FDI PROJECT

PNE AG

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Executive summary

Overall Foreign Direct investment connected to the renewable energy sector in Saudi Arabia is a promising decision. First of all, Saudi Arabia is becoming one of the leaders - between 2022 and 2027, the Saudi Arabian renewable energy market is anticipated to expand at a CAGR of more than 13%. As Saudi Arabia moves towards diversifying its economy, investing in the renewable energy sector is a viable option. The country has extensive social security in place, which ensures that people have a basic standard of living, enabling them to contribute towards economic growth. This leads to new opportunities for investment – this project will cover FDI plan for PNE AG company to Saudi Arabia.

PNE Group is a German wind power pioneer operating on an international level and it is one of the most experienced project developers of onshore and offshore wind farms. With the budget of 50 000 000 euro, the preferred investment plan as a collaboration with the Saudi Arabian firm ARAMCO Power was chosen. The earnings from the project will be divided between PNE AG and ARAMCO Power, who will each own 10% and 90% of the "PNEARAMCO Corporation," respectively.

Contents

Introduction

This report is created to provide the foreign direct investment (FDI) plan for the PNE AG (Pure New Energy) company which is based in Germany. (PNE, sd)
FDI is a category of a cross border investment. Such a plan can be beneficial both for the economy in general as well as for the company that is initiating such an investment.
From the company's perspective FDI allows to access new market opportunities, however, it all can be put at risk connected to different legal structures, currencies, economic instability, geopolitical issues as well as cultural features. From an economic perspective, FDI leads to establishing new workplaces, increasing exports, and creating a new competitive market which results in the general growth of the economy. (Foreign Direct Investment (FDI) – Meaning, Types, Advantages & Disadvantages, 2022)

Nevertheless, FDIs require thorough preparation which includes steps such as research and planning. This report will aim at illustrating those steps for PNE company when expanding its influence on the Saudi Arabia market.

The plan includes an investment of 50 million euros and its main objective is to sell the products/services of the firm in a new geographical location. In order to provide more financial insights.

Company profile

PNE Group is a German wind power pioneer operating on an international level and it is one of the most experienced project developers of onshore and offshore wind farms with more than 500 employees. Based on this success, the Group has developed into a "clean energy solutions provider".

In addition to wind energy, the Company's offer includes photovoltaic, electricity storage, and power-to-X technologies with a focus on hydrogen. PNE's strategic orientation covers the entire value chain of renewable energies as well as the refinement of electricity.
(PNE, sd)

Project definition

This section will elaborate on the project's basic premise, which was originally described in this paper.

The overall goal of this FDI plan is to establish business operations in a new country with the intention of utilizing PNE AG (Pure New Energy) knowledge, and workforce to generate a ROI that meets the company's required rate of return and provides annual cash flows to be up streamed from the newly formed entity to PNE AG (Pure New Energy) company, which is based in Germany and, ultimately, to its shareholders.

This project's research, analysis, and design were carried out in a systematic, step-by-step manner in order to develop a comprehensive, thorough, and appropriate FDI strategy. These stages are outlined in the next paragraphs.

A market study was conducted to find opportunities, potential risks, and emerging trends in the renewable energy business after better understanding PNE AG’s operations. The Middle East was already favored in our study since that is where our target nation, Saudi Arabia, resides geographically and economically. This website was picked since the industry study produced some encouraging findings on the potential for investment in Pure New Energy AG in Saudi Arabia.

After the selection of the target nation for the FDI, a PESTEL model was created to pinpoint the pertinent macro trends for the investment and, once more, highlight any potential advantages and disadvantages of entering the SA market. What the Saudis can anticipate was disclosed by the PESTEL.

After then, capital planning was developed with the WACC in mind as a required rate of return. We extracted PNE AG's ownership in the project and its share of earnings and cash flows from sources like PNE AG's publications and journal papers to construct an income statement and subsequent cash flow statement for the joint venture. The project payback period, internal rate of return, and net present value was used to evaluate the viability and value of this investment concept.

In the end, a method for remitting the cash to PNE AG in Germany was developed, accounting for inflation and currency fluctuations. Risk management was employed to lessen the latter.

Project analysis

As per the advancement in renewable energy, in Saudi Arabia has given ACWA Power primary priority to totally phase out oil from its power generation strategy as part of Vision 2030. Saudi Arabia plans to generate half of its energy from renewables and the other half from gas by 2030. ACWA Power has assisted the Kingdom in attaining its Vision 2030 target of satisfying 70% of its energy demands through renewable sources. (Saudi Arabia Renewable Energy, n.d.)

The Saudi government intends to reduce the country's dependency on oil for power generation by using renewable energy to generate one-third of its electricity. This is predicted to boost demand for Solar and Wind energy and, as a result, the country's renewable energy industry, which is estimated to account for the majority of all renewable energy sources by 2020. The Saudi government intends to install 2.7 GW of concentrated solar power (CSP) capacity and 40 GW of solar photovoltaic (PV) capacity by 2030. (*Saudi Arabia Renewable Energy Market Analysis - Industry Report - Trends, Size & Share*, n.d.) Employment is anticipated to benefit from Saudi Arabia's growing renewable energy sector: Up to 750,000 jobs might be produced over the next ten years as the Kingdom aims to achieve 7% of its total electricity generation from renewable sources by 2030. A 20-year power purchase agreement (PPA) between the new wind farm, the Saudi electricity generating and distribution organization, and the Saudi Power Procurement Company, a subsidiary of the Saudi Electricity Company (SEC), will provide energy. The cost of the project, which was originally $21.3/MWh, was reportedly dropped to $19.9/MWh following financial close, making Dumat Al Jandal the most affordable wind energy facility in the whole world. (Meacock, 2021) The wind farm is the first indication that Saudi Arabia is committed to implementing its Vision 2030. The fact that the largest member of OPEC is shifting away from fossil fuels is exciting, and it gives me optimism that OPEC—which still meets 79% of the world's energy needs—will understand the benefits of going green. (Meacock, 2021)

Between 2022 and 2027, the Saudi Arabian renewable energy market is anticipated to expand at a CAGR of more than 13%. Renewable energy sources were less impacted by the COVID-19 epidemic than fossil fuels like oil and gas were. The country's tremendous expansion in the renewable energy sector in the second half of 2020 was made possible by the government's determined efforts, such as National Vision 2030, which intends to increase renewable energy projects to 58.7 GW by 2030. Factors like favourable government rules for the renewable energy industry are anticipated to propel the business. (Ltd, n.d.)

- According to the World Wind Energy Council, the country's wind energy aim is 10 GW by 2025.
- while its technological potential for onshore wind has been assessed at over 200 GW in seven locations, delivering mean wind speeds at 100 metres of 6.7-7.9 m/s.
- Saudi Arabia has tremendous offshore wind potential, with up to 28 GW of conventional fixed-bottom installations and 78 GW of floating offshore wind capacity.
- By the end of 2020, Saudi Arabia had just 412 MW of renewable energy, 409 MW of which were solar, while the Dumar al-Jandal wind project had already provided 400 MW to that total.

(*Saudi Arabia Turns to Wind and Solar Energy | En:Former*, n.d.)

PESTLE Analysis

The PESTLE analysis studies the key external factors (Political, Economic, Sociological, Technological, Legal and Environmental) that influence an organisation. It is used to assess how attractive is a market and what factors might influence the operations of a company is a certain country. In this case it was used to analyse which factors might affect the renewable energy sector in Saudi Arabia, especially the wind power niche.

Politic

Saudi Arabia has a stable government and policies that are consistent, making it an attractive destination for foreign direct investment (FDI). The country's leadership, led by the Al Saud dynasty, has prioritized modernization and development, resulting in agreements in a variety of sectors such as military, healthcare, tourism, and e-commerce. Furthermore, recent reforms, including provisions for women's voting and working rights, are projected to enhance participation and diversify the workforce, thereby benefiting the country's economic growth (Marketline, 2022).

Nevertheless, Saudi Arabia still confronts problems that may limit its potential to attract Capital, such as the lack of a democratic framework and the ongoing conflict in Yemen. Saudi Arabia is unable to emerge as a comparatively contemporary society due to a lack of core democratic rights such as freedom of expression and association. However, Saudi Arabia's economic potential and efforts toward modernization and diversification make it an important player in the region, and with the possibility of peace treaties and continuing reforms, it may become an even more appealing destination for FDI (Marketline, 2022).

Economic

Saudi Arabia is a major player in the global oil market, with a strong competitive banking and financial system. Given these advantages, the country has been able to develop a strong economy throughout time. Furthermore, there are various opportunities for the country's economic development. The government has developed a stimulus plan to help the economy recover faster, while Vision 2030 emphasizes economic diversification (Mati & Rehman, 2022). This includes investing in renewable energy as well as other areas in order to minimize the country's reliance on oil. These initiatives provide an opportunity for foreign investors, particularly those interested in renewable energy, to investigate the Saudi market and perhaps contribute to the country's long-term economic progress (Marketline, 2022).

Social

As Saudi Arabia moves towards diversifying its economy, investing in the renewable energy sector is a viable option. The country has extensive social security in place, which ensures that people have a basic standard of living, enabling them to contribute towards economic growth. Additionally, Saudi Arabia has a young society, which means there is a significant working-age population that can be trained and employed in the renewable energy sector (Marketline, 2022). The government has already set a target to achieve 50% of its electricity generation capacity from renewable sources by 2030, offering ample opportunities for investment in this sector (Lo, 2021).

Technology

Saudi Arabia's agreements on various technology breakthroughs can be viewed as an asset in attracting FDI in the renewable energy sector. To diversify its economy and minimize its reliance on oil, the country is investing in technical developments. However, one of the present obstacles is the

country's weak technological education system, which must be addressed in order to increase the local talent pool and lessen the demand for foreign expertise (Marketline, 2022).

Moving ahead, Saudi Arabia's strategy to increase private sector engagement, increase R&D emphasis, and apply artificial intelligence can lead to additional economic growth and attract foreign investment. In addition, there is a potential risk of poor implementation of IPR rules and increased cyber-attacks, which can harm firms and discourage FDI. As a result, the government must prioritize the implementation of strong intellectual property laws and cybersecurity measures in order to protect intellectual property and secure the country's technical accomplishments (Marketline, 2022).

Legal

The Saudi Arabian government has shown a commitment to address housing problems and there has been a slight improvement in the business environment. In addition, there are plans to open the stock exchange to foreign investors and introduce new laws to reform the judicial institutions in the future (Marketline, 2022). This legal aspect could attract foreign FDI to invest in Saudi Arabia.

Saudi Arabia's initiative to boost renewable energy projects and reduce its dependence on crude oil. The Industry and Mineral Resources Ministry is offering tax exemptions and other incentives to companies that produce renewable energy. The initiative aims to support the Vision 2030 of the kingdom to generate 50% of its electricity from renewable energy sources (Chandak, 2022). Companies that invest in windmill projects for renewable energy can take advantage of these government incentives and facilities, which could help them make more money.

Environment

Saudi Arabia's environmental analysis reveals a strong legislative framework and agreements concerning environmental protection. However, the country faces challenges such as high energy consumption and bad weather conditions. Nevertheless, there are opportunities to invest in renewable energy projects and hydrogen production, which aligns with the country's goals to diversify its economy and reduce its dependence on oil. Nonetheless, the risk of water shortages remains a concern, and companies should consider measures to address this potential risk in their investment plans (Marketline, 2022).

Northwesterly winds with average speeds ranging from 4 m/s to 9 m/s dominate the Red Sea region of Saudi Arabia. High coastal mountain ranges that run along the eastern and western coasts of the Red Sea have an impact on this wind regime by directing the surface wind track to follow the axis of the Red Sea basin. Additionally, the weather patterns of the eastern Mediterranean have an impact on the wind system in this area (Eladawy et al., 2017).

The average wind speed in Saudi Arabia's Red Sea area is within the range of wind speeds that are good for making electricity with wind turbines. Small wind turbines work best with an average annual wind speed of at least 4 m/s, while utility-scale turbines work best with an average annual wind speed of at least 5.8 m/s (US Energy Information Administration, 2022). So, based on how fast the wind blows and how it blows in the Red Sea region of Saudi Arabia, it could be a good place for wind turbines to make electricity.

Porter’s 5 forces

There are multiple ways to analyze and understand the market, however, in this case, Porter’s 5 forces framework was used to understand the market of the possible FDI. Porter’s 5 forces framework is based on 5 parts which will analyze Saudi Arabia as a possible FDI location:

Competition in the industry

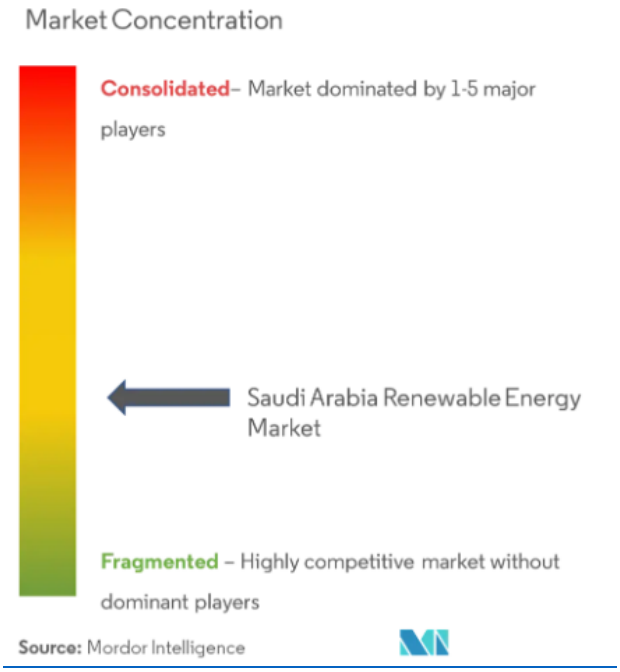
It describes the market and the industry in general, as the lesser the competition, the better for the firm since there are not so many rivals in the industry. Therefore, this means that if a firm has more power because of fewer rivals, it has more power over prices, suppliers, and customers, since the supply and demand are low.

The technical potential of wind farms in Saudi Arabia in 2018 was 948 terawatts (Fernández, 2023), which makes the wind farming market 11th in the world, which is highly attractive for possible investors and possible project developments. The weighted costs per kilowatt produced by wind farms decreased since 2011 when the average price per kilowatt was 4876 USD to 2858 USD in 2021 (Fernández, Weighted average cost of installed offshore wind energy worldwide from 2010 to 2021, 2023), the competition grew at the same pace and more and more investors invested in renewable energy, the same way the market in Saudi Arabia grew as well, however, a major jump was made in the solar energy market in the targeted country. The cheapest solar energy in the world was produced in UAE and Saudi Arabia. (Mills, 2022) This means that even though the competition is high, the opportunity for a pilot try is high as well.

Potential of new entrants into the industry

This part describes the potential of new entrants in the market. This means that the easier it is to enter the industry, the weaker the existing competitors' position is. An industry with high entry barriers is better for existing firms since the entry costs are relatively high, which means stabler competition for existing firms within the industry.

Since Saudi Arabia is restructuring its energy structure highly dependent on oil and gas, to a more renewable and green energy structure, which is solar and wind energy (Mills, 2022). That being said, we can conclude that new possibilities for the new entrants are highly possible, however, since the renewable energy market has high entry costs, this makes the market doable only for companies with high capital resources. And this is a good sign for PNE AG. The company has all the necessary resources to enter the market, and the firm works in both sectors, wind, and solar energy, which means that the company can participate in both or in other words hybrid energy production. While the costs of solar energy production decrease, wind energy has its own advantages, i.e., turbines can spin 24/7 while the wind is strong enough. Since the entrance costs are high this might be a stable market for the company as well since the demand is high.

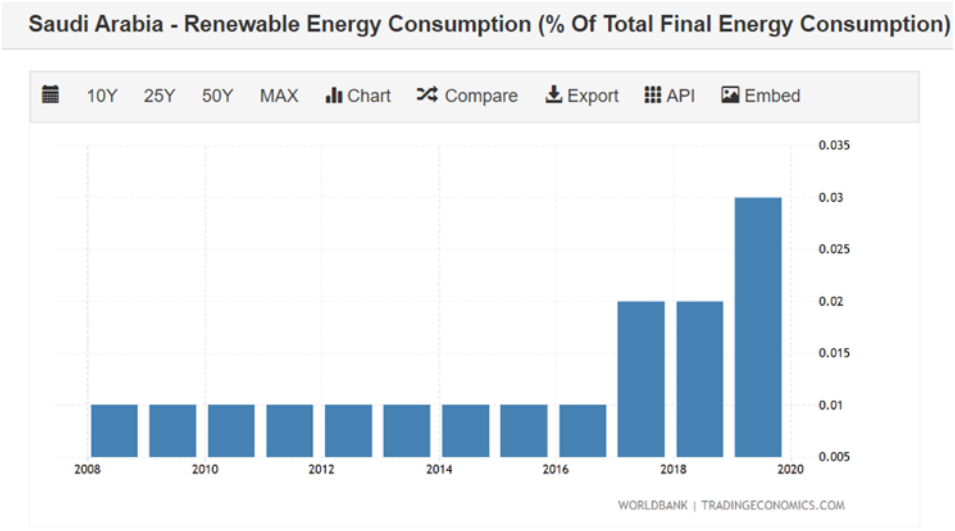


(Mordor Intelligence, sd)

Power of suppliers

The bargaining power of buyers refers to customers' ability to impact the prices and terms of the products or services they purchase. In the renewable energy industry, the bargaining power of buyers is typically moderate due to the limited number of buyers, which mainly include government agencies, utilities, and large corporations. However, as the demand for renewable energy products increases, the bargaining power of buyers may strengthen. They can negotiate with renewable energy factories to obtain favorable prices and terms, and they may switch to alternative suppliers if they are unsatisfied with the quality, price, or delivery of renewable energy products. To mitigate the impact of buyers' bargaining power, renewable energy factories may need to differentiate themselves by providing unique products or services, enhancing their customer service, or building enduring relationships with key customers. (Martinez-Contreras et al., 2022)

Currently, the bargaining power of buyers in the renewable energy sector, especially for the one that comes from wind turbines, is low in Saudi Arabia due to limited demand for renewable energy products and the prevalent use of conventional energy sources like oil and gas. However, with the Saudi Arabian government's ongoing investment in renewable energy and promotion of it as a viable alternative, the demand for renewable energy is projected to surge. As the demand for renewable energy products grows, the bargaining power of buyers is expected to increase as well. They will have more choices available and can leverage their purchasing power to negotiate better prices and terms. This is particularly crucial for a German company, which will need to distinguish itself by offering dependable and high-quality services and products to maintain its competitive edge. (Fang et al., 2018)



(WorldBank, 2023)

Bargaining power of customers

The threat of substitutes refers to the possibility of alternative products or services replacing those offered by a specific industry. The renewable energy industry is comparatively protected from substitutes since clean energy sources are the principal means of reducing carbon emissions. Nevertheless, the emergence of substitute products or services cannot be entirely ruled out, such as novel fossil fuel extraction technologies or alternative clean energy sources, like nuclear energy. Although these substitutes may not present an immediate threat to the industry, it is crucial for renewable energy factories to keep track of new technologies and innovations. (Martinez-Contreras et al., 2022)

Renewable energy factories in Saudi Arabia face a moderate threat of substitutes. This sector heavily relies on government subsidies, which renders it susceptible to potential policy modifications in the future. If the government lowers or discontinues these subsidies, consumers may find renewable energy products less appealing and may choose to use conventional sources of energy such as oil and gas instead. This could intensify the threat of substitutes and have adverse effects on the renewable energy industry in Saudi Arabia. When it comes to wind turbines, this sector is more fragile as it heavily relies on the subsidies and benefits that the government is providing. (Fang et al., 2018)

Threat of substitute products

The concept of competitive rivalry pertains to the degree to which firms within an industry vie for market share and profitability. The renewable energy industry is marked by substantial levels of competitive rivalry due to various factors, including the growing number of competitors, the need for innovation to reduce costs and enhance efficiencies, and the impact of government policies on the industry. To remain competitive in the market, renewable energy factories must continuously innovate and improve, and government regulations can impact the competitive landscape by promoting specific types of renewable energy or by providing incentives for particular energy development. Additionally, as larger players in the industry acquire smaller companies, the industry is becoming more consolidated, which may intensify competition in the future. (Martinez-Contreras et al., 2022)

Renewable energy factories in Saudi Arabia are projected to experience a surge in competitive rivalry in the future. At present, there are only a few players in the market, and the government is the predominant investor in the renewable energy sector. Nevertheless, as the sector expands and becomes more lucrative, more companies are expected to enter the market and compete for market share. This heightened competition could result in price wars and other aggressive strategies, which may have an adverse impact on the profitability of renewable energy factories in Saudi Arabia. (Fang et al., 2018)

Current strategy

The PNG AG found that the crisis management of the coronavirus pandemic had no adverse effects on company expansion. PNE AG is promoting a culture that will commercialize renewable solar technology by employing product leadership as a competitive strategy. The PNE AG intends to exploit their expertise across organizational and regional barriers by utilizing their product leadership. Moreover, PNE AG has effectively grown into new industrial sectors while bolstering its core business activities, which has helped it increase profitability over time. Growth in sales and profitability are important facets of their present strategy. By maximizing working capital and producing constructively positive free cash flow, PNE AG hopes to strengthen its liquidity.

Future strategy

Notwithstanding the difficulties caused by the coronavirus outbreak, PNE AG plans to boost volume and sales soon. Management planned to adjust and realign the PNE AG strategy to future requirements for the years up to 2030, according to the reporting year. The fundamental element of the upcoming "strategy 2025" is the transformation into a systems and solutions provider. By collaborating closely with its reliable partners and expanding into new industrial sectors, the business can use its superior system expertise to offer comprehensive, long-lasting solutions that considerably benefit its clients. In order to create a system environment for decentralized energy supply, the management board is supervising the ongoing expansion of its product line.

Market share

In 2021, 30 wind turbine manufacturers erected 29,234 wind turbines, including 18 in Asia Pacific and 9 in Europe.

Vestas maintained its sales lead in the turbine sector, accounting for 17.7% of all new installations. While Siemens Gamesa had a record year and climbed two spots to third place in 2021 with a global market share of 9.7%, Gold wind of China ended second with 11.8%, maintaining its position from 2020. Envision, another Chinese business, ranks fourth with 8.65% of the market in 2021. At 8.55% of the market, GE Renewable Energy rounds out the top five. (2022)

Profitability and market value

In order to judge a company's profitability – gross margin ratio and return on equity have been calculated. When it comes to the gross margin ratio, there has been an apparent increase from 55.64% in 2019 to 69% in 2021. It means that the company receives almost 69 cents of gross profit from 1 euro revenue. Such growth can be explained by the increase in gross profit compared to 2019.

Return on equity showed growth from almost 0% to 11.33% in 2021, which was mainly due to growth in net income – it has increased 36% from 2019 to 2021.

In order to find out more about the market value of the company the earnings per share (EPS) and price/EPS ratio were chosen. Earnings per share rose from being close to 0 to 0.3 in 3 years, which was caused by the growth of net income. Same growth can be noticed when it comes to P/E ratio – it

has also grown, however, not dramatically. Such a growth was due to the increase in share price – from 4 euros in 2019 to 21.35 euros in 2021.

Overall, the company is showing signs of success – in 3 years it has managed to sustain the growth of net income and gross profit, and experienced growth in share price. Though the indices for total debt from 2019 to 2021 have also increased as well as the total revenue has dropped. It was mainly caused by the crisis of covid-19. Nevertheless, company managed to “close the fiscal year with a pleasing financial result and have consistently evolved strategically in accordance with the "Scale up" concept." The results are strongly influenced by the development of the internally operated wind farm portfolio. (WKNItalia, 2021)

Method Of Investing

The preferred investment plan is a collaboration with the Saudi Arabian firm ARAMCO Power. The earnings from the project will be divided between PNE AG and ARAMCO Power, who will each own 10% and 90% of the "PNEARAMCO Corporation," respectively.

The world's technical and economic progress has greatly boosted demand for electrical energy. Saudi Arabia is undergoing significant economic and population expansion, necessitating increased energy consumption. The drive for alternative energy sources, such as wind energy, has been fueled by the depletion of fossil fuel supplies and the environmental damage that has resulted. Projections of current and daily power generation are required for the power system to run safely and reliably. Wind data from a meteorological station in Makkah, Saudi Arabia, is used in this work to statistically assess wind attributes and estimate wind power. (Barashid et al., 2023)

In addition to hiring specialized technicians, engineers, and project managers, PNE AG would spend around 46 million Euro on Wind turbine inverters, Wind turbines management systems, O&M, and software for this project. On the other hand, ARAMCO would provide the land, the equipment, the prefabricated buildings, the PV modules, and a sizable labor force to set up all the equipment.

ARAMCO may supply many personnel, land, and turbines. But, for a project of this scale and complexity, it lacks the cutting-edge and dependable technology that PNE AG can supply (AC to DC inverters, monitoring software, current storage units and even Wind turbines). If PNE AG only invested in Saudi Arabia, it would invest a major portion of its capital in permanent assets such as factories and land, which might be risky in a new FDI market.

Discount rate

In order to find the discount rate for Saudi Riyal, it was decided to do the WACC for the ARAMCO company, taking in consideration that ARAMCO appears as a joint venture for PNE AG. For the cost of equity, the dividend discount method was used. The discount rate for the Riyal is 11.34%, which is almost 5% more than S&P predictions for the same sector.

Such a result can be explained by considerably high cost of equity (11.99%), with the cost of equity higher than the market average – investors require higher return. (Marshall, 2023)

Net present value

NPV of the project is 87 034 439 SAR or 22 326 522 EU. Even though the calculations have various limitations due to the assumptions used for the FDI planning, the NPV on 10 year planned cash flow of almost 50% of the initial investment (50 000 000 EU) tends to imply at the positive overall picture.

Internal Rate of Return

The IRR of the project is calculated to be 18%, which is almost 8% higher than the cost of equity calculations. Considering the risks connected to the renewable energy sector and the average IRR of 5-6% on the projects of the same sector – IRR tends to be appropriate.

Payback Period and Discounted Payback Period

The payback period is estimated to be a little more than 5 years, however, since the DPBP is more appropriate for estimating time value of money – it was chosen to represent the approximate payback period of the project. After calculating the present value of cash flow and compounding the results, the DPBP is estimated to be around 7.6 years. As the whole project is due to 10 years, 7.6 years of payback can seem as a long period of time, considering the vast amount of initial investment. When concentrating on the simple payback period of 5 years – the project seems more attractive, as the first results of 50 million euros project will take half of the whole project duration.

Costs Breakdown

The budget for this project is 50 million USD/ 198,609,900 SAR. As the project is a joint venture, the company will own only a 10% stake in the total project. All of these costs are explained in more detail in the Excel file that can be found in Appendix. Still, this is the initial cost that will be encountered during the project.

- 4 wind turbines: The wind turbines will be bought from Vestas, a Danish company specialized in the production of this type of equipment. The cost of the turbines will include transport and installation which will be provided by the Vestas company. Each turbine has a cost of 11.5 million USD/ 45.7 million SAR.

In addition to these, there will be the costs to keep the turbines and project running. These costs will be encountered on a yearly basis as long as the project will be active.

- Maintenance of turbine: The costs for maintenance of the turbine are estimated to be around 0.2 million USD/ 0.79 million SAR per year. This amount will cover the parts that need to be changed, but also for the normal inspections. For maintenance, there will be considered a 2.2% inflation in cost per year.
- Electricity of turbine: The cost of electricity is estimated to be around 75,500 SAR per year. For electricity, there is considered a 3.3% inflation per year for the first 4 years, and then 4.5% for the rest.
- Engineers for the project: The cost of electricity is estimated to be around 1,906,655.04 SAR per year. These employees are responsible for running the project and they are located in Germany. For employees, there is considered a wage inflation of 5.7% per year.

Lastly, there are additional costs that are encountered which are the depreciation and the consultation for the project to keep it under legal terms. These costs are encountered on a yearly basis as long as the project will be active.

- Legal consultation: The cost of electricity is estimated to be around 1,906,655.04 SAR per year. This will ensure that the project is in compliance with the laws of the home country, but also the country where the project will take place. For this, there is considered an inflation of 5.1% per year.
- Depreciation: The depreciation cost of turbines is calculated based on the straight-line method. This cost will be 6,355,517 SAR per year.

Other costs that will be encountered are covered by the partner company. These include the cost of employees for maintenance, the offshore land, etc.

Managing Financial Risks

This report will cover three main financial risks related to FDI in Saudi Arabia. Those risks are highly involved in the FDI, because of transfers between two currencies, which are SAR (Saudi Arabia Raiyl) and Euros. Since the majority of the FDI is covered by a loan exchange rate fluctuations are going to affect the FDI as well. Firms cannot affect exchange rates; however, firms can mitigate risks by applying certain methods to protect the investment from market volatility.

As mentioned above, the three main Financial Risks are:

1. Interest Rate Volatility

   Interest rates affect FDI because the majority of costs are covered by loans.

2. Exchange Rate Volatility

   It creates uncertainty for FDI, by complicating the forecast of returns on investment and increasing the risk of currency which affects profitability.

3. Commodity Price Volatility

   Energy prices are highly related to oil prices as well as wind turbines' production is related to metal prices which are required to produce it, this means that the commodity price volatility will affect the price of each individual turbine.

Since PNE AG is in a joint venture with a local company, PNE AG must hold at least 10% of equity to be able to count it as a foreign direct investment (FDI). That being said, PNE AG will have permanent ownership of 10%.

Hedging Financial Risks

To be able to hedge risks, the forward exchange rate must be calculated, however, in order to weigh the risks of the exchange rate volatility, two methods had to be used, firstly we calculated Interest Rate Parity (IRP) and Purchasing Power Parity (PPP). The first one is based on interest rates within both countries, the second one is based on inflation rates. Since IRP holds a no-arbitrage concept, it means that the PPP method is more accurate to forecast the currency rates. The transfer of the net income back to EUR from SAR will be determined after the first period of the investment.

Therefore, the decision was made, to invest all necessary amounts of investment in year 1, because of exchange and commodity market volatility, by using a forward contract, to protect the investment under a stable currency exchange rate which is provided by the forward contract. After the implementation of the hedging, we can conclude that the benefits of a forward contract would give us certainty in the exchange rate. Because of this approach, PNE AG obtains the advantage over the opportunity costs of delaying the investment, because of unfavorable exchange rates. The spot rate will protect the investment from fluctuations in currency. Therefore, it will protect the investment from a possible downfall in profits, which is affected by foreign currency exchange rates.

The last part of the risks covers commodity price volatility, which will be harnessed by Purchase Power Agreement (PPA) (RWE, sd). This allows PNE AG to have a contract in which another party

agrees to buy electricity directly from an energy generator. It provides certainty to a project developer and in this case, it is PNE AG.

Conclusions & Recommendations

We firmly advise PNE AG to do business in Saudi Arabia given the prospects it presents.

The nation is increasingly accelerating the rate at which these projects may be envisaged because renewable energy is a component of future economic development. Foreign businesses entering the market are welcome, especially if they possess the same level of creativity and expertise as PNE AG Wind Turbine technology.

Green projects are made possible by bank policy. Saudi banks are putting their attention on green finance as a method to diversify their income streams away from fossil fuels. The most practical option is the joint venture FDI plan. ARAMCO is friendly with Banks and corporate sector is strong so it will be easy to do loan and other financials, In a word, this enterprise's funding and income source. PNE AG financial resources or local network would not provide either.

This partnership laid the foundation for subsequent endeavors, and PNE AG may be contacted to make comparable investments in Saudi Arabia. PNG AG may be the first representative in Saudi Arabia of the government's aspirations to build several other Wind turbines plants.

As previously stated, all prerequisites for return are met. As a result, we urge PNEAGARAMCO wind turbines to keep to our initial investment strategy and revenue projections.

Simply said, the AMARCO plant is scalable and repeatable, which PNEAGAMARCO Wind turbine plant should take into account. If depreciating assets are reinvested in, the project's timetable might be adjusted.

Reflection

Anzhelika Grigoreva

This project helped me gain a better understanding how broad the finance field is. In order to plan the FDI we were collecting theory as PESTEL and Porter, doing the research on the company PNE AG, analyzing their financial data, looking at what Saudi Arabia can offer when it comes to the renewable energy, thinking carefully about what kind of expenditures can be there, planning what kind of risks can the company face and applying theory how those risks can be hedged. This required a lot of time and team work, and I believe our team did a great job. I am very grateful for the team that I have because I was working in a friendly and professional environment. The job was divided quickly, and as soon as we scheduled the first meeting the group started working. Since all the parts were done almost immediately after setting the deadlines – there were no conflicts and we were always in touch, however, there were some issues of miscommunication that were only solved after first life meeting. Due to such a team, this project did not feel as a bargain but as another opportunity to apply and share the knowledge about financial (not only) area.

Meet Thakkar

I now have a better grasp of corporate finance and how to apply modern theory to validation as a result of this project. After creating the business, we started researching the financial and economic landscape of the new nation so that we might progress. We started with a marketing analysis for our company. I can say that two parts of the project I produced myself fairly simply and pleasantly, despite the fact that I'm with my other three classmates who are quite talented in finance. Also, we had to thoroughly outline all potential risks before making a major decision like investing abroad and try to reduce them, notably by hedging. While working on this project, I recognized that risks will always exist; what matters is that we know how to limit them and that the risks are worthy. Furthermore, it appeared extremely credible during the final review and pestel, and we used our economic theories to do a PESTEL analysis of the target nation. We also applied what we learnt in finance to develop a capital budgeting model that forecasted costs, NPV, IRR, and expenditures to help the company decide whether or not to make the investment. I can now say that I truly enjoyed it and aspired to a career in finance

Alex Popovici

During the project, everyone worked equally. Every part was divided between all teammates and completed, and where was the case with the help of others. I was responsible for part of the market analysis and the costs associated with the project. This is reflected in a good group atmosphere and effective work. On the other hand, we encountered some issues regarding the companies and communication. It was confusing in the beginning due to miscommunication and each one’s interpretation of the project, but this was solved by setting up more meetings in person, than online.

Some of the things could have been done better, for example, the communication and the starting time of the project, as we started a bit late due to the issues, we encountered with the chosen company. Still, I consider that this didn’t affect the quality of the project, and it also helped in learning what to do better in the future. There should be more communication in the group, especially when it comes to taking major decisions. Also, the time when we start the project could have been earlier so that there is more time to solve the unforeseen issues. Overall, the project was good in terms of content and work, and the team was really hard working, with equal distribution of tasks, but the communication could have been better.

Christopher Kevin

Working on the financial project to make FDI in Saudi Arabia was a challenging yet enjoyable experience that enlarged my understanding of making foreign investments in other countries. I appreciated the opportunity to apply theoretical concepts to a real-world scenario while gaining valuable knowledge about the budgeting and financial planning process for a large-scale project in a foreign country. Despite obstacles such as managing currency risk and ensuring strong wind speeds, I found the project to be a valuable learning opportunity that helped me develop my teamwork skills and expand my knowledge of the complexities of making foreign investments.

Karolis Liubavičius

During the period of the project, I learned a lot about the FDI concept. Gained and realized theoretical and practical skills related to foreign project development and deepened my current knowledge in Corporate Finance. At the very beginning, we faced a couple of problems regarding the search for a renewable company that is listed on Yahoo Finance and is from a eurozone country. However, once we found it everything went relatively well, everyone did their tasks on time, gave good insights, and finished their tasks correctly. Therefore, we faced some miscommunication issues within the group, but this is the most common thing in group work. We faced multiple issues in calculating the risks, costs, etc. however, we were able to manage it and at least we ended up on the same page with the results. For a group project, I give 8 foreign direct investments from 10.

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