PETRO
FARHANG

Petrofarhang

New investment opportunities

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PETRO FARHANG

Petrofarhang was founded in 2008 by Teachers Investment Fund (TIF) to invest in oil, gas, petrochemicals and energy; It plays a significant role to attract contributors among teachers to its economic activities since then.

Having access to inexpensive resources of energy as one of the most important comparative advantages, makes these opportunities profitable and defines our scope of activities as well.

Applying its leadership and strategic control, Petrofarhang Holding Company has organized its portfolio of subsidiaries for taking advantage of every new possibility to improve its investments, performing executive projects, and controlling its production complexes and service companies.

Pursuing maximum value and efficiency, focusing on large-scale investments is one of the most important strategies which we follow.

Our vision is Operation excellence in sustainable profitability and wealth creation in the chain of the oil, gas, petrochemical and energy industry for Teachers Investment Fund (TIF) and other stakeholders.

Targeting to be among the top oil, gas, petrochemical and energy holding companies in Iran, Petrofarhang pushed the major part of its investments to methanol production and defined and executed giant projects in plants such as Middle East Kimia Pars, Sabalan, Dena and Siraf petrochemical companies.

Given Iran's economic development vision and important role of special and free trade zones in realizing this vision, Petrofarhang takes the advantage of the opportunity to invest in Parsian, Chabahar and Maku Free Zones and also in Pars Special Economic Energy Zone.

As one of the largest methanol producers in the world, Petrofarhang has set the next phase of its development in the methanol value chain.

Missions:

"Wise investment in the oil, gas, petrochemical and energy chain in order to create sustainable value for the Teachers Investment fund (TIF), through planning, management, control, improvement and development of the investment portfolio"

شرکت پتروشیمی
مهتاب پارسیان
(سهامی خاص)

Mahtab Parsian Petrochemical Project

Methanol to PP/PE plant

Summary Report

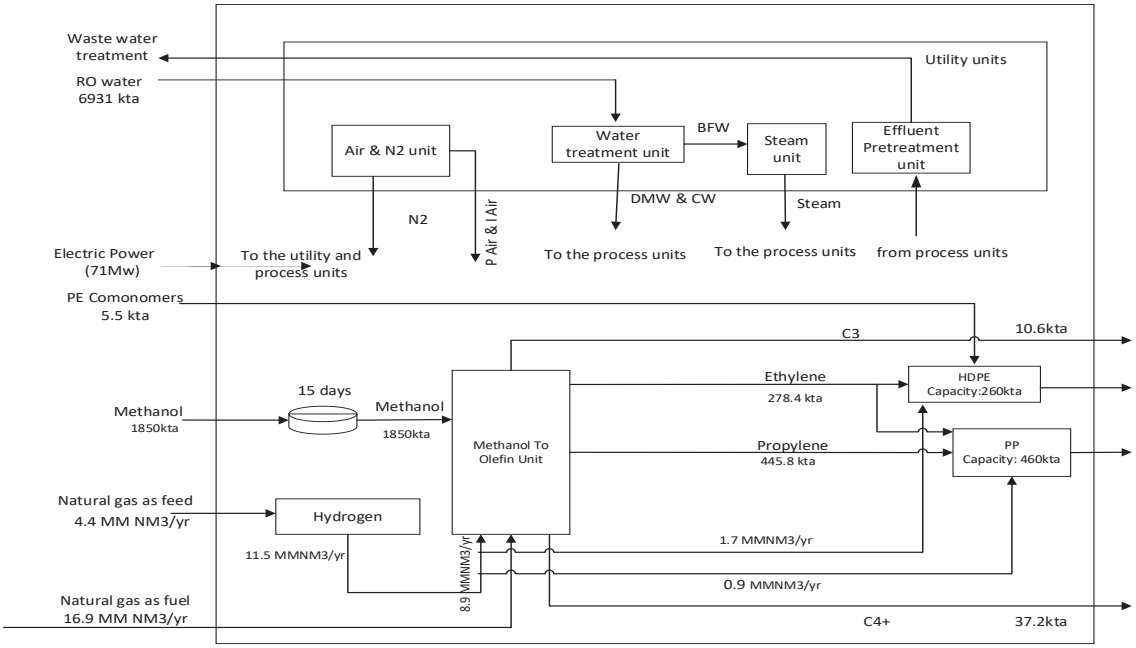
Introduction

Mahtab Parsian petrochemical company, a subsidiary company of Petrofarhang, has decided to establish a Methanol to light olefins and downstream (MTX) complex for the production of polypropylene and polyethylene which are being used in downstream to produce a vast variety of products in converting industries.

Mahtab Parsian MTX complex will be established in Parsian energy intensive free zone, located in south of Iran, west of Parsian city in Hormozgan province.

A 131 hectare land has been already allocated to this complex; the allocated land's distance to the sea side (Persian gulf sea side) is about 8 km. Main feed stock of this complex is Methanol which will provided by pipelines from phase 2 region of Assaluyeh. Electrical power and also RO water will be provided to the complex by centralized utility plant. All the other utilities will be produced within the complex.

Complex process scheme (Methanol to PP/PE)



Special advantages of investment in PEISEZ

Considering the location of this project, it benefits from both being located in deprived area and advantages of specific economics zone. In this regard, some Investment Attraction and Opportunities of the location of the project can be summarized as follows:

- Privileges and Legal Facilities for Investors,
- Possibility of investment for foreign and domestic inventors to any extent
- Guarantee of Foreign investment at the zone according to the inserted mechanism in the law of Free Zone & FIPPA.
- Possibility of importing goods without customs duties and commercial benefits of the Zone
- Customs exemption for import of goods manufactured from the Zone to the mainland in proportion to the value added and the materials used domestically.
- Possibility of transit and re-export of goods without limitations
- Possibility of domestic and foreign participation and investment
- No barrier to entry and exit of capital
- Tax exemptions (subject to the direct tax code).
- Banking, monetary and currency affairs (subject to the laws of the country).
- Labor regulations and social insurance to recruit foreign nationals (similar to the laws of Free Trade Zones)
- Free to import machinery, spare parts, transport means, raw material, material for construction.
- Possibility in using the foreign well qualified man powers at the zone to the extent of 10 % of the unit staffs.
- Possibility in transit and re-export of goods without any limitation.
- Release of the certificate of origin for those goods exported from the zone.
- Discount on natural gas feedstock up to 30% in upstream methanol plant because of value chain incentive.
- Access to open seas and marine shipping lines
- Access to the existing infrastructure at Pars 1 and 2 sites
- Concurrent capabilities of shore and hinterland using coastal development capacities
- Access to unlimited water resources.
- Air infrastructure (easy access to Persian Gulf International Airport)
- Marine infrastructure (plan for establishing Parsian Port with a final capacity in loading and unloading of 40 million tons and facilities of Pars Port.

Mahtab Parsian Petrochemical Project economic in a Glance (Methanol to PP/PE)

Main Feedstock

Description	Unit	Amount
Methanol From Petrofarhang's Methanol plant	Mt/year	1,850,000
Natural gas	NM3/year	4,400,000

Feedstock of energy and RO water

Description	Unit	Amount
Electric Power	KWh	557,931,685
Natural Gas Fuel	NM3	181,384,650
RO water	M3/year	6,931,562

Products

Description	Products	Capacity (mt/year)
Main Products	PP Homopolymer	150,818
	PP Copolymer	309,476
	HDPE	261,971
By Products	C3	10,600
	C4+	37,200
	Light End	46,200

Required investment

Description	Unit	Amount
Fix investment cost	MMUSD	1,070
preproduction expenditure	MMUSD	184
Working capital – (1st year)	MMUSD	66
Total required investment	**MMUSD**	**1,320**

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	**MMUSD**	**844**

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity) *	**MMUSD**	**587**

*** Financial Cost is not included.**

Margin

Description	Unit	Amount
Profit before tax (5th year of production)	**MMUSD**	**234**

Project Economics Indices (Methanol to PP/PE)

Considering following main assumptions:

- Methanol price: 190 USD/ton. Considering effect of natural gas feedstock discount upstream plant as value chain incentive.
- Natural gas price for feed: 0.17 USD /SM^3
- Natural gas price for fuel: 0.078 USD /SM3,
- PP Homopolymer price:1,085 USD/mt
- PP Copolymer price: 1,130 USD/mt
- PE price (HDPE): 1,100 USD/mt
- C3 price: 363 USD/mt
- C4+ price: 429 USD/mt
- Light end price: 491 USD/mt
- Finance interest rate: 5%,
- Finance repayment period: 8 years after commissioning
- EPC Construction period: 4 years
- Production period: 15 years

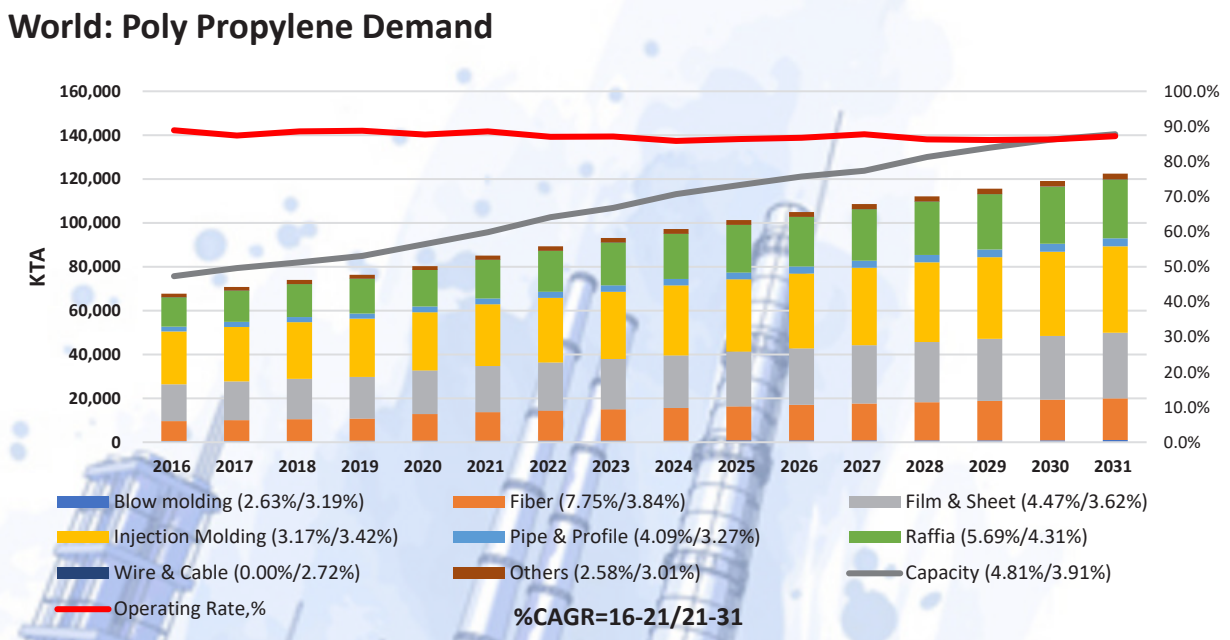
project economic outcome will be as following table:

Description	Unit	Amount
Internal rate of return on investment (IRR)	%	17.63%
Net Present Value of Total Capital Invested @ 12%	MM US$	472
Static Payback Period (including Construction Period)	Years	8.35
dynamic Payback Period at 12% (including Construction Period)	Years	11.89
Internal rate of return on Equity (IRRE)	%	28.01%
Net Present Value of Total Equity Capital Invested @ 12%	MM US$	708
Static Payback Period (including Construction Period) on total Equity invested	Years	7.00
Dynamic Payback Period at 12% (including Construction Period) on total Equity invested	Years	8.43

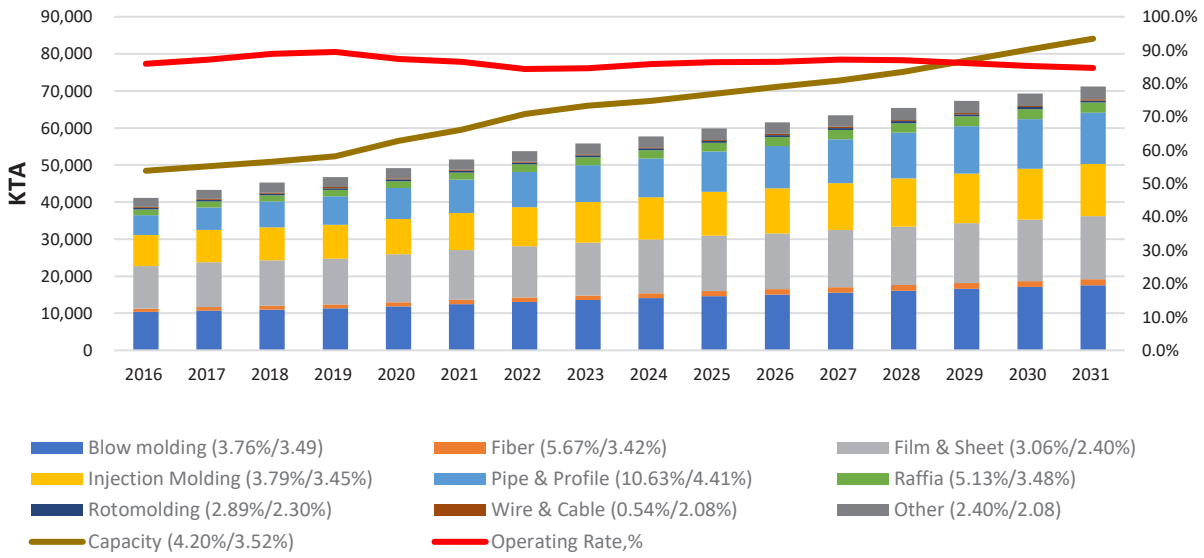
- At the first year of production, the sales amount has been considered as 80% of the capacity and at the 2nd year, 90%, and at the other years the sales amount has been considered at 100% of the capacity.

Mahtab Parsian petrochemical Complex final products (PP / PE) Market Image

Increases in consumption of PP are expected to result from a combination of growth in traditional uses (oriented film in packaging and nonwovens for diapers for example) and also by new applications, where PP can deliver a cost advantage and/or performance enhancement such as automotive or pipe. The growing demand of main products of the plant (PP, PE) in different downstream industries, and operating rate of total producers of these products close to 90%, demonstrates demanding capacity of the market. Comparing High market Compound Annual growth Rate (CAGR) of Polypropylene of about 3.9% (2021 to 2031) and average utilization rate of more than 88% it can be found that there is a great market opportunity in this market.

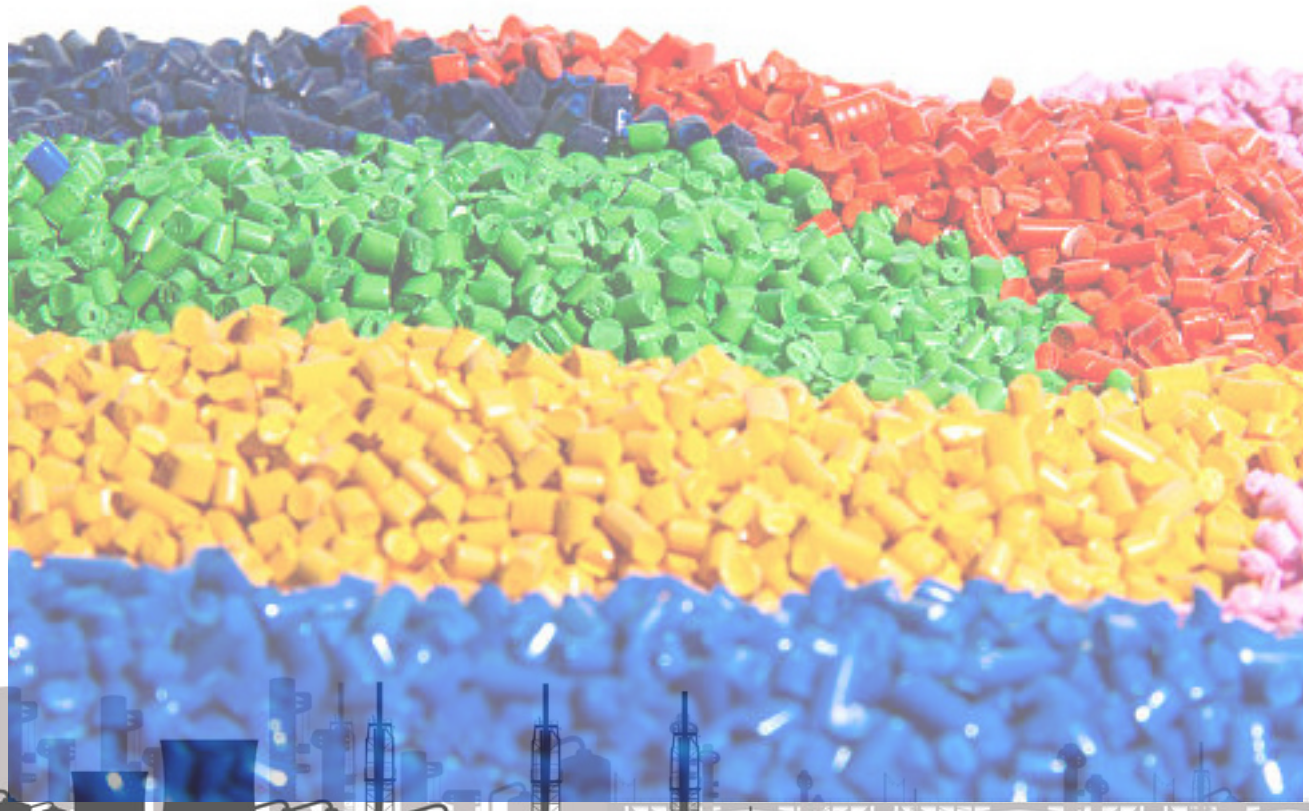


World: HDPE Demand



%CAGR=16-21/21-31

The economic development of numerous transitional countries in Asia Pacific, Central Europe, the Middle East, and South America will be the main drivers of growth in Polyethylene (PE) consumption. As these regions move toward more consumer-based economies, plastics usage in general will increase. Investment in export-oriented plastics converting capacities in many of these countries will also help fuel PE demand growth. Comparing High market Compound Annual growth Rate (CAGR) of HDPE of about 4.2% (2021 to 2031) and average utilization rate of more than 87% it can be found that there is a great market opportunity in this market.



Mahtab Parsian Petrochemical Project

Methanol to PP/SAP plant

Summary Report

Introduction

Mahtab Parsian petrochemical company, a subsidiary company of Petrofarhang, has decided to establish a Methanol to Propylene and downstream (MTX) complex for the production of **Polypropylene** and **Superabsorbent** which are being used in downstream to produce a vast variety of products in converting industries.

Mahtab Parsian MTX complex will be established in Parsian energy intensive free zone, located in south of Iran, west of Parsian city in Hormozgan province.

A 131 hectare land has been already allocated to this complex; the allocated land's distance to the sea side (Persian gulf sea side) is about 8 km. Main feed stock of this complex is Methanol which will provided by pipelines from phase 2 region of Assaluyeh. Electrical power and also RO water will be provided to the complex by centralized utility plant. All the other utilities will be produced within the complex.

Complex process scheme (Methanol to PP/SAP plant)

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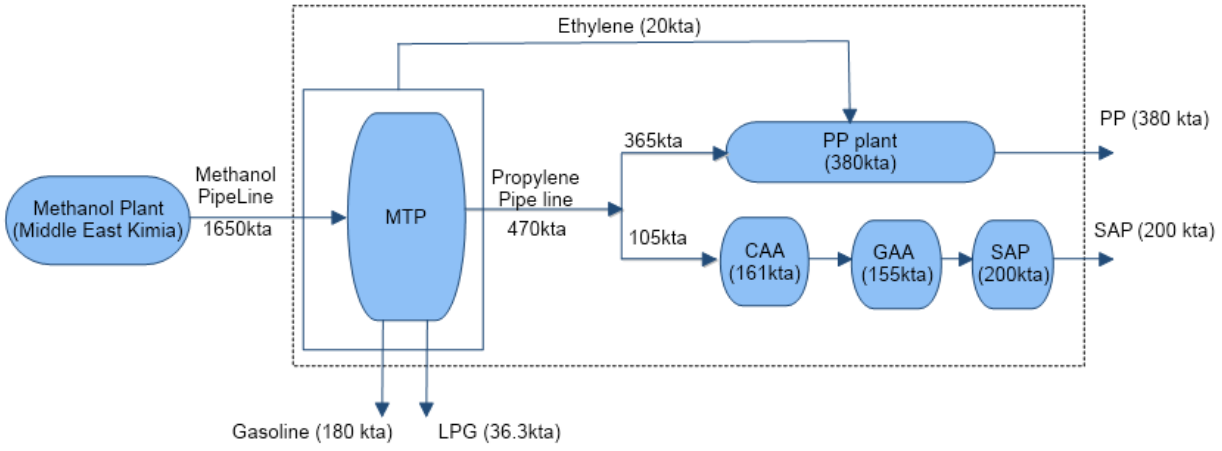


Special advantages of investment in PEISEZ

Considering the location of this project, it benefits from both being located in deprived area and advantages of specific economics zone. In this regard, some Investment Attraction and Opportunities of the location of the project can be summarized as follows:

- Privileges and Legal Facilities for Investors,
- Possibility of investment for foreign and domestic inventors to any extent
- Guarantee of Foreign investment at the zone according to the inserted mechanism in the law of Free Zone & FIPPA.
- Possibility of importing goods without customs duties and commercial benefits of the Zone
- Customs exemption for import of goods manufactured from the Zone to the mainland in proportion to the value added and the materials used domestically.
- Possibility of transit and re-export of goods without limitations
- Possibility of domestic and foreign participation and investment
- No barrier to entry and exit of capital
- Tax exemptions (subject to the direct tax code).
- Banking, monetary and currency affairs (subject to the laws of the country).
- Labor regulations and social insurance to recruit foreign nationals (similar to the laws of Free Trade Zones)
- Free to import machinery, spare parts, transport means, raw material, material for construction.
- Possibility in using the foreign well qualified man powers at the zone to the extent of 10 % of the unit staffs.
- Possibility in transit and re-export of goods without any limitation.
- Release of the certificate of origin for those goods exported from the zone.
- Discount on natural gas feedstock up to 30% in upstream methanol plant because of value chain incentive.
- Access to open seas and marine shipping lines
- Access to the existing infrastructure at Pars 1 and 2 sites
- Concurrent capabilities of shore and hinterland using coastal development capacities
- Access to unlimited water resources.
- Air infrastructure (easy access to Persian Gulf International Airport)
- Marine infrastructure (plan for establishing Parsian Port with a final capacity in loading and unloading of 40 million tons and facilities of Pars Port.

Mahtab Parsian Petrochemical Project- Methanol to PP/SAP in a Glance

Main Feedstock

Description	Unit	Amount
Methanol From Petrofarhang's Methanol plant	Mt/year	1,650,000
Hydrogen	NM3/year	790,082

Feedstock of energy and RO water

Description	Unit	Amount
Electric Power	KWh	1,043,510,040
Natural Gas Fuel	NM3	344,709,423
RO water	M3/year	6,233,648

Products

Description	Products	Capacity (mt/year)
Main Products	PP Homo and Copolymer	383,140
	SAP	200,000
By Products	MTP Gasoline	180,000
	MTP LPG	36,300

Required investment

Description	Unit	Amount
Fix investment cost	MMUSD	1,163
preproduction expenditure	MMUSD	195
Working capital – (1st year)	MMUSD	97
Total required investment	**MMUSD**	**1,455**

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	**MMUSD**	**862**

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity) *	**MMUSD**	**583**

*** Financial Cost is not included.**

Margin

Description	Unit	Amount
Profit before tax (5th year of production)	**MMUSD**	**255**

Project Economics Indices

Considering following main assumptions:

- Methanol price: 160 USD/ton. Considering effect of natural gas feedstock discount upstream plant as value chain incentive.
- Natural gas price for fuel: 0.078 USD /SM3,
- PP Homo and Copolymer price: 1,104 USD/mt
- Superabsorbent price (SAP): 1,543 USD/mt
- MTP Gasoline price: 623 USD/mt
- MTP LPG price: 511 USD/mt
- Finance interest rate: 5%,
- Finance repayment period: 8 years after commissioning
- EPC Construction period: 4 years
- Production period: 15 years

project economic outcome will be as following table:

Description	Unit	Amount
Internal rate of return on investment (IRR)	%	17.55%
Net Present Value of Total Capital Invested @ 12%	MM US$	507
Static Payback Period (including Construction Period)	Years	8.41
dynamic Payback Period at 12% (including Construction Period)	Years	12
Internal rate of return on Equity (IRRE)	%	27.63%
Net Present Value of Total Equity Capital Invested @ 12%	MM US$	761
Static Payback Period (including Construction Period) on total Equity invested	Years	7.11
Dynamic Payback Period at 12% (including Construction Period) on total Equity invested	Years	8.58

- At the first year of production, the sales amount has been considered as 80% of the capacity and at the 2nd year, 90%, and at the other years the sales amount has been considered at 100% of the capacity.

Aria Petrochemical Projects

Summary Report

Introduction

Aria Petrochemical Company is located in Chabahar free zone. Methanol is going to be used as the plant`s feedstock to produce Polyacetal which will the plant`s main products at the end of its 1st phase of development. Design capacities are 40 KTA. About 56 KTA Methanol is going to be used per annum as the feedstock. Aria Petrochemical Company is located on a 14-hectare area in Chabahar Free Zone. Economic factors and general information about this project are as follows.

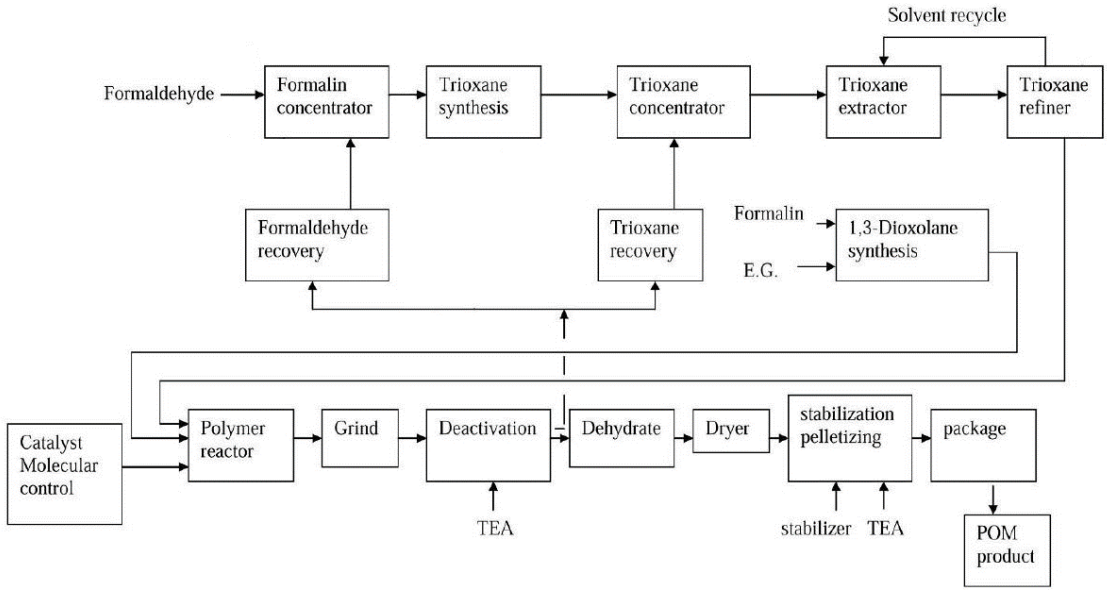
It is worth to mention that after 2nd phase of development (MTO, PP and PE unit), final main products of the complex will be Polypropylene (~460kta) and polyethylene (~260kta).

Investment Attraction and Opportunities In Free Zones:
Privileges and Legal Facilities for Investors,
Possibility of investment for foreign and domestic inventors to any extent
Guarantee of Foreign investment at the zone according to the inserted mechanism in the law of Free Zone
Exemption of 20 years Tax
Free to import machinery, spare parts, transport means, raw material, material for construction
Possibility in using the foreign well qualified man powers at the zone to the extent of 10 % of the unit staffs
Possibility in transit and re-export of goods without any limitation
Possibility of arrival of foreigners at the free zone without getting visa
Possibility in retail trade for foreign and domestic businessman
Lack of limitation in giving the land for large industrial projects
Exemption from the payment of custom duties for those goods produced at the zone and exported to the mainland in proportion of the added values and the exploited domestic materials
Release of the certificate of origin for those goods exported from the zone

Aria Petrochemical Projects

Methanol to POM

Plant process scheme- Methanol to POM



Aria Petrochemical Project- Methanol to Polyacetal in a Glance

Main Feedstock

Description	Unit	Amount
Methanol	TON/year	56000
MEG(Mono Ethylene Glycol)	TON/year	1.48

Products

Products	Capacity (mt/year)
POLYACETAL	40000

Required investment

Description	Unit	Amount
Fix investment cost	MM USD	180.4
preproduction expenditure	MM USD	19.01
Working capital	MM USD	1.59
Total required investment	MM USD	201

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	MM USD	84

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity)*	MM USD	48.45

*- Marketing cost, Financial Cost and Depreciation Cost are not included.

Margin

Description	Unit	Amount
Benefit before Tax (5th year of production)	MM USD	35.5

Project Economics Index- Methanol to Polyacetal in a Glance

Considering following main assumptions:

- Methanol price: 220 USD/ton.
- Natural gas 2100 USD/mt
- Finance interest rate: 5%,
- Finance repayment period: 8 years after commissioning
- EPC Construction period: 4 years
- Production period: 15 years

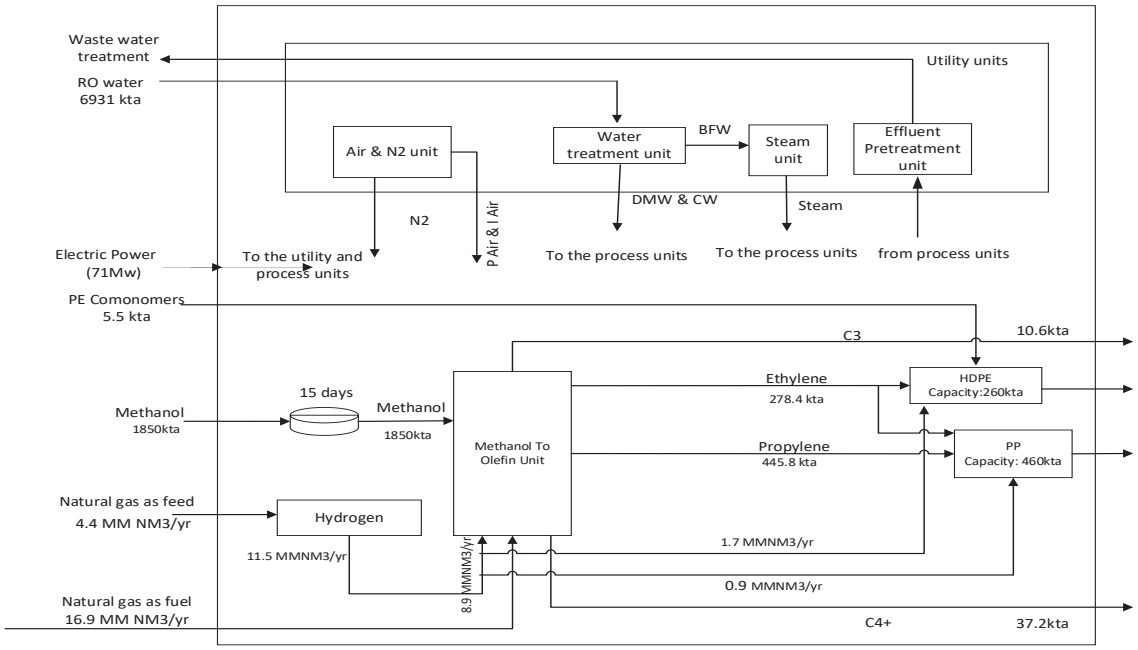
Description	Unit	Amount
IRR	-	18.42 %
IRRE		26.25%
NPV @ 12%	MM USD	72.4 MMUSD
Equity NPV @ 12%	MM USD	94 MMUSD
Normal payback period on total investment (excluding construction period)	Year	5.5
Normal payback period on equity (including construction period)	Year	3.8

- At the first year of production, the sales amount has been considered as 85% of the capacity and at the 2nd year, 95%, and at the other years the sales amount has been considered at 100% of the capacity.

Aria Petrochemical Projects

Methanol to PP/PE

Plant process scheme- Methanol to PP/HDPE



Aria Petrochemical Project- Methanol to PP/HDPE

Feedstock

Description	Unit	Amount
Methanol	TON/year	1850000
Natural Gas	NM3/year	4400000

Products

	Products	Capacity (mt/year)
Main Products	Polypropylene	460294
	Polyethylene	261971
By products	Light end	46200
	C3,c4 cut	47800

Required investment

Description	Unit	Amount
Fix investment cost	MM USD	1072.9
preproduction expenditure	MM USD	185
Working capital	MM USD	63.6
Total required investment	MM USD	1321.5

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	MM USD	822

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity)*	MM USD	576.4

*- Marketing cost, Financial Cost and Depreciation Cost are not included.

Margin

Description	Unit	Amount
Benefit before Tax (5th year of production)	MM USD	223

Project Economics Index- Methanol to PP/PE in a Glance

Considering following main assumptions Considering effect of natural gas feedstock discount upstream plant as value chain incentive.

- Methanol price: 160 USD/ton.
- Natural gas price for fuel: 0.078 USD /SM3,
- PP Homo and Copolymer price: 1,104 USD/mt
- PE price: 1047 USD/mt
- C3,c4price: 498 USD/mt
- Light end: 568 USD/mt
- MTP LPG price: 382 USD/mt
- Finance interest rate: 5%,
- Finance repayment period: 8 years after commissioning
- EPC Construction period: 4 years
- Production period: 15 years

Description	Unit	Amount
IRR	-	17.02 %
IRRE		26.98%
NPV @ 12%	MM USD	419 MMUSD
Equity NPV @ 12%	MM USD	656 MMUSD
Normal payback period on total investment (excluding construction period)	Year	8.49
Normal payback period on equity (including construction period)	Year	6.56

- At the first year of production, the sales amount has been considered as 80% of the capacity and at the 2nd year, 90%, and at the other years the sales amount has been considered at 100% of the capacity.

Lavan Chemical Co Projects

Introduction

Lavan Chemical Petrochemical CO., a subsidiary company of Energy Sepehr Holding, has decided to establish a Methanol to downstream complex for the production of acetic acid and vinyl acetate monomer and synthetic ethanol in which are being used in downstream to produce a vast variety of products in converting industries. Lavan Chemical Petrochemical CO complex will be established in Pars Special Economic/Energy Zone , located in south of Iran, East of Bushehr province.

Considering the location of this project, it benefits from both being located in deprived area and advantages of specific economics zone. In this regard, some Investment Attraction and Opportunities of the location of the project can be summarized as follows:

- Privileges and Legal Facilities for Investors,
- Possibility of investment for foreign and domestic inventors to any extent
- Guarantee of Foreign investment at the zone according to the inserted mechanism in the law of Free Zone & FIPPA.
- Possibility of importing goods without customs duties and commercial benefits of the Zone
- Customs exemption for import of goods manufactured from the Zone to the mainland in proportion to the value added and the materials used domestically.
- Possibility of transit and re-export of goods without limitations
- Tax exemptions (subject to the direct tax code).
- Banking, monetary and currency affairs (subject to the laws of the country).
- Labor regulations and social insurance to recruit foreign nationals (similar to the laws of Free Trade Zones)
- Free to import machinery, spare parts, transport means, raw material, material for construction.
- Possibility in using the foreign well qualified man powers at the zone to the extent of 10 % of the unit staffs.
- Possibility in transit and re-export of goods without any limitation.
- Release of the certificate of origin for those goods exported from the zone.
- Discount on natural gas feedstock up to 30% in upstream methanol plant because of value chain incentive.
- Access to international waters and markets in south of Persian Gulf and far east
- Access to the existing infrastructure at Pars 1 and 2 sites
- Concurrent capabilities of shore and hinterland using coastal development capacities
- Marine infrastructure (plan for establishing Parsian Port with a final capacity in loading and unloading of 40 million tons and facilities of Pars Port.

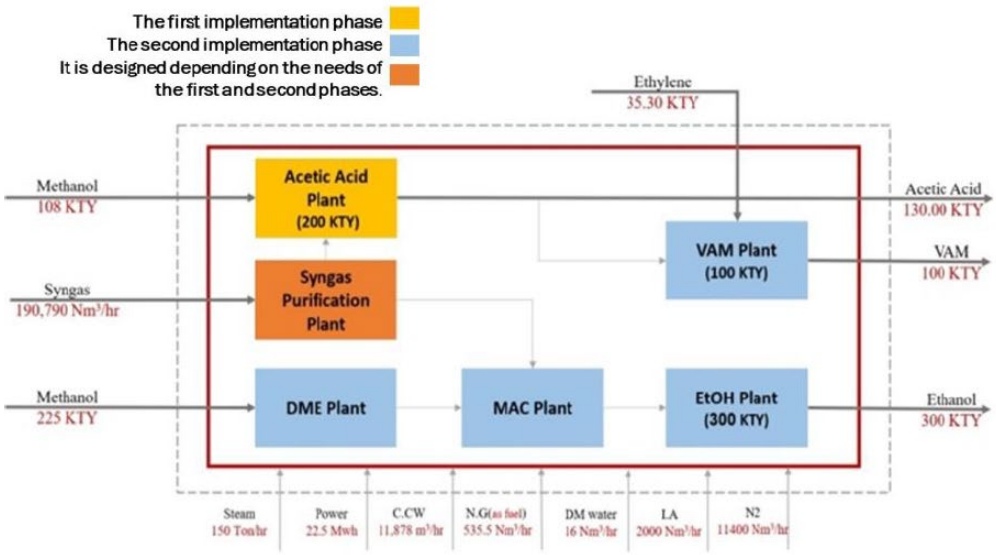
A 25 hectare land has been already allocated to this complex; The plot of land is located by the sea (Persian gulf sea side). The project will have two operational phases.the basic principle for starting this project has been the use of available petrochemical feed and products of sister companies.Main feed stock of this complex is Methanol and Ethylene which will provided by pipelines from phase 2 region of Assaluyeh. Electrical power and also other utilities provided to the complex by centralized utilities Damavand plant.

Lavan Chemical Co

Ph1: Mathanol To Acetic Acid

Complex process scheme - Methanol to Acetic Acid

Following figure illustrates overall block diagram of the complex.



As it is illustrated in above Figure, the complex will be developed in a route, from Methanol as the basic chemical product to Acetic Acid with a capacity of 200000 tons per year for the first phase. This product has many applications in paint, resin, coating, etc. The second phase of this project includes VAM production units a capacity of 100000 tons per year and synthetic ethanol with a capacity 300000 tons per year. The feed of these units is methanol , ethylene, acetic acid , syngas. Vinyle acetate monomer is used to prepare polyvinyl acetate, polyvinyle alcohole. This polymers are widly used in the fields of polymer membranes, medicine, etc. Ethanol is used as fuel additives, industrial. Complex will be developed through the following different projects:

- Construction of acetic acid(AA) unit
- Construction of a Vinyle acetate monomer(VAM) unit
- Construction of Synthetic Ethanol (ETOH) unit

Lavan Chemical Petrochemical - Methanol to Acetic Acid in a Glance

Main Feedstock

Description	Unit	Amount
Methanol From SABALAN/Dena Methanol plant	Mt/year	108000
Syn Gas	NM3/year	517000000

Products

Description	Products	Capacity
Main Products	Acetic Acid	200000 (mt/year)
By Products	Hydrogen	257.8(MNM3/year)
	Fuel GAS	172.8(MNM3/year)

Required investment

Description	Unit	Amount
Fix investment cost	MMUSD	186.4
preproduction expenditure	MMUSD	3.41
Working capital – (1st year)	MMUSD	1.47
Total required investment	**MMUSD**	**191.32**

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	MMUSD	152.485

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity) *	**MMUSD**	**103**

*** Financial Cost is not included.**

Margin

Description	Unit	Amount
Profit before tax (5th year of production)	**MMUSD**	**49.55**

Lavan Chemical Co. Economics Index- Ph1: Methanol to Acetic Acid

Considering following main assumptions:

- Methanol price: 240 USD/ton
- Natural gas price for fuel: 0.078 USD /SM3,
- Acetic Acid price573 USD/mt
- Hydrogen: 0.1 USD/mt
- Finance interest rate: 10%,
- Finance repayment period: 3.5 years after commissioning
- EPC Construction period: 3 years
- Production period: 15 years

project economic outcome will be as following table:

Description	Unit	Amount
Internal rate of return on investment (IRR)	%	22.9%
Net Present Value of Total Capital Invested @ 10%	MM US$	195.36
Static Payback Period (including Construction Period)	Years	6.54
dynamic Payback Period at 12% (including Construction Period)	Years	8.02
Internal rate of return on Equity (IRRE)	%	40.03%
Net Present Value of Total Equity Capital Invested @ 12%	MM US$	216.21

- At the first year of production, the sales amount has been considered as 80% of the capacity and at the 2nd year, 90%, and at the other years the sales amount has been considered at 100% of the capacity.

Lavan Chemical Co

Ph2: Mathanol To Ethanol-AA to VAM

Lavan Chemical Co. Methanol To Ethanol, AA to VAM in a Glance

Main Feedstock

Description	Unit	Amount
Methanol From SABALAN/Dena Methanol plant	Mt/year	225000
Acetic Acid	Mt/year	70000
Mono ethylene Glycol	Mt/year	35300
Syn Gas	NM3/year	1009000000

Products

Description	Products	Capacity
Main Products	Vinyl Acetat	100000 (mt/year)
	Ethanol	300000 (mt/year)
By Products	Hydrogen	191.7(MNM3/year)
	Fuel GAS	337.7(MNM3/year)

Required investment

Description	Unit	Amount
Fix investment cost	MMUSD	416.8
preproduction expenditure	MMUSD	7.94
Working capital – (1st year)	MMUSD	3.3
Total required investment	**MMUSD**	**421.9**

Total Sales Revenue

Description	Unit	Amount
Total sales at full capacity	MMUSD	442.2

Production cost

Description	Unit	Amount
Total Operation cost (at full capacity) *	MMUSD	300

*** Financial Cost is not included.**

Margin

Description	Unit	Amount
Profit before tax (5th year of production)	MMUSD	140.8

Lavan Chemical Co. Economics Index- Ph2: Methanol To Ethanol, AA to VAM

Considering following main assumptions:

- Methanol price: 240 USD/ton
- Natural gas price for fuel: 0.078 USD /SM3,
- Syn Gas price:0.083 USD/mt
- Vinyl Acetat Monomer price:1537 USD/mt
- Ethanol price:827 USD/mt
- Hydrogen: 0.1 USD/mt
- Finance interest rate: 10%,
- Finance repayment period: 3.5 years after commissioning
- EPC Construction period:4 years
- Production period: 15 years

project economic outcome will be as following table:

Description	Unit	Amount
Internal rate of return on investment (IRR)	%	25.4%
Net Present Value of Total Capital Invested @ 10%	MM US$	551.17
Static Payback Period (including Construction Period)	Years	6.94
dynamic Payback Period at 12% (including Construction Period)	Years	8.13
Internal rate of return on Equity (IRRE)	%	47.39%
Net Present Value of Total Equity Capital Invested @ 12%	MM US$	603.38

- At the first year of production, the sales amount has been considered as 80% of the capacity and at the 2nd year, 90%, and at the other years the sales amount has been considered at 100% of the capacity.

Petrofarhang Holding Company

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