

PROJECT PROFILE – SUMMARY SHEET

Project Introduction

1. Project Title: Modified Polyethylene for layer promoting adhesion

2. Sector: Industry Sub sector: Chemical

3. Products/Services: Used in the pipe industry and multilayer films

4. Location: Sanandaj-Kurdistan

Free zone ☐ Economic special zone ☐ Industrial Estate ☒ Main Land ☐

5. Project description:

Polyethylene and polyethylene are one of the simplest and cheapest polymers. This material is obtained from ethylene polymerization and is briefly shown as PE. In the dual-bond polymerization process, each monomer is broken and instead a simple bond between carbon-monomer atoms is created, and the created product is a coarse molecule. Polyethylene is a solid substance, odorless, waxy, semi-transparent and inactive which is usually produced in granular form. Therefore, polyethylene can be converted to a wide variety of ethylene derivatives. Polyethylene is one of the most stable and neutralized polymers and has high resistance to chemicals. Having multiple properties has led to the use of polyethylene in a wide range of products. Modified polyethylene based on the compatibilizer creates or enhances the adhesion of the polymer with other fibrous components of the glass fiber, talc, calcium carbonate, flame retardant materials, wood powder, metal surfaces, and laminated films. Among the features of this product are: increasing mechanical properties, increasing compatibility, increasing the adhesion of the polymer to the metal and filler, increasing the color reproduction in the final products. In making polymer parts, the use of various mineral additives and polymer compounds, increasing the life span and reducing the price of the finished product as well as the combined parts of the polymer and other materials such as metals are essential in order to achieve the desired properties. Polyethylene is one of the most used polymers in this sector of the country, which needs to be modified for certain purposes.

Polypropylene and polyethylene are a type of plastic. What separates polypropylene from polyethylene to begin with is the fact that polypropylene can be molded and essentially becomes flexible at a certain temperature. When it cools, it returns to its solid state. Polypropylene can be used not only as a structural plastic, but also as a fiber. But it should be said that polyethylene is less stable than polypropylene. There are also different types of plastic granules. Some of them are polyethylene and propylene granules, electret masterbatch, polystyrene granules and PVC granules. In order to support domestic production, domestic petrochemicals have begun to meet the domestic demand for polyethylene production, among which the following can be mentioned.

Tabriz Petrochemical, Jam Petrochemical, Amir Kabir Petrochemical, Propylene Jam, etc.

In this plan, the amount of Ethylene-Vinyl Acetate (EVA) required is supplied through import, and it is expected to supply this product from inside in the near future.

Therefore, the modified polyethylene design to improve adhesion (polyethylene granule) is suggested as an investment priority in Kurdistan province. The intended project is proposed in a land area of 20,000 square meters and with a capacity of 24,000 tons in the downstream petrochemical industrial town.

Based on the comprehensive studies, the planned project has a Payback Period set to 3.91 years and its break-even point is 61.76%. Considering the country's need for the desired product and with the prospect of export, the production of the desired product has a good potential for investment. The trend of export of the desired product, considering the production of petrochemicals and production units, has been decreasing until 2017 and then it has reached a stability.

Also, there are many investment incentives for investors. For example, "Preparation of land for the implementation of industrial plans and completed plans following technical and engineering principles and modern settlement methods", "Availability of infrastructure facilities in industrial areas", "Allotment of industrial land with suitable conditions", "Remission of 40 to 45 percent of the land price in industrial towns, especially for units that are put into operation faster than the schedule and have continuous production".

6. Annual capacity: 24000 Ton

Project Status

7. Local / internal raw material access, Polyethylene 100%
Ethylene-vinyl acetate (EVA) 0%

8. Sale:

- Anticipated export market 5 %

9. Construction Period: 1 year, 10 months

10. Project Status:

- Feasibility study available?	Yes ☒	No ☐
- Required land provided?	Yes ☒	No ☐
- Legal permissions (establishment license, foreign currency quota, environment, etc) taken?	Yes ☒	No ☐
- Partnership agreement concluded with local/foreign investor?	Yes ☐	No ☒
- Financing agreement concluded?	Yes ☐	No ☒
- Agreement with local / foreign contractor(s) concluded?	Yes ☐	No ☒
- Infrastructural utilities (electricity, water supply, telecommunication, fuel, road, etc) procured?	Yes ☒	No ☐
- List of know-how, machinery, equipment, as well as seller / builder companies defined?	Yes ☒	No ☐
- Purchase agreement for machinery, equipments and know- how concluded?	Yes ☐	No ☒

Financial Structure

11. Financial Table

Description	Local Currency Required			Foreign Currency Required Euro	Total Euro
	Million Rials	Rate Rial	Equivalent in Euro		
Fix Capital	955,474	387000	2,468,925	0	2,468,925
Working Capital	1,065,309	387000	2,752,736	620,155	3,372,891
Total Investment	2,020,783	387000	5,221,661	620,155	5,841,816

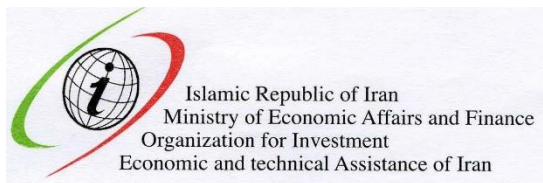
- Value of foreign equipment/machinery	620,155	euro
- Value of local equipment/machinery	0	euro
- Value of foreign technical know- how	0	euro
- Value of local technical know- how	0	euro
- Net Present Value (NPV):	15,047,316	euro for 10 Year
- Internal Rate of Return (IRR)	46.4%	
-Return on Investment (ROI)	15%	
- Payback Period (PP)	5.44 Year	

General Information

12. Project Type : Establishment ☒ Expansion and completion ☐

13. Company Profile:

-Name (legal /natural persons) :
-Company Name :
-Address :



-Tel: Fax:
-E-mail: Web site:
-Local entrepreneur : private sector ☐ public sector ☐ other ☐

Please attach follow documents if available

- Pre feasibility study ■
- Feasibility study ■
- Legal permissions (establishment license, foreign currency quota, environment, etc) ☐

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