak**	2,952	3,407	3,666	3,257	1,979
<b>Total area (thousand m2) *</b>	<b>10,691.2</b>	<b>11,817.6</b>	<b>12,578.4</b>	<b>10,879.0</b>	<b>10,799.7</b>
Karak**	1,007	1,680	1,197	1,097	414
<b>For other purposes</b>					
<b>Number of licenses in the Kingdom</b> *	2,526	2,695	2,936	2,893	3,043
Karak**	259	273	298	278	111
<b>Total area (thousand m2) *</b>	<b>2,215.5</b>	<b>2,167.5</b>	<b>2,413.9</b>	<b>2,243.8</b>	<b>2,510.5</b>
Karak**	197	207	238	227	44

\*Source: Central Bank / Monthly Statistical Bulletin 2016

\*\* Department of Statistics / licenses and area datas / construction department

The following table shows the amount of export and import in 2015:

**Table 4 imports and exports in 2015**

Type	Imports (JD)	Imports (kg)	Exports (JD)	Exports (kg)	Re-exported (kg)	Re-exported (JD)	total exports (JD)	Trade balance (JD)
Pipes and hoses of ethylene polymers except those imported by factories as production inputs	1,860,234	1,160,559	1,308,471	911,370	48,401	7,126	1,356,872	-503,362
Pipes, and hoses of solid vinyl chloride polymers obtained by factories as production inputs	10,097	4,046	0	0	0	0	0	-10,097
Pipes, and hoses of solid vinyl chloride polymers other than imported by factories as production	493,916	201,390	54,250	72,732	0	0	54,250	-439,666

Department of statistics/ Economic Statistics / 2015

There are huge amounts of plastic imports, that are used as raw materials for production processes, and that is due to the increase in plastic products in addition to the continuous growth in construction and agriculture sectors and agricultural equipment.



## 1.1 Competitors Analysis

After studying the local market, the indirect competitors are factories and the manufacturers of plastic pipes from polyethylene for different industries. Where direct competition is with factories that manufacture UPVC pipes.

Some of direct competitors:

- 4Seasons Plastic Industries Co.
- Engineering Plastic Industries Co EPI.
- Universal for industry of irrigation pipes.
- Ideal united company.

### Project Capacity

The production capacity for UPVC pipes are 800,000 m from different sizes, which equals 814 tones, and for other products the production capacity is 100,000 piceces. Pipes production is divided into 3 types, they differ in diamerter and thickness, when thickness increases pipes will stand more high pressure.

Production share was estimated depending on the market demand as follow:

- 3" pipes: 50% from the total production capacity, equivalent to 400,000 meters per year, used mainly in agriculture sector and some times in sanitation.
- 4" pipes: 35% from the total production capacity, equivalent to 280,000 meters per year, used mainly in agriculture sector and in sanitation.
- 6" pipes: 15% from the total production capacity, equivalent to 120,000 meters per year, used mainly in huge facilities sanitation and for transporting water for long distances.
- Other products and equipments: 100,000 piece per year

## Expected Market Share

The following table shows production share from manufactured pipes:

**Table 5 production share depending on pipes sizes**

Type	Production share
3" pipes	%50
4" pipes	%35
6" pipes	%15

The following table shows production rate from the total capacity.

**Table 6 expected production rate during (2018-2027)**

Type	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
3" pipes	%50	%50	%60	%60	%60	%60	%65	%65	%70	%75
4" pipes	%50	%50	%60	%60	%60	%60	%65	%65	%70	%75
6" pipes	%50	%50	%60	%60	%60	%60	%65	%65	%70	%75
Other products	%50	%50	%60	%60	%60	%60	%65	%65	%70	%75

### Prices Analysis and Pricing policies

Based on analyzing competitor's prices, the following are the recommended prices:

- Type1 (3" pipes): 1 JD/m.
- Type2 (4" pipes): 1.75 JD/m.
- Type3 (6" pipes): 3.7 JD/m.
- Other products: an average of 1.5 per piece.

### Expected Revenues Analysis

The expected revenues during the first year:

- Annual revenues from type1 (3" pipes):  $800,000 \text{ (m)} * 50\% \text{ (production capacity)} * 50 \text{ (production share)} * 1 \text{ (JD/m)} = 200,000$
- Annual revenues from type2 (4" pipes):  $800,000 \text{ (m)} * 50\% \text{ (production capacity)} * 35 \text{ (production share)} * 1.75 \text{ (JD/m)} = 245,000$
- Annual revenues from type3 (6" pipes):  $800,000 \text{ (m)} * 50\% \text{ (production capacity)} * 15 \text{ (production share)} * 3.75 \text{ (JD/m)} = 222,000$
- Annual revenues from other products:  $100,000 \text{ (m)} * 50\% \text{ (production capacity)} * 1.5 \text{ (JD/m)} = 75,000$
- Total revenues in the first year = 742,000 JD

The following table shows the expected revenues for 10 years:

**Table 7 expected annual revenues during (2018-2027)**

Revenues	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
3" pipes revenues	200000	200000	240000	240000	240000	240000	260000	260000	280000	300000
4" pipes revenues	245000	245000	294000	294000	294000	294000	318500	318500	343000	367500
6" pipes revenues	222000	222000	266400	266400	266400	266400	288600	288600	310800	333000
Other products revenues	75000	75000	90000	90000	90000	90000	97500	97500	105000	112500
<b>Total revenues</b>	<b>742000</b>	<b>742000</b>	<b>890400</b>	<b>890400</b>	<b>890400</b>	<b>890400</b>	<b>964600</b>	<b>964600</b>	<b>1038800</b>	<b>1113000</b>

#### 4. Technical Analysis

##### Required Human Resources

The following table shows details of needed human resources:

**Table 8 required human resources**

Job title	Number	Salary
<b>Indirect employees</b>		
Director general	1	1,500
Production manager	1	800
Accountant	1	400
Marketing officer	2	500
Secretary	1	350
<b>Total Indirect employees</b>	<b>6</b>	
<b>Direct employees</b>		
Technician worker	6	350
Warehouse guard	3	350
Maintenance employee	1	400
Driver	2	400
<b>Total direct employees</b>	<b>12</b>	
<b>Total</b>	<b>18</b>	

The following shows the job description for the required human resources:

- General manager: propose the general policy of the factory, prepare special plans and follow up their implementation, supervision on technical and administrative staff, and develop procedures and ensure the achievement of the occupational health and safety requirements.
- Production manager: Following-up and monitoring of the production process according to the pre-set plans.
- Accountant: checking financial subjects in addition to financial auditing, and submit the annual report of the financial situation.

- Marketing officer: examines the needs of the market, follows up the activities of advertising and media, assesses its effectiveness, and monitors the level of sales.
- Secretary: Arranging the agenda of the General manager.
- Maintenance employee: provide electrical and mechanical maintenance procedures and activities, and follows up the implementation of the planned plans and programs so as to ensure the continuity of the production process and its high quality and with the lowest possible cost.
- Technician worker: Operates the production line and loads and unloads raw materials and products.

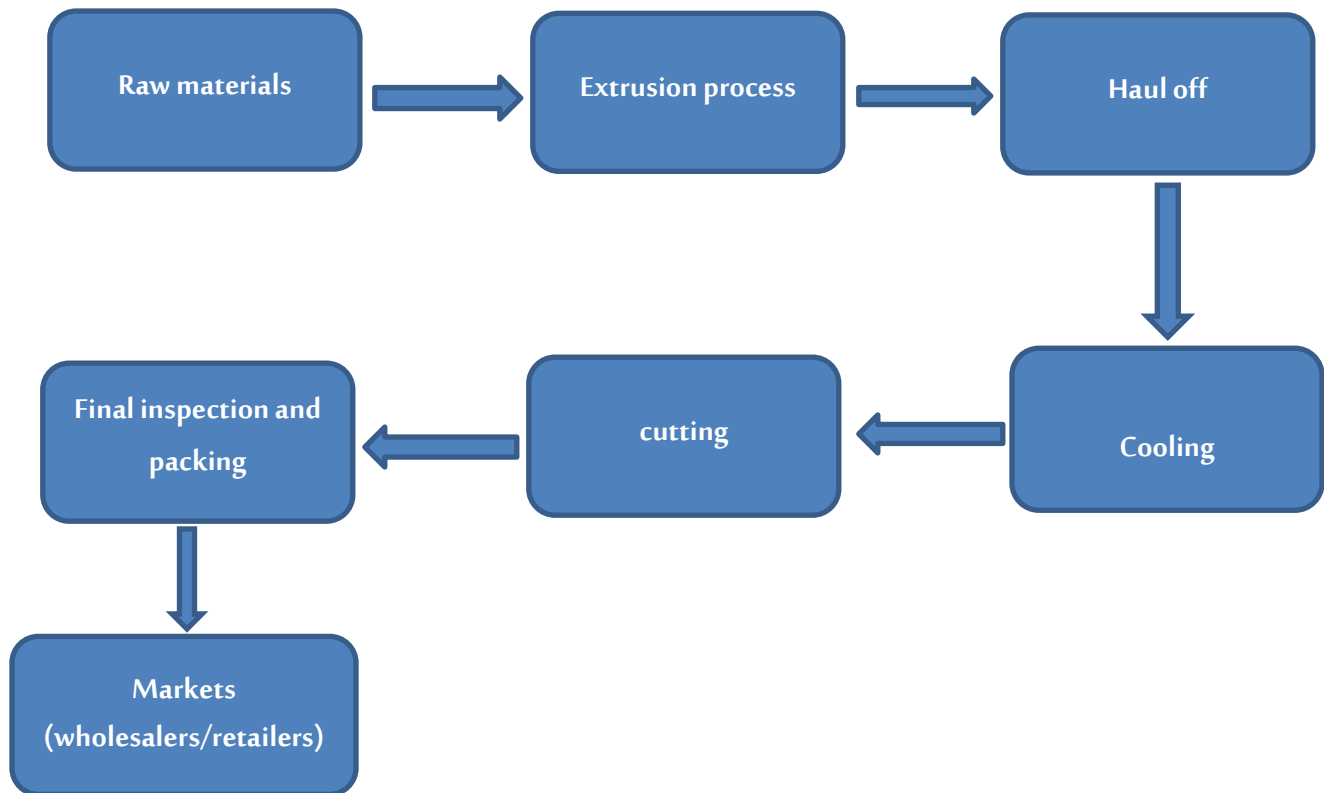
### Location Analysis

It is recommended to build the factory in the industrial region in Karak, which is characterized by it's closeness to the targeted segments.

### Production Process

The following figure shows the production processes for UPVC pipes:

Figure 3 production processes



UPVC pipes factory in Karak

## Technical Requirments Analysis

### 1.1.1 Land and construction works

The project will be established on a land with an area of 3,000 m<sup>2</sup>, consisting of warehouses and storage for raw materials and manufacturing department and management department.

The following table shows the details of the required land:

**Table 9 required land for the project**

The land	Area (m2)
Required land area	3,000

The following table shows required construction works:

**Table 10 required construction works**

Construction works	Area (m2)
Hangar	1,500
Paving	1,000
Other works	-

## Machinery and Equipment

The following table shows the required machinery and equipment that are needed for the project:

**Table 11 required machinery and equipment**

Machinery and equipment	Qty
Powder auto-loader	2
Mould	3
Automatic cutting machine	2
Haul off machine	1
Twin screw extruder	2
Compressor	2
Stacker	2
Gerenerator	1

Machinery and equipment	Qty
Fire Extinguishing System	1
Computers	7

### Furniture

The project requires a simple furniture for the factory and the management department

**Table 12 required furniture for the project**

Required Furniture	Number
General furniture	-

### Vehicles and Transportation

The following table shows required vehicles:

**Table 13 required vehicles for the project**

Required Vehicles and Transportation	Number
Medium vehicle	2



## 5. Financial analysis

The Financial Part illustrates all the assumptions which were used when we have developed the study including project expenses related to capital expenditures, operating expenses (Fixed and Variable costs) followed by illustrating project revenues.

Assumptions

Calculation Assumptions:

- The weighted average cost of capital used in the study is 12.05% as it was calculated considering risk free and debt Interest rates as well as Market risk premiums to consider alternative opportunity costs for investor.
- Income tax on the net project income is 5 % during the life time of the project.
- Project working capital has been estimated and added to project cash outflows at the beginning of the project and annual increase in working capital has been also estimated and added to the operating expenses then net working capital has been added to total cash inflows at the end of project lifetime.

The time span for the financial study is 10 years starting from 2018, where annual increase rates have been estimated as per the tables below:

## Assumptions

**Table 14 General Assumptions**

General Information	
All Financial Numbers (Currency)	Jordan Dinars
Financial Study Time Span (Years)	10
Expected Project First Operating Year	2018
Last Year in the Financial Study	2027

**Table 15 Currency Exchange Rates**

Exchange Rates	Jordan Dinars
American Dollar	0.708
Euro	0.760

**Table 16 Annual Growth Rates Assumptions**

Annual Growth Rates	Average
Annual Population Growth Rate	2.20%
Annual Sales Price Increase Rate	3.00%
Annual Expenses Increase Rate	3.00%
Annual Increase Rate in Employees Salaries	4.1%

(1) and (2) Source: Inflation Rates, Central Bank of Jordan

(3) Source: Social Security

**Table 17 Expenses Assumptions**

Expenses Assumptions	
Raw Materials and Packaging from Total Revenues	45.0%
Utilities Expenses from Total Revenues	4.00%
Maintenance Expenses from Total Revenues	1.00%
Depreciation Expenses from Total Revenues	4.00%
Insurance Expenses from Total Assets Value	0.5%
Marketing Expenses from Total Revenues	0.5%

**Table 18 Income Tax Assumptions**

Income Tax Assumptions	Value
(1) Average Income Tax in Jordan	5%
(2) Income Tax Deduction	0%
Income Tax after Deduction	5%
(3) Compulsary Reserve Percentage	10%
Other Assumptions	value
(1) Annual Monthly Salaries have been calculated after multiplying monthly salaries by:	16

**Table 19 Risk Premium**

Risk Premium	
(1) Risk Free Rate of Return	6.50%
(2) Return to Debt Maturity	9.48%
(3) Market Risk Premium	10.12%
Income Tax Rate	5.00%
(4) Beta	1
Growth Rate	4.00%

(1) Source :Damodaran's Country Default Spreads and Risk Premiums Report

(2) Source :Central Bank of Jordan

(3) Source :Damodaran's Country Default Spreads and Risk Premiums Report

(4) Source :Damodoran Beta By Sector, , pages.stern.nyu.edu

**Table 20 Weighted Average Cost of Capital**

Weighted Average Cost of Capital	
Average Return on Risk Free Investment	%6.50
Return to Debt Maturity	%9.48
Market Risk Premium	%10.12
Income Tax Rate	%5
Bets	1.00
Equity	284,715
Loans Value	427,072
Loans	
Cost of Borrowing before Tax	%9.48

Cost of Borrowing After Tax	%9.01
Loans Value	427,072
Loans Percentage	%60
<b>Equity</b>	
Cost of Equity	%16.6
Equity Value	284,715
Equity Percentage	%40
<b>Gross</b>	
Project Value	711,787
<b>Weighted Average Cost of Capital</b>	<b>%12.05</b>

### Capital Expenditures

The estimated cost of the project is 711,787 JD and it covers land costs, construction works, machinery and equipment, furniture, pre-operating expenses and working capital. The following tables summarize the details of these expenses:

**Table 21 Land Capital Expenditure**

Land	(Jordan Dinar/Meters Square)	Cost	Area (M2)	Cost(JD)
Required Land	7		3,000	21,000
<b>Total Cost</b>				<b>21,000</b>

**Table 22 Construction Work Capital Expenditure**

Description	Cost (JOD per Squared Meters)	Area (Squared Meters)	Gross / Cost
Hangar	100	1,500	150,000
Paving	12	1,000	12,000
Other			10,000
<b>Total</b>			<b>172,000</b>

**Table 23 Machinery and equipment Capital Expenditure**

Machinery and equipment	Number	Unit cost (JD)	Total cost
-------------------------	--------	----------------	------------

UPVC pipes factory in Karak

			(JD)
Powder auto-loader	2	21,000	42,000
Mould	3	10,500	31,500
Automatic cutting machine	2	15,750	31,500
Haul off machine	1	10,500	10,500
Twin screw extruder	2	15,750	31,500
Compressor	2	5,250	10,500
Stacker	2	8,400	16,800
Generators	1	42,000	42,000
Fire Extinguishing System	1	15,750	15,750
Computers	7	525	3,675
<b>Total</b>			<b>235,725</b>

**Table 24 Furniture Capital Expenditure**

Furniture	Number	Unit cost (JD)	Total cost (JD)
General furniture	-	-	12,000
<b>Total</b>			<b>12,000</b>

**Table 25 Transportation and Vehicles Capex**

Transportation and Vehicles	No	Unit Cost/JOD	Total Cost/JOD
Medium vehicle	2	25,000	50,000
<b>Total cost</b>			<b>50,000</b>

**Table 26 Pre-Operating Expenses**

Pre-operating expenses	Estimated cost (JD)
Governmental fees	1,000
Transportation	1,500
Marketing	1,000
Training	800
<b>Total cost</b>	<b>4,300</b>

The initial working capital reflects the project's amounts needed to cover all the expenses during operation until the project starts generating income, the following table shows the components of the initial working capital:

**Table 27 Working Capital**

Working Capital	No. of Months	%	Estimated Cost (JD)
Operating expenses	3	%25	129,327
General and administrative expenses	3	%25	2,200
Marketing expenses	3	%25	928
Indirect Salaries	3	%25	19,600
<b>Total</b>			<b>152,054</b>

**Table 28 Expenses Summary**

Capital expenditure summary	Cost (JD)	Contingency	Cost (JD)	%
Land	21,000	10%	23,100	%3.2
Construction works	172,000	10%	189,200	%26.6
Machinery & Equipment	235,725	10%	259,298	%36.4
Furniture	12,000	10%	13,200	%1.9
Vehicles	50,000	10%	55,000	%7.7
Pre-Operating Expenses	4,300	10%	4,730	%0.7
Working capital	152,054	10%	167,260	%23.5
<b>Total (JD)</b>	<b>647,079</b>		<b>711,787</b>	<b>100%</b>

**Sources of Funding**

The financing structure of the project consists of loans and Equity. The investment cost of this project is estimated at (787,711) JD, where 60% of the project will be financed through loans (427,072) JD, and the remaining (40%) through (Equity) with (284,715) JD. The following table summarizes the general structure of the required financing:

**Table 29 Sources of Funding**

Funding Sources	Amount	Percentage
Equity	284,715	%40
Loans	427,072	%60
<b>Total</b>	<b>711,787</b>	<b>%100</b>

Use of Fund	Amount	Percentage
Capital Expenditures	539,798	%75.84
Pre-Operating Expenses	4,730	%0.66
Working Capital	167,260	%23.50
<b>Total</b>	<b>711,787</b>	<b>%100.00</b>

## Operating Expenses

The following table summarizes the expected operating expenses for the proposed project (2018-2027):

**Table 30 Operating Expenses**

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Raw Materials and Packaging from Revenues	333,900	333,900	400,680	400,680	400,680	400,680	434,070	434,070	467,460	500,850
Service benefit expenses from revenues	29,680	29,680	35,616	35,616	35,616	35,616	38,584	38,584	41,552	44,520
Maintenance from Revenues	7,420	7,420	8,904	8,904	8,904	8,904	9,646	9,646	10,388	11,130
Disposables from Revenues	29,680	29,680	35,616	35,616	35,616	35,616	38,584	38,584	41,552	44,520
Direct Salaries	69,600	72,454	75,424	78,517	81,736	85,087	88,576	92,207	95,988	99,923
Others	47,028	47,313	55,624	55,933	56,255	56,590	60,946	61,309	65,694	70,094
<b>Total</b>	<b>517,308</b>	<b>520,447</b>	<b>611,864</b>	<b>615,266</b>	<b>618,807</b>	<b>622,493</b>	<b>670,405</b>	<b>674,400</b>	<b>722,634</b>	<b>771,037</b>

## General and Administrative Expenses

The following table summarizes the expected general and administrative expenses for the proposed project (2018-2027):



**Table 31 General and Administrative Expenses**

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Telecom	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305
Hospitality	900	927	955	983	1,013	1,043	1,075	1,107	1,140	1,174
Stationary and Printing	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305
Transportation	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957
Training	900	927	955	983	1,013	1,043	1,075	1,107	1,140	1,174
Insurance	2,699	2,780	2,863	2,949	3,038	3,129	3,223	3,319	3,419	3,522
Miscellaneous	800	824	849	874	900	927	955	984	1,013	1,044
<b>Total</b>	<b>8,799</b>	<b>9,063</b>	<b>9,335</b>	<b>9,615</b>	<b>9,903</b>	<b>10,200</b>	<b>10,506</b>	<b>10,822</b>	<b>11,146</b>	<b>11,481</b>

**Marketing Expenses**

**Table 32 Marketing Expenses**

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Marketing Expenses	3,710	3,710	4,452	4,452	4,452	4,452	4,823	4,823	5,194	5,565

## Human Resources

The total annual salaries and monthly wages has been estimated on 16 months for the purpose of considering annual increments on salaries as well as payments related to social security and health insurance, etc.

The following table summerizes the expected annual salaries and wages, considering annual increment on salaries as per the income statement:

**Table 33 expected number of employees**

Job title	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Indirect employees</b>										
General manager	1	1	1	1	1	1	1	1	1	1
Production manager	1	1	1	1	1	1	1	1	1	1
Accountant	1	1	1	1	1	1	1	1	1	1
Marketing officer	2	2	2	2	2	2	2	2	2	2
Secretary	1	1	1	1	1	1	1	1	1	1
<b>Total number of indirect employees</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>direct employees</b>										
Technician worker	6	6	6	6	6	6	6	6	6	6
warehouse guard	2	3	3	3	3	3	3	3	3	3
Maintenance employee	1	1	1	1	1	1	1	1	1	1
Driver	2	2	2	2	2	2	2	2	2	2
Cleaner	1	1	1	1	1	1	1	1	1	1
<b>Total number of direct employees</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>
<b>Grand total</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>

**Table 34 Expected monthly Salaries and Wages (2027-2018)**

Job title	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Indirect employees</b>										
General manager	2,000	2,082	2,167	2,256	2,349	2,445	2,545	2,650	2,758	2,871
Production manager	1,100	1,145	1,192	1,241	1,292	1,345	1,400	1,457	1,517	1,579
Accountant	500	521	542	564	587	611	636	662	690	718
Marketing officer	450	468	488	508	528	550	573	596	621	646
Secretary	400	416	433	451	470	489	509	530	552	574
<b>direct employees</b>										
Technician worker	350	364	379	395	411	428	445	464	483	502
warehouse guard	350	364	379	395	411	428	445	464	483	502
Maintenance employee	400	416	433	451	470	489	509	530	552	574
Driver	400	416	433	451	470	489	509	530	552	574
Cleaner	350	364	379	395	411	428	445	464	483	502

**Table 35 Expected Annual Salaries and Wages (2027-2018)**

Job title	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
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Job title	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Indirect employees</b>										
General manager	32,000	33,312	34,678	36,100	37,580	39,120	40,724	42,394	44,132	45,942
Production manager	17,600	18,322	19,073	19,855	20,669	21,516	22,398	23,317	24,273	25,268
Accountant	8,000	8,328	8,669	9,025	9,395	9,780	10,181	10,599	11,033	11,485
Marketing officer	14,400	14,990	15,605	16,245	16,911	17,604	18,326	19,077	19,860	20,674
Secretary	6,400	6,662	6,669	9,025	9,395	9,780	10,181	10,599	11,033	11,485
<b>Total indirect salaries</b>	<b>78,400</b>	<b>59,962</b>	<b>62,420</b>	<b>64,979</b>	<b>67,643</b>	<b>70,417</b>	<b>73,304</b>	<b>76,309</b>	<b>79,438</b>	<b>82,695</b>
<b>direct employees</b>										
Technician worker	33,600	34,978	36,412	37,905	39,459	41,076	42,761	44,514	46,339	48,239
warehouse guard	11,200	11,659	12,137	12,635	13,153	13,692	14,254	14,838	15,446	16,080
Maintenance employee	6,400	6,662	6,936	7,220	7,516	7,824	8,145	8,479	8,826	9,188
Driver	12,800	13,325	13,871	14,440	15,032	15,648	16,290	16,958	17,653	18,377
Cleaner	5,600	5,830	6,069	6,317	6,576	6,846	7,127	7,419	7,723	8,040
<b>Total direct salaries</b>	<b>69,600</b>	<b>72,454</b>	<b>75,424</b>	<b>78,517</b>	<b>81,736</b>	<b>85,087</b>	<b>88,576</b>	<b>92,207</b>	<b>95,988</b>	<b>99,923</b>
<b>Grand total</b>	<b>148,000</b>	<b>132,415</b>	<b>137,844</b>	<b>143,496</b>	<b>149,379</b>	<b>155,504</b>	<b>161,879</b>	<b>168,516</b>	<b>175,426</b>	<b>182,618</b>

## Depreciations

The following tables illustrate cost of Capex and Depreciation rates:

UPVC pipes factory in Karak

**Table 36 Capex and Depreciation Expenses**

Capex Cost and Annual Depreciation Rates	Cost (JOD)	Depreciation Rate	Annual Additions Percentage
Land	23,100	%0.0	%0.0
Construction Works	189,200	%5.0	%0.0
Machinaries	259,298	%10.0	%2.0
Furniture	13,200	%10.0	%5.0
Vehicles	55,000	%10.0	%0.0
	<b>539,798</b>		

**Table 37 Depreciations and Additions on Construction Works**

Capex, Annual Additions and Depreciations	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Total Fixed Assets	539,798	545,643	551,626	557,749	564,017	570,432	577,000	583,725	590,611	597,662
Total Depreciation Expenses	42,210	42,794	43,393	44,005	44,632	45,273	45,930	46,603	47,291	47,996
Total Accumulated Depreciation	42,210	85,004	128,397	172,402	217,033	262,307	308,237	354,839	402,130	450,126
Total Additions	0	5,846	5,983	6,123	6,267	6,416	6,568	6,725	6,886	7,051
Total Net Book Values	497,588	460,639	423,229	385,348	346,983	308,126	268,764	228,886	188,481	147,536
<b>Loan</b>										

UPVC pipes factory in Karak

The table below summarizes all details related to the loan such as annual installments and payment methods for the remaining amount of the loan for each year of the project.

**Table 38 Loan Details**

<b>Loan Value</b>		<b>193,362</b>			
Annual Interest Rate		9.50%			
Loans Period		5			
Grace Period		0			
Loan Starts at year:		2018			
Annual Payment		111,168			
Number of Payments		5			
<b>Year</b>	<b>Annual Payment</b>	<b>Interest</b>	<b>Capital</b>	<b>Loan Remaining Value</b>	
2018				427,072	
2019	111,168	40,486	70,681	356,391	
2020	111,168	33,786	77,382	279,009	
2021	111,168	26,450	84,718	194,291	
2022	111,168	18,419	92,749	101,542	
2023	111,168	9,626	101,542	0	

### Income Statement

UPVC pipes factory in Karak

**Table 39 Income Statement**

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Revenues										
Sales Revenues	742,000	742,000	890,400	890,400	890,400	890,400	964,600	964,600	1,038,800	1,113,000
Gross Operating Revenues	742,000	742,000	890,400	890,400	890,400	890,400	964,600	964,600	1,038,800	1,113,000
Operating Expenses	(517,308)	(520,447)	(611,864)	(615,266)	(618,807)	(622,493)	(670,405)	(674,400)	(722,634)	(771,037)
Gross Operating Profit	224,692	221,553	278,536	275,134	271,593	267,907	294,195	290,200	316,166	341,963
<i>Gross Profit Percentage</i>	<i>%30</i>	<i>%30</i>	<i>%31</i>	<i>%31</i>	<i>%31</i>	<i>%30</i>	<i>%30</i>	<i>%30</i>	<i>%30</i>	<i>%31</i>
Salaries and Benefits (Indirect Staff)	(78,400)	(59,962)	(62,420)	(64,979)	(67,643)	(70,417)	(73,304)	(76,309)	(79,438)	(82,695)
General and Administrative	(8,799)	(9,063)	(9,335)	(9,615)	(9,903)	(10,200)	(10,506)	(10,822)	(11,146)	(11,481)
Marketing Expenses	(3,710)	(3,710)	(4,452)	(4,452)	(4,452)	(4,452)	(4,823)	(4,823)	(5,194)	(5,565)
Pre-Operating Expenses	(4,730)									
Gross Indirect Expenses	(95,639)	(72,734)	(76,207)	(79,046)	(81,999)	(85,069)	(88,633)	(91,954)	(95,778)	(99,741)
Income before Interest,	129,053	148,819	202,329	196,088	189,594	182,838	205,561	198,246	220,388	242,222
Fixed Assets Depreciations	(42,210)	(42,794)	(43,393)	(44,005)	(44,632)	(45,273)	(45,930)	(46,603)	(47,291)	(47,996)
Income before Tax and Interests	86,843	106,024	158,936	152,083	144,963	137,564	159,631	151,643	173,097	194,226
Bank Interests	(40,486)	(33,786)	(26,450)	(18,419)	(9,626)	(0)	(0)	(0)	(0)	(0)
Income Before Tax	46,357	72,238	132,486	133,664	135,337	137,564	159,631	151,643	173,097	194,226
Income Tax	(2,318)	(3,612)	(6,624)	(6,683)	(6,767)	(6,878)	(7,982)	(7,582)	(8,655)	(9,711)
Net Profit	44,039	68,626	125,862	126,981	128,570	130,686	151,650	144,061	164,442	184,515
<i>Net Profit Percentage</i>	<i>%6</i>	<i>%9</i>	<i>%14</i>	<i>%14</i>	<i>%14</i>	<i>%15</i>	<i>%16</i>	<i>%15</i>	<i>%16</i>	<i>%17</i>
Compulsory Reserves	(4,404)	(6,863)	(12,586)	(12,698)	(12,857)	(13,069)	(15,165)	(14,406)	(16,444)	(18,451)

UPVC pipes factory in Karak

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Retained Earnings	39,635	101,399	214,675	328,958	444,671	562,288	698,773	828,428	976,426	1,142,490

### Expected Cashflows Statement

The table below summarizes project cashflows statement, where net cash flows are positive during all years as below:

**Table 40 Expected Cashflows**

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Cash Inflows from Operating Activities</b>										
Net Profit	44,039	68,626	125,862	126,981	128,570	130,686	151,650	144,061	164,442	184,515
Bank Interests	40,486	33,786	26,450	18,419	9,626	0	0	0	0	0
Depreciation	42,210	42,794	43,393	44,005	44,632	45,273	45,930	46,603	47,291	47,996
Total Operating Cashflows before Additions to Working Capital	126,735	145,207	195,705	189,405	182,828	175,959	197,580	190,664	211,733	232,511
Inventory (Increase/Decrease)	(27,825)	0	(5,565)	0	0	0	(2,783)	0	(2,783)	(2,783)
Accounts Payables (Increase/Decrease)	31,179	534	4,188	578	602	627	2,469	679	2,523	2,552
Working Capital (Increase/Decrease)	3,354	534	(1,377)	578	602	627	(314)	679	(259)	(230)
Net Cashflows from Operating Activities	130,090	145,740	194,328	189,983	183,430	176,586	197,266	191,343	211,474	232,281
<b>Cashflows from Investments Activities</b>										
Fixed Assets (Procurement)	(539,798)	(5,846)	(5,983)	(6,123)	(6,267)	(6,416)	(6,568)	(6,725)	(6,886)	(7,051)

UPVC pipes factory in Karak



	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Net Cashflows from Investments Activities	(539,798)	(5,846)	(5,983)	(6,123)	(6,267)	(6,416)	(6,568)	(6,725)	(6,886)	(7,051)
Cashflows from Financing Activities										
Capital	284,715									
Loan Amortization	(70,681)	(77,382)	(84,718)	(92,749)	(101,542)	0	0	0	0	0
Bank Interest Rate	(40,486)	(33,786)	(26,450)	(18,419)	(9,626)	(0)	(0)	(0)	(0)	(0)
Loans	427,072	0	0	0	0	0	0	0	0	0
Net Cashflows from Financing Activities	600,619	(111,168)	(111,168)	(111,168)	(111,168)	0	0	0	0	0
Net (Increase/Decrease) in Cash	190,911	28,726	77,177	72,692	65,994	170,170	190,698	184,618	204,589	225,229
Cashflows at the Beginning of Period	0	190,911	219,638	296,815	369,507	435,502	605,672	796,370	980,988	1,185,577
Cashflows at the End of Period	190,911	219,638	296,815	369,507	435,502	605,672	796,370	980,988	1,185,577	1,410,806

### Expected Balance Sheet

The balance sheet is one of the main statements which the project depends on, as it reflects the financial position of the entity and is usually estimated on the last day of the financial year.

All financial information and analysis of the project shall be the estimated for the years (2018-2027) as shown in the table below:

**Table 41 Expected balance sheet**

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Assets</b>										
<b>Current Assets</b>										

UPVC pipes factory in Karak

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Cash</b>	190,911	219,638	296,815	369,507	435,502	605,672	796,370	980,988	1,185,577	1,410,806
<b>Inventory</b>	27,825	27,825	33,390	33,390	33,390	33,390	36,173	36,173	38,955	41,738
<b>Accounts Receivable</b>	<b>218,736</b>	<b>247,463</b>	<b>330,205</b>	<b>402,897</b>	<b>468,892</b>	<b>639,062</b>	<b>832,543</b>	<b>1,017,161</b>	<b>1,224,532</b>	<b>1,452,544</b>
<b>Total current Assets</b>	<b>259,577</b>	<b>680,334</b>	<b>1,091,977</b>	<b>1,512,781</b>	<b>1,942,918</b>	<b>2,448,233</b>	<b>2,963,233</b>	<b>3,488,099</b>	<b>4,023,015</b>	<b>4,568,169</b>
<b>Non Current Assets</b>										
<b>Fixed Assets (net)</b>	497,588	460,639	423,229	385,348	346,983	308,126	268,764	228,886	188,481	147,536
<b>Total Non Current Assets</b>	<b>497,588</b>	<b>460,639</b>	<b>423,229</b>	<b>385,348</b>	<b>346,983</b>	<b>308,126</b>	<b>268,764</b>	<b>228,886</b>	<b>188,481</b>	<b>147,536</b>
<b>Total Assets</b>	<b>716,324</b>	<b>708,102</b>	<b>753,435</b>	<b>788,245</b>	<b>815,875</b>	<b>947,188</b>	<b>1,101,306</b>	<b>1,246,047</b>	<b>1,413,013</b>	<b>1,600,079</b>
<b>Liabilities</b>										
<b>Current Liabilities</b>										
<b>Paybles</b>	31,179	31,713	35,901	36,480	37,082	37,708	40,177	40,856	43,380	45,932
<b>Remaining amount of Loan</b>	77,382	84,718	92,749	101,542	(0)	(0)	(0)	(0)	(0)	0
<b>Total current Liabilities</b>	<b>108,561</b>	<b>116,431</b>	<b>128,650</b>	<b>138,021</b>	<b>37,082</b>	<b>37,708</b>	<b>40,177</b>	<b>40,856</b>	<b>43,380</b>	<b>45,932</b>
<b>Non Current Liabilities</b>										
<b>Long Terms Loans</b>	279,009	194,291	101,542	0	0	0	0	0	0	0
<b>Total Long Term Liabilities</b>	<b>279,009</b>	<b>194,291</b>	<b>101,542</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Liabilities</b>	<b>387,570</b>	<b>310,722</b>	<b>230,192</b>	<b>138,021</b>	<b>37,082</b>	<b>37,708</b>	<b>40,177</b>	<b>40,856</b>	<b>43,380</b>	<b>45,932</b>
<b>Owners Equity</b>										
<b>Shareholders Contributions</b>	284,715	284,715	284,715	284,715	284,715	284,715	284,715	284,715	284,715	284,715
<b>Statutory Reseve</b>	4,404	11,267	23,853	36,551	49,408	62,476	77,641	92,048	108,492	126,943
<b>Retained Profits</b>	39,635	101,399	214,675	328,958	444,671	562,288	698,773	828,428	976,426	1,142,490
<b>Total Equity</b>	<b>328,754</b>	<b>397,380</b>	<b>523,242</b>	<b>650,224</b>	<b>778,793</b>	<b>909,480</b>	<b>1,061,129</b>	<b>1,205,191</b>	<b>1,369,633</b>	<b>1,554,148</b>

UPVC pipes factory in Karak

Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>Total Liabilities and Equity</b>	<b>716,324</b>	<b>708,102</b>	<b>753,435</b>	<b>788,245</b>	<b>815,875</b>	<b>947,188</b>	<b>1,101,306</b>	<b>1,246,047</b>	<b>1,413,013</b>	<b>1,600,079</b>

### Feasibility Indicators

There are more than one method to calculate the discounted cash flow statement. However, in this study, WACC was used to calculate the discounted cash flows and net investment value. The Company's financing structure is based on equity and loans; therefore, the discounted rate should be adjusted according to WACC based on the following assumptions, the following table illustrates the net expected free cash flow of the project:

**Table 42 Free Net Cash Flows Table**

Net Cashflows	Before Operating	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Final value
Net Free Cashflows	<b>(711,787)</b>	134,820	139,894	188,345	183,860	177,162	170,170	190,698	184,618	204,589	225,229	2,909,217
Discount Factor	1.00	0.71	0.63	0.57	0.51	0.45	0.40	0.36	0.32	0.29	0.26	0.26
Net Present Value for Cash Flows	<b>(711,787)</b>	<b>95,829</b>	<b>88,742</b>	<b>106,626</b>	<b>92,892</b>	<b>79,881</b>	<b>68,476</b>	<b>68,483</b>	<b>59,169</b>	<b>58,517</b>	<b>57,492</b>	<b>742,608</b>

The table below illustrates payback period for the project, as it is one of the indicators which investors care about before taking the investment decision as they need to know when the project will return the invested amount of money. Payback period definition is the total required period so that the project generates a total money equal to the total invested capital expenditure, as investor is always looking to return the full invested amount of money at the earliest possible.

**Table 43 Payback Period**

Payback Period	Before Operating	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Net Free Cashflows	(711,787)	134,820	139,894	188,345	183,860	177,162	170,170	190,698	184,618	204,589	225,229
Project Value Returned	711,787	576,968	437,073	248,728	64,868	(112,294)	(282,465)	(473,163)	(657,781)	(862,370)	(1,087,599)
Payback Period (Year)	4	1	1	1	1	0	0	0	0	0	0

**Table 44 Financial Analysis Results**

Weighted Average Cost of Capital (WACC)	%12.05
Net Present Value for Cashflows	806,929
Payback Period	4
Internal Rate of Return	%28.64

### Sensitivity Analysis

Sensitivity analysis is conducted to investigate the effects of changes in significant inputs of the financial analysis. This includes changes in revenues, total investment costs, and operating costs.

**Table 45 Sensitivity Analysis**

Sensitivity Analysis	Internal Rate of Return	Payback Period	WACC
Original Scenario	%28.64	4	%12.05
Revenues declined by 10%	%24.50	5	12.05%
Operating Expenses Increased by 10%	%20.53	6	12.05%

### **Conclusions and Recommendations**

Based on the profitability analysis and considering that project internal rate of return is higher than WACC, it is concluded that the project is feasible as the net present value for the project is positive 806,929 Jordan Dinars considering that the project provides 18 Job Opportunities for the governorate residents.

